

PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3A: Natural Heritage Existing Conditions Report

Prepared by:
GEI Consultants Canada

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Matrix Solutions Inc.
A Montrose Environmental Company

NATURAL HERITAGE EXISTING CONDITIONS REPORT
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN
SCHEDULE C CLASS ENVIRONMENTAL ASSESSMENT
WEST CALEDON, ONTARIO

Prepared for:
GM BLUEPLAN ENGINEERING LIMITED

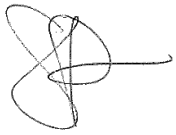
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October 2023
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Prepared for GM BluePlan Engineering Limited, October 2023



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1 INTRODUCTION

GM BluePlan Engineering Ltd. retained Matrix Solutions Inc., a Montrose Environmental company, to complete a review of the natural heritage features to support the Region of Peel in its West Caledon Storage Facility and Transmission Main Schedule C Class Environmental Assessment (EA). This report provides a high-level description of the overall EA study area and extent of natural heritage features, through a review of existing literature sources and databases as well as a windshield ground-truthing survey, to better understand existing conditions to help guide the selection of the preferred alternative.

1.1 Study Background

The Region of Peel (The Region) initiated the West Caledon Storage Facility and Transmission Main Class Environmental Assessment (Class EA) in January 2022.

The purpose of this Class EA is to guide the assessment process to determine the preferred alternative for a water storage and transmission main strategy for Pressure Zone 7 West (W) to support existing servicing needs and projected growth in the West Caledon area. This Class EA is a key component to expand the Region's drinking water system into the northwest reaches of the Region, to expand water storage capacity for the Pressure Zone 7W area, to accommodate approved future growth, and to improve system efficiency and maintain level of service.

This study follows the Schedule 'C' Municipal Class Environmental Assessment (MCEA) process in accordance with the requirements set out by the MCEA as prepared by the Municipal Engineers Association (MEA).

1.1.1 Problem and Opportunity Statement

The Region of Peel completed a Water and Wastewater Master Servicing Plan Update which identified the need to construct new water storage infrastructure for Pressure Zone 7 West. The goal of this study is to develop, evaluate, and select a preferred storage facility and transmission main alignment to service projected growth to 2051 and beyond.

1.2 Study Area

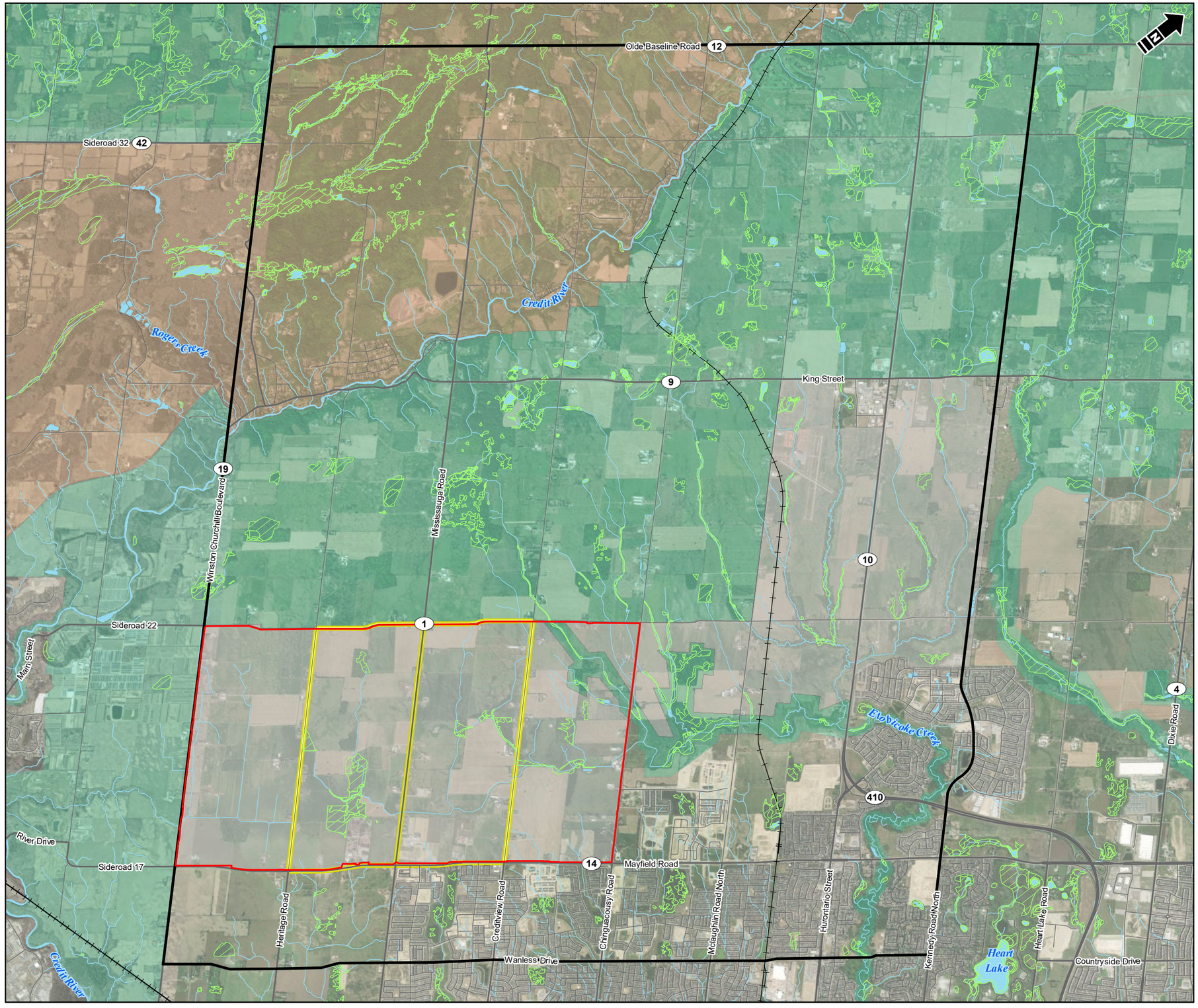
The overall EA study area is bounded by Olde Baseline Road to the north, Winston Churchill Road to the west, Kennedy Road to the east, and Wanless Drive to the south. The overall EA study area contains the Niagara Escarpment to the north, Greenbelt areas to the mid portion, and urbanizing lands to the south and is crossed by tributaries of Etobicoke Creek and Credit River. The overall EA study area falls within the jurisdiction of two conservation authorities (Toronto and Region Conservation – TRCA; Credit Valley Conservation – CVC). Major stream corridors and Provincially Significant Wetlands (PSW) exist in the areas near Heritage Road and Creditview Road and are considered part of the Greenbelt and the natural heritage system (Figure 1).

Short-list alternatives have been selected, which have narrowed the scope of the short-list alternatives study area for ground-truthing windshield surveys to lands in proximity of Creditview Road, Mississauga Road, and Heritage Road bounded by Old School Road to the north and Mayfield Road to the south (infrastructure focus study area - Figure 2).

The infrastructure study area contains five parcels being considered for placement of the storage facility. These parcels are predominantly agricultural, with habitat features generally limited to isolated fragments. Parcel area is summarized below:

- Parcel A – 40 ha
- Parcel B – 40 ha
- Parcel C – 20 ha
- Parcel D – 20 ha
- Parcel E – 50 ha

The preferred site will be connected via one of several prospective routes to integrate with the existing Alloa Reservoir and Pumping Station at 1278 Mayfield Road, Caledon. This route is projected to extend from the storage facility at the preferred parcel and may utilize the ROW of any combination of Old School Road (Sideroad 22), Heritage Road, Mississauga Road, Creditview Road, and Mayfield Road.



- Overall EA Study Area
- Infrastructure Focus Study Area
- Niagara Escarpment
- Greenbelt
- Whitebelt
- Wetland
- Water Body
- Watercourse
- Highway
- Road
- Railway
- Prospective Route

Reference: Contains public sector Information made available under The Regional Municipality of Peel's Open Data Licence - Version 1.0. Contains information licensed under the Open Government Licence – Ontario. Imagery (2021-2022) Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community.

1:50,000 kilometres
0.5 0 0.5 1
NAD 1983 UTM Zone 17N

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West Caledon Study Area

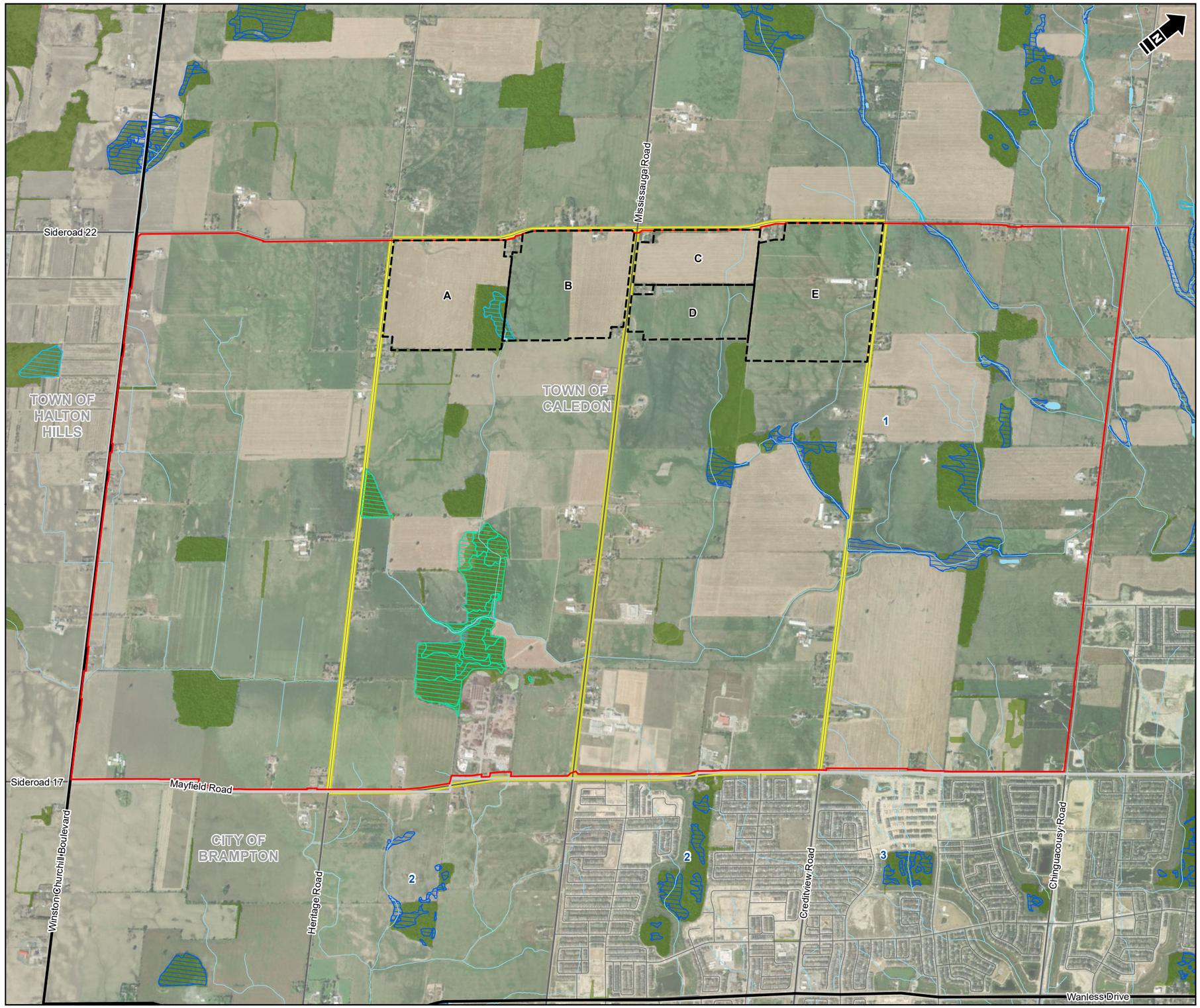
Overall EA Study Area

Date:	Project:	Submitter:	Reviewer:
May 2023	34517	K. Reich	P. De Carvalho

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Figure 1

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- Land Information Ontario Municipal Boundary - Lower and Single Tier
- Overall EA Study Area
- Infrastructure Focus Study Area
- Candidate Storage Parcel
- Woodland
- Water Body
- Watercourse
- Highway
- Road
- Prospective Route

Wetland Complex

- Provincially Significant: 1 - Etobicoke Creek Headwater Wetland Complex, 2 - Huttonville Creek & Area Wetland Complex, 3 - Upper Fletchers Creek Wetland Complex
- Locally Significant: Etobicoke Creek Headwaters II
- Unevaluated

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1:22,000 Meters
200 0 200 400
NAD 1983 UTM Zone 17N

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West Caledon Study Area

Infrastructure Focus Study Area

Date:	Project:	Submitter:	Reviewer:
May 2023	34517	K. Reich	P. De Carvalho

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Figure 2

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1.3 Physiography

The overall EA study area physiography consists primarily of till plains (drumlinized), with escarpment and till moraines. Till plains are defined by Chapman and Putnam (1984) as flat or gently sloped landscapes with deposits from glacial melt. Overall morphology of till plains tend to be generally influenced by underlying bedrock topography. Furthermore, drumlinized till plains are defined as till plains, as described above, with the presence of drumlins overlying till. The Niagara Escarpment is a dominating feature on the landscape of southern Ontario, and was formed over time by an exposed plain of resistant dolomite overlying more readily erodible materials (Chapman and Putnam 1984). Sections of the Escarpment occupy the northwestern portion of the overall EA study area. Remaining areas are characterized as till moraine, which is a poorly-sorted accumulation of glacial debris deposited from the retreating edge of moving glaciers.

1.4 Agency Consultation

1.4.1 Ministry of the Environment, Conservation and Parks (MECP)

Consultation was initiated on February 10, 2022, requesting preliminary screening of the overall EA study area. A reply was received on February 11, 2022, requesting additional context due to the area extent of the query. The study boundary was originally defined by ground elevations within the subject area of West Caledon that could feasibly support water infrastructure alternatives. MECP has been notified to expect refined study area boundaries once the preferred servicing strategy is further developed to help facilitate the acquisition of data records.

Please refer to Appendix A for a copy of current agency correspondence.

1.4.2 Ministry of Natural Resources (MNRF)

Consultation was initiated on February 28, 2022, requesting preliminary screening of the overall EA study area. A reply was received on March 1, 2022, requesting details on specific features in order to provide applicable information. Once the scope has been further defined, additional correspondence to obtain requested information will be initiated.

1.4.3 Credit Valley Conservation Authority (CVC)

Consultation was initiated on February 11, 2022, requesting preliminary screening of the overall EA study area. A reply was received on February 15, 2022, requesting additional context. Once the scope has been further defined, additional correspondence to obtain requested information will be initiated.

1.4.4 Toronto and Region Conservation Authority (TRCA)

Consultation was initiated on February 11, 2022, requesting preliminary screening of the overall EA study area. A reply was received on February 14, 2022, requesting additional context. Once the scope has been further defined, additional correspondence to obtain requested information will be initiated.

2 POLICY CONTEXT

Features identified within the overall EA study area require consideration of the relevant federal, provincial, and municipal planning policies applicable to the landscape (Table 1).

TABLE 1 Applicable Federal, Provincial, and Municipal Policies

Acts and Regulations	Summary of Contents
Federal Acts and Regulations	
Species at Risk Act (2002)	Incorporates a number of prohibitions to protect individuals of listed threatened, endangered, or extirpated SAR, as designated by COSEWIC. Per Section 34, Section 58, and Section 61, these prohibitions apply to aquatic species and migratory birds protected by the MBCA, listed on Schedule 1, on all lands, and any other listed wildlife species when on federal lands or any lands if recommended by the Minister of the Environment to the Governor in Council. **Applicability to Project:** While SARA applies to species on federal land, it also applies to SAR migratory birds under the MBCA listed on Schedule 1 where critical habitat has been identified and fish, anywhere they occur. Therefore, SARA only applies to SAR migratory birds, fish, and mussels for this project. Any impacts to these species protected under SARA may require further consultation. However, should the migratory bird species also be listed under the ESA and provides equal or greater protection, the ESA take precedence.
Fisheries Act (1985, revised in 2019)	The *Fisheries Act* outlines the framework for the management and regulation of fisheries and the conservation and protection of fish and fish habitat within the fishing zones of Canada, all waters in the territorial sea of Canada, and all internal waters of Canada. The most recent revision to the *Fisheries Act* restricts activities that cause "death of fish, other than by fishing" as well as the "harmful alteration, disruption, or destruction of fish habitat" (Government of Canada 2019) and the release of substances that are known or suspected to be deleterious to fish or fish habitat. **Applicability to Project**: There are several watercourses within the study area with known fish and fish habitat. If an alignment is chosen that crosses any watercourse the *Fisheries Act* will apply to this project. A DFO request for review will be required for activities that harm, disrupt, or cause the destruction of fish habitat, as well as cause death to fish. Any activities impacting watercourses with known SAR will also require a request for review from DFO.
Migratory Birds Convention Act (1994)	General prohibitions protect migratory birds, their nests, and eggs and prohibit the deposit of harmful substances in waters and areas frequented by them. **Applicability to Project:** The MBCA applies to the entire study area. Any tree removals would need to be completed outside of the breeding bird season (April 1 to August 30) to avoid disturbing active nests of migratory birds protected under the MBCA.

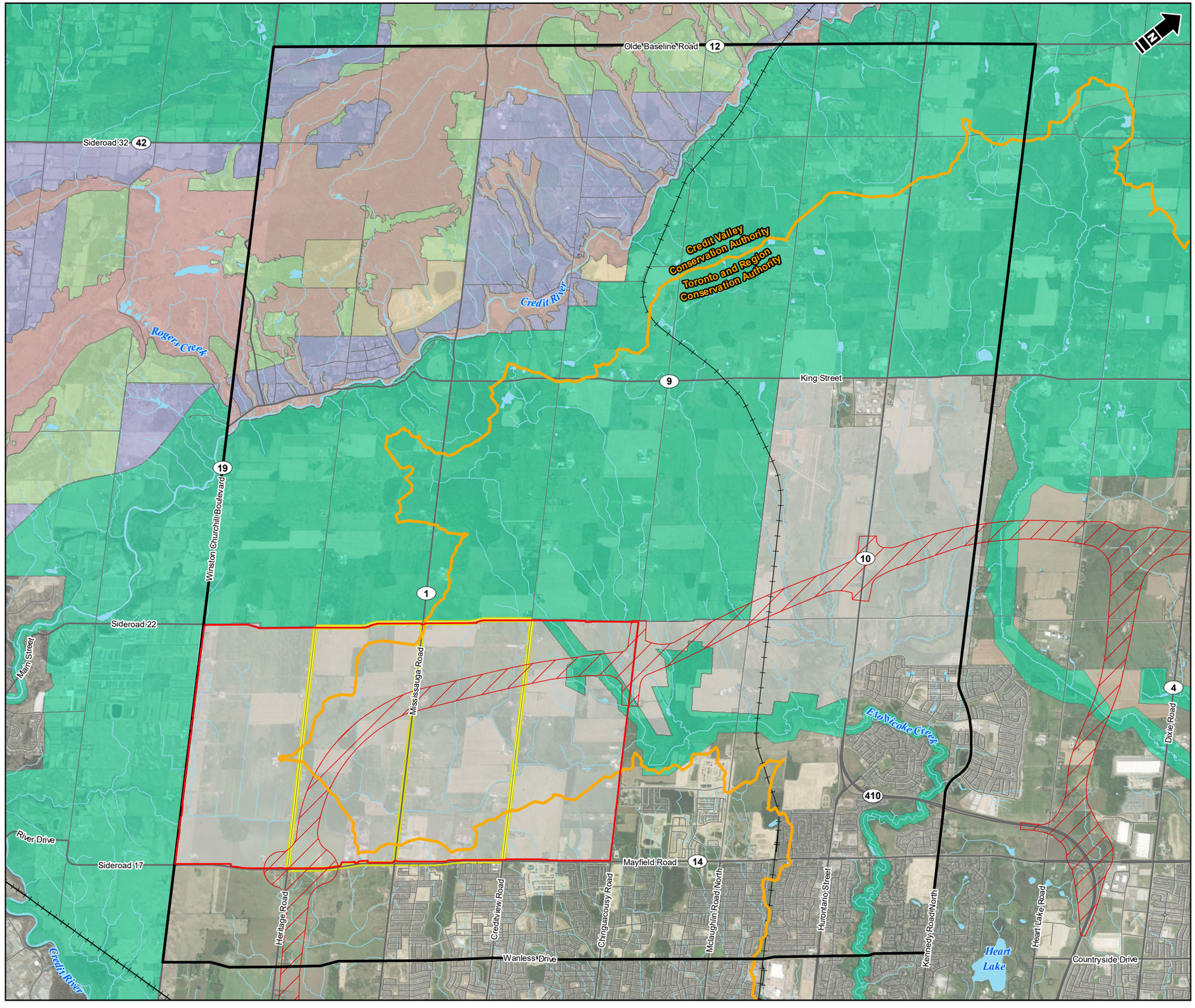
Acts and Regulations	Summary of Contents
Provincial Acts and Regulations	
Environmental Assessment Act (1990)	Framework for the planning and decision-making process to ensure that consideration is made towards potential environmental effects well before the design and implementation process. The EA process ensures that multiple alternatives are assessed to ensure that the most suitable solution is identified. **Applicability to project:** The *Environmental Assessment Act* applies to provincial municipalities and agencies as well as municipal entities such as towns, cities, counties, and regions. The West Caledon Storage Facility and Transmission Main assessment falls under the regulations of this act.
Provincial Policy Statement, 2020	The PPS provides policy direction on provincial matters of interest related to land use planning and development. It sets the policy framework for regulating development and use of land and is issued under the authority of Section 3 of the *Planning Act*. Section 2.1 of the PPS outlines policies that provide legislative protection for the natural environment. These policies include the exclusion of development and site alteration within PSWs, habitat of endangered or threatened species, fish habitat, as well as within SWH, significant woodlands, significant valleylands, ANSIs or adjacent lands "*…unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions*" (MMAH 2020). The *Natural Heritage Reference Manual* was developed to provide technical guidance for implementing the natural heritage policies of the PPS. **Applicability to Project:** A number of natural heritage features are found within the study area and include, but are not limited to, significant woodlands, ANSIs, fish habitat, significant wildlife habitat, and significant habitat of endangered and threatened species.
Endangered Species Act (2007)	Provides for the conservation and protection of species in Ontario classified under the ESA. Species listed as endangered or threatened are afforded legal protection from harm and harassment under the ESA. The ESA also prohibits damage or destruction of habitat of endangered or threatened species. Habitat protection for a species can be general or subject to the specific provisions of a habitat regulation as set out in O. Reg. 832/21 under the ESA. General habitat protection is provided to all threatened and endangered species. Species-specific habitat protection is only afforded to those species for which a habitat regulation has been prepared and passed into law as a regulation of the ESA. **Applicability to Project**: The ESA applies to all SAR species within provincial lands protected under the ESA. Any impacts to these species or habitats protected under the ESA would require a permit. The study area may contain habitat for SAR species.
Conservation Authorities Act (2006)	Empowers conservation authorities to regulate activities in natural and hazardous areas (i.e., streams, floodplains, wetlands, areas in and near rivers, slopes and lake shoreline) through the Development, Interference with Wetlands, and Alterations to Shorelines and Watercourse Regulation. **Applicability to Project:** A portion of the study area is located within both the CVC (regulated under O. Reg. 160/06) and TRCA (regulated under O. Reg. 166/06). Any works within the regulatory limit may require a permit.

Acts and Regulations	Summary of Contents
Niagara Escarpment Plan	The NEP (MNRF 2017) serves as a framework of objectives and policies to balance development, protection, and the enjoyment of the landform. Development criteria has been created and must be applied to all development within the Plan's boundary. Development is not permitted in key natural heritage features (Section 2.7) or key hydrologic features (Section 2.6), except for infrastructure where the project has been deemed necessary to the public interest after all other alternatives have been considered. Development within 120 m of a key natural heritage feature that will result in a negative impact will require additional criteria be met as stated in Section 2.7. **Applicability to Project:** The portion of the northwest corner of the overall EA study area is within the boundary of the NEP. All alignments must comply with criteria relating to infrastructure as set out in the NEP. Through subsequent refinement of the alternatives, it has been determined that no impacts are anticipated within NEP areas.
Greenbelt Plan (2017)	Provides policies for the protection of natural heritage features by directing future urban growth and development planning within the "Golden Horseshoe" area. Lands within the Greenbelt Plan area are divided into Protected Countryside, Urban River Valleys, NEP Area, and Oak Ridges Moraine Area. These areas are provided protection, which includes (MMA 2017): • *Protects against the loss and fragmentation of the agricultural land base and supports agriculture as the predominant land use;* • *Gives permanent protection to the natural heritage and water resource systems that sustain ecological and human health and that form the environmental framework around which major urbanization in south-central Ontario will be organized;* • *Provides for a diverse range of economic and social activities associated with rural communities, agriculture, tourism, recreation and resource uses; and* • *Builds resilience to and mitigates climate change.* **Applicability to Project:** Much of the northern portion of the study area has been designated as Protected Countryside (which may include a natural heritage system) or NEP area. Through subsequent refinement of the alternatives, it has been determined that no impacts are anticipated within Protected Countryside areas of the Greenbelt Plan, which do not extend south of Old School Road at the infrastructure focus study area.
Municipal Acts and Regulations	
Region of Peel Official Plan (2021)	The Greenlands System, as defined by the *Region of Peel Official Plan* (Region of Peel 2021), focuses on protection of the natural environment including recognition, protection and stewardship. "The Core Areas contain ecological features, forms and/or functions that provide favourable conditions for uninterrupted natural systems and maximum biodiversity. The Region and its partners value these areas for their importance in maintaining the integrity of the Greenlands System. These areas are protected by this Plan and are functionally supported, connected and/or buffered by the Natural Areas and Corridors and Potential Natural Areas and Corridors to form the Greenlands System in Peel." (Region of Peel 2021)

Acts and Regulations	Summary of Contents
	Applicability to Project: Core Areas, as outlined in the *Region of Peel Official Plan* are found within the study area. Development and site alteration within the Core Areas is prohibited except in the case of "essential infrastructure, pre-approved or authorized under an environmental assessment process; minor development and minor site alteration" (Region of Peel 2021). Relevant policies and definitions are outlined in Section 2.3 of the official plan.
Town of Caledon Official Plan (2018)	An EPA refers to all Natural Core Areas and Natural Corridors within the Town of Caledon, including: • all woodland Core Areas • all wetland Core Areas • all Niagara Escarpment natural areas • all life science ANSIs • all Environmentally Significant Areas • all significant habitats of threatened and endangered species • all SWH • all key natural heritage features and their related vegetation protection zones in accordance with the Greenbelt Plan. **Applicability to Project:** EPAs, as outlined by the *Town of Caledon Official Plan* (Town of Caledon 2018) are located in the overall EA study area. New development is prohibited within areas designated EPA with the exceptions specified in Section 5.7.3.1.2 of the official plan.

Notes:
ANSI - areas of natural and scientific interest
COSEWIC - Committee on the Status of Endangered Wildlife in Canada
CVC - Credit Valley Conservation
DFO - Fisheries and Oceans Canada
EPA - Environmental Policy Area
ESA - *Endangered Species Act*
MBCA - *Migratory Birds Convention Act*
NEP - *Niagara Escarpment Plan*
O. Reg. - Ontario Regulation
PSW - Provincially Significant Wetland
SAR - Species at Risk
SARA - *Species at Risk Act*
SWH - significant wildlife habitat
TRCA - Toronto and Region Conservation Authority

All policy boundaries can be seen on Figure 3.



Overall EA Study Area
Infrastructure Focus Study Area
Conservation Authority Administrative Area
Greater Toronto Area West Corridor
Greenbelt
Whitebelt
Water Body
Watercourse
Highway
Road
Railway
Prospective Route

Niagara Escarpment Plan Designation

Escarpment Natural Area
Escarpment Protection Area
Escarpment Rural Area
Mineral Resource Extraction Area

1:50,000 kilometres
0.5 0 0.5 1
NAD 1983 UTM Zone 17N

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GM BluePlan Engineering Ltd.
West Caledon Study Area

Overall EA Study Area Policy Boundaries

Date:	Project:	Submitter:	Reviewer:
May 2023	34517	K. Reich	P. De Carvalho

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Figure 3

I:\GM BluePlan Engineering Ltd\34517\Figures And Tables\EA\2023 Report\Natural Heritage Report\Figure-3-Overall_EA_Study_Area_Policy_Boundaries.mxd - Tabloid_L - 31-May-23, 02:50 PM - lmwright - TID005

3 METHODOLOGY

3.1 Background Review

A desktop background review was conducted to collect information regarding natural features and wildlife within the overall EA study area. This included a review of the *Niagara Escarpment Plan* (MNRF 2017), the *Greenbelt Plan* (MMAH 2017), Provincial Policy Statement, 2020 (MMAH 2020), municipal official plans, and multiple online databases including:

- *Atlas of the Breeding Birds of Ontario 2001-2005* (Cadman et al. 2007)
- *Important Bird and Biodiversity Areas in Canada* (IBA Canada 2021)
- *Atlas of the Mammals of Ontario* (Dobbyn 1994)
- *Ontario Reptile and Amphibian Atlas* (Ontario Nature 2019)
- *Ontario Butterfly Atlas* (TEA 2020)
- Federal aquatic SAR mapping (DFO 2021)
- Natural Heritage Information Centre (NHIC; MNRF 2021)
- Land Information Ontario (LIO)
- Bat Conservation International Inc. (2021).

A complete list of species obtained from the background review can be found in Appendix B.

3.2 Species at Risk

Species at Risk (SAR) are floral or faunal species where populations have declined (or are at risk of declining) to such an extent that the species is at risk of extinction or extirpation. For the purpose of this study, SAR refers collectively to species listed as endangered (END), and threatened (THR). A SAR habitat screening was completed to assess for the potential for the presence of SAR and SAR habitats within the infrastructure focus study area. A full list of potential SAR was compiled through a review of all available background documents and sources as listed in Section 3.1. SAR are further discussed in Section 4.4.1. A full list of potential SAR, as well as screening for potential presence within the infrastructure focus study area, can be found in Appendix C.

3.3 Species of Conservation Concern

Species of conservation concern (SCC) are floral or faunal species where decline is apparent, but not to the extent where a listing of threatened or endangered under the *Endangered Species Act* (ESA) or *Species at Risk Act* (SARA) are warranted. For the purpose of this study, SCC refers collectively to species listed as special concern (SC) under the ESA; species listed as special concern, threatened, or endangered under SARA where the corresponding species status under the ESA is less protective; and species with a sub-national conservation rank between S1 and S3.

SCC, where critical habitat has been defined for species listed under SARA, may be afforded additional protection within provincial jurisdiction. The presence of critical habitat, where applicable, will be assessed on a species-by-species basis once the scope is further refined.

A SCC screening was completed to assess for the potential for the presence of SCC within the overall EA study area. A full list of potential SCC was compiled through a review of all available background documents and sources as listed in Section 3.1. SCC are further discussed in Section 4.,4.2. A full list of potential SCC, as well as screening for potential presence within the infrastructure focus study area, can be found in Appendix D.

3.4 Significant Wildlife Habitat

Details regarding the presence of significant wildlife habitat (SWH) have been assessed for the infrastructure focus study area. This was completed using the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (MNRF 2015) as well as criteria as defined within the *Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study* (NSE et al. 2009). There are four categories of SWH that will be investigated. These include:

- Seasonal Concentration Areas: areas where wildlife species occur annually in aggregations at certain times.
- Rare Vegetation Communities or Specialized Habitats for Wildlife: contain rare species specifically plants and small invertebrates which depend on these areas for their survival.
- Habitats of Species of Conservation Concern: includes SCC species, species that are locally or regionally rare and are declining, or other species with conservation concerns.
- Animal Movement Corridors: elongated areas used by wildlife to move within and between habitats locally and regionally. These areas are important in promoting genetic diversity in populations, allowing seasonal migration and movement throughout a home range.

SWH are further discussed in Section 4.4.3. A full list of potential SWH, as well as screening for potential presence within the infrastructure focus study area, can be found in Appendix E.

3.5 Windshield Survey

Following the refinement of the overall EA study area through identification of short-list alternatives, Matrix staff conducted a windshield survey. The survey consisted of assessing the landscape using binoculars and cross-referencing findings from the background review. Survey was completed on March 3, 2023. All observations were taken from the right-of-way along three candidate transmission main routes and five candidate storage facility parcels.

4 NATURAL HERITAGE FEATURES AND CONDITIONS

The overall EA study area is located in proximity to a number of natural heritage features as shown in Figure 4. The *Greenbelt Plan* (2017) has mapped a portion of the overall EA study area to be part of a natural heritage system. The following sections describe the identified features present within the overall EA study area and the infrastructure focus study area.

4.1 Identified Features

4.1.1 Woodlands

4.1.1.1 Overall EA Study Area

The overall EA study area contains relatively patchy areas of woodland, though lands associated with the Niagara Escarpment feature larger forested land with less fragmentation. Significant woodland is defined as per guidelines prepared for the areas of Peel-Caledon (NSE et al. 2009). Assessment for significance cannot be carried out remotely, as significance defined by NSE et al. (2009) are not solely based on minimum size criteria. Typically, woodlands within the infrastructure focus study area are associated with wetlands as defined by the Ontario Wetland Evaluation System. According to NSE et al. (2009), woodlands within 100 m of wetlands are to be considered significant. It is therefore conservatively assumed that any woodlands within 100 m of wetlands as mapped by the Natural Heritage Information Centre is significant.

4.1.1.2 Infrastructure Focus Study Area

Woodlands adjacent to all locally significant and PSW, as well as the unevaluated wetland upstream of the locally significant Etobicoke Creek Headwaters II Wetland Complex, should be conservatively assessed as significant within the infrastructure focus study area (Figure 5).

4.1.1.3 Parcel A

Parcel A contains approximately 6 ha of deciduous woodland. As this woodland contains locally significant wetland (Etobicoke Creek Headwaters II), it should be assumed significant woodland for the purpose of identifying constraints (MNR 2010).

4.1.1.4 Parcel B

Parcel B contains fragments of deciduous woodland as described in Section 4.1.1.3. This woodland should be assumed significant woodland for the purpose of identifying constraints (MNR 2010).

4.1.1.5 Parcel C

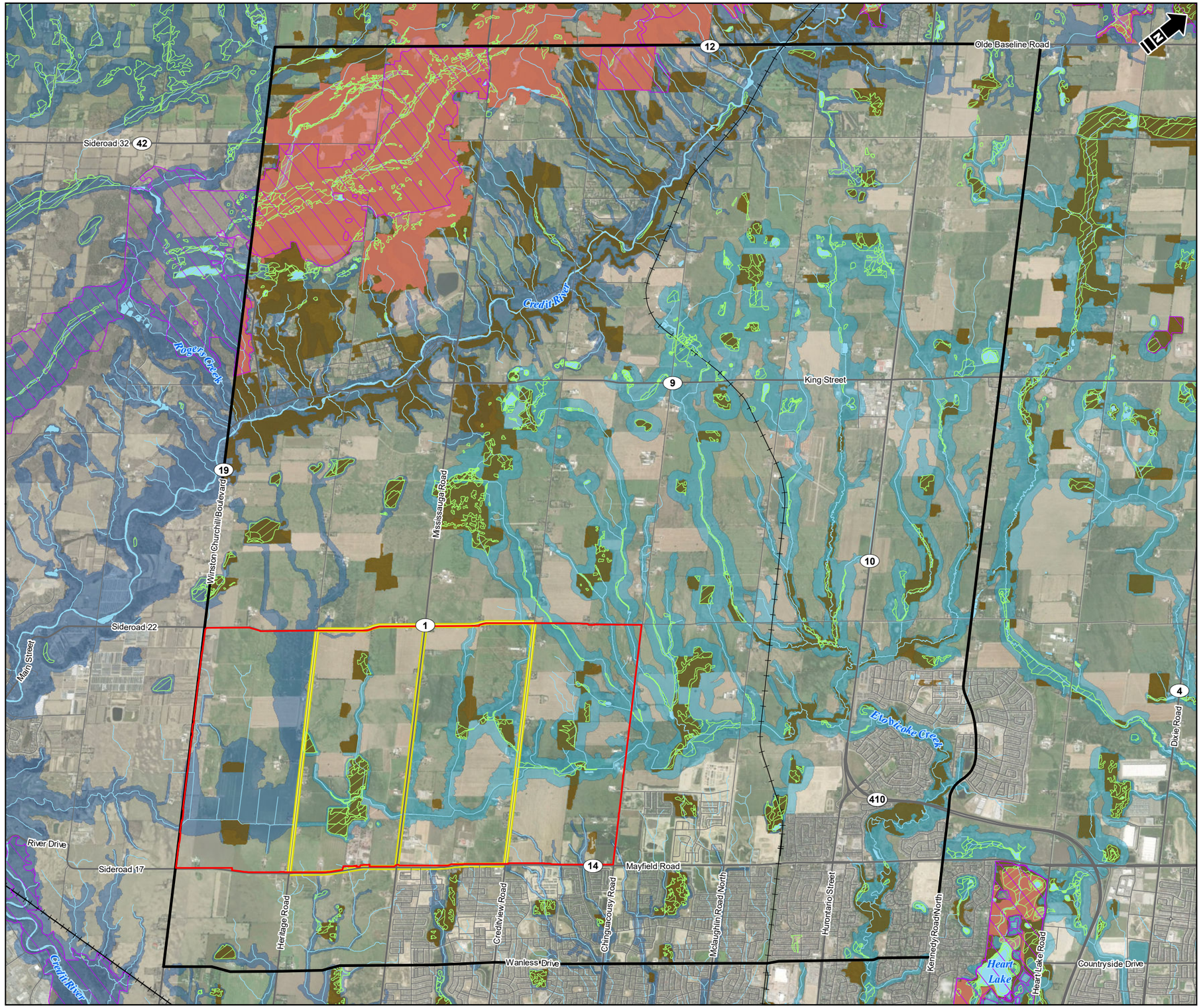
The property boundary for this parcel contains linear segments of woody deciduous vegetation. These features are typically no greater than a single tree-width. They would not be considered significant features, though they may support protected species as described in Section 4.4.

4.1.1.6 Parcel D

The property boundary for this parcel contains sparse areas of woody vegetation associated with right-of-way areas and agricultural installations adjacent to Creditview Road. These features are typically no greater than a single tree-width. They would not be considered significant features, though they may support protected species as described in Section 4.4.

4.1.1.7 Parcel E

The property boundary for this parcel contains sparse areas of woody vegetation associated with the parcel boundary and agricultural installations adjacent to Mississauga Road. These features are typically no greater than a single tree-width. They would not be considered significant features, though they may support protected species as described in Section 4.4.



Overall EA Study Area
Infrastructure Focus Study Area
CVC Regulation Limit (2013)
TRCA Regulation Limit (2022)
Environmentally Significant Area
Woodland
Area of Natural and Scientific Interest
Wetland
Water Body
Watercourse
Highway
Road
Railway
Prospective Route

1:50,000 kilometres
0.5 0 0.5 1
NAD 1983 UTM Zone 17N

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Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

GM BluePlan Engineering Ltd.
West Caledon Study Area

Natural Heritage Features

Date:	Project:	Submitter:	Reviewer:
June 2023	34517	K. Reich	P. De Carvalho

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Figure 4

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4.1.2 Valleylands

4.1.2.1 Overall EA Study Area

The overall EA study area contains valleylands associated with the riparian areas for the Credit River and Etobicoke Creek. Supplemental information has not yet been received from relevant agencies. Within the overall EA study area, valleylands are generally associated with major branches of the Credit River and Etobicoke Creek systems.

4.1.2.2 Infrastructure Focus Study Area

It has not been confirmed if significant valleylands are present within the infrastructure focus study area (Figure 5).

4.1.2.3 Parcel A

No valleyland features that would be significant under the Natural Heritage Reference Manual Section 8.0 are evident within this parcel (MNR 2010).

4.1.2.4 Parcel B

No valleyland features that would be significant under the Natural Heritage Reference Manual Section 8.0 are evident within this parcel (MNR 2010).

4.1.2.5 Parcel C

No valleyland features that would be significant under the Natural Heritage Reference Manual Section 8.0 are evident within this parcel (MNR 2010).

4.1.2.6 Parcel D

No valleyland features that would be significant under the Natural Heritage Reference Manual Section 8.0 are evident within this parcel (MNR 2010).

4.1.2.7 Parcel E

No valleyland features that would be significant under the Natural Heritage Reference Manual Section 8.0 are evident within this parcel (MNR 2010).

4.1.3 Wetlands

4.1.3.1 Overall EA Study Area

In addition to unevaluated wetlands, the overall EA study area contains five PSW and one Locally Significant Wetland:

- Etobicoke Creek Headwaters Provincially Significant Wetland Complex
- Caledon Mountain PSW Complex
- Huttonville Creek and Area Provincially Significant Wetland Complex
- Upper Fletchers Creek Provincially Significant Wetland Complex
- Heart Lake Provincially Wetland Complex
- Etobicoke Creek Headwaters II Locally Significant Wetland Complex.

4.1.3.2 Infrastructure Focus Study Area

The infrastructure focus study area contains the Etobicoke Creek Headwaters II Locally Significant Wetland Complex between Heritage Road and Mississauga Road, and portions of the Etobicoke Creek Headwaters Provincially Significant Wetland Complex east and west of Creditview Road (Figure 5).

4.1.3.3 Parcel A

Parcel A contains a section of unevaluated wetland that may be hydraulically connected to the Etobicoke Creek Headwaters II Locally Significant Wetland Complex south of the property. This feature is associated with the wooded natural area on the eastern portion of the property. All lands within 120 m of the wetland area are within the area of influence for the feature and are considered Adjacent Land by the Region of Peel and the Town of Caledon. Quantification of impacts may need to be assessed if works are anticipated within this area (Caledon 2018). Minimum setback should be assumed to correspond to the TRCA regulation limit for the system.

The wetland boundary as mapped may change when confirmed through wetland delineation, though it is not anticipated to exceed the extent of the surrounding woodland.

4.1.3.4 Parcel B

Parcel B contains Adjacent Lands extending from a section of the unevaluated wetland that is predominantly within Parcel A. All lands within 120 m of the wetland area are within the area of influence for the feature and are considered Adjacent Land by the Region of Peel and the Town of Caledon. Quantification of impacts may need to be assessed if works are anticipated within this area (Caledon 2018). Minimum setback should be assumed to correspond to the TRCA regulation limit for the system.

The wetland boundary as mapped may change when confirmed through wetland delineation, though it is not anticipated to exceed the extent of the surrounding woodland.

4.1.3.5 Parcel C

No mapped wetlands are present within Parcel C, though small areas with wetland-obligate plants (including common and narrowleaf cattail) may be present within roadside swales along the boundaries of this property.

Small wetland fragments may be present associated with local low point along the mapped drainage feature, though these are likely to be restricted to right-of-way areas.

4.1.3.6 Parcel D

No wetlands are anticipated to be present within Parcel D, though small areas with wetland-obligate plants (including common and narrowleaf cattail) may be present within roadside swales along the boundaries of this property.

4.1.3.7 Parcel E

No wetlands are anticipated to be present within Parcel E, though small areas with wetland-obligate plants (including common and narrowleaf cattail) may be present within roadside swales along the boundaries of this property.

Small wetland fragments may be present associated with local low points along the mapped drainage feature, though these have been assessed as too small to map.

4.1.4 Area of Natural and Scientific Interest

4.1.4.1 Overall EA Study Area

Areas of Natural and Scientific Interest (ANSIs) are features identified as having life science or earth science values related to protection, scientific study, or education.

Based on the background review the overall EA study area contains two ANSIs (Figure 4). Both of these features are located within the Niagara Escarpment area and include:

- The Badland Topography of Queenston Shales Provincially Significant Earth Science ANSI, located North of Olde Base Line Road and East of Creditview Road.
- The Caledon Mountain Slope Forest Provincially Significant Life Science ANSI located from the corner of Olde Base Line Road and Highway 1 to the west edge of the study site at Winston Churchill Boulevard, north of Terra Cotta.

4.1.4.2 Infrastructure Focus Study Area

No ANSIs are present within the infrastructure focus study area.

4.1.5 Environmentally Sensitive or Significant Areas

Environmentally Sensitive or Significant Areas (ESA) are landscape features identified as warranting special protection. Based on the background review, it has been determined that portions of the overall EA study area are designated as Environmentally Sensitive or Significant Areas. Environmentally Sensitive or Significant Areas are generally determined through criteria established by the CVC and TRCA (Figure 6).

4.1.5.1 Parcel A

The wooded feature associated with the unevaluated wetland may represent an ESA. All lands within 120 m of the wetland area should conservatively be considered the Area of Influence, and impacts may need to be assessed if impacts are anticipated within this area.

4.1.5.2 Parcel B

The wooded feature associated with the unevaluated wetland may represent an ESA. All lands within 120 m of the wetland area should conservatively be considered the Area of Influence, and impacts may need to be assessed if impacts are anticipated within this area.

4.1.5.3 Parcel C

There are no anticipated ESA within Parcel C.

4.1.5.4 Parcel D

There are no anticipated ESA within Parcel D.

4.1.5.5 Parcel E

There are no anticipated ESA within Parcel E.

4.2 Aquatic Ecosystems

4.2.1 Overall EA Study Area

4.2.1.1 Watersheds and Subwatersheds

The overall EA study area includes multiple subwatersheds within the Credit River watershed (Fletcher's Creek, Credit River - Glen Williams to Norval, Credit River - Cheltenham to Glen Williams, Credit River - Forks of the Credit to Cheltenham) and the Etobicoke Creek watershed (Greenbelt and Etobicoke Headwaters subwatersheds). These subwatersheds are under the jurisdiction of either Credit Valley Conservation (CVC) or the Toronto and Region Conservation Authority (TRCA). The northeast corner of the overall EA study area also includes a small portion of the Humber River watershed (the West Humber subwatershed). Multiple watercourses have been identified within the overall EA study area, though these predominantly consist of branches and tributaries of either the Credit River or Etobicoke Creek systems.

There are multiple watercourses found throughout the overall EA study area (Figure 4). Larger watercourse systems within the overall EA study area include the Credit River, Etobicoke Creek, Fletcher's Creek, Second Creek, and Fourth Creek. Watersheds and associated watercourses within the overall EA study area are summarized in Table 2.

TABLE 2 Watersheds and Subwatersheds in the Overall EA Study Area

Watershed	Sub-watershed	Conservation Authority Jurisdiction
Credit River Watershed	Fletcher's Creek	CVC
	Credit River – Glen Williams to Norval	CVC
	Credit River – Cheltenham to Glen Williams	CVC
	Credit River – Forks of the Credit to Cheltenham	CVC
Etobicoke Creek	Etobicoke Headwaters	TRCA
	Greenbelt	TRCA
Humber River	West Humber – West Branch	TRCA

Notes:
CVC – Credit Valley Conservation
TRCA – Toronto and Region Conservation Authority

4.2.1.2 Aquatic Species

Data for fish species and mussel species has not yet been circulated from the agencies and will be updated once information has been received. Based on the background review, one aquatic SAR species (Redside Dace [*Clinostomus elongatus*]) is noted to occur within the overall EA study area.

4.2.2 Infrastructure Focus Study Area

4.2.2.1 Watersheds and Subwatersheds

Watercourses within the infrastructure focus study area are all part of the Etobicoke Creek system. The Etobicoke Creek system is part of TRCA jurisdiction. However because this headwater area represents the interface between the Etobicoke Creek watershed to the east and the Credit River watershed to the east, the infrastructure focus study area also contains portions of land under CVC jurisdiction (Figure 6).

4.2.2.2 Aquatic Species

Redside Dace is not known to occur in any watercourses within the infrastructure focus study area according to Aquatic Area Resource mapping prepared by DFO.

4.2.3 Infrastructure Focus Parcels

4.2.3.1 Parcel A

The headwater drainage feature extending from the unevaluated wetland is anticipated to represent contributing fish habitat. This feature is an intermittent tributary of Etobicoke Creek that is anticipated to

conduct stormwater and meltwater within the system. The wetland and channel are both within TRCA regulation limit. The exact configuration and extent of the tributary within the woodlot has not been confirmed. Setback from this feature should be assumed to be the extent of the TRCA regulation limit.

A small headwater drainage swale is also present on the northeastern portion of the property. This feature is not mapped as a watercourse, but it is within CVC regulation limit. It is anticipated that the general function of this drainage feature will need to be maintained, though temporary impacts or relocation of the swale may be possible. Correspondence should be sought with CVC to determine feasibility.

4.2.3.2 Parcel B

The headwater drainage feature extending from the unevaluated wetland is mapped as present within the extreme southwestern corner of Parcel B. It is anticipated to represent contributing fish habitat. This feature is an intermittent tributary of Etobicoke Creek that is anticipated to conduct stormwater and meltwater within the system. The wetland and channel are both within TRCA regulation limit. The exact configuration and extent of the tributary within the woodlot has not been confirmed. Setback from this feature should be assumed to be the extent of the TRCA regulation limit.

4.2.3.3 Parcel C

A headwater drainage feature extending from the northwest is present on the northeastern section of Parcel C. This feature is an intermittent tributary of Etobicoke Creek that is anticipated to conduct stormwater and meltwater within the system and is anticipated to represent contributing fish habitat. The channel is within TRCA regulation limit. The setback from this feature should be assumed to be the extent of the TRCA regulation limit.

4.2.3.4 Parcel D

A headwater drainage feature extending from Parcel C to the northwest is present on the northeastern section of Parcel D. This feature is an intermittent tributary of Etobicoke Creek that is anticipated to conduct stormwater and meltwater within the system and is anticipated to represent contributing fish habitat. The channel is within TRCA regulation limit. The setback from this feature should be assumed to be the extent of the TRCA regulation limit.

4.2.3.5 Parcel E

A headwater drainage feature extending from the northwest is present on the northeastern section of Parcel E. This feature is an intermittent tributary of Etobicoke Creek that is anticipated to conduct stormwater and meltwater within the system and is anticipated to represent contributing fish habitat. The channel is within TRCA regulation limit. The setback from this feature should be assumed to be the extent of the TRCA regulation limit.

4.3 Terrestrial Ecosystems

4.3.1 Vegetation Communities

4.3.1.1 Overall EA Study Area

According to Ecological Land Classification (ELC) received from the TRCA, a total of 130 vegetation communities have been delineated within the overall EA study area. No ELC data has been received for CVC subwatershed areas, but it is anticipated these data will be provided once the project scope is further refined. Table 3 presents a breakdown of the communities, which are further expanded on within Appendix E.

TABLE 3 Ecological Land Classification Community Summary

ELC Community Type	No. of Communities
Cultural Vegetation Communities	
Cultural Savannah (CUS)	3
Cultural Thicket (CUT)	5
Cultural Meadow (CUM)	4
Cultural Woodland (CUW)	6
Cultural Plantation (CUP)	12
Anthropogenic/Other	3
Upland Vegetation Communities	
Cliff/Talus	3
Talus	3
Deciduous Forest	30
Mixed Forest	8
Wetland Vegetation Communities	
Meadow Marsh	9
Shallow Marsh	11
Deciduous Swamp	14
Swamp Thicket	7
Open Aquatic	2
Shallow Floating Aquatic	2
Mixed Shallow Aquatic	4
Submerged Shallow Aquatic	4

It has also been determined that the overall EA study area may contain rare vegetation communities as defined by the Natural Heritage Reference Manual (MNR 2010). These include:

- CLO1-2: Bulblet Fern – Herb Robert Open Shaded Limestone/Dolostone Cliff Face Type
- CLO1-4: Open Limestone/Dolostone Seepage Cliff Type
- CLT1-1: White Cedar Treed Limestone Cliff Type
- TAS1-2: Mountain Maple Open Limestone Talus Shrubland Type
- TAT1-5: Basswood – White Ash – Butternut Moist Treed Limestone Talus Type

- TAT1-6: Hemlock – Sugar Maple Moist Limestone Talus Type
- FOD6-2: Moist – Fresh Sugar Maple – Black Maple Deciduous Forest Type

The presence of rare vegetation communities within potentially impacted areas has yet to be confirmed.

4.3.1.2 Infrastructure Focus Study Area

ELC data within the infrastructure focus study area was ground-truthed through windshield survey and is to be confirmed and further defined once the preferred alternative has been selected.

There is potential for at least one vegetation considered rare in Peel Region (FOD6-2) to be present within the infrastructure focus study area (Figure 6).

4.3.2 Infrastructure Focus Parcels

4.3.2.1 Parcel A

Parcel A consists predominantly of intensive agriculture, though a 6-ha wooded area is present on the eastern extent of the property. This is anticipated to represent deciduous forest and deciduous swamp (FOD, SWD) habitat types.

A small swale-like feature is also present on the northeastern property limit. This feature represents a grassed low-lying depression which may represent a wet cultural meadow (CUM1-1) (Figure 7).

4.3.2.2 Parcel B

Parcel B consists predominantly of intensive agriculture. A small segment of wooded habitat extending from the deciduous forest/swamp complex on Parcel A is present on the western extent of the property (Figure 8).

4.3.2.3 Parcel C

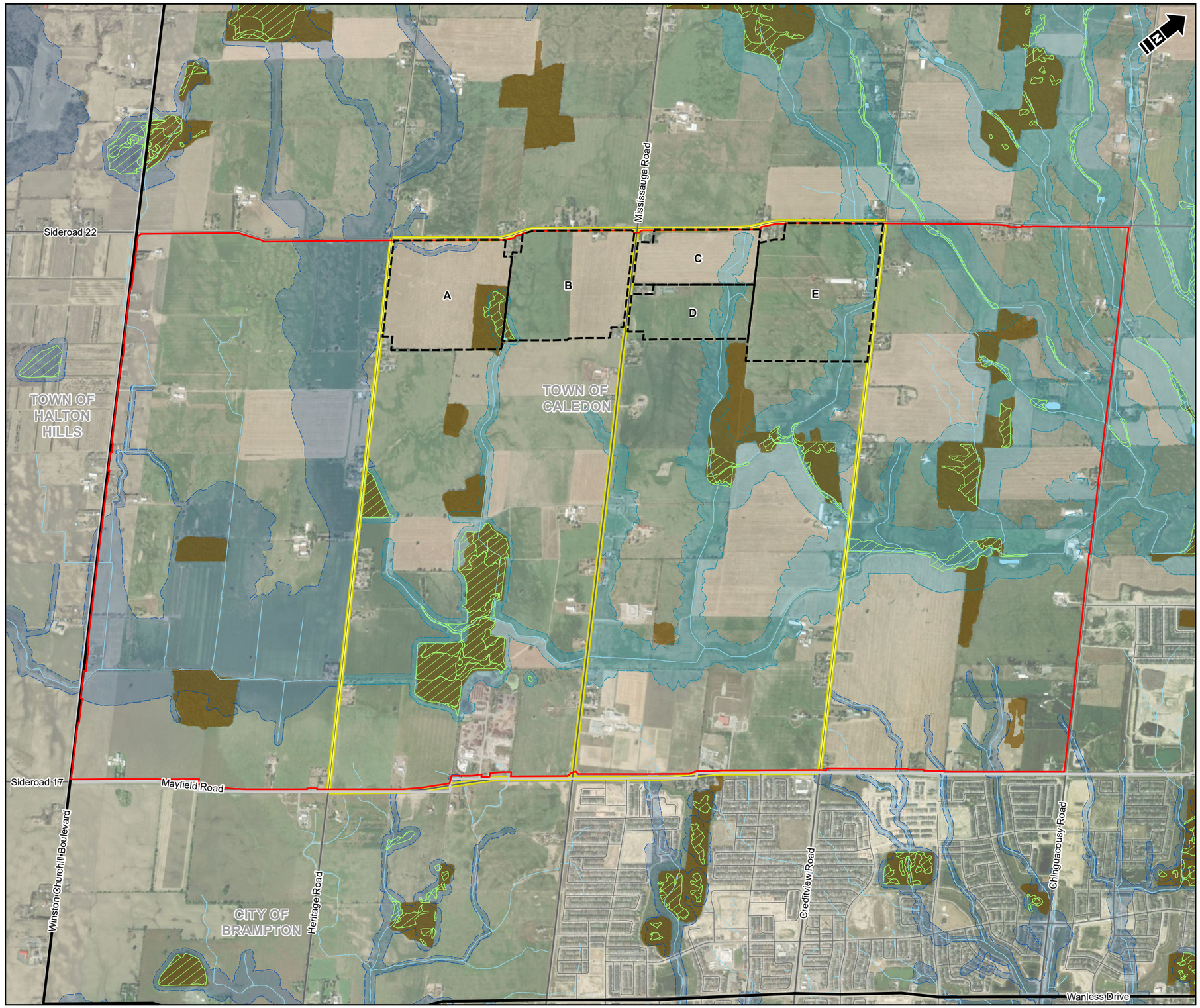
Parcel C consists predominantly of intensive agriculture. Fragmented segments of hedgerow are present along the northern, eastern, and southern property-lines, though these do not form a continuous canopy and are not considered woodland (Figure 9).

4.3.2.4 Parcel D

Parcel D consists predominantly of intensive agriculture. Remnant segments of cultural meadow (CUM1-1) are present on the southern extent of the property and northeast of agricultural buildings on the western side of the property (Figure 9).

4.3.2.5 Parcel E

Parcel E consists predominantly of intensive agriculture. A small low-lying area (identified by aerial-photograph interpretation) is present southwest of agricultural buildings at the centre of the property, which may represent wetland habitat. Narrow fragmented bands of mature trees are present adjacent to Creditview Road, though these trees are not considered woodland (Figure 10).



- Land Information Ontario Municipal Boundary - Lower and Single Tier
- Overall EA Study Area
- Infrastructure Focus Study Area
- Candidate Storage Parcel
- CVC Regulation Limit (2013)
- TRCA Regulation Limit (2022)
- Woodland
- Area of Natural and Scientific Interest
- Wetland
- Water Body
- Watercourse
- Highway
- Road
- Prospective Route

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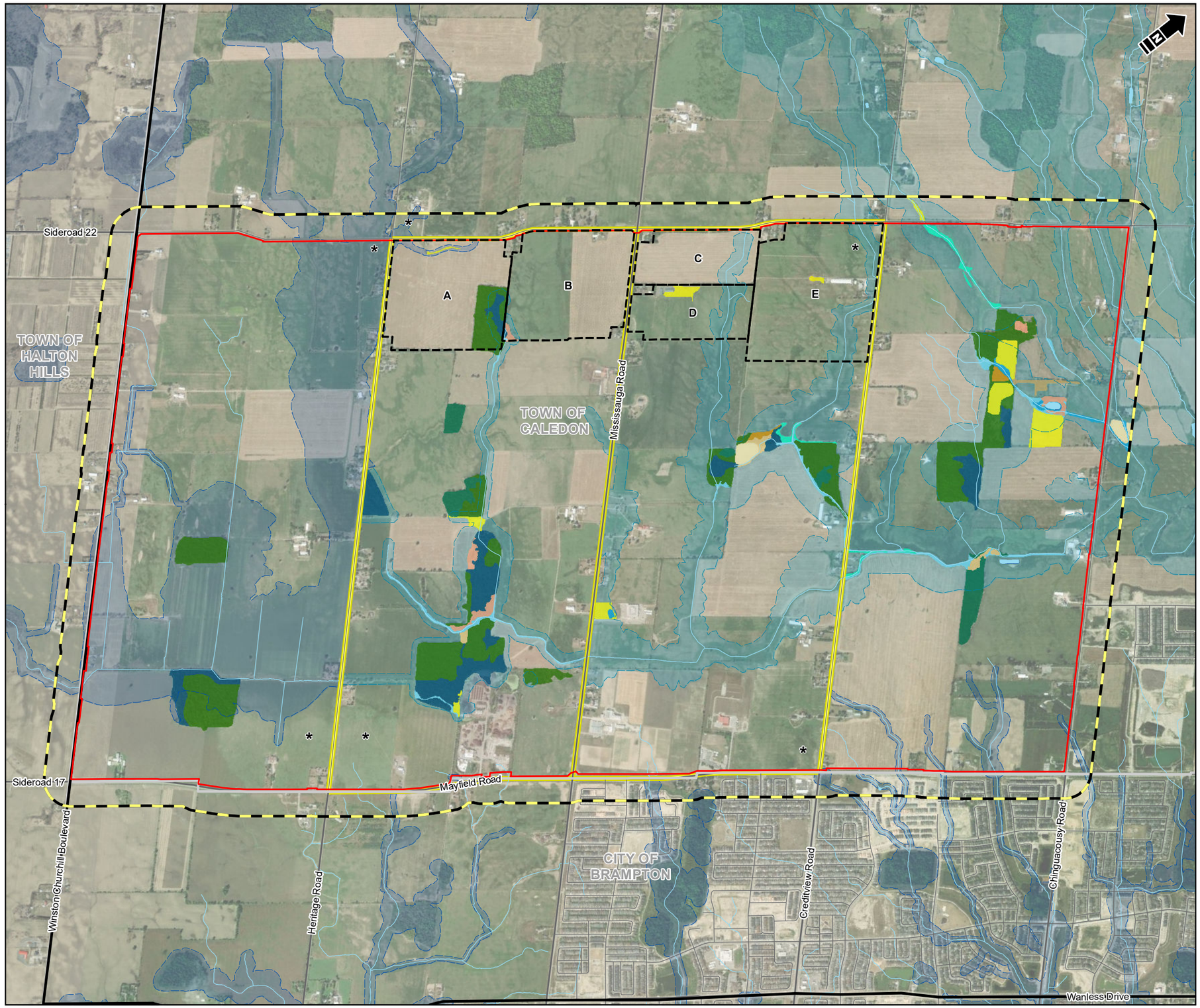
Infrastructure Focus Study Area
Natural Heritage Features

Date:	Project:	Submitter:	Reviewer:
June 2023	34517	K. Reich	P. De Carvalho

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Figure 5

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- Land Information Ontario Municipal Boundary - Lower and Single Tier
- Overall EA Study Area
- Infrastructure Focus Study Area
- Infrastructure Focus Study Area (150m Buffer)
- Candidate Storage Parcel
- CVC Regulation Limit (2013)
- TRCA Regulation Limit (2022)
- Water Body
- Watercourse
- Highway
- Road
- Prospective Route

Ecological Land Classification

- Agriculture
- CUH1-A: Treed Hedgerow
- CUM1-A: Native Forb Meadow
- CUM1-b: Exotic Cool-season Grass Graminoid Meadow
- CUM1-c: Exotic Forb Meadow
- CUM1-1: Mineral Cultural Dry-Moist Old Field Meadow
- CUM/MAM: Cultural Meadow/Cultural Meadow
- CUP3-H: Mixed Conifer Coniferous Plantation
- CUT1-A1: Native Deciduous Sapling Regeneration Thicket
- CUT1-E: Red Osier Dogwood Deciduous Thicket
- CUW1-A3: Native Deciduous Successional Woodland
- CUW1-b: Exotic Successional Woodland
- FOD: Deciduous Forest
- FOD4-1: Dry-Fresh Beech Deciduous Forest
- FOD4-I: Dry-Fresh Red Maple Deciduous Forest
- FOD5-1: Dry-Fresh Sugar Maple Deciduous Forest
- FOD6-1: Fresh-Moist Sugar Maple - Ash Deciduous Forest
- FOD6-5: Fresh-Moist Sugar Maple - Hardwood Deciduous Forest
- FOD7-2: Fresh-Moist Ash Deciduous Forest
- FOD7-D: Fresh-Moist Red Maple Lowland Deciduous Forest
- FOD8-1: Fresh-Moist Poplar Deciduous Forest
- FOD9-3: Fresh-Moist Bur Oak Deciduous Forest
- FOM6-2: Fresh-Moist Hemlock - Hardwood Mixed Forest
- FOM7-2: Fresh-Moist White Cedar - Hardwood Mixed Forest
- FOM8-B: Fresh-Moist Ash Mixed Forest
- MAM2-10: Forb Mineral Meadow Marsh
- MAM2-2: Reed Canary Grass Mineral Meadow Marsh
- MAS2-1A: Broad-leaved Cattail Mineral Shallow Marsh
- MAS2-1b: Narrow-leaved Cattail Mineral Shallow Marsh
- OAO1-T: Turbid Open Aquatic (unvegetated)
- OAO1: Open Aquatic (unvegetated)
- SWD: Deciduous Swamp
- SWD2-1: Black Ash Mineral Deciduous Swamp
- SWD2-2: Red (Green) Ash Mineral Deciduous Swamp
- SWD3-2: Silver Maple Mineral Deciduous Swamp
- SWT2-2: Willow Mineral Thicket Swamp
- SWT2-5: Red Osier Dogwood Mineral Thicket Swamp
- SWT2-8: Silky Dogwood Mineral Thicket Swamp
- * Non-Intensive Agriculture (Hay)

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West Caledon Study Area

Ecological Land Classification

Date:	Project:	Submitter:	Reviewer:
June 2023	34517	K. Reich	P. De Carvalho

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Figure 6

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- Overall EA Study Area
- Infrastructure Focus Study Area
- Infrastructure Focus Study Area (150m Buffer)
- Candidate Storage Parcel
- CVC Regulation Limit (2013)
- TRCA Regulation Limit (2022)
- Water Body
- Watercourse
- Road
- Prospective Route

Ecological Land Classification

- CUM1-1: Mineral Cultural Dry-Moist Old Field Meadow
- CUW1-A3: Native Deciduous Successional Woodland
- FOD6-5: Fresh-Moist Sugar Maple - Hardwood Deciduous Forest
- FOD7-2: Fresh-Moist Ash Deciduous Forest
- MAM2-2: Reed Canary Grass Mineral Meadow Marsh
- SWD3-2: Silver Maple Mineral Deciduous Swamp
- * Non-Intensive Agriculture (Hay)

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NAD 1983 UTM Zone 17N

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West Caledon Study Area

Ecological Land Classification
Storage Parcel A

Date:	Project:	Submitter:	Reviewer:
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Figure 7

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Overall EA Study Area
Infrastructure Focus Study Area
Infrastructure Focus Study Area (150m Buffer)
Candidate Storage Parcel
CVC Regulation Limit (2013)
TRCA Regulation Limit (2022)
Water Body
Watercourse
Highway
Road
Prospective Route

Ecological Land Classification

CUW1-A3: Native Deciduous Successional Woodland
FOD6-5: Fresh-Moist Sugar Maple - Hardwood Deciduous Forest
FOD7-2: Fresh-Moist Ash Deciduous Forest
MAM2-2: Reed Canary Grass Mineral Meadow Marsh
SWD3-2: Silver Maple Mineral Deciduous Swamp

Reference: Contains public sector Information made available under The Regional Municipality of Peel's Open Data Licence - Version 1.0. Contains information licensed under the Open Government Licence – Ontario. Imagery (2021-2022) Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community.

1:3,000 Meters
30 0 30 60
NAD 1983 UTM Zone 17N

Matrix Solutions Inc.
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GM BluePlan Engineering Ltd.
West Caledon Study Area

Ecological Land Classification
Storage Parcel B

Date:	Project:	Submitter:	Reviewer:
June 2023	34517	K. Reich	P. De Carvalho

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Figure 8

I:\GM BluePlanEngineeringLtd\34517\FiguresAndTables\EA\2023\ReportNaturalHeritageReport\Figure-8-Ecological_Land_Classification_Storage_Parcel_B.mxd - Tabloid_L - 15-Jun-23, 12:27 PM - mwright - TID005



Overall EA Study Area
Infrastructure Focus Study Area
Infrastructure Focus Study Area (150m Buffer)
Candidate Storage Parcel
CVC Regulation Limit (2013)
TRCA Regulation Limit (2022)
Watercourse
Highway
Road
Prospective Route

Ecological Land Classification

CUM1-1: Mineral Cultural Dry-Moist Old Field Meadow

Reference: Contains public sector Information made available under The Regional Municipality of Peel's Open Data Licence - Version 1.0. Contains information licensed under the Open Government Licence – Ontario. Imagery (2021-2022) Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community.

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NAD 1983 UTM Zone 17N

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

GM BluePlan Engineering Ltd.
West Caledon Study Area

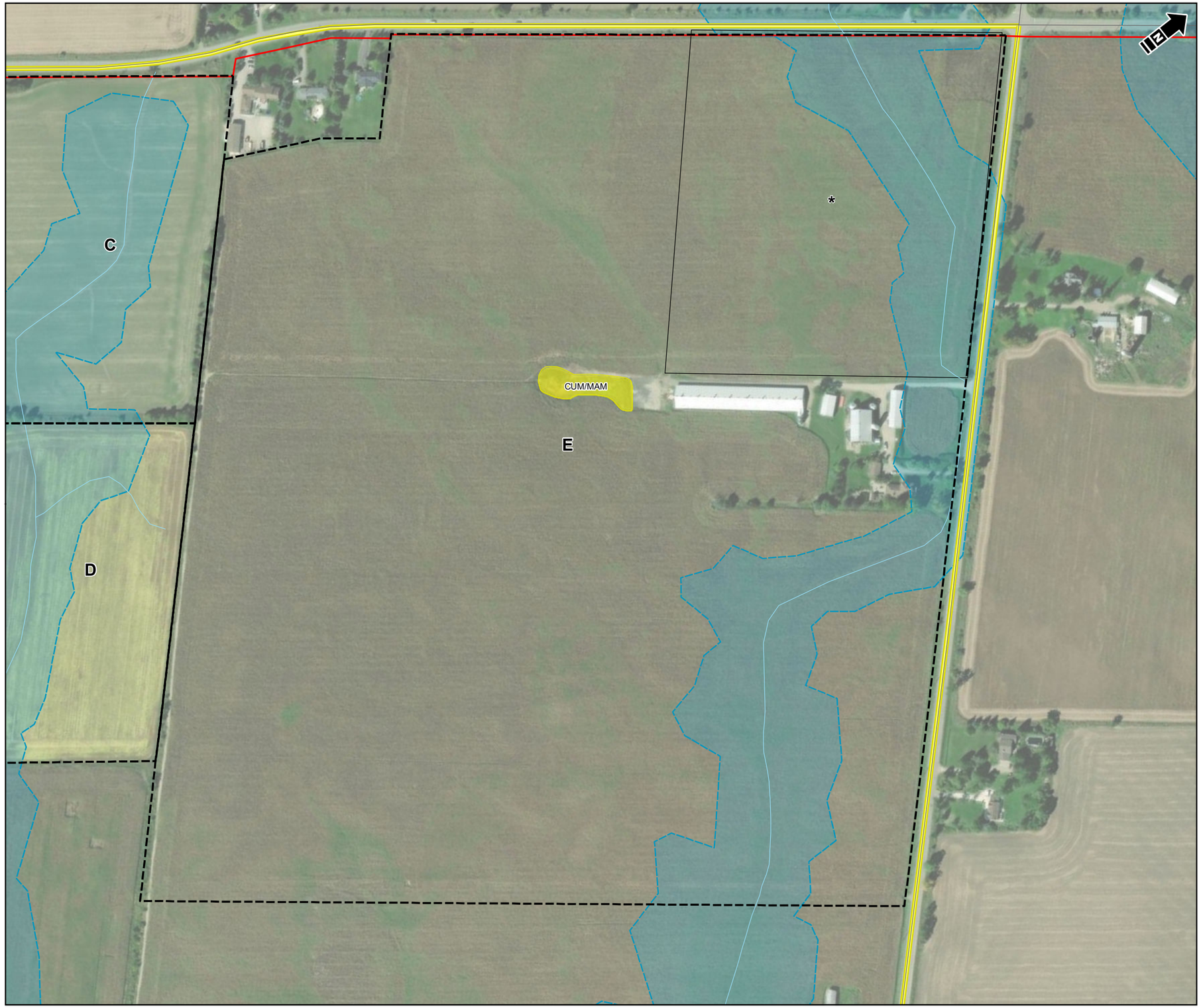
Ecological Land Classification
Storage Parcel C & D

Date:	Project:	Submitter:	Reviewer:
June 2023	34517	K. Reich	P. De Carvalho

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Figure 9

I:\GM BluePlan Engineering Ltd\34517\Figures And Tables\EA\2023\Report\Natural Heritage Report\Figure-9-Ecological_Land_Classification_Storage_Parcel_C_D.mxd - Tabloid_L - 15-Jun-23, 12:36 PM - mwright - TID005



- Overall EA Study Area
- Infrastructure Focus Study Area
- Infrastructure Focus Study Area (150m Buffer)
- Candidate Storage Parcel
- CVC Regulation Limit (2013)
- TRCA Regulation Limit (2022)
- Watercourse
- Road
- Prospective Route

Ecological Land Classification

- CUM/MAM: Cultural Meadow/Cultural Meadow
- * Non-Intensive Agriculture (Hay)

Reference: Contains public sector Information made available under The Regional Municipality of Peel's Open Data Licence - Version 1.0. Contains information licensed under the Open Government Licence – Ontario. Imagery (2021-2022) Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community.

1:3,500 Meters

35 0 35 70

NAD 1983 UTM Zone 17N

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

GM BluePlan Engineering Ltd.
West Caledon Study Area

Ecological Land Classification
Storage Parcel E

Date:	Project:	Submitter:	Reviewer:
June 2023	34517	K. Reich	P. De Carvalho

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Figure 10

I:\GM BluePlan Engineering Ltd\34517\Figures And Tables\EA 2023\Report\Natural Heritage Report\Figure-10-Ecological_Land_Classification_Storage_Parcel_E.mxd - Tabloid_L - 15-Jun-23, 12:35 PM - imwright - TID005

4.4 Wildlife

Based on the background review, records for a total of 85 insect species, 7 mammal species, 17 amphibian species, 11 reptile species, and 140 bird species were noted to occur within the overall EA study area. Most of these species are common and secure within Ontario, though 21 SAR and 13 SCC have been identified as well, as discussed in subsequent sections. A full list of species can be found in Appendix B.

4.4.1 Species at Risk

4.4.1.1 Overall EA Study Area

Based on the background review, there is potential for the presence of 21 SAR listed under the ESA as either threatened or endangered within the overall EA Study Area. These species are summarized on Table 4.

TABLE 4 Species at Risk Potentially Present Within the Overall EA Study Area

Common Name	Latin Name	ESA Status	SARA Status
Aquatic			
Redside Dace	*Clinostomus elongatus*	END	END
Avian			
Bank Swallow	*Riparia riparia*	THR	THR
Barn Swallow	*Hirundo rustica*	THR	THR
Bobolink	*Dolichonyx oryzivorus*	THR	THR
Chimney Swift	*Chaetura pelagica*	THR	THR
Eastern Meadowlark	*Sturnella magna*	THR	THR
Eastern Whip-poor-will	*Antrotomus vociferous*	THR	THR
Henslow's Sparrow	*Ammodramus henslowii*	END	END
Least Bittern	*Ixobrychus exilis*	THR	THR
Loggerhead Shrike	*Lanius ludovicianus*	END	END
Louisiana Waterthrush	*Parkesia motacilla*	THR	THR
Northern Bobwhite	*Colinus virginianus*	END	END
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END
Yellow-breasted Chat	*Icteria virens*	END	END
Flora			
Butternut	*Juglans cinerea*	END	END
Herpetofauna			
Jefferson Salamander	*Ambystoma jeffersonianum*	END	END
Unisexual Ambystoma (Jefferson Salamander dependent population)	*Ambystoma hybrid pop. 1*	END	END
Mammals			
Eastern Small-footed Myotis	*Myotis leibii*	END	END
Little Brown Myotis	*Myotis lucifugus*	END	END
Northern Myotis	*Myotis septentrionalis*	END	END
Tri-coloured Bat	*Perimyotis subflavus*	END	END

Notes:
ESA - *Endangered Species Act*
SARA - *Species at Risk Act*
END - endangered
THR - threatened

4.4.1.2 *Infrastructure Focus Study Area*

Based on the background review and windshield survey, there is moderate potential for the presence of 11 SAR listed under the ESA as either threatened or endangered within the infrastructure focus study area. Analysis for SAR presence can be found in Appendix C and results are summarized on Table 5.

TABLE 5 Species at Risk with Moderate Potential for Presence Within the Refined Study Area

Common Name	Latin Name	ESA Status	SARA Status	Associated Habitat Type
Avian				
Bobolink	*Dolichonyx oryzivorus*	THR	THR	Open meadows, grasslands, hay fields
Chimney Swift	*Chaetura pelagica*	THR	THR	Anthropogenic structures (uncapped chimneys)
Eastern Meadowlark	*Sturnella magna*	THR	THR	Open meadows, grasslands, hay fields
Eastern Whip-poor-will	*Antrotomus vociferus*	THR	THR	Mixed open or forested areas
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	Treed habitats, including margins and sparsely treed areas
Yellow-breasted Chat	*Icteria virens*	END	END	Thickets, scrub, and overgrown clearings
Flora				
Butternut	*Juglans cinerea*	END	END	Typically associated with riparian areas, but may be found anywhere
Mammals				
Eastern Small-footed Myotis	*Myotis leibii*	END	END	Anthropogenic structures including bridges and culverts
Little Brown Myotis	*Myotis lucifugus*	END	END	Mature trees with roosting features such as cavities or loose bark
Northern Myotis	*Myotis septentrionalis*	END	END	Mature trees with roosting features such as cavities or loose bark
Tri-coloured Bat	*Perimyotis subflavus*	END	END	Mature trees with roosting features such as cavities or loose bark

Notes:
ESA - *Endangered Species Act*
SARA - *Species at Risk Act*
END - endangered
THR - threatened

4.4.2 Infrastructure Focus Parcels

4.4.2.1 Parcel A

The woodland/wetland complex in Parcel A may support arboreal species, including Red-headed Woodpecker, Eastern Whip-poor-will, and arboreal bat species (Little Brown Myotis, Northern Myotis, or Tri-coloured Bat). Overgrown clearings and scrub associated with the woodland may also support Yellow-breasted Chat.

Additionally, any portion of the property that supports mature trees may also support arboreal bat species.

Fringe and remnant meadows, as well as agricultural fields which grow cereal grains and/or hay, may support open-area grassland bird species (Bobolink, Eastern Meadowlark).

Anthropogenic structures including barns, farmhouses, sheds, or other buildings may support roosting SAR bats (including Eastern Small-footed Myotis) or (where uncapped chimneys are present) Chimney Swift.

Any treed areas, including cultural hedgerows, may potentially support Butternut.

4.4.2.2 Parcel B

The woodland/wetland complex in Parcel B may support arboreal species, including Red-headed Woodpecker, Eastern Whip-poor-will, and arboreal bat species (Little Brown Myotis, Northern Myotis, or Tri-coloured Bat). Overgrown clearings and scrub associated with the woodland may also support Yellow-breasted Chat.

Additionally, any portion of the property that supports mature trees may also support arboreal bat species.

Fringe and remnant meadows, as well as agricultural fields which grow cereal grains and/or hay, may support open-area grassland bird species (Bobolink, Eastern Meadowlark).

Anthropogenic structures including barns, farmhouses, sheds, or other buildings may support roosting SAR bats (including Eastern Small-footed Myotis) or (where uncapped chimneys are present) Chimney Swift.

Any treed areas, including cultural hedgerows, may potentially support Butternut.

4.4.2.3 Parcel C

Any portion of the property that supports mature trees, including hedgerow areas, may also support arboreal bat species (Little Brown Myotis, Northern Myotis, or Tri-coloured Bat).

Fringe and remnant meadows, as well as agricultural fields which grow cereal grains and/or hay, may support open-area grassland bird species (Bobolink, Eastern Meadowlark).

Any treed areas, including cultural hedgerows, may potentially support Butternut.

4.4.2.4 Parcel D

Any portion of the property that supports mature trees may also support arboreal bat species (Little Brown Myotis, Northern Myotis, or Tri-coloured Bat).

Fringe and remnant meadows, as well as agricultural fields which grow cereal grains and/or hay, may support open-area grassland bird species (Bobolink, Eastern Meadowlark).

Anthropogenic structures including barns, farmhouses, sheds, or other buildings may support roosting SAR bats (including Eastern Small-footed Myotis)or (where uncapped chimneys are present) Chimney Swift.

Any treed areas, including cultural hedgerows, may potentially support Butternut.

4.4.2.5 Parcel E

Any portion of the property that supports mature trees may also support arboreal bat species (Little Brown Myotis, Northern Myotis, or Tri-coloured Bat).

Fringe and remnant meadows, as well as agricultural fields which grow cereal grains and/or hay, may support open-area grassland bird species (Bobolink, Eastern Meadowlark).

Anthropogenic structures including barns, farmhouses, sheds, or other buildings may support roosting SAR bats (including Eastern Small-footed Myotis) or (where uncapped chimneys are present) Chimney Swift.

Any treed areas, including cultural hedgerows, may potentially support Butternut.

4.4.3 Species of Conservation Concern

4.4.3.1 Overall EA Study Area

Based on the background review, there is potential for the presence of 13 SCC within the Overall EA Study Area. These species are summarized on Table 6.

TABLE 6 Species of Conservation Concern Potentially Present Within the Overall EA Study Area

Common Name	Latin Name	ESA Status	SARA Status
Avian			
Barn Swallow	*Hirundo rustica*	SC	SC
Canada Warbler	*Cardellina canadensis*	SC	THR
Common Nighthawk	*Chordeiles minor*	SC	THR
Eastern Wood-pewee	*Contopus virens*	SC	SC
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC
Wood Thrush	*Hylocichla mustelina*	SC	THR
Herpetofauna			
Eastern Milksnake	*Lampropeltis triangulum*	-	SC
Eastern Musk Turtle	*Sternotherus odoratus*	SC	SC
Midland Painted Turtle	*Chrysemys picta marginata*	-	SC
Northern Map Turtle	*Graptemys geographica*	SC	SC
Snapping Turtle	*Chelydra serpentina*	SC	SC
Western Chorus Frog (Great Lakes/ St. Lawrence- Canadian Shield population)	*Pseudacris triseriata*	-	THR
Invertebrates			
Monarch	Danaus plexippus	SC	END
Yellow-banded Bumble Bee	Bombus terricola	SC	SC

Notes:
ESA - *Endangered Species Act*
SARA - *Species at Risk Act*
END - endangered
THR - threatened
SC - special concern

4.4.3.2 Infrastructure Focus Study Area

Based on the background review and windshield survey, there is potential for the presence of 11 SCC within the infrastructure focus study area. Analysis for SCC presence can be found in Appendix D and results are summarized on Table 7.

TABLE 7 Species of Conservation Concern with Moderate Potential for Presence Within the Infrastructure Focus Study Area

Common Name	Latin Name	ESA Status	SARA Status	Associated Habitat Type
Avian				
Barn Swallow	*Hirundo rustica*	SC	SC	Anthropogenic structures that support mud nests
Canada Warbler	*Cardellina canadensis*	SC	THR	Moist woodlands
Common Nighthawk	*Chordeiles minor*	SC	THR	Open barren, rocky, gravelly, or other sparsely vegetated lands
Eastern Wood-pewee	*Contopus virens*	SC	SC	Woodlands and woodland edge

Common Name	Latin Name	ESA Status	SARA Status	Associated Habitat Type
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	Open meadows, grasslands, hay fields
Wood Thrush	*Hylocichla mustelina*	SC	THR	Woodlands and woodland edge
Herpetofauna				
Eastern Milksnake	*Lampropeltis triangulum*	-	SC	Anywhere with prey (amphibians and rodents). Agricultural lands and associated structures may support this species.
Snapping Turtle	*Chelydra seprentina*	SC	SC	Shallow waters with soft bottoms. Can be found in very small permanent pools.
Western Chorus Frog (Great Lakes/ St. Lawrence- Canadian Shield population)	*Pseudacris triseriata*	-	THR	Wet woodlands, wetlands, vegetated swales
Invertebrates				
Monarch	Danaus plexippus	SC	END	Open habitat with milkweed plants
Yellow-banded Bumble Bee	Bombus terricola	SC	SC	Meadows and woodlands

Notes:
ESA - *Endangered Species Act*
SARA - *Species at Risk Act*
END - endangered
THR - threatened
SC - special concern

4.4.4 Infrastructure Focus Parcels

4.4.4.1 Parcel A

The woodland/wetland complex in Parcel A may support arboreal species, including Canada Warbler, Eastern Wood-pewee, and Wood Thrush. Yellow-banded Bumble Bee is a habitat generalist and may be found anywhere that supports wildflowers.

Fringe and remnant meadows may support open-area species (Grasshopper Sparrow, Monarch).

Any rocky or gravelled shoulders should be considered potential habitat for Common Nighthawk. Agricultural installations including storage piles and cracked foundations may support Eastern Milksnake. Anthropogenic structures including sheds and old barns may support Barn Swallow mud nests.

Western chorus frog can be found in ditches, vegetated swales, permanent or temporary pools, wetlands, and woodlands. Any areas with permanent pools or wetlands may also support the presence of Snapping Turtle.

4.4.4.2 Parcel B

The woodland/wetland complex in Parcel A may support arboreal species, including Canada Warbler, Eastern Wood-pewee, and Wood Thrush. Yellow-banded Bumble Bee is a habitat generalist and may be found anywhere that supports wildflowers.

Fringe and remnant meadows may support open-area species (Grasshopper Sparrow, Monarch).

Any rocky or gravelled shoulders should be considered potential habitat for Common Nighthawk. Agricultural installations including storage piles and cracked foundations may support Eastern Milksnake. Anthropogenic structures, including sheds and old barns, may support Barn Swallow mud nests.

Western chorus frog can be found in ditches, vegetated swales, permanent or temporary pools, wetlands and woodlands. Any areas with permanent pools or wetlands may also support the presence of Snapping Turtle.

4.4.4.3 Parcel C

Fringe and remnant meadows may support open-area species (Grasshopper Sparrow, Monarch). Yellow-banded Bumble Bee is a habitat generalist and may be found anywhere that supports wildflowers.

Any rocky or gravelled shoulders should be considered potential habitat for Common Nighthawk. Agricultural installations including storage piles and cracked foundations may support Eastern Milksnake.

Western chorus frog can be found in ditches, vegetated swales, permanent or temporary pools, or wetland fragments.

4.4.4.4 Parcel D

Fringe and remnant meadows may support open-area species (Grasshopper Sparrow, Monarch). Yellow-banded Bumble Bee is a habitat generalist and may be found anywhere that supports wildflowers.

Any rocky or gravelled shoulders should be considered potential habitat for Common Nighthawk. Agricultural installations including storage piles and cracked foundations may support Eastern Milksnake. Anthropogenic structures including sheds and old barns may support Barn Swallow mud nests.

Western chorus frog can be found in ditches, vegetated swales, permanent or temporary pools, or wetland fragments.

4.4.4.5 Parcel E

Fringe and remnant meadows may support open-area species (Grasshopper Sparrow, Monarch). Yellow-banded Bumble Bee is a habitat generalist and may be found anywhere that supports wildflowers.

Any rocky or gravelled shoulders should be considered potential habitat for Common Nighthawk. Agricultural installations including storage piles and cracked foundations may support Eastern Milksnake. Anthropogenic structures including sheds and old barns may support Barn Swallow mud nests.

Western chorus frog can be found in ditches, vegetated swales, permanent or temporary pools, or wetland fragments.

4.4.5 Significant Wildlife Habitat

4.4.5.1 Overall Study Area

No SWH assessment was completed for the overall EA Study Area.

4.4.5.2 Infrastructure Focus Study Area

Based on background review and windshield survey, there is potential for the presence of 14 SWH within the infrastructure focus study area. Analysis for SWH presence can be found in Appendix E and results are summarized on Table 6.

TABLE 8 Significant Wildlife Habitat with Potential for Presence Within the Infrastructure Focus Study Area

SWH Type	Associated Habitat
Seasonal Concentration Areas of Animals	
Waterfowl Stopover and Staging Areas (Terrestrial)	Fields with sheet water flooding during spring
Bat Maternity Colonies	Woodland areas with mature trees
Reptile Hibernaculum	Agricultural areas with disused structures, cracked foundations
Colonially-Nesting Bird Breeding Habitat (Trees and Shrubs)	Treed wetland habitats
Rare Vegetation Communities	
Other Rare Vegetation Communities	Regionally rare FOD6-2 (Moist-fresh Sugar Maple – Black Maple Deciduous Forest) may be present associated with lowland forests.
Specialized Habitats of Wildlife Considered SWH	
Waterfowl Nesting Areas	Adjacent to (within 120 m) wooded wetland areas.
Seeps and Springs	Potentially present associated with Etobicoke Creek headwaters or any treed wetland ecosites.
Amphibian Breeding Habitat (Woodland)	Potentially present within any wooded ecosite.
Amphibian Breeding Habitat (Wetland)	Potentially present associated with non-treed low-lying areas associated with locally significant or provincially significant wetlands
Habitats of Species of Conservation Concern considered SWH	
Marsh Breeding Bird Habitat	Potentially present associated with locally significant or provincially significant wetlands.
Shrub/Early Successional Bird Breeding Habitat	Margins of larger treed habitats, succeeding old fields.

SWH Type	Associated Habitat
Terrestrial Crayfish	Interface between lowland and upland habitats, including vegetated swales, watercourse3se, wetlands, wet woodlands.
Species of Conservation Concern	See Appendix D
Animal Movement Corridors	
Animal Movement Corridors	Any watercourse or contiguous natural habitat

4.4.6 Infrastructure Focus Parcels

4.4.6.1 Parcel A

The woodland/wetland complex in Parcel A may support a number of SWH, including:

- Bat maternity colonies
- Colonially-nesting bird breeding habitat
- Other rare vegetation communities (FOD6-2)
- Waterfowl nesting areas
- Seeps and springs
- Amphibian breeding habitat – woodland
- Amphibian breeding habitat – wetland
- Marsh breeding bird habitat
- Shrub/early successional bird breeding habitat
- Terrestrial crayfish
- Species of conservation concern (Appendix D)
- Animal movement corridors

Open agricultural areas may support Waterfowl stopover and staging areas, and agricultural fringe areas including stockpiles and cracked foundations may support reptile hibernacula.

4.4.6.2 Parcel B

The woodland/wetland complex in Parcel B may support a number of SWH, including:

- Bat maternity colonies
- Colonially-nesting bird breeding habitat
- Other rare vegetation communities (FOD6-2)
- Waterfowl nesting areas
- Seeps and springs
- Amphibian breeding habitat – woodland
- Amphibian breeding habitat – wetland
- Marsh breeding bird habitat

- Shrub/early successional bird breeding habitat
- Terrestrial crayfish
- Species of conservation concern (Appendix D)
- Animal movement corridors

Open agricultural areas may support Waterfowl stopover and staging areas, and agricultural fringe areas including stockpiles and cracked foundations may support reptile hibernacula.

4.4.6.3 Parcel C

Open agricultural areas may support Waterfowl stopover and staging areas, and agricultural fringe areas including disused animal burrows and stony landscapes may support reptile hibernacula.

Parcel C is also potential habitat for SCC as identified in Appendix D.

4.4.6.4 Parcel D

Open agricultural areas may support Waterfowl stopover and staging areas, and agricultural fringe areas including disused animal burrows, stony landscapes, stockpiles, and cracked foundations may support reptile hibernacula. Parcel D is also potential habitat for SCC as identified in Appendix D.

4.4.6.5 Parcel E

Open agricultural areas may support Waterfowl stopover and staging areas, and agricultural fringe areas including disused animal burrows, stony landscapes, stockpiles, and cracked foundations may support reptile hibernacula.

Parcel E is also potential habitat for SCC as identified in Appendix D.

5 CONSTRAINTS ANALYSIS

5.1 Overall EA Study Area Constraints

The following constraints have been identified through the review of background information:

- The overall EA study area is located within the Greenbelt and the Niagara Escarpment for which polices under these plans are applicable.

- The overall EA study area contains multiple mapped natural heritage features, including:

    - Etobicoke Creek Headwaters Provincially Significant Wetland Complex
    - Caledon Mountain Provincially Significant Wetlands Complex
    - Huttonville Creek and Area Provincially Significant Wetland Complex

- Upper Fletchers Creek Provincially Significant Wetland Complex
- Heart Lake Provincially Wetland Complex
- Etobicoke Creek Headwaters II Wetland Complex
- The Badland Topography of Queenston Shales Provincially Significant Earth Science ANSI
- The Caledon Mountain Slope Forest Provincially Significant Life Science ANSI
- Several Regionally/Locally Significant Woodlands
- Significant Valleylands, associated with Credit River and Etobicoke Creek
- Environmentally Significant Areas

- The overall EA study area contains a total of 130 mapped vegetation community types, some of which have been identified as regionally rare.

- The overall EA study area includes the potential for 21 SAR and 13 SCC.

- The overall EA study area may also contain species which are regionally or locally rare.

- The overall EA study area includes major watercourses and associated tributaries.

5.2 Infrastructure Focus Study Area Constraints

The infrastructure focus study area was assessed through a windshield survey to confirm results from the background review. Permission to Enter was not acquired for any properties within the infrastructure focus study area. As such, all assessment was completed from right-of-way areas.

The following constraints should be considered when assessing the short-list alternatives:

- South of Old School Road, the infrastructure focus study area is within Whitebelt lands. The Greenbelt begins north of Old School Road between Heritage Road and Creditview Road.

- The infrastructure focus study area contains several mapped natural heritage features, including:

  - Etobicoke Creek Headwaters Provincially Significant Wetland Complex
  - Etobicoke Creek Headwaters II Wetland Complex
  - Unevaluated wetland
  - Regionally Significant Woodlands (assumed to include all woodlands within 100 m of mapped wetland areas)
  - Watercourses considered fish habitat or contributing fish habitat and headwater drainage features for the Etobicoke Creek system

- The infrastructure focus study area contains a total of 35 mapped vegetation community types. There is potential for regionally rare ELC communities within the refined study area.

- The infrastructure focus study area contains the potential for 11 SAR, 11 SCC, and 14 SWH.
  - SAR
    - Bobolink
    - Chimney Swift
    - Eastern Meadowlark
    - Eastern Whip-poor-will
    - Red-headed Woodpecker
    - Yellow-breasted Chat
    - Butternut
    - Eastern Small-footed Myotis
    - Little Brown Myotis
    - Northern Myotis
    - Tri-coloured Bat
  - SCC
    - Barn Swallow
    - Canada Warbler
    - Common Nighthawk
    - Eastern Wood-pewee
    - Grasshopper Sparrow
    - Wood Thrush
    - Milksnake
    - Snapping Turtle
    - Western Chorus Frog
    - Monarch
    - Yellow-banded Bumblebee
  - SWH
    - Waterfowl Stopover and Staging Areas (Terrestrial)
    - Bat Maternity Colonies
    - Reptile Hibenaculum
    - Colonially-Nesting Bird Breeding Habitat (Trees and Shrubs)
    - Other Rare Vegetation Communities
    - Waterfowl Nesting Areas
    - Seeps and Springs
    - Amphibian Breeding Habitat (Woodland)
    - Amphibian Breeding Habitat (Wetland)
    - Marsh Breeding Bird Habitat
    - Shrub/Early Successional Bird Breeding Habitat
    - Terrestrial Crayfish
    - Species of Conservation Concern
    - Animal Movement Corridors

5.3 Infrastructure Focus Parcels

5.3.1 Parcel A

Parcel A may support the following natural heritage constraints:

- Several mapped natural heritage features (Figure 5), including:
  - Unevaluated wetland
  - Watercourse considered fish habitat or contributing fish habitat and headwater drainage features for the Etobicoke Creek system
  - Unmapped headwater drainage feature within CVC regulation limit on the northern end of the parcel
- Two mapped vegetation community types (deciduous forest and deciduous swamp), as well as smaller unmapped fragments of an additional community type (cultural meadow). There is potential for regionally rare ELC communities within the refined study area (Figure 7).
- Potential for 11 SAR, 11 SCC, and 14 SWH.

Most of these constraints are associated with the small piece of woodland on the western end of the property.

Natural heritage constraints are summarize below on Table 9.

5.3.2 Parcel B

Parcel B may support the following natural heritage constraints:

- Several mapped natural heritage features (Figure 5):
  - Unevaluated wetland
  - Watercourse considered fish habitat or contributing fish habitat and headwater drainage features for the Etobicoke Creek system
- Two mapped vegetation community types. There is potential for regionally rare ELC communities within the refined study area (Figure 8).

Potential for 11 SAR, 11 SCC, and 14 SWH. Most of these constraints are associated with the small piece of woodland on the western end of the property.

Natural heritage constraints are summarized on Table 9.

5.3.3 Parcel C

Parcel C may support the following natural heritage constraints:

- One mapped natural heritage feature (Figure 5):
  - Watercourses considered fish habitat or contributing fish habitat and headwater drainage features for the Etobicoke Creek system.
- No mapped ELC communities, though some upland meadow, lone trees, and cultural hedgerow were noted as potentially present (Figure 9).
- Potential for 6 SAR, 6 SCC, and 3 SWH.

Natural heritage constraints are summarized on Table 9.

5.3.4 Parcel D

Parcel D may support the following natural heritage constraints:

- One mapped natural heritage feature (Figure 5):
  - Watercourses considered fish habitat or contributing fish habitat and headwater drainage features for the Etobicoke Creek system
- No mapped ELC communities, though some upland meadow, cultural hedgerow, and lone trees were noted as potentially present (Figure 9).
- Potential for 8 SAR, 7 SCC, and 3 SWH.

Natural heritage constraints are summarized on Table 9.

5.3.5 Parcel E

Parcel E may support the following natural heritage constraints:

- One mapped natural heritage feature (Figure 5):
  - Watercourses considered fish habitat or contributing fish habitat and headwater drainage features for the Etobicoke Creek system
- No mapped ELC communities, though some upland meadow, cultural hedgerow, lone trees, and unmapped wetland were noted as potentially present (Figure 10).
- Potential for 8 SAR, 7 SCC, and 3 SWH.

Natural heritage constraints are summarized on Table 9.

TABLE 9 Natural Heritage Constraints Summary for Infrastructure Focus Area Parcels

Parcel	Natural Heritage Features (Figure 5)	ELC Communities (Figures 6-10)	SAR (Appendix C)	SCC (Appendix D)	SWH (Appendix E)
A	• Unevaluated wetland • Watercourse/headwater drainage feature contributing to fish habitat for the Etobicoke Creek system • Unmapped headwater drainage feature within CVC regulation limit on the northern end of the parcel	• FOD, SWD (mapped) • CUM1-1 (not mapped)	• Bobolink • Chimney Swift • Eastern Meadowlark • Eastern Whip-poor-will • Red-headed Woodpecker • Yellow-breasted Chat • Butternut • Eastern Small-footed Myotis • Little Brown Myotis • Northern Myotis • Tri-coloured Bat	• Barn Swallow • Canada Warbler • Common Nighthawk • Eastern Wood-pewee • Grasshopper Sparrow • Wood Thrush • Milksnake • Snapping Turtle • Western Chorus Frog • Monarch • Yellow-banded Bumble Bee	• Waterfowl Stopover and Staging Areas (Terrestrial) • Bat Maternity Colonies • Reptile Hibernaculum • Colonially-Nesting Bird Breeding Habitat (Trees and Shrubs) • Other Rare Vegetation Communities • Waterfowl Nesting Areas • Seeps and Springs • Amphibian Breeding Habitat (Woodland) • Amphibian Breeding Habitat (Wetland) • Marsh Breeding Bird Habitat • Shrub/Early Successional Bird Breeding Habitat • Terrestrial Crayfish • Species of Conservation Concern • Animal Movement Corridors
B	• Unevaluated wetland • Watercourse/headwater drainage feature contributing to fish habitat for the Etobicoke Creek system	• FOD, SWD (mapped) • CUM1-1 (not mapped)	• Bobolink • Chimney Swift • Eastern Meadowlark • Eastern Whip-poor-will • Red-headed Woodpecker • Yellow-breasted Chat • Butternut • Eastern Small-footed Myotis • Little Brown Myotis • Northern Myotis • Tri-coloured Bat	• Barn Swallow • Canada Warbler • Common Nighthawk • Eastern Wood-pewee • Grasshopper Sparrow • Wood Thrush • Milksnake • Snapping Turtle • Western Chorus Frog • Monarch • Yellow-banded Bumble Bee	• Waterfowl Stopover and Staging Areas (Terrestrial) • Bat Maternity Colonies • Reptile Hibernaculum • Colonially-Nesting Bird Breeding Habitat (Trees and Shrubs) • Other Rare Vegetation Communities • Waterfowl Nesting Areas • Seeps and Springs • Amphibian Breeding Habitat (Woodland) • Amphibian Breeding Habitat (Wetland) • Marsh Breeding Bird Habitat • Shrub/Early Successional Bird Breeding Habitat • Terrestrial Crayfish • Species of Conservation Concern • Animal Movement Corridors
C	• Watercourse/headwater drainage feature contributing to fish habitat for the Etobicoke Creek system	• CUM1-1 (potential, not mapped)	• Bobolink • Eastern Meadowlark • Butternut • Little Brown Myotis • Northern Myotis • Tri-coloured Ba	• Common Nighthawk • Grasshopper Sparrow • Milksnake • Western Chorus Frog • Monarch • Yellow-banded Bumble Bee	• Waterfowl Stopover and Staging Areas (Terrestrial) • Reptile Hibernaculum • Species of Conservation Concern
D	• Watercourse/headwater drainage feature contributing to fish habitat for the Etobicoke Creek system	• CUM1-1 (not mapped)	• Bobolink • Chimney Swift • Eastern Meadowlark • Butternut • Eastern Small-footed Myotis • Little Brown Myotis • Northern Myotis	• Barn Swallow • Common Nighthawk • Grasshopper Sparrow • Milksnake • Western Chorus Frog • Monarch • Yellow-banded Bumble Bee	• Waterfowl Stopover and Staging Areas (Terrestrial) • Reptile Hibernaculum • Species of Conservation Concern

Parcel	Natural Heritage Features (Figure 5)	ELC Communities (Figures 6-10)	SAR (Appendix C)	SCC (Appendix D)	SWH (Appendix E)
			• Tri-coloured Bat		
E	• Watercourse/headwater drainage feature contributing to fish habitat for the Etobicoke Creek system	• CUM/MAM (not mapped)	• Bobolink • Chimney Swift • Eastern Meadowlark • Butternut • Eastern Small-footed Myotis • Little Brown Myotis • Northern Myotis • Tri-coloured Bat	• Barn Swallow • Common Nighthawk • Grasshopper Sparrow • Milksnake • Western Chorus Frog • Monarch • Yellow-banded Bumble Bee	• Waterfowl Stopover and Staging Areas (Terrestrial) • Reptile Hibernaculum

5.4 Next Steps

The next step in the characterization of natural habitat will be to utilize constraints as identified to inform and help guide the evaluation of infrastructure focus alternative solutions. This process will serve to narrow the scope and, by extension, the study area to be assessed. This will allow for a more in-depth evaluation of natural heritage features and constraints, as well as how they directly apply to each respective option.

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APPENDIX A
Agency Consultation

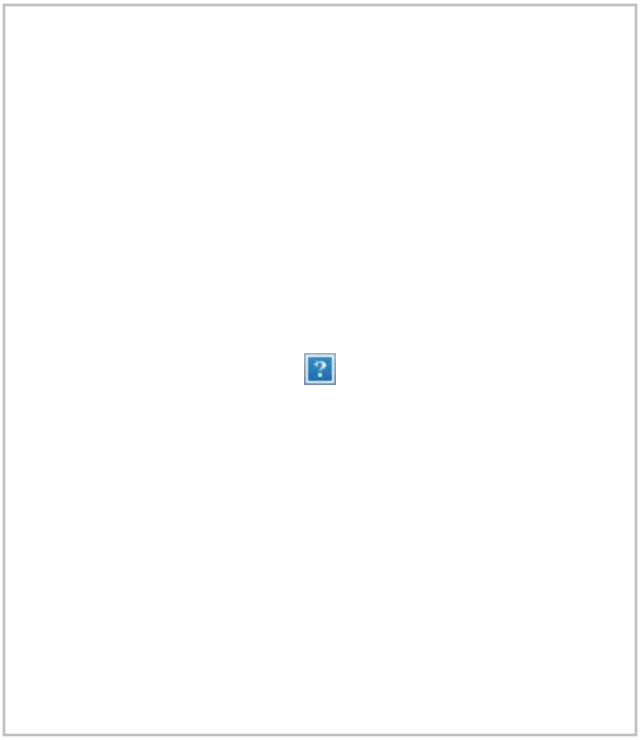
From: Kelsey Reich
To: Species at Risk (MECP)
Subject: SAR Information Request - West Caledon EA
Date: February 10, 2022 1:48:00 PM
Attachments: image001.png
image002.png

Hello,
The Region of Peel is undertaking a Class EA for West Caledon. We (Matrix) are conducting a background natural heritage review on their behalf. The study area roughly goes from Olde Base Line Rd in the North to Wanless Drive in the South, and Kennedy Rd in the East to Winston Churchill Blvd in the West (see image below).

We have conducted a preliminary SAR search through various databases (NHIC, OBBA, OBA, ORAA, DFO mapping) (see table below). I was hoping you would be able to provide any additional information that was not recorded in the database search including any ELC and fisheries information.

Thank you in advance for your time and help in this matter.

Species	ESA Status	SARA Status
Monarch	END	SC
Bank Swallow	THR	THR
Bobolink	THR	THR
Butternut	END	END
Canada Warbler	SC	THR
Chimney Swift	THR	THR
Eastern Meadowlark	THR	THR
Eastern Milksnake		SC
Eastern Wood-pewee	SC	SC
Henslow's Sparrow	END	END
Jefferson Salamander	END	END
Louisiana Watherthrush	THR	THR
Midland Painted Turtle		SC
Northern Map Turtle	SC	SC
Redside Dace	END	END
Red-headed Woodpecker	SC	END
Snapping Turtle	SC	SC
Wood Thrush	SC	THR
Eastern Musk Turtle	SC	SC



Sincerely,

Kelsey Reich

MATRIX SOLUTIONS INC.
Environmental Technician
C: 226-820-2731
kreich@matrix-solutions.com



From: Kelsey Reich
To: Species at Risk (MECP)
Cc: Arnie Fausto
Subject: RE: [External] SAR Information Requested- West Caledon EA
Date: February 14, 2022 11:19:00 AM
Attachments: image001.png
image002.jpg
image003.png

Hi Shamus,

We will do further scoping with the EA project team and will get back to you, as we agree the study area is larger than necessary for the upcoming project.

Sincerely,

Kelsey Reich

MATRIX SOLUTIONS INC.
Environmental Technician
C: 226-820-2731
kreich@matrix-solutions.com

From: Species at Risk (MECP) <SAROntario@ontario.ca>
Sent: February 11, 2022 5:41 PM
To: Kelsey Reich <kreich@matrix-solutions.com>
Subject: [External] SARB Information Requested- West Caledon EA

Hi Kelsey,

Could you please provide me with some additional context as to why the study area is so large. I don't believe I have seen a request for such a large area before just want to make sure that your request reasonable scoped to what is required to complete the Class EA.

The Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) still administers the Fish and Wildlife Conservation Act (FWCA) and so all requests for information that doesn't pertain to Species at Risk should be directed to them.

Regards,

Shamus Snell
A/ Management Biologist

Species at Risk Branch
Ministry of Environment, Conservation and Parks
Email: shamus.snell@ontario.ca

From: Kelsey Reich <kreich@matrix-solutions.com>
Sent: February 10, 2022 1:49 PM
To: Species at Risk (MECP) <SAROntario@ontario.ca>
Subject: SAR Information Request - West Caledon EA

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

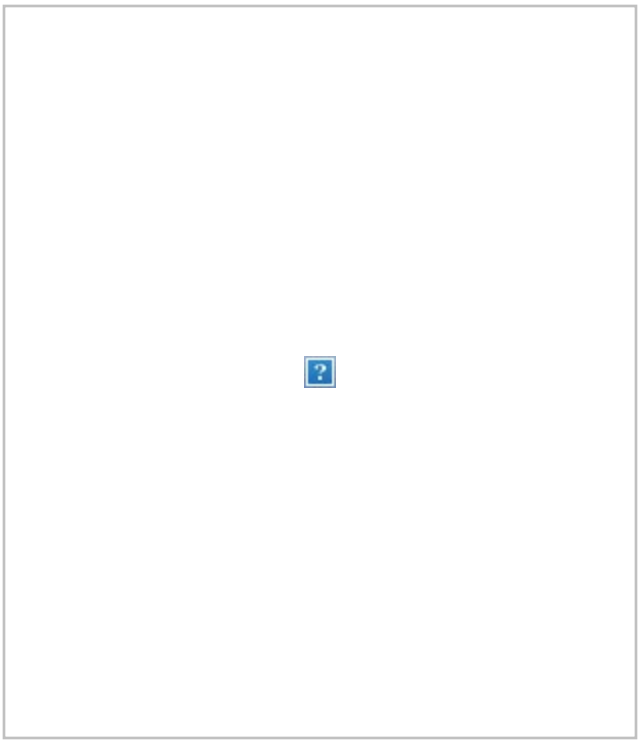
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Thank you in advance for your time and help in this matter.

Species	ESA Status	SARA Status
Monarch	END	SC
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Chimney Swift	THR	THR
Eastern Meadowlark	THR	THR
Eastern Milksnake		SC
Eastern Wood-pewee	SC	SC
Henslow's Sparrow	END	END
Jefferson Salamander	END	END
Louisiana Watherthrush	THR	THR
Midland Painted Turtle		SC
Northern Map Turtle	SC	SC
Redside Dace	END	END
Red-headed Woodpecker	SC	END

Snapping Turtle	SC	SC
Wood Thrush	SC	THR
Eastern Musk Turtle	SC	SC



Sincerely,

Kelsey Reich

MATRIX SOLUTIONS INC.
Environmental Technician
C: 226-820-2731
kreich@matrix-solutions.com



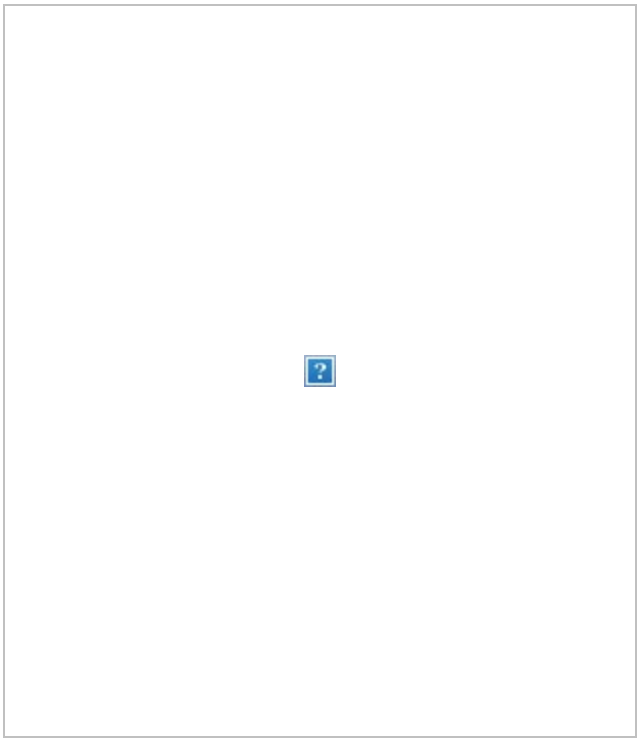
From:	Kelsey Reich
To:	natosha.fortini@ontario.ca
Cc:	Peter De Carvalho; Arnie Fausto
Subject:	West Caledon Data Request
Date:	February 28, 2022 1:06:00 PM
Attachments:	image001.png image002.png image003.png

Hi Natasha Fortini,

The Region of Peel is undertaking a Class EA for West Caledon. We (Matrix Solutions Inc) are conducting a background natural heritage review on their behalf. The study area roughly goes from Olde Base Line Rd in the North to Wanless Drive in the South, and Kennedy Rd in the East to Winston Churchill Blvd in the West (see image below).

I was hoping MDMNRF would be able to provide me with and pertinent information including provincially significant wetlands and fisheries data within the study area.

Thank you in advance for your time and help in this matter.



Sincerely,

Kelsey Reich | Environmental Technician

MATRIX SOLUTIONS INC. | Environment & Engineering
7B, 650 Woodlawn Rd. W, Guelph, ON N1K 1B8
C 226.820.2731 | **T** 519.772.3777
24-Hour Emergency Spill Response 1.877.774.5525

www.matrix-solutions.com

From:	Fortini, Natosha (NDMNRF)
To:	Kelsey Reich
Subject:	[External] RE: West Caledon Data Request
Date:	March 1, 2022 9:35:16 AM
Attachments:	image006.png image001.png image002.jpg image003.png NHGuide_MNRF_2019-04-01.pdf

---

Hi Kelsey,

Thank you for your request for information on natural heritage information. In order to provide the most efficient service possible, the attached *Natural Heritage Information Request Guide* has been developed to assist you with accessing natural heritage data and values from convenient online sources.

NDMNRF has no further comment on your information request at the present time. Once specific works are proposed, boundaries are known and potential impacts to specific features are identified, you may contact our office to request more detailed information. If you are looking for wetland and/or ANSI evaluations/field notes or fish dot files to help inform initial planning processes at a broader level, please send a request to our office for the specific features you are interested in so that we can provide the applicable information.

It remains the proponent's responsibility to complete a preliminary screening for each project, to obtain available information from multiple sources, to conduct any necessary field studies, and to consider any potential environmental impacts that may result from an activity. We wish to emphasize the need for the proponents to complete screenings prior to contacting the Ministry or other agencies for more detailed technical information and advice.

The Ministry continues to work on updating data housed by Lands Information Ontario and the Natural Heritage Information Centre, and ensuring this information is accessible through online resources. Species at risk data is regularly being updated. To ensure access to reliable and up to date information, please contact SAROntario@ontario.ca.

This information will assist in scoping the necessary field assessments for an area if development or site alteration is proposed. This information is not meant to replace the responsibility of the proponent to undertake species and / or habitat surveys. Surveys or additional site level assessment are often required to confirm presence or absence of natural heritage features and values. Environmental consulting firms have the professional and technical expertise to assess sites for natural heritage features and can gauge the potential for such features to exist.

Absence or lack of information for a given geographic area does not necessarily mean the absence of natural heritage features. Many areas in Ontario have never been surveyed and new plant and animal species records are still being discovered for many localities. In addition, new species may be listed and new natural heritage features may be defined over time. For these reasons, the Ministry cannot provide a definitive statement on the presence, absence or condition of natural heritage features in all parts of Ontario.

Thank you for your inquiry,

Natosha

Natosha Fortini (she/her) Listen to how my name is pronounced here
Management Biologist | Aurora District | Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry | 50 Bloomington Rd. W., Aurora, ON, L4G 0L8 | P: 289-380-6181| F: 905.713.7361 |
natosha.fortini@ontario.ca

From: Kelsey Reich <kreich@matrix-solutions.com>
Sent: February 28, 2022 1:07 PM
To: Fortini, Natosha (NDMNRF) <Natosha.Fortini@ontario.ca>
Cc: Peter De Carvalho <pdecarvalho@matrix-solutions.com>; Arnie Fausto <afausto@matrix-solutions.com>
Subject: West Caledon Data Request

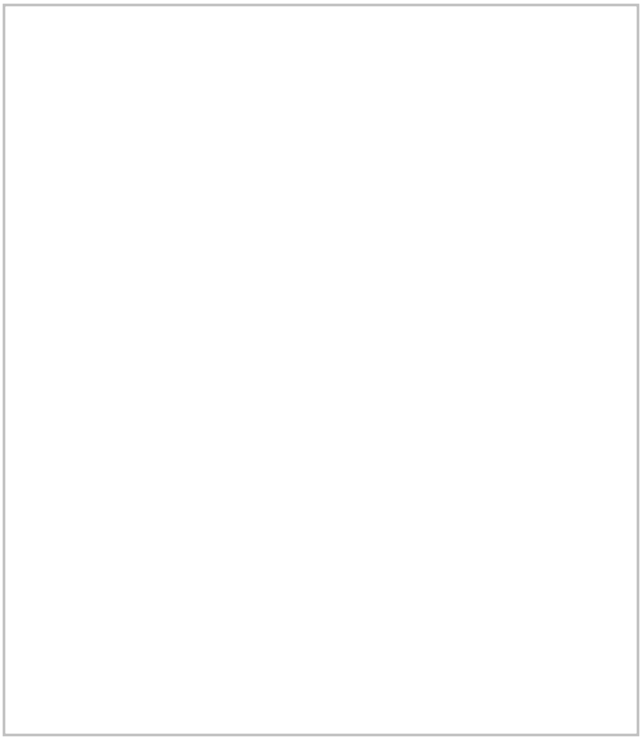
CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hi Natasha Fortini,

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I was hoping MDMNRF would be able to provide me with and pertinent information including provincially significant wetlands and fisheries data within the study area.

Thank you in advance for your time and help in this matter.



Sincerely,

Kelsey Reich | Environmental Technician

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www.matrix-solutions.com

Ministry of Natural Resources and Forestry

Ontario



Natural Heritage Information Request Guide

Regional Operations Division, Ministry of Natural Resources & Forestry

Update – April 1, 2019

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1.0 Background, Purpose and Scope

1.1 Background

The Ministry of Natural Resources and Forestry (MNRF) maintains a substantial amount of natural heritage information. The Government of Ontario is committed to transparency, customer service, and making information more publicly accessible. Access to natural heritage information is critical to informing municipal planning processes, development activities, and other initiatives such as science and research. To make natural heritage information more accessible and better understood, this document consolidates available MNRF natural heritage information and outlines how this information can be accessed.

1.2 Purpose of this Guide

The purpose of this guide is three-fold:

1. To provide a directory of natural heritage information sources available from the MNRF;
2. To reduce wait times for users to access the data, especially considering that much of the information is open and accessible; and
3. To help users efficiently access available data.

It remains the proponent's responsibility to:

- Complete a preliminary screening for their projects,
- Obtain available information from multiple sources,
- Conduct any necessary field studies, and
- Consider any potential environmental impacts that may result from a proposed activity.

To provide the most efficient service possible, proponents should complete natural heritage screenings **prior** to contacting Government of Ontario Ministry offices or other agencies for more detailed technical information and advice. This guide provides detailed information on where and how to access information to screen a study area in advance of consulting with Ministries.

1.3 Scope

MNRF maintains and provides information related to its resource management and land use planning mandate, including natural heritage, fisheries, wildlife, mineral aggregate resources, crown lands, protected lands and more. This information is made available to organizations, private individuals, consultants, and developers through online sources and is often considered under various pieces of legislation or as part of regulatory

approvals and planning processes. This guide has been created to help users navigate the available natural heritage information to support various activities. This guide additionally provides a list of other sources of information beyond MNRF, although it is not intended to be an exhaustive list of available sources.

This guide does not replace the Natural Heritage Reference Manual but is intended to support it. This guide is not intended to circumvent any field studies that may be necessary to document features and assess impacts.

This guide is a resource for proponents during project planning. Reviewing the layers listed in the appendices will enable proponents to prepare for both proponent and government led Environmental Assessments. For projects proposed on crown land, MNRF is the permitting agency and there may be additional initial screening requirements. Further studies may be required depending on the nature and location of the project.

1.4 Audience

The intent of this public guide is to make it easier for the proponents and consultants to access relevant information. This guide will also help internal Ministry staff who are responding to information requests or site screenings.

1.5 Disclaimer

The information available from MNRF and the sources listed below in the appendices should **not be considered as a substitute for site visits and appropriate field surveys.** Generally, information available from MNRF can be regarded as a starting point from which to conduct further field studies, if needed. While this data represents MNRF's best available current information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. There are many areas where MNRF does not currently have information. On-site assessments can better verify site conditions, identify natural features and values and confirm presence of species at risk and/or their habitats.

This guide will be updated from time to time. For a current version of this guide, please contact your local or regional Government of Ontario Ministry office. Up-to-date contact information for Ministry offices can be obtained through the Government of Ontario Employee and Organization Directory, Info-GO, available at http://www.infogo.gov.on.ca/infogo/home.html.

2.0 Data Resources

2.1 Make a Map: Natural Heritage Areas

The MNRF maintains the Make a Natural Heritage Area Map: http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US which provides public access to natural heritage information without the user needing to have Geographic Information System (GIS) capability. It allows users to view and identify natural heritage features, mark areas of interest, and create and print a custom map directly from the web application. The tool also shows topographic information such as roads, rivers, contours and municipal boundaries.

Make a Natural Heritage Area Map should be consulted as a first step in screening for natural heritage features. This tool does not provide access to all of the MNRF's natural heritage information and some layers may be incomplete.

Users are advised that sensitive information has been removed from the natural areas dataset and the occurrences of species at risk, rare plant communities and wildlife concentration areas has been generalized to a 1-kilometre grid.

The web-based mapping tool displays natural heritage data, including:

- Generalized Species at risk occurrence data (based on a 1-km square grid),
- provincial parks and conservation reserves,
- Areas of Natural and Scientific Interest,
- Wetlands,
- Woodlands, and
- Natural Heritage Information Centre data.

Data cannot be downloaded directly from this web map, however, information included in this application is available digitally through Land Information Ontario: https://www.ontario.ca/page/land-information-ontario (LIO).

2.2 Land Information Ontario (LIO)

Most natural heritage data is publicly available. This data is managed in a large corporate database called the LIO Warehouse and can be discovered through the LIO Metadata Management Tool: https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home. This tool provides descriptive information about the characteristics, quality and context of the data. Publicly available geospatial data can be downloaded directly from this site.

The LIO Metadata Management Tool helps users to find, assess and access GIS data and houses up to 350 data and information products. Geospatial data are available through this tool, including (but not limited to):

- **Aquatic Resource Area (ARA) data classes:** general fisheries spatial data including water body type, thermal regime and fish species
- **Spawning Area (fish)**
- **Nursery Area (fish)**
- **Nesting Site (birds)**
- **Areas of Natural and Scientific Interest (ANSIs)**
- **Wetlands**
- **Wintering Area (deer, moose, etc.)**
- **Fire (Potential Hazardous Forest Types for Wildland Fire**

Appendix A links MNRF's authoritative, relevant data sets to the location in the LIO Database where the data can be downloaded.

Note that while most data is publicly available, some data may be considered highly sensitive (i.e., Nursery Areas for fish, species at risk observations), and as such, restrictions are in place limiting access to this information.

2.3 Species at Risk

For detailed information on species at risk, please visit Make a Natural Heritage Areas Map or contact the Ministry of Environment, Conservation and Parks at SAROntario@ontario.ca.

2.4 Public Agencies

Ministries, Municipalities and Conservation Authorities may have proposed infrastructure work that requires screening. In these instances, these broader public sector organizations should contact the appropriate Ministry Office to explore more efficient ways to access information and make decisions. This could include entering into data sharing agreements. Please note that many public agencies already have ongoing data sharing agreements in place with LIO and the Natural Heritage Information Centre (NHIC).

2.5 For Additional Information

For information pertaining to corporate data, contact LIO for support by email at lio@ontario.ca or by telephone at 705-755-1878.

For further information pertaining to the NHIC, including data sharing agreements, please email NHICrequests@ontario.ca or call 705-755-2159.

There may be circumstances where a local Government of Ontario office should be consulted for additional information and/or technical advice. For instance, projects proposed on Crown Land should be discussed early in the project planning process with local MNRF District staff.

A listing of District offices can be found on this web page https://www.ontario.ca/page/ministry-natural-resources-and-forestry-regional-and-district-offices

Appendix A: Natural Heritage Mapping Resources

The table below provides users links to maps and GIS data depicting natural heritage. This list is intended to help guide a natural heritage screening exercise. Click in the *Information Source* column for hyperlinks.

Information Source	Theme	Instructions for using this information
Wetland	Significant Wetlands	Use field" WETLAND_SIGNIFICANCE = Evaluated-Provincial" for provincially significant wetlands.
	Coastal Weltands	Use field"COASTAL_IND=Yes" for Coastal Wetlands
	Fish & Wildlife, Wetlands	Support evaluation and identification of habitat and wetlands. Please consult user guide for details. Consult the User Guide for more information.
Make a Natural Heritage Areas Map	Endangered and Threatened Species	Turn on the NHIC 1 km Grid square and use the Find… tool to query for species intersecting the grid. Consult the User guide for more information.
	Fish & Wildlife Habitat	Turn on the NHIC 1 km Grid square and use the Find… tool to query for species intersecting the grid. Consult the User guide for more information.
Provincially Tracked Species 1KM Grid	Endangered and Threatened Species	Use field "SARO_STAUS= 'Endangered' or SARO_STATUS='Threatened'" for Endangered and Threatened species.
Wintering Area	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Aquatic Feeding Area	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Breeding Area	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Calving Fawning Site	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.

Information Source	Theme	Instructions for using this information
Den Site	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Feeding Area, Wildlife	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Habitat Planning Range	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Mineral Lick	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Nesting Site	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Nursery Area, Wildlife	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Resting Area	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Staging Area, Wildlife	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Travel Corridor, Wildlife	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
ANSI	Significant Areas of Natural and Scientific Interest	Use the field "ANSI_SIGNIFICANCE = Provincial" if you need to view only Provincially Significant ANSI. Consult the User Guide for more information.
Wooded Area	Woodlands	Supports evaluation and identification of significant woodlands and wildlife habitat
ARA Line Segment	Fish Species and Habitat	Supports evaluation and identification of fish habitat by indicating fish species present in the water feature. Consult the User Guide for more information.

Information Source	Theme	Instructions for using this information
ARA Polygon Segment	Fish Species and Habitat	Supports evaluation and identification of fish habitat by indicating fish species present in the water feature. Consult the User Guide for more information.
	At Capacity Lake Trout Lakes	Use field" AT_DEVELOPMENT_CAPACITY_IND = Yes" for designated at capacity lakes
Aquatic Resource Area (ARA) Survey Point	Fish Species	Supports evaluation and identification of fish habitat by indicating fish species present at that location. Consult the User Guide for more information.
Spawning Area	Fish Habitat	Supports evaluation and identification of fish habitat
Nursery Area, Fish	Fish Habitat	Supports evaluation and identification of fish habitat
Staging Area, Fish	Fish Habitat	Supports evaluation and identification of fish habitat
Feeding Area, Fish	Fish Habitat	Supports evaluation and identification of fish habitat
Travel Corridor Fish	Fish Habitat	Supports evaluation and identification of fish habitat
Ecoregion	Ecoregions	Used to determine what ecoregion covers your area
Natural heritage System Area	Natural Heritage System	Identifies Natural Heritage System Areas within the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan, the Niagara Escarpment Plan and the Growth Plan for the Greater Golden Horseshoe. Consult this guide for more information.
Breeding Bird Atlas	Wildlife Habitat	Provides additional information on the location of Breeding Birds
eBird	Wildlife Habitat	Provides additional information on bird sightings

Information Source	Theme	Instructions for using this information
Ontario Reptile and Amphibian Atlas	Wildlife Habitat	Provides additional information on Reptile and Amphibian sightings
iNaturalist	Fish & Wildlife Habitat	Provides additional information on fish & wildlife sightings

Appendix B: Natural Heritage Information Resources

The table below provides users links to Natural Heritage policies and documentation that should be referenced when conducting a natural heritage screening exercise. Click in the *Information Source* column for hyperlinks

Information Source	Theme	Description
https://www.ontario.ca/document/water-work-timing-window-guidelines	Water Work Timing windows	An information source that can be used to determine in-water work timing windows
Inland Lakes designated for Lake Trout management	Fish Habitat	A list of lakes in Ontario that are managed as Lake Trout lakes
Significant wildlife habitat guide	Wildlife Habitat	Provides detailed information on the identification, description and prioritization of significant wildlife habitat.
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 6E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 6E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 7E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 7E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 5E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 5E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 3E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 3E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 3W	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 3E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 4E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 3E
Significant wildlife habitat mitigation support tool	Wildlife Habitat	Provides advice and recommendations on how to mitigate wildlife habitat during a development process
Natural heritage reference manual	Natural Heritage	Provides guidance for implementing the natural heritage policies of the Provincial policy Statement

Appendix C: Other information Sources

The table below provides users links to other data and resources that could be relevant when screening for development. Click in the *Information Source* column for hyperlinks

Information Source	Theme
Crown Land Use Policy Atlas	Crown Land
Make a Topographic Map	Base Data Mapping
Pits and Quarries	Aggregates
Aggregate resources policies and procedures	Aggregates
Aggregate resources study	Aggregates
Exploring for and extracting oil, natural gas and salt resources	Oil, Gas and Salt Resources
Petroleum wells	Oil, Gas and Salt Resources
Great Lakes – St. Lawrence River System and Large inland lakes: Technical Guides for flooding, erosion and dynamic beaches in support of natural hazards policies 3.1 of the provincial policy statement	Hazards
Adaptive Management of Stream Corridors in Ontario including Natural Hazards Technical Guides	Hazards
The Wildland Fire Risk Assessment and Mitigation Reference Manual	Hazards

Information Source	Theme
Public Lands Act	Crown Land
Crown land work permits	Crown Land
Aggregate resources	Aggregates
Lakes and Rivers Improvement Act	Crown Land
Licence to collect fish for scientific or education purposes	Fish
https://www.ontario.ca/search/data-catalogue	Base Data mapping
Fire - Potential Hazardous Forest Types for Wildland Fire	Hazards
MNR Region	Base Data mapping
MNR District	Base Data mapping
GeoBase	Base Data mapping
Mining Lands Administration System (MLAS) – Map Viewer	Mines
Geoconnections	Base Data mapping

Information Source	Theme
Ministry of Northern Development and Mines Mapping and link to Geology Ontario databases	Mines
Ministry of Environment, Conservation and Parks Data	Environment
National Air Photo Library	Aerial photos
Archives Ontario Aerial Photography	Aerial photos
GEOGratis	Base Data mapping
County Soils Maps	Base Data mapping
Forest Fire Info Map	Hazards
Agricultural Information Atlas	Agriculture
Crown Land Automated Internet Mapping System	Mines
COSINE	Base Data mapping
GEONAME	Base Data mapping
Government-wide data inventory	Base Data mapping

From: Wallis, Derry
To: Kelsey Reich
Subject: [External] Data Request - Class EA for West Caledon
Date: February 15, 2022 3:20:58 PM
Attachments: image001.jpg

Hi Kelsey,

Thank you for your inquiry. Please provide the following information along with a map of your interest area so I can proceed with a data sharing agreement.

- Project name:
- Proponent:
- User:
- Intended use and publications:

Please feel free to get in touch if you have any questions.

Best regards,

I'm working remotely. The best way to reach me is by email.

Derry Wallis | she/her
Planning Technician, Planning and Development Services | Credit Valley Conservation
905-670-1615 ext 350 | M: 437-980-9759
derry.wallis@cvc.ca | cvc.ca



View our privacy statement

From: Credit Valley Conservation <noreply@cvc.ca>
Sent: Friday, February 11, 2022 10:02 AM
To: ZZG-Ecology <ecology@cvc.ca>
Subject: [External] New Submission From CVC.CA Contact Form

[CAUTION] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. If in doubt contact help211@cvc.ca

Page: Contact

Please Select Your Area of Interest
Environmental Inventory and Monitoring Inquiries
First Name

Kelsey

Last Name

Reich

Email

kreich@matrix-solutions.com

Postal Code

N1K 1B8

Message

Hello,

The Region of Peel is undertaking a Class EA for West Caledon. We (Matrix) are conducting a background natural heritage review on their behalf. The study area roughly goes from Olde Base Line Rd in the North to Wanless Drive in the South, and Kennedy Rd in the East to Winston Churchill Blvd in the West.

We have conducted a preliminary SAR search through various databases (NHIC, OBBA, OBA, ORAA, DFO mapping) (see table below). I was hoping you would be able to provide any additional information that was not recorded in the database search including any natural heritage, ELC, and fisheries information.

Thank you in advance for your time and help in this matter.

SAR & SC Species List:
Monarch
Bank Swallow
Bobolink
Butternut
Canada Warbler
Chimney Swift
Eastern Meadowlark
Eastern Milksnake
Eastern Wood-pewee
Henslow's Sparrow
Jefferson Salamander
Louisiana Watherthrush
Midland Painted Turtle
Northern Map Turtle
Redside Dace
Red-headed Woodpecker
Snapping Turtle
Wood Thrush
Eastern Musk Turtle

Sincerely,

Kelsey Reich

MATRIX SOLUTIONS INC.
Environmental Technician

kreich@matrix-solutions.com

Entry ID: 9895

From: Credit Valley Conservation
To: Kelsey Reich
Subject: [External] Thanks For Your Inquiry
Date: February 11, 2022 10:02:14 AM

Thanks for your Inquiry.

Credit Valley Conservation is dedicated to providing a high-quality customer experience in all our programs and services. We work together to meet the planning, recreation, education and conservation needs of the communities we serve.

We will respond to your inquiry within two business days.

Entry Tracking ID: 9895

Please Select Your Area of Interest
Environmental Inventory and Monitoring Inquiries
First Name
Kelsey
Last Name
Reich
Email
kreich@matrix-solutions.com
Postal Code
N1K 1B8
Message
Hello, The Region of Peel is undertaking a Class EA for West Caledon. We (Matrix) are conducting a background natural heritage review on their behalf. The study area roughly goes from Olde Base Line Rd in the North to Wanless Drive in the South, and Kennedy Rd in the East to Winston Churchill Blvd in the West. We have conducted a preliminary SAR search through various databases (NHIC, OBBA, OBA, ORAA, DFO mapping) (see table below). I was hoping you would be able to provide any additional information that was not recorded in the database search including any natural heritage, ELC, and fisheries information. Thank you in advance for your time and help in this matter. SAR & SC Species List: Monarch Bank Swallow Bobolink

Butternut
Canada Warbler
Chimney Swift
Eastern Meadowlark
Eastern Milksnake
Eastern Wood-pewee
Henslow's Sparrow
Jefferson Salamander
Louisiana Watherthrush
Midland Painted Turtle
Northern Map Turtle
Redside Dace
Red-headed Woodpecker
Snapping Turtle
Wood Thrush
Eastern Musk Turtle

Sincerely,

Kelsey Reich

MATRIX SOLUTIONS INC.
Environmental Technician
kreich@matrix-solutions.com

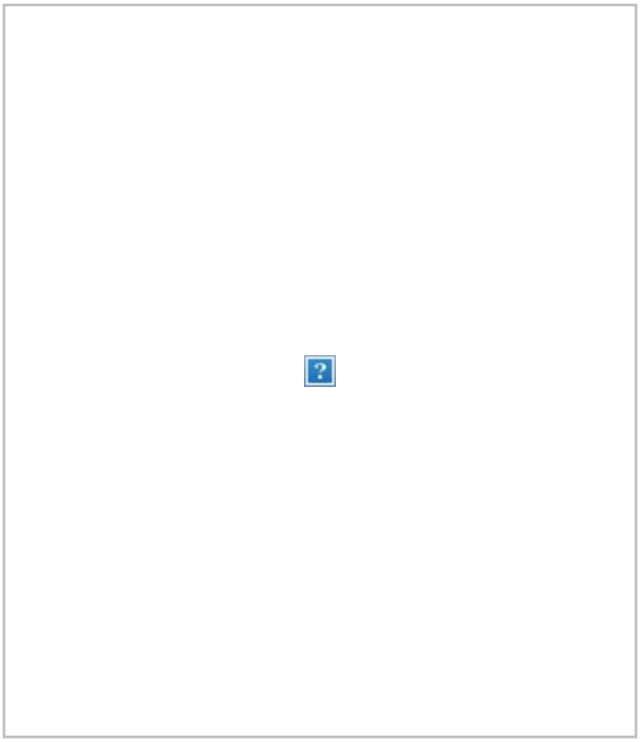
From: Kelsey Reich
To: info@trca.ca
Subject: SAR Information Request - West Caledon
Date: February 11, 2022 10:11:00 AM
Attachments: image001.png
image002.png

Hello,
The Region of Peel is undertaking a Class EA for West Caledon. We (Matrix) are conducting a background natural heritage review on their behalf. The study area roughly goes from Olde Base Line Rd in the North to Wanless Drive in the South, and Kennedy Rd in the East to Winston Churchill Blvd in the West (see image below).

We have conducted a preliminary SAR search through various databases (NHIC, OBBA, OBA, ORAA, DFO mapping) (see table below). I was hoping you would be able to provide any additional information that was not recorded in the database search including any natural heritage, ELC, and fisheries information.

Thank you in advance for your time and help in this matter.

Species	ESA Status	SARA Status
Monarch	END	SC
Bank Swallow	THR	THR
Bobolink	THR	THR
Butternut	END	END
Canada Warbler	SC	THR
Chimney Swift	THR	THR
Eastern Meadowlark	THR	THR
Eastern Milksnake		SC
Eastern Wood-pewee	SC	SC
Henslow's Sparrow	END	END
Jefferson Salamander	END	END
Louisiana Watherthrush	THR	THR
Midland Painted Turtle		SC
Northern Map Turtle	SC	SC
Redside Dace	END	END
Red-headed Woodpecker	SC	END
Snapping Turtle	SC	SC
Wood Thrush	SC	THR
Eastern Musk Turtle	SC	SC



Sincerely,

Kelsey Reich

MATRIX SOLUTIONS INC.
Environmental Technician
C: 226-820-2731
kreich@matrix-solutions.com



From: Shirin Varzgani
To: Kelsey Reich
Subject: [External] SAR Information Request - West Caledon
Date: February 14, 2022 3:12:20 PM
Attachments: image001.png
image002.png
image003.png

Hi Kelsey,

I have received your email below regarding your data request/inquiry, please can you provide some more information regarding this Class EA undertaking by the Region of Peel to help us determine which project this is for / what is the project about; the project PM at the Region of Peel and any information would be helpful. I will make this data request with our GIS once I hear back from you.

Thank you and regards,

Shirin Varzgani, MIP, MES (Pl.) (she, her, hers)
Senior Planner
Infrastructure Planning and Permits | Development and Engineering Services

T: (416) 661-6600 ext. 5785
E: shirin.varzgani@trca.ca
A: 101 Exchange Avenue, Vaughan, ON, L4K 5R6 | trca.ca



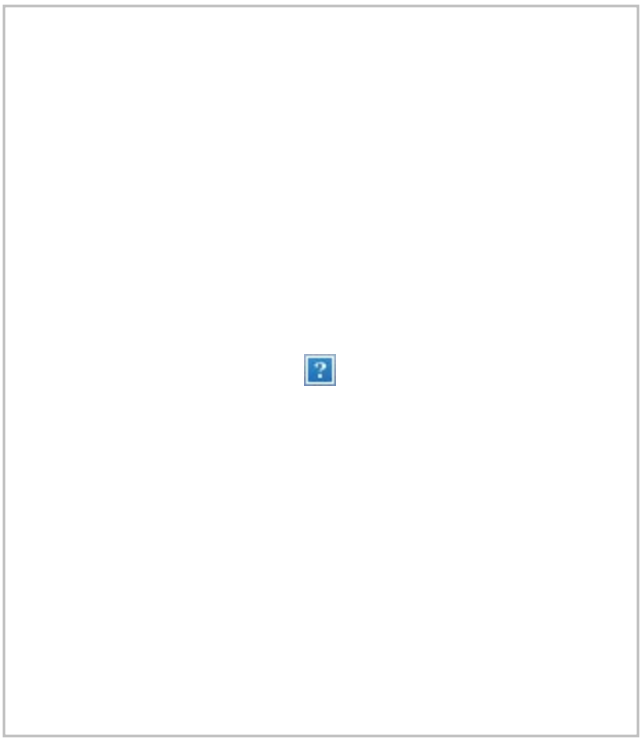
From: Kelsey Reich <kreich@matrix-solutions.com>
Sent: February 11, 2022 10:12 AM
To: Info <Info@trca.ca>
Subject: SAR Information Request - West Caledon

Hello,
The Region of Peel is undertaking a Class EA for West Caledon. We (Matrix) are conducting a background natural heritage review on their behalf. The study area roughly goes from Olde Base Line Rd in the North to Wanless Drive in the South, and Kennedy Rd in the East to Winston Churchill Blvd in the West (see image below).

We have conducted a preliminary SAR search through various databases (NHIC, OBBA, OBA, ORAA, DFO mapping) (see table below). I was hoping you would be able to provide any additional information that was not recorded in the database search including any natural heritage, ELC, and fisheries information.

Thank you in advance for your time and help in this matter.

Species	ESA Status	SARA Status
Monarch	END	SC
Bank Swallow	THR	THR
Bobolink	THR	THR
Butternut	END	END
Canada Warbler	SC	THR
Chimney Swift	THR	THR
Eastern Meadowlark	THR	THR
Eastern Milksnake		SC
Eastern Wood-pewee	SC	SC
Henslow's Sparrow	END	END
Jefferson Salamander	END	END
Louisiana Watherthrush	THR	THR
Midland Painted Turtle		SC
Northern Map Turtle	SC	SC
Redside Dace	END	END
Red-headed Woodpecker	SC	END
Snapping Turtle	SC	SC
Wood Thrush	SC	THR
Eastern Musk Turtle	SC	SC



Sincerely,

Kelsey Reich

MATRIX SOLUTIONS INC.
Environmental Technician
C: 226-820-2731
kreich@matrix-solutions.com

APPENDIX B
Desktop Species Results

TABLE B1 West Caledon Natural Heritage Study Species Inventory from Desktop Study

Species		Conservation Rank					Source							
Common Name	Scientific Name	Provincial (S-rank)	National (SARA)	Provincial (ESA)	TRCA Local (L-rank)	Provincial or National Conservation Priorities	NHIC 1km Map Squares	Ontario Reptile and Amphibian Atlas (ORAA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	Atlas of the Mammals of Ontario (1966)	Ontario Breeding Bird Atlas (OBBA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	Bat Conservation International	Ontario Butterfly Atlas (OBA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	DFO Species at Risk Mapping	iNaturalist Mammal Range Maps
AMPHIBIANS														
American Bullfrog	*Lithobates catesbeianus*	S5			L2			X						
American Toad	*Bufo americanus*	S5			L4			X						
Eastern Red-backed Salamander	*Plethodon cinereus*	S5			L3			X						
Four-toed Salamander	*Hemidactylium scutatum*	S4			LX			X						
Gray Treefrog	*Hyla versicolor*	S5			L2			X						
Green Frog	*Rana clamitans*	S5			L4			X						
Jefferson Salamander	*Ambystoma jeffersonianum*	S2	END	END	L1		X	X						
Mink Frog	*Lithobates septentrionalis*	S5			L2			X*						
Mudpuppy	*Necturus maculosus*	S4			L2			X*						
Northern Leopard Frog	*Lithobates pipiens*	S5			L3			X						
Pickerel Frog	*Lithobates palustris*	S4			L2			X*						
Red-spotted Newt	*Notophthalmus viridescens viridescens*	S5			L2			X						
Spotted Salamander	*Ambystoma maculatum*	S4			L1			X						
Spring Peeper	*Pseudacris crucifer*	S5			L2			X						
Unisexual Ambystoma (Jefferson Salamander dependent population)	*Ambystoma hybrid pop. 1*	S2	END	END	-		X							
Western Chorus Frog	*Pseudacris triseriata*	S4	THR		L2			X						
Wood Frog	*Rana sylvatica*	S5			L2			X						
REPTILES														
Dekay's Brownsnake	*Storeria dekayi*	S5			L4			X						
Eastern Gartersnake	*Thamnophis sirtalis*	S5			L4			X						
Eastern Milksnake	*Lampropeltis triangulum*	S4	SC		L3		X							
Eastern Musk Turtle	*Sternotherus odoratus*	S3	SC	SC	LX		X	X						
Midland Painted Turtle	*Chrysemys picta marginata*	S4	SC		L3		X	X						
Northern Map Turtle	*Graptemys geographica*	S3	SC	SC	L2		X	X						
Northern ring-necked Snake	*Diadophis punctatus edwardsii*	S4			LX			X						
Red-bellied Snake	*Storeria occipitomaculata*	S5			L3			X						
Red-eared Slider	*Trachemys scripta*	SNA			L+			X						
Snapping Turtle	*Chelydra serpentina*	S3	SC	SC	L3		X	X						
Timber Rattlesnake	*Crotalus horridus*	SX	EXP	EXP	-		X							
MAMMALS														
American Badger	*Taxidea taxus*	S4			-									X
American Black Bear	*Ursus americanus*	S2	END	SC, END	-									X
American Marten	*Martes americana*	S5			-									X
American Mink	*Neovison vison*	S4			L4									X
Beaver	*Castor canadensis*	S3	END	END	L4									X
Big Brown Bat	*Eptesicus fuscus*	S4			L4						X			X
Bobcat	*Lynx rufus*	S5			-									X
Coyote	*Canis latrans*	S5			L4									X
Deer Mouse	*Peromyscus maniculatus*	SNA			L4									X
Eastern Chipmunk	*Tamias striatus*	S5			L4									X
Eastern Cottontail	*Sylvilagus floridanus*	S4	END	END	L4									X
Eastern Red Bat	*Lasiurus borealis*	S4			LX						X			
Eastern Small-footed *Myotis*	*Myotis leibii*	S2S3	END	END	-				X					X
Gray Fox	*Urocyon cinereoargenteus*	S5			-									X
Grey Squirrel	*Sciurus carolinensis*	S5			L5									X
Hairy-tailed Mole	*Parascalops breweri*	S4			L3									X
Hoary Bat	*Lasiurus cinereus*	S4			LX									X
House Mouse	*Mus musculus*	S5			L+									X
Least Weasel	*Mustela nivalis*	S5			-									X
Little Brown *Myotis*	*Myotis lucifugus*	S4	END	END	L4				X		X			X
Long-tailed Weasel	*Mustela frenata*	S5			-									X

Species		Conservation Rank					Source							
Common Name	Scientific Name	Provincial (S-rank)	National (SARA)	Provincial (ESA)	TRCA Local (L-rank)	Provincial or National Conservation Priorities	NHIC 1km Map Squares	Ontario Reptile and Amphibian Atlas (ORAA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	Atlas of the Mammals of Ontario (1966)	Ontario Breeding Bird Atlas (OBBA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	Bat Conservation International	Ontario Butterfly Atlas (OBA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	DFO Species at Risk Mapping	iNaturalist Mammal Range Maps
Masked Shrew	*Sorex cinereus*	S5			L3									X
Meadow Vole	*Microtus pennsylvanicus*	S5			L4									X
Muskrat	*Ondatra zibethicus*	S5			L4									X
North American River Otter	*Lontra canadensis*	S5			L1									X
Northern Flying Squirrel	*Glaucomys sabrinus*	S5			L2									X
Northern Myotis	*Myotis septentrionalis*	S3	END	END	-				X		X			X
Northern Raccoon	*Procyon lotor*	SU			L5									X
Northern Short-tailed Shrew	*Blarina brevicauda*	S5			L3									X
Porcupine	*Erethizon dorsatum*	S5			L2									X
Pygmy Shrew	*Sorex hoyi*	S5			-									X
Red Bat	*Lasiurus borealis*	S4			LX									X
Red Fox	*Vulpes vulpes*	S1	THR	THR	L4									X
Red Squirrel	*Tamiasciurus hudsonicus*	S5			L4									X
Silver-haired Bat	*Lasionycteris noctivagans*	S4			-						X			X
Snowshoe Hare	*Lepus americanus*	S3	END	END	LX									X
Southern Bog Lemming	*Synaptomys cooperi*	S5			-									X
Southern Flying Squirrel	*Glaucomys volans*	S5			LX									X
Southern Red-backed Vole	*Myodes gapperi*	S5			-									X
Star-nosed Mole	*Condylura cristata*	S5			L3									X
Striped Skunk	*Mephitis mephitis*	S4			L5									X
Tricolored Bat	*Perimyotis subflavus*	S3?	END	END	-				X					X
White-footed Mouse	*Peromyscus leucopus*	S5			L4									X
Woodchuck	*Marmota monax*	S5			L5				x					X
Woodland Jumping Mouse	*Napaeozapus insignis*	S4			L2									X
BIRDS														
Alder Flycatcher	*Empidonax alnorum*	S5B			L3					X				
American Coot	*Fulica americana*	S3B, S4N			L2					X				
American Crow	*Corvus brachyrhynchos*	S5B			L5					X				
American Goldfinch	*Spinus tristis*	S5B			L5					X				
American Kestrel	*Falco sparverius*	S4			L4	Maintain Current				X				
American Redstart	*Setophaga ruticilla*	S5B			L4					X				
American Robin	*Turdus migratorius*	S5B			L5					X				
American Woodcock	*Scolopax minor*	S4B			L3	Increase				X				
Baltimore Oriole	*Icterus galbula*	S4B			L5	Maintain Current				X				
Bank Swallow	*Riparia riparia*	S4B	THR	THR	L3	Increase	X			X				
Barn Swallow	*Hirundo rustica*	S4B	THR	THR	L4	Recovery Objective	X			X				
Belted Kingfisher	*Megaceryle alcyon*	S4B			-	Increase				X				
Black-and-white Warbler	*Mniotilta varia*	S5B			L2					X				
Black-billed Cuckoo	*Coccyzus erythropthalmus*	S5B			L3	Increase				X				
Blackburnian Warbler	*Setophaga fusca*	S5B			L3					X				
Black-capped Chickadee	*Poecile atricapilla*	S5			L5					X				
Black-throated Blue Warbler	*Setophaga caerulescens*	S5B			L3					X				
Black-throated Green Warbler	*Setophaga virens*	S5B			L3					X				
Blue Jay	*Cyanocitta cristata*	S5			L5					X				
Blue-gray Gnatcatcher	*Polioptila caerulea*	S4B			L4					X				
Blue-headed Vireo	*Vireo solitarius*	S5B			L3					X				
Blue-winged Teal	*Anas discors*	S4			L3	Increase				X				
Blue-winged Warbler	*Vermivora cyanoptera*	S4B			L3					X				
Bobolink	*Dolichonyx oryzivorus*	S4B	THR	THR	L3	Recovery Objective	X			X				
Broad-winged Hawk	*Buteo platypterus*	S5B			L2					X				
Brown Creeper	*Certhia americana*	S5B			L4					X				
Brown Thrasher	*Toxostoma rufum*	S4B			L3	Increase				X				
Brown-headed Cowbird	*Molothrus ater*	S4B			L5					X				
Canada Goose	*Branta canadensis*	S5			L5	Decrease				X				

Species		Conservation Rank					Source							
Common Name	Scientific Name	Provincial (S-rank)	National (SARA)	Provincial (ESA)	TRCA Local (L-rank)	Provincial or National Conservation Priorities	NHIC 1km Map Squares	Ontario Reptile and Amphibian Atlas (ORAA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	Atlas of the Mammals of Ontario (1966)	Ontario Breeding Bird Atlas (OBBA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	Bat Conservation International	Ontario Butterfly Atlas (OBA) - 17NJ83, 17NJ84, 17NJ93, 17NJ94	DFO Species at Risk Mapping	iNaturalist Mammal Range Maps
Canada Warbler	*Cardellina canadensis*	S4B	THR	SC	L2		X			X				
Carolina Wren	*Thryothorus ludovicianus*	S4			L4					X				
Cedar Waxwing	*Bombycilla cedrorum*	S5B			L5					X				
Chestnut-sided Warbler	*Setophaga pensylvanica*	S5B			L3					X				
Chimney Swift	*Chaetura pelagica*	S4B, S4N	THR	THR	L4	Recovery objective	X			X				
Chipping Sparrow	*Spizella passerina*	S5B			L5					X				
Clay-colored Sparrow	*Spizella pallida*	S4B			L3					X				
Cliff Swallow	*Petrochelidon pyrrhonota*	S4B			L5					X				
Common Gallinule	*Gallinula galeata*	S3B			-					X				
Common Grackle	*Quiscalus quiscula*	S5B			L5					X				
Common Nighthawk	*Chordeiles minor*	S4B	THR	SC	L3	Recovery objective				X				
Common Raven	*Corvus corax*	S5			L4					X				
Common Yellowthroat	*Geothlypis trichas*	S5B			L4					X				
Cooper's Hawk	*Accipiter cooperii*	S4			L4					X				
Downy Woodpecker	*Picoides pubescens*	S5			L5					X				
Eastern Bluebird	*Sialia sialis*	S5B, S4N			L4					X				
Eastern Kingbird	*Tyrannus tyrannus*	S4B			L4	Increase				X				
Eastern Meadowlark	*Sturnella magna*	S4B	THR	THR	L3	Recovery Objective	X			X				
Eastern Phoebe	*Sayornis phoebe*	S5B			L5					X				
Eastern Screech-Owl	*Megascops asio*	S4			L4					X				
Eastern Towhee	*Pipilo erythrophthalmus*	S4B			L3	Increase				X				
Eastern Whip-poor-will	*Antrotomus vociferous*	S4B	THR	THR	L2		X							
Eastern Wood-pewee	*Contopus virens*	S4B	SC	SC	L4	Increase	X			X				
European Starling	*Sturnus vulgaris*	SNA			L+					X				
Field Sparrow	*Spizella pusilla*	S4B			L4	Increase				X				
Golden-crowned Kinglet	*Regulus satrapa*	S5B			L3					X				
Grasshopper Sparrow	*Ammodramus savannarum*	S4B	SC	SC	L2					X				
Gray Catbird	*Dumetella carolinensis*	S4B			L4					X				
Great Blue Heron	*Ardea herodias*	S4			L3					X				
Great Crested Flycatcher	*Myiarchus crinitus*	S4B			L4					X				
Great Horned Owl	*Bubo virginianus*	S4			L4					X				
Green Heron	*Butorides virescens*	S4B			L4	Increase				X				
Green-winged Teal	*Anas crecca*	S4B, S4N, S5M			L2					X				
Hairy Woodpecker	*Picoides villosus*	S5			L4					X				
Henslow's Sparrow	*Ammodramus henslowii*	SHB	END	END	LX		X							
Hermit Thrush	*Catharus guttatus*	S5B,S4N			L3					X				
Hooded Merganser	*Lophodytes cucullatus*	S5B			L4					X				
Hooded Warbler	*Setophaga citrina*	S4B			L2					X				
Horned Lark	*Eremophila alpestris*	S5B			L3					X				
House Finch	*Haemorhous mexicanus*	SNA			L+					X				
House Sparrow	*Passer domesticus*	SNA			L+					X				
House Wren	*Troglodytes aedon*	S5B			L5					X				
Indigo Bunting	*Passerina cyanea*	S4B			L4					X				
Killdeer	*Charadrius vociferus*	S5B, S5N			L4	Increase				X				
Least Bittern	*Ixobrychus exilis*	S4B	THR	THR	L2		X							
Least Flycatcher	*Empidonax minimus*	S4B			L4					X				
Loggerhead Shrike	*Lanius ludovicianus*	S2B	END	END	LX		X							
Louisiana Waterthursh	*Parkesia motacilla*	S3B	THR	THR	L1		X			X				
Magnolia Warbler	*Setophaga magnolia*	S5B			L3					X				
Mallard	*Anas platyrhynchos*	S5			L5	Maintain current				X				
Marsh Wren	*Cistothorus palustris*	S4B, S3N			L3					X				
Mourning Dove	*Zenaida macroura*	S5			L5					X				
Mourning Warbler	*Geothlypis philadelphia*	S4B			L3					X				
Nashville Warbler	*Oreothlypis ruficapilla*	S5B			L3					X				

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Northern Bobwhite	*Colinus virginianus*	S1	END	END	-		X							
Northern Cardinal	*Cardinalis cardinalis*	S5			L5					X				
Northern Flicker	*Colaptes auratus*	S4B			L4	Increase				X				
Northern Goshawk	*Accipiter gentilis*	S4			L2					X				
Northern Harrier	*Circus hudsonius*	S4B			L2	Maintain current				X				
Northern Mockingbird	*Mimus polyglottos*	S4			L4					X				
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	S4B			L4	Increase				X				
Northern Waterthrush	*Parkesia noveboracensis*	S5B			L3					X				
Orchard Oriole	*Icterus spurius*	S4B			L5					X				
Osprey	*Pandion haliaetus*	S5B			L3					X				
Ovenbird	*Seiurus aurocapilla*	S5B			L2					X				
Pied-billed Grebe	*Podilymbus podiceps*	S4B, S2N			L3					X				
Pileated Woodpecker	*Dryocopus pileatus*	S5			L3					X				
Pine Warbler	*Setophaga pinus*	S5B			L4					X				
Purple Finch	*Haemorhous purpureus*	S5			L4					X				
Purple Martin	*Progne subis*	S4B			L4	Increase				X				
Red-bellied Woodpecker	*Melanerpes carolinus*	S4			L4					X				
Red-breast Nuthatch	*Sitta canadensis*	S5			L4					X				
Red-eyed Vireo	*Vireo olivaceus*	S5B			L4					X				
Red-headed Woodpecker	*Melanerpes erythrocephalus*	S4B	END	END	L3		X			X				
Red-tailed Hawk	*Buteo jamaicensis*	S5			L5					X				
Red-winged Blackbird	*Agelaius phoeniceus*	S4			L5					X				
Ring-necked Pheasant	*Falcipennis canadensis*	S5			L+					X				
Rock Pigeon	*Columba livia*	SNA			-					X				
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	S4B			L4	Maintain current				X				
Ruby-throated Hummingbird	*Archilochus colubris*	S5B			L4					X				
Ruddy Duck	*Oxyura jamaicensis*	S3B, S4N, S5M			-					X				
Ruffed Grouse	*Bonasa umbellus*	S5			L3					X				
Savannah Sparrow	*Passerculus sandwichensis*	S4B			L4	Increase				X				
Scarlet Tanager	*Piranga olivacea*	S4B			L3					X				
Sedge Wren	*Cistothorus platensis*	S4B			L3					X				
Sharp-Shinned Hawk	*Accipiter striatus*	S5			L3					X				
Song Sparrow	*Melospiza melodia*	S5B			L5					X				
Sora	*Porzana carolina*	S4B			L3	Maintain				X				
Spotted Sandpiper	*Actitis macularia*	S5			L4	Increase				X				
Swamp Sparrow	*Melospiza georgiana*	S5B			L4					X				
Tree Swallow	*Tachycineta bicolor*	S4B			L4					X				
Turkey Vulture	*Cathartes aura*	S5B			L5					X				
Upland Sandpiper	*Bartramia longicauda*	S2B			L2					X				
Veery	*Catharus fuscescens*	S4B			L2					X				
Vesper Sparrow	*Pooecetes gramineus*	S4B			L3					X				
Virgina Rail	*Rallus limicola*	S4B			L3	Maintain current				X				
Warbling Vireo	*Vireo gilvus*	S5B			L5					X				
Whip-poor-will	*Antrostomus vociferus*	S4B	THR	THR	L2					X				
White-breasted Nuthatch	*Sitta carolinensis*	S5			L4					X				
White-throated Sparrow	*Zonotrichia albicollis*	S5B			L3					X				
Wild Turkey	*Meleagris gallopavo*	S5			L3					X				
Willow Flycatcher	*Empidonax traillii*	S5B			L4					X				
Winter Wren	*Troglodytes hiemalis*	S5B, S4N			L3					X				
Wood Duck	*Aix sponsa*	S5			L4	Increase				X				
Wood Thrush	*Hylocichla mustelina*	S4B	THR	SC	L3	Maintain current	X			X				
Yellow Warbler	*Setophaga petechia*	S5B			L5					X				
Yellow-bellied Sapsucker	*Sphyrapicus varius*	S5B			L3					X				
Yellow-billed Cuckoo	*Coccyzus americanus*	S4B			L3					X				

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Yellow-breasted Chat	*Icteria virens*	S2B	END	END	LX		X							
Yellow-rumped Warbler	*Setophaga coronata*	S5B,S4N			L3					X				
Yellow-throated Vireo	*Vireo flavifrons*	S4B			L3					X				
INSECTS														
Acadian Hairstreak	*Satyrium acadica*	S4			-							X		
Amber-winged Spreadwing	*Lestes eurinus*	S4			-		X							
American Copper	*Lycaena phlaeas*	S5			-							X*		
American Lady	*Vanessa virginiensis*	S5			-							X		
American Snout	*Libytheana carinenta*	SNA			-							X		
Aphrodite Fritillary	*Speyeria aphrodite*	S5			-							X		
Appalachian Brown	*Lethe appalachia*	S4			-							X		
Arctic Skipper	Carterocephalus palaemon	S5			-							X		
Atlantis Fritillary	*Speyeria atlantis*	S5			-							X*		
Baltimore Checkerspot	*Euphydryas phaeton*	S4			-							X		
Banded Hairstreak	*Satyrium calanus*	S5			-							X		
Black Dash	*Euphyes conspicua*	S3			-		X					X		
Black Swallowtail	*Papilio polyxenes*	S5			-							X		
Broad-winged Skipper	*Poanes viator*	S4			-							X		
Bronze Copper	*Lycaena hyllus*	S5			-							X		
Brown Deer Fly	*Chrysops brunneus*	S3?			-		X							
Cabbage White	*Pieris rapae*	SNA			-							X		
Clouded Sulphur	*Colias philodice*	S5			-							X		
Columbine Duskywing	*Erynnis lucilius*	S4			-							X*		
Common Buckeye	*Junonia coenia*	SNA			-							X		
Common Ringlet	*Coenonympha tullia*	S5			-							X		
Common Roadside Skipper	Amblyscirtes vialis	S4			-							X*		
Common Sootywing	*Pholisora catullus*	S4			-							X		
Common Wood-Nymph	*Cercyonis pegala*	S5			-							X		
Compton Tortoiseshell	*Nymphalis l-album*	S5			-							X		
Coral Hairstreak	*Satyrium titus*	S5			-							X		
Crossline Skipper	*Polites origenes*	S4			-							X		
Delaware Skipper	*Anatrytone logan*	S4			-							X		
Dreamy Duskywing	*Erynnis icelus*	S5			-							X		
Dun Skipper	*Euphyes vestris*	S5			-							X		
Eastern Comma	*Polygonia comma*	S5			-							X		
Eastern Giant Swallowtail	*Papilio cresphontes*	S4			-							X		
Eastern Pine Elfin	*Callophrys niphon*	S5			-							X		
Eastern Tailed Blue	*Cupido comyntas*	S5			-							X		
Eastern Tiger Swallowtail	*Papilio glaucus*	S5			-							X		
Edwards' Hairstreak	*Satyrium edwardsii*	S4			-							X*		
European Skipper	*Thymelicus lineola*	SNA			-							X		
Evening Primrose Sweat Bee	*Lasioglossum oenotherae*	S3			-		X							
Eyed Brown	*Lethe eurydice*	S5			-							X		
Gray Comma	*Polygonia progne*	S5			-							X		
Great Spangled Fritillary	*Speyeria cybele*	S5			-							X		
Harvester	*Feniseca tarquinius*	S4			-							X		
Hickory Hairstreak	*Satyrium caryaevorus*	S4			-							X		
Hoary Long-horned Bee	*Peponapis pruinosa*	S2S3			-		X							
Hobomok Skipper	*Poanes hobomok*	S5			-							X		
Juvenal's Duskywing	*Erynnis juvenalis*	S5			-							X		
Least Skipper	*Ancyloxypha numitor*	S5			-							X		
Lillypad Clubtail	*Arigomphus furcifer*	S4			-		X							
Little Glassywing	*Pompeius verna*	S4			-							X		
Little Wood-Satyr	*Megisto cymela*	S5			-							X		

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Little Yellow	*Pyrisitia lisa*	SNA			-							X*		
Long Dash Skipper	*Polites mystic*	S5			-							X		
Meadow Fritillary	*Boloria bellona*	S5			-							X		
Milbert's Tortoiseshell	*Aglais milberti*	S5			-							X		
Monarch	*Danaus plexippus*	S2N, S4B	END	SC	-							X		
Mourning Cloak	*Nymphalis antiopa*	S5			-							X		
Mulberry Wing	*Poanes massasoit*	S4			-							X		
Mustard White	*Pieris oleracea*	S4			-							X		
Northeastern Cuckoo Leafcutter Bee	*Coelioxys modesta*	S3			-		X							
Northern Azure	*Celastrina lucia*	S5			-							X		
Northern Broken-Dash	*Wallengrenia egeremet*	S5			-							X		
Northern Cloudywing	*Thorybes pylades*	S5			-							X		
Northern Crescent	*Phyciodes cocyta*	S5			-							X		
Northern Pearly-Eye	*Lethe anthedon*	S5			-							X		
Orange Sulphur	*Colias eurytheme*	S5			-							X		
Painted Lady	*Vanessa cardui*	S5			-							X		
Pearl Crescent	*Phyciodes tharos*	S4			-							X		
Peck's Skipper	*Polites peckius*	S5			-							X		
Question Mark	*Polygonia interrogationis*	S5			-							X		
Red Admiral	*Vanessa atalanta*	S5			-							X		
Red-spotted Purple	*Limenitis arthemis astyanazx*	S5			-							X		
Silver-bordered Fritillary	*Boloria selene*	S5			-							X		
Silver-spotted Skipper	*Epargyreus clarus*	S4			-							X		
Silvery Blue	*Glaucopsyche lygdamus*	S5			-							X		
Striped Hairstreak	*Satyrium liparops*	S5			-							X		
Summer Azure	*Celastrina neglecta*	S5			-							X		
Tawny-edged Skipper	*Polites themistocles*	S5			-							X		
Tiger Swallowtail Complex	*Papilio glaucus complex*	S5			-							X		
Variegated Fritillary	*Euptoieta claudia*	SNA			-							X		
Viceroy	*Limenitis archippus*	S5			-							X		
West Virginia White	Pieris virginiensis	S3	SC		-							X*		
White Admiral	*Limenitis arthemis arthemis*	S5			-							X		
Wild Indigo Duskywing	*Erynnis baptisiae*	S4			-							X		
Yellow-banded Bumble Bee	*Bombus terricola*	-	SC	SC	-		X							
FISH/ AQUATIC SPECIES														
Redside Dace	*Clinostomus elongatus*	S2	END	END	-		X						X	
PLANTS														
Black Ash	*Fraxinus nigra*	S4		THR	L4		X							
Butternut	*Juglans cinerea*	S3	END	END	L3		X							
Hart's-tongue Fern	*Asplenium scolopendrium*	S3			-		X							
Honey Locust	*Gleditsia triacanthos*	S2?			L+		X							
Large Toothwort	*Cardamine maxima*	S3			L5		X							

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Definitions, Acronyms and Symbols

X*- species record but greater than 10 years ago

Provincial S-rank

S1: Critically Imperiled (i.e. fewer than 5 occurrences in the nation and/or province)
S2: Imperiled (i.e. fewer than 20 occurrences in the nation and/or province)
S3: Vulnerable (i.e. 20-80 occurrences in the nation and/or province)
S4: Apparently Secure (uncommon, but not rare in the nation and/or province)
S5: Secure (common, widespread and abundant in the nation and/or province)
SNA: Not Applicable (species is not a suitable target for conservation activities)
SHB: Breeding is not confirmed in Ontario
S#S#: Range Rank (range of uncertainty about the status of the species or community)
S#?: Rank is Uncertain
S?: Not Ranked Yet
B: Breeding migrants/vagrants

N: Non-breeding migrants/vagrants

Provincial Conservation Priorities

Recovery[1] - Species that are designated as Endangered or Threatened under federal or provincial Species At Risk legislation.
Assess Status[1] - Species is poorly monitored and status is unknown
Reverse Decline[1] - Species has declined to a less desirable level
Halt Decline[1] - Species has declined but is still at an acceptable level
Maintain Current[1] - Appears to be stable or increasing
Management Assessment[3]
Immediate Management[3]
Medium Priority[4] - definition not provided
Low Priority[4] - definition not provided

National Conservation Priorities

High Concern[4, 5] - Species population is known or thought to be declining
Moderate Concern[4, 5] - Species population is either a) declining with moderate threats or disturbance; b) stable with known potential threats and moderate to restricted distributions; or c) relatively small with relatively restricted distributions
Low Concern[4,5] - Species population is either a) stable with moderate threats and distributions; b) increasing but with known or potential threats and moderate to restricted distributions; or c) moderate size with nown or potential threats and moderate to restricted distributions

Species at Risk
Species of Conservation Concern

National and Provincial At Risk Status

EXP - Extirpated
END - Endangered
THR - Threatened
SC - Special Concern
NAR - Not at Risk

SARO: Species at Risk in Ontario
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
ESA: *Endangered Species Act*
SARA: *Species at Risk Act*

Avian Conservation Assessment

Watch List (Red) -Highly vulnerable and in urgent need of special attention
Watch List (Yellow) -Range restricted and small populations in need of constant care. Steep declines and major threats.
CBSD - populations have declined continentally by an estimated 50% or more since 1970.

APPENDIX C
Species at Risk Habitat Screening

TABLE C1 Species at Risk Habitat Screening

Common Name	Scientific Name	ESA Designation	SARA Designation	Habitat Requirement	Habitat Potential Within Infrastructure Focus Study Area	Habitat Potential Within Parcel A	Habitat Potential Within Parcel B	Habitat Potential Within Parcel C	Habitat Potential Within Parcel D	Habitat Potential Within Parcel E
Aquatic										
Redside Dace	*Clinostomus elongatus*	END	END	"Found in pools and slow-moving areas of small streams and headwaters with a gravel bottom. They are generally found in areas with overhanging grasses and shrubs. During spawning, they can be found in shallow parts of streams, which are also popular spawning areas for other minnow species." (MECP 2021)	None - No watercourses within infrastructure focus study area known to support this species.	N	N	N	N	N
Avian										
Bank Swallow	*Riparia riparia*	THR	THR	"Bank swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable." (MECP 2021)	None - No suitable verticle faces or sand/gravel pits present	N	N	N	N	N
Bobolink	*Dolichonyx oryzivorus*	THR	THR	"large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland >50 ha" (MECP 2021)	Moderate - Hayfields, meadows and fallow fields present, though these habitat areas are typically fragmented.	Y	Y	Y	Y	Y
Chimney Swift	*Chaetura pelagica*	THR	THR	"Flocks can often be seen near bodies of water due to the abundance of insects. Prior to the arrival of European settlers in North America, Chimney Swifts nested mainly in the trunks of large, hollow trees, and occasionally on cave walls or in rocky crevices. However, due to the land clearing associated with colonization, hollow trees became increasingly rare, which led Chimney Swifts to move into house chimneys. Today, the species is mainly associated with urban and rural areas where the birds can find chimneys to use as nesting and resting sites. However, it is likely that a small portion of the population continues to use hollow trees." (Government of Canada 2021)	Moderate - Anthropogenic structures with uncapped chimneys may support nesting habitat.	Y	Y	N	Y	Y
Eastern Meadowlark	*Sturnella magna*	THR	THR	"Breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs or fence posts are used as elevated song perches." (MECP 2021)	Moderate - Hayfields, meadows and fallow fields present, often with elevated perches present.	Y	Y	Y	Y	Y
Eastern Whip-poor-will	*Antrotomus vociferous*	THR	THR	"Usually found in areas with a mix of open and forested areas, such as savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests. It forages in these open areas and uses forested areas for roosting (resting and sleeping) and nesting. It lays its eggs directly on the forest floor, where its colouring means it will easily remain undetected by visual predators." (MECP 2021)	Low - wooded habitats are limited within the infrastructure focus study area, though fragmented suitable assemblages may be present.	Y	Y	N	N	N
Henslow's Sparrow	*Ammodramus henslowii*	END	END	"It has also been found in abandoned farm fields, pastures, and wet meadows. It tends to avoid fields that have been grazed or are crowded with trees and shrubs. It prefers extensive, dense, tall grasslands where it can more easily conceal its small ground nest." (MECP 2021)	Low - Hayfields, meadows and fallow fields present, though these habitat areas are typically fragmented. No extensive grasslands present within the infrastructure focus study area.	N	N	N	N	N
Least Bittern	*Ixobrychus exilis*	THR	THR	"Found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels. This bird builds its nest above the marsh water in stands of dense vegetation, hidden among the cattails. The nests are almost always built near open water, which is needed for foraging. This species eats mostly frogs, small fish, and aquatic insects." (MECP 2021)	None - Suitable open wetland habitats not present.	N	N	N	N	N
Loggerhead Shrike	*Lanius ludovicianus*	END	END	"Prefers pasture or other grasslands with scattered low trees and shrubs. It lives in fields or alvars (areas of exposed bedrock) with short grass, which makes it easier to spot prey. It builds its nest in small trees or shrubs and hunts by waiting patiently in tree branches until it swoops down and attacks its unsuspecting prey – usually large insects, such as grasshoppers. Loggerhead shrikes also require spiny, multi-branched shrubs where they can impale prey before eating it. Barbed wired fencing can also be used for this." (MECP 2021)	Low - Hayfields and fragmented old-field meadows represent marginal habitat for this species. Spiny shrubs (European buckthorn) and barbed wire fence present.	N	N	N	N	N
Louisiana Waterthrush	*Parkesia motacilla*	THR	THR	"Usually found in steep, forested ravines with fast-flowing streams. Although it prefers running water, especially clear, coldwater streams, it also less frequently inhabits heavily wooded, deciduous swamps having large pools of open water. It nests among the roots of fallen trees, in niches of stream banks, and in or under mossy logs." (MECP 2021)	None - Suitable habitat not present.	N	N	N	N	N
Northern Bobwhite	*Colinus virginianus*	END	END	"Live in savannahs, grasslands, around abandoned farm fields, along brushy fencerows and other similar sites. Grasslands that are occasionally burned are particularly important because the fires help keep the habitat from becoming too forested. In such places, bobwhites can find most of their needs such as food, nesting cover, and places to hide and rest throughout the year. In severe winter conditions bobwhites sometimes need to move into small forest areas to find snow-free areas for foraging. Bobwhites lay up to 16 eggs in a shallow natural depression that they line with plant material and conceal with grasses and vines." (MECP 2021)	Low - The preferred habitat for this species (savannah and grasslands) not present within the infrastructure focus study area.	N	N	N	N	N
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	"Found across southern Ontario. The Red-headed Woodpecker lives in open woodland and woodland edges, and is often found in parks, golf courses and cemeteries. These areas typically have many dead trees, which the bird uses for nesting and perching. A few of these birds will stay the winter in woodlands in southern Ontario if there are adequate supplies of nuts." (MECP 2021)	Moderate - this species may be present associated with woodland edges and open meadow with mature trees present.	Y	Y	N	N	N
Yellow-breasted Chat	*Icteria virens*	END	END	"Lives in thickets and scrub, especially locations where clearings have become overgrown. These birds spend their winters in coastal marshes. This bird eats insects gathered from the foliage of low, dense shrubs, or from the ground." (MECP 2021)	Low - Suitable habitat anticipated to be restricted to woodland edge and agricultural hedgerows.	Y	Y	N	N	N
Flora										
Butternut	*Juglans cinerea*	END	END	"usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It is also found on well-drained gravel sites and rarely on dry rocky soil.This species does not do well in the shade, and often grows in sunny openings and near forest edges." (MECP 2021).	Moderate - Any areas where impacts to trees are anticipated should be assessed for Butternut presence.	Y	Y	Y	Y	Y
Herpetofauna										
Jefferson Salamander	*Ambystoma jeffersonianum*	END	END	"Adults live in moist, loose soil, under logs or in leaf litter. Your best chance of spotting a Jefferson salamander is in early spring when they travel to woodland ponds to breed." (MECP 2021)	None - this species' known range is generally restricted to the Niagara Escarpment within Caledon.	N	N	N	N	N
Unisexual Ambystoma (Jefferso	*Ambystoma hybrid pop. 1*	END	END	"Unisexual Ambystoma salamanders live in leaf litter, under logs and in underground cavities in deciduous and mixed forests, typically within close proximity to breeding habitats. Adults breeds in vernal pools (temporary woodland ponds) or fish-free permanent wetlands. They lay their eggs in clumps attached to underwater vegetation in shallow water. Unisexual Ambystoma salamanders spend the winter underground where they can get below the frost line and avoid freezing temperatures, such as in mammal burrows, rock crevices or other underground cavities." (MECP 2021)	None - this species' known range is generally restricted to the Niagara Escarpment within Caledon.	N	N	N	N	N

Common Name	Scientific Name	ESA Designation	SARA Designation	Habitat Requirement	Habitat Potential Within Infrastructure Focus Study Area	Habitat Potential Within Parcel A	Habitat Potential Within Parcel B	Habitat Potential Within Parcel C	Habitat Potential Within Parcel D	Habitat Potential Within Parcel E
Mammalian										
Eastern Small-footed Myotis	*Myotis leibii*	END	END	"In the spring and summer, eastern small-footed bats will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. These bats often change their roosting locations every day. At night, they hunt for insects to eat, including beetles, mosquitos, moths, and flies. In the winter, these bats hibernate, most often in caves and abandoned mines. They seem to choose colder and drier sites than similar bats and will return to the same spot each year." (MECP 2021)	Moderate - Potentially present within any suitable anthropogenic structure, including old buildings, bridges, and culverts.	Y	Y	N	Y	Y
Little Brown Myotis	*Myotis lucifugus*	END	END	"During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Bats can squeeze through very tiny spaces (as small as six millimetres across) and this is how they access many roosting areas. Little brown bats hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing." (MECP 2021)	Moderate - Potentially present within mature cavity trees.	Y	Y	Y	Y	Y
Northern Myotis	*Myotis septentrionalis*	END	END	"Associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April, most often in caves or abandoned mines." (MECP 2021)	Moderate - Potentially present within mature cavity trees.	Y	Y	Y	Y	Y
Tricolored Bat	*Perimyotis subflavus*	END	END	"During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. Tri-colored Bats eat flying insects and spiders gleaned from webs. At the end of the summer they travel to a location where they swarm; it is generally near the cave or underground location where they will overwinter. They overwinter in caves where they typically roost by themselves rather than part of a group." (MECP 2021)	Moderate - Potentially present within mature cavity trees.	Y	Y	Y	Y	Y

Notes:

ESA - *Endangered Species Act*
SARA - *Species at Risk Act*
END - endangered
THR - threatened

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APPENDIX D
Species of Conservation Concern Habitat Screening

TABLE D1 Species of Conservation Concern Habitat Screening

Common Name	Scientific Name	ESA Designation	SARA Designation	Habitat Requirement	Habitat Potential Within Infrastructure Focus Study Area	Habitat Potential Within Parcel A	Habitat Potential Within Parcel B	Habitat Potential Within Parcel C	Habitat Potential Within Parcel D	Habitat Potential Within Parcel E
Avian										
Barn Swallow	*Hirundo rustica*	SC	SC	"Build their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. When building nests they are attracted to open structures with ledges and have a preference for unpainted, rough-cut wood surfaces." (MECP 2021)	Moderate - Anthropogenic structures may support nesting habitat.	Y	Y	N	Y	Y
Canada Warbler	*Cardellina canadensis*	SC	THR	"Its primary breeding range is in the Boreal Shield, extending north into the Hudson Plains and south into the Mixedwood Plains. Although the Canada Warbler breeds at low densities across its range, in Ontario, it is most abundant along the Southern Shield. They breed in a range of deciduous and coniferous, usually wet forest types, all with a well- developed, dense shrub layer. Dense shrub and understory vegetation help conceal Canada Warbler nests that are usually located on or near the ground on mossy logs or roots, along stream banks or on hummocks." (MECP 2021)	Moderate - this species may be present within wet woodlands and wetlands in the Infrastructure Focus study area.	Y	Y	N	N	N
Common Nighthawk	*Chordeiles minor*	SC	THR	"open ground; clearings in dense forests; ploughed fields; gravel beaches or barren areas with rocky soils; open woodlands; flat gravel roofs" (MECP 2021)	Moderate - Intensive agriculture is the dominant land-use within the Infrastructure Focus study area. Ploughed fields are common.	Y	Y	Y	Y	Y
Eastern Wood-pewee	*Contopus virens*	SC	SC	"Lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation. The eastern wood-pewee is found across most of southern and central Ontario, and in northern Ontario as far north as Red Lake, Lake Nipigon and Timmins." (MECP 2021)	Moderate - this species may be present within wet woodlands and wetlands in the Infrastructure Focus study area.	Y	Y	N	N	N
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	"It lives in open grassland areas with well-drained, sandy soil. It will also nest in hayfields and pasture, as well as alvars, prairies and occasionally grain crops such as barley. It prefers areas that are sparsely vegetated. It is most common where grasslands, hay or pasture dominate the landscape." (MECP 2021)	Moderate - Hayfields, meadows and fallow fields present, though these habitat areas are typically fragmented.	Y	Y	Y	Y	Y
Wood Thrush	*Hylocichla mustelina*	SC	THR	"Carolinian and Great Lakes-St. Lawrence forest zones; undisturbed moist mature deciduous or mixed forest with deciduous sapling growth; near pond or swamp; hardwood forest edges; must have some trees higher than 12 m" (MECP 2021).	Moderate - this species may be present within wet woodlands and wetlands in the Infrastructure Focus study area.	Y	Y	N	N	N
Herpetofauna										
Eastern Milksnake	*Lampropeltis triangulum*	-	SC	"Eastern Milksnakes are habitat generalists but prefer open habitats, including rock outcrops and meadows. They require suitable microhabitats for egg laying, hibernation and thermoregulation. Eastern Milksnakes are well known for occupying barns, sheds and houses in rural landscapes. At the landscape scale, the abundance of Eastern Milksnakes appears to correlate with regions where forest cover is relatively high. Eastern Milksnake habitat in portions of southwestern Ontario (e.g. urban regions and areas subject to intensive agriculture) is fragmented and consists of relatively small, natural areas." (Government of Canada 2017)	Moderate - Suitable habitat is present, and anthropogenic influences (including cereal crops) may support elevated rodent populations in the area.	Y	Y	Y	Y	Y
Eastern Musk Turtle	*Sternotherus odoratus*	SC	SC	"Found in ponds, lakes, marshes and rivers that are generally slow-moving have abundant emergent vegetation and muddy bottoms that they burrow into for winter hibernation. Nesting habitat is variable, but it must be close to the water and exposed to direct sunlight. Nesting females dig shallow excavations in soil, decaying vegetation and rotting wood or lay eggs in muskrat lodges, on the open ground or in rock crevices. It is mostly found along the southern edge of the Canadian Shield in Ontario." (MECP 2021)	None - Suitable aquatic habitat not present.	N	N	N	N	N
Midland Painted Turtle	*Chrysemys picta marginata*	-	SC	"Painted turtles inhabit waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water. The midland painted turtle hibernates on the bottom of waterbodies." (Ontario Nature 2022)	None - Suitable aquatic habitat not present.	N	N	N	N	N
Northern Map Turtle	*Graptemys geographica*	SC	SC	"Inhabits rivers and lakeshores where it basks on emergent rocks and fallen trees throughout the spring and summer. In winter, the turtles hibernate on the bottom of deep, slow-moving sections of river. They require high-quality water that supports the female's mollusc prey. Their habitat must contain suitable basking sites, such as rocks and deadheads, with an unobstructed view from which a turtle can drop immediately into the water if startled." (MECP 2021)	None - Suitable aquatic habitat not present.	N	N	N	N	N
Snapping Turtle	*Chelydra serpentina*	SC	SC	"They prefer shallow waters where they can hide under the soft mud and leaf litter. Suitable nesting sites are usually gravelly or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits." (MECP 2021)	Low - This species may be found within smaller water bodies and channels, including pools associated with culvert outfalls.	Y	Y	N	N	N
Western Chorus Frog (Great Lakes/ St. Lawrence- Canadian Shield population)	*Pseudacris triseriata*	-	THR	"Inhabits forest openings around woodland ponds but can also be found in or near damp meadows, marshes, bottomland swamps and temporary ponds in open country, or even urban areas. This frog breeds in almost any fishless pond with at least 10 centimetres of water, including quiet, shallow, usually temporary waterbodies with vegetation that is submerged or protrudes from the water, and especially in rain-flooded meadows and ditches, and in temporary ponds on floodplains. The western chorus frog overwinters underground or under surface cover, such as fallen logs." (Ontario Nature 2022)	Moderate - This species may be present within wet woodlands and wetlands in the Infrastructure Focus study area. They may also be present within vegetated swales and watercourse corridors.	Y	Y	Y	Y	Y

Common Name	Scientific Name	ESA Designation	SARA Designation	Habitat Requirement	Habitat Potential Within Infrastructure Focus Study Area	Habitat Potential Within Parcel A	Habitat Potential Within Parcel B	Habitat Potential Within Parcel C	Habitat Potential Within Parcel D	Habitat Potential Within Parcel E
Invertebrates										
Monarch	*Danaus plexippus*	SC	END	"Only the caterpillars feed on milkweed plants and are confined to meadows and open areas where milkweed grows. Adult butterflies can be found in more diverse habitats where they feed on nectar from a variety of wildflowers."	Moderate - Open old-field meadow and agricultural fringes likely support milkweed.	Y	Y	Y	Y	Y
Yellow-banded Bumble Bee	*Bombus terricola*	SC	SC	"It can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands and urban areas. Nest sites are often underground in abandoned rodent burrows or decomposing logs." (MECP 2021)	Moderate - Suitable habitat present within woodland fragments and farm fields.	Y	Y	Y	Y	Y

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APPENDIX E
Significant Wildlife Habit Screening

TABLE E1 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
Waterfowl Stopover and Staging Areas (Terrestrial) Rationale: Habitat important for migrating waterfowl.	• American Black Duck • Wood Duck • Green-winged Teal • Blue-winged Teal • Mallard • Northern Shoveler • American Wigeon • Northern Pintail • Gadwall	• CUM1 • CUT1 • plus, evidence of annual spring flooding from melt water or runoff within these ecosites	Fields with sheet water during spring (mid March to May) • field flooding during spring melt and runoff provides important invertebrate foraging habitat for migrating waterfowl • agricultural fields with waste grains are commonly used by waterfowl; these are not considered SWH unless they have spring sheet water available Information Sources: • reports and other information available from conservation authorities • sites documented through waterfowl planning processes (e.g., EHJV implementation plan) • field naturalists clubs • Ducks Unlimited Canada • NHIC Waterfowl Concentration Area • anecdotal information from the landowners, adjacent landowners, or local naturalist clubs may be good information in determining occurrence	Studies carried out and verified presence of an annual concentration of any listed species; evaluation methods to follow *Bird and Bird Habitats: Guidelines for Wind Power Projects* • any mixed aggregations of 100 or more individuals required • SWH MiST Index #7 provides development effects and mitigation measures • annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates) • the flooded field ecosite habitat plus a 100 to 300 m radius, dependant on local site conditions and adjacent land use is the SWH	Candidate – agricultural fields with waste grains that may exhibit sheet water flooding during spring present.	A, B, C, D, E
Waterfowl Stopover and Staging Areas (Aquatic) Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the ecodistrict.	• Canada Goose • Cackling Goose • Snow Goose • American Black Duck • Northern Pintail • Northern Shoveler • American Wigeon • Gadwall • Green-winged Teal • Blue-winged Teal • Hooded Merganser • Common Merganser • Lesser Scaup • Greater Scaup • Long-tailed Duck • Surf Scoter • White-winged Scoter • Black Scoter • Ring-necked duck • Common Goldeneye • Bufflehead • Redhead • Ruddy Duck • Red-breasted • Merganser • Brant • Canvasback • Ruddy Duck	• MAS1 • MAS2 • MAS3 • SAS1 • SAM1 • SAF1 • SWD1 • SWD2 • SWD3 • SWD4 • SWD5 • SWD6 • SWD7	• ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration • sewage treatment ponds and storm water ponds do not qualify as a SWH; however, a reservoir managed as a large wetland or pond/lake does qualify • these habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) Information Sources: • Environment and Climate Change Canada • naturalist clubs often are aware of staging/stopover areas • MNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging • sites documented through waterfowl planning processes (e.g., EHJV implementation plan) • Ducks Unlimited Canada projects • Element occurrence specification by Nature Serve: http://www.natureserve.org • NHIC Waterfowl Concentration Area	Studies carried out and verified presence of: • Aggregations of 100 or more of listed species for 7 days results in >700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. • The combined area of the ELC ecosites and a 100 m radius area is the SWH. • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K [cxlix] are significant wildlife habitat. • Evaluation methods to follow *Bird and Bird Habitats: Guidelines for Wind Power Projects*. • Annual use of habitat is documented from information sources or field studies (annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • SWH MiST Index #7 provides development effects and mitigation measures.	None – Suitable habitat features not anticipated to be present.	

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
Shorebird Migratory Stopover Area Rationale: High-quality shorebird stopover habitat is extremely rare and typically has a long history of use.	• Greater Yellowlegs • Lesser Yellowlegs • Marbled Godwit • Hudsonian Godwit • Black-bellied Plover • American Golden • Plover • Semipalmated Plover • Solitary Sandpiper • Spotted Sandpiper • Semipalmated • Sandpiper • Pectoral Sandpiper • White-rumped • Sandpiper • Baird's Sandpiper • Least Sandpiper • Purple Sandpiper • Stilt Sandpiper • Short-billed Dowitcher • Red-necked Phalarope • Whimbrel • Ruddy Turnstone • Sanderling • Dunlin	• BBO1 • BBO2 • BBS1 • BBS2 • BBT1 • BBT2 • SDO1 • SDS2 • SDT1 • MAM1 • MAM2 • MAM3 • MAM4 • MAM5	• Shorelines of lakes, rivers, and wetlands, including beach areas, bars, and seasonally flooded, muddy, and unvegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH. Information Sources: • Western Hemisphere shorebird reserve network • CWS Ontario Shorebird Survey • Bird Studies Canada • Ontario Nature • local birders and naturalist clubs • NHIC Shorebird Migratory Concentration Area	Studies confirming: • Presence of three or more of listed species and >1,000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period). • Whimbrel stop briefly (<24 hours) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC Shoreline Ecosites plus a 100 m radius area. • Evaluation methods to follow *Bird and Bird Habitats: Guidelines for Wind Power Projects*. • SWH MiST Index #8 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Raptor Wintering Area Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant.	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl Special Concern: Short-eared Owl Bald Eagle	Hawks / Owls: Combination of ELC Community Series; need to have present one Community Series from each land class Forest: FOD, FOM, FOC. Upland: CUM, CUT, CUS, CUW. Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or lakes with open water (hunting area).	The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering (hawk/owl) sites need to be >20 ha with a combination of forest and upland. Least disturbed sites, idle/fallow, or lightly grazed field/meadow (>15 ha) with adjacent woodlands. Field area of the habitat is to be wind swept with limited snow depth or accumulation. Eagle sites have open water and large trees and snags available for roosting. Information Sources: OMNRF Ecologist or Biologist. Naturalist clubs. Natural Heritage Information Centre (NHIC) Raptor Winter Concentration Area. Data from Bird Studies Canada. Results of Christmas Bird Counts. Reports and other information available from Conservation Authorities.	Studies confirm the use of these habitats by: One or more Short-eared Owls or; One of more Bald Eagles or; At least10 individuals and two of the listed hawk / owl species(E). To be significant a site must be used regularly (3 in 5 years) [cxlix] for a minimum of 20 days by the above number of birds(E). The habitat area for an Eagle winter site is the Shoreline Forest Ecosites directly adjacent to the prime hunting area(E). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. SWH MIST [cxlix] Index #10 and #11 provides development effects and mitigation measures.	None – SWH type not present within the study area.	

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
Bat Hibernacula Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these Ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Active mine sites should not be considered as SWH. The locations of bat hibernacula are relatively poorly known. Information Sources OMNRF for possible locations and contact for local experts. Natural Heritage Information Centre (NHIC) Bat Hibernaculum. Ministry of Northern Development and Mines for location of mine shafts. Clubs that explore caves (eg. Sierra Club). University Biology Departments with bat experts.	All sites with confirmed hibernating bats are SWH Ⓔ. The area includes 200 m radius around the entrance of the hibernaculum [cxlviii, ccvii, Ⓔ] for most development types and 1000 m for wind farms [ccv]. Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" [ccv]. SWH MIST [cxlix] Index #1 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Bat Maternity Colonies Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	Maternity colonies can be found in tree cavities, vegetation and often in buildings [xxii, xxv, xxvi, xxvii, xxxi] (buildings are not considered to be SWH). Maternity roosts are not found in caves and mines in Ontario [xxii]. Maternity colonies located in Mature deciduous or mixed forest stands [ccix, ccx, ccv] with > 10 / ha large diameter (> 25 cm dbh) wildlife trees [ccvii]. Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 [ccxiv] or class 1 or 2 [ccxii]. Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags / ha are preferred [ccx, lxiv]. Information Sources: OMNRF for possible locations and contact for local experts. University Biology Departments with bat experts.	Maternity Colonies with confirmed use by; > 10 Big Brown Bats Ⓔ • > 5 Adult Female Silver haired Bats Ⓔ. The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies Ⓔ. Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" [ccv]. SWH MIST [cxlix] Index #12 provides development effects and mitigation measures.	Candidate – Woodland areas within Infrastructure Focus study area may support this SWH type.	A, B,
Turtle Wintering Areas Rationale: Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle Special Concern: .	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat	For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen [cix, cx, cxi, cxii]. Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. Information Sources: EIS studies carried out by Conservation Authorities. Field Naturalists Clubs. OMNRF Ecologist or Biologist. Natural Heritage Information Centre (NHIC).	Presence of 5 over-wintering Midland Painted Turtles is significant Ⓔ. One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant Ⓔ. The mapped ELC Ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep water pool where the turtles are over wintering is the SWH. Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. - Oct.) or spring (Mar- May) [cvii]. Congregation of turtles is more common where wintering areas are limited and therefore significant [cix, cx, cxi, cxii].	None - SWH type not present within the study area.	

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
				SWH MIST [cxlix] Index #28 provides development effects and mitigation measures for turtle wintering habitat.		
Reptile Hibernaculum Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brown snake Smooth Green Snake Northern Ring-necked Snake Special Concern: Milk snake Eastern Ribbonsnake Lizard: Special Concern: (Southern Shield population): Five-lined Skink	For all snakes, habitat may be found in any Ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3	For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line [xliv, l, li, lii, cxii]. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Five-lined Skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissure [cciii]. Information Sources: In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). Reports and other information available from Conservation Authorities. Field Naturalist Clubs. University herpetologists. Natural Heritage Information Centre (NHIC). OMNRF ecologist or biologist may be aware of locations on wintering skinks.	Studies confirming: Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr / May) and Fall (Sept / Oct) Ⓔ. Note: If there are Special Concern Species present, then site is SWH. Note: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (e.g. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH Ⓔ. SWH MIST [cxlix] Index #13 provides development effects and mitigation measures for snake hibernacula. Presence of any active hibernaculum for skink is significant. SWH MIST [cxlix] Index #37 provides development effects and mitigation measures for Five-linked Skink wintering habitat.	Candidate – Agricultural areas with disused structures and foundations may support reptile hibernacula.	A, B, C, D, E
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) Rationale: Historical use and number of colony nests make this habitat signif-icant. An iden-tified colony can be impor-tant to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. Habitat found in the following Ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed / permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed / permitted Mineral Aggregate Operation. Information Sources: Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas. Bird Studies Canada; NatureCounts http://www.birdscanada.org/birdmon/ Field Naturalist Clubs.	Studies confirming: Presence of 1 or more nesting sites with 8 [cxlix] or more cliff swallow pairs and / or rough-winged swallow pairs during the breeding season. A colony identified as SWH will include a 50 m radius habitat area from the peripheral nests [ccvii]. Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” [ccxi]. SWH MIST [cxlix] Index #4 provides development effects and mitigation measures.	None – SWH type not present within the study area.	

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
Colonially- Nesting Bird Breeding Habitat (Trees and Shrubs) Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET	Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in trees are 11 to 15 m from ground, near the top of the tree. Information Sources: Ontario Breeding Bird Atlas ccv, colonial nest records. Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). Natural Heritage Information Centre (NHIC) Mixed Wader Nesting Colony. Aerial photographs can help identify large heronries. Reports and other information available from Conservation Authorities. MNRF District Offices. Local Naturalist Clubs.	Studies confirming: Presence of 5Ⓔ or more active nests of Great Blue Heron or other listed species. The habitat extends from the edge of the colony and a minimum 300 m radius or extent of the Forest Ecosite containing the colony or any island < 15.0 ha with a colony is the SWH [cc, ccvii]. Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and / or eggshells. SWH MIST [cxlix] Index #5 provides development effects and mitigation measures.	Candidate – Suitable habitat may be present associated with wet woodlands and swamp areas.	A, B
Colonially- Nesting Bird Breeding Habitat (Ground) Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird). MAM1 - 6 MAS1 - 3 CUM CUT CUS	Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands. Information Sources: Ontario Breeding Bird Atlas, rare / colonial species records. Canadian Wildlife Service. Reports and other information available from Conservation Authorities. Natural Heritage Information Centre (NHIC) Colonial Waterbird Nesting Area. MNRF District Offices. Field Naturalist Clubs.	Studies confirming: Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, > 5 active nests for Common Tern or > 2 active nests for Caspian TernⒺ. Presence of 5 or more pairs for Brewer's BlackbirdⒺ. Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant Ⓔ. The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC Ecosites containing the colony or any island < 3.0 ha with a colony is the SWH [cc, ccvii]. Studies would be done during May / June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi] SWH MIST [cxlix] Index #6 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Migratory Butterfly Stopover Areas Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral Special Concern: Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: Field: CUM CUT CUS Forest: FOC	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Erie or Lake Ontario [cxlix]. The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south [xxxii, xxxiii, xxxiv, xxxv, xxxvi]. The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat [cxlviii, cxlix]. Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes [xxxvii, xxxviii, xxxix, xl, xli]. Information Sources:	Studies confirm: The presence of Monarch Use Days (MUD) during fall migration (Aug / Oct) [xliii]. MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500 / day [xxxvii], significant variation can occur between years and multiple years of sampling should occur [xl, xlii].	None - SWH type not present within the study area.	

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
		FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	MNRF District Offices. Natural Heritage Information Centre (NHIC). Agriculture Canada in Ottawa may have list of butterfly experts. Field Naturalist Clubs. Toronto Entomologists Association. Conservation Authorities.	Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. MUD of > 5000 or > 3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant(E). SWH MIST [cxlix] Index #16 provides development effects and mitigation measures.		
Landbird Migratory Stopover <u>Rationale</u>: Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors).	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Woodlots > 5 ha (E) in size and within 5 km [iv, v, vi, vii, viii, ix, x, xi, xii, xiii, xiv, xv] of Lake Erie and Lake Ontario. If woodlands are rare in an area of shoreline, woodland fragments 2 - 5 ha can be considered for this habitat(E). Woodlots need to be > 10 ha (E) in size and within 5 km [iv, v, vi, vii, viii, ix, x, xi, xii, xiii, xiv, xv] of Lake Ontario. If multiple woodlands are located along the shoreline those Woodlands < 2 km from Lake Ontario are more significant [cxlix]. Sites have a variety of habitats; forest, grassland and wetland complexes [cxlix]. The largest sites are more significant [cxlix]. Woodlots and forest fragments are important habitats to migrating birds [ccxviii], these features located along the shore and located within 5 km of Lake Ontario are Candidate SWH [cxlviii]. <u>Information Sources</u>: Bird Studies Canada. Ontario Nature. Local birders and field naturalist clubs. Ontario Important Bird Areas (IBA) Program.	Studies confirm: Use of the habitat by > 200 birds / day and with > 35 spp with at least 10 bird spp. recorded on at least 5 different survey dates(E). This abundance and diversity of migrant bird species is considered above average and significant. Studies should be completed during spring (Mar to May) and fall (Aug to Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. SWH MIST [cxlix] Index #9 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Deer Yarding Areas <u>Rationale:</u> Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in "yards" to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10 - 15% of an areas summer range.	White-tailed Deer	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include: FOM FOC SWM SWC Or these ELC Ecosites: CUP2 CUP3 FOD3 CUT	Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed for two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60% [cxciv]. OMNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual" [cxcv].	No studies required: Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depth > 40 cm for more than 60 days in a typical winter are minimum criteria for a deer yard to be considered as SWH [lvi, lvii, lviii, lix, lx, (E)]. Deer yards are mapped by OMNRF District offices. Locations of Core or Stratum I and Stratum II deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations [cxcv].	Not anticipated – To be confirmed with MNRF.	

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
			Woodlots with high densities of deer due to artificial feeding are not significant Ⓔ.	If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWH MIST [cxlix] Index #2 provides development effects and mitigation measures.		
Deer Winter Congregation Areas <u>Rationale</u>: Deer movement during winter in the southern areas of EcoRegion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions [cxlviii].	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	Woodlots will typically be > 100 Ⓔ ha in size. Woodlots < 100 ha may be considered as significant based on MNRF studies or assessment. Deer movement during winter in the southern areas of EcoRegion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands [cxlviii]. If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. Large woodlots > 100 ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer / ha [ccxxiv]. Woodlots with high densities of deer due to artificial feeding are not significant Ⓔ. <u>Information Sources:</u> MNRF District Offices. LIO/NRVIS.	Studies confirm: Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF [cxlviii]. Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF Ⓔ. Studies should be completed during winter (Jan / Feb) when > 20 cm of snow is on the ground using aerial survey techniques [ccxxiv], ground or road surveys or a pellet count deer density survey [ccxxv]. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWH MIST [cxlix] Index #2 provides development effects and mitigation measures.	None - SWH type not present within the study area.	

TABLE E2 Rare Vegetation Communities

Rare Vegetation Community	Candidate SWH			Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
	ELC Ecosite Codes	Habitat Description	Detailed Information and Sources			
Cliffs and Talus Slopes <u>Rationale:</u> Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock > 3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	• Most cliff and talus slopes occur along the Niagara Escarpment. <u>Information Sources</u>: • The Niagara Escarpment Commission has detailed information on location of these habitats. • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website. • Field Naturalist Clubs. • Conservation Authorities.	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes [lxxviii]. • SWH MIST [cxlix] Index #21 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Sand Barren <u>Rationale</u>: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or	• A sand barren area > 0.5 ha in size Ⓔ. <u>Information Sources</u>: • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website.	• Confirm any ELC Vegetation Type for Sand Barrens [lxxviii]. • Site must not be dominated by exotic or introduced species (< 50% vegetative cover are exotic sp.) Ⓔ. • SWH MIST [cxlix] Index #20 provides development effects and mitigation measures.	None - SWH type not present within the study area.	

Rare Vegetation Community	Candidate SWH			Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
	ELC Ecosite Codes	Habitat Description	Detailed Information and Sources			
due to cottage development and forestry.	barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always < or equals to 60%.	savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.	• Field Naturalist Clubs. • Conservation Authorities.			
Alvar <u>Rationale:</u> Alvars are extremely rare habitats in EcoRegion 6E. Most alvars in Ontario are in EcoRegions 6E and 7E. alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 Five Alvar Indicator Species: 1) *Carex crawei* 2) *Panicum philadelphicum* 3) *Eleocharis compressa* 4) *Scutellaria parvula* 5) *Trichostema brachiatum* These indicator species are very specific to Alvars within EcoRegion 6E Ⓔ [cxlix].	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover [lxxviii].	• An Alvar site > 0.5 ha in size [lxxv]. <u>Information Sources</u>: • Alvars of Ontario (2000). • Federation of Ontario Naturalists [lxxvi]. • Ontario Nature - Conserving Great Lakes Alvars [ccviii]. • Natural Heritage Information Centre (NHIC) has location information available on their website. • OMNRF Staff. • Field Naturalist Clubs. • Conservation Authorities.	• Field studies that identify four of the five Ⓔ **Alvar Indicator Species** [lxxv, cxlix] at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (< 50% vegetative cover are exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses [lxxv]. • SWH MIST [cxlix] Index #17 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Old Growth Forest <u>Rationale:</u> Due to historic logging practices, extensive old growth forest is rare in the EcoRegion. Interior habitat provided by old growth forest is required by many wildlife species.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	• Woodland area 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest Ⓔ. <u>Information Sources</u>: • OMNRF Forest Resource Inventory mapping. • OMNRF Districts. • Field Naturalist Clubs. • Conservation Authorities. • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments.	Field Studies will determine: • If dominant trees species of the are > 140 years old, then the area containing these trees is Significant Wildlife Habitat [cxlviii]. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities [cxlviii] (cut stumps will not be present). • The area of Forest Ecosites combined or an Ecoelement within an Ecosite that contain the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics [lxxviii]. • SWH MIST [cxlix] Index #23 provides development effects and mitigation measures.	None – SWH type not present within the study area.	

Rare Vegetation Community	Candidate SWH			Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
	ELC Ecosite Codes	Habitat Description	Detailed Information and Sources			
Savannah Rationale: Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60% [lxxix, lxxx, lxxxi, lxxxii, lxxxiii].	• No minimum size to site [E]. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources: • Natural Heritage Information Centre (NHIC) has location data available on their website. • OMNRF Districts. • Field Naturalists Clubs. • Conservation Authorities.	• Field studies confirm one or more of the Savannah indicator species listed in [cxlix] Appendix N should be present [E]. Note: Savannah plant spp. List from EcoRegion 6E should be used [cxlviii]. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (< 50% vegetation cover are exotic sp.). • SWH MIST [cxlix] Index #18 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Tallgrass Prairie Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover [lxxix, lxxx, lxxxi, lxxxii, lxxxiii].	• No minimum size to site [E]. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources: • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website. • Field Naturalists Clubs. • Conservation Authorities.	Field studies confirm one or more of the Prairie indicator species listed in [cxlix] Appendix N should be present [E]. Note: Prairie plant spp. list from EcoRegion 6E should be used [cxlviii]. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (< 50% vegetative cover are exotic sp.). • SWH MIST [cxlix] Index #19 provides development effects and mitigation measures.	None – Though remnant TPO ecosites may be present, SWH type not anticipated present within the study area.	
Other Rare Vegetation Communities Rationale: Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG [cxlviii]. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	• ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M [cxlviii]. • The OMNRF/NHIC will have up to date listing for rare vegetation communities. Information Sources: • Natural Heritage Information Centre (NHIC) has location information available on their website. • OMNRF Districts. • Field Naturalists Clubs. • Conservation Authorities.	• Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG [cxlviii]. • Area of the ELC Vegetation Type polygon is the SWH. • SWH MIST [cxlix] Index #37 provides development effects and mitigation measures.	Unconfirmed – Wooded ecosites within the Infrastructure Focus study area may support FOD6-2, which is considered rare in Peel Region.	A, B

TABLE E3 Specialized Habitats of Wildlife considered SWH

Specialized Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
Waterfowl Nesting Area Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1	• A waterfowl nesting area extends 120 m [cxlix] from a wetland (> 0.5 ha) or a wetland (> 0.5 ha) and any small wetlands (0.5 ha) within 120m or a cluster of 3 or more small (< 0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur [cxlix]. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (40 cm dbh) in woodlands for cavity nest sites. Information Sources:	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards[E], or; • Presence of 10 or more nesting pairs for listed species including Mallards[E]. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June).	Candidate – This ecosite may be present adjacent to wooded wetland areas within the Infrastructure Focus study area.	A, B

Specialized Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
		MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 **Note: includes adjacency to Provincially Significant Wetlands.**	• Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. • Reports and other information available from Conservation Authorities.	• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m [cxlviii] from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWH MIST [cxlix] Index #25 provides development effects and mitigation measures.		
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat <u>Rationale:</u> Nest sites are fairly uncommon in EcoRegion 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey **<u>Special Concern:</u>** Bald Eagle	ELC Forest Community Series: FOD FOM FOC SWD SWM SWC Directly adjacent to riparian areas - rivers, lakes, ponds and wetlands.	• Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. • Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <u>Information Sources:</u> • Natural Heritage Information Centre (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. • MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF District. • Check the Ontario Breeding Bird Atlas [ccv] or Rare Breeding Birds in Ontario for species documented. • Reports and other information available from Conservation Authorities. • Field Naturalists Clubs.	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area [cxlviii]. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH [ccvii], maintaining undisturbed shorelines with large trees within this area is important [cxlviii]. • For a Bald Eagle the active nest and a 400 - 800 m radius around the nest is the SWH [cvi, ccvii]. Area of the habitat from 400 - 800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitat [cvi]. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for equal or > 3 years or suspected of not being used for > 5 years before being considered not significant [ccvii]. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid August. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • SWH MIST [cxlix] Index #26 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Woodland Raptor Nesting Habitat <u>Rationale:</u> Nests sites for these species are rarely	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in: SWC SWM SWD	• All natural or conifer plantation woodland / forest stands > 30 ha with > 10 ha of interior habitat [lxxxviii, lxxxix, xc, xci, xciii, xciv, xcv, xcvi, cxxxiii]. Interior habitat determined with a 200 m buffer [cxlviii]. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such	Studies confirm: • Presence of 1 or more active nests from species list is considered significant [cxlviii]. • Red-shouldered Hawk and Northern Goshawk - A 400 m radius around the nest or 28 ha area of habitat is the	None - SWH type not present within the study area.	

Specialized Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
identified; these area sensitive habitats are often used annually by these species.		CUP3	as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <u>Information Sources:</u> • OMNRF Districts. • Check the Ontario Breeding Bird Atlas [ccv] or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Conservation Authorities.	SWH [ccvii] (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl - A 200 m radius around the nest is the SWH [ccvii]. • Broad-winged Hawk and Coopers Hawk - A 100 m radius around the nest is the SWH [ccvii]. • Sharp-Shinned Hawk - A 50 m radius around the nest is the SWH [ccvii]. • Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting / nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWH MIST [cxlix] Index #27 provides development effects and mitigation measures.		
Turtle Nesting Areas <u>Rationale:</u> These habitats are rare and when identified will often be the only breeding site for local populations for turtles.	Midland Painted Turtle **<u>Special Concern:</u>** Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (< 100 m) [cxlviii] or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons, or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes and rivers are most frequently used. <u>Information Sources:</u> • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Centre (NHIC). • Field Naturalist Clubs.	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles[Ⓔ]. • One or more Northern Map Turtles or Snapping Turtle nesting is a SWH[Ⓔ]. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30 - 100 m around the nesting area dependant on slope, riparian vegetation and adjacent land use in the SWH [cxlviii]. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30 - 100 m area of habitat [cxlix]. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • SWH MIST [cxlix] Index #28 provides development effects and mitigation measures for turtle nesting habitat.	None - SWH type not present within the study area.	
Seeps and Springs <u>Rationale:</u> Seeps / Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps / Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps / springs.	• Any forested area (with < 25 % meadow / field / pasture) within headwaters of a stream or river system [cxvii, cxlix]. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species [cxix, cxx, cxxi, cxxii, cxiii, cxiv]. <u>Information Sources:</u> • Topographical Map. • Thermography. • Hydrological surveys conducted by Conservation Authorities and MOE. • Field Naturalists Clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: • Presence of a site with 2 or more[Ⓔ] seeps / springs should be considered SWH. • The area of an ELC Forest Ecosite or an Ecoelement within Ecosite containing the seeps / springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat [cxlviii]. • SWH MIST [cxlix] Index #30 provides development effects and mitigation measures.	Candidate - Seeps and springs may be present associated with the Etobicoke Creek Headwaters, or any forested wetland ecosites.	A, B
Amphibian Breeding Habitat (Woodland) <u>Rationale:</u> These habitats are extremely important to	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper	All Ecosites associated with these ELC Community Series; FOC FOM	• Presence of a wetland, pond or woodland pool (including vernal pools) > 500 m^2 (about 25 m diameter) [ccvii] within or adjacent (within 120 m) to a woodland (no minimum size) [clxxxii, lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx]. Some small wetlands may not be mapped and may be important breeding pools for amphibians.	Studies confirm: • Presence of breeding population of 1 or more of the listed newt / salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses)	Candidate – SWH may be present associated with any wooded ecosites within the	A, B

Specialized Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite Codes	Habitat Criteria and Information Sources			
amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	Western Chorus Frog Wood Frog	FOD SWC SWM SWD Breeding pools within the woodland or shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	• Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat [cxlviii]. Information Sources: • Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records. • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. • OMNRF Districts and wetland evaluations. • Field Naturalist Clubs. • Canadian Wildlife Service Amphibian Road Call Survey. • Ontario Vernal Pool Association: http://www.ontariovernalpools.org	[lxxi] or 2 or more of the listed frog species with Call Level Codes of 3(E). • A combination of observational study and call count surveys [cviii] will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland / wetlands. • The habitat is the wetland area plus a 230 m radius of woodland area [lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx, lxxi]. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWH MIST [cxlix] Index #14 provides development effects and mitigation measures.	Infrastructure Focus study area.	
Amphibian Breeding Habitat (Wetland) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these Wetland Ecosites will be isolated (> 120 m) from Woodland Ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) maybe adjacent to woodlands.	• Wetlands > 500 m^2 (about 25 m diameter) [ccvii], supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats [clxxxii]. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation. Information Sources: • Ontario Herpetofaunal Summary Atlas (or other similar atlases). • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. • OMNRF Districts and wetland evaluations. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of breeding population of 1 or more of the listed newt / salamander species or 2 or more of the listed frog / toad species with at least 20 individuals (adults or eggs masses) [lxxi] or 2 or more of the listed frog / toad species with Call Level Codes of 3(E). or; Wetland with confirmed breeding Bullfrogs are significant(E). • The ELC Ecosite Wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys [cviii] will be required during the spring (March - June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWH MIST [cxlix] Index #15 provides development effects and mitigation measure	Candidate – SWH may be present within non-treed wetland areas associated with unevaluated, local significant or provincially significant wetland areas.	A, B
Woodland Area-Sensitive Bird Breeding Habitat Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler, Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager **Special Concern**: Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	• Habitats where interior forest breeding birds are breeding, typically large mature (> 60 yrs old) forest stands or woodlots > 30 ha [cv, cxxxi, cxxxii, cxxxiii, cxxxiv, cxxxv, cxxxvi, cxxxvii, cxxxviii, cxxxix, cxl, cxli, cxlii, cxliii, cxliv, cxlv, cxlvi, cl, cli, clii, cliii, cliv, clv, clvi, clvii, clviii, clix]. • Interior forest habitat is at least 200 m from forest edge habitat [clxiv]. Information Sources: • Local birder clubs. • Canadian Wildlife Service (CWS) for the location of forest bird monitoring. • Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species (E). • Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH (E). • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” [ccxi]. • SWH MIST [cxlix] Index #34 provides development effects and mitigation measures.	None - SWH type not present within the study area.	

TABLE E4 Habitats of Species of Conservation Concern Considered SWH

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite	Habitat Criteria and Information Sources			
Marsh Breeding Bird Habitat Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present [cxxiv]. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it many be found in upland shrubs or forest a considerable distance from water. Information Source: • OMNRF District and wetland evaluations. • Field Naturalists Clubs. • Natural Heritage Information Centre (NHIC) Records. • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas.	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren **or** 1 pair of Sandhill Cranes **or** breeding by any combination of 5 or more of the listed species (E). • Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH (E). • Area of the ELC Ecosite is the SWH. • Breeding surveys should be done May / June when these species are actively nesting in wetland habitats. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • SWH MIST [cxlix] Index #35 provides development effects and mitigation measures.	Candidate – SWH may be present within wetland areas associated with unevaluated, local significant, or provincially significant wetland areas.	A, B
Open Country Bird Breeding Habitat Rationale: This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern:** Short-eared Owl	CUM1 CUM2	• Large grassland areas (includes natural and cultural fields and meadows > 30 ha [clx, clxi, clxiii, clxiv, clxv, clxvi, clxvii, clxviii, clxix]. • Grassland not Class 1 or 2 agricultural lands, and not being actively used for farming (e.g. no row cropping or intensive hay or livestock pasturing in the last 5 years) (E). • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. Information Sources: • Agricultural land classification maps, Ministry of Agriculture. • Local Bird Clubs. • Ontario Breeding Bird Atlas. • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species (E). • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC Ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • SWH MIST [cxlix] Index #32 provides development effects and mitigation measures.	None - SWH type not present within the study area.	
Shrub / Early Successional Bird Breeding Habitat Rationale: This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp: Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of Shrub Ecosites can be complexed into a larger habitat for some bird species.	• Large field areas succeeding to shrub and thicket habitats > 10 ha [clxiv] in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (e.g. no row-cropping, haying or live-stock pasturing in the last 5 years) (E). • Shrub thicket habitats (> 10 ha) are most likely to support and sustain a diversity of these species [clxxiii]. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. Information Sources: • Agricultural land classifications maps, Ministry of Agriculture. • Local Bird Clubs. • Ontario Breeding Bird Atlas. • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species (E). • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH (E). • The area of the SWH is the contiguous ELC Ecosite field/ thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • SWH MIST [cxlix] Index #33 provides development effects and mitigation measures.	Candidate – SWH potentially present associated with margins of larger treed habitats.	A, B

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite	Habitat Criteria and Information Sources			
Terrestrial Crayfish Rationale: Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare [cci].	Chimney or Digger Crayfish (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish (*Cambarus diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above Meadow Marsh Ecosites can be used by terrestrial crayfish.	• Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground cannot be too moist. Can often be found far from water. • Both species are semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. Information Sources: • Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998.	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites [cci]. • Area of ELC Ecosite or an Ecoelement area of meadow marsh or swamp within the larger Ecosite area is the SWH. • Surveys should be done in April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals in very difficult [cci]. • SWH MIST [cxlix] Index #36 provides development effects and mitigation measures.	Candidate – SWH may be present associated with any interface between lowland and upland habitats, including vegetated swales, watercourses, wetlands, wet woodlands, etc.	A, B
Special Concern and Rare Wildlife Species Rationale: These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).	All plant and animal element occurrences (EO) within a 1 or 10 km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	• When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or Provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites [lxxviii]. Information Sources: • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species list with element occurrences data. • NHIC Website "Get Information" - http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas. • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm : • Assessment / inventory of the site for the identified Special Concern or rare species needs to be completed during the time of the year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs to be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat for foraging habitat. • SWH MIST [cxlix] Index #37 provides development effects and mitigation measures.	Candidate*Avian* - **Barn Swallow** - **Canada Warbler** - **Common Nighthawk** - **Eastern Wood-pewee** - **Grasshopper Sparrow** - **Wood Thrush** ***Herpetofauna*** - **Milk Snake** - **Western Chorus Frog** ***Invertebrate*** - **Monarch** - **Yellow-banded Bumble Bee**	Refer to Appendix D

TABLE E4 Animal Movement Corridors

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details	Parcels with Potential Presence
		ELC Ecosite	Habitat Criteria and Information Sources			
Amphibian Movement Corridors Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all Ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1.	• Movement corridors between breeding habitat and summer habitat [clxxiv, clxxv, clxxvi, clxxvii, clxxviii, clxxix, clxxx, clxxxi]. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat -Wetland) of this Schedule Ⓔ. Information Sources: • MNRF District Office. • Natural Heritage Information Centre (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs.	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant [cxlix]. • Corridors should have at least 15 m of vegetation on both sides of waterway [cxlix] or be up to 200 m [cxlix] wide of woodland habitat and with gaps < 20 m [cxlix]. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat [cxlix]. • SWH MIST [cxlix] Index #40 provides development effects and mitigation measures	Candidate – SWH potentially present associated with any watercourse or contiguous natural habitats.	A, B
Deer Movement Corridors Rationale: Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while traveling.	White-tailed Deer	Corridoes may be found in all forested Ecosites. A Project Proposal in Stratum II Deer Winter Area has potential to contain corridors.	• Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule Ⓔ. • A deer wintering habitat identified by the OMNRF as SWH Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion [clxxxii, clxxxiii, cxlix, cxciv]. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines or ridges). Information Sources: • MNRF District Office. • Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs.	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • Corridors should be at least 200 m wide [cxlix] with gaps < 20 m [cxlix] and if following riparian area with at least 15 m of vegetation on both sides of waterway [cxlix]. Shorter corridors are more significant than longer corridors [cxlix]. • SWM MIST [cxlix] Index #39 provides development effects and mitigation measures.	Not anticipated – To be confirmed with MNRF	

TABLE E5 Significant Wildlife Habitat Exceptions for EcoDistricts within EcoRegion 6E

EcoDistrict	Wildlife Habitat and Species	Candidate SWH			Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details
		Ecosite	Habitat Description	Habitat Criteria and Information Sources		
6E-14 Rationale: The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bears [clxxxvi, ccxvii].	**Mast Producing Areas** Black Bear	All Forested habitat represented by ELC Community Series: FOM FOD	• Black Bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species [clxxxv, clxxxvii, clxxxviii, clxxxix, cxc, cxci, cxcii, cxciii, ccxvii]. • Forested habitats need to be large enough to provide cover and protection for black bears [ccxvii].	• Woodland Ecosites > 30 ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). Information Sources: • Important forest habitat for black bears may be identified by OMNRF.	• All woodlands > 30 ha with a 50% composition of these ELC Vegetation Ⓔ Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4	N/A

EcoDistrict	Wildlife Habitat and Species	Candidate SWH			Confirmed SWH Defining Criteria	Infrastructure Focus Study Area Assessment Details
		Ecosite	Habitat Description	Habitat Criteria and Information Sources		
					FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 • SWM MIST [cxlix] Index #3 provides development effects and mitigation measures.	
6E-17 <u>Rationale:</u> Sharp-tailed Grouse only occur on Manitoulin Island in EcoRegion 6E, Leks are an important habitat to maintain their population.	**Lek** Sharp-tailed Grouse	CUM CUS CUT	• The lek or dancing ground consists of bare, grassy or spare shrubland. There is often a hill or rise in topography [ccxix]. • Leks are typically a grassy field / meadow > 15 ha with adjacent shrublands and > 30 ha with adjacent deciduous woodland. Conifer trees within 500 m are not tolerated [ccxix].	• Grasslands (field / meadow) are to be > 15 ha when adjacent to shrubland and > 30 ha when adjacent to deciduous woodland [ccxix]. • Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying). • Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting [ccxix]. <u>Information Sources:</u> • OMNRF district office. • Bird watching clubs. • Local landowners. • Ontario Breeding Bird Atlas.	• Studies confirming lek habitat are to be completed from late March to June. • Any site confirmed with Sharp-tailed Grouse courtship activities in considered significant Ⓔ. • The field / meadow ELC Ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat Ⓔ. • SWM MIST [cxlix] Index #32 provides development effects and mitigation measures.	N/A

APPENDIX F
Ecological Land Classification

TABLE E1 Ecological Land Classification Results

ELC Type	ELC Communities
Cliff/ Talus	• CLO1-2*: Bulblet Fern – Herb Robert Open Shaded Limestone/Dolostone Cliff Face Type (6)
	• CLO1-4*: Open Limestone/Dolostone Seepage Cliff Type (1)
	• CLT1-1*: White Cedar Treed Limestone Cliff Type (2)
	• TAS1-2*: Mountain Maple Open Limestone Talus Shrubland Type (3)
	• TAT1-5*: Basswood – White Ash – Butternut Moist Treed Limestone Talus Type (1)
	• TAT1-6*: Hemlock – Sugar Maple Moist Limestone Talus Type (1)
Savannah	• CUS1-1: Hawthorn Successional Savannah
	• CUS1-A1: Native Deciduous Successional Savannah
	• CUS1-b: Exotic Successional Savannah
Thicket	• CUT1-A1: Native Deciduous Sapling Regeneration Thicket
	• CUT1-A2: Native Mixed Sapling Regeneration Thicket
	• CUT1-b: Buckthorn Deciduous Thicket
	• CUT1-c: Exotic Deciduous Thicket
	• CUT1-E: Red Osier Dogwood Deciduous Thicket
Forest	• CUW1-A2: White Pine Successional Woodland
	• CUW1-A3: Native Deciduous Successional Woodland
	• CUW1-b: Exotic Successional Woodland
	• CUW1-D: Hawthorn Successional Woodland
	• FOC3-1: Fresh-Moist Hemlock Coniferous Forest
	• FOC4-1: Fresh-Moist White Cedar Coniferous Forest
	• FOD2-4: Dry-Fresh Oak - Hardwood Deciduous Forest
	• FOD3-1: Dry-Fresh Poplar Deciduous Forest
	• FOD4-1: Dry-Fresh Beech Deciduous Forest
	• FOD4-2: Dry-Fresh White Ash Deciduous Forest
	• FOD4-b: Dry-Fresh Manitoba Maple Deciduous Forest
	• FOD4-G: Dry-Fresh Basswood Deciduous Forest
	• FOD4-H: Dry-Fresh Hawthorn - Apple Deciduous Forest
	• FOD4-I: Dry-Fresh Red Maple Deciduous Forest
	• FOD5-1: Dry-Fresh Sugar Maple Deciduous Forest
	• FOD5-10: Dry-Fresh Sugar Maple - Paper Birch - Poplar Deciduous Forest
	• FOD5-2: Dry-Fresh Sugar Maple - Beech Deciduous Forest
	• FOD5-4: Dry-Fresh Sugar Maple - Ironwood Deciduous Forest
	• FOD5-6: Dry-Fresh Sugar Maple - Basswood Deciduous Forest
	• FOD5-7: Dry-Fresh Sugar Maple - Black Cherry Deciduous Forest
	• FOD5-8: Dry-Fresh Sugar Maple - White Ash Deciduous Forest
	• FOD6-1: Fresh-Moist Sugar Maple - Ash Deciduous Forest
	• FOD6-2*: Moist – Fresh Sugar Maple – Black Maple Deciduous Forest Type (1)
	• FOD6-4: Fresh-Moist Sugar Maple - White Elm Deciduous Forest
	• FOD6-5: Fresh-Moist Sugar Maple - Hardwood Deciduous Forest
	• FOD7-1: Fresh-Moist White Elm Lowland Deciduous Forest
	• FOD7-2: Fresh-Moist Ash Deciduous Forest
	• FOD7-3: Fresh-Moist Willow Lowland Deciduous Forest
	• FOD7-a: Fresh-Moist Manitoba Maple Lowland Deciduous Forest
	• FOD7-c: Fresh-Moist Exotic Deciduous Forest
	• FOD7-D: Fresh-Moist Red Maple Lowland Deciduous Forest
	• FOD7-F: Fresh-Moist Basswood Lowland Deciduous Forest
	• FOD8-1: Fresh-Moist Poplar Deciduous Forest
	• FOD9-3: Fresh-Moist Bur Oak Deciduous Forest

ELC Type	ELC Communities
	• FOM2-1: Dry-Fresh White Pine - Oak Mixed Forest
	• FOM2-A: Dry-Fresh White Pine - Hardwood Mixed Forest
	• FOM3-2: Dry-Fresh Hemlock - Sugar Maple Mixed Forest
	• FOM6-1: Fresh-Moist Sugar Maple - Hemlock Mixed Forest
	• FOM6-2: Fresh-Moist Hemlock - Hardwood Mixed Forest
	• FOM7-2: Fresh-Moist White Cedar - Hardwood Mixed Forest
	• FOM8-B: Fresh-Moist Ash Mixed Forest
	• FOMA-A: Fresh-Moist White Pine - Sugar Maple Mixed Forest
Plantation	• CUP1-5: Silver Maple Deciduous Plantation
	• CUP1-8: Red Oak Deciduous Plantation
	• CUP1-b: Willow Deciduous Plantation
	• CUP1-c: Locust Deciduous Plantation
	• CUP2-A: Restoration Mixed Plantation
	• CUP3-1: Red Pine Coniferous Plantation
	• CUP3-2: White Pine Coniferous Plantation
	• CUP3-3: Scots Pine Coniferous Plantation
	• CUP3-A: Restoration Coniferous Plantation
	• CUP3-C: White Spruce Coniferous Plantation
	• CUP3-G: White Cedar Coniferous Plantation
	• CUP3-H: Mixed Conifer Coniferous Plantation
Wetland	• MAM: Meadow Marsh
	• MAM2-10: Forb Mineral Meadow Marsh
	• MAM2-2: Reed Canary Grass Mineral Meadow Marsh
	• MAM2-5: Narrow-leaved Sedge Mineral Meadow Marsh
	• MAM2-6: Broad-leaved Sedge Mineral Meadow Marsh
	• MAM2-E: Bulrush Mineral Meadow Marsh
	• MAM3-2: Reed Canary Grass Organic Meadow Marsh
	• MAM3-6: Broad-leaved Sedge Organic Meadow Marsh
	• MAM5-1: Mineral Fen Meadow Marsh
	• MAS2-1: Cattail Mineral Shallow Marsh Type
	• MAS2-1A: Broad-leaved Cattail Mineral Shallow Marsh
	• MAS2-1b: Narrow-leaved Cattail Mineral Shallow Marsh
	• MAS2-3: Narrow-leaved Sedge Mineral Shallow Marsh
	• MAS2-4: Broad-leaved Sedge Mineral Shallow Marsh
	• MAS2-7: Bur-reed Mineral Shallow Marsh
	• MAS2-8: Rice Cut-grass Mineral Shallow Marsh
	• MAS2-9: Forb Mineral Shallow Marsh
	• MAS2-d: Reed Canary Grass Mineral Shallow Marsh
	• MAS2-F: Sweet Flag Mineral Shallow Marsh
	• MAS3-1A: Broad-leaved Cattail Organic Shallow Marsh
	• SWD1-2: Bur Oak Mineral Deciduous Swamp
	• SWD2-1: Black Ash Mineral Deciduous Swamp
	• SWD2-2: Red (Green) Ash Mineral Deciduous Swamp
	• SWD2-A: White Ash Mineral Deciduous Swamp
	• SWD3-1: Red Maple Mineral Deciduous Swamp
	• SWD3-2: Silver Maple Mineral Deciduous Swamp
	• SWD3-3: Swamp Maple Mineral Deciduous Swamp
	• SWD4-1: Willow Mineral Deciduous Swamp
	• SWD4-2: White Elm Mineral Deciduous Swamp

ELC Type	ELC Communities
	• SWD4-3: Paper Birch - Poplar Mineral Deciduous Swamp
	• SWD4-b: European Alder Mineral Deciduous Swamp
	• SWD6-1: Red Maple Organic Deciduous Swamp
	• SWD6-3: Swamp Maple Organic Deciduous Swamp
	• SWD7-A: Willow Organic Deciduous Swamp
	• SWT2-2: Willow Mineral Thicket Swamp
	• SWT2-5: Red Osier Dogwood Mineral Thicket Swamp
	• SWT2-6: Spiraea Mineral Thicket Swamp
	• SWT2-8: Silky Dogwood Mineral Thicket Swamp
	• SWT2-B: Winterberry Mineral Thicket Swamp
	• SWT3-2: Willow Organic Thicket Swamp
	• SWT3-7: Winterberry Organic Thicket Swamp
Meadow	• CUM1-A: Native Forb Meadow
	• CUM1-b: Exotic Cool-season Grass Graminoid Meadow
	• CUM1-c: Exotic Forb Meadow
Aquatic	• OAO1: Open Aquatic (unvegetated)
	• OAO1-T: Turbid Open Aquatic (unvegetated)
	• SAF1-3: Duckweed Floating-leaved Shallow Aquatic
	• SAF1-A: Liverwort Floating-leaved Shallow Aquatic
	• SAM1-2: Duckweed Mixed Shallow Aquatic
	• SAM1-3: Watercress Mixed Shallow Aquatic
	• SAM1-4: Pondweed Mixed Shallow Aquatic
	• SAM1-5: Bur-reed Mixed Shallow Aquatic
	• SAS1-2: Waterweed Submerged Shallow Aquatic
	• SAS1-3: Stonewort Submerged Shallow Aquatic
	• SAS1-A: Coon-tail Submerged Shallow Aquatic
	• SAS1-B: Bushy Naiad Submerged Shallow Aquatic
Anthropogenic/ Other	• AG: Agriculture
	• BLS1-c: Exotic Shrub Bluff
	• CUH1-A: Treed Hedgerow
	• Dry-Moist Old Field Meadow
	• Mineral Cultural Savannah Ecosite
	• Mineral Cultural Woodland Ecosite

Notes:

*Rare vegetation community (S1-S3) in the Region of Peel sourced from the SWH Technical Guide (MNR 2000).

References:

Ministry of Natural Resources (MNR). 2000. Significant Wildlife Habitat Technical Guide. Fish and Wildlife Branch, Wildlife Section, Science Development and Transfer Branch, Southcentral Sciences Section. October 2000.



PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3B: Geotechnical and Hydrogeological Desktop Study

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.

THURBER ENGINEERING LTD.

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August 31, 2023

From: Thomas Ring, M.A.Sc., P.Eng., PMP
Paul Coulson, P.Geo.
Renato Pasqualoni, P.Eng., QPesa

Thurber File No.: 32826

GEOTECHNICAL AND HYDROGEOLOGICAL DESKTOP STUDY
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA
REGION OF PEEL, ONTARIO

Dear Ms. An:

This report presents the findings of a geotechnical and hydrogeological desktop study in support of the West Caledon Storage Facility and Transmission Main Class Environmental Assessment (EA) in the Region of Peel, Ontario. The purpose of the study is to provide a description of the local geology and anticipated subsurface conditions along the potential new transmission main and new water storage facility based on available background information, evaluate the alternative alignments for the new transmission main and alternative locations for the new water storage facility from a geotechnical and hydrogeological perspective, and provide input regarding issues that may affect the design and construction of the new trunk watermain.

It is a condition of this memorandum that Thurber's performance of its professional services is subject to the attached Statement of Limitations and Conditions.

1. SITE DESCRIPTION AND BACKGROUND

Based on the Terms of Reference (from 2021-347P), it is understood that the new transmission main in West Caledon will extend from the Alloa Pumping Station to the proposed West Caledon Storage Facility and will enhance water supply to the existing and planned growth areas in South Caledon and Northwest Brampton.

Based email communications from GM BluePlan dated April 10, 2023, it is understood that five road options have been carried forward and are currently being considered for the alignment of the new transmission main:

- Mayfield Road between Heritage Road to Creditview Road
- Old School Road between Heritage Road to Creditview Road
- Heritage Road between Mayfield Road and Old School Road
- Mississauga Road between Mayfield Road and Old School Road

- Creditview Road between Mayfield and Old School Road

In addition, it is understood that five preferred sites have been selected for the location of the new water storage facility:

- Site A: Located on northeast side of Heritage Road, approximately 320 m southeast of Old School Road
- Site B: Located on southwest side of Mississauga Road, approximately 120 m southeast of Old School Road
- Site C: Located on southeast side of Old School Road, approximately 280 m northeast of Mississauga Road
- Site D: Located on northeast side of Mississauga Road, approximately 390 m southeast of Old School Road
- Site E: Located on southeast side of Old School Road, approximately 230 m southwest of Creditview Road

The potential road options and preferred sites are shown on Figure 1.

For the purpose of this geotechnical and hydrogeological desktop report, the study area includes the area within a distance of approximately 1,000 m from the five proposed road options (the Study Area).

The land use within the Study Area is primarily agricultural, with residential developments in the southeast corner. A stone quarry (GB Stone Inc.) is located adjacent to the northwest of Mayfield Road, approximately 350 m southwest of Mississauga Road. An industrial property (Pioneer Hi-Bred Production Ltd.) is located adjacent to the northeast of Mississauga Road, approximately 250 m northwest of Mayfield Road. The Alloa Reservoir and Pumping Station is located approximately 220 m northwest of Mayfield Road and approximately 420 m southwest of Creditview Road. Two Public Schools (Alloa Public School and Malal Yousafzai Public School) are located within the Study Area, adjacent to Mississauga Road and Mayfield Road, respectively. Residential properties are located southeast of Mayfield Road, between Mississauga Road and Creditview Road.

2. REFERENCE INFORMATION

The following data sources were reviewed to develop preliminary profiles, figures, and a description of subsurface conditions for each proposed road option:

- York, Peel, Durham, Toronto and The Conservation Authorities Moraine Coalition (YPDT-CAMC) Oak Ridges Moraine
- MECP Well Records, Permits To Take Water, and Environmental Activity and Sector Registry (EASR) water taking registrations
- Ontario Geological Survey geologic and topographic mapping
- Natural Heritage and Information Centre mapping

Additionally, the following relevant reports were previously prepared by Thurber and referenced in preparing the description of the subsurface:

- Alloa Feedermain & Watermain and Mississauga Road Truck Sanitary Sewer, Geotechnical Data Report, Brampton, Ontario, May 2012
- Geotechnical Investigation, Mayfield Road Class EA Study, Winston Churchill Boulevard to Chinguacousy Road, Brampton / Caledon, Region of Peel, January 2015
- Geotechnical Investigation and Pavement Analysis Report, Mayfield Road Reconstruction, Mississauga Road to Chinguacousy Road, Brampton / Caledon, Region of Peel, March 2019
- Hydrogeology Investigation, Mayfield Road Reconstruction, Mississauga Road to Chinguacousy Road, Brampton / Caledon, Region of Peel, March 2019

3. DESCRIPTION OF SUBSURFACE CONDITONS

3.1 Topography and Drainage

The Study Area is located within the Credit River Watershed and the Etobicoke Creek Watershed, which fall under the jurisdiction of Credit Valley Conservation (CVC) and the Toronto and Region Conservation Authority (TRCA), respectively. The regional topography slopes generally in a southerly direction. Ground surface within the Study Area undulates gently and elevations range from about 280 m to approximately 255 m. A topographic map of the Study Area is shown on Figure 2. Overland flow in the Study Area is interpreted to follow the existing topography, with the Study Area draining southwesterly to the Credit River on the western portion of the Study Area and southeasterly toward Etobicoke Creek in the eastern portion of the Study Area.

3.2 Physiography

The Study Area is situated within the physiographic region of Southern Ontario known as the South Slope. The South Slope is typically a drumlinized area consisting of areas of thin (<1 m) aeolian sand deposits underlain by glacial deposits, primarily till (Chapman and Putnam, 1984). A physiographic region map of the Study Area is shown on Figure 3. The predominant physiographic landform found within the Study Area is till plains (drumlinized).

3.3 Regional Geology and Hydrogeology

Geological and hydrogeological conditions were based on publicly available information obtained from the Ontario Geological Survey (OGS), and York, Peel, Durham, Toronto and the Conservation Authorities Moraine Coalition (YPDT-CAMC) Oak Ridges Moraine Groundwater Program (ORMGP), and TRCA.

The surficial geology of the Study Area consists primarily of clay to silt-textured till, derived from glaciolacustrine deposits or shale. Smaller areas of fine-textured glaciolacustrine deposits composed of silt and clay, minor sand and gravel, interbedded with silt and clay and gritty, pebbly flow till and rainout deposits, and modern alluvial deposits composed of clay, silt, sand, gravel,

and may contain organic remains, are found within the Study Area (OGS, 2010). The surficial geology of the Study Area is shown on Figure 4.

The predominant bedrock of the Study Area consists of shale, limestone, dolostone, and siltstone of the Queenston Formation (OGS, 2011). Anticipated bedrock elevations for each proposed alignment are as follows:

- Mayfield Road alignment: the bedrock surface is expected to be at approximate elevation of 242 m to 257 m, or between 8 m to 22 m below ground surface.
- Old School Road alignment: the bedrock surface is expected to be at approximate elevation of 242 m to 262 m or between 16 m to 31 m below ground surface.
- Heritage Road alignment: the bedrock surface is expected to be at approximate elevation of 235 m to 248 m or between 13 m to 27 m below ground surface.
- Mississauga Road alignment: the bedrock surface is expected to be at approximate elevation of 237 m to 261 m or between 17 m to 29 m below ground surface.
- Creditview Road alignment: the bedrock surface is expected to be at approximate elevation of 242 m to 254 m or between 10 m to 31 m below ground surface.

The bedrock geology of the Study Area is shown on Figure 5.

Regional geological cross sections for each Road Option are provided on Figures 6 - 10 using the ORMGP's cross section tool. Based on a review of the regional geological cross sections, the following units overlie the bedrock in the study area, from youngest to oldest:

- Undifferentiated Upper Sediments;
- Halton Till;
- Oak Ridges Moraine;
- Upper Newmarket Till;
- Inter-Newmarket Sediment;
- Lower Newmarket Till;
- Thorncliffe Formation;

A description of each hydrostratigraphic unit is provided below:

- Undifferentiated Upper Sediments – This unit consists of a thin veneer of glaciolacustrine deposits of fine sands, silts, and clays or modern alluvial or organic deposits. Locally, undifferentiated upper sediments can reach several metres thick (TRCA, 2010).
- Halton Till – The Halton Till was deposited approximately 13,000 years before present (B.P.) during the last glacial advance in the area. The Halton Till is typically 3 m to 15 m thick and comprises of sandy silt to clayey silt till. A summary of anticipated thickness and elevations for each alignment are as follows:
    - Mayfield Road alignment, the Halton Till is estimated to be approximately 4 m to 8 m thick and encountered approximately at elevation of 266 m.

  - Old School Road alignment, the Halton Till is estimated to be approximately 5 m to 12 m thick and encountered approximately at elevation of 279 m.
  - Heritage Road alignment, the Halton Till is estimated to be approximately 2 m to 8 m thick and encountered approximately at elevation of 266 m.
  - Mississauga Road alignment, the Halton Till is estimated to be approximately 4 m to 23 m thick in the vicinity of the Site and encountered approximately at elevation of 279 m.
  - Creditview Road alignment, the Halton Till is estimated to be approximately 1 m to 9 m thick in the vicinity of the Site and encountered approximately at elevation of 272 m.

- Oak Ridges Moraine – The Oak Ridges Moraine Aquifer was deposited approximately 12,000 to 13,000 years B.P. Regionally, the aquifer is 160 km long and 5 to 20 km wide with a maximum thickness of approximately 150 m. The unit consists of fine sands and silt materials, with coarse sand and gravel occurring locally. A summary of anticipated thickness and elevations for each alignment are as follows:
  - Mayfield Road alignment, the Oak Ridges Moraine is intermittent and has a maximum thickness up to 1.5 m thick and encountered approximately at elevation of 260 m.
  - Old School Road alignment, the Oak Ridges Moraine is intermittent and has a maximum thickness up to 6 m thick and encountered approximately at elevation of 272 m.
  - Heritage Road alignment, the Oak Ridges Moraine is intermittent and has a maximum thickness up to 18 m thick and encountered approximately at elevation of 263 m.
  - Mississauga Road alignment, the Oak Ridges Moraine is intermittent and has a maximum thickness up to 3 m thick and encountered approximately at elevation of 271 m.
  - Creditview Road alignment, the Oak Ridges Moraine is intermittent and has a maximum thickness up to 5 m thick and encountered approximately at elevation of 265 m.
- Newmarket Till – The Newmarket Till including the Upper Newmarket Till, Inter-Newmarket Sediment, and Lower Newmarket Till was deposited by the Laurentide ice sheet approximately 18,000 to 20,000 years B.P. It consists of mainly sandy silt to silty sand with limestone clasts. Discontinuous sand units up to 2 m thick may be present (TRCA, 2010). A summary of anticipated thickness and elevations for each alignment are as follows:
  - Mayfield Road alignment, the Newmarket Till is estimated to be approximately 2 m to 13 m thick and encountered approximately at elevation of 260 m.
  - Old School Road alignment, the Newmarket Till is estimated to be approximately 4 m to 15 m thick and encountered approximately at elevation of 271 m.

  - Heritage Road alignment, the Newmarket Till is estimated to be approximately 2 m to 17 m thick and encountered approximately at elevation of 260 m.
  - Mississauga Road alignment, the Newmarket Till is intermittent and has a maximum thickness up to 15 m and encountered approximately at elevation of 270 m.
  - Creditview Road alignment, the Newmarket Till is estimated to be approximately 2 m to 9 m thick in the vicinity of the Site and encountered approximately at elevation of 263 m.

- Thorncliffe Formation – The Thorncliffe Formation was deposited approximately 45,000 years B.P. and consists of glaciofluvial deposits of sand and silty sand. Regionally, it acts as an aquifer with variable grain size and thickness. A summary of anticipated thickness and elevations for each alignment are as follows:
  - Mayfield Road alignment, the Thorncliffe Formation is intermittent and has a maximum thickness up to 6 m thick and encountered approximately at elevation of 256 m.
  - Old School Road alignment, the Thorncliffe Formation is estimated to be approximately less than 1 m to 12 m thick and encountered approximately at elevation of 264 m.
  - Heritage Road alignment, the Thorncliffe Formation is intermittent and has a maximum thickness up to 1 m thick and encountered approximately at elevation of 248 m.
  - Mississauga Road alignment, the Thorncliffe Formation is estimated to be approximately less than 1 m to 8 m thick and encountered approximately at elevation of 264 m.
  - Creditview Road alignment, the Thorncliffe Formation is intermittent and has a maximum thickness up to 12 m thick and encountered approximately at elevation of 254 m.

Information obtained from the OGRMP shows that the regional groundwater flow is in a southeasterly direction, towards Lake Ontario. Anticipated groundwater conditions for each Road alignment are summarized below:

- Mayfield Road alignment, the water table is anticipated to be encountered between elevation 252 m to 261 m, or between 4 m to 13 m below ground surface.
- Old School Road alignment, the water table is anticipated to be encountered between elevation 262 m to 274 m, or between 4 m to 10 m below ground surface.
- Heritage Road alignment, the water table is anticipated to be encountered between elevation 256 m to 262 m, or between 2 m to 5 m below ground surface.
- Mississauga Road alignment, the water table is anticipated to be encountered between elevation 254 m to 274 m, or between 2 m to 11 m below ground surface.

- Creditview Road alignment, the water table is anticipated to be encountered between elevation 257 m to 268 m, or between 1 m to 6 m below ground surface.

3.4 Existing Borehole, Monitoring Well, and Well Records Information

Based on available borehole and well record information, the subsurface conditions along each alignment are summarized as follows:

- Mayfield Road alignment subsurface conditions generally appear to consist of alternating layers of silty clayey to clayey silt till, sandy silt till to sand & silt till, silt, and sand above shale bedrock. Previous boreholes advanced at the intersection of Mayfield Road and Mississauga Road encountered bedrock at ~6 m below ground surface.

- Old School Road alignment subsurface conditions generally appear to consist of layers of silty clayey to clayey silt and silts and sands and gravel above shale bedrock.

- Heritage Road alignment subsurface conditions generally appear to consist of primarily clay based soil typically overlying sand above shale bedrock.

- Mississauga Road alignment subsurface conditions generally appear to consist of various layers of silty clay to clayey silt till, clay, silty sand till to sand & silt till, sand, gravel, and silt, above shale bedrock. Previous boreholes advanced at the intersection of Mayfield Road and Mississauga Road encountered bedrock at ~6 m below ground surface.

- Creditview Road alignment subsurface conditions generally appear to consist primarily of clay to silty clay till, silt, sand, and gravel above shale bedrock.

Water levels measured in piezometers, monitoring wells, and open boreholes from previous investigations along the Mayfield Road alignment range from elevation 260.9 m to 263.6 m or 1.1 m to 3.8 m below ground surface, which is higher than indicated in the OGRMP cross sections.

A slug test was previously conducted by Thurber in monitoring well 18-C1, screened primarily within the stiff to hard silty clay till deposit, located on Mayfield Road approximately 420 m northeast of Mississauga Road, yielded a hydraulic conductivity value for the silty clay till of 1.1 x 10^{-7} m/s.

3.5 MECP Water Well Records Review

A search of the Ministry of Environment, Conservation and Parks (MECP) well records database conducted with the Study Area returned a total of 295 records. The approximate locations of the well records are shown on Figure 11. A summary of well record details is provided in Table 3, appended.

Of the available 295 well records, 182 of the wells are recorded as water supply wells, 21 wells are listed as either test hole, monitoring and test hole, or observation well, 67 wells are listed as

abandoned, one record is listed as an alteration, one record is listed as 'other status', and 23 well records have an unknown status.

The shallowest water supply well based on the well records was 3.7 m and is located adjacent to Credit View Road, approximately 1.4 km southeast of Old School Road. The deepest water supply well based on the well records was 55.2 m and is located adjacent to Malala Yousafzai Public School on Mayfield Road, approximately 700 northeast of Mississauga Road. The average depth of the water supply wells with the Study Area was approximately 18 m.

The shallowest depth to bedrock recorded on the well records was 1 m, the deepest depth to bedrock recorded on the well records was 36 m, and the average depth to bedrock within the Study Area based on the well records was approximately 15 m.

The shallowest static water level recorded on the well records was 0.3 m, the deepest static water level recorded on the well records was 18.3 m, and the average static water level based on the well records was approximately 4 m.

Considering water supply wells are found within 500 m of all route options, dewatering activities for any of the routes could impact the quantity and/or quality of water obtained by water well users within the radius of influence. A baseline private well survey is recommended to be conducted during final design stages. The private well survey would consist of canvassing well users within the Study Area for background information on their wells and to request permission for Thurber to collect a single water level and non-treated well water sample from their well. The results of the private well survey will assist in verifying potential impacts on well users and provide the data required to document the effects, where permission is given by residents to monitor their wells. Remedial measures that the Region may consider for affected well users include the provision of potable water or assistance with improving or restoring well productivity.

3.6 Existing Water Taking Permits

A search of permitted water takers within the Study Area was conducted in April 2023 and indicated no active PTTW permits existed within the Study Area.

A search of MECP's EASR mapping application in April 2023 indicated one EASR water taking registration for construction dewatering (approval number R-009-1112979734), registered under Northwest Brampton Developments Inc., located approximately 550 m east of the intersection of Mayfield Road and Creditview Road. The location of the EASR registration is illustrated on Figure 12.

3.7 Environmental Features

The MECP mandates the protection of existing and future sources of drinking water under the Clean Water Act, 2006 (CWA). Initiatives undertaken under the CWA include the delineation of wellhead protection areas (WHPAs), significant groundwater recharge areas (SGRAs) and highly vulnerable aquifers (HVAs) as well as the assessment of drinking water quality and quantity threats within Source Protection Regions. A review of the MECP Source Protection Information Atlas mapping indicated that no WHPA are located in the Study Area. SGRAs are located within the Study Area and are located approximately 600 m to 1000 m south of Old School Road and

460 m to 740 m east of Mississauga Road. None of the road options intersect the SGRAs; however, the Mississauga Road alignment is located the nearest to the SGRAs, approximately 460 m west at the nearest point. HVAs are located throughout the Study Area. All road options transect the HVAs.

A review of the Natural Heritage Map by the Ministry of Natural Resources and Forestry (MNRF) in November 2022 indicated that no Areas of Natural Scientific Interest (ANSI) are located within the Study Area. Provincially Significant Wetlands, Non-Provincially Significant Wetlands, and wetlands not evaluated per the Ontario Wetland Evaluation System (OWES) are located throughout the Study Area. The Creditview Road alignment transects a Provincially Significant Wetland. Woodlands are found dispersed throughout the Study area, often located around watercourses.

Tributaries of Etobicoke Creek are found generally in the northern, eastern, and central portions of the Study Area and the Mississauga Road and Creditview Road Alignments directly transect the tributaries. The tributaries of Etobicoke creek are interpreted to be flowing in a general easterly direction towards Etobicoke Creek. Tributaries of the Credit River are found generally in the southern, western, and eastern portions of the Study Area and the Mayfield Road and Heritage Road Alignments directly transect the tributaries. The tributaries of the Credit River are interpreted to be flowing in a general southerly direction towards the Credit River.

The Study Area is not located within the designated areas of the Niagara Escarpment Planning and Development Act or the Oak Ridges Moraine Conservation Act. The Study Area is located within the Credit Valley Source Protection Area (SPA) and Toronto SPA. Credit Valley Conservation (CVC) and Toronto and Region Conservation Authority (TRCA) regulated areas exist within the Study Area, generally situated around the creeks and watercourses. The tributaries of Etobicoke Creek are under the jurisdiction of the TRCA and the tributaries of the Credit River are under the jurisdiction of the CVC.

The environmental features located within the Study Area are illustrated on Figure 13.

4. TECHNICAL EVALUATION OF TRANSMISSION MAIN ALIGNMENT OPTIONS

A geotechnical and hydrogeological comparison of the alignment options for the transmission main is provided in the table below. Given that the vertical alignment of the main is unknown at this time, only general comments are presented for consideration.

Table 1 – Geotechnical and Hydrogeological Comparison of Transmission Main Road Options

Option	Advantages	Disadvantages
Mayfield Road between Heritage Road to Creditview Road	• Oak Ridges Moraine (an aquifer) is very intermittent and thin; therefore, dewatering from Oak Ridges Moraine is anticipated to be minimal in comparison to other road options. Shallow open cut installation likely feasible. • Alignment does not transect any TRCA regulated areas. No approvals from TRCA required. • Alignment does not transect any mapped wetlands. • Relatively small portion of alignment is within HVA areas compared to other road alignments. Decreased risk of impacts from construction activity relative to other alignments.	• Residential buildings southeast of Mayfield Road between Mississauga Road and Creditview Road; risk of building settlement and damage if dewatering performed. • Bedrock surface is shallowest compared to other alignments (ORMGP cross section estimates bedrock as shallow as 8 m and bedrock encountered in a previous borehole at 6 m depth at Mayfield and Mississauga Road). Open excavations within bedrock are more costly and trenchless installations encountering mixed conditions (soil and bedrock) tend to be more costly. • While the ORMGP cross sections indicate groundwater level on average is deeper than other road options, background monitoring well data included readings of 1.1 m to 3.8 m below ground surface. It is anticipated open cut excavations would be below the water table for at least a portion of Mayfield Road • Thorncliffe Formation (an aquifer) is relatively shallow (approximately 10 m below ground surface at shallowest point). It is anticipated high dewatering rates would be required for any open excavations below the groundwater table that encounter aquifers. • Nearby private water supply well records. Private well survey recommended to be conducted. • Transects CVC regulated areas. Project would be subject to CVC approval. • Transects tributaries of the Credit River at multiple locations. However, tributaries appear minor and may be seasonal. Diversions likely feasible for open cut pipe installation. If open

Option	Advantages	Disadvantages
		cut is not feasible, trenchless installation would be required. • Presence of industrial property (Pioneer Hi-Bred Production Ltd.) 250 m northwest of Mayfield Road may be a potential source of contamination to groundwater. • Presence of a stone quarry (GB Stone Inc) northwest of Mayfield Road may be a potential source of contamination to groundwater.
Old School Road between Heritage Road to Creditview Road	• Not many buildings along this alignment that could be impact by dewatering operations. • Absence of commercial or industrial properties suggests that risk of groundwater contamination is low. • Alignment does not transect any TRCA regulated areas. No approvals from TRCA required. • Alignment does not cross any mapped water courses. • Alignment does not transect any mapped wetlands.	• Oak Ridges Moraine (an aquifer) is relatively shallow (5 m to 13 m). Groundwater is also anticipated to be relatively shallow. It is anticipated high dewatering rates would be required for any open excavations below the groundwater table that encounter aquifers. • Nearby private water supply well records. Private well survey recommended to be conducted. • Transects CVC regulated areas. Regulated mapping suggests a potential crossing near Heritage Road however, it appears minor and possibly seasonal, temporary diversion likely feasible. If open cut is not feasible, trenchless installation would be required. • Significant portion of the alignment is within an HVA. Potential for significant impacts (and costs) due to any contaminants or spills during construction.
Heritage Road between Mayfield Road and Old School Road	• Not many buildings along this alignment that could be impact by dewatering operations. • Absence of commercial or industrial properties	• Oak Ridges Moraine (an aquifer) is thickest along this road option in comparison to the other options (18 m at thickest point, compared to 1.5 to 6 m thick for the other options) and shallowest (2 – 9 m deep). Groundwater is also anticipated to be relatively shallow (2 m to 5 m below ground surface). It is anticipated high

Option	Advantages	Disadvantages
	suggests that risk of groundwater contamination is low. • Thorncliffe Formation (an aquifer) is relatively thin (maximum thickness up to 1 m thick) and deep (approximately 22 m deep at shallowest point) therefore unlikely it will be encountered.	dewatering rates would be required for any open excavations below the groundwater table that encounter aquifers. • Nearby private water supply well records. Private well survey recommended to be conducted. • Transects CVC and TRCA regulated areas. Approvals will be required from both agencies. • Transects a tributary of the Credit River. However, tributary appear minor and may be seasonal. Diversions likely feasible for open cut pipe installation. If open cut is not feasible, trenchless installation would be required. • Non-Provincially Significant Wetland located directly adjacent to alignment. Additional approvals may be required if a wetland is within the zone of influence of dewatering activity.
Mississauga Road between Mayfield Road and Old School Road	• Not many buildings along this alignment that could be impact by dewatering operations. • Relatively small portion of alignment is within HVA areas compared to other road alignments. • Bedrock surface is deepest compared to other alignments (17 m below ground surface at shallowest point as per ORMGP cross section, however it is likely much shallower at the southern end as available background borehole data indicates bedrock at 6 m depth at Mayfield and	• Oak Ridges Moraine (an aquifer) is relatively shallow (5 m to 10 m). Groundwater is also anticipated to be relatively shallow. It is anticipated high dewatering rates would be required for any open excavations below the groundwater table that encounter aquifers • Nearby private water supply well records. Private well survey recommended to be conducted. • Transects tributaries of Etobicoke Creek. Trenchless crossing may be required. • Significant portion of the alignment is within an HVA. A HVA is susceptible to impacts from any contaminants or spills during construction. • Alignment is located the nearest to the SGRAs compared to the other options, approximately 460 m west at the nearest point. If any

Option	Advantages	Disadvantages
	Mississauga Road intersection). • Alignment does not transect any mapped wetlands.	contaminants from site reach a SGRA there is potential for significant impacts (and costs). • Transects TRCA regulated areas. TRCA approval will be required. • Presence of industrial property (Pioneer Hi-Bred Production Ltd.) may be a potential source of contamination to groundwater.
Creditview Road between Mayfield and Old School Road	• Not many buildings along this alignment that could be impact by dewatering operations. • Absence of commercial or industrial properties suggests that risk of groundwater contamination is low.	• Oak Ridges Moraine (aquifer) is relatively shallow (3 m to 9 m). Groundwater is also anticipated to be relatively shallow (1 m to 6 m below ground surface). It is anticipated high dewatering rates would be required for any open excavations below the groundwater table that encounter aquifers. • Nearby private water supply well records. Private well survey recommended to be conducted. • Transects TRCA regulated areas. TRCA approvals required. • Adjacent to CVC regulated area. CVC approvals may be required. • Transects tributaries of Etobicoke Creek. Trenchless crossings may be required. • Transects Provincially Significant Wetland. Additional permitting or planning documents likely required if dewatering required to support construction. • Significant portion of the alignment is within an HVA. Potential for significant impacts (and costs) due to any contaminants or spills during construction.

No details are available regarding the transmission main size or depth. It is assumed the invert will be shallow (~2 to 3 m depth unless conflicts are present) and the preferred installed method for the transmission main will be open cut with trenchless (if required) limited to stream crossings or road intersections.

A relatively shallow groundwater table is anticipated for all alignments. Inflows within the Halton Till which is anticipated at surface along all alignments are expected to be low, however significant inflows are possible within Oak Ridges Moraine / upper aquifer or lower Thorncliffe Formation. Based on ORMGP these aquifers may be encountered as shallow as 2 m for the Heritage Road alignment but also shown as within 5 m for all alignments. All routes have nearby private wells, it is recommended to complete a private well survey prior to construction.

Open cut methods are feasible within the low permeability Halton Till even if below the groundwater table however, excavations below the groundwater table within the Oak Ridges Moraine / upper aquifer may not be feasible and will be require a hydrogeological assessment. No background geotechnical borehole data or hydrogeological testing along any routes were available aside from hydrogeological testing within the Halton Till on Mayfield Road.

All routes transect at least one conservation authority regulated area with Heritage Road transecting both TRCA and CVC. No stream flow data was available however, based on the upstream length and publicly available street view images, the watercourses on Mayfield Road, Heritage Road, and Old School Road appear to be minor and possibly seasonally. Open cut using a stream diversion is likely feasible. Stream crossings on Mississauga Road and Creditview Road appear to drain a larger area, with a Provincially Significant Wetland intersecting Creditview Road.

The shallowest bedrock encountered in the review documents was at Mayfield and Mississauga Road at a depth of 5 m.

Glacial till is anticipated at/near surface along all routes (Halton Till), cobbles and boulders may be encountered within glacial tills and should be considered when selecting trenchless methods.

Based on the above, from a geotechnical and hydrogeological perspective an alignment along Creditview Road is the least preferred for open cut installation. There is no clear preference between the remaining routes, therefore the shortest route with the least amount of trenchless crossings is likely preferred.

A geotechnical and hydrogeological comparison of the preferred sites for the new water storage facility is provided in the table below.

Table 2 – Geotechnical and Hydrogeological Comparison of the Preferred Sites for the New Water Storage Facility

Preferred Sites	Advantages	Disadvantages
Site A	• Not many buildings near site that could be impacted by dewatering operations (if required). • Absence of commercial or industrial properties suggests that risk of groundwater contamination is low. • No mapped watercourses or wetlands are within or adjacent to the site.	• Oak Ridges Moraine (an aquifer) is anticipated to be below site. Groundwater is also anticipated to be relatively shallow. If any construction activities require control of groundwater, high inflows would be expected for excavations below the groundwater table that encounter aquifers. • Nearby private water supply well records. Private well survey recommended to be conducted. • Located adjacent to CVC regulated area. Approval from CVC may be required.
Site B	• Not many buildings near site that could be impact by dewatering operations. • Absence of commercial or industrial properties suggests that risk of groundwater contamination is low. • Not located within or adjacent to CVC or TRCA regulated areas. • No mapped watercourses or wetlands are within or adjacent to the site.	• Oak Ridges Moraine (an aquifer) is anticipated to be below site. Groundwater is also anticipated to be relatively shallow. If any construction activities require control of groundwater, high inflows would be expected for excavations below the groundwater table that encounter aquifers. • Nearby private water supply well records. Private well survey recommended to be conducted.
Site C	• Not many buildings near site that could be impact by dewatering operations. • Absence of commercial or industrial properties suggests that risk of groundwater contamination is low. • Not located within or adjacent to CVC or TRCA regulated areas.	• Oak Ridges Moraine (an aquifer) is anticipated to be below site. Groundwater is also anticipated to be relatively shallow. If any construction activities require control of groundwater, high inflows would be expected for excavations below the groundwater table that encounter aquifers. • Nearby private water supply well records. Private well survey recommended to be conducted.

Preferred Sites	Advantages	Disadvantages
	• No mapped watercourses or wetlands are within or adjacent to the site.	• Located partially within HVA. A HVA is susceptible to impacts from any contaminants or spills during construction.
Site D	• Not many buildings near site that could be impact by dewatering operations. • Absence of commercial or industrial properties suggests that risk of groundwater contamination is low. • Not located within or adjacent to CVC or TRCA regulated areas. • No mapped watercourses or wetlands are within or adjacent to the site.	• Oak Ridges Moraine (an aquifer) is anticipated to be below site. Groundwater is also anticipated to be relatively shallow. If any construction activities require control of groundwater, high inflows would be expected for excavations below the groundwater table that encounter aquifers. • Nearby private water supply well records. Private well survey recommended to be conducted. • Located nearest to SGRA compared to other preferred sites (approximately 420 m to the east of Site D). If any contaminants from site reach a SGRA there is potential for significant impacts (and costs).
Site E	• Not many buildings near site that could be impact by dewatering operations. • Absence of commercial or industrial properties suggests that risk of groundwater contamination is low. • Oak Ridges Moraine (an aquifer) does not appear to be present below Site. • Not located within or adjacent to CVC or TRCA regulated areas. • No mapped watercourses or wetlands are within or adjacent to the site.	• Nearby private water supply well records. Private well survey recommended to be conducted.

An elevated storage facility is anticipated.

No geotechnical boreholes were available at or in the vicinity of the sites. Based on the ORMWP cross sections and well records the subsurface conditions are generally similar for all sites. A relatively shallow groundwater table is anticipated. Halton Till is expected at or near surface to ~5 m depth, with more permeable aquifers below 5 m from surface. Bedrock is anticipated between 15 m to 30 m from surface, approximately 15 m at Sites B,C,D, and approximately 20-30 m at Sites A and E.

Excavations within Halton Till are expected to have low infiltration rates. Bearing capacity of Halton Till in generally suitable for light to moderately loaded foundations provided no loose or soft soil are present below. Heavy loaded foundations such as an elevated water tower will likely require a raft or deep foundations.

Excavations which extend below 5 m (such as for drilled caisson foundations) are anticipated to encounter more permeable layers, requiring control of ground loss during bore advancement.

There is no significant preference among the storage facility sites from a geotechnical and hydrogeological perspective. If deep open cut excavations (greater than 5 m) are being considered for any components of the storage facility, there would be a preference for Site E.

5. FUTURE GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATIONS

Once preliminary planning has been completed and the preferred transmission main alignment and location for the new water storage facility have been determined, further geotechnical and hydrogeological investigation and analysis should be completed in support of the preliminary and detailed design. The investigation should include completion of boreholes and monitoring wells along the preferred transmission main alignment and location of the new water storage facility to confirm the stratigraphy and water levels. Hydrogeological testing and water quality sampling should be performed to estimate potential dewatering volumes and potential options for treatment and discharge of groundwater. In addition, it is recommended to conduct a baseline private well survey as discussed in Section 3.2, to assist in verifying potential impacts on well users and provide the data required to document the effects. The requirements for the investigation should be established following selection of the preferred alignment and location of the new storage facility.

6. CLOSURE

We trust this memo meets your requirements. If you have any questions or require further information, please do not hesitate to contact us.

Yours truly,

Thurber Engineering Limited





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Attachments

Statement of Limitations and Conditions
Table 3 – MECP Well Records

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Figure 10 – Regional Cross Section E – E' Creditview Road
Figure 11 – MECP Well Records
Figure 12 – Permitted Water Takers
Figure 13 – Natural Features

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STATEMENT OF LIMITATIONS AND CONDITIONS

1. STANDARD OF CARE

This Report has been prepared in accordance with generally accepted engineering or environmental consulting practices in the applicable jurisdiction. No other warranty, expressed or implied, is intended or made.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report, which is of a summary nature and is not intended to stand alone without reference to the instructions given to Thurber by the Client, communications between Thurber and the Client, and any other reports, proposals or documents prepared by Thurber for the Client relative to the specific site described herein, all of which together constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. THURBER IS NOT RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives and purposes that were described to Thurber by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the Report, subject to the limitations provided herein, are only valid to the extent that the Report expressly addresses proposed development, design objectives and purposes, and then only to the extent that there has been no material alteration to or variation from any of the said descriptions provided to Thurber, unless Thurber is specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT THURBER'S WRITTEN CONSENT AND SUCH USE SHALL BE ON SUCH TERMS AND CONDITIONS AS THURBER MAY EXPRESSLY APPROVE. Ownership in and copyright for the contents of the Report belong to Thurber. Any use which a third party makes of the Report, is the sole responsibility of such third party. Thurber accepts no responsibility whatsoever for damages suffered by any third party resulting from use of the Report without Thurber's express written permission.

5. INTERPRETATION OF THE REPORT

a) Nature and Exactness of Soil and Contaminant Description: Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and the Client and all other persons making use of such documents or records with our express written consent should be aware of this risk and the Report is delivered subject to the express condition that such risk is accepted by the Client and such other persons. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. If special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

b) Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to Thurber. Thurber has relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, Thurber does not accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by Thurber. Thurber is entitled to rely on such representations, information and instructions and is not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.

c) Design Services: The Report may form part of design and construction documents for information purposes even though it may have been issued prior to final design being completed. Thurber should be retained to review final design, project plans and related documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the Report's recommendations and the final design detailed in the contract documents should be reported to Thurber immediately so that Thurber can address potential conflicts.

d) Construction Services: During construction Thurber should be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions in order to confirm and document that the site conditions do not materially differ from those interpreted conditions considered in the preparation of the report. Adequate field reviews are necessary for Thurber to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

6. RELEASE OF POLLUTANTS OR HAZARDOUS SUBSTANCES

Geotechnical engineering and environmental consulting projects often have the potential to encounter pollutants or hazardous substances and the potential to cause the escape, release or dispersal of those substances. Thurber shall have no liability to the Client under any circumstances, for the escape, release or dispersal of pollutants or hazardous substances, unless such pollutants or hazardous substances have been specifically and accurately identified to Thurber by the Client prior to the commencement of Thurber's professional services.

7. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on Thurber's interpretation of conditions revealed through limited investigation conducted within a defined scope of services. Thurber does not accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes but is not limited to decisions made to develop, purchase or sell land.

Table 3 - MECP Well Records

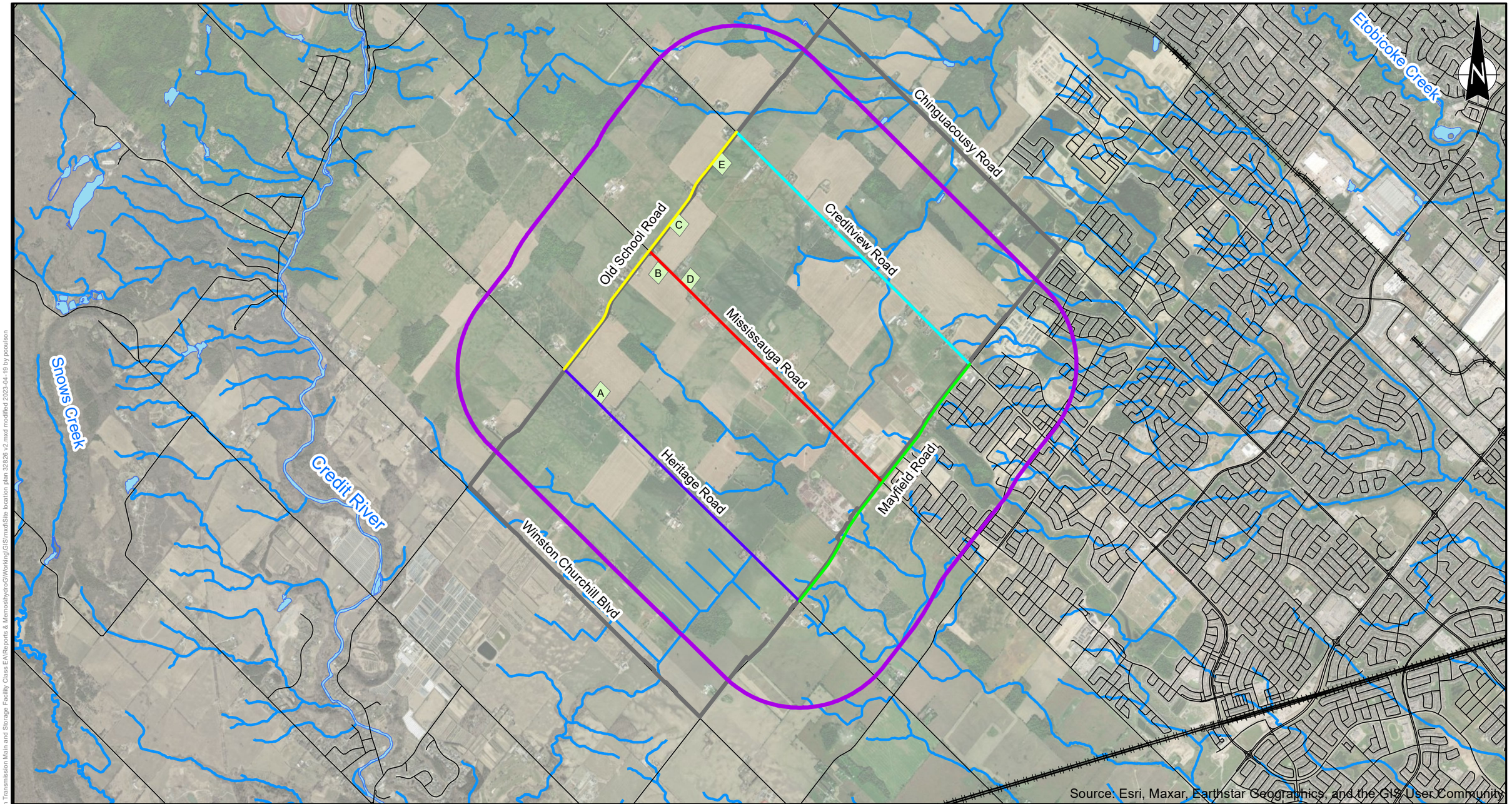
Well ID	Date Completed	Depth of Well (m)	Depth to Bedrock (m)	Static Water Level (m)	UTM Zone 17		Well Use
					Easting	Northing	
4901920	1962-09-15	16.2	6	12.5	591428.4997	4838492.999	Water Supply
4901921	1962-01-15	12.5	10	7	591618.4996	4839069	Water Supply
4901822	1962-09-05	9.4	-	5.8	592704.5003	4839208	Water Supply
4901823	1963-05-25	13.7	-	8.5	592574.5001	4839283	Water Supply
4901826	1963-05-04	13.4	-	6.1	592332.4996	4840015	Water Supply
4901827	1963-06-21	11.6	-	6.4	592463.4998	4839491	Water Supply
4901828	1964-04-04	12.8	-	6.1	592384.5002	4840099	Water Supply
4901829	1964-05-09	18.9	10	4.9	592194.5002	4839825.999	Water Supply
4901830	1959-12-22	11	-	4.9	591958.5002	4840092	Water Supply
4901831	1960-08-24	9.8	-	4.3	592029.5001	4839794	Water Supply
4901832	1962-08-22	15.2	-	1.8	592497.5001	4840313	Water Supply
4901836	1962-10-10	20.7	-	8.5	590140.5	4841747	Water Supply
4901838	1965-04-09	35.7	-	4.3	589388.4998	4842537	Water Supply
4901922	1962-03-02	27.4	10	10.7	591695.5002	4839137	Water Supply
4901923	1962-04-21	13.4	8	7.3	591736.4999	4839270	Water Supply
4901924	1960-12-13	11	8	-	591654.4998	4839192.999	Abandoned-Supply
4901925	1960-12-15	48.2	11	5.5	591654.4998	4839192.999	Water Supply
4901926	1960-05-21	9.1	-	4.6	591379.5002	4840396	Water Supply
4901927	1962-08-04	16.8	12	9.1	591428.4999	4840246	Water Supply
4901928	1959-11-19	7.6	-	3	590464.5002	4839802.999	Water Supply
4901929	1960-07-09	5.5	-	-	590797.4998	4840956	Water Supply
4901930	1961-01-09	22.9	-	-	590301.5	4839742	Water Supply
4901931	1960-05-25	7.3	-	3.7	589179.4998	4840730	Water Supply
4901932	1964-12-12	28	-	4.6	590099.4998	4841536.999	Water Supply
4901933	1965-04-01	32.9	15	7.6	589138.5	4840720	Water Supply
4901934	1956-08-21	21.3	-	2.4	589845.5004	4841818	Water Supply
4902025	1962-11-05	11	-	6.1	591875.4997	4837954	Water Supply
4902026	1962-08-27	17.1	11	6.7	590925.4997	4837999	Water Supply
4902027	1967-08-31	9.8	-	5.2	590874.5003	4837854	Water Supply
4902028	1965-07-17	13.4	10	6.1	590836.5003	4838908	Water Supply
4902029	1965-07-21	16.8	10	2.1	590814.5001	4838923	Water Supply
4902030	1959-11-21	10.1	-	3.4	590034.4999	4839443	Water Supply
4902031	1962-07-03	9.8	-	6.1	589522.5003	4840236.999	Water Supply
4902032	1967-06-21	9.1	-	3	589656.5003	4840106	Water Supply
4902033	1962-02-16	22.9	-	3	588665.4999	4839310	Water Supply
4902034	1958-12-13	15.2	-	6.1	588198.3998	4839928	Water Supply
4902035	1962-01-25	41.8	36	12.2	588248.3997	4839988	Water Supply
4902036	1962-12-24	42.1	24	0.9	588223.4001	4839893	Water Supply
4902101	1957-10-15	19.8	11	4.6	590348.4999	4837238	Water Supply
4902105	1961-12-19	28	24	5.5	589275.4998	4838044	Water Supply
4902106	1962-11-05	32.9	30	2.4	589238.5004	4838640.999	Water Supply
4902984	1968-09-24	17.7	12	3.7	588814.5004	4840472.999	Water Supply
4903082	1968-06-10	14	-	1.5	590434.5002	4837463	Water Supply
4903108	1968-10-22	3.7	-	1.8	590864.5001	4840793	Water Supply
4903158	1969-06-11	9.8	-	0.9	589764.5	4838273	Water Supply
4903245	1969-05-15	12.2	-	6.1	588664.5003	4839223	Water Supply
4903246	1969-05-26	12.2	-	5.5	588064.4003	4839723	Water Supply
4903247	1969-05-17	13.7	-	6.1	588044.4002	4839773	Water Supply
4903312	1969-08-09	9.1	-	1.8	589024.5003	4838873	Water Supply
4903347	1969-12-03	13.1	-	3	588764.4997	4839273	Water Supply
4903380	1969-09-11	29	-	1.2	588114.3998	4839723	Water Supply
4903388	1968-09-23	6.1	-	4	588694.4999	4839173	Water Supply
4903439	1970-05-27	8.5	-	-	591214.5	4840503	Water Supply
4903441	1970-06-15	13.7	-	4.6	588714.5003	4839213	Water Supply
4903474	1970-07-28	15.2	-	4.6	588184.4003	4839872.999	Water Supply
4903475	1970-07-24	12.2	-	3.7	588414.4001	4839783	Water Supply
4903476	1970-06-26	12.2	-	3	587764.3997	4840122.999	Water Supply
4903515	1970-11-03	8.5	-	-	591224.5	4840472.999	Water Supply
4903517	1970-11-05	7.9	-	-	591244.4997	4840443	Water Supply
4903518	1970-09-04	12.5	-	6.1	588414.4997	4841323	Water Supply

Well ID	Date Completed	Depth of Well (m)	Depth to Bedrock (m)	Static Water Level (m)	UTM Zone 17		Well Use
					Easting	Northing	
4903637	1971-06-16	12.2	12	4.6	589474.5004	4840283	Water Supply
4903723	1971-12-16	34.1	12	3	589514.5001	4840233	Water Supply
4903797	1971-08-09	9.8	-	1.2	590364.5001	4842423	Water Supply
4903850	1972-06-13	18	-	14	589414.4997	4841273	Water Supply
4903851	1972-06-17	23.2	23	18.3	587914.4001	4840073	Water Supply
4904129	1973-07-12	29	23	5.5	592610.4999	4838820.999	Water Supply
4904139	1973-07-06	18.9	18	1.8	590807.5	4839014	Water Supply
4904865	1976-04-19	12.8	-	6.1	590324.5003	4837789	Water Supply
4904062	1972-11-13	12.2	-	4.9	588475.3999	4839465	Water Supply
4904063	1973-02-10	8.2	-	1.2	589657.4998	4838411	Water Supply
4904147	1973-07-11	9.8	-	3	588617.5002	4840227	Water Supply
4904289	1973-02-18	10.1	-	2.4	587612.4	4839061	Water Supply
4904328	1973-02-05	11	-	0.9	587630.4003	4838936	Water Supply
4904346	1973-08-01	16.2	-	-	589433.5004	4841346.999	Water Supply
4904347	1973-08-18	8.5	-	3.7	590240.4999	4842433	Water Supply
4904582	1974-10-03	8.8	-	-	591281.4998	4840757	Water Supply
4904583	1974-10-01	9.1	-	0.9	591311.4997	4840719	Water Supply
4905047	1976-09-17	55.2	5	-	591614.4999	4839202.999	Water Supply
4905056	1976-08-04	10.4	-	1.2	590314.5	4837822.999	Water Supply
4905057	1976-08-05	10.4	-	1.2	590314.5	4837822.999	Water Supply
4905071	1977-03-08	13.7	12	6.1	591574.5002	4840183	Water Supply
4905120	1977-05-23	8.5	6	3.7	591864.4998	4839273	Water Supply
4905205	1977-08-10	30.2	16	3.7	589714.4998	4840223	Water Supply
4905206	1977-08-15	29.9	16	3	589714.4998	4840223	Water Supply
4905252	1977-08-15	14.6	12	4.6	591714.4999	4839973	Water Supply
4905253	1977-09-14	9.1	-	2.7	590214.4997	4842423	Water Supply
4905319	1977-12-16	34.1	14	0.3	590414.5001	4839523	Water Supply
4906781	1987-10-02	24.4	8	-	590216.4998	4839666	Water Supply
4906782	1987-09-30	38.1	23	-	590216.4998	4839666	Abanoned-Quality
4905340	1978-03-27	21.9	12	0.3	590264.4999	4839673	Abandoned-Supply
4905360	1978-05-20	7.6	-	1.5	590464.5001	4841473	Water Supply
4905361	1978-05-28	16.2	-	6.1	588464.5	4840423	Water Supply
4905400	1977-08-12	13.1	-	3	590314.5001	4839573	Water Supply
4905426	1978-07-26	16.8	16	3	588714.5003	4840173	Water Supply
4905436	1978-08-07	10.7	-	2.4	590964.4999	4838822.999	Water Supply
4905555	1979-10-30	14.9	11	4.6	590364.4997	4837423	Water Supply
4905569	1979-11-22	10.4	6	4.6	590514.5004	4837393	Water Supply
4906895	1988-08-18	14.9	-	2.7	590602.4998	4839292.999	Water Supply
4905694	1976-07-15	24.1	-	3.7	588282.3997	4839637	Water Supply
4905758	1980-11-13	11.9	-	1.5	590314.5004	4842273	Water Supply
4905840	1981-05-21	11	-	3	590014.4997	4837903	Water Supply
4905841	1981-07-07	10.7	-	1.8	590364.5003	4842373	Water Supply
4905928	1980-11-20	11	-	1.8	590364.4998	4842322.999	Water Supply
4905930	1981-11-19	10.4	-	3	589414.4999	4842223	Water Supply
4905955	1982-08-31	21	-	4.6	589814.4996	4841823	Water Supply
4905976	1982-02-12	8.5	-	0.9	589894.5003	4838343	Water Supply
4905980	1982-09-22	15.2	-	6.1	589514.4998	4841323	Water Supply
4905988	1982-08-29	15.8	-	6.1	589514.4998	4841323	Water Supply
4906035	1982-08-05	19.5	17	3	588634.5001	4840263	Water Supply
4906102	1983-08-21	9.8	-	0.3	587590.4002	4840240	Water Supply
4906162	1983-08-04	24.4	21	-	590816.4996	4840951	Water Supply
4906269	1984-11-19	12.5	10	5.2	591237.4996	4838964	Water Supply
4906270	1984-11-09	11.6	7	4.3	591193.4999	4838868	Water Supply
4906271	1984-10-13	19.2	-	4.6	589355.0003	4839544	Water Supply
4906275	1984-08-14	15.2	8	1.5	591008.4999	4838969	Water Supply
4906277	1984-06-16	18.9	11	1.5	591037.5003	4838904	Water Supply
4906278	1984-10-17	18.9	15	5.8	588909.5001	4840617	Water Supply
4906282	1984-04-11	14	-	6.1	588499.9	4838435	Water Supply
4906313	1985-05-07	36.6	29	3.4	591033.5003	4838415.999	Water Supply
4906319	1985-06-21	36.6	16	4.6	590594.4997	4837423	Water Supply

Well ID	Date Completed	Depth of Well (m)	Depth to Bedrock (m)	Static Water Level (m)	UTM Zone 17		Well Use
					Easting	Northing	
4906527	1986-05-28	9.4	7	1.5	589545.5	4842348.999	Water Supply
4906599	1986-10-22	36.6	18	3.7	588934.4997	4838001	Water Supply
4906705	1987-07-25	9.8	-	0.9	590862.4997	4841054	Water Supply
4906719	1986-05-14	9.8	7	3.4	592119	4839697	Water Supply
4906720	1986-09-18	14.9	9	11	591703.5	4839169	Water Supply
4906748	1987-10-20	13.4	12	3.7	591827.4999	4839950	Water Supply
4906793	1987-01-27	29	20	3	590935.5002	4837913	Water Supply
4906804	1988-03-08	9.1	1	4.6	590523.8998	4839440	Water Supply
4906807	1987-12-10	26.8	21	1.8	590447.5003	4839350	Water Supply
4906810	1988-01-11	29.3	22	1.8	590668.4996	4838245	Water Supply
4906850	1988-01-10	18.9	-	3	591649.0001	4840163	Water Supply
4906872	1987-07-27	12.8	-	4.3	592319.5	4840120	Water Supply
4906873	1987-06-16	12.5	-	3.7	592386.5	4840156	Water Supply
4907659	1992-04-20	22.6	-	6.1	588642.5001	4839246	Water Supply
4907660	1992-07-09	23.2	17	1.8	591076.5002	4838943	Water Supply
4907661	1992-07-09	23.2	16	2.1	591104.5003	4838985	Water Supply
4908532	1999-12-14	42.1	21	5.5	588634.9996	4841205	Water Supply
4906936	1988-09-15	21.9	18	12.2	590997.5	4838300	Water Supply
4906959	1988-10-06	9.8	-	5.2	590585.5002	4839160	Water Supply
4906986	1988-11-10	11.9	-	4.6	589959.5001	4837905	Water Supply
4906987	1988-09-20	10.4	-	3	590935.5002	4837913	Water Supply
4906993	1988-11-20	13.4	-	3	589736.4997	4840392	Water Supply
4907025	1988-07-11	14.9	10	3	588648.4997	4840227	Water Supply
4907086	1989-03-28	11.3	-	3.7	588415.4	4839500	Water Supply
4907132	1989-04-15	18.3	-	6.1	589870.0003	4841866	Water Supply
4907180	1989-06-20	17.1	-	4.6	588642.5001	4839246	Water Supply
4907410	1989-08-28	17.4	-	6.1	592259.5003	4839193	Water Supply
4907615	1991-09-10	15.8	-	3	590154.9996	4839714	Water Supply
4907770	1993-08-12	43	8	11.6	591697.9002	4839144	Water Supply
4907822	1993-03-20	12.5	-	3	590836.9998	4840947	Water Supply
4907824	1993-07-26	14	-	3	589202.4998	4842469	Water Supply
4907894	1993-02-05	-	-	-	589972.9999	4836819	Unknown
4907895	1993-01-26	-	-	-	590574.9997	4837312	Unknown
4907896	1993-02-02	-	-	-	590640.9997	4836643.18	Unknown
4907936	1994-09-20	18.9	-	10.7	592695.0004	4839112	Water Supply
4908107	1995-07-27	29.3	15	5.5	591720.5002	4839203	Water Supply
4908196	1996-06-04	14.6	-	6.4	592751.4997	4840011	Water Supply
4908315	1998-02-23	23.5	10	1.8	590987.5004	4838868	Water Supply
4908321	1998-02-02	26.2	-	9.8	588028.4002	4840855.999	Water Supply
4908347	1997-10-15	8.5	-	0.6	591500.9002	4840139.999	Water Supply
4908362	1998-09-16	18.3	-	2.1	588800.8998	4839189.999	Water Supply
4908378	1998-10-08	29.3	-	0.3	590513.0004	4839410	Water Supply
4908427	1999-02-16	9.4	-	0.9	591042.8999	4840688	Water Supply
4908606	2000-03-07	19.8	14	5.8	591099.9999	4838890	Water Supply
4908607	2000-02-18	24.4	17	5.2	591013.9996	4839038	Water Supply
4908608	2000-02-17	15.2	12	-	590864.0003	4839009	Abandoned-Supply
4908609	2000-02-17	19.8	15	-	591172	4838953	Abandoned-Supply
4908610	2000-02-16	15.2	8	-	590822	4839053	Abandoned-Supply
4908611	2000-02-15	18.3	12	-	591109.9998	4838750	Abandoned-Supply
4908612	2000-02-14	23.2	17	-	590980.0001	4839000	Abandoned-Supply
4908664	2000-11-17	28.7	13	5.5	589638.9999	4839965	Water Supply
4908822	2000-07-25	30.2	30	2.4	590432.0002	4839466	Water Supply
4908986	2001-03-31	26.8	23	3	587869.9997	4840060	Water Supply
4909094	2002-11-21	-	-	-	591766	4839782	Abanoned-Quality
4909227	2003-08-07	17.4	-	3	590593.8997	4840225	Water Supply
4909476	2004-06-14	26.6	25	2.1	588816.0001	4839153.999	Water Supply
4909579	2004-04-23	7.5	6	-	591756.9997	4839306	Observation Wells
4910346	2006-08-24	22.6	-	-	590366	4839206	Water Supply
7042431	2007-03-01	-	-	4.3	592366.9998	4839983	Abandoned-Other
7050265	2007-07-23	12.8	-	1.5	591161.0002	4840773	Water Supply

Well ID	Date Completed	Depth of Well (m)	Depth to Bedrock (m)	Static Water Level (m)	UTM Zone 17		Well Use
					Easting	Northing	
7051723	2007-05-23	-	-	-	592228.0002	4839797	Abandoned-Other
7051682	2007-10-22	-	-	-	592131.9999	4839675	Abandoned-Other
7052300	2007-10-22	11.3	-	-	591999.9997	4838726	Observation Wells
7101926	2008-01-04	10.4	-	-	590440	4841475.999	Water Supply
7105948	2008-05-30	-	-	0.7	590440.0001	4841482	Abandoned-Other
7117974	2008-05-29	25.6	-	1.5	589024.9997	4838755	Water Supply
7120767	2008-12-05	-	-	-	592245.9996	4839183	Abandoned-Other
7120768	2008-12-05	-	-	-	592245.9996	4839183	Abandoned-Other
7122502	2009-03-03	28	-	2.7	591495.9997	4838340	Water Supply
7129459	2009-07-16	10.7	-	-	592535.0001	4840220.999	Test Hole
7129459	2009-07-15	-	-	-	592532.0004	4840218.999	Test Hole
7129459	2009-07-15	-	-	-	592559.0001	4840263	Test Hole
7140031	2009-11-20	42	-	7.3	588818	4841345	Abanoned-Quality
7140032	2009-11-20	-	-	2.6	588775.0003	4841318	Unknown
7140485	2009-10-08	29.9	-	6.3	588809.0003	4841313	Water Supply
7140878	2009-01-01	25.3	-	2.7	587848.0001	4840102	Water Supply
7144809	2010-04-28	31.1	-	-	589621.9997	4840215	Water Supply
7147073	2010-05-18	-	-	1.8	589636.9997	4840259	Abanoned-Quality
7147077	2010-05-18	-	-	2.1	589638.0001	4840272	Abandoned-Other
7151765	2010-07-29	34.4	-	7	587582.9997	4839115	Water Supply
7157651	2011-01-05	6.1	-	-	592256.9999	4838993	Monitoring and Test Hole
7157652	2011-01-05	6.1	-	-	592266.9999	4839345	Monitoring and Test Hole
7157653	2011-01-05	6.1	-	-	592241	4838923	Monitoring and Test Hole
7157699	2010-12-29	6.1	-	-	592669	4838827	Monitoring and Test Hole
7157700	2010-12-29	5.9	-	-	592670.9997	4838841	Monitoring and Test Hole
7163004	2011-04-30	-	-	5.5	591663.0002	4840165	Water Supply
7167282	2011-08-10	8.5	-	2.8	591158.9996	4840472	Water Supply
7169918	2011-09-14	-	-	-	590546.0002	4842223.999	Alteration
7181413	2012-04-27	-	-	-	589263.0002	4838851	Abandoned-Other
7190554	2012-08-31	-	-	1.5	592277.9998	4839185	Abandoned-Other
7190558	2012-09-20	-	-	-	592471	4838984	Abandoned-Other
7190559	2012-09-20	-	-	-	592280.0003	4839183	Abandoned-Other
7190560	2012-10-18	-	-	-	592254.0003	4839219	Abandoned-Other
7190562	2012-09-20	-	-	-	592245.0003	4839221	Unknown
7190563	2012-10-18	-	-	-	592240.0002	4839230	Abandoned-Other
7190848	2012-10-26	-	-	-	590275.0002	4839732.999	Abandoned-Other
7192520	2012-11-17	-	-	-	592227.9998	4839641	Unknown
7199074	2012-11-15	-	-	-	591800.0001	4838106	Abandoned-Other
7199075	2012-11-15	-	-	-	591755.0001	4838143	Abandoned-Other
7199076	2012-11-15	-	-	-	591749.0004	4838152	Abandoned-Other
7202205	2013-05-17	-	-	-	589668.0001	4840121	Abandoned-Other
7202206	2013-05-17	-	-	-	589700.0003	4840118	Abandoned-Other
7202938	2013-05-17	6.4	-	0.8	590800.0001	4840844.999	Water Supply
7203004	2013-05-15	-	-	-	591225.0004	4838725	Unknown
7206084	2013-07-09	-	-	-	590670.0003	4839305	Abandoned-Other
7206088	2013-07-08	31.1	-	0.4	590671.9997	4839304	Water Supply
7213631	2013-11-14	-	-	-	591109.9997	4838979	Unknown
7213632	2013-11-14	-	-	-	591093.0004	4838870	Unknown
7215502	2013-12-10	-	-	-	591820.0002	4839330	Unknown
7217246	2014-02-19	6.1	-	-	591124.0003	4838748	Observation Wells
7217247	2014-02-19	4.6	-	-	591719.0001	4838141	Observation Wells
7217871	2014-02-20	33.1	-	2.8	589286.9996	4838593.999	Water Supply
7223716	2014-02-01	-	-	-	592572.9998	4840290	Test Hole
7224620	2013-02-04	-	-	-	592714.9999	4840473	Unknown
7224624	2014-02-01	-	-	-	591951.9999	4839508	Unknown
7225093	2014-07-17	-	-	-	591183.9998	4840788	Abandoned-Other
7230083	2014-07-15	-	-	-	592442.9996	4839874.999	Unknown
7238742	2014-07-01	-	-	-	592755.0004	4839081	Abandoned-Other
7240598	2015-03-26	37.2	-	5.8	590756.9998	4838184	Water Supply
7240739	2015-04-22	-	-	6	592768.9999	4839128	Abandoned-Other

Well ID	Date Completed	Depth of Well (m)	Depth to Bedrock (m)	Static Water Level (m)	UTM Zone 17		Well Use
					Easting	Northing	
7241071	2015-01-19	6.1	-	-	592359.9998	4839860	Monitoring and Test Hole
7246131	2015-07-28	-	-	-	592588.9998	4839306	Abandoned-Other
7246950	2015-07-22	6.1	-	-	592736.9998	4839120	Test Hole
7246951	2015-07-22	6.1	-	-	592731.9999	4839124	Test Hole
7246952	2015-07-22	6.1	-	-	592716.9998	4839136.999	Test Hole
7246691	2015-07-22	-	-	-	590991.0002	4838019.999	Abandoned-Other
7246692	2015-07-22	-	-	-	590018.0004	4838012	Abandoned-Other
7246693	2015-07-22	-	-	-	591007.0003	4838025	Abandoned-Other
7247332	2015-07-02	31.1	-	-	590671.9997	4839304	Unknown
7247830	2015-08-12	-	-	-	592511	4839519	Unknown
7248961	2015-08-27	-	-	-	590384.9999	4839414	Abandoned-Other
7249558	2015-09-03	-	-	-	592741.0003	4839107.999	Abandoned-Other
7250909	2015-06-24	4.6	-	-	593017.0001	4839785	Observation Wells
7253222	2015-11-05	-	-	-	592737.9998	4839112	Abandoned-Other
7253223	2015-11-05	-	-	-	592740	4839122	Abandoned-Other
7253224	2015-11-05	-	-	-	592723.0001	4839137	Abandoned-Other
7253231	2015-10-15	-	-	-	591727.0002	4839136.999	Abandoned-Other
7253232	2015-10-09	-	-	-	591718.0003	4839137	Abandoned-Other
7253233	2015-10-15	-	-	-	591720	4839131	Abandoned-Other
7253234	2015-10-09	-	-	-	591734.0001	4839125.999	Abandoned-Other
7268115	2016-07-20	-	-	-	591078.9999	4838835	Unknown
7271271	2016-08-27	-	-	-	592608	4839171	Unknown
7275589	2016-09-21	-	-	-	591475.0003	4838455	Abandoned-Other
7275590	2016-09-21	-	-	-	591504.9997	4838487	Abandoned-Supply
7275591	2016-09-21	-	-	-	591568.0001	4838494	Abandoned-Other
7275592	2016-09-21	-	-	-	591495.9998	4838489	Abandoned-Other
7275593	2016-09-21	-	-	-	591534	4838476	Abandoned-Other
7277991	2016-11-24	-	-	-	588226.9997	4839667	Abandoned-Other
7283209	2016-11-24	6.1	-	-	592866	4839880	Monitoring and Test Hole
7288314	2017-03-17	-	-	4.6	592352.9999	4839856	Abandoned-Other
7288315	2017-03-17	-	-	-	592343.0002	4839946	Abandoned-Other
7288316	2017-03-17	-	-	-	592352.9999	4839856	Abandoned-Other
7288317	2017-03-17	-	-	6.1	592343.0002	4839946	Abandoned-Other
7295260	2017-08-31	-	-	-	593033.0004	4839906	Abandoned-Other
7297960		-	-	-	588624.0003	4839672	Abandoned-Other
7303104	2017-11-09	20	-	-	592365.0002	4839948	Unknown
7314273	2018-06-08	-	-	-	591661.0004	4839370.999	Abandoned-Other
7325193		-	-	-	592532.0004	4840218.999	Unknown
7340643	2019-07-24	19.2	-	5.5	589843.9999	4841799	Water Supply
7340648	2019-07-24	14.3	-	2.1	591040.0001	4838931	Water Supply
7345206	2019-10-16	-	-	-	590670.0003	4837845	Abandoned-Other
7345207	2019-10-16	-	-	-	590670.0003	4837845	Abandoned-Other
7345438	2019-07-26	-	-	-	589835	4841806.999	Other Status
7346716	2019-10-18	-	-	-	592618.9999	4840532	Abandoned-Other
7353751	2020-01-23	6.1	-	-	590599.0001	4837597	Monitoring and Test Hole
7362857	2020-06-25	-	-	-	592539.0001	4840304	Abandoned-Other
7362870	2020-06-25	-	-	-	592348	4840198	Abandoned-Other
7366601	2020-03-02	-	-	-	590900.9998	4838082	Unknown
7380023	2021-01-09	-	-	-	589746	4840067	Unknown
7388459	2021-05-12	-	-	-	587817.0002	4839121	Abandoned-Other
7401782	2021-10-15	13.4	-	-	590528.0001	4837518	Observation Wells
7405004	2021-11-10	-	-	-	589749.9999	4840057	Abandoned-Other
7405511	2021-07-15	-	-	-	591459.0001	4838225	Unknown
7407866	2021-06-24	25.3	-	4.4	591668.0003	4840162	Water Supply



LEGEND:

- Mayfield Road
- Creditview Road
- Mississauga Road
- Heritage Road
- Old School Road
- Study Area (1000 m Buffer)
- A — Preferred Sites
- Infrastructure Focus Area
- Waterbody
- Watercourse
- Road
- Railway

1,000 500 0 1,000 m

UTM 17 NAD 83

GM BLUEPLAN ENGINEERING LTD.
REGION OF PEEL

GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

SITE LOCATION MAP

PROJECT No. **32826**

THURBER ENGINEERING LTD.

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DATE:	SCALE:	FIGURE NO.
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Old School Road
Creditview Road
Chinguacousy Road
Mississauga Road
Heritage Road
Mayfield Road
Winston Churchill Blvd
Etobicoke Creek
Credit River
Snows Creek
A
B
C
D
E
N
1,000 500 0 1,000 m
UTM 17 NAD 83
Geohub Open Data Portal, MNRF, Ministry of Natural Resources and Forestry, accessed April 2023
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

LEGEND:

- Mayfield Road
- Creditview Road
- Mississauga Road
- Heritage Road
- Old School Road
- Study Area (1000 m Buffer)
- A — Preferred Sites
- Infrastructure Focus Area
- Waterbody
- Watercourse
- Road
- Railway
- Contour (m)

R.V. ANDERSON ASSOCIATES LTD.
REGION OF PEEL

GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

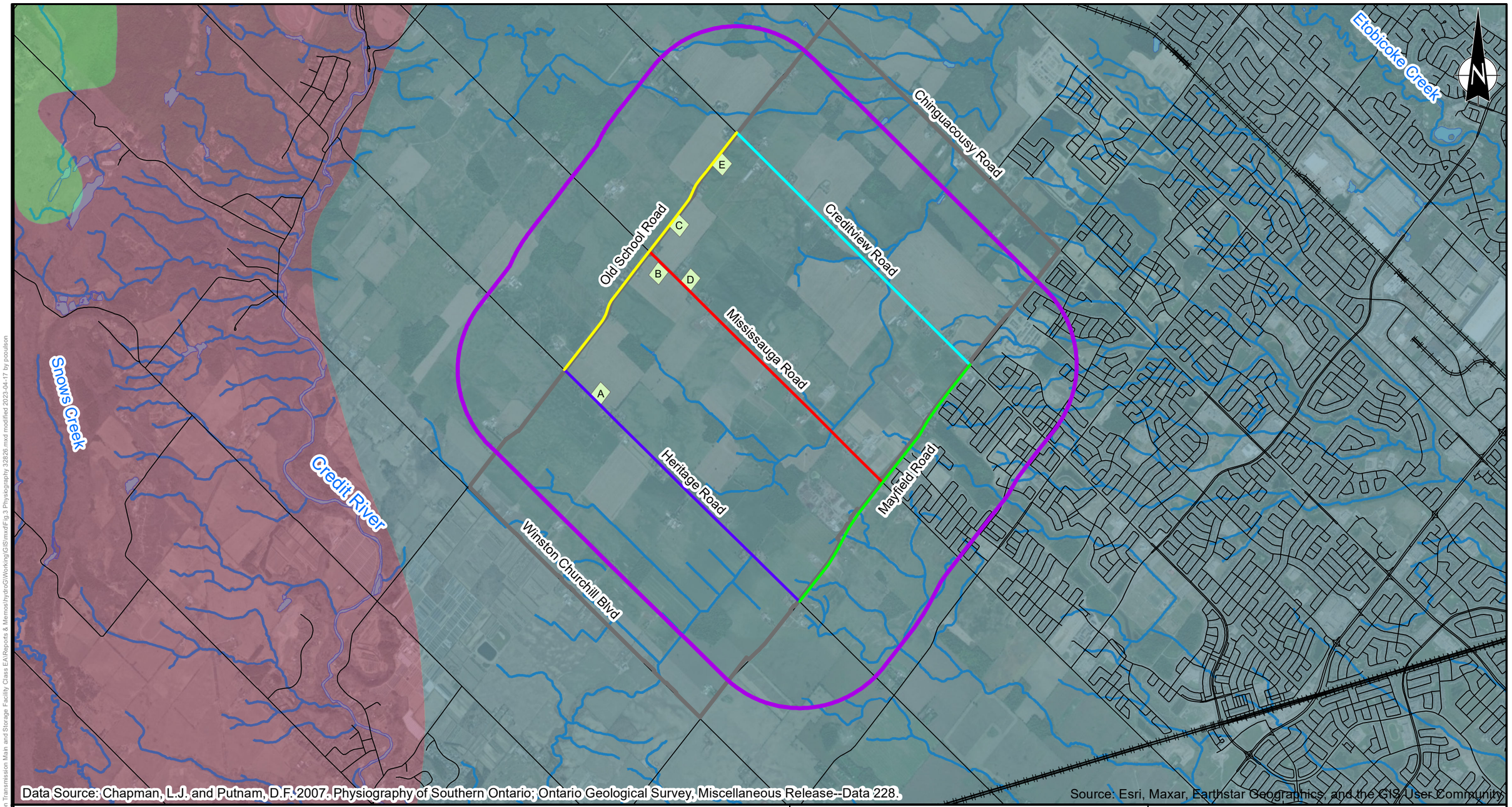
TOPOGRAPHY

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Data Source: Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 228.

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

LEGEND:

- Study Area (1000 m Buffer)
- A — Preferred Sites
- Waterbody
- Watercourse
- Road
- Railway

Physiographic Region

- Horseshoe Moraines
- Niagara Escarpment
- South Slope

1,000 500 0 1,000 m

UTM 17 NAD 83

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REGION OF PEEL

GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

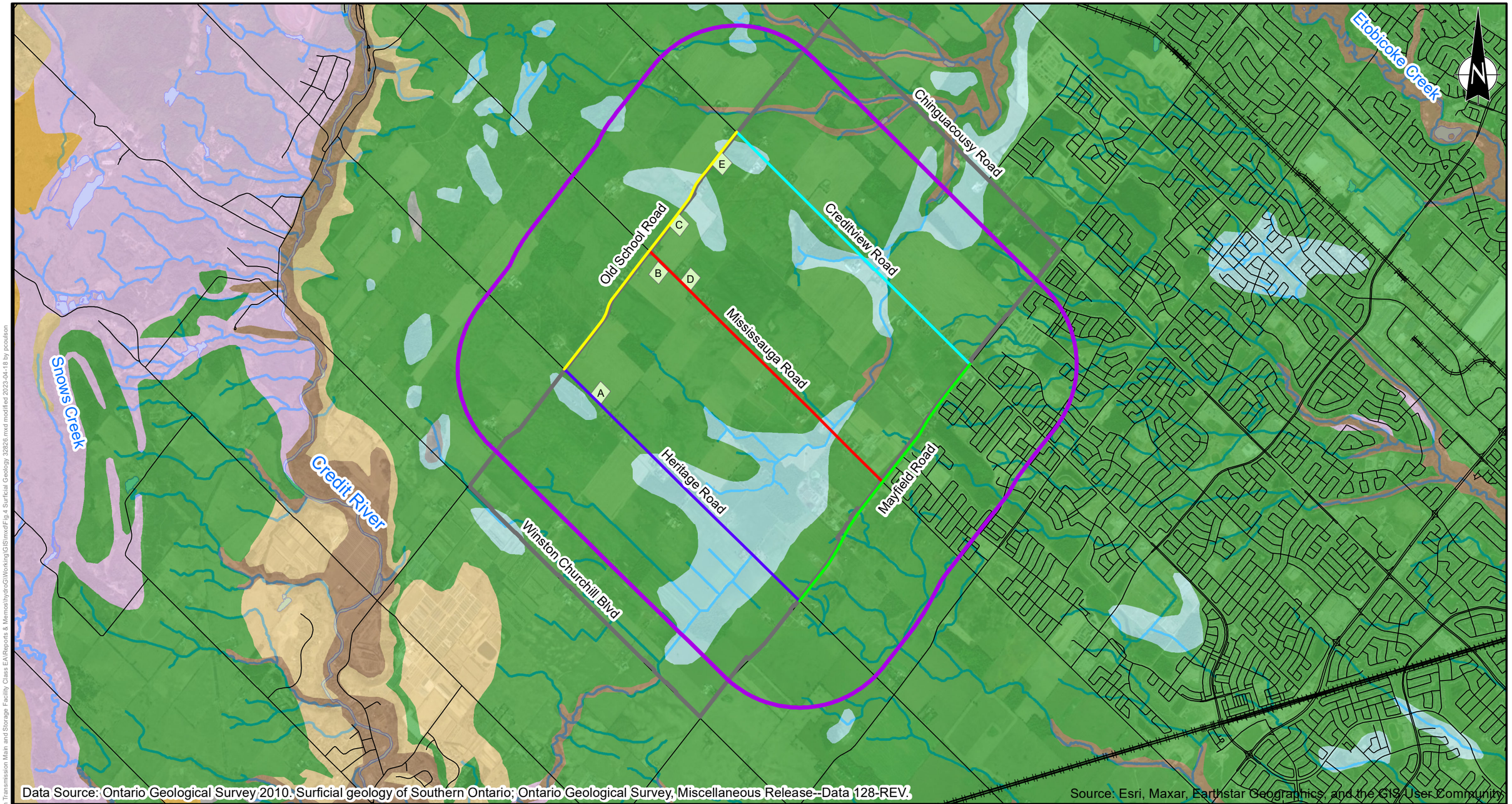
PHYSIOGRAPHY

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Data Source: Ontario Geological Survey 2010. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV.

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

LEGEND:

- Study Area (1000 m Buffer)
- A — Preferred Sites
- Waterbody
- Watercourse

Surficial Geology

- Older Alluvial Deposits
- Modern Alluvial Deposits
- Organic Deposits
- Paleozoic Bedrock
- Till
- Ice-contact Stratified Deposits
- Glaciofluvial Deposits
- Fine-textured Glaciolacustrine Deposits

1,000 500 0 1,000 m

UTM 17 NAD 83

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GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

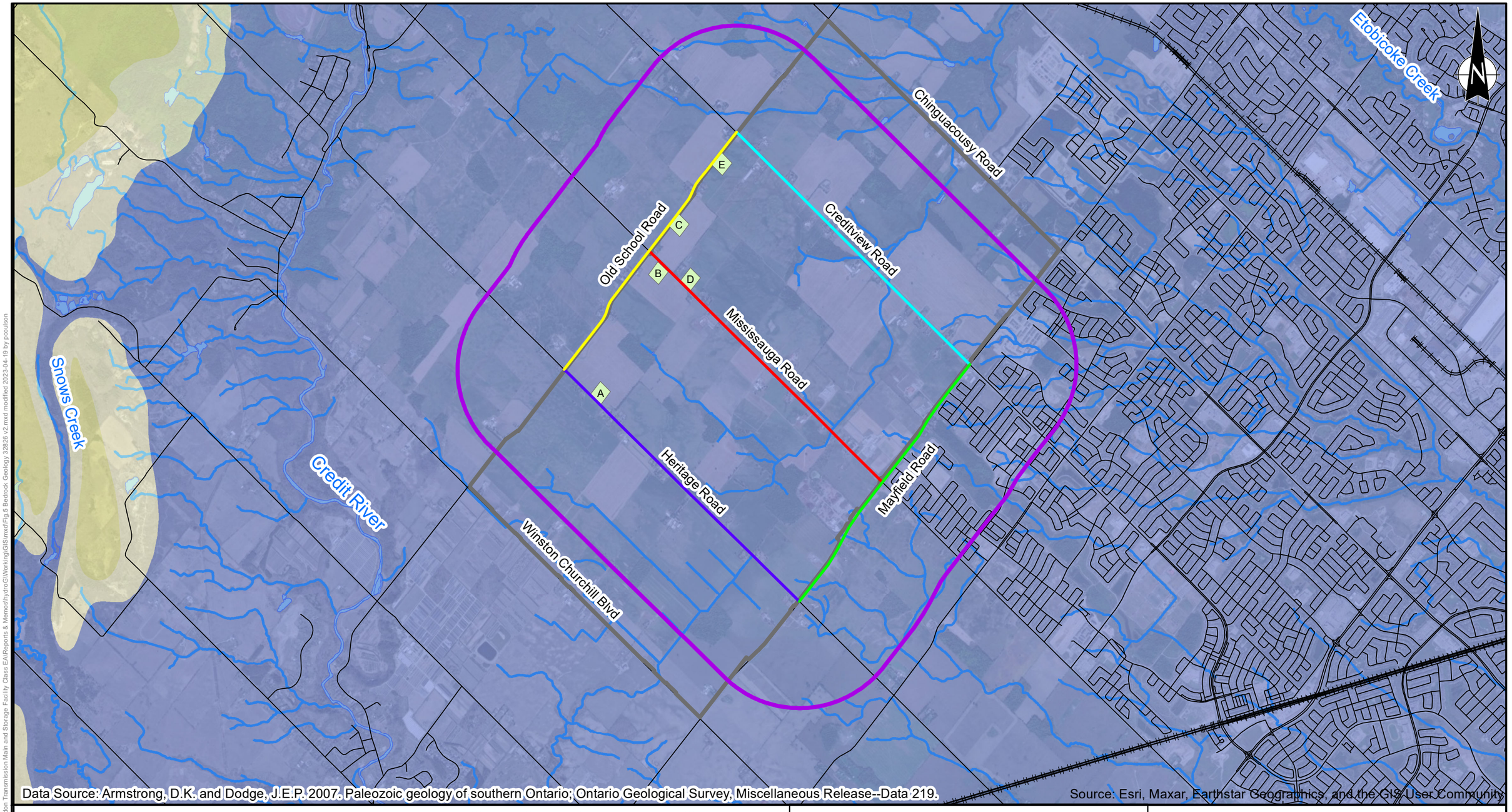
SURFICIAL GEOLOGY

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Data Source: Armstrong, D.K. and Dodge, J.E.P. 2007. Paleozoic geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 219.

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

LEGEND:

- Mayfield Road
- Creditview Road
- Mississauga Road
- Heritage Road
- Old School Road
- Study Area (1000 m Buffer)
- A — Preferred Sites
- Infrastructure Focus Area
- Waterbody
- Watercourse
- Road
- Railway

Bedrock Geology

- Amabel
- Clinton-Cataract Group
- Queenston

1,000 500 0 1,000 m

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GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

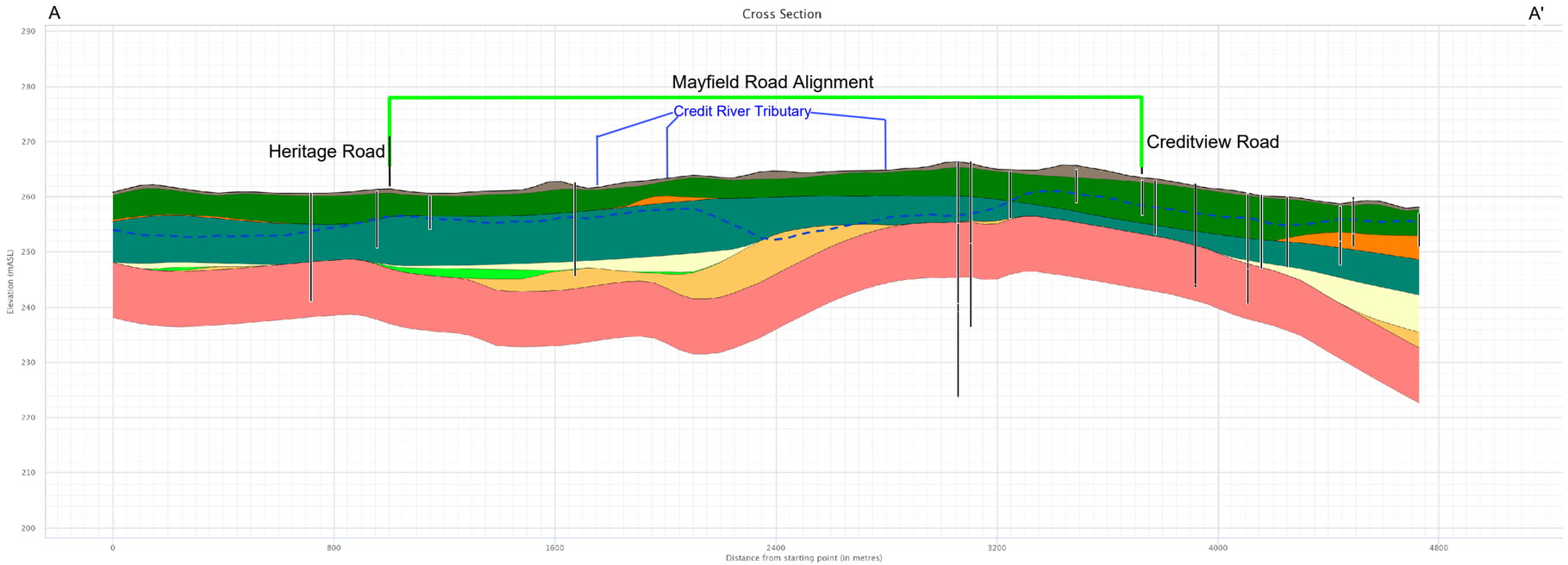
BEDROCK GEOLOGY

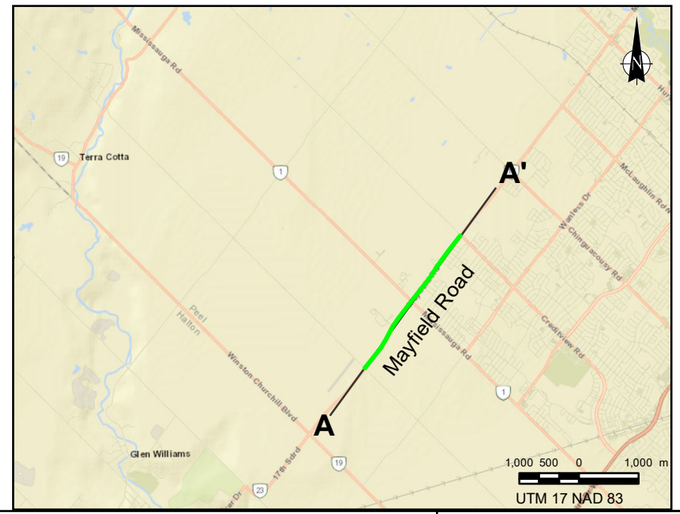
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Data Source: York, Peel, Durham, Toronto (YPDT) Oak Moraine Groundwater Program (ORM Groundwater Program)

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REGION OF PEEL

GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

REGIONAL CROSS SECTION A - A' MAYFIELD ROAD

PROJECT No. **32826**

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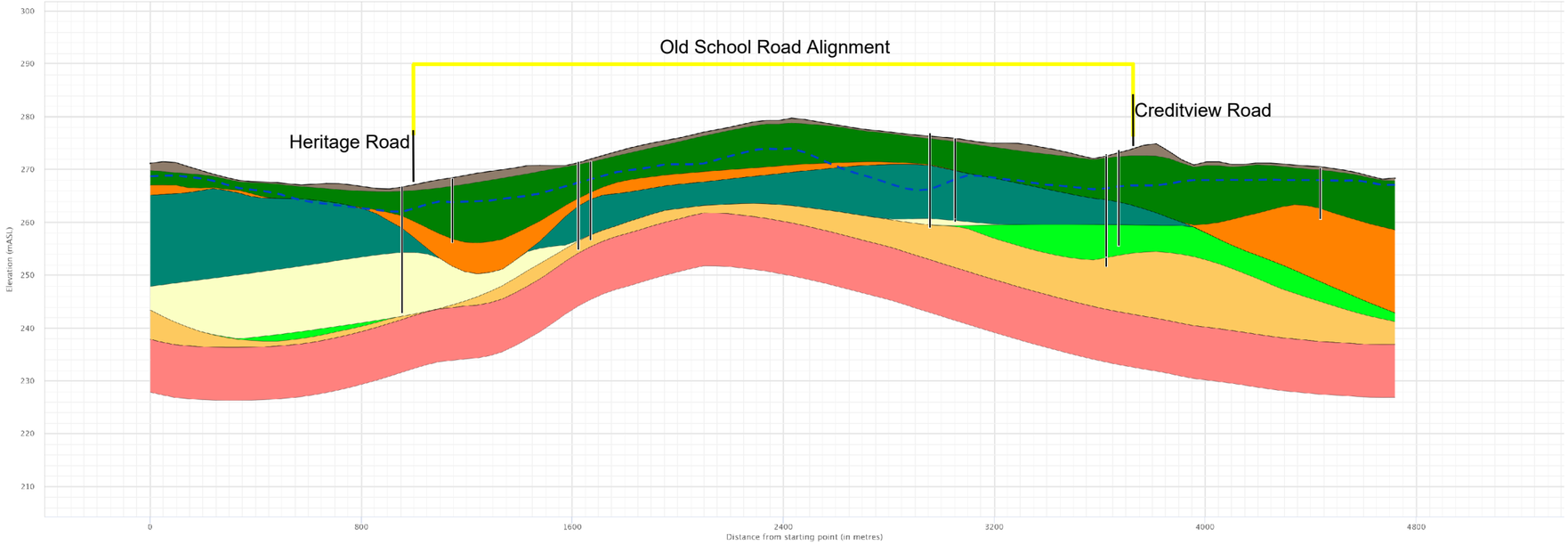
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B

Cross Section

B'



Ground Surface
Upper Newmarket Till
Wells
Water Table
Inter-Newmarket Sediment
Undifferentiated Upper Sediments
Lower Newmarket Till
Halton Till (or equiv. upper till)
Thorncliffe Fm.
Oak Ridges Moraine (or equiv. upper aquifer)
Sunnybrook Drift (or equiv. lower aquitard)
Channel Silt Aquitard
Scarborough Fm. (or equiv. lower aquitard)
Channel Sand Aquifer
Bedrock

Data Source: York, Peel, Durham, Toronto (YPDT) Oak Moraine Groundwater Program (ORM Groundwater Program)

GM BLUEPLAN ENGINEERING LTD.
REGION OF PEEL

GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

REGIONAL CROSS SECTION B - B' OLD SCHOOL ROAD

PROJECT No. **32826**

THURBER ENGINEERING LTD.

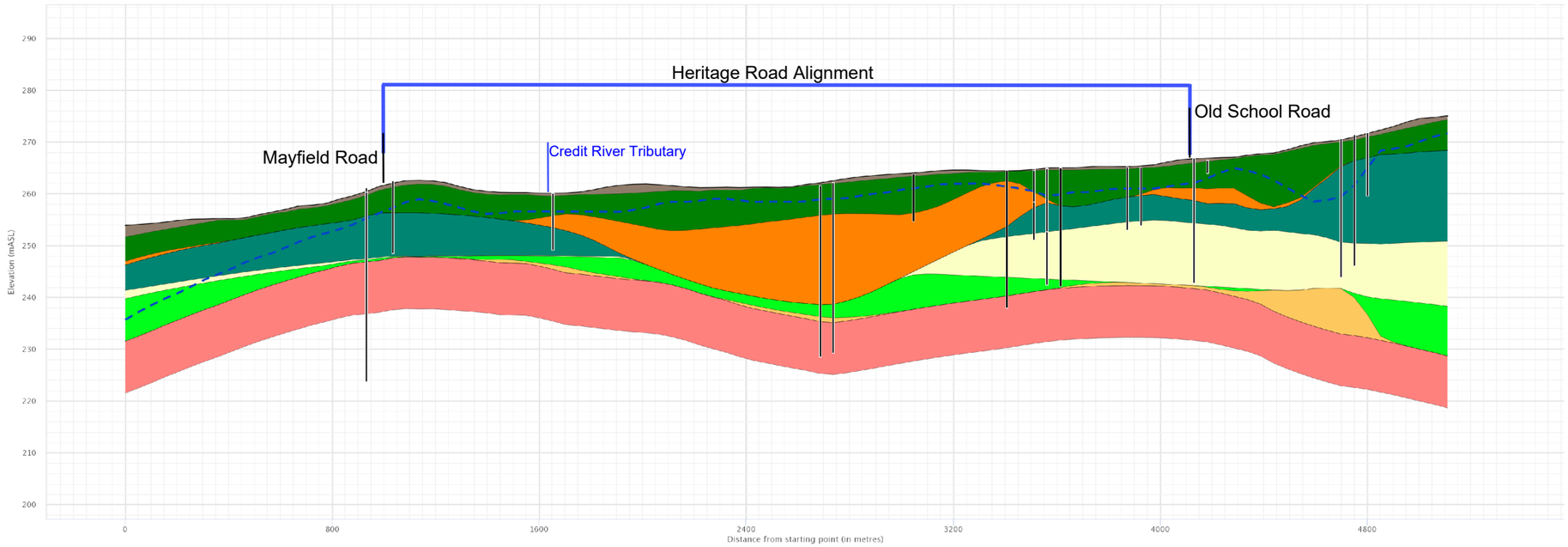
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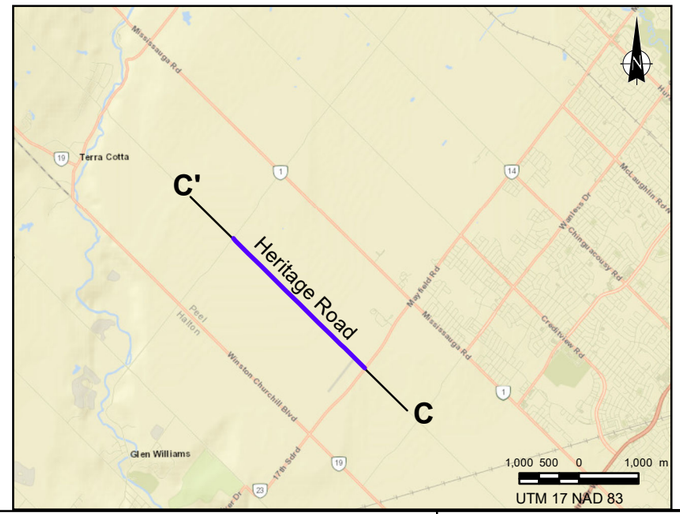
C

Cross Section

C'



- Ground Surface
- Upper Newmarket Till
- Wells
- Water Table
- Inter-Newmarket Sediment
- Undifferentiated Upper Sediments
- Lower Newmarket Till
- Halton Till (or equiv. upper till)
- Thorncliffe Fm.
- Oak Ridges Moraine (or equiv. upper aquifer)
- Sunnybrook Drift (or equiv. lower aquitard)
- Channel Silt Aquitard
- Scarborough Fm. (or equiv. lower aquitard)
- Channel Sand Aquifer
- Bedrock



Data Source: York, Peel, Durham, Toronto (YPDT) Oak Moraine Groundwater Program (ORM Groundwater Program)

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GEOTECHNICAL/HYDROGEOLOGICAL
DESKTOP STUDY

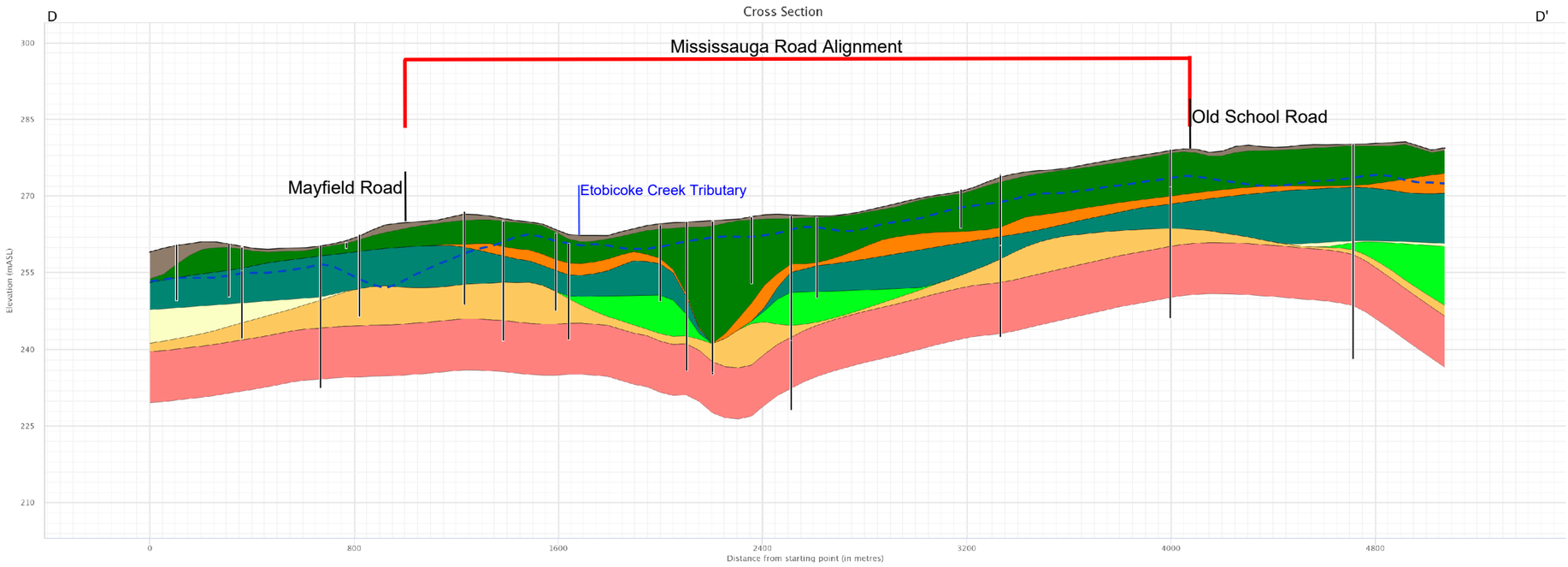
REGIONAL CROSS SECTION C - C'
HERITAGE ROAD

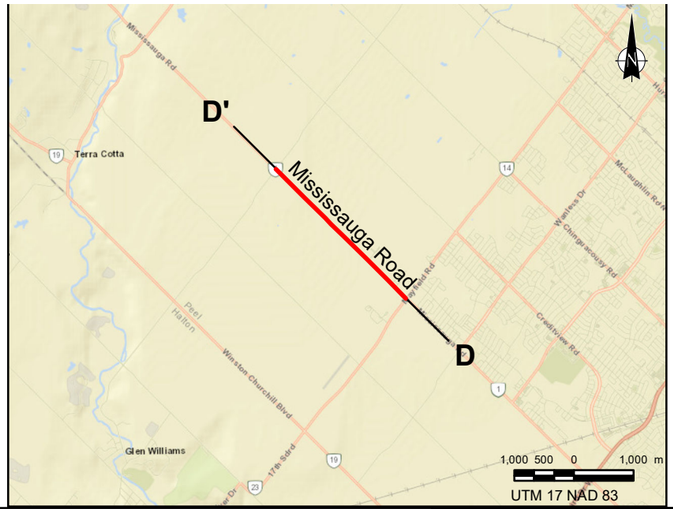
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Data Source: York, Peel, Durham, Toronto (YPDT) Oak Moraine Groundwater Program (ORM Groundwater Program)

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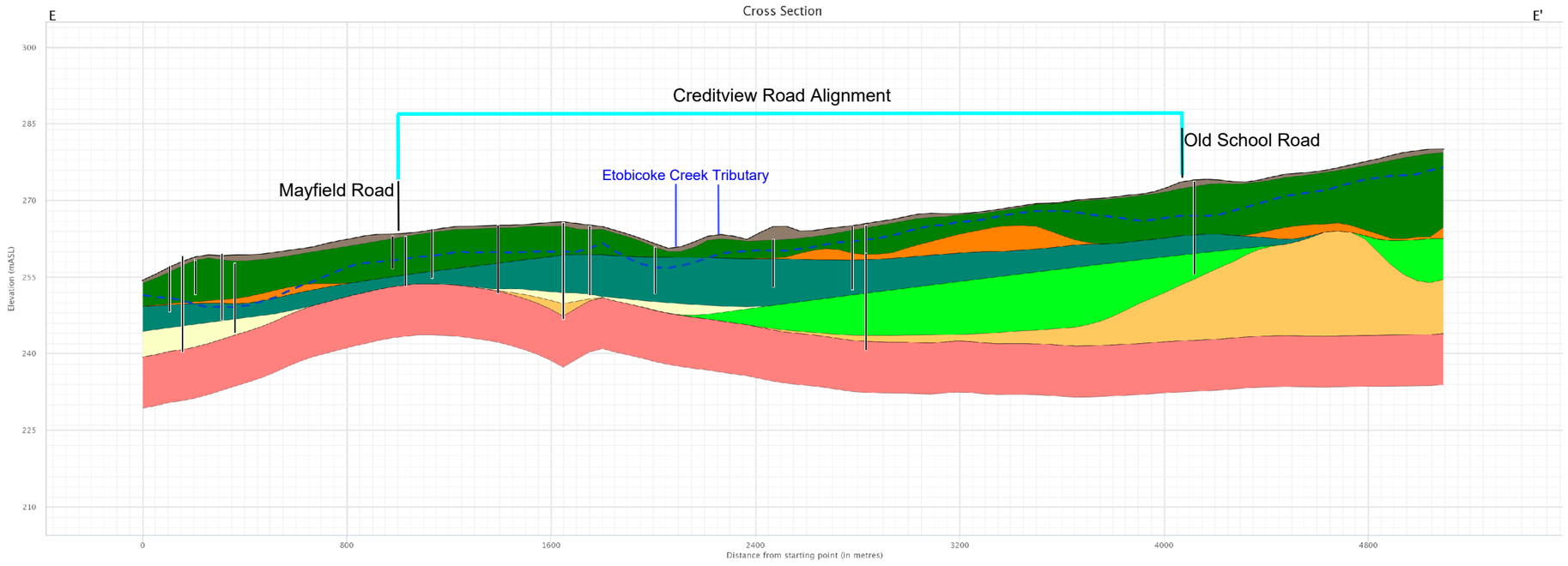
REGIONAL CROSS SECTION D - D' MISSISSAUGA ROAD

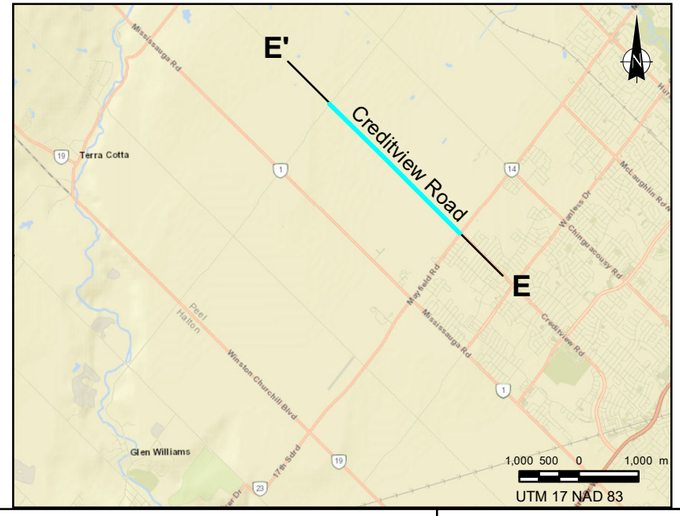
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Data Source: York, Peel, Durham, Toronto (YPDT) Oak Moraine Groundwater Program (ORM Groundwater Program)

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GEOTECHNICAL/HYDROGEOLOGICAL
DESKTOP STUDY

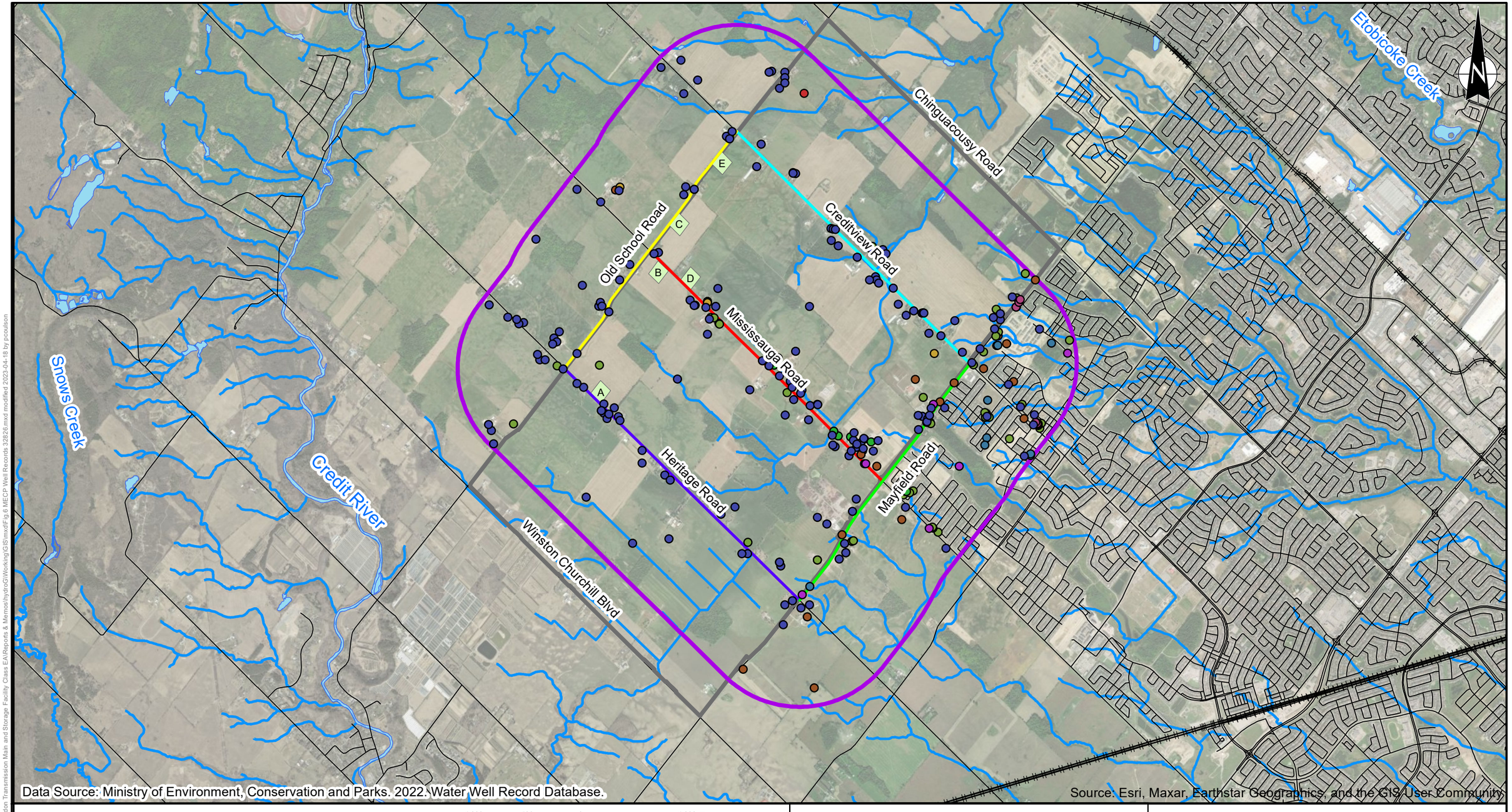
REGIONAL CROSS SECTION E - E'
CREDITVIEW ROAD

PROJECT No. 32826

THURBER ENGINEERING LTD.

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PC	PC	RP
DATE:	SCALE:	FIGURE NO.
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LEGEND:

- Study Area (1000 m Buffer)
- A — Preferred Sites
- Waterbody
- Watercourse
- Road
- Railway

MECP Well Records

- Water Supply
- Monitoring and Test Hole
- Test Hole
- Observation Wells
- Abandoned-Supply
- Abanoned-Quality
- Abandoned-Other
- Alteration
- Other Status
- Unknown

1,000 500 0 1,000 m

UTM 17 NAD 83

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REGION OF PEEL

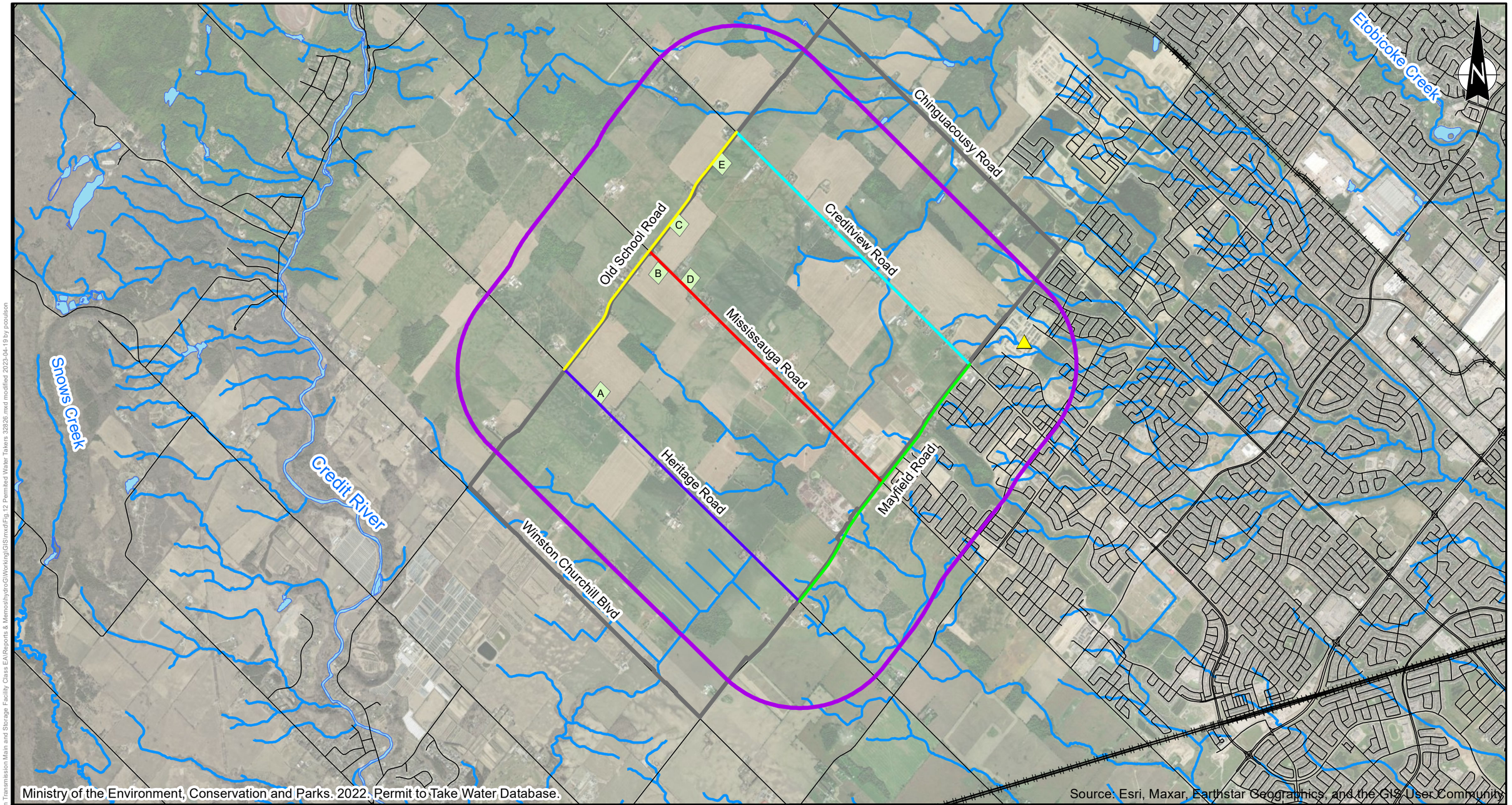
GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

MECP WELL RECORDS

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Ministry of the Environment, Conservation and Parks. 2022. Permit to Take Water Database.

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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LEGEND:

- Mayfield Road
- Creditview Road
- Mississauga Road
- Heritage Road
- Old School Road
- Study Area (1000 m Buffer)
- A — Preferred Sites
- Infrastructure Focus Area
- Waterbody
- Watercourse
- Road
- Railway
- EASR-Water Taking

1,000 500 0 1,000 m

UTM 17 NAD 83

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REGION OF PEEL

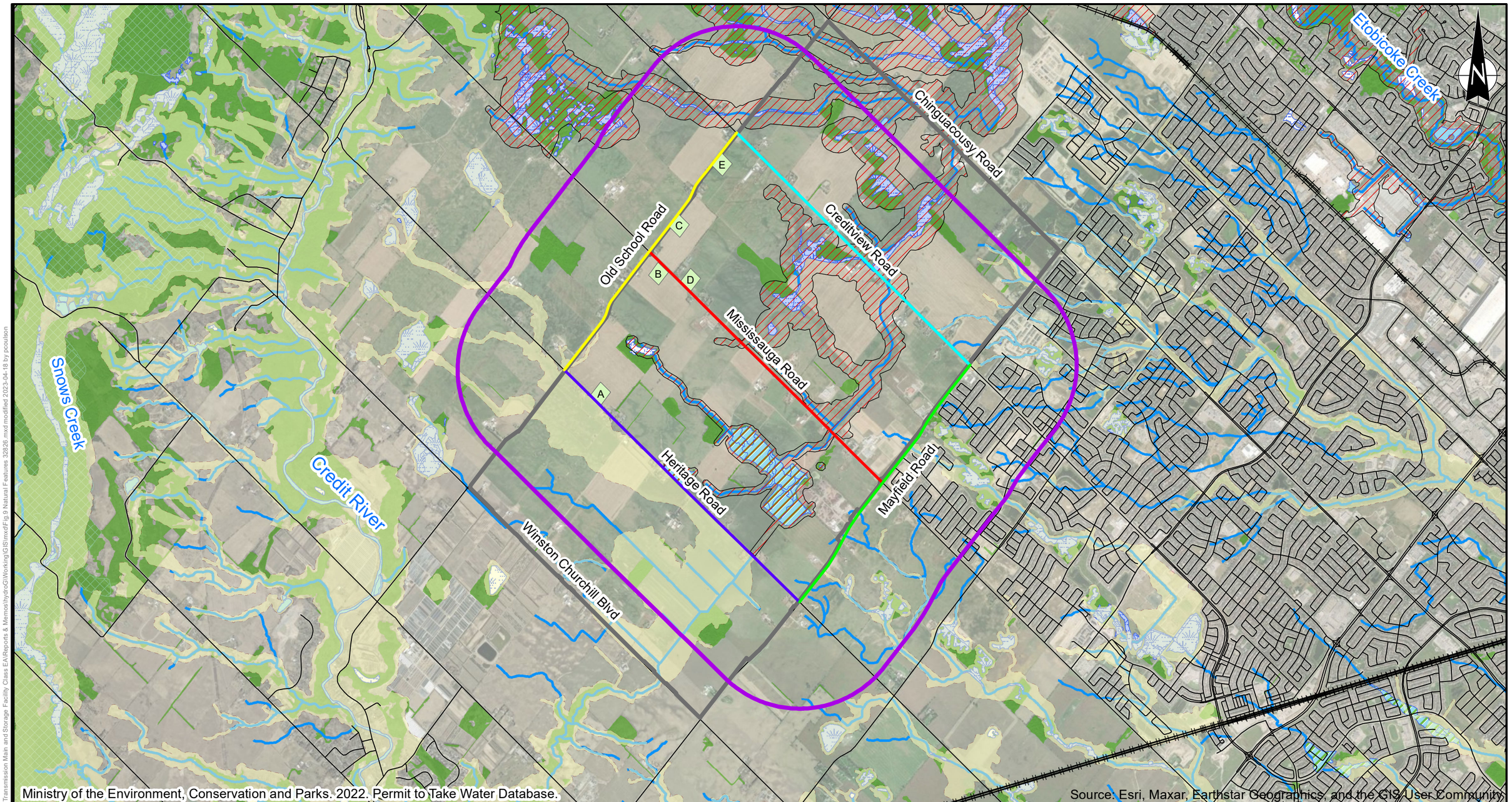
GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

PERMITTED WATER TAKERS

PROJECT No. **32826**

THURBER ENGINEERING LTD.

DESIGNED:	DRAWN:	APPROVED:
PC	PC	RP
DATE:	SCALE:	FIGURE NO.
APRIL 18, 2023	1:35,000	12



Ministry of the Environment, Conservation and Parks. 2022. Permit to Take Water Database.

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

LEGEND:

- Study Area (1000 m Buffer)
- A — Preferred Sites
- Waterbody
- Watercourse
- Unevaluated Wetland
- Non-Provincially Significant Wetland
- Provincially Significant Wetland
- TRCA Regulated Area
- CVC regulated area
- ANSI
- Wooded Area

1,000 500 0 1,000 m

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GM BLUEPLAN ENGINEERING LTD.
REGION OF PEEL

GEOTECHNICAL/HYDROGEOLOGICAL DESKTOP STUDY

NATURAL FEATURES

PROJECT No. **32826**

THURBER ENGINEERING LTD.

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H:\30000-39999\32000-32999\32826 P - West Caledon Transmission Main and Storage Facility Class EA\Reports & Memos\Hydro\GIWorking\GIS\mxd\Fig 9 Natural Features 32826 mxd modified 2023-04-18 by jeoulson



PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3C: Agricultural Impact Assessment Report

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.

PEEL REGION MUNICIPAL CLASS EA FOR
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN

AGRICULTURAL IMPACT ASSESSMENT

PREPARED FOR:

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C21092
OCTOBER 2023

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1. INTRODUCTION

GM Blue Plan is leading a team of professionals that are undertaking a Municipal Class EA for the West Caledon Storage Facility and Transmission Main. The purpose of the Class EA is to identify new water storage infrastructure for Pressure Zone 7 West (7W) and a new transmission main alignment to service the projected growth in the Region of Peel. One of the components of the Class EA is to complete an Agricultural Impact Assessment (AIA) and comparative analysis of the selected sites and transmission routes. Colville Consulting Inc. was retained by GM BluePlan (GMBP) to undertake this component of the Class EA. The AIA will evaluate the candidate sites and routes selected as part of the EA process and assess the potential impacts of the new infrastructure on existing and future agricultural resources and activities.

1.1 Professional Qualifications

Colville Consulting Inc. was established in 2003 and provides agricultural and environmental consulting services to both private and public sector clients throughout Ontario. Colville Consulting Inc. has extensive experience working in the Town of Caledon and the GTA on various agricultural related projects including the preparation of AIAs for water storage infrastructure and transmission main alignments.

This study was led by Sean Colville, who has over 30 years of experience in preparing Agricultural Impact Assessments in Ontario and is very familiar with the requirements of the Ontario Ministry of Agriculture, Food and Rural Affairs' (OMAFRA) draft Agricultural Impact Assessment Guidance Document (2018). Ellise Baeza was the Project Manager and author of the AIA. Ellise has over seven years of experience preparing AIAs with Colville Consulting Inc. The CVs of Sean Colville and Ellise Baeza are included in Appendix A.

1.2 Purpose of Study

To meet the needs of the estimated population growth and ensure the water infrastructure servicing is in place, the Region's 2020 Master Plan determined that municipal water infrastructure servicing is required for future growth in the northwest part of the lake-based system. The Alloa Facility currently provides 100% of 7W storage and requires additional floating storage to be constructed. A new transmission main from the Alloa Pumping Station to the proposed West Caledon storage facility will enhance water supply to the existing and planned growth areas within south Caledon and northwest Brampton. To address this, the Region of Peel is requiring a Class EA to be completed. In order to meet the Class EA study objectives outlined in the RFP Document Terms of Reference, the completion of an AIA is required.

There are multiple farm operations within the Infrastructure Focus Area (IFA). The potential for disruption to normal movement of equipment and goods and services during critical periods (e.g., planting and harvesting) may negatively affect farm operations and businesses. This includes the disruption and/or temporary loss of access to fields along the preferred alignment route. This AIA has been prepared in accordance with the OMAFRA draft Agricultural Impact Assessment Guidance Document (2018). The purpose of the AIA is to assess the agricultural system, identify and assess the potential direct and indirect impacts related to the construction of a water storage facility and new transmission main, and provide a comparative analysis of the Candidate Sites and Alternative Routes. The comparative analysis is provided to assist in the identification of the most preferred options from an agricultural perspective.

1.3 Site Selection Process

The objectives used to identify the Candidate Sites include:

- to locate properties outside of the Escarpment Area.
- to locate properties as close as possible to the Alloa Facility, located along Mayfield Road.
- to locate the transmission main in a road Right-of-Way (RoW) to reduce impacts as much as possible and to have frontage on a roadway.
- to avoid prime agricultural areas, and if this is not possible, to choose a property on lower priority agricultural land.

In coordination with the Region of Peel, five potential Candidate Sites were identified for further evaluation. For this evaluation, a reconnaissance level survey was conducted, which included a site visit to each of the five Candidate Sites and each of the preferred road options.

1.4 Identification of the Study Area

The Study Area includes a Primary and Secondary Study Area. There are five Primary Study Areas, one for each Candidate Site. All of the Primary Study Areas are located within the Infrastructure Focus Area (IFA) identified by GMBP and the Region of Peel. The IFA is bounded by Old School Road to the north, Chinguacousy Road to the east, Mayfield Road to the south, and Winston Churchill Boulevard to the west. The IFA is shown in Figure 1 and is predominantly located within the Town of Caledon's prime agricultural area. Given the locational requirements for the proposed facility, there are no suitable locations within the IFA which avoid the prime agricultural area. The Region's land use schedule showing the land use designations for the lands within the Secondary Study Area are shown in Appendix B.

1.4.1 Primary Study Area

The five Candidate Sites are situated within five separate parcels referred to as Candidate Site Parcels. These Candidate Sites and the Candidate Site Parcels are shown in Figure 1. These five Candidate Sites are labeled A to E.

1.4.2 Secondary Study Area

There are five separate Secondary Study Areas, one surrounding each of the Candidate Sites. Each Secondary Study Areas includes all lands within 1.5 km from the Candidate Sites. As shown in Figure 1, the combined Secondary Study Areas include lands within and to the north of the IFA.

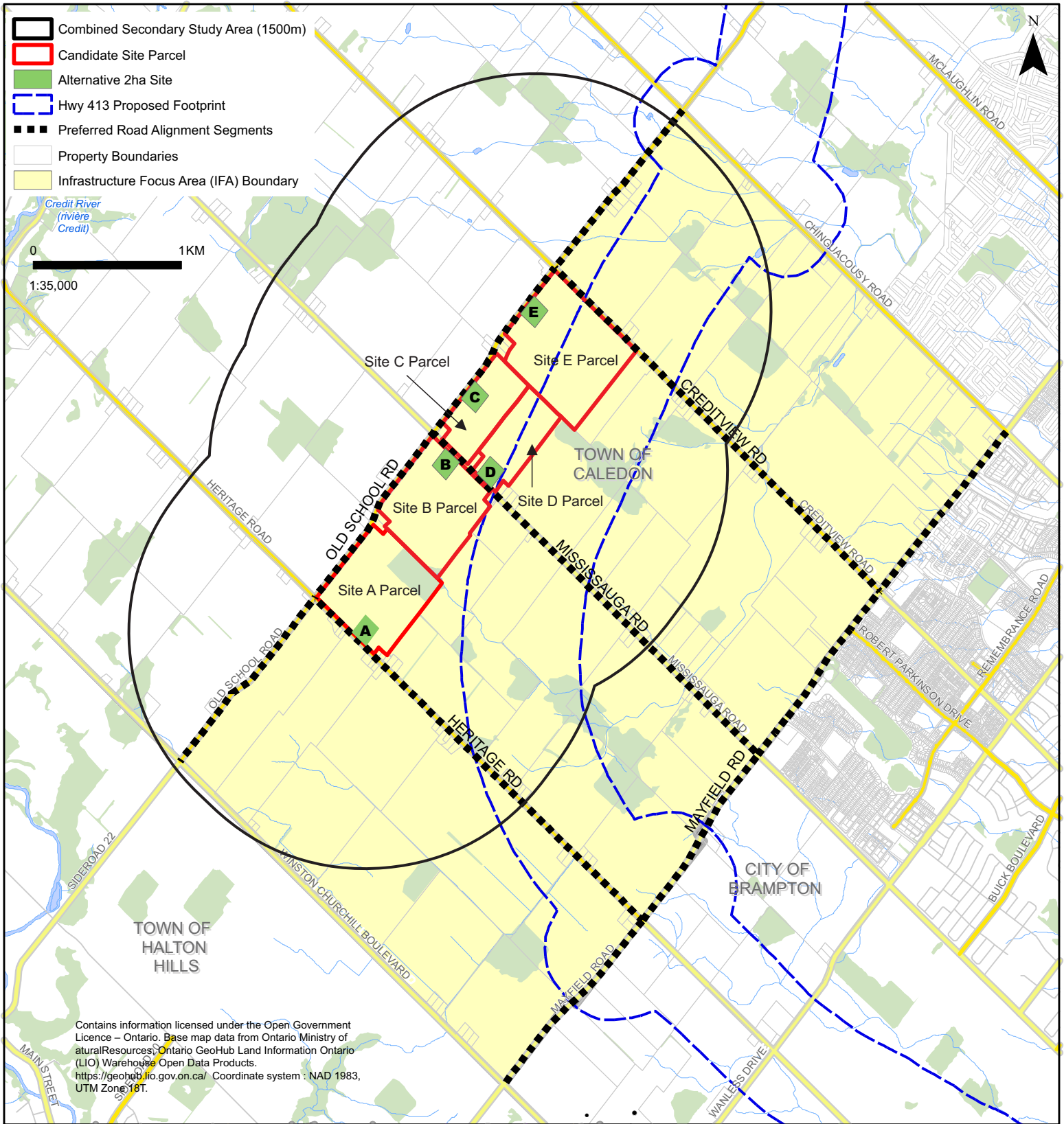


Figure 1
Location of Candidate Sites & Alternative Routes

AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092

2. SCOPE OF STUDY

The proposed scope of the AIA will follow the methodology recommended in the draft Agricultural Impact Assessment Guidance Document (2018). It includes:

- a review of applicable agricultural policies and other background information and land use information for lands within the surrounding area (e.g., aerial photography);
- a review of data sources such as AgMaps and the Agricultural Systems Portal and OMAFRA's digital soil resource database (for soil and CLI information, parcel fabric and land fragmentation, artificial drainage, agri-food components, etc.);
- a land use survey of all lands within one and a half kilometres of the Primary Study Area and a characterization of the area;
- an assessment of the level of fragmentation of agricultural lands in the Secondary Study Area;
- the consideration of the land's agricultural priority and that of the surrounding area;
- an assessment of each preferred location based on the agricultural priority of the lands within each site;
- a review of aerial photography to identify farm access lanes to infrastructure and croplands that could be impacted by construction activity.
- an assessment of the potential impacts of the development on the agricultural system, agricultural resources, farm operations and the broader agri-food network; and,
- the identification of net impacts, mitigation measures and recommendations that can be implemented to avoid or minimize potential impacts.

Field inventories for this study include a reconnaissance level survey to characterize the land use types within the Secondary Study Areas The location and type of each farm operation (e.g., livestock, orchard, cash crop, etc.) and the level of intensity (e.g., active operation, a hobby farm, or a retired farm operation) is noted and mapped. The cropping pattern and mix of non-farm land uses are also described and mapped.

Of particular importance is the location of access points to crops from areas along the preferred routes which may be affected during construction. We have assessed each preferred route and points of access for each route were noted and mapped. We also noted traffic patterns and the general use of the road by both farm and non-farm vehicles. This information is used to examine the potential impact to the movement of farm equipment and machinery between farms, fields and roadside stands or markets within the Secondary Study Area.

3. METHODOLOGY

The study methodology is two-fold; an assessment of impact and a comparative analysis of the Candidate Sites. First the AIA consistent with the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) Draft Guidance Document for Agricultural Impact Assessments (2018). It includes a review of relevant agricultural policies, other agricultural-related sources of information, and the completion of field inventories. Upon compilation and assessment of the data, the potential impacts of the proposed development are considered and recommendations to avoid and/or minimize potential impacts are provided. The study includes a comparative analysis of the Candidate Sites and Alternative Routes.

3.1 Background Data Collection

Information sources reviewed for this study included:

- Provincial Policy Statement (2020);
- Peel Region Official Plan (2022);
- Town of Caledon Official Plan (2018);
- Greenbelt Plan (2017);
- Growth Plan for the Greater Golden Horseshoe (2019);
- OMAFRA's Minimum Distance Separation (MDS) Document (2016)
- Agricultural Impact Assessment Guidelines (2003), Town of Caledon;
- Draft Agricultural Impact Assessment (AIA) Guidance Document (March 2018);
- Soil Survey of Peel County - No. 18 of the Ontario Soil Survey, 1953;
- OMAFRA's digital soil Resource Database to obtain soil series and CLI agricultural capability mapping and data;
- OMAFRA's Artificial Drainage Systems mapping;
- OMAFRA's AgriSuite, AgMaps and Agri-Systems databases; and
- Ortho-rectified, digital aerial photography viewed using Google Earth™; and
- A review of aerial photography to identify farm access lanes to infrastructure and croplands that could be impacted by construction activity.

Aerial photography covering the Study Area and the lot fabric was examined to assess the presence of non-agricultural land uses, agricultural uses, agriculture-related uses, on-farm diversified uses, and the level of fragmentation based on the lot fabric. This review will provide a general impression of agricultural activity and the level of agricultural investments in the area.

A more detailed list of the information sources reviewed is provided in Section 9 of this report.

3.2 Field Inventories

A reconnaissance level land use survey was completed on April 21, 2023. The land use survey identified components of the agri-food network, the relative level of investment in agricultural operations and land improvements, the cropping pattern, and the mix of other land uses.

The land use survey identified the number and type of agricultural operations (including retired and/or empty livestock operations), agricultural-related uses, on-farm diversified uses. Field access points and agricultural land improvements were noted where observed.

3.3 Evaluation of the Agricultural System

An Agricultural System includes a continuous and productive land base comprised of prime agricultural areas, including specialty crop areas and rural lands, as well as a complementary agri-food network that enables the agri-food sector to thrive. An evaluation of the Agricultural System and associated features within the Study Areas was also completed during the reconnaissance level land use survey and online review to assist in identifying agricultural related features.

The evaluation of the Agricultural System identifies the components present and provides an insight into their importance to the overall Agricultural System within the Region. Regional infrastructure and transportation networks, on-farm buildings and infrastructure, agricultural services, farm markets, distributors, primary processing facilities, and hamlets that support agriculture are important to the viability of the agri-food sector are among the features identified.

3.4 Evaluation of Candidate Sites and Alternative Routes

Where prime agricultural lands cannot be avoided, policy directs development take place on lower priority agricultural lands and impacts mitigated to the extent feasible. A comparative analysis of the Candidate Sites and Alternative Routes for the transmission main was used to identify a preferred location and route based on an assessment of the agricultural priority.

3.5 Identification of Potential Impacts and Mitigation Measures

Potential impacts of non-agricultural development were identified following an assessment of the agricultural resources on and adjacent to the Candidate Sites and along the Alternative Routes for the Transmission Main. Direct impacts evaluated include an assessment of elements such as the loss of Prime Agricultural Land, agricultural infrastructure, land improvements, and cropland. Indirect impacts from the proposed infrastructure works were also evaluated and included an assessment of elements such as the impacts related to surficial drainage, disruption to farm operations, traffic flow, restricted farm access, hydrogeological features, trespass, and vandalism.

Mitigation measures that avoid or minimize potential impacts on the agricultural land base and the agri-food network were then developed. The evaluation of the Candidate Sites and Alternative Routes assumes that recommendations provided to minimize impacts have been employed. The evaluation is based on net impacts.

3.6 Comparative Analysis

Several criteria were identified to compare each of the five Candidate Sites and Alternative Routes. The criteria used to compare the Candidate Sites include:

- the amount of prime agricultural land impacted;
- presence of agricultural infrastructure;
- presence of land improvements;
- farm lot viability (before and after Hwy 413 construction);
- potential for indirect impacts on farm operations within 1.5 km;
- potential to negatively impact adjacent farm operations; and
- potential to disrupt access to farm parcels.

The criteria used to assess the Alternative Routes includes:

- potential conflicts related to transportation of farm machinery (traffic volume);
- potential disruption resulting from construction along route (based on route length and number of farm operations);
- potential impacts to tile drainage systems (area adjacent to route tile drained); and
- loss or temporary closure of access points to farm fields.

3.7 Consultations

It is understood that GMBP has undertaken consultations with the Region of Peel as part of the Class EA process. For the preparation of the AIA, we did not conduct additional consultations with the municipality or local agricultural groups. Should consultations be necessary to address any concerns related to the AIA conclusions, they will be addressed through an addendum to this AIA.

During the land use survey, we did meet with several farmers and land owners to obtain specific information regarding their operations.

4. AGRICULTURAL POLICIES

4.1 Provincial Policy Statement (PPS, 2020)

Land Use Policy and development in Ontario is directed by the Provincial Policy Statement. The PPS was issued under the authority of Section 3 of the Planning Act and the latest version came into effect on May 1, 2020. Section 3 of the Planning Act states that decisions affecting planning matters "shall be consistent with" policy statements issued under the Act.

4.1.1 Prime Agricultural Areas

Section 2.3 of the PPS specifically deals with agricultural policy. Section 2.3.1 states that "Prime agricultural areas shall be protected for long-term use for agriculture." The PPS defines prime agricultural areas as areas where prime agricultural lands predominate. Prime agricultural lands include specialty crop areas and Canada Land Inventory (CLI) Classes 1, 2 and 3 soils, in this order of priority for protection.

4.1.2 Policies for Infrastructure in Prime Agricultural Areas

The PPS defines *infrastructure* as "physical structures (facilities and corridors) that form the foundation for development. *Infrastructure* includes sewage and water systems, septage treatment systems, stormwater management systems, waste management systems, electricity generation facilities, electricity transmission and distribution systems, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities."

Section 6.0 also defines *infrastructure* as part of the agri-food network stating that "within the *agricultural system*, a network that includes elements important to the viability of the agri-food sector such as regional *infrastructure* and transportation networks; on-farm buildings and infrastructure; agricultural services, farm markets, distributors, and primary processing; and vibrant, agriculture-supportive communities."

Section 2.3.4.1 outlines policy regarding lot creation and lot adjustments in prime agricultural areas and states in part that, "lot creation in prime agricultural areas is discouraged and may only be permitted for:

> d) *infrastructure*, where the facility or corridor cannot be accommodated through the use of easements or rights-of-way."

The proposed Storage Facility and Transmission Main will be consistent with applicable agricultural policies for *infrastructure* as outlined in sections 2.3 and 2.3.4.1 of the PPS.

4.2 Greenbelt Plan (2017)

The Greenbelt Plan (GBP) is implemented through municipal official plan policies and maps and therefore must be read in "conjunction with all other applicable land use planning policy, regulations and/or standards, as amended from time to time".

A portion of the Secondary Study Area is located within the Greenbelt Plan's "Protected Countryside" designation. The GBP sets out the three key policy areas in the Protected Countryside designation that are spatially based: the Agricultural System, the Natural System and Settlement Areas.

The Agricultural System is comprised of specialty crop areas, prime agricultural areas, and rural areas. While the Greenbelt Plan identifies the boundaries of the specialty crop areas, it relies on municipal official plans to delineate prime agricultural areas and rural areas.

Section 4.2.1 of the Greenbelt Plan outlines "General Infrastructure Policies" and states; "for lands falling within the Protected Countryside, the following policies shall apply:

1. All existing, expanded, or new infrastructure subject to and approved under the Canadian Environmental Assessment Act, the Environmental Assessment Act, the Planning Act, the Aggregate Resources Act, the Telecommunications Act or by the National or Ontario Energy Boards, or which receives a similar environmental approval, is permitted within the Protected Countryside, subject to the policies of this section and provided it meets one of the following two objectives:
    a. It supports agriculture, recreation and tourism, rural settlement areas, resource use or the rural economic activity that exists and is permitted within the Greenbelt; or
    b. It serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing for the appropriate infrastructure connections among urban growth centres and between these centres and Ontario's borders.
2. The location and construction of infrastructure and expansions, extensions, operations, and maintenance of infrastructure in the Protected Countryside, are subject to the following:
    a. Planning, design, and construction practices shall minimize, wherever possible, the amount of the Greenbelt, and particularly the Natural Heritage System, traversed and/or occupied by such infrastructure;
    b. Planning, design, and construction practices shall minimize, wherever possible, the negative impacts and disturbance of the existing landscape, including, but not limited to, impacts caused by light intrusion, noise, and road salt;
    c. Where practicable, existing capacity and coordination with different infrastructure services is optimized so that the rural and existing character of the Protected Countryside and the overall urban structure for southern Ontario established by Greenbelt and any provincial growth management initiatives are supported and reinforced".

Infrastructure development is permitted within the Protected Countryside designation. The AIA will demonstrate that negative impacts and disturbance will be minimized.

4.3 Growth Plan for the Greater Golden Horseshoe (2019)

4.3.1 Agricultural System

In May 2019 the updated Growth Plan came into effect and was most recently updated in August 2020. The objective of the plan is to provide a long-term plan that works to manage growth, build complete communities, curb urban sprawl, and protect the natural environment.

The province has identified an Agricultural System for the GGH which is discussed in Section 4.2.6 of the Growth Plan. Section 4.2.6.3 states:

> *Where agricultural uses and non-agricultural uses interface outside of settlement areas, land use compatibility will be achieved by avoiding or where avoidance is not possible, minimizing and mitigating adverse impacts on the Agricultural System. Where mitigation is required, measures should be incorporated as part of the non-agricultural uses, as appropriate, within the area being developed. Where appropriate, this should be based on an agricultural impact assessment.*

A definition of an Agricultural Impact Assessment (AIA) is provided in the GPGGH.

> *A study that evaluates the potential impacts of non-agricultural development on agricultural operations and the Agricultural System and recommends ways to avoid or, if avoidance is not possible, minimize and mitigate adverse impacts. (Greenbelt Plan)*

The Agricultural System includes a continuous and productive land base, comprised of prime agricultural areas, including specialty crop areas, and rural lands, as well as a complementary agri-food network that together enable the agri-food sector to thrive. The agri-food network includes many agricultural related features such as regional infrastructure and transportation networks, on-farm buildings and infrastructure, agricultural services, farm markets, distributors, and primary processing, as well as small towns and hamlets that are supportive of agriculture and are important to the viability of the agri-food sector. To ensure the long-term viability of a healthy agricultural system, land use planners must ensure that there are opportunities within the agricultural land base for key infrastructure, services and assets which support the agricultural industry. This includes agri-food network (AFN) features such as cold storage facilities, abattoirs, food processors, grain dryers, distribution centres, and food hubs/co-ops.

The document *Implementation Procedures for the Agricultural System for the Greater Golden Horseshoe* (Publication 856, March 2020) was prepared by OMAFRA to assist municipalities in identifying prime agricultural areas and implement policies for the Agricultural System. OMAFRA's Agricultural System Portal shows that the each of the Primary Study Areas are part of the GGH's Agricultural Land Base.

4.3.2 Infrastructure Policies

Section 3.2.5 of the Growth Plan outlines policy regarding infrastructure corridors, and states:

1. "In planning for the development, optimization, or expansion of existing and planned corridors and supporting facilities, the Province, other public agencies, and upper- and single-tier municipalities will:
    a) encourage the co-location of linear infrastructure where appropriate;
    b) ensure that existing and planned corridors are protected to meet current and projected needs in accordance with the transportation and infrastructure corridor protection policies in the PPS;
    c) where applicable, demonstrate through an agricultural impact assessment or equivalent analysis as part of an environmental assessment, that any impacts on the Agricultural System have been avoided or, if avoidance is not possible, minimized and to the extent feasible mitigated;

d) where applicable, demonstrate through an environmental assessment, that any impacts on key natural heritage features in the Natural Heritage System for the Growth Plan, key hydrologic features and key hydrologic areas have been avoided or, if avoidance is not possible, minimized and to the extent feasible mitigated; and
e) for existing or planned corridors for transportation:
    i. consider increased opportunities for moving people and goods by rail;
    ii. consider separation of modes within corridors; and
    iii. provide opportunities for inter-modal linkages.

The AIA has demonstrated that the proposed works are consistent with Policy 3.2.5 .1c) of the GPGGH.

4.4 Region of Peel Official Plan (2022)

The Region of Peel Official Plan (ROP) Schedule B-5 shows the lands to the north, immediately adjacent to each of the Candidate Site Parcels are within the Greenbelt Area Protected Countryside. The Greenbelt Plan policy for lands within the Protected Countryside designation do not apply to the Candidate Site Parcels.

The Primary Study Areas are all located in Schedule D-1 (Appendix B) as part of the Prime Agricultural Area (PAA) designation. Section 3.2 of the OP outlines the policy regarding agricultural resources and PAAs within the Region of Peel.

3.3.14 states that the Region must; "Permit non-agricultural uses in the Prime Agricultural Area without the requirement for an amendment to the Region of Peel Official Plan and subject to a local official plan amendment only for:

a) extraction of minerals, petroleum resources and mineral aggregate resources, in accordance with Section 3.4; or

b) limited non-residential uses, provided that all of the following are demonstrated:

    i. the proposed use complies with the minimum distance separation formulae;

    ii. there is an identified need within the planning horizon of this Plan for additional land to be designated to accommodate the proposed use; and

    iii. alternative locations have been evaluated, and

        - there are no reasonable alternative locations that avoid Prime Agricultural Areas; and
        - there are no reasonable alternative locations in Prime Agricultural Areas with lower priority agricultural lands.

The Region's Official Plan Policies in 3.3.14 a & b have been considered and addressed in the AIA. The proposed municipal infrastructure development is consistent with these policies.

4.5 Town of Caledon Official Plan (2018)

The policy for lands designated as Prime Agricultural Area (PAA) is outlined in Section 5.1.1 of the Caledon Official Plan.

Section 5.1.1.16 outlines the minimum distance separation policy, which specifies that "the Town will use the Provincial Minimum Distance Separation Formulae I and II to ensure adequate separation distance between agricultural and non-agricultural uses." However, as per Guideline #3 of the Minimum Distance Separation (MDS) Document, "certain proposed uses are not reasonably expected to be impacted by existing livestock facilities or anaerobic digesters and as a result, do NOT require an MDS I setback. Such uses may include, but are not limited to:

- extraction of minerals, petroleum resources and mineral aggregate resources;
- infrastructure; and
- landfills."

Therefore, this policy does not apply to the proposed infrastructure facility and transmission route.

The Town's Official Plan stipulates in Section 5.1.1.17 that "proposals in the Prime Agricultural Area that have the potential to negatively impact agricultural uses will require an Agricultural Impact Assessment."

Section 5.1.1.17.2 states "The Agricultural Impact Assessment must be conducted by a qualified agricultural expert such as a Professional Agrologist or Agronomist, must describe the proposed development including the need for the proposed development in the Town, the on-site and surrounding land uses and agricultural capabilities, the physical and socio-economic components of the agricultural resource base, the land use compatibility of the proposed use with surrounding agricultural uses and agricultural community, must identify the direct and indirect impacts of the proposed development on existing agricultural uses, and on the flexibility of the area to support different types of agriculture, must provide an alternative location analysis, and must identify possible mitigative measures or methods of reducing any adverse impacts to the agricultural resource base and agricultural community."

Section 7.13 outlines policy for Protected Countryside within the Greenbelt Plan. Section 7.13.4 states; "This section describes the general policies that apply across the Protected Countryside. These policies are applicable to non-agricultural uses, recreation and tourism uses, infrastructure, natural resource uses, cultural heritage resources, existing uses, and lot creation."

7.13.4.3 states; "Infrastructure within the Protected Countryside designation is subject to all applicable policies of this Plan, and the following specific policies."

The AIA has addressed these policies and the municipal infrastructure development is consistent with the agricultural policies in the Town of Caledon's Official Plan.

5. STUDY FINDINGS

5.1 Physiography

The Candidate Sites are all located within the South Slope Physiographic Region (Chapman and Putnam, 1984). This physiographic region lies between the Oak Ridges Moraine to the north, the Peel Plain to the south and east, and the Niagara Escarpment to the west. The lands gently slope towards Lake Ontario and in this portion of the South Slope, the slope is smoothed, faintly drumlinized, and scored at intervals by tributaries to the Humber River system.

The South Slope lies across the limestones of the Verulam and Lindsay Formations, the grey shales of the Georgian Bay Formations, and the reddish shales of the Queenston Formation. The South Slope contains a variety of soils that have developed upon moderately textured tills on rolling topography. Soils common in this area are often mapped as the Bondhead Loam and Darlington Loam soils. On more gently sloping areas the Oneida Clay Loam, Chinguacousy Clay Loam, and Jeddo Clay Loam soils are commonly mapped. These heavier textured, clayey soils are the predominant soils surrounding the Candidate Sites.

Typical farm operations on the South Slope include small livestock operations, equestrian operations, and hobby farms. Crops are predominantly common field crops such as hay, pasture, wheat, corn, and soybean.

5.2 Climate

Climate data is available through Environment Canada's National Climate Data and Information Archive's online database. Climate Normals and Extremes for Georgetown WWTP Station (1981-2010) were obtained from the online database (Appendix C).

Environment Canada's Georgetown WWTP Station is located approximately 10 km from the Candidate Sites. Records show that this area receives an average of 877.4mm of precipitation annually (Environment Canada website); 741.5 mm of rainfall and 135.9 cm of snowfall. The daily average temperature ranges from a high of 20°C to a low of - 6.3°C.

The Ministry of Agriculture and Food Factsheets provide data on crop production and growing seasons across Ontario. The rate of development of crops from planting to maturity is mainly dependent upon temperature. Areas within the Region of Peel begin to experience average temperatures greater than 10°C starting May 7th before reaching temperatures greater than 12.8°C for 3 consecutive days around May 19th. During this time and up until the season's average ending date, September 30th, the area accumulates an average of 3200 crop heat units (CHU).

On average, the last spring frost in the Peel area occurs on May 3rd. The first fall frost is expected on October 8th. This provides the surrounding area with a frost-free period of approximately 150-170 days. The climate in the Peel area provides a good overall growing period that can support a wide range of crops.

5.3 Agricultural Crop Statistics

Agricultural crop statistics are available from OMAFRA and Statistics Canada's Agriculture and Food Statistics Census of Agriculture. The Candidate Sites are located within the Census Western Ontario Region, Peel Region. Agricultural crop statistics were obtained from the online database and are included

in Appendix D. This data provides a general overview of agriculture and agri-food operations in the area but is unlikely to be inclusive of all operations present at the time of this report.

The County and Township Agricultural Profile for Peel includes data from 2011, 2016, and 2021 census periods. The total number of farms in Caledon decreased from 345 to 308 from 2016 to 2021, while total cropland increased from 63,239 acres in 2016 to 73,460 acres in 2021.

Field crops include winter wheat, oats for grain, barley for grain, mixed grains, corn for grain, corn for silage, hay, soybeans, and potatoes. According to census data, field crop production between 2016-2021 decreased for potatoes, whereas all other major field crop production in Caledon increased in production. Census data from 2016 shows that there was no production of winter wheat, oats for grain, barley for grain, corn for grain, or corn for silage. This is highly unlikely to be reflective of the true crop production in Caledon in 2016.

Fruit crops in Caledon include apples, grapes, strawberries, and raspberries. Fruit crop acreage increased from 149 acres to 196 acres from 2016 to 2021. Vegetable crops include sweet corn, tomatoes, green peas, and green or wax beans. Vegetable crop acreage increased from 240 acres to 479 acres from 2016 to 2021.

5.4 Specialty Crop Areas

The PPS defines a Specialty crop area as: "areas designated using guidelines developed by the Province, as amended from time to time. In these areas, specialty crops are predominantly grown such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil, usually resulting from:

a) soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both;

b) farmers skilled in the production of specialty crops; and

c) a long-term investment of capital in areas such as crops, drainage, infrastructure and related facilities and services to produce, store, or process specialty crops."

There are two specialty crop areas recognized by the province: the Niagara Fruit Belt and the Holland Marsh. The five Candidate Sites are not located within either of these specialty crop areas. Although the soils and climate do allow for the production of some specialty crops, this area is not part of a specialty crop area and specialty crops are not predominantly grown in this area.

5.5 Regional Soils

5.5.1 Soil Series

The assessment considered the soils within each Candidate Site Parcel. The *Soil Survey of Peel County - No. 18* of the Ontario Soil Survey (Hoffman, D.W., Richards, N.R., 1953) includes a soil map that shows the distribution of the various soil series in the Region of Peel. The regional level survey mapped the soils at a scale of 1:63,360 which is appropriate for regional level planning decisions.

The digital Provincial Soil Resource database is compiled and administered by OMAFRA. It includes most of the data provided by the soil surveys completed throughout Ontario. Much of this information is

accessible from the Province's Agricultural Information Atlas. This is an interactive online application that enables users to obtain agricultural information for Ontario such as soils and drainage, as well as data layers from other Government of Ontario ministries (e.g., lot boundaries). The database was last accessed in April 2023. The regional soil survey mapping for each parcel is shown in Appendix E below.

Chinguacousy Clay Loam Soils

The *Soil Survey of Peel County* mapping shows that the soils are found in small portions of Parcel A and Parcel B. The entirety of Candidate Parcels C, D and E are comprised entirely of Chinguacousy Clay Loam soils.

The Chinguacousy soil series is the imperfectly drained member of the Oneida Catena. Oneida soils are well drained and have developed from a calcareous, silty clay to silty clay loam textured till, common throughout the South Slope physiographic region.

The imperfectly drained Chinguacousy soil series has developed from the same calcareous, silty clay to silty clay loam till, parent material. These soils have a relatively high water-holding capacity. They are moderately to slowly permeable and surface runoff is moderate. Excess soil water is often observed in the upper soil horizons (e.g., mottling) as a result of a seasonally high groundwater table or perched conditions during the growing season.

Jeddo Clay Loam Soils

Provincial mapping shows that the soils are found in portions of Parcel A and Parcel B. The Jeddo soil series is the poorly drained member of the Oneida Catena and typically mapped in association with Chinguacousy soils.

The Jeddo clay loam has smooth very gently sloping topography. Crop growth on the Jeddo clay loam is limited by poor drainage. These soils are best used for hay and pasture, but a wider range of crops can be grown when drainage is improved.

5.5.2 CLI Agricultural Land Classification

The Canada Land Inventory (CLI) is an interpretative system for assessing the effects of climate and soil characteristics on the limitations of land for growing common field crops. The CLI system has seven soil classes that descend in quality from Class 1, which has few limitations, to Class 7 soils which have no agricultural capability for common field crops. Class 2 through 7 soils have one or more significant limitations, and each of these are denoted by a capability subclass. There are thirteen subclasses described in CLI Report No. 2 (1971). Eleven of these subclasses have been adapted to Ontario soils. More information regarding the CLI Classification system is provided in Appendix F.

The regional mapping shows that the Chinguacousy soils on very gentle slopes are rated CLI Class 1 soil. These soils have no limitations for common field crops. The Jeddo soils are rated as CLI Class 3W and mapped on nearly level slopes. The range of crops that can be grown on these soils are moderately constrained, and special conservation practices may be required. Tables 1 through 5 outline the soil composition for each parcel.

Table 1: Regional Soil Series for Parcel A			
Soil Series	**CLI Class**	**Area (Ha)**	**% of Subject Lands**
Chinguacousy Clay Loam	1	26.52	66.25%
Jeddo Clay Loam	3W	13.51	33.75%
Totals		**40.03**	**100.00%**

Table 2: Regional Soil Series for Parcel B			
Soil Series	**CLI Class**	**Area (Ha)**	**% of Subject Lands**
Chinguacousy Clay Loam	1	38.67	98.34%
Jeddo Clay Loam	3W	0.65	1.66%
Totals		**39.33**	**100.00%**

Table 3: Regional Soil Series for Parcel C			
Soil Series	**CLI Class**	**Area (Ha)**	**% of Subject Lands**
Chinguacousy Clay Loam	1	20.11	100.00%
Totals		**20.11**	**100.00%**

Table 4: Regional Soil Series for Parcel D			
Soil Series	**CLI Class**	**Area (Ha)**	**% of Subject Lands**
Chinguacousy Clay Loam	1	19.45	100.00
Totals		**19.45**	**100.00%**

Table 5: Regional Soil Series for Parcel E			
Soil Series	**CLI Class**	**Area (Ha)**	**% of Subject Lands**
Chinguacousy Clay Loam	1	50.91	100.00
Totals		**100.00**	**100.00%**

5.6 Evaluation of Agricultural Productivity

The Hoffman Productivity Indices (HPI) are used to relate the productivity of land to the CLI Capability (based on expected yields). Assuming the same level of management is applied to different CLI classes, the productivity for each class will differ. Hoffman (1971) determined the average yields produced for common field crops on CLI classes 1 through 4 lands. He determined that CLI Class 2 lands produce yields approximately 20% less than CLI Class 1 lands and therefore has a value of 0.80 relative to a CLI Class 1 soil. The value for a CLI Class 3 soil is 0.64 and for a CLI Class 4 soil the value is 0.49. The values for CLI Classes 5, 6, & 7 were obtained through extrapolation. The HPI was calculated for the each of the five Site Parcels to assess the relative productivity of the lands for common field crop production.

An HPI rating above 0.9 is considered to be equivalent in productivity to a CLI Class 1 soil. An HPI of between 0.73-0.89 is equivalent in productivity to a CLI Class 2 soil and an HPI in the range of 0.58-0.72 is equivalent in productivity to a CLI Class 3 soil, and so forth.

Section 6 describes the HPI calculations for each Candidate Parcel and Appendix G shows the detailed results of the HPI calculations using the soils mapped by the Province.

5.7 Land Use

A reconnaissance level land use survey was completed on April 21, 2023. The land use survey included all lands within 1.5 kilometres of the five Candidate Sites and the Alternative Routes. The land use survey identified the number and type of agricultural operations, agricultural-related uses, and on-farm diversified uses on the Candidate Sites and adjacent lands. The land use survey identified the extent and type of non-farm land uses and the crop types observed. Figures 2 though 6 show land uses and cropping pattern observed. Photographs of the land uses observed are provided in Appendix H and Appendix I includes short, generalized descriptions of the land uses observed.

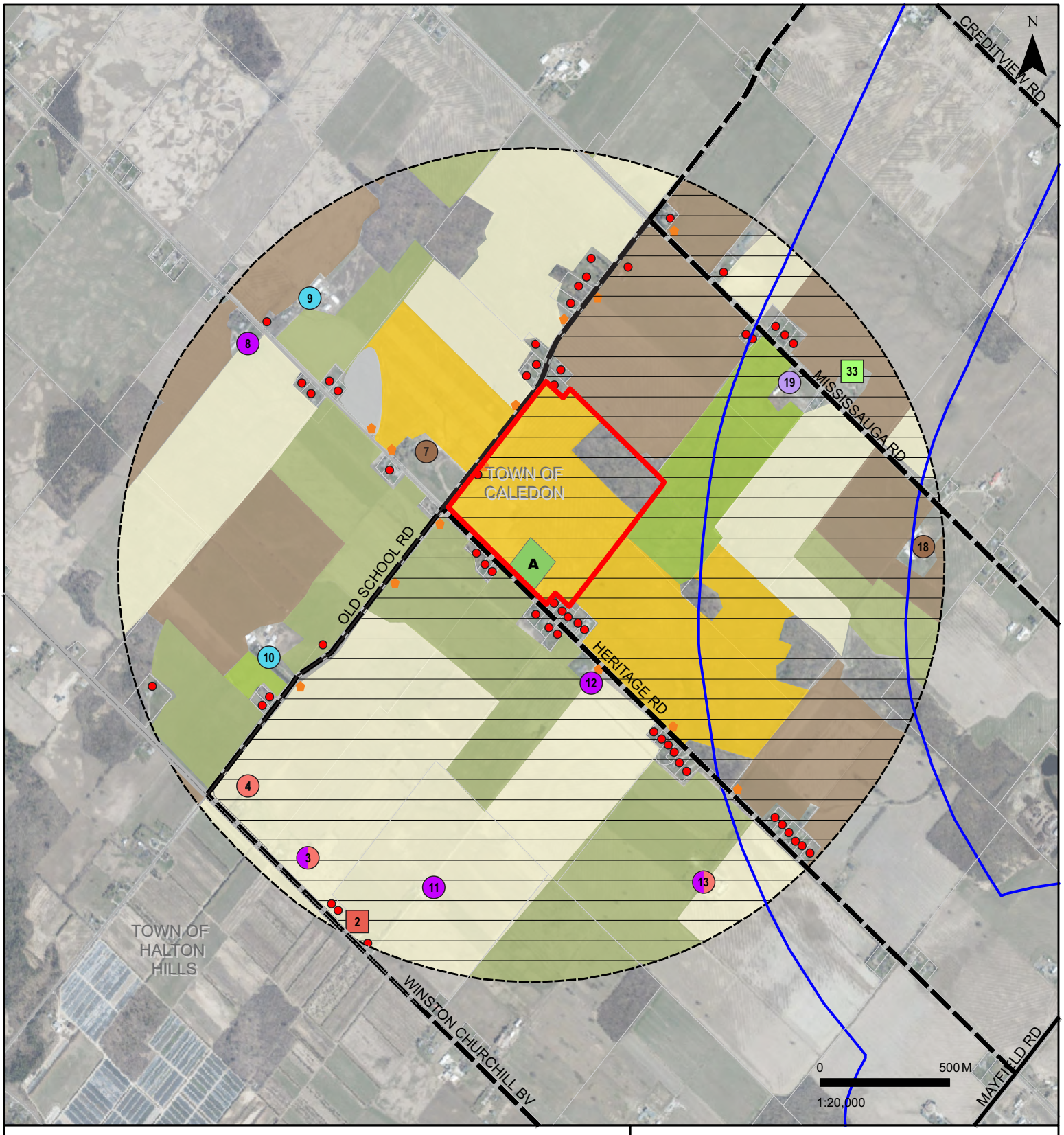
5.7.1 Agricultural Uses

The PPS definition of agricultural uses: "means the growing of crops, including nursery, biomass and horticultural crops; raising of livestock; raising of other animals for food, fur or fibre, including poultry and fish; aquaculture; apiaries; agro-forestry; maple syrup production; and associated on-farm buildings and structures, including, but not limited to livestock facilities, manure storages, value-retaining facilities and accommodation for full-time farm labour when the size and nature of the operation requires additional employment."

Farm types were noted and identified as either active or retired farm operations (e.g., empty livestock facilities), livestock, cash crop or hobby farms. Retired farm operations were evaluated to determine whether they should be considered an empty livestock operation or as a remnant farm. Remnant farms have no infrastructure that is suitable for housing livestock whereas the infrastructure for an empty livestock facility is still in a condition that could permit the keeping of livestock with minimal investment. These agricultural uses included two livestock operation, ten cash crop operations, two retired livestock/active cash crop operations, two equestrian operations, one beef operations, two poultry operations, two dairy operations, one remnant farm, and two retired livestock operations.

The crops observed are primarily common field crops that include a mix of corn, soybean, cover crops and pasture. Where field crops were not easily identifiable they were mapped as cultivated lands. Idle agricultural lands were also mapped in some areas.

In addition to the land uses observed, we also noted farm field access locations. These access locations will be important to maintain for the local farming community in order to access and egress safely.



1500m Study Area
Alternate 2ha Site
Candidate Site Parcel
Property Boundaries

Preferred Road Alignments Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary

Non-farm Residence
Field Access and Egress

Land Use (Region of Peel)
Rural

Non-agricultural Use
Commercial
Dog Obedience

Agricultural Use
Beef Operation
Cash Crop
Dairy Operation
Retired Operation
Livestock Operation

Cropping Pattern
Corn
Cover Crop
Pasture
Cultivated
Idle
Soybean

Figure 2
Candidate Site A - Land Use

AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



1500m Study Area
Candidate 2ha Site
Candidate Site Parcel
Non-farm Residence
Field Access and Egress

Land Use (Region of Peel)
Rural

Preferred Road Alignments Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary

Property Boundaries

Non-agricultural Use
Commercial
Retired Garage

Agricultural Use
Beef Operation
Cash Crop
Dairy Operation
Retired Operation
Livestock Operation

Cropping Pattern
Corn
Cover Crop
Pasture
Cultivated
Idle
Soybean

Figure 3
Candidate Site B - Land Use

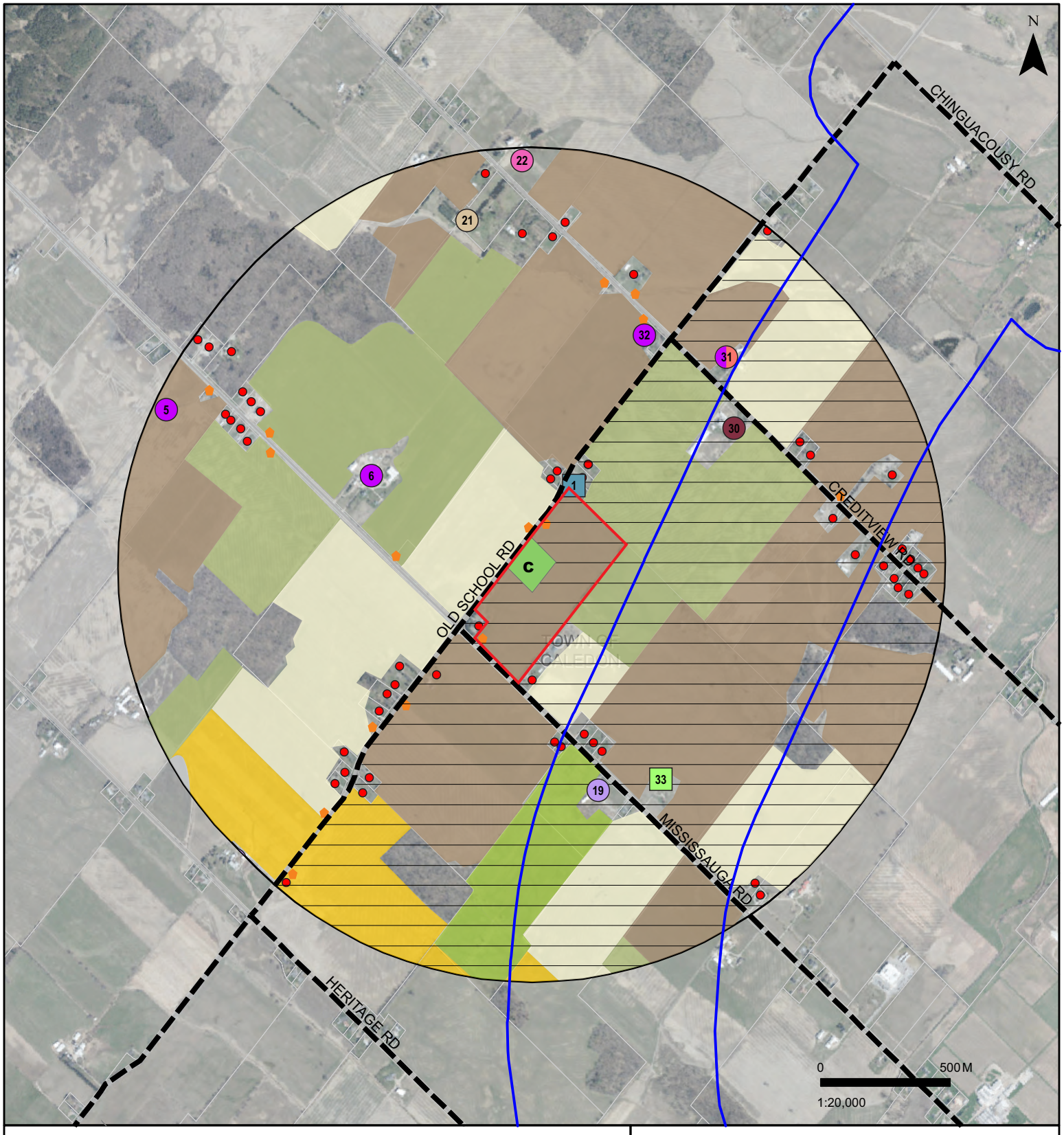
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

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DATE: October 2023

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1500m Study Area
Candidate 2ha Site
Candidate Site Parcel
Non-farm Residence
Field Access and Egress

Land Use (Region of Peel)
Rural

Preferred Road Alignments Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary

Non-agricultural Use
Commercial
Retired Garage

Agricultural Use
Cash Crop
Equestrian Operation
Remnant Farm
Livestock Operation

Property Boundaries

Cropping Pattern
Corn
Cover Crop
Pasture
Cultivated
Soybean

Figure 4
Candidate Site C - Land Use

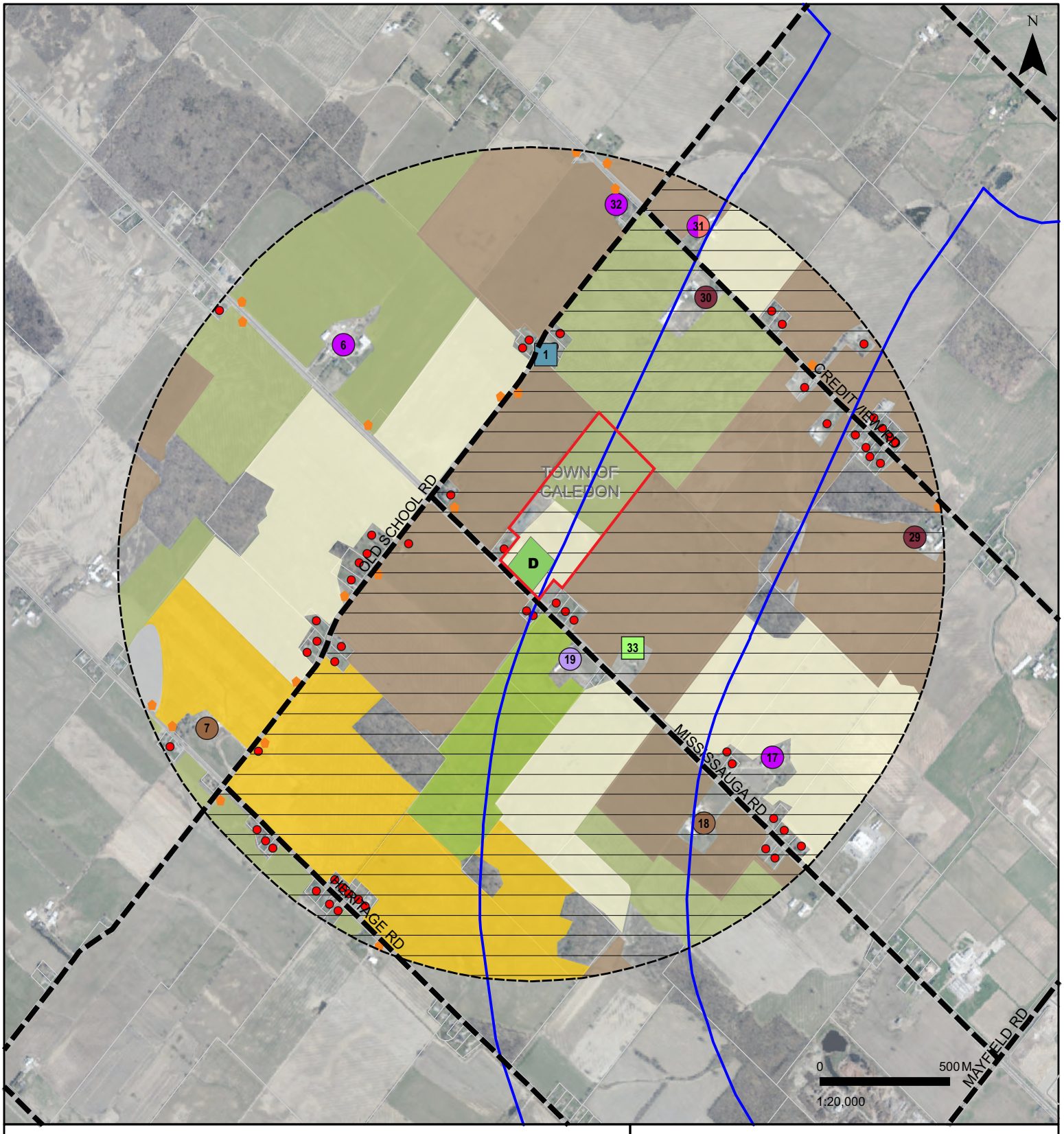
AIA for West Caledon
Transmission Main and Storage Facility

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1500m Study Area
Candidate 2ha Site
Candidate Site Parcel
Non-farm Residence
Field Access and Egress

Land Use (Region of Peel)
Rural

Preferred Road Alignments Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary

Property Boundaries

Non-agricultural Use
Commercial
Retired Garage

Agricultural Use
Cash Crop
Equestrian Operation
Poultry Operation
Beef Operation
Livestock Operation

Cropping Pattern
Corn
Cover Crop
Pasture
Cultivated
Idle
Soybean

Figure 5
Candidate Site D - Land Use

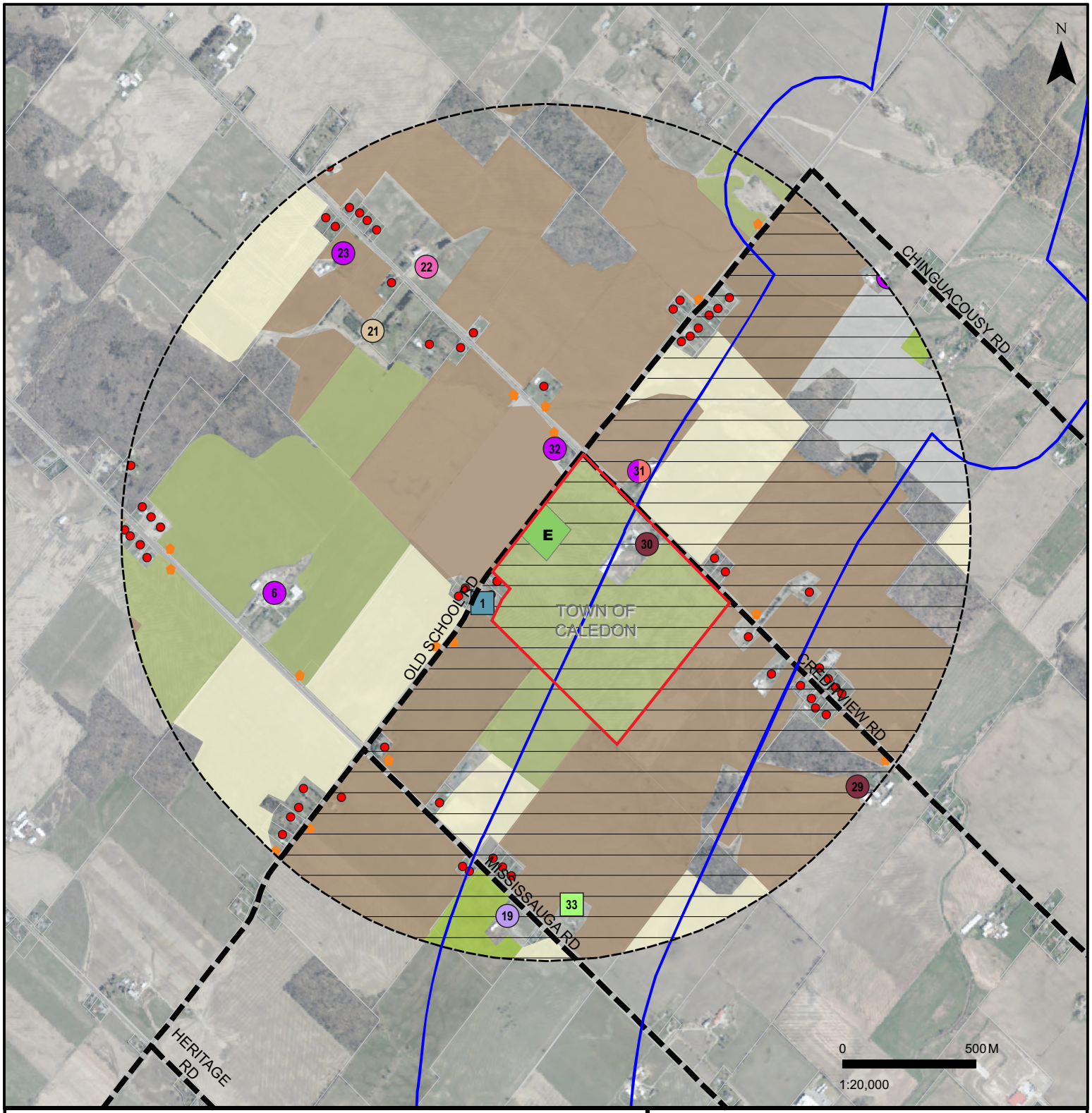
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



1500m Study Area
Candidate 2ha Site
Candidate Site Parcel
Non-farm Residence
Field Access and Egress

Land Use (Region of Peel)
Rural

Preferred Road Alignments Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary

Non-agricultural Use
Commercial
Garage

Agricultural Use
Cash Crop
Equestrian Operation
Poultry Operation
Retired Operation
Remnant Farm
Livestock Operation

Property Boundaries

Cropping Pattern
Corn
Cover Crop
Pasture
Cultivated
Idle

Figure 6
Candidate Site E - Land Use

AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092

Parcel A

Parcel A is approximately 40.03 ha in size and the majority of the property is being cultivated for common field crops. The southeastern portion of the parcel has lands that are wooded. There is a non-farm residence located in the northern part of the parcel and there are non-farm structures immediately adjacent to the parcel.

Within the Secondary Study Area for Candidate Site A there are nine agricultural uses. These include three cash crop operations, two retired livestock operations that now appear to be used solely for cash crop production, three livestock operations (one beef & two dairy operations) and one empty livestock operation.

Parcel B

Parcel B is approximately 39.33 ha in size and is currently being cultivated for common field crops. Within the boundaries of the parcel, there are three non-farm structures, which include a non-farm residence, accompanying shed, and garage. Additionally, there are several non-farm residences immediately adjacent to the parcel.

Within the Secondary Study Area for Candidate Site B, eight agricultural uses were identified. These include two cash crop operations, one retired livestock/active cash crop operations, two livestock operation, one beef operation, one poultry operation, and one dairy operation.

The retired livestock/active cash crop operation observed appears to have barns which are capable of housing livestock and could be considered to be empty livestock facilities.

Parcel C

Parcel C is approximately 20.11 ha in size and is currently being cultivated for common field crops. There are no structures located on the parcel.

Within the Secondary Study Area, an additional eight agricultural uses were identified. These include three cash crop operations, one retired livestock/active cash crop operation, one equestrian operation, one poultry operation, one livestock operation, and one remnant farm.

The remnant farm is not capable of housing livestock, however, the retired livestock/active cash crop operation observed appears to have barns which are capable of housing livestock and could be considered to be empty livestock facilities.

Parcel D

Parcel D is approximately 19.45 ha in size and is currently cultivated for common field crops. There are two implement sheds located on the parcel.

Within the Secondary Study Area, an additional nine agricultural uses were identified. These include three cash crop operations, one retired livestock/active cash crop operation, two livestock operations, one beef operation, two poultry operations.

The one retired livestock/active cash crop operation observed appears to have barns which are capable of housing livestock and could be considered to be empty livestock facilities.

Parcel E

This property is currently being cultivated for common field crops and is approximately 50.91 ha in size. There are three farm structures on the property, which appears to be a poultry operation. There are non-farm structures immediately adjacent to the parcel.

Within the Secondary Study Area, an additional ten agricultural uses were identified. These include four cash crop operations, one retired livestock/active cash crop operation, one equestrian operation, two poultry operations, one retired livestock operation, and one remnant farm. The retired livestock operation and the retired livestock/active cash crop operation observed appear to have barns which are capable of housing livestock and could be considered to be empty livestock facilities.

5.7.2 Agriculture-Related Uses

Agriculture-Related uses are farm-related commercial and industrial uses. As defined in the PPS, these are uses "that are directly related to farm operations in the area, support agriculture, benefit from being in close proximity to farm operations, and provide direct products and/or services to farm operations as a primary activity". These uses may include uses such:

- as retailing of agriculture-related products (e.g., farm supply co-ops, farmers' markets, and retailers of value-added products like wine or cider made from produce grown in the area);
- livestock assembly yards;
- farm equipment repair shops;
- industrial operations that process farm commodities from the area such as abattoirs, feed mills, grain dryers, cold/dry storage facilities and fertilizer storage facilities, which service agricultural area;
- distribution facilities;
- food and beverage processors (e.g., wineries and cheese factories); and
- agricultural biomass pelletizers

There are no agriculture-related uses were identified within the Secondary Study Areas.

5.7.3 On-Farm Diversified Uses

The PPS defines On-Farm Diversified uses as "uses that are secondary to the principal agricultural use of the property and are limited in area. On-farm diversified uses include, but are not limited to, home occupations, home industries, Agri-tourism uses, and uses that produce value-added agricultural products".

No On-Farm Diversified uses were identified within the Candidate Sites or in the Secondary Study Areas.

5.7.4 Non-Agricultural Uses

Non-farm land uses include non-farm residences, residential clusters, hamlets and settlement areas, municipal utilities, commercial and industrial operations, and recreational and institutional uses. Approximately 130 non-farm residences were observed throughout the five Secondary Study Area s.

In addition to the non-farm residences, three non-agricultural uses were identified throughout the Secondary Study Areas. These include one commercial use, one dog training operation, and one retired garage that was previously used for truck and trailer repair.

5.7.5 Land Use Summary

Table 6 summarizes the total number and type of land uses observed during the land use inventory.

Table 6: Land Uses Observed for All Secondary Study Areas

	Total No.	Active	Retired or Remnant
Agricultural	23	Cash Crop – 10 Retired Operation/Cash Crop – 2 Empty Livestock Operation – 2 Equestrian Operation – 1 Beef Operation – 1 Poultry Operation – 2 Dairy Operation – 2	Retired Operation – 2 Remnant Farm – 1
Agriculture-related	0	0	0
On-farm Diversified	0	0	0
	Total No.	**Type**	
Non-Agricultural	133	Non- Farm Residential - 130 Commercial – 1 Retired Garage – 1 Dog Training – 1	

5.8 Land Improvements

OMAFRA's Agricultural Information Atlas (AgMaps) provides artificial drainage mapping for the province. This online tool was accessed to obtain drainage mapping for the Candidate Sites. The mapping provided in Appendix J shows drainage improvements in the area. Disruption to the drainage improvements can negatively impact agricultural lands.

5.8.1 Drainage Improvements

Systematic tile drainage is present on Candidate Site Parcels A (33.32 ha), B (39.01 ha), and E (27.30 ha). The tile drainage located on Parcels A and B were installed in 2017. The installation date for the tile drainage located on Parcel E was unavailable through AgMaps. No drainage improvements are mapped on Parcel C or Parcel D.

Three constructed drains (municipal drains or natural watercourses that have been modified to improve drainage) were identified. The constructed drain (Lyons Drainage Works) traverses the northern and eastern portions of Candidate Site Parcel E. This drain runs northwest to southeast and connects to the Alloa Municipal Drain east of the Candidate Site.

5.8.2 Drainage Improvements in Surrounding Area

Large areas surrounding each of the five parcels are systematically tile drained. There are smaller areas of random tile drainage found in the northeastern and western portions of the study area. Installation dates of tile drainage within the Secondary Study Area range from 1999-2017.

Multiple constructed drains are also present within the adjacent lands. In addition to the Lyons Drainage Works, the Heritage Road Drainage Works constructed drain traverses the southern portion of Parcel A's Secondary Study Area. The Frazer Drainage Works constructed drain traverses a small area in the

southeastern portion of the Secondary Study Area of Parcel A and Parcel D, before connecting to the Alloa Municipal Drain. The Andrews Drainage Works drain traverses the northern portion of the Secondary Study Area and connects to the Alloa Municipal Drain. The Alloa Municipal Drain traverses the eastern and southern portions of the Secondary Study Area, flowing northeast before draining into the Etobicoke Creek.

5.8.3 Other Land Improvements

No other investments in land improvements were observed in the field or identified using the AgMaps Portal.

5.9 Economic and Community Benefits of Agriculture

Identifying the economic and community benefits associated with agriculture in the Study Area is an important consideration and informs the impacts associated with the proposed infrastructure works. The agri-food network plays a key role in the economy of Region of Peel, and particularly, the Town of Caledon.

According to the 2021 Census of Agriculture data, the Town of Caledon has 308 total farms, accounting for approximately 81.7% of farms in the Region of Peel. In Caledon, the agriculture and agri-food sector employed approximately 3,060 residents in 2021, accounting for approximately 7.1% of the labour force of Caledon.

As of 2021, there were a total of 377 farms within the Region of Peel. Of the 308 farms within the Town of Caledon, seven farms are valued under $200,000, three farms are valued between $200,000 and $499,999, 26 farms are valued between $500,000 and $999,999, and 272 farms are valued at $1,000,000 and over.

5.10 Land Use Compatibility

The efficient use of land resources can be ensured through the determination of land use compatibility. When considering the construction of an elevated tank, it is important to have a balance between its location and compatibility with the surrounding agricultural lands. The “Halton Region Land Use Compatibility Guidelines" provides guidance on the implementation of the Regional Official Plan’s land use compatibility policies and other supporting policies in order to minimize and mitigate potential conflict between non-compatible land uses.

As part of the AIA, we utilized the Halton Region Land Use Compatibility Guidelines to assess the compatibility of each of the five Candidate Sites with the surrounding agricultural land. Various impacts were considered, including traffic disruptions, damage to neighboring tile drainage, increased dust levels, and field access. As outlined in the Guidelines, the assessment must consider the possibility of odour, noise, and contaminant emissions. The elevated tank is not expected to result in any obnoxious odours, contaminant emissions, excessive levels of lighting and noise. The level of traffic accessing the site is expected to be minimal.

The proposed facility will be compatible with surrounding agricultural uses.

6. ASSESSMENT OF CANDIDATE SITES & ALTERNATIVE ROUTES

GMBP identified five Candidate Sites and five road segments along which the transmission main will be located. The new Zone 7W Storage Facility and transmission main will not be able to avoid prime agricultural area within the Town of Caledon. Therefore, the AIA will evaluate and compare agricultural resources and potential impacts of the construction of the storage facility and transmission main.

Each Candidate Site was evaluated in terms of soil resources, presence of agricultural infrastructure and land improvements, parcel size and viability of the farm parcel (based on its current size and following the future construction of Hwy 413), the potential for direct and indirect impacts on farm operations. The potential impacts were assessed for each farm parcel upon which a Candidate Site is located and indirect impacts for all farm operations within the 1.5 km of each proposed site.

The assessment of the Alternative Routes is based several factors including the potential impacts related to traffic volume, road segment lengths, the number of farm operations along each road segment, the number of tile drained fields and area of tile drainage potentially impacted by the construction of the watermain, and the number of farm field access points that could be lost or temporarily closed during construction.

6.1 Evaluation of Candidate Sites

6.1.1 Candidate Site A

Candidate Site A is located near the intersection of Heritage Road and Old School Road (Figure 2). It is proposed that access to the site will be from Heritage Road.

Soil Resources

Candidate Site A is located on a parcel that is 40.03 ha in size. Approximately 26.52 ha (66.25%) are mapped as CLI Class 1 lands and 13.51 ha (33.75%) consist of CLI Class 3 lands. The proposed site is located on CLI Class 1 lands and therefore, there will be a loss of 2 ha of CLI Class 1 lands.

Land Use, Infrastructure and Land Improvements

Figure 2 shows the land uses and farm field access points observed. The majority of Site A's parcel is cultivated for common field crops. Approximately 33.41 ha of the parcel is tillable, with the remaining 6.37 ha containing woodlands in the eastern portion of the parcel.

There is no agricultural infrastructure on Parcel A. However, OMAFRA's Artificial Drainage Systems mapping (AgMaps) indicates that there is approximately 33.26 ha of systematic tile drainage on the parcel. The proposed site is located within the tile drained area. There will be a loss of investment in tile draining 2 ha and repairs will need to be completed to ensure that the remaining tile drained lands remains effective.

No other land improvements on the parcel were identified through the land use survey or the AgMaps Portal.

Viability of Farm Parcel

The proposed site will remove 2 ha of cultivated land from the agricultural land base of the 40.03 ha farm parcel. Approximately 31.41 ha of the parcel is tillable and will remain available for continued agricultural production. The removal of 2 ha of land for the Storage Facility will not significantly impact the viability of the farm parcel.

The proposed location of Highway 413 is close to Candidate Site A. However, the proposed easement does not encroach on to the parcel. The proposed highway will not have a direct impact on the viability of the farm parcel.

Potential Impacts

The selection of Site A parcel for the proposed Storage Facility is expected to have a minor impact on future agricultural use of remaining lands. Direct impacts from the proposed Storage Facility will be primarily limited to the loss of the two hectares of prime agricultural lands (CLI Class 2 equivalent) and the loss of two hectares of systematic tile drainage.

Access to the farm fields is provided by the driveway associated with a non-farm residence along Old School Road. The proposed site location will not impact access to the farm fields.

There are nine farm operations within 1.5 km of Candidate Site A. Two of these are immediately adjacent to Parcel A. Farm machinery sharing the roads with construction vehicles may have a slight indirect impact on these operations. This impact is expected to be minor and temporary. Construction of the Storage Facility and associated transmission main have the potential to temporarily disrupt farm traffic and generate higher levels of dust.

A tile drainage repair plan should be implemented to ensure that the tile drainage system on the unaffected lands remains in good repair and effective. Prior to construction activities, the locations of tile drainage outlets, tiles, and headers should be identified. Care must be taken to ensure that the tile is not damaged and/or disrupted during construction. If possible, tile drainage works should be undertaken prior to construction activity.

Roadside ditches should be maintained to convey surface waters away from agricultural lands and ensure there is no temporary ponding of agricultural fields. Dust generated from construction activity has the potential to negatively impact surrounding farm operations. Mitigation measures should be employed to reduce the levels of dust being generated during construction, to the extent possible.

With the implementation of the recommended mitigation measures, impacts to adjacent farm operations associated with locating the Storage Facility on the Site A parcel are anticipated to be negligible and temporary. The mitigation measures are summarized in Appendix K.

6.1.2 Candidate Site B

Candidate Site B is located near the intersection of Mississauga Road and Old School Road (Figure 3). Access to Candidate Site B will be from Mississauga Road.

Soil Resources

The parcel containing Candidate Site B is 39.33 ha in size. Approximately 38.67 ha (98.34%) of the parcel consists of CLI Classes 1 lands and 0.65 ha (1.66%) CLI Class 3 lands. Candidate Site B is located on CLI Class 1 lands. Locating the facility at the proposed location will result in the removal of 2 ha of CLI Class 1 lands.

Land Use, Infrastructure and Land Improvements

Figure 3 shows the land uses and farm field access points observed. The majority of the Site B parcel is cultivated for field crop production. There is no agricultural infrastructure located within the Site B parcel.

According to OMAFRA's Artificial Drainage Systems mapping, the Site B parcel contains approximately 38.54 ha of systematic tile drainage. The proposed site is located within the tile drained area. There will be a loss of investment in tile draining 2 ha and repairs will need to be completed to ensure that the remaining tile drained lands remains effective.

No other land improvements on the parcel were identified through the land use survey or the AgMaps Portal.

Candidate Site B is close to the non-farm residence on the Site B parcel, there are also non-farm residences on adjacent parcels to the northwest and northeast. One livestock operation is located immediately southeast of Site B, and another is located further southwest of the parcel. There is one farm field access to the Site B parcel from Old School Road.

Highway 413 is a proposed transportation corridor that will be dedicated to public transportation (e.g., buses and light rail transit). The transportation corridor includes a small portion of the Candidate Site Parcel B (approximately 0.02 hectares). This represents only 0.05% of Candidate Site Parcel B. The proximity of the proposed highway will further reduce the agricultural priority of these lands by increasing the potential for conflict between farm and non-farm land uses and increased non-farm traffic.

Viability of Farm Parcel

Site B is comparable in size to Site A and has similar agricultural capabilities. The removal of two hectares of land for the Storage Facility will not have a significant impact on the viability of the farm parcel for a range of agricultural uses.

The proposed location of Highway 413 is close to Candidate Site A. The proposed easement encroaches slightly into the farm parcel (approximately 0.02 ha). The proposed highway will also not have significant impact on the viability of the farm parcel.

Potential Impacts

The location of Candidate Site B will have a small impact on the farm parcel following the removal of 2 ha of prime agricultural land and systematic tile drainage.

There are eight farm operations located within 1.5 km of Candidate Site B, which includes one livestock operation immediately adjacent to farm parcel B. Construction activity may have an indirect impact on these operations mainly related to conflicts associated with traffic.

The area that would remain available for agricultural use following construction of the proposed Storage Facility is approximately 37.33 ha, which is equivalent to 94.91% of the current Site B parcel.

Construction of the Storage Facility and associated transmission main have the potential to temporarily disrupt farm traffic, restrict access to farm fields, impact surrounding tile drainage, and generate higher levels dust.

Farm field access to the Site B parcel along the Old School Road should be maintained during and, if necessary, repaired post-construction. Similarly, the farm field access adjacent to the Site B parcel north of Old School Road and the farm field access point east of the Site B parcel should also be maintained during construction.

With the implementation of the mitigation measures outlined in Appendix K, the disruption of farm traffic, blocked access to farm fields, impacts associated with loss or/damage to tile drainage, and excess dust are anticipated to be negligible and temporary.

6.1.3 Candidate Site C

Candidate Site C is located near the intersection of Mississauga Road and Old School Road (Figure 4). The easement for the proposed Highway 413 is near but does not encroach into the Site C parcel.

Soil Resources

Site C is located on a parcel that is 20.11 ha in size. These lands are comprised entirely of CLI Class 1 lands.

Land Use, Infrastructure and Land Improvements

Figure 4 shows the land uses and farm field access points observed. All of the Site C parcel is actively cultivated for common field crop production. There is no agricultural infrastructure located within the Site C parcel. There is no tile drainage on the Site C parcel and no other land improvements were identified on the parcel .

Candidate Site C is located in close proximately to four non-farm residences located on adjacent parcels to the south, southwest, and northeast of the site. There is one commercial use located immediately northeast of Site C (S&G Truck and Trailer Repair) that appears to be closed.

Two farm field access points were identified. One is located along Old School Road and the other access point to the Candidate C parcel is from Mississauga Road. An additional farm field access point is present along Old School Road for lands immediately adjacent to and north of the Site C parcel .

Viability of Farm Parcel

Of the five Candidate Sites, the Site C parcel is the second smallest. Removal of two hectares of land for the Storage Facility will have a comparatively greater impact on the future viability of the parcel for agricultural uses.

Potential Impacts

Direct impacts from the proposed Storage Facility will be primarily limited to the loss of the two hectares of prime agricultural lands (CLI Class 1). The configuration and location of the Storage Facility may cause the remaining lands to be managed less efficiently for agricultural uses.

Most active farm operations are well removed from Site C, reducing the likelihood of impacts associated with disruption to farm traffic, damage to the tile drainage system on adjacent lands, and higher levels of dust during construction. It is anticipated that the construction of the Storage Facility will have a negligible impact on other surrounding farm operations in the area.

All field access points to the Candidate C parcel and those on adjoining lands should be maintained during construction and, if necessary, repaired post-construction. Mitigation measures are summarized in Appendix K.

6.1.4 Candidate Site D

Candidate Site D is located immediately south of Site parcel C and east of Site B parcel. Access to Candidate Site D will be from Mississauga Road (Figure 5). This is the smallest of the five parcels at 19.45 ha in size and it lies within the proposed alignment of Hwy 413.

Soil Resources

The Candidate Site D parcel is entirely comprised of CLI Class 1 lands.

Land Use, Infrastructure and Land Improvements

Figure 5 shows the land uses and farm field access points observed. The majority of Site D's parcel is cultivated for common field crops. There are two structures located within the Site D parcel, however, they do not appear to be used for agricultural purposes.

There is no tile drainage on the Site D parcel and no other land improvements were identified.

There is one livestock operation (poultry farm) adjacent to and east of the Site D parcel. It appears that farm access to the D parcel is from this livestock operation. No field access points were identified directly from Mississauga Road, however, access to the property may also be gained from the rural residential dwelling to the north of the proposed Candidate Site.

The portion of the parcel that will be consumed by Highway 413 is approximately 8.18 ha, which is equivalent to 42.04% of the parcel. This will further reduce the agricultural priority of these lands as it will increase the potential for conflict between farm and non-farm land uses and increase non-farm traffic.

Viability of Farm Parcel

The Candidate Site D parcel is the smallest of the five candidate sites. The removal of 2 ha of prime agricultural land for the proposed Storage Facility will leave approximately 17.45 ha available for agricultural uses. The proposed location of Candidate Site D is immediately adjacent to the proposed route of Hwy 413. The highway alignment occupies approximately 42% of the parcel. The combination of the future presence of the proposed Storage Facility and Hwy 413 will remove approximately 10 ha from the agricultural land base for this parcel. This will have a significant negative impact on the viability of the parcel for future agricultural uses.

Potential Impacts

The direct impacts of the proposed Storage Facility will be limited to the loss of two hectares of prime agricultural lands (CLI Class 1) and the loss of these lands for future crop production. The presence of the future 413 Hwy further reduce the agricultural priority of the lands for agricultural purposes.

It is unlikely that the proposed Storage Facility will have a significant indirect impact on farm operations in the surrounding area. The construction activity may cause temporary disruption to the movement of farm traffic, damage to surrounding tile drainage, and increased levels of dust. Although farm field access is well removed from Site D, it is important to ensure that access is maintained throughout the construction phase. Construction of the Storage Facility should ensure that tile drainage systems on adjacent lands are not negatively impacted. Mitigation measures are provided in Appendix K.

6.1.5 Candidate Site E

Candidate Site E is located at the intersection of Old School Road and Creditview Road (Figure 6). It lies immediately to the east of the Candidate Site Parcel D. The Candidate Site Parcel E is the largest of the five parcels.

Soil Resources

The Candidate Site Parcel E is 50.91 ha in size and consists of CLI Class 1 lands.

Land Use, Infrastructure and Land Improvements

Figure 6 shows the land uses and farm field access points observed. The majority of the Candidate Site E parcel is cultivated for common field crops. There is a substantial amount of investment in agricultural facilities and land improvements on this property. A poultry operation (#30) is located on this parcel with several ancillary buildings and facilities. The parcel contains approximately 27.35 ha of systematic tile drainage. The Lyons Creek Drainage Works (municipal drain) traverses through the eastern portion of the property. No other land improvements on the parcel were identified.

Adjacent land uses include several non-farm residences, a cash crop operation, a retired livestock operation, and a retired non-agricultural commercial use.

The alignment of the proposed Highway 413 is planned to traverse the eastern half of the Site E parcel. The portion of the parcel that will be consumed by Highway 413 is approximately 27.97 ha, which is equivalent to 54.95% of the parcel. This will further reduce the agricultural priority of these lands.

Farm field access appears to be through the entrance to the farm. No other farm field access points were observed.

Viability of Farm Parcel

The area that would remain available for agricultural use following construction of the proposed Storage Facility is approximately 48.91 ha, which is equivalent to 96.07% of the current Site E parcel. The removal of 2 ha of prime agricultural land for the Storage Facility will have a minimal impact on the viability of the parcel. However, the proposed construction of Highway 413 will have a significant negative impact on the agricultural land base of the property.

Potential Impacts

The removal of two hectares of prime agricultural land for the Storage Facility will have a negligible impact on future agricultural uses on the parcel. Other direct impacts will be limited to the loss of approximately one hectare of systematic tile drainage.

Construction activity associated with the Storage Facility may cause some minor indirect impacts to other the agricultural operations near Site E. Construction activity may lead to the disruption of farm traffic, damage to surrounding tile drainage, and dust.

The driveway to the farm operation is expected to remain the farm field access point within the Site E parcel. It is unlikely that construction will have an impact on this access point.

Indirect impacts such as temporary disruption of farm traffic, blocked access to farm fields, impacts to surrounding tile drainage, and dust generated through construction activity are anticipated to be negligible and can be mitigated effectively with the mitigation measures provided in Appendix K.

6.2 Preferred Candidate Site

The comparative analysis completed for the five Candidate Sites is provided in Table 7. Although the proposed facility will be compatible with the surrounding agricultural uses at all five sites, the Candidate Site that is likely to have the least impact on agricultural resources, operations, investments, and normal farm practices is Candidate Site D.

Table 7 Evaluation of Candidate Sites

Category/ Criteria	Candidate Sites	Comparative Analysis of Candidate Sites														
			Site A			Site B			Site C			Site D			Site E	
	Indicators		Feature	Net Impact		Feature	Net Impact		Feature	Net Impact		Feature	Net Impact		Feature	Net Impact
Agriculture	Amount and quality of prime agricultural land (PAL) removed	◑	PAL	40.03 ha of PAL • 66.25% CLI Class 1 • 33.75% CLI Class 3 Loss of 2 ha of CLI Class 1	◑	PAL	39.33 ha of PAL • 98.34% CLI Class 1 • 1.66% CLI Class 3 Loss of 2 ha of CLI Class 1	◑	PAL	20.11 ha of PAL • 100% CLI Class 1 Loss of 2 ha of CLI Class 1	◑	PAL	19.45 ha of PAL • 100% CLI Class 1 Loss of 2 ha of CLI Class 1	◑	PAL	50.91 ha of PAL • 100% CLI Class 1 Loss of 2 ha of CLI Class 1
	Presence of agricultural infrastructure	●	Presence of Farm Operation On-Site	No agricultural infrastructure on this parcel	●	Presence of Farm Operation On-Site	No agricultural infrastructure on this parcel	●	Presence of Farm Operation On-Site	No agricultural infrastructure on this parcel	●	Presence of Farm Operation On-Site	No agricultural infrastructure on this parcel	○	Presence of Farm Operation On-Site	One livestock operation present Potential for temporary disruption to normal farm practices during construction.
	Presence of land improvements	◑	Presence of Tile Drainage	Loss of 2 ha of approximately 33.26 ha of systematic tile drainage on site.	◑	Presence of Tile Drainage	Loss of 2 ha of approximately 38.54 ha of systematic tile drainage on site.	●	Presence of Tile Drainage	None Present. No Impact.	●	Presence of Tile Drainage	None Present. No Impact.	○	Presence of Tile Drainage	Loss of 0.67 ha of approximately 27.35 ha of systematic tile drainage installed. Lyons Creek Drainage Works traverses the property from northwest to southeast.
	Farm Viability before HWY 413 Construction	○	Parcel Size	38.03 ha	○	Parcel Size	39.33 ha	●	Parcel Size	20.11 ha	●	Parcel Size	19.45 ha	○	Parcel Size	50.91 ha
	Farm Viability after HWY 413 Construction	○	Parcel Size	38.03 ha	○	Parcel Size	39.31 ha	◑	Parcel Size	20.11 ha	●	Parcel Size	11.27 ha	◑	Parcel Size	22.93 ha
	Potential for indirect impacts on farm operations within 1.5 km	○	Presence of adjacent farm operations	Nine farm operations • 4 livestock • 5 cash crop	○	Presence of adjacent farm operations	Eight farm operations • 3 livestock • 5 cash crop	●	Presence of adjacent farm operations	Five farm operations • 4 cash crop • 1 livestock	◑	Presence of adjacent farm operations	Seven farm operations • 3 livestock • 4 cash crop	◑	Presence of adjacent farm operations	Six farm operations • 2 livestock • 4 cash crop
	Potential to disrupt access of farm equipment to farm parcels during key seasons	◑	Farm Parcel Access	• One (1)	◑	Farm Parcel Access	One (1)	○	Farm Parcel Access	Two (2)	●	Farm Parcel Access	None directly from Mississauga Rd.	●	Farm Parcel Access	None
	Potential for negatively impacting adjacent farm operations	◑	Number of Adjacent Farm Operations	Two • One Beef • One Cash Crop	◑	Number of Adjacent Farm Operations	One • Livestock Note, operation is located within Hwy 413 Easement and likely to be retired	●	Number of Adjacent Farm Operations	None	●	Number of Adjacent Farm Operations	None	◑	Number of Adjacent Farm Operations	Two • Former dairy operation now mapped as cash crop • Cash crop operation

Least Preferred ○ → ◑ → **Most Preferred** ●

6.3 Alternative Route Selection

The Transmission Main from the new Zone 7W Storage Facility to the Alloa Pumping Station will be located within the road easements. The roads will include Old School Road, Mayfield Road, Mississauga Road, Creditview Road and Heritage Road. These Alternative Routes are assessed based on potential impacts related to traffic volume, road segment lengths, the number of farm operations along each road segment, the number of tile drained fields and area of tile drainage potentially impacted by the construction of the watermain, and the number of farm field access points that could be lost or temporarily closed during construction.

When considering farm field access, it is essential that farm operations continue to be able to access their agricultural lands. The transmission main construction should ensure that access to farm fields is maintained both during construction and post-construction.

6.3.1 Old School Road

Based on the traffic volumes observed during the field inventories, the traffic volume on Old School Road is already high. Farmers using Old School Road to transport machinery and goods, or to access farm fields already have to contend with this high volume of traffic.

The Old School Road segment is approximately 5.5 km in length. There are four farm operations located along this route. Ten farm fields along the route are tile drained. The transmission main has the potential to disrupt up to 205.5 ha of tile drained land.

There are thirteen (13) farm field access points located along the Old School Road segment. This route has the highest potential to create field access concerns for farmers in the area. Transmission main construction should ensure that access to farm fields is maintained both during construction and post-construction.

6.3.2 Creditview Road

Traffic volumes along Creditview Road was observed to be high which increase to potential for conflicts to arise between farm and non-farm traffic.

The length of this segment is approximately 3.08 km. There are five farm operations located along this route and nine tile drained fields. The tile drained fields total approximately 158 ha. The Transmission main construction should ensure that tile drains are maintained and if encountered repaired as soon as possible.

Only three farm access points were identified along this route. Transmission main construction should ensure that these access points remain open to farm vehicles.

6.3.3 Mississauga Road

The traffic volume observed along this segment of Mississauga Road was recorded as moderate.

The length of the route, similar to Creditview Road, is 3.08 km. There are four farm operations located along this segment and five fields are tile drained. The tile drained fields total approximately 125 ha. Only one farm access field point was observed.

6.3.4 Heritage Road

Traffic volumes were observed to be moderate along the 3.10 km length of the Heritage Road segment.

There are three farm operations located along this segment and five farm field access points. Eight of the fields, totaling 171 ha, along the route are tile drained.

6.3.5 Mayfield Road

High levels of traffic were observed along the 5.5 km length of the Mayfield Road segment.

There are six farm operations located along this route and four field access points were observed. There are four fields that are tile drained which total approximately 123 ha.

6.4 Preferred Transmission Main Route

A comparative analysis of the five route segments is provided in Table 8. The segment that is likely to have the least impact on the Agricultural System is one that includes Mississauga Road.

Table 8. Evaluation of Alternative Routes

		Comparative Analysis of Alternative Routes														
Category/ Criteria	**Alternative Routes**		**Old School Road**			**Creditview Road**			**Mississauga Road**			**Heritage Road**			**Mayfield Road**	
Indicators			Feature	Net Impact		Feature	Net Impact		Feature	Net Impact		Feature	Net Impact		Feature	Net Impact
Agriculture	Potential Conflicts Moving Farm Machinery and Goods along Route	○	Traffic Volume	High	○	Traffic Volume	High	●	Traffic Volume	Moderate	●	Traffic Volume	Moderate	○	Traffic Volume	High
	Potential for Disruption Along Route	○	Length of Route	5.5 km	●	Length of Route	3.08 km	●	Length of Route	3.08 km	●	Length of Route	3.10 ha	○	Length of Route	5.5 km
	Potential for Disruption Along Route	◑	Number of Farm Operations along Route	Four (4)	◑	Number of Farm Operations along Route	Five (5)	◑	Number of Farm Operations along Route	Four (4)	●	Number of Farm Operations along Route	Three (3)	○	Number of Farm Operations along Route	Six (6)
	Potential Disruption of Tile Drainage Systems along Route	○	Number of Tile Drained Fields	Ten (10)	○	Number of Tile Drained Fields	Nine (9)	●	Number of Tile Drained Fields	Five (5)	◑	Number of Tile Drained Fields	Eight (8)	●	Number of Tile Drained Fields	Four (4)
	Potential Impacts to Tile Drainage Systems along Route	○	Area Potentially Impacted	205.5 ha	◑	Area Potentially Impacted	158 ha	●	Area Potentially Impacted	125 ha	○	Area Potentially Impacted	171 ha	◑	Area Potentially Impacted	123 ha
	Loss or Temporary Closure of Access Points to Farm Fields/Operations	○	Number of Farm Access Points	Thirteen (13)	◑	Number of Farm Access Points	Three (3)	●	Number of Farm Access Points	One (1)	◑	Number of Farm Access Points	Five (5)	◑	Number of Farm Access Points	Four (4)

Least Preferred ○ → ◑ → ● **Most Preferred**

7. CONCLUSIONS

Colville Consulting Inc. was retained by GM BluePlan to conduct an agricultural impact assessment as part of the Municipal Class EA being prepared for the construction of the proposed Zone 7W Elevated Tank and Transmission Main. The study included a comparative analysis of the five Candidate Sites and Alternative Routes for the Transmission Main.

All five Candidate Sites are located in the Town of Caledon's prime agricultural area. Given the locational requirements of the facility, the prime agricultural area could not be avoided. As per the provincial and municipal policies, an agricultural impact assessment was required to demonstrate that impacts of the proposed development are considered and minimized through mitigation to the extent possible.

The agricultural resources have been assessed and potential impacts identified for each of the Candidate Sites and Alternative Routes. Overall, the potential impacts on the five Candidate Sites are relatively low and the proposed facility will be compatible with surrounding agricultural operations.

The comparative analysis of the five Candidate Sites determined that Candidate Site D will have the least impact on the Agricultural System. A route for the Transmission Main that predominantly follows Mississauga Road will have the least impact on the Agricultural System. The comparative analysis is summarized in Tables 7 and 8.

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8. GLOSSARY OF TERMS

Agricultural Uses:* - means the growing of crops, including nursery and horticultural crops; raising of livestock and other animals for food, or fur, including poultry and fish; aquaculture; agro-forestry; maple syrup production; and associated on-farm buildings and structures.

Agriculture-related Uses:* - means those farm-related commercial and farm-related industrial uses that are small scale and directly related to the farm operation and are required in close proximity to the farm operation.

Agricultural System: - An agricultural system is comprised of two components:

- An agricultural land base consisting of prime agricultural areas, including specialty crop areas, and rural lands that together create a continuous productive land base for agriculture.
- An agri-food network that includes infrastructure, services, and assets, important to the viability of the agri-food sector.

Agri-Food Network:* - An agri-food network includes the infrastructure, services and other agri-food assets needed to sustain and enhance the prosperity of the agri-food sector.

Cash Crop: - means a crop being produced for income purposes and not to supplement a livestock operation by contributing to feed requirements.

Catena: - the group of soils that have developed on the same parent material but as a result of being located on a different position in the landform the group differs by drainage class (i.e., well drained, imperfectly drained, and poorly drained).

Cultivated: - means lands that have recently been under active agricultural production, however, depending on the season or growth stage of the crop during the land use survey or through aerial photographic interpretation the crop type could not be determined.

Development: - means the creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act; but does not include activities that create or maintain infrastructure authorized under an environmental assessment process; or works subject to the Drainage Act.

Former Livestock Facility:* - means an empty livestock facility that no longer contains manure or livestock. The buildings are generally in fair to good condition and the potential for housing livestock in the building remains. The MDS formula is applied to these facilities.

Hobby Farm: - A residential dwelling, with or without accessory buildings, which may include some crop production for personal consumption or limited sale; and/or small numbers of livestock raised for personal consumption, pleasure, or limited sale. A hobby farm normally will generate little or no income and as such may not have a Farm Business Registration Number.

Idle Agricultural Lands: - means lands that have not been used for agricultural production for at least five years (estimated).

Livestock:* - includes dairy, beef, swine, poultry, horses, goats, sheep, ratites, fur-bearing animals, deer & elk, game animals, birds, and other animals.
Livestock Facility:* - means one or more barns or permanent structures with livestock-occupied portions, intended for keeping or housing livestock. A livestock facility also includes all manure or material storages and anaerobic digesters.
Minimum Distance Separation (MDS) Formulae: - formulae and guidelines developed by the province, as amended rom time to time, to separate uses so as to reduce incompatibility concerns about odour from livestock facilities.
Minimum Distance Separation (MDS) I Formulae: - used to determine the minimum distance separation for new development from any existing and some former livestock facilities.

Minimum Distance Separation (MDS) II Formulae: - used to determine the minimum distance separation for new or expanding livestock facilities from existing non-farm land uses.

Prime Agricultural Areas:* - means an area where *prime agricultural land* predominates. Prime agricultural areas may also be identified through an alternative agricultural land evaluation system approved by the Province.

Prime Agricultural Land:* - means land that includes *specialty crop lands* and/or Canada Land Inventory Class 1, 2 and 3 soils, in this order of priority for protection.

Provincial Policy Statement: - the Provincial Policy Statement (PPS) was issued under Section 3 of the Planning Act and came into effect in May of 1996 and subsequently updated in 1997 and again in 2005. The PPS provides policy direction on matters of provincial interest related to land use planning and development.

Remnant: - means a location where one or more farm buildings once stood. All or some of the buildings have fallen, are severely structurally unsound and/or been removed. No MDS would be applied to a remnant farm operation.

Retired Farm Operation: - means a former farm operation whose buildings or farm related structures remain; however, it has either been converted to a non-agricultural use; would require significant upgrades and investment to modernize; or it is in poor condition and not suitable for agricultural uses. The MDS may still apply if it is a former livestock facility.

Settlement Area:* - As defined in the Provincial Policy Statement, 2005, this means urban areas and rural settlement areas within municipalities (such as cities, towns, villages, and hamlets) that are:

a) built up areas where development is concentrated and which have a mix of land uses, and

b) lands which have been designated in an official plan for development over the long-term planning horizon provided for in policy 1.1.2of the PPS. In cases where land in designated growth areas is not available, the settlement area may be no larger than the area where development is concentrated.

Specialty Crop Areas:* - means areas within the agricultural land base designated based on provincial guidance. In these areas, specialty crops are predominantly grown such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops and crops from agriculturally developed organic soil., usually resulting from:

a) soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both;

b) farmers skilled in the production of specialty crops; and

c) a long-term investment of capital in areas such as crops, drainage, infrastructure and related facilities and services to produce, store, or process specialty crops.

Soil Horizon: - a layer of soil, approximately parallel to the land surface, that differs from adjacent layers in properties such as texture, colour, structure, etc. As an example, the surface horizon of a mineral soil is recorded as the "A" horizon. If the surface is ploughed then the suffix p is used (i.e., Ap) if the surface has not been ploughed, as in a forest soil, a humic layer generally develops and an eluviated light coloured soil horizon often forms immediately below. These horizons are identified with the suffix h is used (i.e., Ah) and e (i.e., Ae), respectively. The weathered portion of the profile below the A horizons is identified as the "B" horizon and the unweathered, parent material is the "C" horizon.

Tender Fruit: - a term applied to tree fruits such as peaches, apricots, and nectarines which are particularly sensitive to low winter and/or spring temperatures.

Unoccupied Livestock Barn: - A livestock barn that does not currently house any livestock, but that housed livestock in the past and continues to be structurally sound and reasonably capable of housing livestock.

Wooded: - Forested areas of various age composition and size.

* *Indicates that the definition is essentially derived from OMAFRA publications.*

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APPENDIX A
CURRICULUM VITAE

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SEAN M. COLVILLE, B.Sc., P.Ag.

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Tel: 905 935-2161 Email: sean@colvilleconsultinginc.com

EDUCATION

B.Sc. Geology, Acadia University, 1986
Soil Science, University of Guelph, 1984

PROFESSIONAL AFFILIATIONS

Ontario Institute of Agrology
Agricultural Institute of Canada

POSITIONS HELD

2003 – Present	Colville Consulting Inc., St. Catharines, Ontario. President
2001 – 2003:	ESG International Inc., St. Catharines, Senior Project Manager/Office Manager
1998 – 2001:	ESG International Inc., Guelph, Senior Project Manager
1988 – 1998:	ESG International Inc., Guelph, Project Manager
1984 – 1988:	MacLaren Plansearch Ltd., Halifax, Nova Scotia, Soil Scientist
05/1982 - 09/1983:	Nova Scotia Department of Agriculture and Marketing, Nova Scotia, Assistant Soil Scientist

EXPERIENCE

Sean M. Colville, B.Sc., P.Ag., president of Colville Consulting Inc., established the firm in June of 2003 to provide consulting services for clients involving matters related to agriculture and the natural environmental. Sean has over 30 years of consulting experience which includes agricultural resource evaluation studies, soil survey and interpretation of agricultural capability, agricultural impact assessment and alternate site assessments, and soil and microclimatic rehabilitation/restoration projects. Sean has extensive experience interpreting agricultural land use policies involving development applications and settlement expansion proposals.

Sean is a Professional Agrologist (P.Ag.), and a member of the Ontario Institute of Agrology and the Agricultural Institute of Canada. Sean has been recognized by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) as an expert in the identification of Prime Agricultural Areas and in the interpretation of the Minimum Distance Separation requirements for livestock operations.

Sean has been qualified to present expert testimony before the Ontario Municipal Board, the Consolidated Joint Board the Assessment Review Board, Ontario Superior Court proceedings and the Normal Farm Practices Protection Board for projects involving land use planning matters as they relate to agriculture, impact assessment, resource evaluation and soil science.

Agricultural Impact Assessment, Alternative Site Studies, Minimum Distance Separation

Sean specializes in agricultural impact assessment and alternative site studies for development applications and urban boundary expansion proposals. His experience includes well over 100 agricultural impact assessments and soil surveys for a wide variety of projects including Class EAs for linear facilities, waste management facilities, municipal services, impact assessments for aggregate operations, residential, commercial, recreational, industrial and institutional developments. Many of these projects require the interpretation of agricultural land use policies, inventory and assessment of the agricultural resources, land use, land tenure, an assessment of conflict potential including determination of minimum distance separation requirements, identification of prime agricultural lands and areas, and interpretation of the agricultural priority of lands proposed for development.

Sean has been retained by both municipalities and private sector clients to prepare agricultural impact assessment for settlement area expansion proposals and the development of secondary plans. Sean has also been retained by municipalities to complete peer review studies of agricultural impacts assessments and minimum distance separation calculations for various development applications.

The list below provides some examples of the studies completed by Sean. Project involving settlement area expansion are bolded.

- Agricultural Impact Assessment for ROPA Bolton Residential Expansion Study – Town of Caledon (2020)*
- Cannabis Production and Processing - 1970488 Ontario Inc. v. Norfolk LPAT Hearing 2020*
- Agricultural Impact Assessment for Greenfield (Orleans South), City of Ottawa (2019)*
- Preparation of affidavit regarding permitted uses in prime agricultural lands for LPAT - The Green Organic Dutchman Holdings Limited (2018)*
- Preparation of affidavit regarding permitted uses in prime agricultural lands for LPAT affidavit for LPAT - Red Hill Cannabis Inc. (2018)*
- Agricultural Impact Assessment for Twenty Road East Landowners Group, City of Hamilton
- Agricultural Impact Assessment for Book Road West Landowners Group, City of Hamilton
- Agricultural Impact Assessment for Activa Holdings Inc. SW Kitchener
- Agricultural Impact Assessment for Schuyler Farms Limited, County of Norfolk (2015) *
- Agricultural Impact Assessment and Alternative Site Assessment for North West Quadrant, Niagara Falls, Regional Municipality of Niagara (2014)*
- Agricultural Impact Assessment for Smith Farm - Airport Employment Growth District, City of Hamilton (2014-15)
- Agricultural Alternate Site Study in Cavan-Monaghan Township for Brookfield Residential (2014)
- Agricultural Impact Assessment and Alternative Site Analysis for Angus Manor, Township of Essa, Simcoe County (2014)
- King Township Official Plan: Review and Update of Agricultural Policies, King Township (2014)
- Agricultural Impact Assessment for Vision Georgetown, Town of Halton Hills (2013-14)
- Agricultural Impact Assessment for Bolton Residential Expansion Study, Town of Caledon (2013-14)
- Agricultural Land Assessment for Barnsdale Road Landowners Group, Nepean, City of Ottawa (2013-14)*
- Agricultural Land Assessments for Richcraft Homes, Orleans and Riverside South, City of Ottawa (2012)
- Agricultural Impact Assessment for Canadian Motor Speedway racetrack in Fort Erie (2007-2012)*
- Agricultural Impact Assessment for multiple sites in City of Ottawa for Walton Development (2011)
- Agricultural Impact Assessment of the Alloa Reservoir, Pumping Station and Feedermain, Class EA - Regional Municipality of Peel (2008)
- Agricultural Impact Assessment of the Zone 6 Reservoir and Feedermain, Class EA - Regional Municipality of Peel (2009)
- Agricultural Impact Assessment of the North Bolton Elevated Tank and Feedermain, Class EA - Regional Municipality of Peel (2009)
- Urban Boundary Expansion – Mayfield West Phase II Secondary Plan Agricultural Impact Assessment – Town of Caledon (2008 - Present)
- Urban Boundary Expansion - Agricultural Screening Study for the Township of West Lincoln's Growth Management Study, Regional Municipality of Niagara (2007)
- Urban Boundary Expansion - Agricultural Impact Assessment and Alternate Site Study for West Kanata/Stittsville, City of Ottawa (2004, 2011)
- Urban Boundary Expansion - Agricultural Studies for Niagara Gateway Estates, Town of Grimsby, Regional Municipality of Niagara (2003)

* Indicates attendance at hearing or preparation of affidavit

Soil Survey and Resource Evaluation

As a Pedologist (soil scientist), Sean is highly experienced in completing soil surveys, soil resource evaluations and assessing the productivity of soil for common field crops using the Canada Land Inventory system (CLI) of soil classification and for soil suitability for production of specialty crops using the system developed by the Ontario Ministry of Agriculture and Food. He has extensive experience interpreting the soil landscape, glacial landforms and soil forming processes; is skilled in the use of aerial photography for stereoscopic interpretation and identification of soil landforms for soil map production. Sean is recognized by the Ontario Ministry of Agriculture, Food and Rural Affairs as a Consulting Pedologist and a qualified soil scientist capable of preparing soil capability assessments based on the Canada Land Inventory (CLI) Soil Capability Classification for Agriculture (ARDA, 1965).

Sean has lead and participated in a number of large soil survey programs in Ontario, Nova Scotia and New Brunswick. Sean's soil survey experience includes:

- conducting well over 200 soil surveys of various size and scale to assess the soil capability for identification of prime and non-prime agricultural lands for agricultural impact assessments and other studies;
- conducting soil surveys along linear facilities to determine depth of topsoil and subsoil, assess soil capability along the route to determine baseline conditions and identify areas that pose limitations to construction;
- the preparation of soil maps, CLI maps and reports for solar farm applications to address the Ontario Power Authority's requirements for ground-mounted solar project on agricultural lands;
- conducting county level soil survey reports that included the delineation, evaluation and mapping of soils series and the assessment of the soil capability for selected areas in Cumberland County, Colchester County, Hants County and Kings County, Nova Scotia;
- conducting county level soil survey reports that included the delineation, evaluation and mapping of soils series and the assessment of the soil capability for selected areas in Westmoreland County, New Brunswick; and
- conducting soil surveys for paired watershed studies assessing the benefits and effectiveness of no-till cultivation compared to traditional methods in Oxford County, Ontario.

LEAR Studies

Sean is very familiar with Land Evaluation and Area Review (LEAR) methodologies and has prepared a LEAR study to identify Prime Agricultural Areas in the Town of Mono, County of Dufferin. Sean has also applied LEAR methodologies when completing alternate site studies to assist municipalities identify low priority agricultural lands for settlement area expansion purposes and to assist development proponents justify choice of location, to ensure that proposed settlement area expansion or proposed development applications is consistent with the Provincial Policy Statement.

Agricultural Rehabilitation and Monitoring

Sean has prepared a number of rehabilitation plans for the aggregate industry and for highway and pipeline construction projects. Sean also has experience assessing the economic impacts for compensation related to the temporary or permanent loss of use of agricultural land often associated with the construction of linear facilities. Specific examples agricultural rehabilitation and monitoring studies include:

- Development and implementation of a soil reclamation plan for TransCanada Pipelines. This involved an investigation as to the extent of contamination and debris along a pipeline easement, as well as an analysis of the soil quality, the level of degradation and the development of mitigation measures to restore the agricultural capability of the site for specialty crop production;
- Development of progressive agricultural rehabilitation plan for Vineland Quarry and Crushed Stone Limited's quarry expansion project in Vineland, Ontario. The rehabilitation plan included the restoration of a significant portion of the sites climate to a condition suitable for the production of grape and tender fruit trees;
- Prepared progressive agricultural rehabilitation plans for the expansion of LaFarge's Fonthill pit located on the Fonthill Kame. This area has special soil and microclimatic characteristics that make it suitable for

the production of specialty crops. The rehabilitation plans considered both the soils and microclimatic conditions in the design in order to restore the site following extraction to conditions suitable for the production of specialty crops;

- Development of a progressive agricultural rehabilitation plan for Walker Brothers Quarries Ltd. quarry expansion project in Niagara Falls, Ontario. Also prepared and implemented the vegetation screening and naturalization concepts for which annual monitoring reports are prepared for review by the City of Niagara Falls and the Ministry of Natural Resources; and
- Soil and crop monitoring, and post construction monitoring of soil and crops for various TransCanada Pipeline, Union Gas, and Enbridge pipeline construction projects. Projects often included the development of restoration recommendations to improve soil conditions and crop yields.

Publications

Rees, H.W.; Duff, J.P.; Colville, S.; Soley, T. and Chow, T.L. 1995. Soils of selected agricultural areas of Moncton Parish, Westmoreland County, New Brunswick. New Brunswick. Soil Survey Report No. 15. CLBRR Contribution No. 95-13, Research Branch, Agriculture and Agri-Food Canada, Ottawa, Ont.

Rees, H.W.; Duff, J.P.; Soley, T.; Colville, S.; and Chow, T.L. 1996. Soils of selected agricultural areas of Shediac and Botsford parishes, Westmoreland County, New Brunswick. New Brunswick. Soil Survey Report No. 16. CLBRR Contribution No. 95-13, Research Branch, Agriculture and Agri-Food Canada, Ottawa, Ont. 127 pp. with maps.

COLVILLE CONSULTING INC.

Ellise Baeza, EMAGP, EPt

EDUCATION

Environmental Management and Assessment Graduate Program, Niagara College, 2013 -2014
Environmental Technician - Field and Laboratory (Co-Op), Niagara College, 2011 -2013

POSITIONS HELD

2015 – Present	Colville Consulting Inc., St. Catharines, Ontario
2014 – 2015	Martech Group Inc., Mississauga, Ontario

EXPERIENCE

Ellise Baeza, Environmental and Agricultural Practitioner at Colville Consulting Inc., has over 3 years of formal educational training and experience in environmental consulting and 2 years training and experience in the agricultural consulting industry. Ellise has completed data collection, background review and reports for; Minimum Distance Separation (MDS) Requirements, Agricultural Impact Assessments, and Environmental Impact Statements in her role at Colville.

Through her education and her work experience at Colville Consulting, Ellise has gained a broad base of knowledge of agricultural and environmental planning and management. She has participated in the completion of Agricultural Impact Assessments and Environmental Impact Studies. Her work at Colville includes the interpretation of regional and local land use policies, creation and interpretation of soil and land use maps, environmental protection policies, and species at risk regulations. Her field work activities have include, data collection and reporting for Land Evaluation Studies for FIT 4 Applications; active control and supervisory role for TransCanada pipeline post-construction monitoring work in order to ensure remediation of any outstanding vegetation, subsidence and/or erosion issues. Land use surveys and evaluation of livestock operations; botanical and wildlife surveys (birds); and post-construction monitoring for wind turbines in the Wainfleet and West Lincoln.

Some Colville Consulting projects that Ellise has been involved in include:

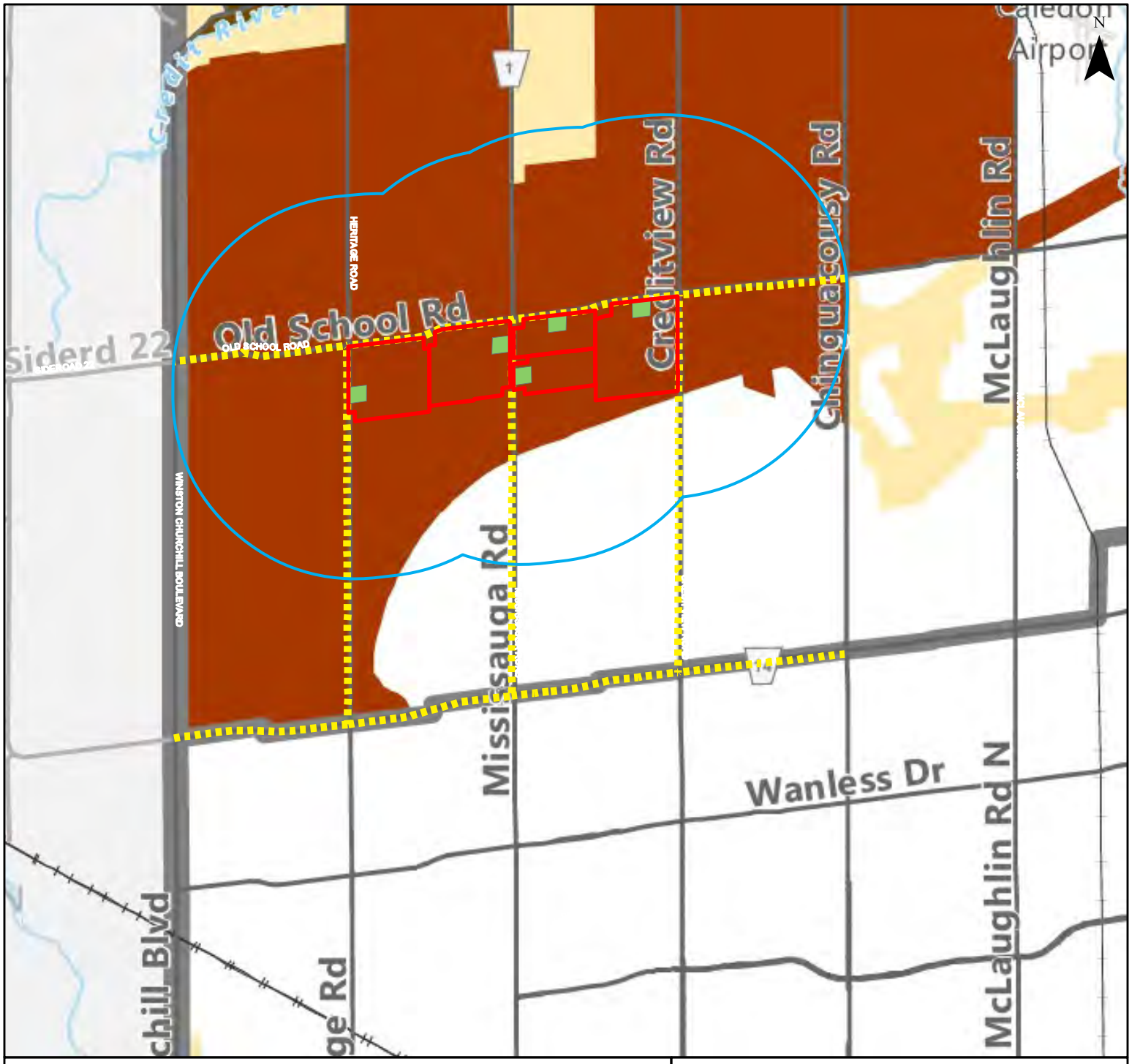
- Land Evaluation Studies for FIT 4 Applications for Ground-Mounted Solar PV Facilities
- Agricultural Impact Assessment for Mayfield West Phase 2 Secondary Plan Update, Town of Caledon
- Third Street Louth Municipal Class Environmental Assessment – City of St. Catharines
- Scoped Environmental Impact Assessment – Town of Pelham
- Post Construction Reclamation Monitoring for Eastern Mainline Parkway East and West Loops – Active Control – TransCanada, Brampton/Vaughan Ontario
- Post Construction Reclamation Monitoring for Vaughan Mainline Expansion – Active Control – TransCanada, Vaughan Ontario
- Post Construction Mortality Monitoring for Rankin Wind Project in Wainfleet and West Lincoln, Ontario
- Quarry Vegetation Screening and Naturalization annual monitoring and reporting – Walker Industries
- Agricultural Impact Assessment for in King City, Regional Municipality of York
- Agricultural Impact Assessment Ottawa - J.L. Richards & Associates Ltd.

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ADDITIONAL QUALIFICATIONS AND TRAINING

- Workplace Hazardous Materials Information System (WHMIS) training – Basic Industrial
- Ground Disturbance Supervisory Training (TransCanada)
- Standard First Aid Training
- Health and Safety Technician Certificate
- Valid Driver's Licence – Class G

APPENDIX B
REGIONAL LAND USE



Legend

- Candidate Site Parcel
- Alternate 2ha Site
- Prime Agricultural Area
- Rural System
- Preferred Road Alignment Segments
- Combined Secondary Study Area (1500m)

Appendix B
Region of Peel Official Plan
Schedule D-1

GM BluePlan 721007-P
Peel Region Proposal - West Caledon

Prepared for: GM BluePlan Engineering

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092

APPENDIX C
CLIMATE NORMALS

Climate Normals 1981-2010 Station Data

Metadata including Station Name, Province, Latitude, Longitude, Elevation, Climate ID, WMO ID, TC ID

STATION_NAME	PROVINCE	LATITUDE	LONGITUD	ELEVATION	CLIMATE_I	WMO_ID	TC_ID
*GEORGETOWN WWTP	ON	43°38'24.0	79°52'45.0	221.0 m	6152695		

* This station meets WMO standards for temperature and precipitation.

Legend

A = WMO "3 and 5 rule" (i.e. no more than 3 consecutive and no more than 5 total missing for either temperature or precipitation)
B = At least 25 years
C = At least 20 years
D = At least 15 years

1981 to 2010 Canadian Climate Normals station data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Code
Temperature														
Daily Average (°C)	-6.3	-5.2	-0.9	6	12.3	17.4	20	19	14.8	8.4	2.8	-2.9	7.1	A
Standard Deviation	3.2	2.3	1.7	1.4	1.8	1.4	1.3	1.4	1.3	1.3	1.5	2.7	0.8	A
Daily Maximum (°C)	-1.7	-0.2	4.6	12.1	19.1	24.4	26.9	25.8	21.4	14.3	7.3	1.1	12.9	A
Daily Minimum (°C)	-10.9	-10.2	-6.4	-0.2	5.3	10.4	13	12.1	8.1	2.4	-1.7	-6.9	1.3	A
Extreme Maximum (°C)	17	15.5	25	31.5	34.5	36	37	36.5	35.5	29.5	22	20.5		
Date (yyyy/dd)	2005/13	1984/23	1986/30	1990/25	2006/29	1988/25	1988/07	2001/08	2002/09	2002/01	1987/03	1982/03		
Extreme Minimum (°C)	-33	-31.5	-28	-13	-5	-0.5	3	0	-4	-8.5	-15.5	-29.5		
Date (yyyy/dd)	1984/16	1994/10	1984/08	1982/05	1986/03	1980/09	1986/01	1982/29	1993/30	1987/26	1987/22	1980/25		
Precipitation														
Rainfall (mm)	29.7	28.4	35.2	71.3	79	74.8	73.5	79.3	86.2	67.8	79.9	36.4	741.5	A
Snowfall (cm)	38.1	31.7	22.1	5.2	0.3	0	0	0	0	0.5	8.6	29.5	135.9	A
Precipitation (mm)	67.8	60	57.2	76.5	79.3	74.8	73.5	79.3	86.2	68.3	88.5	65.9	877.4	A
Average Snow Depth (cm)		9	8	0	0	0	0	0	0	0	0	2		
Median Snow Depth (cm)		8	10	0	0	0	0	0	0	0	0	3		
Extreme Daily Rainfall (mm)	42.8	36.1	38.8	53.6	59.7	85.8	93	110.5	70.2	54.2	58.4	40.8		
Date (yyyy/dd)	1995/20	1968/01	1991/27	2000/20	1974/16	1982/28	1969/28	1969/16	1986/10	1995/05	1962/09	1979/24		
Extreme Daily Snowfall (cm)	40.6	27	20.3	23.6	8	0	0	0	0	11.2	15	27		
Date (yyyy/dd)	1966/22	1988/11	1964/10	1976/25	1983/14	1963/01	1963/01	1962/01	1963/01	1969/21	1991/28	1992/10		
Extreme Daily Precipitation (mm)	42.8	39.5	38.8	53.6	59.7	85.8	93	110.5	70.2	54.2	58.4	43.2		
Date (yyyy/dd)	1995/20	1985/12	1991/27	2000/20	1974/16	1982/28	1969/28	1969/16	1986/10	1995/05	1962/09	1972/12		
Extreme Snow Depth (cm)	29	27	28	3	0	0	0	0	0	0	8	15		
Date (yyyy/dd)	1984/25	1984/01	1984/05	2005/03	1983/01	1983/01	1983/01	1982/01	1982/01	1982/01	2005/25	2005/16		
Days with Maximum Temperature														
<= 0 °C	18.2	14.9	7.6	0.67	0	0	0	0	0	0	2.2	12.1	55.8	C
> 0 °C	12.8	13.3	23.4	29.3	31	30	31	31	30	31	27.8	18.9	309.4	C
> 10 °C	0.52	0.48	5.3	17.5	29.5	30	31	31	29.9	23.3	8	1.4	207.8	C
> 20 °C	0	0	0.63	3.4	11.8	23.9	30	28.7	17.2	4.3	0.24	0.05	120.3	C
> 30 °C	0	0	0	0.13	0.64	3.1	5.2	2.5	0.6	0	0	0	12.2	C
> 35 °C	0	0	0	0	0	0.08	0.28	0	0.04	0	0	0	0.4	C

Days with Minimum Temperature	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Code
> 0 °C	1.2	1	3.2	12.8	25.2	30	31	30.9	28.5	19.4	10.1	3.1	196.3	C
<= 2 °C	30.7	27.8	29.4	21	9	0.88	0	0.08	4	16.4	24.1	30	193.3	C
<= 0 °C	29.8	27.2	27.8	17.2	5.8	0.04	0	0.08	1.5	11.6	19.9	27.9	169	C
< -2 °C	26.5	24	22.8	11	1.6	0	0	0	0.17	5.4	13.6	22.4	127.3	C
< -10 °C	15.3	14	7.5	0.3	0	0	0	0	0	0	0.96	7.9	46	C
< -20 °C	4.3	2.9	0.7	0	0	0	0	0	0	0	0	0.84	8.7	C
< - 30 °C	0.13	0.09	0	0	0	0	0	0	0	0	0	0	0.22	C
Days with Rainfall														
>= 0.2 mm	4.1	4.1	6.4	11.6	11.8	11.2	10.6	10.6	11.7	12.2	11.4	6.5	112.1	A
>= 5 mm	1.9	1.8	2.4	4.9	5	4.8	4	4.6	5.1	4.6	4.8	2.6	46.7	A
>= 10 mm	0.92	1.1	1.2	2.4	3	2.2	2.3	2.6	3.1	2.3	2.9	1.3	25.1	A
>= 25 mm	0.27	0.19	0.12	0.32	0.48	0.52	0.56	0.6	0.62	0.31	0.54	0.04	4.6	A
Days With Snowfall														
>= 0.2 cm	9.4	6.2	4.8	1.4	0.04	0	0	0	0	0.27	2.5	6.9	31.5	A
>= 5 cm	2.6	2.4	1.6	0.44	0.04	0	0	0	0	0.04	0.5	2.3	9.8	A
>= 10 cm	0.88	0.85	0.72	0.12	0	0	0	0	0	0	0.19	0.81	3.6	A
>= 25 cm	0.08	0.15	0	0	0	0	0	0	0	0	0	0.04	0.27	A
Days with Precipitation														
>= 0.2 mm	12.6	9.4	10.6	12.4	11.9	11.2	10.6	10.6	11.7	12.3	13.3	12.3	138.9	A
>= 5 mm	4.6	4.2	4	5.3	5	4.8	4	4.6	5.1	4.7	5.4	4.8	56.5	A
>= 10 mm	1.9	2	2	2.6	3	2.2	2.3	2.6	3.1	2.4	3.1	2.2	29.2	A
>= 25 mm	0.35	0.35	0.12	0.32	0.48	0.52	0.56	0.6	0.62	0.35	0.54	0.12	4.9	A
Days with Snow Depth														
>= 1 cm			7	0	0	0	0	0	0	0	0.75	0		
>= 5 cm			0	0	0	0	0	0	0	0	0.25	0		
>= 10 cm			0	0	0	0	0	0	0	0	0	0		
>= 20 cm			0	0	0	0	0	0	0	0	0	0		
Degree Days														
Above 24 °C	0	0	0	0	0.2	1.3	4.9	1.8	0.2	0	0	0	8.4	C
Above 18 °C	0	0	0.1	1.1	8.5	36.3	76	55.2	14.8	0.8	0	0	192.7	C
Above 15 °C	0	0	0.5	3.7	24.6	87.7	155.5	125.4	47.9	4.3	0.1	0	449.6	C
Above 10 °C	0	0	2.7	18.3	93.2	220.3	308.8	275.8	152.4	33.3	3.3	0.5	1108.6	C
Above 5 °C	1	0.4	12.7	69.9	223	369.5	463.8	430.7	295.6	116	26.7	4.3	2013.6	C
Above 0 °C	11.9	11.5	55.3	184.3	377.4	519.5	618.8	585.7	445.5	258.9	102.3	29.4	3200.6	C
Below 0 °C	206.5	164.5	82.9	6.6	0	0	0	0	0	0.1	19.1	107.4	587.2	C
Below 5 °C	350.6	294.5	195.3	42.2	0.6	0	0	0	0.1	12.2	93.6	237.3	1226.3	C
Below 10 °C	504.6	435.2	340.3	140.7	25.8	0.8	0	0.1	6.9	84.6	220.1	388.5	2147.4	C
Below 15 °C	659.6	576.3	493.1	276.1	112.2	18.2	1.6	4.7	52.4	210.5	366.9	543	3314.6	C
Below 18 °C	752.6	661	585.7	363.5	189	56.8	15.2	27.5	109.3	300	456.8	636	4153.3	C

Probability of last temperature in spring of 0 °C or lower on or after indicated dates	10%	25%	33%	50%	66%	75%	90%
Date	6-Jun	30-May	28-May	19-May	16-May	15-May	7-May
Probability of first temperature in fall of 0 °C or lower on or before indicated dates	10%	25%	33%	50%	66%	75%	90%
Date	1-Sep	19-Sep	21-Sep	24-Sep	29-Sep	2-Oct	16-Oct
Probability of frost-free period equal to or less than indicated period (Days)	10%	25%	33%	50%	66%	75%	90%
Days	109	116	117	121	128	132	150

APPENDIX D
AGRICULTURAL STATISTICS

Caledon Township at a Glance - 2016

Item	Caledon	Province	Percent of province	Percent from 2011
Farms, 2016 Census (number)				
Total	345	49,600	0.70	-5.48
Under 10 acres	29	3,051	0.95	45.00
10 to 69 acres	134	12,625	1.06	-5.63
70 to 129 acres	64	10,742	0.60	-7.25
130 to 179 acres	24	4,592	0.52	-4.00
180 to 239 acres	18	4,282	0.42	-18.18
240 to 399 acres	19	6,008	0.32	-29.63
400 to 559 acres	20	3,093	0.65	11.11
560 to 759 acres	8	1,990	0.40	-33.33
760 to 1,119 acres	16	1,593	1.00	-20.00
1,120 to 1,599 acres	4	801	0.50	33.33
1,600 to 2,239 acres	8	457	1.75	33.33
2,240 to 2,879 acres	0	168	0.00	-
2,880 to 3,519 acres	0	88	0.00	-
3,520 acres and over	1	110	0.91	0.00
Land Use, 2016 Census (acres)				
Land in crops	63,239	9,021,298	0.70	-2.29
Summerfallow land	75	15,885	0.47	-9.64
Tame or seeded pasture	3,048	514,168	0.59	-23.82
Natural land for pasture	3,764	783,566	0.48	4.64
Christmas trees, woodland & wetland	5,152	1,542,637	0.33	-23.37
All other land	2,708	470,909	0.58	-23.22
Total area of farms	77,986	12,348,463	0.63	-5.65
Greenhouse Area, 2016 Census (square feet)				
Total area in use	294,236	158,511,328	0.19	-55.12
Farm Capital Value, 2016 Census (farms reporting)				
Under $200,000	9	2,142	0.42	-18.18
$200,000 to $499,999	29	7,433	0.39	93.33
$500,000 to $999,999	81	12,500	0.65	28.57
$1,000,000 and over	246	27,525	0.89	-3.91
Total Gross Farm Receipts, 2016 Census (farms reporting)				
Under $10,000	73	9,536	0.77	-21.51
$10,000 to $24,999	65	8,376	0.78	1.56
$25,000 to $49,999	48	6,755	0.71	-2.04
$50,000 to $99,999	34	6,263	0.54	13.33
$100,000 to $249,999	56	7,022	0.80	-13.85
$250,000 to $499,999	30	4,707	0.64	-3.23
$500,000 to $999,999	18	3,689	0.49	20.00
$1,000,000 to $1,999,999	15	2,019	0.74	25.00
$2,000,000 and over	6	1,233	0.49	0.00
Farms by Industry Group, 2016 Census (number of farms)				
Beef cattle ranching and farming	36	6,786	0.53	-18.18
Dairy cattle and milk production	18	3,439	0.52	-18.18
Hog and pig farming	1	1,229	0.08	-
Poultry and egg production	9	1,816	0.50	12.50
Sheep and goat farming	7	1,097	0.64	0.00
Other animal production	89	5,902	1.51	8.54
Oilseed and grain farming	96	16,876	0.57	7.87
Vegetable and melon farming	19	1,856	1.02	35.71
Fruit and tree nut farming	12	1,362	0.88	0.00
Greenhouse, nursery and floriculture	16	2,050	0.78	-44.83
Other crop farming	42	7,187	0.58	-27.59

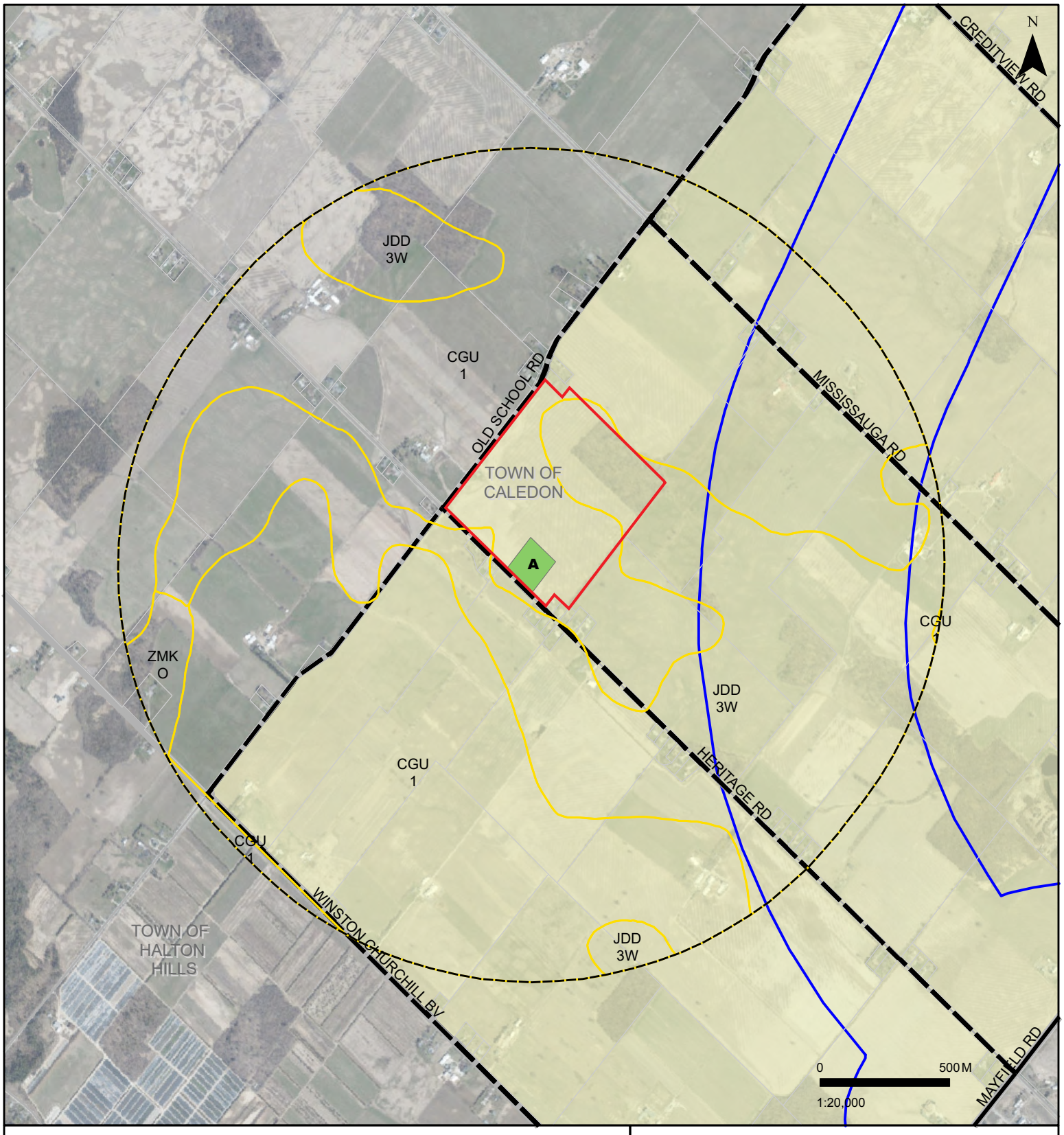
Item	Caledon	Province	Percent of province	Percent from 2011
Major Field Crops, 2016 Census (acres)				
Winter wheat	0	1,080,378	0.00	-100.00
Oats for grain	0	82,206	0.00	-
Barley for grain	0	103,717	0.00	-
Mixed grains	425	92,837	0.46	-
Corn for grain	0	2,162,004	0.00	-100.00
Corn for silage	0	295,660	0.00	-100.00
Hay	8,707	1,721,214	0.51	-45.23
Soybeans	22,698	2,783,443	0.82	14.98
Potatoes	24	34,685	0.07	-51.02
Major Fruit Crops, 2016 Census (acres)				
Total fruit crops	149	51,192	0.29	-22.80
Apples	x	15,893	-	-
Sour Cherries	0	2,121	0.00	-
Peaches	0	5,232	0.00	-
Grapes	x	18,718	-	-
Strawberries	x	2,915	-	-
Raspberries	x	680	-	-
Major Vegetable Crops, 2016 Census (acres)				
Total vegetables	240	135,420	0.18	-30.43
Sweet corn	x	22,910	-	-
Tomatoes	26	15,744	0.17	-27.78
Green peas	9	16,268	0.06	-
Green or wax beans	5	9,732	0.05	-44.44
Livestock Inventories, 2016 Census (number)				
Total cattle and calves	8,840	1,623,710	0.54	-21.98
Steers	1,918	305,514	0.63	-0.47
Beef cows	x	236,253	-	-
Dairy cows	x	311,960	-	-
Total pigs	57	3,534,104	-	-
Total sheep and lambs	941	321,495	0.29	-2.79
Poultry Inventories, 2016 Census (number)				
Total hens and chickens	192,538	50,759,994	0.38	-11.16
Total turkeys	106	3,772,146	-	-

Caledon Township at a Glance - 2011

Item	Caledon	Province	Percent of province
Farms, 2011 Census (number)			
Total	365	51,950	0.70
Under 10 acres	20	2,741	0.73
10 to 69 acres	142	12,681	1.12
70 to 129 acres	69	11,779	0.59
130 to 179 acres	25	4,969	0.50
180 to 239 acres	22	4,801	0.46
240 to 399 acres	27	6,460	0.42
400 to 559 acres	18	3,359	0.54
560 to 759 acres	12	2,026	0.59
760 to 1,119 acres	20	1,587	1.26
1,120 to 1,599 acres	3	788	0.38
1,600 to 2,239 acres	6	436	1.38
2,240 to 2,879 acres	0	152	0.00
2,880 to 3,519 acres	0	79	0.00
3,520 acres and over	1	92	1.09
Land Use, 2011 Census (acres)			
Land in crops	64,724	8,929,947	0.72
Summerfallow land	83	23,450	0.35
Tame or seeded pasture	4,001	648,758	0.62
Natural land for pasture	3,597	984,809	0.37
Christmas trees, woodland & wetland	6,723	1,612,444	0.42
All other land	3,527	468,828	0.75
Total area of farms	82,655	12,668,236	0.65
Greenhouse Area, 2011 Census (square feet)			
Total area in use	655,620	133,520,541	0.49
Farm Capital Value, 2011 Census (farms reporting)			
Under $200,000	11	2,562	0.43
$200,000 to $499,999	15	12,994	0.12
$500,000 to $999,999	63	15,276	0.41
$1,000,000 and over	256	21,118	1.21
Total Gross Farm Receipts, 2011 Census (farms reporting)			
Under $10,000	93	12,263	0.76
$10,000 to $24,999	64	9,098	0.70
$25,000 to $49,999	49	6,720	0.73
$50,000 to $99,999	30	6,189	0.48
$100,000 to $249,999	65	6,985	0.93
$250,000 to $499,999	31	5,086	0.61
$500,000 to $999,999	15	3,248	0.46
$1,000,000 to $1,999,999	12	1,558	0.77
$2,000,000 and over	6	803	0.75
Farms by Industry Group, 2011 Census (number of farms)			
Beef cattle ranching and farming	44	7,105	0.62
Dairy cattle and milk production	22	4,036	0.55
Hog and pig farming	0	1,235	0.00
Poultry and egg production	8	1,619	0.49
Sheep and goat farming	7	1,446	0.48
Other animal production	82	6,966	1.18
Oilseed and grain farming	89	15,818	0.56
Vegetable and melon farming	14	1,531	0.91
Fruit and tree nut farming	12	1,548	0.78
Greenhouse, nursery and floriculture	29	2,372	1.22
Other crop farming	58	8,274	0.70

Item	Caledon	Province	Percent of province
Major Field Crops, 2011 Census (acres)			
Winter wheat	9,686	1,100,003	0.88
Oats for grain	0	71,040	0.00
Barley for grain	0	126,881	0.00
Mixed grains	0	106,162	0.00
Corn for grain	12,292	2,032,356	0.60
Corn for silage	1,973	271,701	0.73
Hay	15,898	2,077,911	0.77
Soybeans	19,741	2,464,870	0.80
Potatoes	49	37,384	0.13
Major Fruit Crops, 2011 Census (acres)			
Total fruit crops	193	52,740	0.37
Apples	102	15,830	0.64
Sour Cherries	x	2,342	-
Peaches	x	6,455	-
Grapes	x	18,383	-
Strawberries	54	3,283	1.64
Raspberries	x	902	-
Major Vegetable Crops, 2011 Census (acres)			
Total vegetables	345	129,595	0.27
Sweet corn	61	25,540	0.24
Tomatoes	36	16,558	0.22
Green peas	x	15,121	-
Green or wax beans	9	9,186	0.10
Livestock Inventories, 2011 Census (number)			
Total cattle and calves	11,331	1,741,381	0.65
Steers	1,927	291,263	0.66
Beef cows	1,717	282,062	0.61
Dairy cows	2,336	318,158	0.73
Total pigs	x	3,088,646	-
Total sheep and lambs	968	352,807	0.27
Poultry Inventories, 2011 Census (number)			
Total hens and chickens	216,721	46,902,316	0.46
Total turkeys	x	3,483,828	-

APPENDIX E
PROVINCIAL SOIL SERIES MAPPING



Soils (OMAFRA)
Secondary Study Area (1500m)
Alternate 2ha Site
Property Boundaries
Preferred Road Alignment Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary
Candidate Site Parcel

Contains information licensed under the Open Government Licence – Ontario. Base map data from Ontario Ministry of Natural Resources (MNRF), Ontario GeoHub Land Information Ontario (LIO) Warehouse Open Data Products. https://geohub.lio.gov.on.ca/ Coordinate system : NAD 1983, UTM Zone 18T. Soil data: Ontario Ministry of Agriculture and Food and Rural Affairs 2022. Air photo: MNRF

Appendix E-1
Candidate Site A Soils

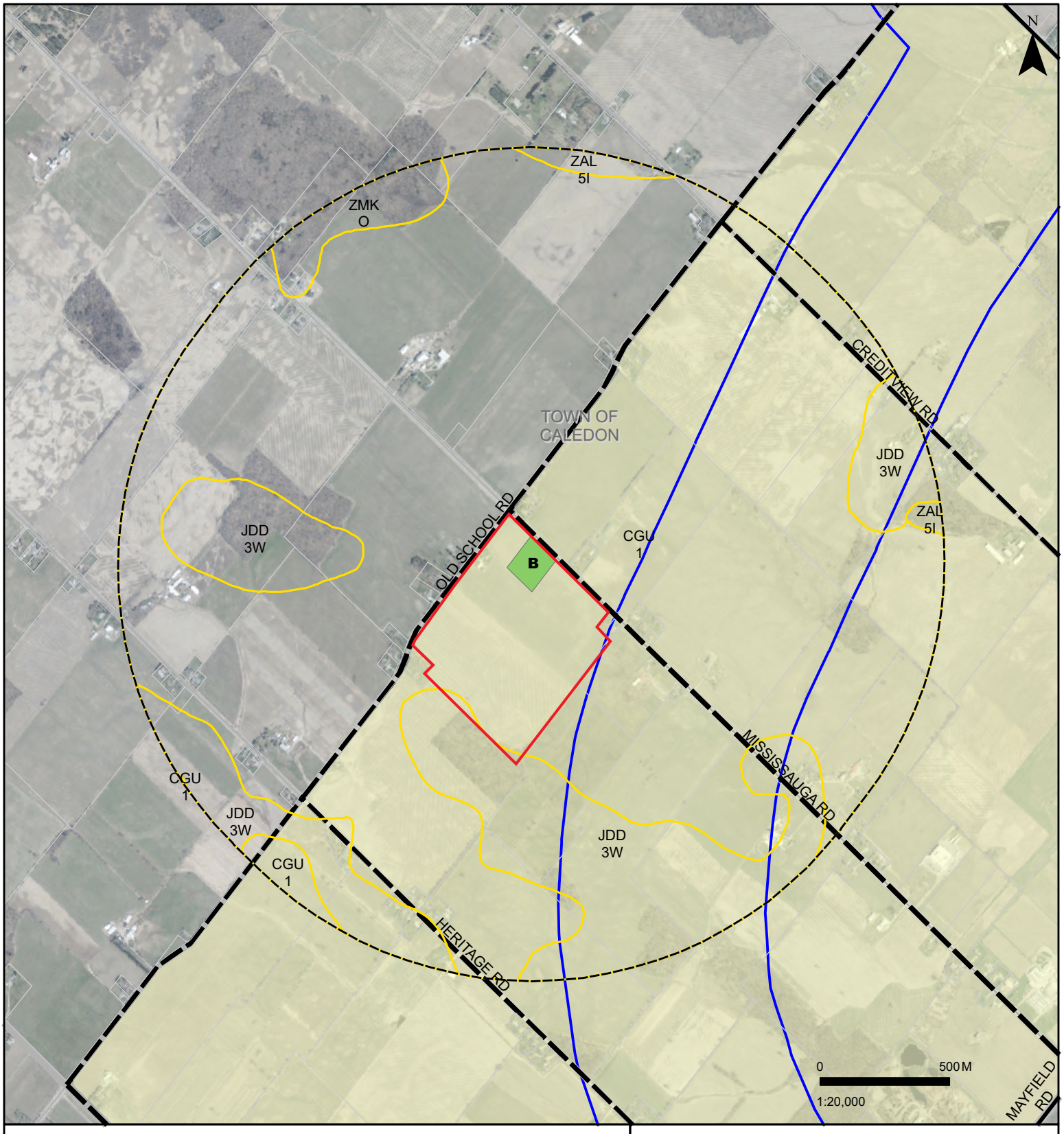
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



Soils (OMAFRA)
Secondary Study Area (1500m)
Alternate 2ha Site
Property Boundaries
Preferred Road Alignment Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary
Candidate Site Parcel

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Appendix E-2
Candidate Site B Soils

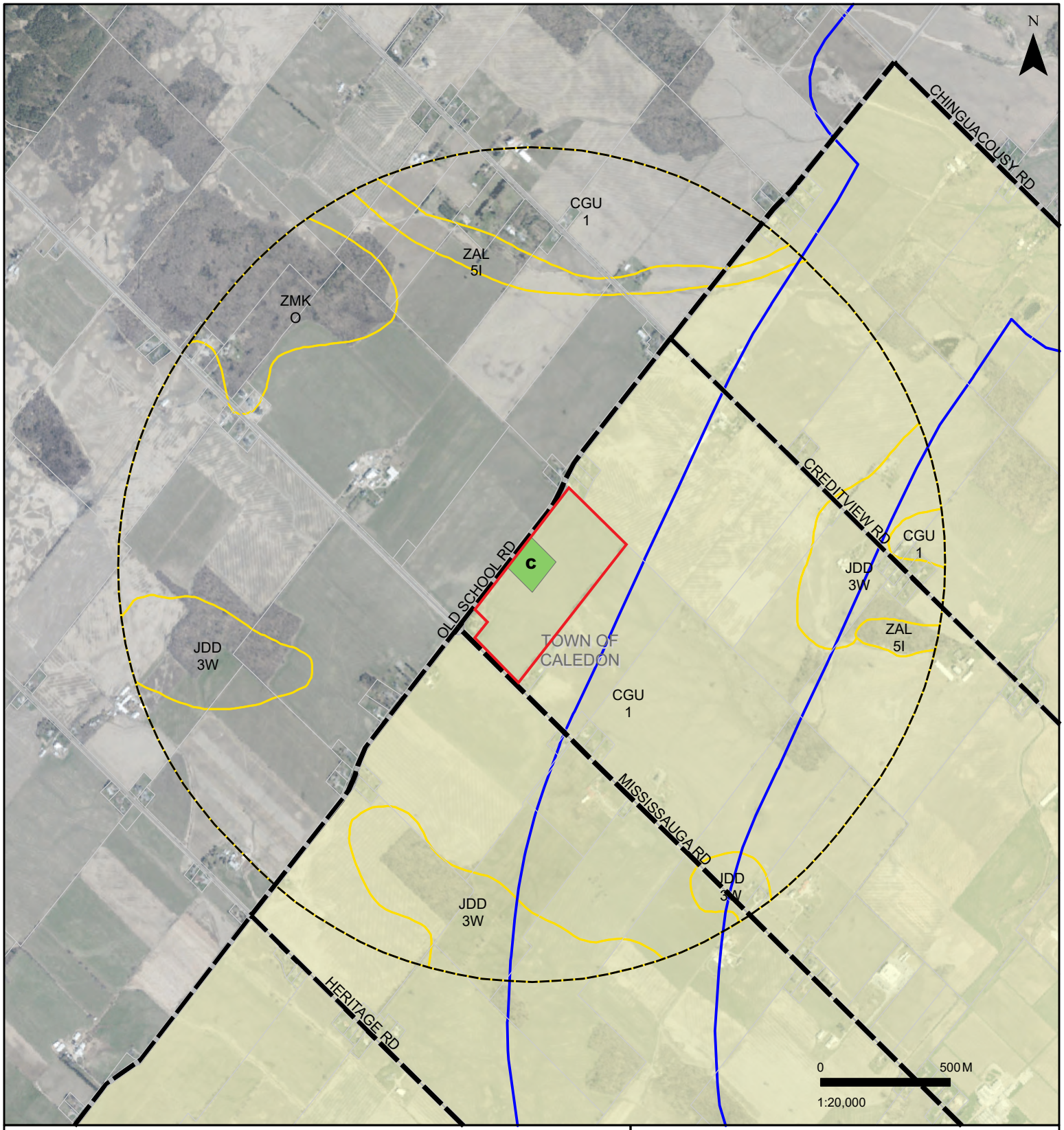
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



- Soils (OMAFRA)
- Secondary Study Area (1500m)
- Alternate 2ha Site
- Property Boundaries
- Preferred Road Alignment Segments
- Hwy 413 Proposed Footprint
- Infrastructure Focus Area (IFA) Boundary
- Candidate Site Parcel

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Appendix E-3
Candidate Site C Soils

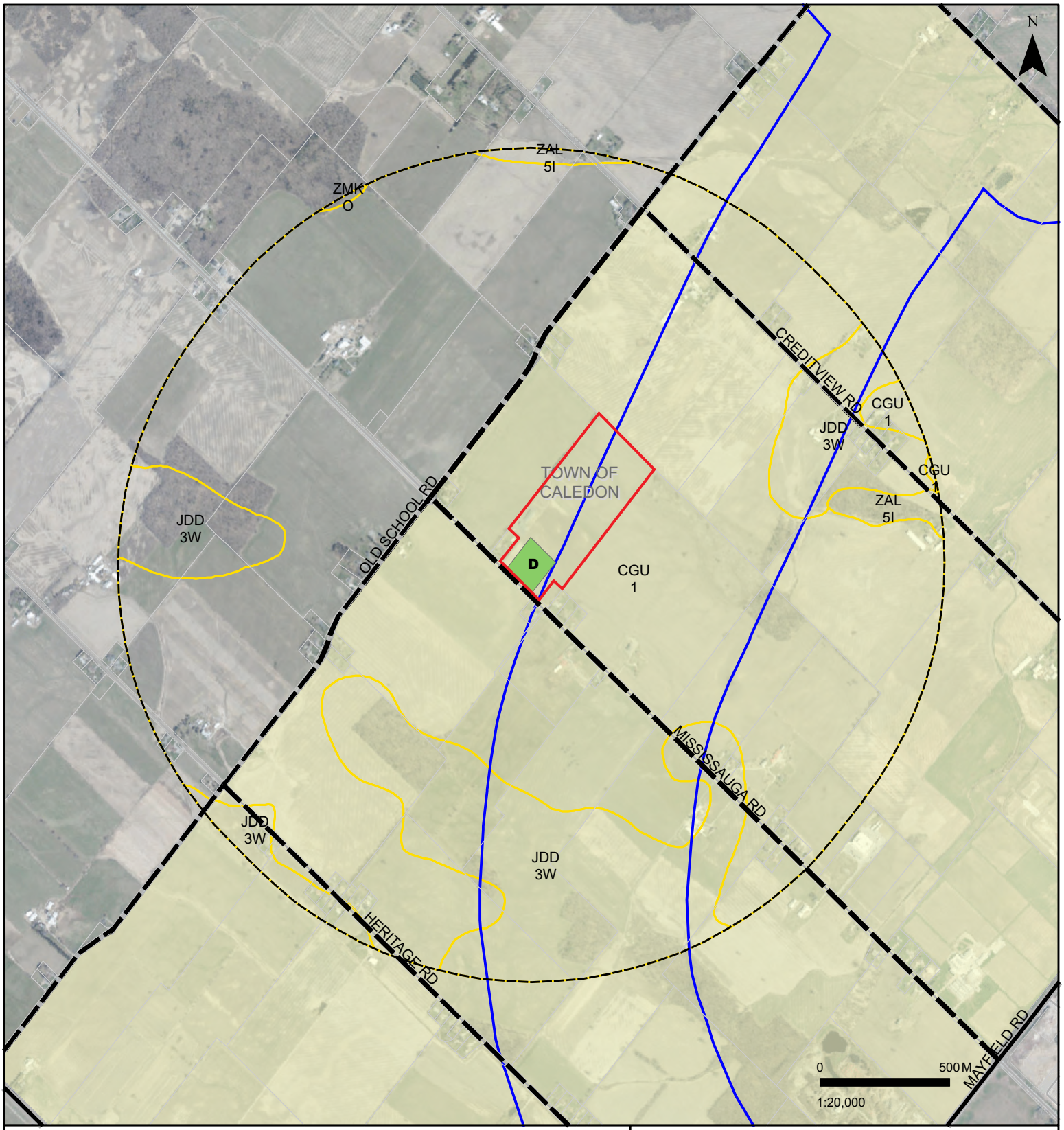
GM BluePlan 721007-P
Peel Region Proposal - West Caledon

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



Soils (OMAFRA)
Secondary Study Area (1500m)
Alternate 2ha Site
Property Boundaries
Preferred Road Alignment Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary
Candidate Site Parcel

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Appendix E-4
Candidate Site D Soils

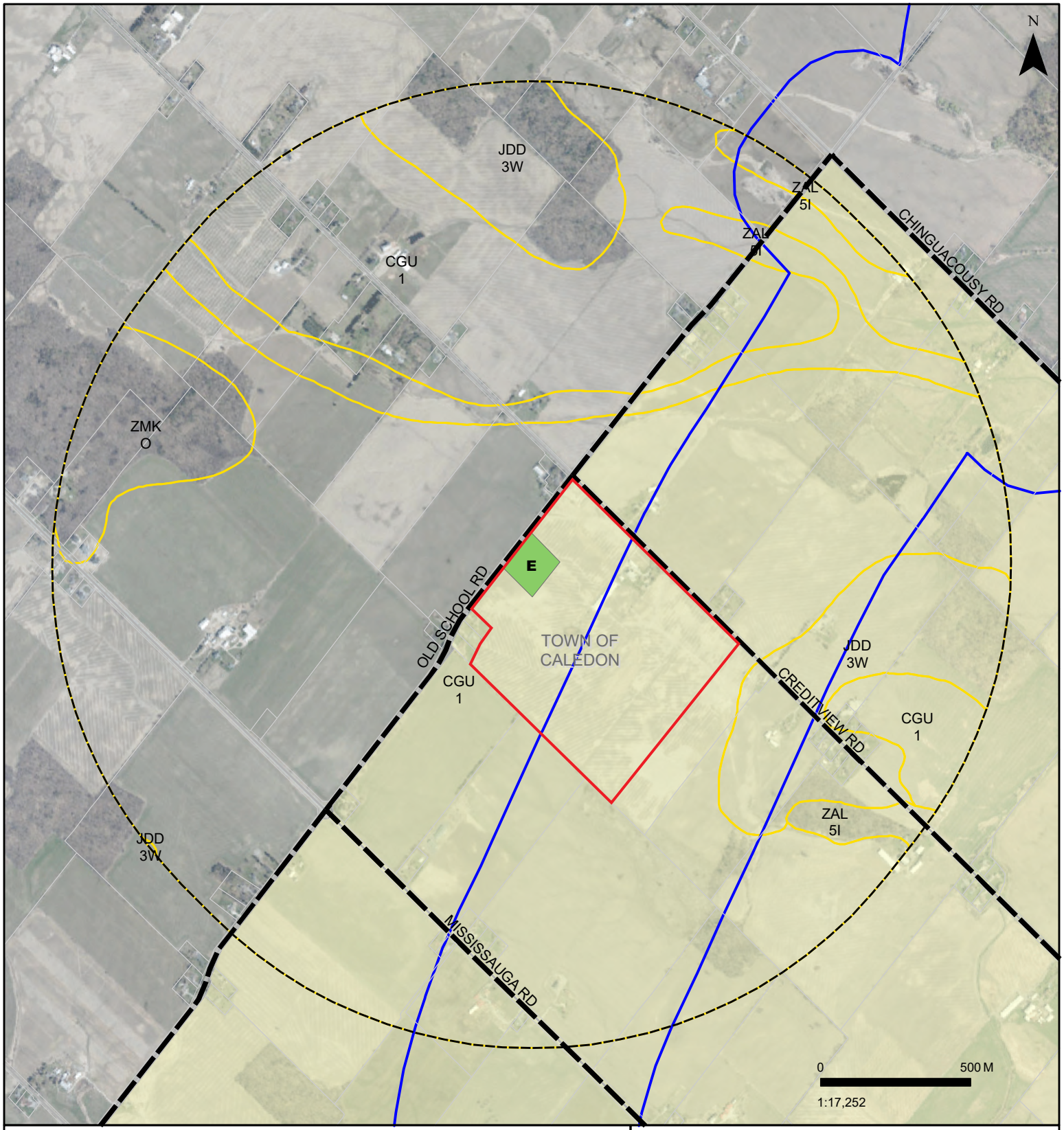
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



Soils (OMAFRA)
Secondary Study Area (1500m)
Alternate 2ha Site
Property Boundaries
Preferred Road Alignment Segments
Hwy 413 Proposed Footprint
Infrastructure Focus Area (IFA) Boundary
Candidate Site Parcel

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Appendix E-5
Candidate Site E Soils

AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092

APPENDIX F
CLI CLASSIFICATIONS

Canada Land Inventory Soil Capability Classification for Agriculture

The Canada Land Inventory (CLI) classification system was developed to classifying soil capability for agricultural use for use across Canada. CLI is an interpretative system which assesses the effects of climate and soil characteristics on the limitations of land for growing common field crops. It classifies soils into one of seven capability classes based on the severity of their inherent limitations to field crop production. Soils descend in quality from Class 1, which is highest, to Class 7 soils which have no agricultural capability for the common field crops. Class 1 soils have no significant limitations. Class 2 through 7 soils have one or more significant limitations, and each of these are denoted by a capability subclass.

In Ontario the document, "Classifying Prime and Marginal Agricultural Soils and Landscapes: Guidelines for Application of the Canada Land Inventory in Ontario" (OMAFRA, 2008) provides a Provincial interpretation of the CLI classification system. These guidelines are based on the "Canada Land Inventory, Soil Capability Classification for Agriculture" (ARDA Report No. 2, 1965) and have been modified for use in Ontario. In Ontario, CLI Classes 1 to 4 lands are generally considered to be arable lands and Classes 1 to 3 soils and specialty crop lands are considered to be prime agricultural lands.

The following definitions were taken from Classifying Prime and Marginal Agricultural Soils and Landscapes: Guidelines for Application of the Canada Land Inventory in Ontario (2008).

Definitions of the Capability Classes

Class 1 - Soils in this class have no significant limitations in use for crops. Soils in Class 1 are level to nearly level, deep, well to imperfectly drained and have good nutrient and water holding capacity. They can be managed and cropped without difficulty. Under good management they are moderately high to high in productivity for the full range of common field crops

Class 2 - Soils in this class have moderate limitations that reduce the choice of crops, or require moderate conservation practices. These soils are deep and may not hold moisture and nutrients as well as Class 1 soils. The limitations are moderate and the soils can be managed and cropped with little difficulty. Under good management they are moderately-high to high in productivity for a wide range of common field crops.

Class 3 - Soils in this class have moderately severe limitations that reduce the choice of crops or require special conservation practices. The limitations are more severe than for Class 2 soils. They affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. Under good management these soils are fair to moderately high in productivity for a wide range of common field crops.

Class 4 - Soils in this class have severe limitations that restrict the choice of crops, or require special conservation practices and very careful management, or both. The severe limitations seriously affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. These soils are low to medium in productivity for a narrow to wide range of common field crops, but may have higher productivity for a specially adapted crop.

Class 5 - Soils in this class have very severe limitations that restrict their capability to producing perennial forage crops, and improvement practices are feasible. The limitations are so severe that the soils are not capable of use for sustained production of annual field crops. The soils are capable of producing native or tame species of perennial forage plants and may be improved through the use of farm machinery. Feasible improvement practices may include clearing of bush, cultivation, seeding, fertilizing or water control.

Class 6 - Soils in this class are unsuited for cultivation, but are capable of use for unimproved permanent pasture. These soils may provide some sustained grazing for farm animals, but the limitations are so severe that improvement through the use of farm machinery is impractical. The terrain may be unsuitable for the use of farm machinery, or the soils may not respond to improvement, or the grazing season may be very short.

Class 7 - Soils in this class have no capability for arable culture or permanent pasture. This class includes marsh, rockland and soil on very steep slopes.

Definitions of the Prime and Non-prime Agricultural Lands

In Ontario, CLI Classes 1, 2 and 3 and specialty crop lands are considered prime agricultural lands. Non-prime agricultural lands are comprised of CLI Class 4-7 lands.

Organic soils (Muck) are not classified under the CLI system but are mapped and identified as O in the provincial mapping.

Definitions of the Capability Subclasses

Capability Subclasses indicate the kinds of limitations present for agricultural use. Thirteen Subclasses were described in CLI Report No. 2. Eleven of these Subclasses have been adapted to Ontario soils.

Subclass Definitions:

Subclass C - Adverse climate: This subclass denotes a significant adverse climate for crop production as compared to the "median" climate which is defined as one with sufficiently high growing-season temperatures to bring common field crops to maturity, and with sufficient precipitation to permit crops to be grown each year on the same land without a serious risk of partial or total crop failures. In Ontario this subclass is applied to land averaging less than 2300 Crop Heat Units.

Class	Crop Heat Units
1	>2300
2C	1900-2300
3C	1700-1900
4C	<1700

Subclass D - Undesirable soil structure and/or low permeability*:* This subclass is used for soils which are difficult to till, or which absorb or release water very slowly, or in which the depth of rooting zone is restricted by conditions other than a high water table or consolidated bedrock. In Ontario this subclass is based on the existence of critical clay contents in the upper soil profile.

Class	Soil Characteristics
2D	The top of a clayey horizon >15 cm thick occurs within 40 cm of the soil surface. Clayey materials in this case must have >35% clay content.
3D	The top of a very fine clayey (clay content >60%) horizon >15 cm thick occurs within 40 cm of the soil surface

Subclass E - Erosion*:* Loss of topsoil and subsoil by erosion has reduced productivity and may in some cases cause difficulties in farming the land e.g. land with gullies.

Class	Soil Characteristics
2E	Loss of the original plough layer, incorporation of original B horizon material into the present plough layer, and general organic matter losses have resulted in moderate losses to soil productivity.
3E	Loss of original solum (A and B horizons) has resulted in a plough layer consisting mostly of

	Loamy or Clayey parent material. Organic matter content of the cultivated surface is less than 2%.
4E	Loss of original solum (A and B horizons) has resulted in a cultivated layer consisting mainly of Sandy parent material with an organic matter content of less than 2%; shallow gullies and occasionally deep gullies which cannot be crossed by machinery may also be present.
5E	The original solum (A and B horizons) has been removed exposing very gravelly material and/or frequent deep gullies are present which cannot be crossed by machinery.

Subclass F - Low natural fertility*:* This subclass is made up of soils having low fertility that is either correctable with careful management in the use of fertilizers and soil amendments or is difficult to correct in a feasible way. The limitation may be due to a lack of available plant nutrients, high acidity, low exchange capacity, or presence of toxic compounds.

Class	Upper Texture Group (>40 and <100 cm from surface)	Lower Texture Group (remaining materials to 100 cm depth)	Drainage Class	Additional Soil Characteristics[1]
2F	Sandy	Sandy or very gravelly	Rapid to imperfect	Neutral or alkaline parent material with a Bt horizon within 100 cm of the surface
3F	Sandy	Sandy or very gravelly	Any drainage class	Neutral or alkaline parent material with no Bt horizon present within 100 cm of surface
3F	Sandy	Loamy or Clayey	Any drainage class	Acid parent material
3F	Loamy or clayey	Any Texture Group	Any drainage class	Acid parent material
4F	Sandy	Sandy or very gravelly	Any drainage class	Acid parent material
4F	Very gravelly	Any texture	Rapid to imperfect	Neutral to alkaline parent material
5F	Very Gravelly	Any texture	All drainage classes	Acid parent material

[1] "Acid" means pH<5.5; "Neutral" pH 5.5 to 7.4; "Alkaline" pH>7.4 as measured in 0.01 M CaCl2 (CSSC, 1998). PH 's measured in distilled water tend to be slightly higher (up to 0.5 units).

Bt horizon should be fairly continuous and average more than 10cm thickness

Subclass I - Inundation by streams or lakes: Flooding by streams and lakes causes crop damage or restricts agricultural use.

Class	Soil Characteristics
3I	Frequent inundation with some crop damage; estimated frequency of flooding is less than once every 5 years (Floodplain); includes higher floodplain-terraces on which cultivated field crops can be grown.
5I	Very frequent inundation with some crop damage; estimated frequency of flooding is at least once every 5 years (Floodplain); includes active floodplain areas on which forage crops can be grown primarily for pasture.
7I	Land is inundated for most of the growing season; often permanently flooded (Marsh)

Subclass M – Moisture deficiency: Soils in this subclass have lower moisture holding capacities and are more prone to droughtiness.

Class	Soil Texture Groups		Drainage	Additional Soil Characteristics
	Upper materials1	Lower materials2		
2M	15 to 40 cm of loamy or finer materials	Sandy to Very Gravelly	Well	
2M	40 to < 100 cm of sandy to very gravelly material.	Loamy to Very Fine Clayey	Well	
2M	Sandy		Rapid to well	Well developed Bt3 horizon occurs within 100 cm of surface
3M	Sandy material to > 100cm		Rapid	Bt horizon absent within 100 cm of surface
4M	Very Gravelly to > 100 cm		Rapid	Bt horizon present within 100 cm of surface
5M	Very gravelly to > 100cm		Very rapid	Bt horizon absent within 100cm

Subclass P - Stoniness: This subclass indicates soils sufficiently stony to hinder tillage, planting, and harvesting operations.

Class	Soil Characteristics
2P	Surface stones cause some interference with tillage, planting and harvesting; stones are 15-60 cm in diameter, and occur in a range of 1-20 m apart, and occupy <3% of the surface area. Some stone removal is required to bring the land into production.
3P	Surface stones are a serious handicap to tillage, planting, and harvesting; stones are 15-60 cm in diameter, occur 0.5-1m apart (20-75 stones/100 m^2), and occupy 3-15% of the surface area. The occasional boulder >60 cm in diameter may also occur. Considerable stone removal is required to bring the land into production. Some annual removal is also required.
4P	Surface stones and many boulders occupy 3-15% of the surface. Considerable stone and boulder removal is needed to bring the land into tillable production. Considerable annual removal is also required for tillage and planting to take place.
5P	Surface stones 15-60 cm in diameter and/or boulders >60 cm in diameter occupy 15-50% of the surface area (>75 stones and/or boulders/100 m2).
6P	Surface stones 15-60 cm in diameter and/or boulders >60 cm in diameter occupy >50% of the surface area.

Subclass R - Shallowness to Consolidated Bedrock: This subclass is applied to soils where the depth of the rooting zone is restricted by consolidated bedrock. Consolidated bedrock, if it occurs within 100 cm of the surface, reduces available water holding capacity and rooting depth. Where physical soil data were available, the water retention model of McBride and Mackintosh was used to assist in developing the subclass criteria.

Class	Soil Characteristics
3R	Consolidated bedrock occurs at a depth of 50-100 cm from the surface causing moderately severe restriction of moisture holding capacity and/or rooting depth.
4R	Consolidated bedrock occurs at a depth of 20-50 cm from the surface causing severe restriction of moisture holding capacity and/or rooting depth.
5R	Consolidated bedrock occurs at a depth of 10 to 20 cm from the surface causing very severe restrictions for tillage, rooting depth and moisture holding capacity. Improvements such as tree removal, shallow tillage, and the seeding down and fertilizing of perennial forages for hay and grazing may be feasible.

6R	Consolidated bedrock occurs at a depth of 10-20 cm from the surface but improvements as in 5R are unfeasible. Open meadows may support grazing.
7R	Consolidated bedrock occurs at < 10cm from the surface.

Subclass S - Adverse soil characteristics: This subclass denotes a combination of limitations of equal severity. In Ontario it has often been used to denote a combination of F and M when these are present with a third limitation such as T, E or P.

Subclass T - Topography

The steepness of the surface slope and the pattern or frequency of slopes in different directions are considered topographic limitations if they: 1) increase the cost of farming the land over that of level or less sloping land; 2) decrease the uniformity of growth and maturity of crops; and 3) increase the potential of water and tillage erosion.

Determination of Subclass T for Very Gravelly and Sandy Soils

Slope %	<2		2-5		5-9		9-15		15-30		30-60		>60	
Slope type	S	C	S	C	S	C	S	C	S	C	S	C	S	C
Class				2T	2T	3T	3T	4T	5T	5T	6T	6T	7T	7T

Slope %	<2		2-5		5-9		9-15		15-30		30-60		>60	
Slope type	S	C	S	C	S	C	S	C	S	C	S	C	S	C
Class				2T	3T	3T	4T	4T	5T	5T	6T	6T	7T	7T

S = Simple Slopes >50 m in length

C =Complex Slopes <50 m in length

Subclass W - Excess water:

The presence of excess soil moisture, other than that brought about by inundation, is a limitation to field crop agriculture. Excess water may result from inadequate soil drainage, a high water table, seepage or runoff from surrounding areas.

Soil Textures and Depths	**Depth to Bedrock** (cm)	**Soil Class** (Drainage in place or feasible)	**Soil Class** (Drainage not feasible)
Very gravelly, sandy, or loamy extending >40 cm from the surface, or, <40 cm of any other textures overlying very gravelly, sandy or loamy textures	>100	2W	4W, 5W
>40 cm depth of clayey or very fine clayey textures, or, <40 cm of any other texture overlying clayey or very fine clayey textures	>100	3W	5W
<40 cm of peaty material overlying any texture	>100	3W	5W
All textures	50-100	4W	5W
All textures	0-50	NA	5W

APPENDIX G
HOFFMAN PRODUCTIVITY INDICES

Hoffman Productivity Index

The Hoffman Productivity Index (HPI) was published in ARDA Report No. 4, "The Assessment of Soil Productivity for Agriculture," and is used to relate the productivity of land to the CLI Soil Capability (Hoffman, 1971).

The Hoffman Productivity Indices, also referred to as the Soil Productivity Index, is a method used to assign a parcel of land a single value which represents the overall productivity of the parcel. This value is derived from the sum of the percentage of each CLI Soil Capability Class on the parcel multiplied by the productivity index corresponding to the Soil Capability Class.

The HPI assumes the if the same level of management is applied to areas of different CLI classes, the productivity for each CLI class will differ. Hoffman determined the average yields produced for common field crops on CLI classes 1 through 4 lands across Ontario. He determined that a CLI Class 2 soil produced yields approximately 20% less than a CLI Class 1 soil and therefore has a value of 0.80 relative to a CLI Class 1 soil. The value for a CLI Class 3 soil is 0.64 and for a CLI Class 4 soil the value is 0.49. The values for lower capability soils (i.e., CLI Classes 5, 6, & 7) can be obtained by extrapolation of these results.

An area's HPI or Soil Productivity Index is calculated as follows:

Soil Productivity Index = (proportion of area of Class 1 soils x 1.0) + (proportion of area of Class 2 soils x 0.8) + (proportion of area of Class 3 soils x 0.64) + (proportion of area of Class 4 soils x 0.49) + (proportion of area of Class 5 soils x 0.33) + (proportion of area of Class 6 soils x 0.17) + (proportion of area of Class 7 soils x 0.02)

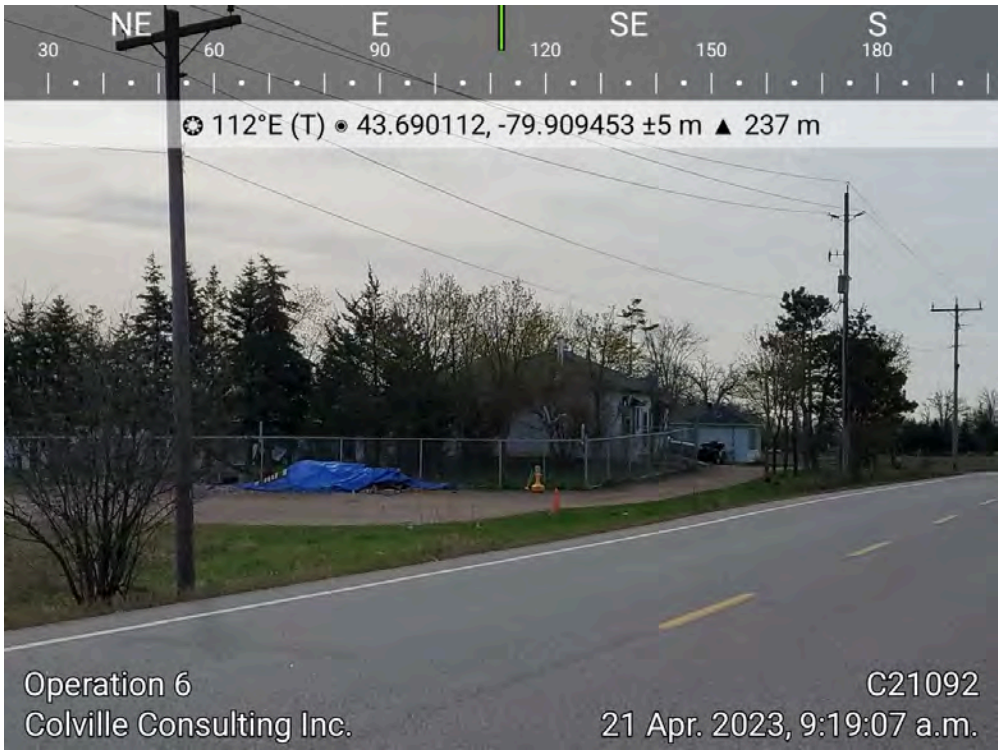
Once a Soil Productivity Index is calculated we can then relate the value back to its CLI Class equivalent. The table below illustrates the range of values which can be directly correlated to the equivalent CLI Class.

Total Soil Productivity Index Rating

CLI Class	Soil Productivity Index Range
1	0.90 – 1.00
2	0.73 – 0.89
3	0.58 - 0.72
4	0.43 - 0.57
5	0.28 - 0.42
6	0.10 - 0.27
7	0.00 – 0.09

APPENDIX H
LAND USE PHOTOGRAPHS


E
SE
S
SW
90
120
150
180
210
240
155°SE (T) 43.690113, -79.909453 ±4 m ▲ 237 m
Operation 24
Colville Consulting Inc.
C21092
21 Apr. 2023, 9:18:50 a.m.

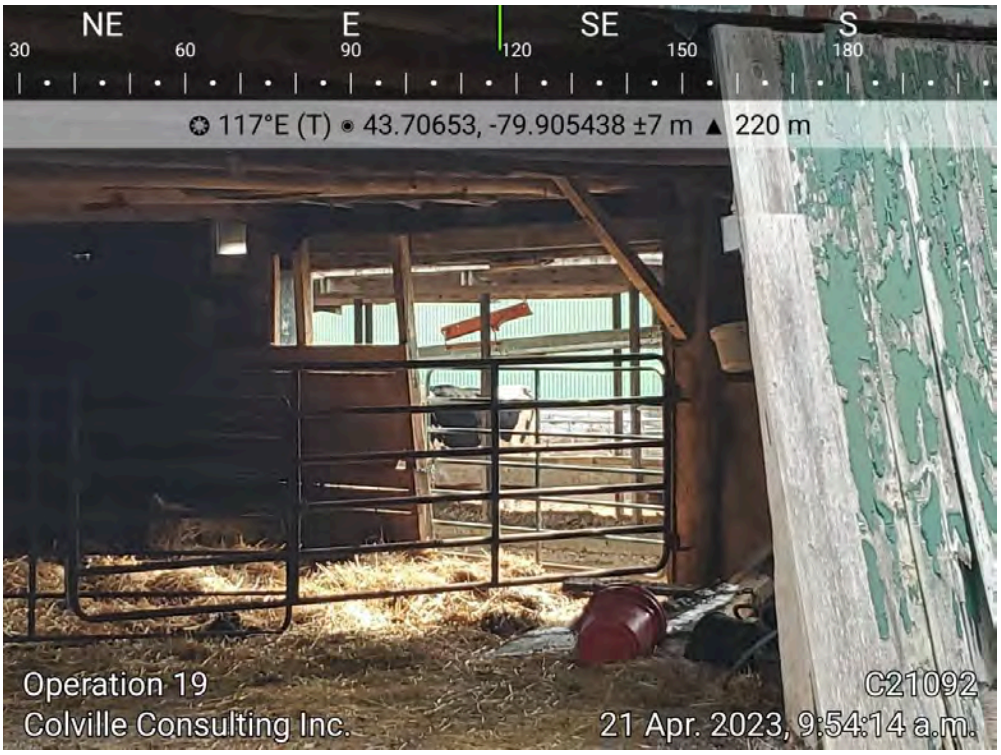

NE
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90
120
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180
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Operation 6
Colville Consulting Inc.
C21092
21 Apr. 2023, 9:19:07 a.m.


NW
N
NE
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300
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0
30
60
90
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Operation 8
Colville Consulting Inc.
C21092
21 Apr. 2023, 9:28:57 a.m.


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C21092
21 Apr. 2023, 9:47:23 a.m.


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Operation 21
Colville Consulting Inc.
C21092
21 Apr. 2023, 9:56:09 a.m.


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Operation 20
Colville Consulting Inc.
C21092
21 Apr. 2023, 10:06:38 a.m.


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E
SE
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180
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Operation 19
Colville Consulting Inc.
C21092
21 Apr. 2023, 9:54:14 a.m.


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S
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150
180
210
125°SE (T) 43.723089, -79.905796 ±4 m 251 m
Operation 17
Colville Consulting Inc.
C21092
21 Apr. 2023, 11:41:37 a.m.

APPENDIX I
LAND USE DESCRIPTIONS

Land Use Survey Notes – April 21, 2023 – C21092			
Weather	**Temperature**	**Cloud Conditions**	**Wind**
Good	3°	Partly Cloudy	14km/h South

Site Number	Type of Land Use	Type of Operation	Description
1	Non-agricultural Use	Retired Garage	S&G Truck and Trailer Repair No longer in operation
2	Non-agricultural Use	Dog Training	Wolfman K9 Obedience training http://www.wolfmank9obedience.com/services
3	Agricultural Use	Retired Operation/ Cash Crop	1 large implement shed 1 large gambrel roof barn 1 capped cement silo Historical streetview shows livestock observed from roadside Last Historical streetview shows evidence of livestock august 2015. Streetview from May 2021 shows implement shed in poor condition Implements stored in barn Barn in fair condition – capable of housing livestock 100 head of dairy Holsteins held in the barn previously, but no livestock in 18 years. – Talked with landowner
4	Agricultural Use	Retired Operation	"Reg Holsteins - Walnut Acres - Dolafton" sign present until May 2021 according to Google Streetview 1 large Gambrel roof barn 1 implement shed 1 capped cement silo 1 uncapped cement silo 1 circular steel grain bin Residence is unused Left business card Outdoor manure storage on concrete pad Barn capable of housing livestock
5	Agricultural Use	Cash Crop	1 large implement shed farm implements on site No evidence of livestock No livestock observed. No residence associated with operation
6	Agricultural Use	Cash Crop	Lyonsdale Farms Large operation for oilseed (except Soybean) farming. Sunflower seeds. No trespassing sign Uncapped silo

Site Number	Type of Land Use	Type of Operation	Description
			OFA member No sign of livestock Barn capable of housing livestock
7	Agricultural Use	Beef Operation	1 large bank barn 3 large implement sheds Many large implements on site. 3 cows observed Barn in fair condition – capable of housing livestock Many wrapped hay bales on property
8	Agricultural Use	Cash Crop	1 bank barn 2 capped cement silos Farm implements on site. No evidence of livestock. No livestock observed. Outdoor manure storage on cement pad Steel Quonset hut Barn capable of housing livestock 2 Metal grain bins Left business card
9	Agricultural Use	Dairy Operation	Spring Hedge Farm - Terramaple Holsteins 1 large L shaped barn 3 large implement sheds 2 small implement sheds 2 circular steel grain silos 3 capped cement silo Farm implements on site Evidence of livestock Left business card Horse trailer observed
10	Agricultural Use	Dairy Operation	Christeen Farm Large Holstein operation. 1 large bank barn 1 large pasture. 1 outdoor confinement area. 2 capped cement silos 2 circular steel grain bins 3 implement sheds. 1 hoop structure for storage (possibly hay) Talked with landowner Approximately 25 cows observed outdoors Outdoor manure storage

Site Number	Type of Land Use	Type of Operation	Description
11	Agricultural Use	Cash Crop	1 large bank barn. 2 uncapped cement silos. 1 large implement shed. 2 circular steel grain bins. Many farm implements on site. No evidence of livestock. No livestock observed. Barn capable of housing livestock
12	Agricultural Use	Cash Crop	Appears to be related to Operation #24. 1 large implement shed. Many farm implements on site. No evidence of livestock. No livestock observed.
13	Agricultural Use	Retired Operation/ Cash Crop	Retired livestock operation turned cash crop. No evidence of livestock. No livestock observed. 1 large barn. 2 large implement sheds. 2 capped silos. 1 uncapped silo. 1 circular steel grain bin. Talked with landowner – now a cash crop operation but used to house 100 head of beef cattle. Had slotted floor for liquid manure and a storage tank. Capable of housing livestock
17	Agricultural Use	Cash Crop	1 bank barn with capped cement silo 4 large implement sheds 2 associated residences with linked driveways. No evidence of livestock. No livestock observed. No trespassing sign Capable of housing livestock
18	Agricultural Use	Beef Operation	1 large bank barn 3 capped cement silos 1 large open shelter with outdoor confinement area 2 large implement shed Livestock observed from roadside. No trespassing sign Approximately 10 cows observed from road
19	Agricultural Use	Livestock Operation	1 Dutch barn with large L shaped attachment 1 large implement shed 1 large hoop structure at the back 3 paddocks 2 large pastures No trespassing sign

Site Number	Type of Land Use	Type of Operation	Description
			Approximately 20 cows, 10 sheep and lambs, and 15 chickens observed from road
21	Agricultural Use	Remnant Farm	Bellwoods Farms Remnants of barn foundation. uncapped silo. 1 small implement shed. No signs of agricultural activity
22	Agricultural Use	Equestrian Operation	Wood-sided bank barn incapable of housing livestock Steel-sided barn used to house 20 horses Approximately 8 chickens for personal use Operates as a boarding stable Talked with farm help Uncapped silo House separate from operation
29	Agricultural Use	Poultry Operation	"Chicken - Norm and Tracey McClure and Family" 1 broiler barn with what appears to be ventilation fans on one end with smaller side ventilation fans, and 2 feed bins on one end. 1 bank barn 2 implement sheds OFA member
30	Agricultural Use	Poultry Operation	1 bank barn 3 capped silos 2 grain bins 1 implement shed 1 barn, large ventilation fans on one end with ventilation fans on the roof, feed bins on front end OFA member
31	Agricultural Use	Retired Operation/ Cash Crop	2 bank barns 1 capped silo 1 uncapped silo 1 implement shed Barn foundation. No evidence of livestock No livestock observed. Talked with landowner – used to have 32 tie stalls for cows but is now a cash crop Barn capable of housing livestock – Empty livestock.
32	Agricultural Use	Cash Crop	1 implement shed 2 grain bins No evidence of livestock

Site Number	Type of Land Use	Type of Operation	Description
33	Non-Agricultural Use	Commercial	Lay down yard Tire pile Back hoe observed Large implement shed Dump truck observed

	Total Number	**Active**	**Retired or Remnant**
Agricultural	23	Cash Crop – 10 Retired Operation/Cash Crop – 2 Empty Livestock Operation – 2 Equestrian Operation – 1 Beef Operation – 1 Poultry Operation – 2 Dairy Operation – 2	Retired Operation – 2 Remnant Farm – 1
Agriculture-related	0	0	0
On-farm Diversified	0	0	0
	Total Number	**Type**	
Non-Agricultural	133	Non- Farm Residential - 130 Commercial – 1 Retired Garage – 1 Dog Training – 1	

APPENDIX J
OMAFRA TILE DRAINAGE MAPPING



- Closed/Tiled Constructed Drain
- Open or Unknown Constructed Drain
- Random Tile Drainage
- Systematic Drainage
- Secondary Study Area (1500m)
- Alternate 2ha Site
- Property Boundaries
- Preferred Road Alignment Segments
- Hwy 413 Proposed Footprint
- Infrastructure Focus Area (IFA) Boundary
- Candidate Site Parcel

Contains information licensed under the Open Government Licence – Ontario. Base map data from Ontario Ministry of Natural Resources (MNRF), Ontario GeoHub Land Information Ontario (LIO) Warehouse Open Data Products. https://geohub.lio.gov.on.ca/ Coordinate system : NAD 1983, UTM Zone 18T. Soil data: Ontario Ministry of Agriculture and Food and Rural Affairs 2022. Air photo: MNRF

Appendix J-1
Candidate Site A Drainage

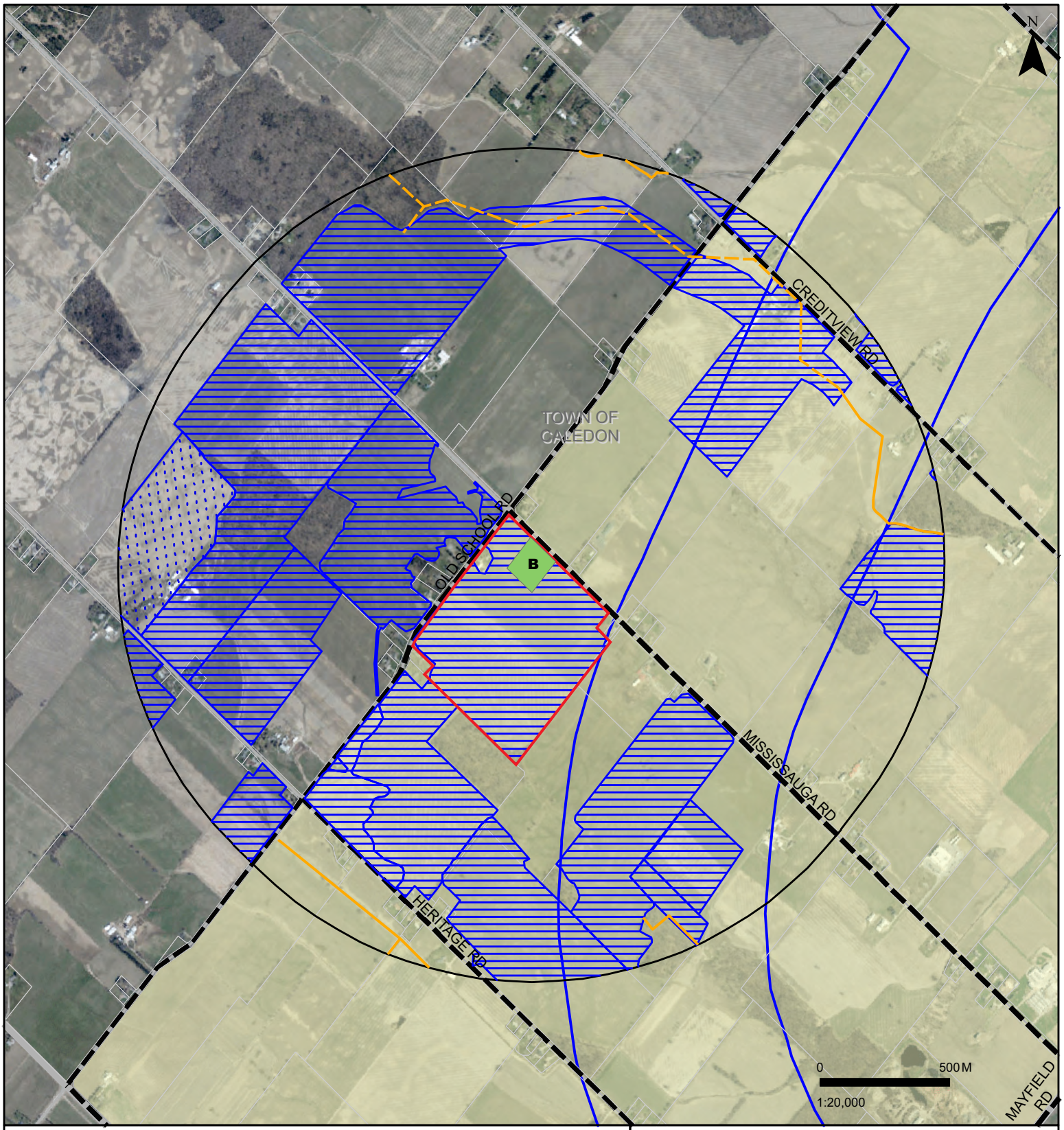
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



- Closed/Tiled Constructed Drain
- Open or Unknown Constructed Drain
- Random Tile Drainage
- Systematic Drainage
- Secondary Study Area (1500m)
- Alternate 2ha Site
- Property Boundaries
- Preferred Road Alignment Segments
- Hwy 413 Proposed Footprint
- Infrastructure Focus Area (IFA) Boundary
- Candidate Site Parcel

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Appendix J-2
Candidate Site B Drainage

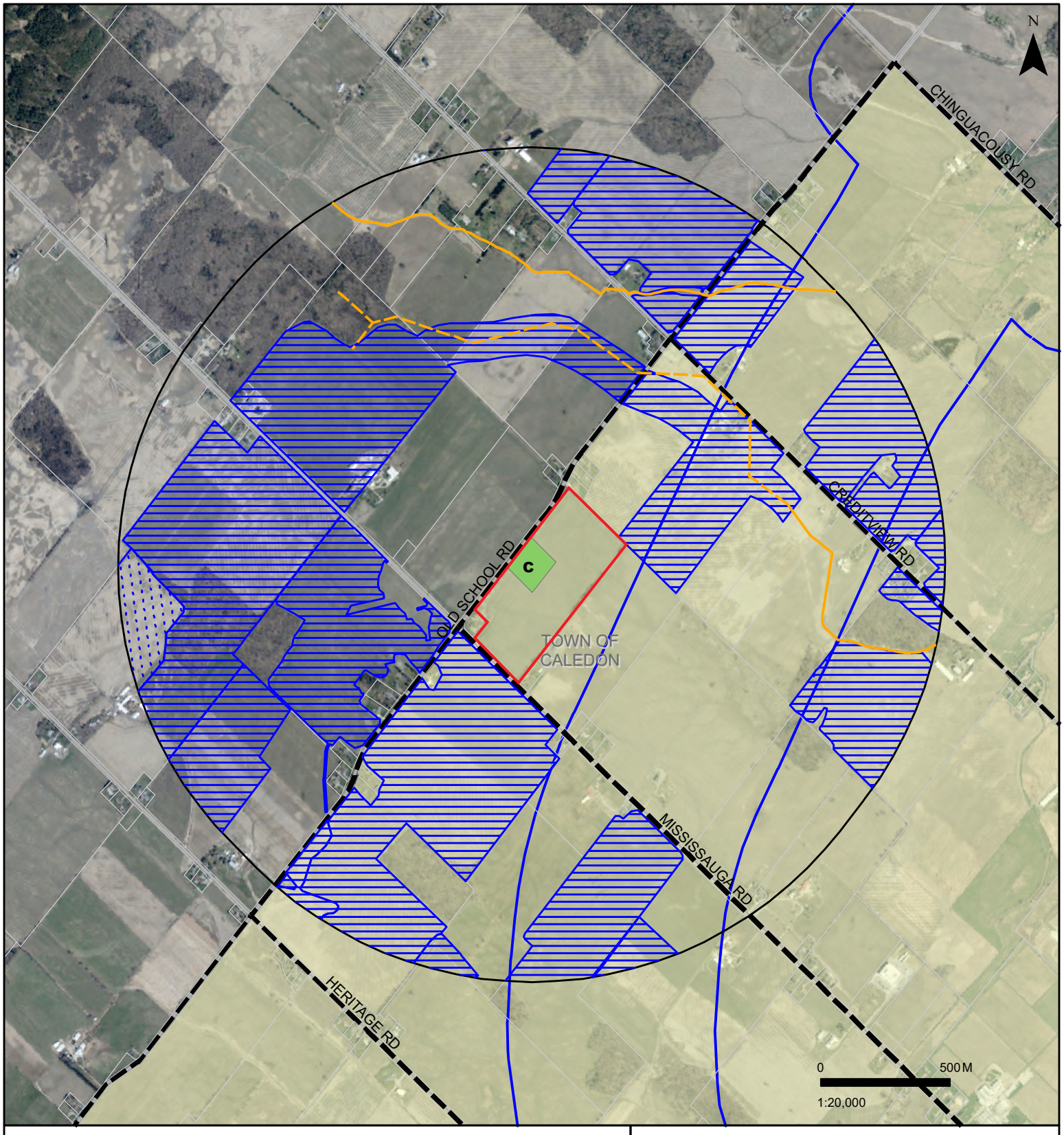
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



- Closed/Tiled Constructed Drain
- Open or Unknown Constructed Drain
- Random Tile Drainage
- Systematic Drainage
- Secondary Study Area (1500m)
- Alternate 2ha Site
- Property Boundaries
- Preferred Road Alignment Segments
- Hwy 413 Proposed Footprint
- Infrastructure Focus Area (IFA) Boundary
- Candidate Site Parcel

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Appendix J-3
Candidate Site C Drainage

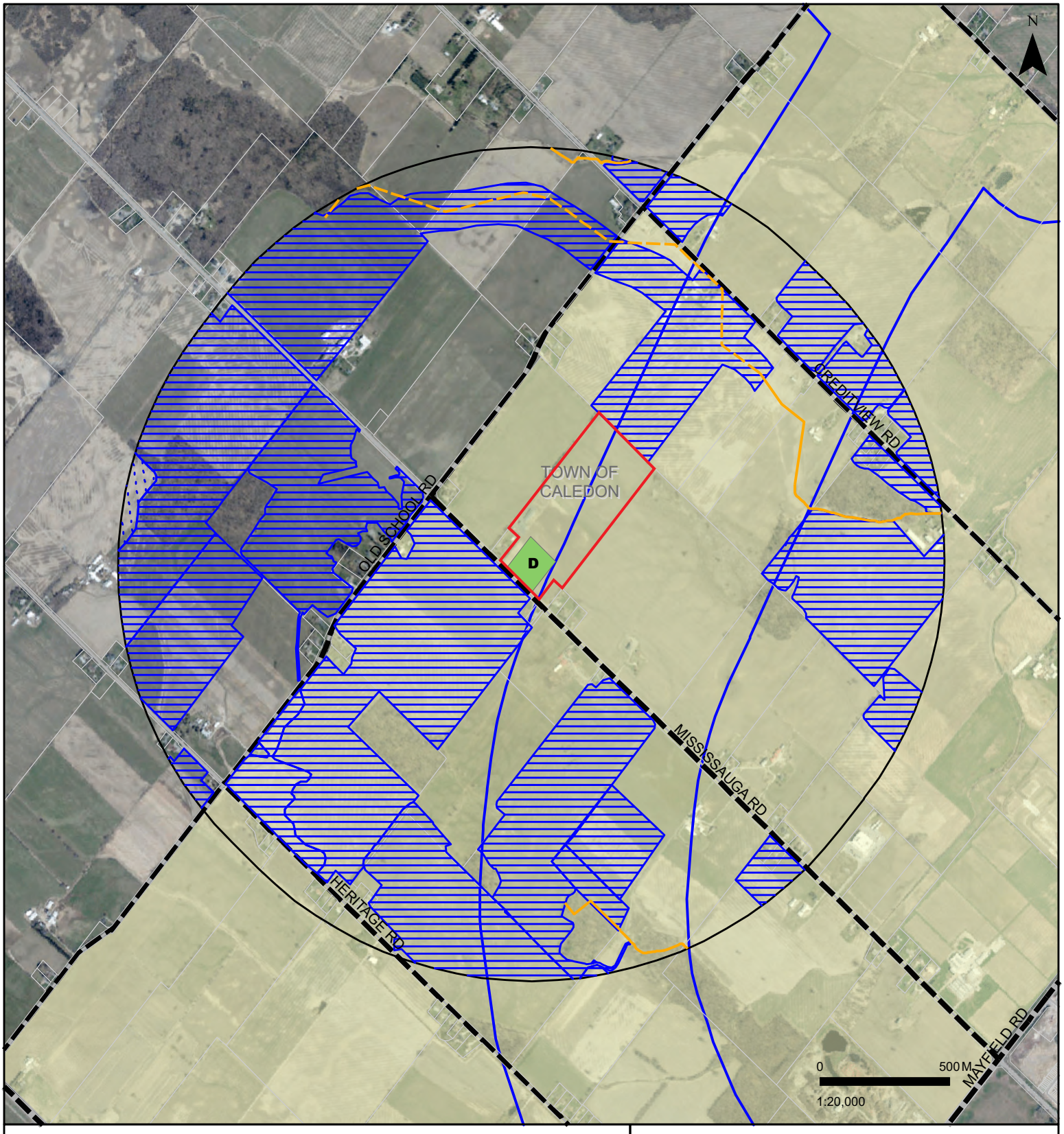
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



- Closed/Tiled Constructed Drain
- Open or Unknown Constructed Drain
- Random Tile Drainage
- Systematic Drainage
- Secondary Study Area (1500m)
- Alternate 2ha Site
- Property Boundaries
- Preferred Road Alignment Segments
- Hwy 413 Proposed Footprint
- Infrastructure Focus Area (IFA) Boundary
- Candidate Site Parcel

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Appendix J-4
Candidate Site D Drainage

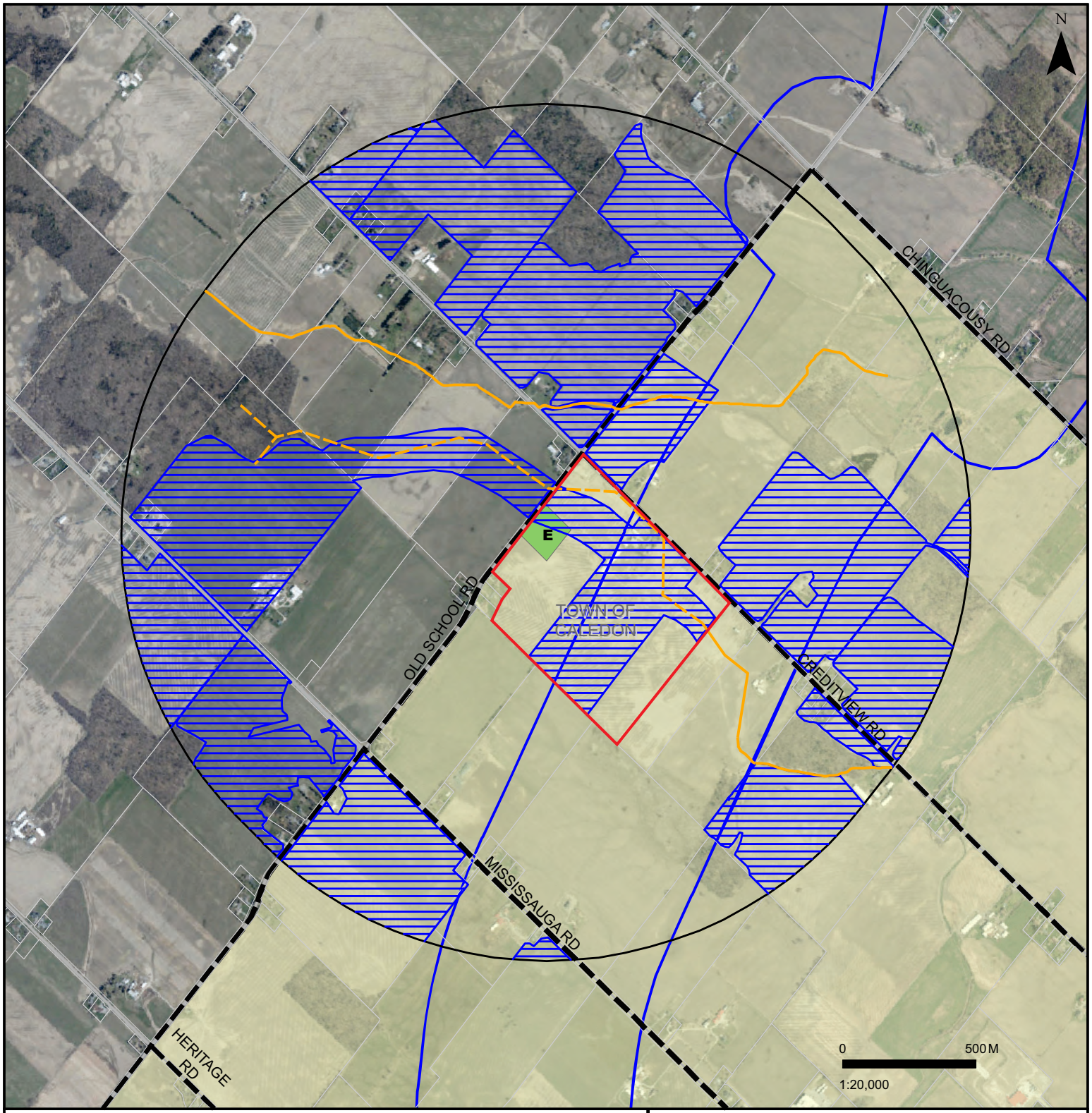
AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092



- Closed/Tiled Constructed Drain
- Open or Unknown Constructed Drain
- Random Tile Drainage
- Systematic Drainage
- Secondary Study Area (1500m)
- Alternate 2ha Site
- Property Boundaries
- Preferred Road Alignment Segments
- Hwy 413 Proposed Footprint
- Infrastructure Focus Area (IFA) Boundary
- Candidate Site Parcel

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Appendix J-5
Candidate Site E Drainage

AIA for West Caledon
Transmission Main and Storage Facility

Prepared for: BluePlan

Prepared by: Colville Consulting Inc.

DATE: October 2023

FILE: C21092

APPENDIX K
MITIGATION MEASURES AND NET IMPACTS

Appendix K - Summary of Mitigation Measures & Net Impacts for Site A

Potential Impact	Degree of Impact	Mitigation Measure	Anticipated Net Impact
Amount and quality of prime agricultural land (PAL) removed	Low	• None required.	40.03 ha of PAL • 66.25% CLI Class 1 • 33.75% CLI Class 3 Loss of 2 ha of CLI Class 1
Presence of agricultural infrastructure	Low	• No infrastructure on the property. No mitigation is required.	No Impact.
Presence of investment in land improvements	Low	• Maintain and repair tile drainage system on unaffected portions of Parcel A.	Loss of 2 ha of approximately 33.26 ha of systematic tile drainage on site. No significant impact is expected.
Farm Viability as a Result of HWY 413 Construction	Low	• No impact on farm viability. No mitigation is required.	Before construction: 38.03 ha After construction: 38.03 ha No Impact.
Potential for indirect impacts on farm operations within 1.5 km	Low	• None required.	Nine farm operations within 1.5 km of Site A. • 4 livestock; • 5 cash crop. Two farm operations immediately adjacent to Parcel A. No significant impact is expected.
Restricted Farm Field Access	Low	• Although access to farm fields is not expected to be impeded during construction, develop measures to ensure that farmers are not prevented from accessing fields.	No Impact.
Trespass and Vandalism	Low	• During the design and planning of the elevated tank, ensure the "Design Guidelines for Drinking-Water Systems (2008)" are followed to when looking at all aspects of facility security and layouts that protect critical areas from vandalism or trespassing.	No Impact.
Other: • Wells, Irrigation, water bodies • Dust	Low	• Undertake a hydrogeological study to ensure that irrigation, farm wells, and surface water runoff are not negatively impacted. If impacts are identified, implement recommendations from this study. • Ensure any dust emanating from the site during construction does not exceed Ministry of Environment standards.	No significant impact is expected. The anticipated impact is expected to be minor and negligible.

Appendix K - Summary of Mitigation Measures & Net Impacts for Site B

Potential Impact	Degree of Impact	Mitigation Measure	Anticipated Net Impact
Amount and quality of prime agricultural land (PAL) removed	Low	• None required.	39.33 ha of PAL • 98.34% CLI Class 1 • 1.66% CLI Class 3 Loss of 2 ha of CLI Class 1
Presence of agricultural infrastructure	Low	• No infrastructure on the property. No mitigation is required.	No Impact.
Presence of investment in land improvements	Low	• Maintain and repair tile drainage system on unaffected portions of Parcel B.	Loss of 2 ha of approximately 38.54 ha of systematic tile drainage on site. No significant impact is expected.
Farm Viability as a Result of HWY 413 Construction	Low	• No impact on farm viability. No mitigation is required.	Before construction: 39.33 ha After construction: 39.31 ha No Impact.
Potential for indirect impacts on farm operations within 1.5 km	Low	• None required.	Eight farm operations within 1.5 km of Site B. • 3 livestock; • 5 cash crop. One farm operation immediately adjacent to Parcel B and located within Hwy 413 Easement and likely to be retired. No significant impact is expected.
Restricted Farm Field Access	Low	• Although access to farm fields is not expected to be impeded during construction, develop measures to ensure that farmers are not prevented from accessing fields.	No Impact.
Trespass and Vandalism	Low	• During the design and planning of the elevated tank, ensure the "Design Guidelines for Drinking-Water Systems (2008)" are followed to when looking at all aspects of facility security and layouts that protect critical areas from vandalism or trespassing.	No Impact.
Other: • Wells, Irrigation, water bodies • Dust	Low	• Undertake a hydrogeological study to ensure that irrigation, farm wells, and surface water runoff are not negatively impacted. If impacts are identified, implement recommendations from this study. • Ensure any dust emanating from the site during construction does not exceed Ministry of Environment standards.	No significant impact is expected. The anticipated impact is expected to be minor and negligible.

Appendix K - Summary of Mitigation Measures and Net Impacts for Site C

Potential Impact	Degree of Impact	Mitigation Measure	Anticipated Net Impact
Amount and quality of prime agricultural land (PAL) removed	Low	• None required.	20.11 ha of PAL • 100% CLI Class 1 Loss of 2 ha of CLI Class 1
Presence of agricultural infrastructure	Low	• No infrastructure on the property. No mitigation is required.	No agricultural infrastructure on this parcel.
Presence of investment in land improvements	Low	• None required.	None Present. No Impact.
Farm Viability as a Result of HWY 413 Construction	Low	• No impact on farm viability. No mitigation is required.	Before construction: 20.11 ha After construction: 20.11 ha No Impact.
Potential for indirect impacts on farm operations within 1.5 km	Low	• None required.	Five farm operations • 4 cash crop • 1 livestock No farm operations immediately adjacent to Parcel C. No significant impact is expected.
Restricted Farm Field Access	Low	• Although access to farm fields is not expected to be impeded during construction, develop measures to ensure that farmers are not prevented from accessing fields.	Two farm field accesses within Parcel C.
Trespass and Vandalism	Low	• During the design and planning of the elevated tank, ensure the "Design Guidelines for Drinking-Water Systems (2008)" are followed when looking at all aspects of facility security and layouts that protect critical areas from vandalism or trespassing.	No Impact.
Other: • Wells, Irrigation, water bodies • Dust	Low	• Undertake a hydrogeological study to ensure that irrigation, farm wells, and surface water runoff are not negatively impacted. If impacts are identified, implement recommendations from this study. • Ensure any dust emanating from the site during construction does not exceed Ministry of Environment standards.	No significant impact is expected.

Appendix K - Summary of Mitigation Measures & Net Impacts for Site D

Potential Impact	Degree of Impact	Mitigation Measure	Anticipated Net Impact
Amount and quality of prime agricultural land (PAL) removed	Low	• None required.	19.45 ha of PAL • 100.00% CLI Class 1 Loss of 2 ha of CLI Class 1
Presence of agricultural infrastructure	Low	• No infrastructure on the property. No mitigation is required.	No Impact.
Presence of investment in land improvements	Low	• None required.	No tile drainage on site. No Impact.
Farm Viability as a Result of HWY 413 Construction	High	• Impact on farm viability, Highway 413 construction will remove a substantial amount of land from Parcel D.	Before construction: 19.45 ha After construction: 11.27 ha As a result of the construction of Hwy 413, the remainder of the parcel available is approximately 8.18 ha.
Potential for indirect impacts on farm operations within 1.5 km	Low	• None required.	Seven farm operations within 1.5 km of Site D. • 3 livestock; • 4 cash crop. No farm operations immediately adjacent to Parcel D. No significant impact is expected.
Restricted Farm Field Access	Low	• Although access to farm fields is not expected to be impeded during construction, develop measures to ensure that farmers are not prevented from accessing fields.	No Impact.
Trespass and Vandalism	Low	• During the design and planning of the elevated tank, ensure the "Design Guidelines for Drinking-Water Systems (2008)" are followed when looking at all aspects of facility security and layouts that protect critical areas from vandalism or trespassing.	No Impact.
Other: • Wells, Irrigation, water bodies • Dust	Low	• Undertake a hydrogeological study to ensure that irrigation, farm wells, and surface water runoff are not negatively impacted. If impacts are identified, implement recommendations from this study. • Ensure any dust emanating from the site during construction does not exceed Ministry of Environment standards.	No significant impact is expected. The anticipated impact is expected to be minor and negligible.

Appendix K - Summary of Mitigation Measures & Net Impacts for Site E

Potential Impact	Degree of Impact	Mitigation Measure	Anticipated Net Impact
Amount and quality of prime agricultural land (PAL) removed	Low	• None required.	50.91 ha of PAL • 100% CLI Class 1 Loss of 2 ha of CLI Class 1
Presence of agricultural infrastructure	Low	• One livestock operation is present east of Site E. • Potential for temporary disruption to normal farm practices during construction. Ensure farm practices are not impeded during construction and develop measures to allow farmers to continue conducting normal farm practices.	No significant impact is expected if mitigation measures are implemented.
Presence of investment in land improvements	Low	• Maintain and repair tile drainage system and drainage work on unaffected portions of Parcel E.	Loss of 0.67 ha of approximately 27.35 ha of systematic tile drainage installed. Lyons Creek Drainage Works traverses the property from northwest to southeast.
Farm Viability as a Result of HWY 413 Construction	High	• Impact on farm viability, Highway 413 construction will remove agricultural land from Parcel E.	Before construction: 50.91 ha After construction: 22.93 ha The remaining parcel is approximately 27.98 ha as a result of the construction is Hwy 413.
Potential for indirect impacts on farm operations within 1.5 km	Low	• None required.	Six farm operations: • 2 livestock • 4 cash crop Two farm operations immediately adjacent to Parcel E. No significant impact is expected.
Restricted Farm Field Access	Low	• Although access to farm fields is not expected to be impeded during construction, develop measures to ensure that farmers are not prevented from accessing fields.	No Impact.
Trespass and Vandalism	Low	• During the design and planning of the elevated tank, ensure the "Design Guidelines for Drinking-Water Systems (2008)" are followed to when looking at all aspects of facility security and layouts that protect critical areas from vandalism or trespassing.	No Impact.
Other: • Wells, Irrigation, water bodies • Dust	Low	• Undertake a hydrogeological study to ensure that irrigation, farm wells, and surface water runoff are not negatively impacted. If impacts are identified, implement recommendations from this study. • Ensure any dust emanating from the site during construction does not exceed Ministry of Environment standards.	No significant impact is expected. The anticipated impact is expected to be minor and negligible.

October 9, 2025

Sandra Anastasio
Senior Project Manager
GEI Consultants Inc.
3300 Highway No. 4, Suite 402
Vaughan, ON L4K 4M3

Dear Sandra Anastasio,

RE: Addendum Letter for Agricultural Impact Assessment of Peel Region
Municipal Class EA for West Caledon Storage Facility & Transmission Main

Colville Consulting Inc. completed an Agricultural Impact Assessment (AIA) in October 2023 as part of the Municipal Class EA for the West Caledon Storage Facility and Transmission Main. The AIA evaluated five candidate sites (Sites A through E) to determine the most preferred location, from an agricultural perspective.

Subsequent to the submission of the AIA, the locations of two of the five candidate sites were slightly revised, and the design of Highway 413, which traverses the Study Area, has been modified. The purpose of this addendum letter is to address these changes and comment on their implications for the conclusions of the AIA.

CANDIDATE SITE MODIFICATIONS

Updated mapping provided by GEI Consultants indicates that the locations of Candidate Sites A, D, and E remain unchanged. Candidate Site B has been shifted slightly southeast of its original position but remains within the same parcel. Candidate Site C has been relocated slightly southwest, also within the same parcel.

The revised location of Candidate Site B does not alter the level of impact on the Agricultural System compared to the original location. However, the revised location of Candidate Site C may create two narrow strips of cultivatable land to the west and southeast of the site. These areas may no longer be feasibly farmed if farm machinery cannot adequately turn within the remaining space, potentially resulting in minor additional impacts to the Agricultural System.

Notwithstanding these changes, the modified locations of Candidate Sites B and C do not affect the overall conclusions of the AIA regarding site preference. Candidate Site D continues to represent the most preferred location, from an agricultural perspective.

HIGHWAY 413 MODIFICATIONS

The October 2023 AIA was completed based on the information available at the time, regarding the location and design of the proposed Highway 413. It is understood that the design of Highway 413 has changed since the report was completed. The AIA used the location of the proposed Highway 413 to determine the viability of farm operations on the parcels of each of the Candidate Sites, by examining the remaining area available for agriculture following construction of the highway. The modified location of Highway 413 results in similar impacts to each of the five Candidate Sites. Therefore, the conclusions of the AIA remain unchanged, and Candidate Site D remains the preferred location, from an agricultural perspective.

CONCLUSION

The revisions to the locations of Candidate Sites B and C, as well as the modifications to Highway 413, have been reviewed. These changes do not alter the conclusions of the October 2023 Agricultural Impact Assessment. Please call me at 905-935-2161 or email sean@colvilleconsultinginc.com if you have any questions regarding this addendum letter.

Regards,



Sean Colville, B.Sc., P.Ag.
Colville Consulting Inc.



PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3D: Stage 1 Archaeological Assessment Report

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.

ARCHEOWORKS INC.

Stage 1 Archaeological Assessment for the West Caledon Storage Facility and Transmission Main Class Environmental Assessment Within Lots 16-34, Concessions 1 to 6 West of Hurontario Street Lots 16-34, Concession 1 East of Hurontario Street and Lots 19-21, Concession 2 East of Hurontario Street In the Geographic Township of Chinguacousy Historic County of Peel Now in the Town of Caledon and City of Brampton Regional Municipality of Peel Ontario

Project #: 008-WC8391-21
Licensee (#): Kim Slocki (P029)
PIF #: P029-1038-2022

Original Report

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EXECUTIVE SUMMARY

The Region of Peel completed a Water and Wastewater Master Servicing Plan Update which identified the need to construct new Zone 7 water storage and transmission infrastructure for West Caledon. This Municipal Class Environmental Assessment (EA) will support this recommendation by developing, evaluating, and selecting a preferred storage facility and transmission main route to service projected growth within the study area to 2051 and beyond.

To facilitate this study a Stage 1 Archaeological Assessment (AA) for the West Caledon Storage Facility and Transmission Main Class EA — roughly bounded by Old Base Line Road, Kennedy Road, Wanless Drive/Conservation Drive and Winston Churchill Boulevard — in the Town of Caledon and City of Brampton (the "study area") was undertaken. The study area comprises parts of Lots 16 to 34 of Concessions 1 to 6 West of Hurontario Street, Lots 16 to 34 of Concession 1 East of Hurontario Street, and Lots 19 to 21 of Concession 2 East of Hurontario Street, in the Geographic Township of Chinguacousy, historic County of Peel, now within the Town of Caledon and City of Brampton, Regional Municipality of Peel.

Background research identified elevated potential for the recovery of archaeologically significant materials within the study area due to the presence of water sources, documented pre-ca.1900 Euro-Canadian settlements and historic settlement roads as well as numerous designated and listed cultural heritage resources. Additionally, eight historic cemeteries and 108 archaeological sites were identified within or immediately adjacent to the study area limits.

Using the collected background research and limited property inspections tied to the cemeteries, the following recommendations are presented:

1. Lands which have already been subjected to a previous archaeological assessment (Stage 1 AA, Stage 2 AA, Stage 3 AA and/or Stage 4 Mitigation), deemed free of further archaeological concern, have no recommendations for further work and/or determined to no longer retain cultural heritage value or interest (CHVI) — and with the associated report accepted by the *MHSTCI* into the *Ontario Public Register of Archaeological Reports* — are recommended to be exempt from further assessment. No further work is required within the scope of this project.

2. Prior to any proposed impacts to or in the immediate vicinity of archaeological sites for which remaining archaeological concerns have been addressed, but the associated fieldwork reports are still in the draft stage or are awaiting *MHSTCI* approval —Hunter (AkGx-697), Kelly (AkGx-698), Everson (AkGx-702), Oney (AkGx-709) and H4/former AkGx-711 (now part of AkGx-702) — renewed review of the associated fieldwork reports is required in order to confirm whether or not these sites (or portions thereof) still retain CHVI and thereby inform appropriate strategies.

3. Any proposed impacts to or in the immediate vicinity of archaeological sites previously determined to require either Stage 3 AA or Stage 4 mitigation — H3 (AkGx-710), Ransier (AkGw-313), St. John's Anglican Cemetery (Edmonton) (AkGw-327), Orth (AkGx-44), Watkins (AkGx-715) and Kirk (AKGx-716) — must be preceded by the appropriate stage of archaeological investigation in accordance with recommendations in their respective reports.

4. Any proposed impacts to or in the immediate vicinity of archaeological sites Beatty Churchschool (AkGx-6), William Graham (AkGx-8) and Bottner (AkGx-10) must be preceded by a renewed Stage 2 AA to more clearly identify whether further Stage 3 AA is merited. This recommendation is subject to change pending the receipt and review of the concerned ca. 1993/1994 report.

5. Any proposed impacts to or in the immediate vicinity of archaeological sites with sparse information — John's (AkGw-10), Snelgrove (AkGw-65) and Yeoman (AkGw-97) — must be preceded by Stage 2 AA to more clearly identify whether further Stage 3 AA is merited.

6. Parts of the study area that were identified as having archaeological potential removed (i.e., areas of deep and extensive disturbances) are exempt from requiring Stage 2 AA; the extents of these areas are to be confirmed through a detailed on-site property inspection during a Stage 2 AA as per *Section 2.1.8* of the *2011 S&G*.

7. Parts of the study area that were identified as having no or low archaeological potential (i.e., permanently wet and/or low-lying areas; areas of steep slope) are exempt from requiring Stage 2 AA; the extents of these areas are to be confirmed through a detailed on-site property inspection during a Stage 2 AA.

8. As per the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 no intrusive activity may occur within the property limits of Alloa Cemetery, Boston Mills Cemetery, Cheltenham Cemetery, Cork Cemetery, Dixon's Union Cemetery, Old Zion (Bertram) Cemetery, St. John's Anglican (Edmonton) Cemetery and Zion Cemetery without consent from the cemetery operator and the *Bereavement Authority of Ontario*.
    a. Any proposed impacts to lands within the above-listed cemeteries must be preceded by archaeological investigation, consisting of Stage 2 test pit survey followed by Stage 3 mechanical topsoil removal. A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* is also required and needs to be obtained prior to conducting any soil-intrusive work (e.g., Stage 2/3/4 investigations; construction monitoring).
    b. If any portion of the above-mentioned cemeteries cannot be protected from further development, it is required to follow the relevant provincial regulations concerning the formal closure and relocation of the affected cemetery portion (see Section 88 to 93 of the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33).

c. Should proposed impacts occur within 10 metres of the limits of the above-listed cemeteries, the following specific recommendations apply:
    i. Alloa Cemetery: Burials still remain along the cemetery's north edge, within the current Wanless Drive ROW. If continued avoidance and protection of this strip is not an option, Stage 4 mitigation via careful excavation and documentation of the previously exposed cultural features (i.e., three grave shafts and eight postholes representing the historical cemetery fenceline) and subsequent re-burial of the removed graves is required (ASI, 2008a). A CIA issued by the BAO must be obtained prior to any soil-intrusive activities within this area. No further archaeological concerns remain for the area at the north/northeast corner of the cemetery, which has already been subjected to Stage 4 excavation (TAI, 2013c).
    ii. Boston Mills Cemetery: Potential to encounter unmarked burials remain for the cemetery's east/southeast corner. Any proposed impacts within testable grassed margins areas must be subjected Stage 2 test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 mechanical topsoil removal (MTR). Any proposed impacts to the Boston Mills Road and Chinguacousy Road pavement/shoulder/ditching must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead. Owing to the later date of interments to the north and west, only regular Stage 2 test pit survey is recommended (no Stage 3 MTR necessary) for the testable areas along the north and west edges of the cemetery.
    iii. Cheltenham Cemetery: Potential to encounter unmarked burials remain along all edges of the cemetery, and any proposed impacts must be preceded by a Stage 2 test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 MTR. Any proposed impacts to the Creditview Road pavement/shoulder/ditching and adjacent paved park path must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead.
    iv. Cork Cemetery: Potential to encounter unmarked burials remain along all edges of the cemetery, and any proposed impacts must be preceded by a Stage 2 pedestrian survey or test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 MTR. Any proposed impacts to the McLaughlin Road pavement/shoulder/ditching must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead.
    v. Dixon's Union Cemetery: Previous Stage 2 test pit survey along the Kennedy Road frontage of this cemetery determined that this strip has been previously disturbed by the installation of roadside utility and

servicing corridors. Construction monitoring continues to be recommended for this area (ASI, 2021e).

vi. Old Zion (Bertram) Cemetery: Previous investigations have resulted in the confirmation of the absence of burials and the removal of archaeological concerns along the south and east edges of the cemetery, as well as the west/northwest corner post area (ASI, 2005; ASI, 2006c; ASI, 2011a). However, potential to encounter unmarked burials remain for the cemetery's north and west edges. Any proposed impacts here must be preceded by a Stage 2 test pit survey at 5-metre intervals, and followed by Stage 3 mechanical topsoil removal (MTR).

vii. St. John's Anglican (Edmonton) Cemetery: Previous investigations have resulted in the confirmation of the absence of burials and the removal of archaeological concerns along the south and west edges of the cemetery. However, potential to encounter unmarked burials remain for the cemetery's north and east edges. Any proposed impacts here must be preceded by a Stage 2 test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 MTR. Any proposed impacts to paved/built-up areas in the adjacent residential areas to the north and east of the cemetery must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead.

viii. Zion Cemetery: A previous investigation has resulted in the confirmation of the absence of burials as well as the removal of archaeological concerns in the cemetery's entrance along the south side of Conservation Drive. However, potential to encounter unmarked burials remain for the cemetery's north edge. Any proposed impacts here must be preceded by a Stage 2 test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 MTR. Any proposed impacts to the Conservation Drive pavement/shoulder/ditching must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead.

9. All other areas identified as retaining archaeological potential must be subjected to a Stage 2 AA. These areas must be subjected to pedestrian or test pit survey, as appropriate, at five-metre intervals in accordance with the standards set within *Sections 2.1.1* and *2.1.2* of the *2011 S&G*.

No construction activities shall take place within the study area prior to the *Ministry of Heritage, Sport, Tourism and Culture Industries* (Archaeology Programs Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

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1.0 PROJECT CONTEXT

1.1 Objectives

The objectives of a Stage 1 Archaeological Assessment (AA), as outlined by the 2011 *Standards and Guidelines for Consultant Archaeologists* (‘*2011 S&G’*) published by the *Ministry of Heritage, Sport, Tourism and Culture Industries* (*MHSTCI*) (2011), are as follows:

- To provide information about the property’s geography, history, previous archaeological fieldwork and current land condition;
- To evaluate in detail the property’s archaeological potential, which will support recommendations for Stage 2 survey for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 survey.

1.2 Development Context

The Region of Peel completed a Water and Wastewater Master Servicing Plan Update which identified the need to construct new Zone 7 water storage and transmission infrastructure for West Caledon. This Municipal Class Environmental Assessment (EA) will support this recommendation by developing, evaluating, and selecting a preferred storage facility and transmission main route to service projected growth within the study area to 2051 and beyond.

To facilitate this study, *Archeoworks Inc*. was retained by *GM BluePlan Engineering Limited* to conduct a Stage 1 AA for the West Caledon Storage Facility and Transmission Main Class EA. The area of study is roughly bounded by Old Base Line Road to the northwest (“north”), Kennedy Road to the northeast (“east”), Wanless Drive/Conservation Drive to the southeast (“south”) and Winston Churchill Boulevard to the southwest (“west”), in the Town of Caledon and City of Brampton, Regional Municipality of Peel (***see Appendix A – Map 1***). The study area is encompassed within Lots 16 to 34 of Concessions 1 to 6 West of Hurontario Street (WHS), Lots 16 to 34 of Concession 1 East of Hurontario Street (EHS), and Lots 19 to 21 of Concession 2 EHS, in the Geographic Township of Chinguacousy, historic County of Peel.

The Stage 1AA was triggered by the *Environment Assessment Act* in support of Schedule ‘C’, satisfying Phases 1 through 4 of the Municipal Engineers Association (MEA) Municipal Class EA regulatory process. It was conducted under the project direction of Ms. Kim Slocki, under archaeological consultant licence number P029, in accordance with the *Ontario Heritage Act* (1990; amended 2021) and *2011 S&G*. Permission to investigate the study area was granted by *GM BluePlan Engineering Limited* on January 24th, 2022.

1.3 Historical Context

To establish the historical context and archaeological potential of the study area, *Archeoworks Inc.* conducted a review of Indigenous and Euro-Canadian settlement history, and a review of historical mapping, topographic mapping, aerial photographs and orthophotographs. The results of this background research are documented below and summarized in **Appendix C – Summary of Background Research**.

1.3.1 Pre-Contact Period

The pre-contact period of Southern Ontario includes numerous Indigenous groups that continually progressed and developed within the environment they inhabited (Ferris, 2013, p.13). **Table 1** includes a brief overview and summary of the pre-contact Indigenous history of Southern Ontario.

Table 1: Pre-Contact Period

Periods	Date Range	Overview and Attributes
PALEO-INDIAN (Early)		
Early	ca. 11000 to 8500 BC	Small groups of nomadic hunter-gatherers who utilized seasonal and naturally available resources; sites are rare; hunted in small family groups who periodically gathered into larger groups/bands during favourable periods in the hunting cycle; campsites used during travel episodes and found in well-drained soils in elevated situations; sites also found along glacial features (e.g., glacial lake shorelines/strandlines) due to current understanding of regional geological history; artifacts include fluted and lanceolate stone points, scrapers and dart heads. - Gainey, Barnes, Crowfield Fluted Points (Early Paleo-Indian) - Holcombe, Hi-Lo, Lanceolates (Late Paleo-Indian) (Ellis and Deller, 1990, pp.37-64; Ellis, 2013, p.37; Wright, 1994, p.25).
Late	ca. 8500 to 7500 BC	
ARCHAIC (Middle)		
Early	ca. 7800 to 6000 BC	Descendants of Paleo-Indian ancestors; lithic scatters are the most commonly encountered site type; trade networks appear; artifacts include reformed fluted and lanceolate stone points with notched bases to attach to wooden shaft; ground-stone tools shaped by grinding and polishing; stone axes, adzes and bow and arrow; Shield Archaic in Northern Ontario introduced copper tools; oral traditions of the Algonquian-speaking *Michi Saagiig* (Mississauga Anishinaabeg) assert that they, "are the descendants of the ancient peoples who lived in Ontario during the Archaic and Paleo-Indian periods" (Gitiga Migizi and Kapyrka, 2015, p.1). - Side-notched, corner-notched, bifurcate projectile points (Early Archaic) - Stemmed, Otter Creek/Other Side-notched, Brewerton side and corner-notched projectile points (Middle Archaic) - Narrow Point, Broad Point, Small Point projectile points (Late Archaic) (Dawson, 1983, pp.8-14; Ellis et al., 1990, pp.65-124; Ellis, 2013, pp.41-46; Wright, 1994, pp.26-28).
Middle	ca. 6000 to 2000 BC	
Late	ca. 2500 to 500 BC	

Periods	Date Range	Overview and Attributes
WOODLAND (Late)		
Early	ca. 800 BC to 1 AD	Evolved out of the Late Archaic Period; introduction of pottery (ceramic) where the earliest were coil-formed, under fired and likely utility usage; two primary cultural complexes: Meadowood (broad extent of occupation in southern Ontario) and Middlesex (restricted to Eastern Ontario); poorly understood settlement-subsistence patterns; artifacts include cache blades, and side-notched points that were often recycled into other tool forms; primarily Onondaga chert; intensive exploitation of quarries in southeastern Ontario; commonly associated with Saugeen and Point Peninsula complexes. - Meadowood side-notched projectile points (Dawson, 1983, pp.15-19; Ferris and Spence, 1995, pp.89-97; Gagné, 2015; Spence et al., 1990, pp.125-142; Williamson, 2013, pp.48-61; Wright, 1994, pp.29-30).
Middle	ca. 200 BC to AD 700	Three primary cultural complexes in Southern Ontario: Point Peninsula (generally located throughout south-central and eastern Southern Ontario), Saugeen (generally located southwestern Southern Ontario), and Couture (generally located in southwestern-most part of Ontario); "given the dynamics of hunter-gatherer societies, with high levels of interaction and intermarriage among neighbouring groups, one would not expect the existence of discrete cultures" and the "homogeneity of these complexes have been challenged" (Ferris and Spence, 1995, p.98); introduction of large "house" structures and substantial middens; settlements have dense debris cover indicating increased degree of sedentism; incipient horticulture; burial mounds present; shared preference for stamped, scallop-edged or tooth-like decoration, but each cultural complex had distinct pottery forms; Laurel Culture (ca. 500 BC to AD 1000) established in boreal forests of Northern Ontario. - Saugeen Point projectile points (Saugeen) - Vanport Point projectile points (Couture) - Snyder Point projectile points - Laurel stemmed and corner-notched projectile points (Dawson, 1983, pp.15-19; Ferris and Spence, 1995, pp.97-102; Gagné, 2015; Hessel, 1993, pp.8-9; Spence et al., 1990, pp.142-170; Williamson, 2013, pp.48-61; Wright, 1994, pp.28-33; Wright, 1999, pp.629-649).
Late Woodland		
Late (Transitional)	ca. AD 600 to 1000	According to their oral traditions, the north shore of Lake Ontario in Southern Ontario was occupied throughout the entire Late Woodland Period by the *Michi Saagiig* (Mississauga Anishinaabeg); their territory extended north where they would hunt and trap during the winter months, followed by a return to Lake Ontario in the spring and summer; "the traditional territories of the Michi Saagiig span from Gananoque in the east, all along the north shore of Lake Ontario, west to the north shore of Lake Erie at Long Point. The territory spreads as far north as the tributaries that flow into these lakes, from Bancroft and north of the Haliburton highlands" (Gitiga Migizi and Kapyrka, 2015, p.1); oral traditions speak of people (the Iroquois) coming into their territory between AD 500-1000 who wished to establish villages and grow corn; treaties were made allowing the Iroquois to stay in their traditional territories; the Mississaugas of the Credit First Nation state they, "were the original owners of the territory embraced in the following description, namely commencing at Long Point on Lake Erie thence eastward along the shore of the Lake to the Niagara River. Then down the River to Lake Ontario, then northward along the shore of the Lake to the River Rouge

Periods	Date Range	Overview and Attributes
		east of Toronto then up that river to the dividing ridge to the head waters of the River Thames then southward to Long Point the place of the beginning" (MCFN, 2017a); the study area is located within the Mississaugas of the Credit First Nation traditional territory. Earliest Iroquoian development in Southern Ontario is Princess Point which exhibits few continuities from earlier developments with no apparent predecessors; hypothesized to have migrated into Ontario; the settlement data is limited, but oval houses are present; introduction of maize/corn horticulture; artifacts include 'Princess Point Ware' vessels that are cord roughened, with horizontal lines and exterior punctation; smoking pipes and ground stone tools are rare; continuity of Princess Point and Late Woodland Iroquoian groups. - Triangular projectile points (Ferris and Spence, 1995, pp.102-106; Fox, 1990, pp.171-188; Gitiga Migizi and Kapyrka, 2015, pp.1-3; MCFN, 2017a).
Early	ca. AD 900 to 1300	Two primary Iroquoian cultures in Southern Ontario: Glen Meyer (located primarily in southwestern Ontario from Long Point on Lake Erie to southwestern shore of Lake Huron) and Pickering (encompassed north of Lake Ontario to Georgian Bay and Lake Nipissing); early houses were small and elliptical; developed into multi-family longhouses and some small, semi-permanent palisade villages; adoption of greater variety of harvest goods; increase in corn-yielding sites; well-made and thin-walled clay vessels with stamping, incising and punctation; crudely made smoking pipes, and worked bone/antler present; evolution of ossuary burials; grave goods are rare and not usually associated with a specific individual. - Triangular-shaped, basally concave projectile points with downward projecting corners or spurs (Ferris and Spence, 1995, pp.106-109; Williamson, 1990, pp.291-320).
Middle	ca. AD 1300 to 1400	Two primary Iroquoian cultures in Southern Ontario: Uren and Middleport; increase in village sizes (0.5 to 1.7 hectares) and campsites (0.1 to 0.6 hectares) appear; some with palisades; classic longhouse takes form; increasing reliance on maize and other cultigens such as beans and squash; intensive exploitation of locally available land and water resources; decorated clay vessels decrease; well-developed clay pipe complex that includes effigy pipes; from Middleport emerged the Huron-Wendat, Petun, Neutral Natives and the Erie. - Triangular and (side of corner or corner removed) notched projectile points - Middleport Triangular and Middleport Notched projectile points (Dodd et al., 1990, pp.321-360; Ferris and Spence, 1995, pp.109-115).
Late	ca. AD 1400 to 1600	Algonquian-speaking groups of the Anishinaabeg (e.g., Mississauga, Ojibway, Chippewa, Odawa, Algonquin, and others) maintained stable relations with Iroquoian-speaking groups (e.g., Huron-Wendat, Neutral, Petun) who continued to establish settlements in Southern Ontario, according to *Michi Saagig* oral tradition (Gitiga Migizi and Kapyrka, 2015, p.1). Iroquoian groups include the Huron-Wendat to the east of the Niagara Escarpment, the Neutral Natives to the west of the Niagara Escarpment and the Petun in the Blue Mountain region; Huron-Wendat "villages are distributed in clusters along the north shore of Lake Ontario from just west of Toronto to Belleville and north in a triangular area bounded on the Northeast by the Trent River system, and on the west roughly by the Niagara escarpment" (Ramsden, 1990, p.363); within this large area, Huron-Wendat "concentrations of sites occur in the areas of the Humber River valley, the Rouge and Duffin Creek valleys,

Periods	Date Range	Overview and Attributes
		the lower Trent valley, Lake Scugog, the upper Trent River and Simcoe County" (Ramsden, 1990, p.363); longhouses; villages enlarged to 100 longhouses clustered together as horticulture (maize, squash and beans) gained importance in subsistence patterns; villages chosen for proximity to water, arable soils, available fire wood and defendable position; diet supplemented with fish; ossuaries; tribe/band formation; gradual relocation to north of Lake Simcoe. Neutral (called Attiewandaron by the Huron-Wendat) Natives distributed west of the Niagara Escarpment, around the western end of Lake Ontario and eastward across the Niagara Peninsula to Lake Erie; sites also found in the Grand River area and as far as Milton in the east; varying settlements include villages up to five acres in size to isolated fishing cabins; villages tend to be located along smaller creeks, headwaters and marshlands; diet dependent on hunting, gathering, fishing and farming; longhouses present; ossuaries; tribe/band formation; theorized that Credit River may have functioned as a boundary marker between the ancestral Neutral Natives and Huron-Wendat peoples. The Petun (Tionnontaté or Khionontateronon) were located along the Blue Mountains to the north and have been theorized to have arrived ca.1580 from Neutral territory; the Grand River headwaters are located in the northwest corner of Dufferin County and the Petun are believed to have utilized Dufferin County (north of the study corridor) as hunting territory; the northern reaches of the Town of Caledon may have been included in this hunting territory. - many trails used throughout the area including the Toronto Carrying Place Trail which travelled along the Humber River and the Rouge River connecting Lake Ontario to Lake Simcoe. (Ferris and Spence, 1995, pp.115-122; Garrad, 2014, pp.1, 147-148; Gitiga Migizi and Kapyrka, 2015, pp.1-3; Heidenreich, 1978, pp.368-388; Lennox and Fitzgerald, 1990, pp.405-456; Ramsden, 1990, pp.361-384; Sawden, 1952, p.7; TRCA, 2007c, p.9; Warrick, 2000, p.446; Warrick, 2008, p.15).

1.3.2 Contact Period

The contact period of Southern Ontario is defined by European arrival, interaction and influence with the established Indigenous communities of Southern Ontario. **Table 2** includes an overview of some of the main developments that occurred during the contact period of Southern Ontario.

Table 2: Contact Period

Period	Date Range	Overview and Attributes
European Contact	ca. AD 1600s	The Anishinaabeg continued to inhabit Ontario, alongside the Iroquois; inter-marriage between Anishinaabeg and the Iroquois; Mississauga Anishinaabeg oral traditions tell of groups wintering with Iroquoian neighbours, resulting in a complex archaeological record; oral traditions also speak of Anishinaabeg "paddling away" to their northern hunting territories to escape disease and warfare in southern Ontario at this time; French arrival into Ontario; numerous Huron-Wendat villages north of Lake Simcoe in and around the City of Barrie ("Huronia"); extensive trade relationship with Huron-Wendat and French established; Neutral Natives clustered in the Niagara Peninsula; Neutral Natives referred to as *la Nation neutre* by Samuel de Champlain but limited European contact with Neutrals; the Tionnontaté or Khionontateronon were called 'Petun' a

Period	Date Range	Overview and Attributes
		term meaning tobacco; little references to the Petun were made by fur traders leading to the belief that fur traders assumed they were similar to the Huron-Wendat; trade goods begin to replace traditional tools/items; Jesuit and Récollets missionaries; epidemics (Fox and Garrad, 2004, p.124; Garrad, 2014, pp.148, 167-168, 490; Garrad and Heidenreich, 1978, pp.395-396; Gitiga Migizi and Kapyrka, 2015, pp.1-3; Heidenreich, 1978, pp.368-388; Jury, 1974, pp.3-4; Lennox and Fitzgerald, 1990, pp.405-456; Trigger, 1994, pp.47-55; Warrick, 2008, pp.12, 245; White, 1978, pp.407-411).
Five Nations of Iroquois (Haudenosaunee)	ca. AD 1650s	The Five (later Six) Nations (Mohawk, Seneca, Oneida, Onondaga and Cayuga; later included the Tuscarora) of Iroquois (or Haudenosaunee), originally residing south of the Great Lakes, engaged in warfare with other Iroquois groups as their territory no longer yielded enough furs; the Five Nations, armed with Dutch firearms, attacked and destroyed numerous Huron-Wendat villages in 1649-50; the small groups that remained became widely dispersed throughout the Great Lakes region, ultimately resettling in Quebec, in southwestern Ontario and in America; the Five Nations established settlements along the northern shoreline of Lake Ontario at strategic locations along canoe-and-portage routes and used territory for extensive fur trade; villages included Ganatsekwyagon (or Gandesetaigon) at the mouth of the Rouge River, and Teiaiagon at a bend near the mouth of the Humber River; European fur trade and exploration continues (Abler and Tooker, 1978, p.506; Gitiga Migizi and Kapyrka, 2015, p.2; Robinson, 1965, pp.15-16; Schmalz, 1991, pp.12-34; Trigger, 1994, pp.53-59; Williamson, 2013, p.60).
Anishinaabeg Return (and Arrival)	ca. AD 1650s to 1700	Some narratives tell of Anishinaabeg groups either returning (Gitiga Migizi and Kapyrka, 2015, p.2) or moving by military conquest (MCFN, 2017a) to Southern Ontario in the 1690s; many battles fought ultimately resulting in most of the Five Nations being driven out of Southern Ontario and returning to their lands south of the Great Lakes (and some remained in parts of Southern Ontario); the English referred to those Algonquian-speaking groups that settled in the area bounded by Lakes Ontario, Erie, and Huron as Chippewas or Ojibwas (Smith, 2002, p.107); '*Mississauga'* term applied to Anishinaabeg bands living on the north shore of Lake Ontario; they were focused on hunting/fishing/gathering with little emphasis on agriculture; temporary and moveable houses (wigwam) left little archaeological material behind; multiple settlements throughout Southern Ontario (Gibson, 2006, pp.35-41; Hathaway, 1930, p.433; Johnston, 2004, pp.9-10; McMillan and Yellowhorn, 2004, pp.110-111; Smith, 2013, pp.16-20; Trigger, 1994, pp.57-59; Williamson, 2013, p.60).
Trade, Peace and Conflict	ca. AD 1700 to 1770s	Great Peace negotiations of 1701 in Montreal established peace around the Great Lakes; collectively referred to the Anishinaabeg and Five Nations of Iroquois as the First Nations; European commerce and exploration resumed; the Anishinaabeg continued to trade with both the English and the French; beginnings of the Métis and their communities; skirmishes between France and Britain as well as their respective First Nations allies erupt in 1754 ("French and Indian Wars") and forms part of the larger Seven Years' War; French defeat transferred the territory of New France to British control; Treaty of Paris (1763); Royal Proclamation of 1763 "states explicitly that Indigenous people reserved all land not ceded by or purchased from them" (Hall, 2019a); the Proclamation established framework for how treaties were negotiated (by only the King or an assigned representative of the King, and only at a public meeting called for this specific purpose) and established the "constitutional basis for the future negotiations of Indigenous treaties in British North America" (Hall, 2019a); the Proclamation established the British

Period	Date Range	Overview and Attributes
		administration of North American territories ceded by France to Britain; uprising by several First Nations groups against British ("Pontiac's War"); fur trade continued until Euro-Canadian settlement (Hall, 2019a; Jaenen, 2013; Johnston, 2004, pp.13-14; Schmalz, 1991, pp.35-62, 81; Surtees, 1994, pp.92-97).
Early British Administration and Early Euro-Canadian Settlement	ca. AD 1770s to 1800s	American Revolutionary War (1775-1783) drove large numbers of United Empire Loyalists (those who were loyal to the British Crown), military petitioners, and groups who faced persecution in the United States to re-settle Upper Canada; Treaty of Paris (1783) formally recognized the independence of the United States; Province of Quebec divided in 1791 into sparsely populated Upper Canada (now southern Ontario) and culturally French Lower Canada (now southern Quebec); Jay's Treaty of 1795 establishes American/Canadian border along the Great Lakes; large parts of Upper Canada opened to settlement from the British Isles and continental Europe after land cession treaties were negotiated by the British Crown with various First Nations groups (Government of Ontario, 2021; Hall, 2019b; Jaenen, 2014; Surtees, 1994, p.110; Sutherland, 2014).
British Land Treaties	1805 to 1806	In 1805 a tract of land was ceded from the Mississauga that included lands "reaching from the Etobicoke Creek on the East for twenty-six miles westward to the outlet of Burlington Bay, these lands stretching back from the Lake shore line for from five to six miles to what we now know as the Second Concession North of Dundas (or Eglinton Avenue)" (Fix, 1967, p.13); the Mississauga obtained £1000 worth of goods and the right to retain their fishery sites at the mouths of the Credit River, Sixteen Mile Creek, and Twelve Mile Creek; this treaty, Treaty No.13a, included lands in the southern parts of the Township of Toronto in Peel County and Trafalgar and Nelson Townships in Halton County; a confirmatory surrender was issued in 1806, Treaty No.14; included lands south of Eglinton Avenue in Peel County (Department of Indian Affairs, 1891, pp.35-40; Weaver, 1913, p.65; Surtees, 1994, p.110; Government of Ontario, 2014; Government of Ontario, 2021; MCFN, 2017b).
British Land Treaties	1818	After the War of 1812, immigration from the Unites States came to a halt as a change in British policy discouraged Americans from taking residence in Canada and encouraged immigration from the British Isles; the remainder of the Mississauga Tract, within what is now the Regional Municipality of Peel, was purchased by William Claus in 1818; the area belonged to the Credit River Mississauga who, despite efforts from the Indian Department officials to protect them, found themselves victim to encroachment on their lands and fisheries by Euro-Canadian settlers; Ajetance, chief of the Credit River Mississauga, settled for goods in the value of £522.10 shillings annually per person in exchange for 648,000 acres of land; this second purchase surrendered those lands within what would encompass the Township of Chinguacousy; this treaty was also known as Treaty No.19 or the Ajetance Purchase (Department of Indian Affairs, 1891, p.iv; Surtees, 1994, pp.116-117; Government of Ontario, 2021; MCFN, 2017c).

1.3.3 Euro-Canadian Settlement Period (1800s to present)

1.3.3.1 Township of Chinguacousy

The County of Peel was initially part of Home District and was divided into townships, the preferred unit of land division by British administrators (Loverseed, 1987, p.23). The Township of Chinguacousy is believed to have been named in honour of Chief Chinguacousy who captured

Fort Michilimacinac from the Americans in the War of 1812. Between 1818 and 1819, the Township of Chinguacousy was surveyed and divided by present-day Hurontario Street (or Centre Road) running through the centre of the township. Concessions were numbered sequentially from east and west of Hurontario Street. To further ensure survey accuracy, the township was divided into north and south halves, with present-day Mayfield Road serving as the dividing line. The Township of Chinguacousy was the largest within the County of Peel, containing 130 square miles, and was divided into North and South to ensure accuracy during the survey (Mika and Mika, 1977, p.416; McKinney, 1967, p.244; Pope, 1877, p.90).

The majority of first settlers in the Township of Chinguacousy were predominately from New Brunswick, the United States, parts of Upper Canada, and a large number of children from United Empire Loyalists (Pope, 1878, p.90). These earliest settlers focused on agriculture, particularly large wheat crops, as their means of subsistence, after a portion of their land was cleared of timber resources (Mika and Mika, 1977, p.417). By 1842, the population of the Township of Chinguacousy included 3,965 individuals who cultivated 26,266 acres of land and the township was described as “one of the best settled townships in the Home District, containing excellent land, and many good farms” (Smith, 1846, p.32). Since Chinguacousy Township was land-locked with no port access, road maintenance became an issue and in 1849, legislature was introduced allowing private companies to build plank roads and charge tolls (McKinney, 1967, p.249).

The population of the Township of Chinguacousy grew quickly, and between 1861 and 1881, it had grown larger than the Township of Toronto (present day City of Mississauga). Furthermore, the Township of Chinguacousy and the Township of Toronto Gore had the highest wheat yields in the province, exceeded only by Pennsylvania in the United States. To facilitate transportation of wheat and lumber resources, Hurontario Street beginning in Port Credit to Edmonton (present-day Snelgrove) was planked and tolled, however, the locations of toll booths are unknown (McKinney, 1967, pp.249-250).

1.3.3.2 Hamlet of Alloa

The hamlet of Alloa, located northeast of the study area, was originally called Troughtons Corners after the Troughton family who were early settlers in the area. Later it was called Tillacoutry by the local Irish farmers. A post office was established in 1863 and the village was renamed to Alloa after a place in Scotland. A few buildings, including a church and school, remain at the crossroad hamlet at the intersection of Mayfield Road and Creditview Road (Roulston, 1978, p.10).

1.3.3.3 Village of Edmonton / Snelgrove

The community of Snelgrove, located at the intersection of Mayfield Road and Hurontario Street, was originally named Edmonton until 1895. A post office was first established in the hamlet in 1851. By 1877, the community contained five churches, a brick school house, Temperance and Orange Halls, a post office, two inns, a township hall, two stores, a carriage factory, two blacksmith shops, a harness shop and a shop for boots and shoes. The number of inhabitants was approximately 200 individuals at that time (LAC, 2022a; Pope, 1877, p.90).

1.3.3.4 Village of Boston Mills

Boston Mills, located at the intersection of present-day Chinguacousy Road and Boston Mills Road, is located within the northern part of the study area. This village had many early names including The Credit (due to its location on the Credit), Caslor's Corners (after Hiram Caslor who owned the sawmill and carding mill in the early 1850s) and finally Boston Mills after a song entitled, "The Road to Boston." In the 1870s, the Hamilton and Northwestern Railway arrived and the name, 'Boston' was applied to the station name. Presently, the community consisted of approximately 25 homes and a large cemetery (Roulston, 1978, p.17).

1.3.3.5 Village of Campbell's Cross

Campbell's Cross, located at the intersection of present-day Kennedy Road and King Street, is encompassed within the northwest part of the study area. The community was originally named Dublin after a hotel, Dublin Castle, that was located on the northwest corner of present-day Kennedy Road and King Street. "The name Dublin Castle is well remembered for the involvement of local residents in the 1837 rebellion" (Roulston, 1978, p.23). It was renamed Campbell after "several Campbell families who settled there in the 1820s. The term cross is indicative of the intersection of roads at this point" (Roulston, 1878, p.23). A post office was opened in 1848 and Campbell's Cross was selected as the community's name. By the middle of the 19th century, a bustling tavern, Dublin Castle, containing 18 rooms, and three stores were located in the community serving those traveling along grain shipping lines from northern locations to Port Credit (Carroll, 1967, p.29). By 1873, the community was described as, "a post village in Peel co., Ont., 8 miles from Brampton. Pop.150" (Crossby, 1873, p.54).

1.3.3.6 Village of Cheltenham

Cheltenham, located where the Credit River crosses present-day Creditview Road, is located in the central part of the study area. Charles Haines, the original settler of the village, arrived in 1822 and named the village after his birthplace in England. Cheltenham was an important mill site "one of the most important mills being operated by the Haines brothers. It produced 10,000 barrels of flour per year" (Roulston, 1978, p.25). By 1873, the community was described as, "a post village in Peel co., Ont., on the River Credit, 13 miles from Brampton. It contains a telegraph office, and saw and flouring mills Pop.250" (Crossby, 1873, p.85). By the late 1870s, the Hamilton and Northwestern Railway and the Credit Valley Railway were constructed through the community resulting in the community growing to include 350 individuals by 1877 (Roulston, 1978, p.25).

1.3.3.7 Village of Claude

Claude, located at the intersection of present-day Hurontario Street (Highway 10) and Boston Mills Road, is located near the north corner of the study area. This community was initially known as Craig's Corners, after David Craig who settled on the south corner of the village in 1832. Later, it was known as O'Culloden, possibly due to local settlers primarily being from Culloden, Scottland. The hamlet was eventually named Claude when the Claude Mission of the Anglican Church arrived. The post office was opened in 1857, and by 1873, the community was described as, "a post village in Peel co., Ont., 10 miles from Brampton. Pop.100" (Crossby, 1873, p.88; LAC,

2022b). The Credit Valley Railway bypassed the village, and by 1970, the population consisted of only 30 individuals (Roulston, 1978, p.28).

1.3.3.8 Village of Victoria

Victoria, located at the intersection of present-day Hurontario Street (Highway 10) and King Street, is encompassed within the northwest part of the study area. "In the 1860s D. Williams placed a sign over his store reading "Victoria" commemorating the reigning Queen of England" (Roulston, 1978, p.75). This name was applied to the community and post office, which was know as a stopping-off place on the grain route traveling along Centre Road (Hurontario Street). A tile manufacturer, saw mill and hotel were located in the community. By 1873, the community was described as, "a village in Peel co., Ont., 8 miles from Brampton. Pop.50" (Crossby, 1873, p.347).

1.3.3.9 Village of Salmonville/Terra Cotta

Salmonville, located near where the Credit River crosses present-day King Street between Heritage Road and Winston Churchill Boulevard, is encompassed within the southwest part of the study area. This community was initially known as Tucker's Mills, likely named after the first mill owner or operator. In 1866, a post office was established, and the name 'Salmonville' was selected "for the fact that salmon were plentiful in the mills" (Roulston, 1978, p.73). By 1873, the community was described as, "a post village in Peel co., Ont., on the River Credit, 6 miles from Georgetown. It contains a telegraph office, 2 saw mills and a grist mill. Pop.70" (Crossby, 1873, p.307). "In 1890 the name of the post office was changed and thus the community became Terra Cotta. It was so named for the hard red clay most suitable for brickmaking which was found there" (Roulston, 1978, p.73).

1.3.4 Land Use History

1.3.4.1 Pre-1900 Land Use – Historic Maps Review

Several documents were reviewed to gain an understanding of the land use history and of the study area's potential for the recovery of historic pre-1900 remains, namely the 1859 *Tremaine's Map of the County of Peel* and the 1877 *Illustrated Historical Atlas of the County of Peel* (***see Maps 2-3; Table 3***).

Table 3: Summary of Structures and Property Owners/Occupants documented in the 1859 *Tremaine's Map* and the 1877 *Illustrated Historical Atlas* in the Study Area

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
2 EHS*	19	W½	Wm. Heath	Jas. Topham	-	-
	20	W part	Elias Snell	Wm. Snell	-	-
			Samuel Snell	Jas. Topham	-	-
			Robert Dennison		-	-
	21	NW¼	Thomas Edward	Neil McDougall	-	-
		SW¼	M. McCartney		-	
1 EHS	16	W½	James Watson		-	1 residence + barn
		E½	John Snell		-	-

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
	17	W part	*Edmonton village lots*	*Snelgrove village lots*	village lots (incl. town hall; store; church; inn)	village lots
			Andrew Runster		-	
			Jas Watson		-	
		E part	Bath. Snell	D. Craig	-	-
			Elias Snell	Jno. V. Snell	-	-
	18	W½	*Edmonton (now Snelgrove) village lots*		village lots	village lots
			Bart. Snell	Robert Craig	1 residence	1 residence; 1 church
		E½	Elias Snell		1 residence	1 residence
	19	NW¼	Wm. Hall		-	1 residence
		SW¼	John Giffen	Robert Craig	-	-
		E½	Samuel Heath Jr.		1 residence	1 residence
	20	W½	Wm. Low		1 residence	1 residence
		NE¼	Abraham Howard	Thomas Edwards	-	1 residence
		SE¼		*Unlisted*		-
	21	W½	Robert Wilson		1 residence	1 residence
		NE¼	Henry Dunsmore	Robert Dunsmore	1 residence	1 residence
		SE¼		Jno. Dunsmore		1 residence
	22	W½	Wm. Learmont		1 residence	1 residence
		NE¼	Thomas Fead	Jas. Topham	-	1 residence
		SE¼	Robert Norris		-	
	23	W½	Robert Marshall		1 school house	1 residence
		E½	Cornelius Newhouse		1 residence	1 residence
	24	W½	Gilbert VanWick	Robert Marshell Jr.	-	1 residence
		E½	Thomas Copeland	Wm. R. Copeland	-	1 residence
	25	W½	John Clifton	Alex Armstrong	-	1 residence
		NE¼	John McDonald	Alex Kirkwood	-	1 residence
		SE¼	Wm. Dixon		-	
	26	W½	Duncan McDougall	Lachlan McDougall	-	1 residence
		E½		Jno. McDougall		2 residences
	27	W part	Andrew Crawford	*Victoria village lots*	1 residence	village lots
				Unlisted		brick yard
			Rob. McCallum		-	-
		NE part	*Campbell's Cross village lots*		village lots (incl. post office; W.M. church; store)	village lots
		NE part	E.T. Hagyard		-	1 residence
		SE part	Abraham Campbell	Abraham Campbell	-	-
			John Snell		-	
	28	SE corner	*Campbell's Cross village lots*		Dublin Castle hotel	village lots
		Balance	John Bradley		1 residence	2 residences
	29	NW¼	Duncan Carrie	Thos. Campbell	-	1 residence
		SW¼	Duncan McDougall	*Unlisted*	1 residence	2 residences
		E½	John Beatty		-	1 residence

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
	30	W½	John McLeod		-	1 residence
		E½	Angus McLeod		1 residence	1 residence
	31	W½	John Smith	John Smith	-	1 residence
		E part	John Smith		-	
		SE pt	McDougal		-	
	32	W½	Neil McKechnie	Est. of M. Sinclair	1 residence	2 residences
		E½	Lachlan McLean	Donald Smith	-	1 residence
	33	SW corner		*Claude village lots*	1 residence	village lots
		W½	James Campbell Jr.			1 residence; 1 church
		E½	John Wiggins		1 residence	1 residence
	34	W½	John McGregor	Arch. McGregor	-	2 residences
		E½	James Shanahan		1 residence	1 residence
1 WHS^	16	W½	Robert Watson		1 residence	1 residence + barn
		E½	Cation Bros	David Cation	1 school house	1 residence; 1 school house
	17	W½	Walter Cation & Bro		-	1 residence
		E½	John Shields	T. Shields	1 residence	1 residence + barn
		NE corner	*Edmonton/Snelgrove village lots*		village lots (incl. 2 inns)	village lots
	18	W½	Jas. Duckworth		-	1 residence
		E½	John Giffen		-	1 residence
		SE corner	*Edmonton/Snelgrove village lots*		village lots	village lots
	19	NW¼	John Giffen	*Unlisted*	-	1 residence
		SW¼	Jas. Duckworth		-	2 residences
		E½	John Giffen	Alex Giffin	-	-
	20	W½	Joshua Kelley	Jas Giffin	2 residences	1 residence
		NE¼	John Hall	Wm. Hall	1 residence	1 residence
		SE¼		T. Hall		1 residence
	21	W½	Alex. Hogg		-	1 residence
		NE¼	Jas. Hunter	*Unlisted*	-	1 residence
		SE¼	Mrs. Sarah Little	Edward Little	-	1 residence
	22	All	Jas. McGill	Wm. McGill	-	2 residences; 1 school house
	23	NW¼	Mary Guy	Wm. McGill	-	1 residence
		S part	Arthur Norris	Wm. Cation	-	1 residence
		E part	Jos. Guy	Wm. Kinney	-	1 residence
	24	W½	Wm. Marshall		-	1 residence
		E½	Thomas Fead	Wm. Mashinter	1 residence	1 residence
	25	W½	Wm. Hostler	Thos. C. Walker	1 residence	1 residence
		E½	Robert Broddy		-	1 residence
	26	W½	James Stephens	Est. of Jas. Stevens	-	1 residence
		E½	T.H. Armstrong	Thos. Armstrong	-	1 residence
	27	W½	Wm. McKinney		-	1 residence
		E½	Andrew Crawford	Andrew Crawford	1 residence; 1 saw mill	1 residence
		NE corner		*Victoria village lots*		village lots

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
	28	W½	David Ryan	Jos. Ryan	-	2 residences
		E½	John Sinclair	Wm. Knox	-	1 residence
	29	W½	Jno. & Alex Armstrong	Alex. Armstrong	1 residence	1 residence
		E½	John Smith	Est. of And. Smith	-	1 residence
	30	W½	John Wiggins	Wm. Wiggins	-	1 residence
		E½	John Wilder	Jno. McDavid	1 residence	1 residence
	31	NW¼	Patrick Cain	Jno. Wiggins	-	1 residence
		SW¼	Benj. Nesbutt		-	
		E½	John Shipley	Est. of Jno. Shipley	1 residence	1 residence
		E part	W.D.	Pres. Church lot	-	1 residence
	32	W½	Alex Clunes	Jas. Campbell	-	1 residence
		E½	David Craig	Geo. Robinson	1 residence	1 residence
		NE corner	*Claude village lots*		village lots (inc. steam saw mill; inn; blacksmith shop)	village lots
	33	W½	Daniel McBride		1 residence	1 residence
		E½	Geo. Robinson		1 residence; Post Office; Store	1 residence; village lot
	34	All	Arch. Clark	Est. of Arch. Clark	1 residence	1 residence
2 WHS	16	W½	Isaac Hare	F. Smith	-	-
		E½	Wm. Graham		1 residence	-
	17	W½	James Nicholl	Robert Hall	1 residence	1 residence + 1 barn
		E½	Walter Cation & Bros	Walter Cation	1 residence	1 residence + 1 barn
	18	NW¼	John Craig		-	-
		SW¼	Wm. Craig	J. Rice	1 residence	1 residence
		E½	Wm. Rae	Jno. May	-	1 residence
	19	W½	Jas. & Sam. Neel	Samuel Neil	2 residences	1 residence
		E½	John Ferris	Lawrence Duckworth	1 residence	1 residence
	20	W½	John McLean		-	1 residence
		E part	Geo. Johnson	G. F.	-	1 residence
		E½		Geo. Lyons		1 residence
	21	W½	James McCulloch		-	1 residence
		E½	Benj. Groat	Jno. Groat	-	1 residence
	22	W½	Walter Marshall		-	1 residence
		E½	Jas Marshall	Wm. Marshall	-	2 residences
	23	W½	Benj. Cooney	Jno. Cooney	-	1 residence
		E½	Sam. Rodgers	Wm. Cation	-	1 residence
	24	NW¼	Benj. Nesbitt	Wm. Hutchinson	-	2 residences
		SW¼	Wm. Clarridge		-	
		NE¼	John Lipsett	Wm. Drinkwater	1 residence; W.M. church	1 residence; 1 church
		SE¼		A. B. Henderson		1 residence
	25	W part	Benj. Nesbitt	Wm. Hutchinson	-	-
		E part	Arthur Norris		-	2 residences

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
	26	W½	Alex Vance		-	1 residence
		E½	John Kenny		-	1 residence
	27	W½	Wm. Shipley		-	1 residence
		E½	Wm. Graham		-	1 residence
	28	W½	Neil Hunter		-	1 residence
		E½	John Sloan		-	1 residence
	29	W½	Malcolm Campbell		-	1 residence
		E½	John Lipsell	Alex Armstrong	-	1 residence
	30	W½	Wm. Wilkinson Sr.	Wm. Wilkinson	1 residence	1 residence
		E½	Jno. & Alex Armstrong	Alex Armstrong	-	2 residences
	31	W½	Wm. Wilkinson Jr.	Wm. Wilkinson	1 residence	1 residence
		E½	Jas. Nesbitt	Robert Groat	-	1 residence
	32	W½	Jas. Campbell		-	1 residence
		E½	Peter T. McCollum	Hiram Castor	1 residence	1 residence
	33	SW part	Castor	*Boston Mills village lots*	1 saw mill; 1 woollen mill	village lots
				C.D. Spalding		1 residence; 1 saw mill; 1 grist mill
		W+E part	Peleg Lake	Jno. H. Castor	-	1 residence
		C part	P. T. McCollum	Hiram Castor	-	-
		E part	Mrs. McBride	Richard McBride	-	-
	34	All	John Standing	Est. of Jno Standing	1 residence	1 residence
3 WHS	16	W½	Wm. Drinkwater	James Drinkwater	-	1 residence + barn
		E½	Geo. Ferguson Sr.	Thomas Polley	1 residence	1 residence + barn
	17	W part	Jas. Drinkwater	Jas. Drinkwater	1 inn	-
				Jno. Dolson		1 residence + barn
		E½	John Moody	Henry Moody	-	1 residence
	18	W½	*Alloa village lots*		1 residence	village lots
			Wm. Sharp	Stephen Dolson	1 steam saw mill	1 residence
				Unlisted		1 residence
		NE¼	Estate of J. McLean	Jno. Craig	-	1 residence
				A. Clarridge		1 residence
				F. Graham		-
		SE¼	Patrick McLean		1 cabinet shop	2 residences
	19	W½	Edward Rice	Stephen Dolson	-	2 residences
		E½	James Gadden	Est. of Jas. Graydon	-	1 residence
	20	W½	Geo. Watson	Jno. Clark	-	1 residence
		NE¼	James Graham	Jos. Marshall	-	-
		SE¼		Jas. Graham		2 residences
	21	W½	David Young	Wm. Dolson	-	1 residence
		E½	David Hall	Jas. Hall	1 residence	2 residences
	22	W½	Wm. Wilkinson		-	1 residence
		E½	John McCulloch		-	1 residence
	23	W½	Wm. Hutchinson		1 residence	1 residence; 1 church

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
		E½	John Henderson	A. B. Henderson	1 residence	2 residences
	24	W½	Wm. Hutchinson	Wm. Hutchinson	-	1 residence
		NE¼	John Nesbitt		-	
		SE¼	Hugh Nesbitt		-	
	25	All	Wm. Lyons		-	1 residence
	26	W½	David Henderson	Jno. Henderson	-	1 residence
		E½	Hugh Nesbitt	Jas. Wilkinson	-	1 residence
	27	W½	Alex. Hunter		-	1 residence
		E½	John McQuary	Allan McQuarrie	-	2 residences
	28	W½	Charles Haines Jr.	Chas. Haines	1 residence; 1 grist mill	2 residences
		E½	Jas. Lyons		-	1 residence
	29	NW corner	*Cheltenham village lots*		village lots	village lots
		SW¼	Chas Haines Sr.	Chas. Haines	-	-
				Unlisted	-	1 residence
		NW¼ + E½	John Campbell		-	2 residences; 1 church
	30	NW part	Hall	*Unlisted*	-	-
				Cheltenham village lots		village lots
		SW part	*Cheltenham village lots*		village lots	village lots
			Peter Crawford		-	-
		NC part	R.L.	Peter Sinclair	-	-
		NW part	Malcolm Sinclair		-	-
		E part		Wm. Wilkinson	-	-
	31	NW¼	Robert Lawson		-	1 residence
		NW part	Robert Lawson	E.S.		1 residence
		SW¼	Jos. Wilkinson	Hugh Henry	1 residence	1 residence
		E part	M. Sinclair	Peter Sinclair	-	1 residence
	32	W½	Robert Wilkinson		-	1 residence
		E½	Wm. Wilkinson Jr.	Wm. Wilkinson	1 saw mill	1 residence; 1 school house
	33	W½	Matt. Laty	Jno. Mountain	-	1 residence
		E½	John Marshall	John Marshall	2 residences	1 residence
		SE corner		*Boston Mills village lots*		cemetery; village lots
	34	W½	John Adams	Geo. Wilson	-	1 residence
		E½	David Graham	Graham Estate	1 residence	1 residence
4 WHS	16	W½	James Clark		-	1 residence + 1 barn
		E½	John Clark		1 residence	1 residence + 1 barn
	17	W½	Wm. Dolson		1 residence	1 residence + 1 barn
		E½	John Dolson		1 residence	1 residence + 1 barn
		NE corner	*Alloa village lots*		village lot	village lot
	18	W½	Wm. D. Dolson Esq		-	-
		E½	Mahlon Silverthorn	Aaron Silverthorn	1 residence	2 residences

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
	19	W part	Wm. Scott	Jos. Mothersill	-	1 residence
		NW part	James Ovens	Jas. Ovens	-	1 residence
		S part	Robert Ovens		-	
	20	W½	James Ovens		-	-
		E½	Erastus Clarridge		-	1 residence
	21	W½	Robert Mothersill	Mrs. Ann Mothersill	-	1 residence
		E½	Wm. Dolson		-	1 residence
	22	NW¼	John McPherson		-	1 residence
		SW¼	James McKane		-	1 residence
		E½	David Henderson		1 residence	1 residence
	23	NW¼	Geo. Lyons		1 residence	1 residence
		SW¼	Wm. Lyons		-	1 residence
		NE¼	Wm. Hutchinson		-	-
		SE¼	David Henderson	*Unlisted*	1 school house	1 residence; 1 school house
	24	W½	Geo. Lyons		-	-
		E½	Thomas Taylor		-	1 residence
	25	All	John Cameron		1 residence	1 residence
	26	W½	James Whilham	Geo. Lyons	-	1 residence
		E½	Jas Young	Wm. Cain	-	1 residence
	27	W½	Geo. Campbell		1 residence	-
		E½	Jos. Clover	Arch. Campbell	-	1 residence
	28	W½	Stewart Mundell	Sam. Adams	-	1 residence
		E½	John McKechnie	Wm. McKechnie	2 residences	1 residence
	29	W½	Thomas Lyons		1 residence	-
		NE part	*Cheltenham village lots*		village lots	village lots
			Unlisted	F. Haines	1 residence; 1 grist mill	
		SE part	Chas. Haines Sr.	E. Haines	1 residence; 1 saw mill	1 residence; 1 saw mill
				Chas. Haines		-
				Snell		1 residence
	30	SE corner	*Cheltenham village lots*		village lots	village lots (incl. post office)
		Balance	John Lyons		1 school house; 1 church	2 residences; 1 school house; 1 church
	31	W½	Donald McArthur	John Lyons	1 residence	1 residence
		E½	Jos. Little		1 residence	1 residence
	32	W½	Robt. Caldwell	Geo. Caldwell	-	-
		E½	Jos. Mountain	Alex. Mountain	1 residence	1 residence
	33	W½	Robert Caldwell	Geo. Caldwell	-	1 residence
		NE¼	Geo. Wilson	Wm. Wilson	1 residence	1 residence
		SE¼	Jos. Mountain		-	
	34	W½	Arch. McMurphy	Wm. Henry	-	1 residence
		E½	Geo. Wilson		-	1 residence
5 WHS	15	W½	Robert Beatty		1 school house	1 church
		E½	Henry Clarridge		-	-

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
	16	W½	John Orth	Jno. H. Orths	-	1 residence + 1 barn; 1 school house
		E½	Thomas Laughlin	Wm. D. Dolson	1 residence	1 residence
	17	W½	John Clarridge	Jos. Mothersill	-	1 residence
		E½	Wm. D. Dolson		1 residence	1 residence + 2 barns
	18	W½	Andrew Dolson		-	1 residence
		E½	Wm. D. Dolson Esq		-	-
	19	W½	Josh Leslie		-	1 residence
		NW¼	Rich Harris	Jos. Mothersill	-	1 residence
		SE¼	Hugh Matthews		-	1 residence
	20	NW¼	Jas. Matthews	Jas. Matthews	-	-
		SW¼	Robert Mothersill	Jos. Mothersill	-	1 residence
		E½	Jos. Mothersill		1 residence	
	21	W part	Thomas Matthews	Est. of Thos. Matthews	-	1 residence
		NE part	Hugh Matthews	Richard Elliott	-	1 residence
		SE part	Jas. Matthews	Jas. Matthews	-	1 residence
	22	W part	Robert Forgram	Robt. Forgrave	-	1 residence
		C part	Jas. McKane		-	-
		E part	Wm. Mothersill	Henry McPherson	-	1 residence
	23	W part	And. McPherson	Thos. McKane	-	2 residences
		W part	Matt. McPherson		-	
		NE¼	McGowan Blackstock	Mr. G. Blackstock	-	-
		SE¼		Jas. Blackstock		1 residence
	24	W½	Alex. Campbell	Geo. Lyons	-	1 residence
		E½	Daniel Brooks	Jno. Brooke	-	1 residence
	25	W part	Geo. Lyons	Geo. Lyons	-	2 residences
		NE part	Wm. Scott		-	
	26	SW part	Wm. Drinkwater	Jas. Lyons	-	1 residence
		E part	John Kickley		-	
	27	W½	Thomas Lyons		-	1 residence
		E½	John Lyons		-	1 residence
	28	W½	Hugh Morrow	Jas. Lyons	-	-
		E½		Hugh Morrow		1 residence
	29	N½	Thomas Lyons		-	1 residence
		S½	James Lyons		-	1 residence
	30	W½	Daniel Brooks	Jno. Brookes	-	2 residences
		NE¼	Alex Campbell	Wm. Henry	-	-
		SE¼		Thomas Lyons		1 residence
	31	W½	Smith	Henry Townsend	-	1 residence; 1 lime kiln
		E½	Wm. Stokes	Thomas Foster	1 residence	1 residence; stone quarries
	32	W½	Jas Young	(non-resident)	-	-
		E½	Arch. Sinclair	Hugh Henry	-	1 residence
	33	W part	Jas Young	Jos. McCauley (non-resident)	-	1 residence

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
		W½		Alex. McDonald		1 residence
		E½	Alex Sinclair		-	1 residence
	34	W½	Canada Company	Canada Company	-	1 residence;
		E½	Malen. Sinclair		-	1 lime kiln
6 WHS	15	W½	Alex. Campbell	Est. of Jno. Shaw	-	-
		NE¼	Mrs. Phillips	Andrew Dolson	-	-
	16	NW¼	John Melvin	Daniel Watkins	-	1 residence
		SW¼	Marg. Kirk	Mrs. M. Kirk	-	1 residence
		E part	Charles Brandon	Jas. McClure	-	1 residence
	17	W part	Robert Oney	Edw. Rice	-	1 residence
		W part	Uriah Everson	Jno. S. Leslie	-	1 residence
		E part		Thos. Montgomery		1 residence
	18	W½	Adam Raven	Jno. S. Leslie	1 residence	1 residence
		E½	Wm. Watson	Jos. Leslie	-	1 residence
	19	W½	Levi Messer	Geo. P. Leslie	-	1 residence
		NE¼	Geo. Leslie	Robt. F. Leslie	-	-
		SE¼	Thos. Matthews	Est. of Thos. Matthews	-	-
	20	W½	John Leslie	Jno. S. Leslie	-	1 residence
		E½	Geo. Leslie	Robt. F. Leslie	1 residence	1 residence
	21	W½	Robert Mullin		1 residence	1 residence
		E½	Robert Lindsay	Jos. Mothersill	-	1 residence
	22	N½	Benj. Petch		-	1 residence
		S½	Jas. Petch		-	1 residence
	23	W part	Thomas Phillips	Thos. Phillips Jr.	1 residence	-
		W part		Thos. Phillips Sr.		2 residences
		E½	Jas. Frazer	Tho. McKane	1 school house	1 residence; 1 school house
	24	All	Daniel Brooks	Jno. Brooke	-	1 residence
	25	W½	John Rutlege		-	1 residence
		E½	Henry Rutlege	Robert Giffin	-	1 residence
	26	W½	Jas. Young		-	1 residence
		NE¼	Duncan Hunter		-	1 residence
		SE¼	Thomas Matthews	Est. of Thos Matthews	-	1 residence
	27	W½	Jas. Stringer	J. Stringer (non-resident)	1 saw mill	village lots; 1 mill; 1 residence
		SE¼	Jas. McLeod	Mrs. Mary McLeod	-	-
		NE¼	*Tucker's Mills (now Terra Cotta) village lots*	*Salmonville (now Terra Cotta) village lots*	village lots; 1 grist mill; 1 saw mill; 1 church	village lots (incl. post office)
				Est. of S. Plews		1 residence; 1 saw mill; 1 grist mill
				Geo. Campbell		2 residences
	28	W½	Geo. Campbell	Jno. C. Caven	-	-
		E½		Geo. Campbell		-
	29	NW¼	Jos. Graham	Wm. Fraser	-	-
		SW¼	Matt McPherson	Henry McPherson	-	-
		E½	Daniel Brooks	Jno. Brooke	-	-

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Area	
			1859	1877	1859	1877
	30	W½	Robert McBride		-	1 residence; stone quarries
		E½	Edw. Townsend		-	1 residence; brick yard; stone quarries;
	31	NW pt	John Frazer	Wm. Fraser	-	-
				R. Nobel		-
		SW pt	Jas. Frazer	Jno. Fraser	-	-
			Wm. Frazer		-	
		E½	Jas. Pettigrew	Est. of Jas. Petigrew	-	-
	32	NW¼	Jas. Stringer	Richard Nobbs	-	2 residences
		SW¼	D. Campbell	Donald Campbell (non-resident)	-	-
		E½	(non-resident)		-	
	34	N½	John Smith	Mrs. B. Smith	-	1 residence
		S½	Jas. Pettigrew	Est. of Jas. Petigrew	-	1 residence
	35	W½	Mrs. McArthur	Alex. McArthur	-	2 residences
		E½	John Smith	Mrs. B. Smith	2 stores	1 residence
TOTALS					**124+ structures**	**295+ structures**

* East of Hurontario Street (formerly Centre Road)
^ West of Hurontario Street (formerly Centre Road)

The study area was predominantly rural during the 19th century. At least 120 individual structures were noted within the study area in the 1859 *Tremaine's Map*, including: one town hall, five churches, six inns/hotels, six school houses, nine stores/shops/post offices, 12 mills and 78 residences. The built-up areas of four villages (Campbell's Corners, Cheltenham and Claude and Edmonton) and two hamlets (Alloa and Tucker's Mills) were also depicted within the study area. By 1877, the study area had seen more development, evidenced by the increase in depicted structures or features to over 320 — a total of 278 residences (many with orchards), 15 barns, seven churches, seven schools, five mills, three stone quarries, two post offices, two lime kilns, two brick yards, one cemetery — and the expansion or establishment of seven villages/hamlets, namely: Alloa, Boston (now Boston Mills), Campbell's Cross, Claude, Cheltenham, Salmonville (formerly Tucker's Mills, now Terra Cotta) and Victoria.

In addition, numerous roads that were established during the survey of the Township of Chinguacousy — including present-day Kennedy (and Old Kennedy) Road, Hurontario Street, McLaughlin Road, Chinguacousy Road, Creditview Road, Mississauga Road, Heritage Road, Rockside Road, Winston Churchill Boulevard, Wanless Drive, Mayfield Road, Old School Road, King Street, Ballinafad Road, Boston Mills Road and Old Base Line Road — fall within the study area limits. In Ontario, the *2011 S&G* considers areas of early Euro-Canadian settlements (e.g., pioneer homesteads, isolated cabins, farmstead complexes, early wharf or dock complexes, pioneer churches, and early cemeteries), early historic transportation routes (e.g., trails, passes, roads, railways, portage routes), and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations, as features or characteristics that indicate archaeological potential (per *Section 1.3.1*). Based on the proximity

of both early Euro-Canadian settlements and early historic transportation routes, these features, therefore, contribute to establishing the archaeological potential of the study area.

1.3.4.2 Post-1900 Land Use

To facilitate further evaluation of the established archaeological potential within the study area, a review of 1914/1915 and 1940/1942 topographic maps (***see Maps 4-5***), an aerial photograph from 1954 and orthophotographs dating from 2002 and 2019 (***see Maps 6-8***) was undertaken.

The topographic maps illustrate most of the study area as comprising open lands that had been cleared of vegetation and already brought into agricultural productivity by the early 20th century. Small blocks of forest are scattered throughout the study area as well as numerous farmsteads fronting on established roadways. Several small communities of clustered settlement are also depicted across the study area, including Terra Cotta, Cheltenham, Boston Mills, Claude, Campbell's Cross, Victoria, Snelgrove and Alloa. The Niagara Escarpment and the Credit River traverse the northwest corner of the study area and are surrounded by more densely forested blocks of land. Etobicoke Creek also traverses the southeastern corner of the study area, while tributaries of the Humber River drain the extreme northeast corner. Two railroads cut through the study area, meeting in Inglewood. Numerous notable features are illustrated within and adjacent to the study area in these maps, including cemeteries and churches, post offices, mills, schools, blacksmith shops, a power house and a brick works.

The 1954 aerial photographs depict similar conditions to that illustrated in the topographic maps in that much of the study area comprised agricultural land with small blocks of woodland scattered throughout as well as a forested corridor along the Niagara Escarpment. Two rail lines continued to be depicted within the study area, as well as the Credit River, Etobicoke Creek, Humber River and their associated tributaries, numerous farmsteads and clustered settlement in the various small communities mentioned above. By 2002 the Brampton-Caledon Airport and Highway 410 had been constructed, and agricultural lands in the southeastern corner of the study area have been converted into large-scale residential developments, a trend that has intensified ever since. Much of the study area south of Mayfield Road (i.e., within the City of Brampton) and in the vicinity of the Highway 410-Highway 10 connection had been developed into suburban housing and/or commercial developments by 2019. The community of Victoria (centred at King and Hurontario Streets) also exhibited commercial and industrial expansions.

1.3.5 Present Land Use

The present land use of the study area is categorized as Prime Agricultural Area, Rural Lands, Environmental Policy Area, Settlement Area, Extractive Industrial Area, Residential Area, Open Space Policy Area, General Commercial, Institutional, Academic/Research Campus, Prestige Industrial and General Industrial (Town of Caledon, 2018).

1.4 Archaeological Context

To establish the archaeological context and further establish the archaeological potential of the study area, *Archeoworks Inc*. conducted a comprehensive review of the local archaeological management plan, designated and listed cultural heritage resources, heritage conservation districts, commemorative markers and pioneer churches and early cemeteries in relation to the study area. Furthermore, an examination of registered archaeological sites and previous AAs within proximity to the study area limits, and a review of the physiography of the study area were performed. The results of this background research are documented below and summarized in **Appendix B – Summary of Background Research**.

1.4.1 Archaeological Management Plan

Per *Section 1.1, Standard 1* of the *2011 S&G*, when available, an archaeological management plan (AMP) or other archaeological potential mapping must be reviewed.

According to the Town of Caledon's AMP, most of the study area encompassing the Town of Caledon has archaeological potential for the recovery of both pre-contact Indigenous sites and historical archaeological sites (ASI, 2021h, p.37; ***see Map 9***).

The City of Brampton currently does not have an AMP.

1.4.2 Designated and Listed Cultural Heritage Resources

Per *Section 1.3.1* of the *2011 S&G*, property listed on a municipal register or designated under the *Ontario Heritage Act*, or that is a federal, provincial, or municipal historic landmark or site, are considered features or characteristics that indicate archaeological potential.

There are numerous designated and listed heritage properties located both in and within 300 metres of the study area (City of Brampton, 2021a; City of Brampton, 2021b; City of Brampton, 2022; Lamoureux, 2022a; Lamoureux, 2022b; Town of Caledon, 2022; ***see Tables 4-5***). Therefore, this feature contributes to establishing the archaeological potential of the study area.

Table 4: Heritage Properties within the Study Area

Address	Description	Heritage Status
Town of Caledon		
1942 Boston Mills Road	Boston Mills Cemetery, c.1823	Designated Part IV
15023 Chinguacousy Road	Dick-Caslor-Maloney House, c.1847	Designated Part IV
15045 Chinguacousy Road	Boston Mills House, c.1887	Designated Part IV
13278 Creditview Road, Cheltenham	Taylor-Echlin House, c.1863	Designated Part IV
14318 Creditview Road, Cheltenham	Haines-Lyons House, c.1830	Designated Part IV
14360 Creditview Road, Cheltenham	Haines Sawmill, c.1835	Designated Part IV
14376 Creditview Road, Cheltenham	Haines-Thoman House, c.1886	Designated Part IV
14377 Creditview Road, Cheltenham	Edwards-Andrews House, c.1850s	Designated Part IV
14386 Creditview Road, Cheltenham	Cheltenham Store, c.1886	Designated Part IV
14396 Creditview Road, Cheltenham	Cheltenham Hotel, c.1887	Designated Part IV
14404 Creditview Road, Cheltenham	Rowe's Hall, c.1855	Designated Part IV

Address	Description	Heritage Status
14409 Creditview Road, Cheltenham	Beaver Hall, c.1884	Designated Part IV
14411 Creditview Road, Cheltenham	King-Brown House, c.1870	Designated Part IV
14575 Creditview Road, Cheltenham	Unicorn House, c.1867	Designated Part IV
14700 Creditview Road, Cheltenham	Little-Webber House, c.1870s	Designated Part IV
18 High St., Terra Cotta	Terra Cotta Community Centre; c.1862	Designated Part IV
12701 Hurontario Street	Wilson Farmhouse, c. 1870s	Designated Part IV
14691 Hurontario Street, Claude	Smith-Armstrong House, c.1861	Designated Part IV
15024 Hurontario Street, Claude	Robinson-Schafer House, c.1875	Designated Part IV
15175 Hurontario Street, Claude	Claude Presbyterian Church, c.1870	Designated Part IV
83 Kennedy Road	Black Willow Tree, c.1900	Designated Part IV
15078 Kennedy Road	Wiggins-Armstrong House, c.1850s	Designated Part IV
396 King Street	The Grange (formerly Greystone Farms, formerly The Rankin house), c.1844	Designated Part IV
1402 Mill Street, Cheltenham	Haines-Dennis House, 1890	Designated Part IV
1406 Mill Street, Cheltenham	Haines-Reid House, c.1877	Designated Part IV
1499 Mill Street, Cheltenham	Horatio Haines Property, c.1870s	Designated Part IV
14370 Mississauga Road	Cheltenham Brickyard, c.1912	Designated Part IV
1488 Old School Road	Sharpe Schoolhouse, c.1879	Designated Part IV
4 Andrew Street	Circa 1875-1890; Frame construction house	Listed
17 Andrew Street	1851; Built as a church with gable roof and larger windows - while altered over time with rear and front additions, the building retains its original shape	Listed
1100 Boston Mills Road	1850-1874; A Neoclassical style farmhouse with a fieldstone/rubblestone exterior.	Listed
1539 Boston Mills Road	1850-1872; A Neoclassical style farmhouse with a synthetic exterior	Listed
2287 Boston Mills Road	1875-1899; A late Italianate style farmhouse with a synthetic exterior	Listed
2342 Boston Mills Road	1875-1899; A Gothic revival style farmhouse with a synthetic exterior	Listed
2608 Boston Mills Road	1875-1899; A late Italianate style farmhouse with a red brick exterior	Listed
12259 Chinguacousy Road	c.1845; log dwelling with early tail addition	Listed
12306 Chinguacousy Road	1875-1899; An Italianate style farmhouse with a synthetic exterior	Listed
12472 Chinguacousy Road	1875-1899; A Gothic style farmhouse with a synthetic exterior	Listed
12540 Chinguacousy Road	1875-1899; A Gothic revival style farmhouse with a synthetic exterior	Listed
12669 Chinguacousy Road	Edwardian residence on picturesque, landscaped yard with coniferous and deciduous vegetation	Listed
12710 Chinguacousy Road	1900-1924; An Edwardian classical style farmhouse with a red brick exterior	Listed
12846 Chinguacousy Road	1875-1899; Queen Anne style farmhouse with a red-and-buff brick exterior	Listed
13694 Chinguacousy Road	1875-1899; High Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
13913 Chinguacousy Road	1875-1899; Gothic Revival style farmhouse with a red-and-buff brick exterior	Listed

Address	Description	Heritage Status
13926 Chinguacousy Road	1850-1874; Neoclassical, red-and-buff brick style farmhouse	Listed
14266 Chinguacousy Road	1875-1899; Italianate style, red-and-buff brick farmhouse	Listed
14635 Chinguacousy Road	1875-1899; Gothic revival style farmhouse with a modern white brick exterior	Listed
14873 Chinguacousy Road	1850-1875; Neoclassical style farmhouse with a synthetic exterior and a red and buff brick rear wing in high Victorian Gothic style	Listed
14926 Chinguacousy Road	1925-1945; 1 1/2 storey stone house with elements of Neoclassical style	Listed
58 Copperhead Road	1875-1899; Neoclassical style home	Listed
12017 Creditview Road	Late 19th Century; Late Victorian Gothic, and modern synthetic cladding	Listed
12101 Creditview Road	1875-1899; A high Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
12240 Creditview Road	1875-1899; A late Italianate style farmhouse with a red brick exterior	Listed
12455 Creditview Road	1875-1899; A Late Italianate style farmhouse with a red brick exterior	Listed
12700 Creditview Road	1875-1899; A 1 1/2 storey frame late Victorian Gothic farmhouse with a synthetic exterior	Listed
12872 Creditview Road	1900-1924; An Edwardian classical style farmhouse with a red brick exterior	Listed
12911 Creditview Road	1875-1899; A Gothic revival style farmhouse with a red-and-buff brick exterior	Listed
13089 Creditview Road	1850-1874; A Neoclassical style farmhouse with a red brick exterior	Listed
13303 Creditview Road	1900-1924; An Edwardian classical style farmhouse with a red brick exterior, and a Gothic revival style in red brick to the rear	Listed
13475 Creditview Road	1850-1874; Neoclassical style farmhouse with a red-and-buff brick exterior	Listed
13496 Creditview Road	1850-1874; Neoclassical style farmhouse with a red-and-buff brick exterior	Listed
13951 Creditview Road	1875-1899; A high Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
14189 Creditview Road	pre-1850; Cemetery	Listed
14299 Creditview Road	c. 1870; house, L plan, Gothic Revival style, red brick with contrasting yellow brick quoins	Listed
14309 Creditview Road	c. 1907; Cheltenham Methodist Church, red brick, Modern Gothic style	Listed
14387 Creditview Road	c. 1915; Edwardian Classical style '4 square' house, characteristic hip roof with gable windows, asymmetrical floor plan, full width verandah, frame construction which is unusual for the style	Listed
14427 Creditview Road	c. 1850-1874; house, Neoclassical style, full width verandah, frame construction	Listed

Address	Description	Heritage Status
14460 Creditview Road	c. 1850-1874; house, Gothic Revival style, red brick with yellow brick detailing, centre entry, fretwork detailing on gable, paired brackets along eaves	Listed
14509 Creditview Road	c. 1850-1874; house, frame construction, Neoclassical style, centre entry, symmetrically placed lower windows	Listed
14515 Creditview Road	c. 1850-1874; house, Gothic Revival style, L plan, front bay window with paired Gothic windows in gable above; Gothic window in gable above full width verandah, Red brick with yellow brick detailing, fretwork trim on gables and verandah	Listed
14529 Creditview Road	Mid-1850s; house, Neoclassical in style with single storey addition to the rear, projecting bay window with cedar single roof, roughcast plaster exterior	Listed
14566 Creditview Road	c. 1900-1924; house, Edwardian Classical style, offset entry, frame construction, full width verandah, return eaves	Listed
14585 Creditview Road	c. 1875-1899; house, Gothic Revival style, centre entry, symmetrically placed windows	Listed
15077 Creditview Road	1875-1899; Gothic Revival style farmhouse with a red-and-buff brick exterior	Listed
15266 Creditview Road	1850-1874; A Neoclassical style farmhouse with a plaster exterior	Listed
5 Ferndale Park	1900-1924; A one storey cottage with synthetic siding	Listed
12317 Heritage Road	1875-1899; 1 1/2 storey farmhouse with a synthetic exterior	Listed
12456 Heritage Road	1850-1874; Neoclassical, red brick style farmhouse	Listed
13014 Heritage Road	1850-1874; A Neoclassical style home with cut stone exterior	Listed
13069 Heritage Road	1875-1899; High Victorian Gothic style farmhouse with a cut stone exterior	Listed
13326 Heritage Road	1900-1924; An Edwardian classical style farmhouse with a red brick exterior	Listed
13380 Heritage Road	1925-1945; 1 storey Ontario cottage style bungalow with synthetic exterior	Listed
13456 Heritage Road	1850-1874; A Neoclassical style farmhouse with a red brick exterior	Listed
13740 Heritage Road	1875-1899; A late Victorian Gothic style farmhouse with a vertical board exterior	Listed
13771 Heritage Road	1900-1924; An Edwardian classical style farmhouse with a red brick exterior	Listed
10 High Street	Built circa 1875-1899; Barn, vertical planks, stone foundation	Listed
42 High Street	1875-1899; 1½ storey house, Neoclassical style, frame construction	Listed
12891 Hurontario Street	1875-1899; An Italianate style farmhouse with a red brick exterior	Listed
13242 Hurontario Street	1875-1899; A late Italianate style farmhouse with a red brick exterior	Listed

Address	Description	Heritage Status
13435 Hurontario Street	1875-1899; Neoclassical style farmhouse with a red-and-buff brick exterior	Listed
13739 Hurontario Street	1850-1874; Neoclassical farmhouse	Listed
13961 Hurontario Street	1875-1899; Late Neoclassical style farmhouse	Listed
14126 Hurontario Street	1875-1899; A high Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
14475 Hurontario Street	1850-1874; A Neoclassical style farmhouse with a modern white brick exterior	Listed
14514 Hurontario Street	1875-1899; High Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
14780 Hurontario Street	1875-1899; An Italianate style farmhouse with a plaster exterior	Listed
14927 Hurontario Street	1875-1899; A late Neoclassical style farmhouse with a synthetic exterior	Listed
14940 Hurontario Street	Circa 1946; A synthetic style bungalow with Colorado Blue Spruce on the lawn	Listed
14970 Hurontario Street	Remnant of the Village of Claude; High Victorian Gothic house with a plaster exterior	Listed
15084 Hurontario Street	1850-1874; Italianate style house with a red-and-buff brick exterior	Listed
15318 Hurontario Street	1875-1899; A Gothic revival style farmhouse with a synthetic exterior	Listed
15343 Hurontario Street	1925-1945; An Edwardian classical style farmhouse	Listed
15380 Hurontario Street	1925-1945; Brick bungalow with a front verandah	Listed
12290 Hutchinson Farm Lane (formerly 12290 Hurontario Street)	one of finest farm complexes in area with Italianate-inspired residence; large gambrel barn with arched windows; range of outbuildings including stone smokehouse; domestic yard, lane, dwelling and farm complex are all key attributes	Listed
38 Isabella Street	Built circa 1880s; 1½ storey frame house that has been altered over time	Listed
49 Isabella Street	1875-1899; 1½ storey house, High Victorian Gothic style, red brick with yellow brick quoins, projecting front bay with intricate yellow brick detailing	Listed
13030 Kennedy Road	1850-1875; A Neoclassical style farmhouse with a red-and buff brick exterior	Listed
13306 Kennedy Road	1850-1874; A Neoclassical style farmhouse with a red-and-buff brick exterior	Listed
13678 Kennedy Road	1875-1899; Late Neoclassical style farmhouse with board and batten siding	Listed
14234 Kennedy Road	1850-1874; Neoclassical style farmhouse with a red-and-buff brick exterior	Listed
14498 Kennedy Road	Between 1850-1874; A Neoclassical style farmhouse with a red brick exterior	Listed
14896 Kennedy Road	1875-1899; A Gothic revival style farmhouse with a modern white brick exterior	Listed
132 King Street	1850-1874; Neoclassical style home	Listed
196 King Street	1875-1899; Gothic Revival style, verandah, center gable with Gothic windows and a board-and-batten cladding	Listed

Address	Description	Heritage Status
205 King Street	1875-1899; 1½ storey house, frame construction, Gothic Revival style	Listed
206 King Street	1875-1899; 1½ storey house, frame construction, Gothic Revival style, verandah, centre gable with Gothic window	Listed
206 (a) King Street	1875-1899; Vertical plank outbuilding for former Carriage Works operation	Listed
227 King Street	Built circa mid-1860s; 1½ storey former inn/hotel, frame construction, late Neoclassical style, board-and-batten cladding	Listed
260 King Street	Circa early 1860s; High Victorian Gothic style house with red brick and a contrasting yellow brick quoin and detailing	Listed
1079 King Street	1875-1899; Former railway station	Listed
2598 King Street	1900-1924; Edwardian classical style farmhouse with a synthetic exterior	Listed
2968 King Street	1875-1899; Neoclassical style house with a center entry	Listed
3206 King Street	1875-1899; A high Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
3427 King Street	1875-1899; A high Victorian Gothic style farmhouse with a synthetic exterior	Listed
3465 King Street	Circa 1875-1899; Late Neoclassical style house	Listed
84 Mayfield Road	1875-1899; A High Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
400 Mayfield Road	1875-1899; A High Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
1500 Mayfield Road	1829; Gothic Revival style; buttresses brick style church	Listed
12461 McLaughlin Road	intact late 19C brick farmhouse within treed domestic yard setting	Listed
12700 McLaughlin Road	3-bay dwelling, possibly one of area's remaining original c.1845 log houses; beautifully landscaped setting with adjacent creek	Listed
12711 McLaughlin Road	Centre gable brick farmhouse with fine stone detailing, pilastered main entrance treatment and unusual brick 'dogtoothing' above arch of centre gable window; well-preserved sense of setting with well-treed front yard, tree-lined lane, low terrace surrounding dwelling, and view toward 12700 McLaughlin	Listed
12891 McLaughlin Road	only stone dwelling within Secondary Plan area; well constructed and retaining fine detailing (lancet window and stone hood, date stone); modern window sash are reversible	Listed
12900 McLaughlin Road	1911 brick farmhouse; when considered with 12960 McLaughlin the original multi-generational farmstead is apparent with no other severances	Listed

Address	Description	Heritage Status
12960 McLaughlin Road	possibly one of area's original log dwellings c.1845; intact large barn complex dating mostly to 1900-1950, with earlier barn to west	Listed
13064 McLaughlin Road	Gothic Revival style farmhouse with a red-and-buff brick exterior	Listed
13343 McLaughlin Road	1850-1874; A Neoclassical style farmhouse with a synthetic exterior	Listed
13402 McLaughlin Road	1850-1874; Pioneer cemetery	Listed
14297 McLaughlin Road	1875-1899; A Gothic revival style farmhouse with a red-and buff brick exterior	Listed
1431 Mill Street	c. 1850-1874; house, frame construction, Neoclassical in style, centre entry, symmetrically placed windows	Listed
1443 Mill Street	c. 1875-1899; house, late Neoclassical in style, centre entry, red brick cladding	Listed
12300 Mississauga Road	1875; High Victorian Gothic style farmhouse with a red-and-buff brick exterior	Listed
12466 Mississauga Road	1850-1874; Gothic Revival style farmhouse with a red-and-buff brick exterior	Listed
12441 Mississauga Road	1875-1899; A Gothic Revival style farmhouse with a modern white brick exterior	Listed
12679 Mississauga Road	1850-1874; A Neoclassical style farmhouse with red brick exterior covered with synthetic siding	Listed
13201 Mississauga Road	1875-1899; An Italianate style farmhouse with red brick exterior	Listed
13714 Mississauga Road	1875-1899; Late Italianate style farmhouse with red brick exterior	Listed
13862 Mississauga Road	1875-1899; A Late Neoclassical style farmhouse with synthetic exterior	Listed
14504 Mississauga Road	1875-1899; A Gothic Revival style farmhouse with a plaster exterior	Listed
3 Old Pavilion Road	Before 1946; Located in the historic settlement of Ferndale	Listed
180 Old School Road	1850-1874; Neoclassical farmhouse with a red brick exterior	Listed
2939 Old School Road	1866; former SS#11 Chinguacousy with gable front, 3-bay façade typical of mid-19th c. rural school; dichromatic brickwork with stone quoins indicates significance to local community at time of construction; later additions are reversible	Listed
2121 Olde Base Line Road	1875-1899; A Late Italianate style farmhouse with a red brick exterior.	Listed
15139 Rockside Road	1850-1874; A Gothic Revival style farmhouse with a synthetic exterior	Listed
1510 Station Road	pre-1850; house, Neoclassical in style, frame construction	Listed
1814 Station Road	An Edwardian Classical style farmhouse with a synthetic exterior.	Listed
12303 Winston Churchill Blvd	1875-1899; Gothic Revival style	Listed

Address	Description	Heritage Status
12511 Winston Churchill Blvd	1900-1924; Edwardian Classical style farmhouse with a concrete block exterior	Listed
12739 Winston Churchill Blvd	1850-1874; Regency style farmhouse with a synthetic exterior.	Listed
12961 Winston Churchill Blvd	1850-1874; Neoclassical style farmhouse with a red-and-buff brick exterior	Listed
13489 Winston Churchill Blvd	1850-1874; Neoclassical style	Listed
13495 Winston Churchill Blvd	Mid 19th Century; 3 bay Neoclassical style log house with a dormer over the front door	Listed
14201 Winston Churchill Blvd	1850-1874; Neoclassical style farmhouse with a synthetic exterior	Listed
15349 Winston Churchill Blvd	1875-1899; Gothic Revival style farmhouse with a red brick exterior	Listed
City of Brampton		
1 Boracay Lane	Drinkwater House	Designated Part IV
11690 Chinguacousy Road	Beechwood Farm	Designated Part IV
11285 Creditview Road	Wm. Drinkwater Farm	Designated Part IV
0 Hurontario Street	St. John's Snelgrove Cemetery	Designated Part IV
12061 Hurontario Street	Archangel Michael & Saint Tekla Coptic Orthodox Church (formerly Snelgrove Baptist)	Designated Part IV
11722 Mississauga Road	Dolson Farm	Designated Part IV
0 Wanless Drive	Bertram's Mount Zion Cemetery	Designated Part IV
380 Conservation Drive	Snell/Beer House	Listed
11687 Chinguacousy Road	-	Listed
11248 Mississauga Road	-	Listed

"-" denotes no details provided in heritage register; "~~a~~" denotes the property was crossed out in the heritage inventory

Table 5: Heritage Properties within 300 Metres of the Study Area

Address	Description	Heritage Status
Town of Caledon		
14783 Kennedy Road	Smith-Metcalfe House, c.1850	Designated Part IV
104 Maple Ave., Inglewood	Graham Mill - Stone Industrial Buildings, c.1871	Designated Part IV
15428 Creditview Road	1925-1945; Colonial revival style farmhouse	Listed
12097 Kennedy Road	Snell Farmhouse; c. 1840s; c. 1840s red brick Neoclassical farmhouse, late 19th century gambrel-roofed frame barn, several agricultural buildings. Contextual landscape elements include black locust trees, sugar maple, walnut and remnant apple trees	Listed
12895 Kennedy Road	1875-1899; Small church, Gothic Revival with corbelled tower	Listed
12909 Kennedy Road	1875-1899; A Gothic Revival style farmhouse with a cut stone exterior	Listed
14235 Kennedy Road	1900-1924; An Edwardian classical style farmhouse with a buff brick exterior	Listed
15075 Kennedy Road	1900-1924; An Edwardian classical style farmhouse with a buff brick exterior	Listed
15253 Kennedy Road	1900-1924; An Edwardian classical style farmhouse with a plaster exterior	Listed

Address	Description	Heritage Status
15435 Kennedy Road	1900-1924; Edwardian classical farmhouse with a red brick exterior	Listed
49 Maple Avenue	Circa 1875-1899; 1½ storey house, Gothic Revival style, frame construction	Listed
65 Maple Avenue	Circa 1875-1899; 2 storey house, Neoclassical style, frame construction, full width verandah	Listed
87 Maple Avenue	Circa 1900-1924; 1½ storey house, 'Bungalow' style, yellow brick, dormer, centre entry under verandah with brick supports, side entry	Listed
108 Maple Avenue	Circa 1875-1899; Multi storey house, red brick with contrasting yellow brick detailing, hip roof with multiple peaks. Enclosed verandah	Listed
3515 King Street, Campbell's Cross	c.1899; Picturesque Gothic-style church	Listed
800 Olde Base Line Road	1850-1874; A Neoclassical style farmhouse with a board-and-batten exterior	Listed
1896 Olde Base Line Road	Prior to 1850; Neoclassical style farmhouse with a plaster exterior	Listed
3380 Olde Base Line Road	1850-1874; Neoclassical style farmhouse with white brick exterior	Listed
City of Brampton		
0 Wanless Drive	Alloa Cemetery	Designated Part IV
0 Hurontario Street	Zion Cemetery	Designated Part IV
Town of Erin		
4966 Winston Churchill Boulevard	Residence; constructed ca. 1880; random cut stone; square vernacular style; 1 ½ storeys; original door, cut stone quoins, cut stone window and door details	Listed
9762 Wellington Road 42	Cut stone Victorian Farmhouse and Bank Barn; constructed ca. 1872	Listed
Town of Halton Hills		
10886 Winston Churchill Boulevard Lot 15, Concession 11 (Norval)	Representative of Gothic Revival style architecture including multiple porches and bay windows decorated with bargeboard and decorative brackets, bargeboard in gables, and pediments around windows and doors; wooden garage believed to be the former CP station from Nashville Ontario which he moved there; Gothic Revival; one and a half storey frame construction with cross gable roof; decorative vergeboards; highly decorative wood detailing used in bay window and entranceway porches and columns; two-over two wood windows; operable shutters; facades clad in siding; reputedly a former stationmaster's house, with a former railway station relocated to this property, now used as a garage to the rear of the house	Listed
10948 Winston Churchill Boulevard Lot: 16 Con: 11 (Norval)	Vernacular frame construction; one and a half storey cross gable roof; board and batten cladding; synthetic windows, stone foundation; rear "tail" may be summer kitchen	Listed
11154 Winston Churchill Boulevard Lot 16, Concession 11 (Rural)	Representation of Georgian style architecture including symmetrical façade with five bays, single light	Listed

Address	Description	Heritage Status
	sidelights and transom, and six-over-six windows with large shaped lintels	
12688 Winston Churchill Boulevard Lot 24, Concession 11 (Rural)	Gothic Revival style architecture with the residence built to an L-shaped plan, including bay window, 12-over-12 semielliptical windows with brick voussiors, and an open porch with decorative bargeboard	Listed
16789 Side Road 22 Lot 23, Concession 11 Esquesing (Rural)	Union Presbyterian cemetery and church was created in 1835 on land given by James Fraser; the cemetery and current church (1883: Architects Mallory & Son, Toronto) are still open and records have been kept; the cemetery contains mature trees and a variety of stone monuments and markers	Listed

"-" denotes no details provided in heritage register

1.4.3 Cultural Heritage Landscapes

Per *Section 1.3.1* of the *2011 S&G*, heritage resources listed on a municipal register or designated under the *Ontario Heritage Act* are considered features or characteristics that indicate archaeological potential. The Town of Caledon maintains an inventory of cultural heritage landscapes (CHLs) which can include buildings, structures, spaces, views, archaeological sites or natural elements that are valued together. CHLs are recognized in the town's Official Plan and offer the potential of preserving places with special character and meaning to the community (Scheinman, 2009).

Three CHLs are identified in study area, located in the former Township of Chinguacousy:

1) Farmsteads of former Chinguacousy Township: "Farmstead grouping of high integrity with house and barns from the respective farms, representative of different periods, and centered on the fine stone schoolhouse at the corner of Creditview Road and Old School Road."
2) Cheltenham and the Brickworks: "Highly intact core village with particular regard to structures along Creditview Road. Longstanding industrial tradition beginning with mills and early brick-making in the area still exemplified by the large brick kilns at Mississauga Road and Mill Street, of heritage importance in their own right. Important views of the brickworks are seen from the south along Mississauga Road."
3) Former Credit Valley Railway: "Still an operational rail line extending to Orangeville, the CVR was established with several branches to improve trade opportunities in Southern Ontario, including a line that extended north from Toronto to Owen Sound. The tracks to Orangeville and branch line to Elora were opened in 1879 and included the well-known Forks of the Credit trestle bridge in Belfountain. The 2008 Mayfield West Secondary Plan Cultural Heritage Landscape Assessment evaluated the section of the Credit Valley Railway that extends north of Mayfield Road to Old School Road, through Chinguacousy Township. In recognition of its ongoing presence and role in the settlement and growth of Caledon, the study recommended that the former CVR in its entirety be identified as a Cultural Heritage Landscape" (Scheinman, 2009, pp.1-3 to 1-4).

There are two additional CHLs that border the study area and are located within the former Township of Caledon, with Rockside also located partially within the study area:

1) Rockside: "The area still known as Rockside, the southwest corner of the former Caledon Township, was the first area of Caledon Township to be settled. The community, largely made up of clans from the west of Scotland and initially topographically isolated from the eastern section of the Township by the spine of the Escarpment, developed into an internally coherent and distinct entity."
2) Inglewood Railway Village: "Excellent example of a railway junction village with one railway still active and the other represented by the Caledon Trailway. Intact building fabric within the old core and the surviving and adaptively used early stone mills along Maple Ave" (Scheinman, 2009, p.1-3).

1.4.4 Heritage Conservation Districts

Per *Section 1.3.1* of the *2011 S&G*, heritage resources listed on a municipal register or designated under the *Ontario Heritage Act* are considered features or characteristics that indicate archaeological potential. The study area is not located in or within 300 metres of a Heritage Conservation District (MHSTCI, 2022). Therefore, this feature does not contribute to establishing the archaeological potential of the study area.

1.4.5 Commemorative Plaques or Monuments

Per *Section 1.3.1* of the *2011 S&G,* commemorative markers of Indigenous and Euro-Canadian settlements and history which may include local, provincial, or federal monuments, cairns or plaques, or heritage parks are considered features or characteristics that indicate archaeological potential. The study area is not located in or within 300 metres of a commemorative plaque and/or monument (OHT, 2021). Therefore, this feature does not contribute to establishing the archaeological potential of the study area.

1.4.6 Pioneer/Historic Cemeteries

Per *Section 1.3.1* of the *2011 S&G,* pioneer churches and early cemeteries are considered features or characteristics that indicate archaeological potential. The study area encompasses five cemeteries and is immediately adjacent to (within 20 metres) of three cemeteries. The proximity of these cemeteries contributes to establishing archaeological potential of the study area. Further discussion of these cemeteries can be found in **Section 2.1.5**.

1.4.6.1 Early Cemeteries Within the Study Area

Boston Mills Cemetery

The Boston Mills Cemetery is in the Niagara Escarpment close to the Credit River. According to a document discussing the history of the cemetery provided by the Cemetery Operator, the first burial to occur was that of David Williams, a settler from Wales who arrived in Canada in 1821. While clearing land, a tree fell on him and he was buried where he fell, wrapped in bark of the tree that killed him. A cemetery was established at this spot. In 1858, the cemetery property was officially severed, and the land was described as, "commencing at the original post planted at the easterly angle for the said east half of lot number thirty three aforesaid. Then north forty five

degrees eleven minutes west two chains more of less to where a post has been planted at the northerly angle of said burying plot. Thence south forty two degrees west five chains more or less to where a post has been planed at the westerly angle of said burying plot. Thence south forty five degrees and eleven minutes east two chains more or less to where a post has been planted at the southerly angle of said burying plot; Thence north forty two degrees east five chains more or less to the place of beginning" (Instrument and Deed, No. 5759: film 179302). According to the cemetery history provided by the Cemetery Operator, "John Marshall, who had purchased the farm from Mr. Davey, donated the land for the cemetery for the sum of three grains of wheat which represent the past, present and future." In 1858, burial plots were marked out, and the cemetery was known as the Boston Burying Mound. In 1870, a fence was installed around the cemetery and in 1896, an acre was purchased from John Mountain to enlarge the cemetery. This parcel was known as the 'stranger's plot' and allowed those who could not afford a plot the ability to be buried in Boston Mills Cemetery. This was located north of the original burial grounds.

By 1830, a schoolhouse was constructed on the cemetery grounds near the present-day stone gates. In 1853, the school house burnt down, and a second school house was constructed across the street. In 1888, the second school house was replaced by the stone school house that was constructed in the western portion of the cemetery yard. In 1964, this school closed, and the school house was purchased by the cemetery board; the stone school house became the mortuary. Burials occurred in this portion of the cemetery after this time. In 2000, a linear segment along the northern portion of the cemetery was purchased by the cemetery board.

Cheltenham Cemetery

According to the Ontario Genealogical Society's Cheltenham Cemetery Transcript (2004) about a quarter area of land was donated by Charles Haines in ca.1847 for the purpose of a burial ground. The first burial occurred in 1847 and was Alfred Haines, the three-year-old nephew of Charles Haines. A dower memorial for an additional quarter acre was given by Charles and Ann Haines in 1863. This deed appears to have been registered in 1877 and was noted as a bargain and sale for a quarter acre where Charles Haines Sr. sold it to Charles Haines Jr., Thomas L. Mercer and Frederick Haines Sr, all Trustees of the Cheltenham Burying Ground, and all residents of the Village of Cheltenham for $1.00. This land was described as, "commencing at a post planted at the westerly angle of the west half of lot number twenty-eight. Thence south forty-five degrees eleven minutes east one chain and seventy links to a post. Thence north forty-four degrees and forty-nine minutes east one chain and forty-one links to a post. Thence north forty-five degrees eleven minutes west one chain and eighty links to a post on the division line between lots number twenty-eight and twenty-nine. Thence south thirty-seven degrees and forty-six minutes west one chain and forty-one links all more or less to the place of beginning" (Instrument and Deed, No. 3227: film 1704186). Additionally, this deed stated Charles Haines would be allowed to charge $4.00 for every burial plot. By 1932, burial plots were sold at $25. In the 1930s, Wm. Perkins Bull noted at the "rubbish pile" in the corner of the cemetery where broken stones were noted; the original location of this headstone was not known.

"The cemetery is surrounded on three sides by a wire fence. There is a gate in the iron fence at the front of the cemetery" (OGS, 2004, p.1).

Cork Cemetery

Very little background history could be found discussing the establishment of this cemetery. It has several alternative names including the Norris Family Farm Cemetery, Cork Abandoned Pioneer Cemetery and Lipsett (Region of Peel, 2022). According to the *Abstract Land Indexes* and *Instruments and Deed*, none of the deeds discussing land in the east half of Lot 25, Concession 2 West of Centre Road (Hurontario Street) mention as severance of land set aside for the use of a graveyard.

According to the cemetery operator, in the mid-1980s, the cemetery was determined to be neglected and the farm fields were encroaching on the cemetery. In 1986, a culvert and gate were installed to provide access to the cemetery from McLaughlin Road. The Ministry of Consumer and Commercial Relations supported the Town of Caledon in requiring the land owner to install fencing to properly demarcate the boundaries and prevent further field encroachment, as well as gathering the scattered tombstones into a cairn. The cairn was built in 1989 and, using a diviner to determine the burial locations, installed a boundary fence at an appropriate placement. Following this, the cemetery was added to the Town of Caledon's abandoned cemetery bylaw; this bylaw encompasses both Lots 24 and 25.

At the road edge, the cemetery is bordered by very old lilacs which are believed to date to the 19th century.

St. John's Snelgrove (Edmonton) Cemetery

Research conducted for a recent Stage 1 AA states that the first burial in this cemetery occurred in 1845 (ASI, 2021d, p.7). By 1930, the cemetery had been long unused, and the headstones had been "flattened" or in poor shape, with few bring legible. Local historian William Perkins Bull noted "that among the graves were the names of Hunter, Groat, Nixon, Thornton, Watson and Woodall" (ASI, 2021a, p.7). Presently, only two known gravestones remain within the cemetery.

Old Zion (Bertram) Cemetery

According to the *Abstract Land Indexes* and *Instruments and Deed*, a deed dated to 1831 (and registered in 1846) is associated with half-acre parcel of Lot 16, Concession 1 WHS being severed and sold by George Ransier to George Watson, William Lowes, Thomas Taylor and Andrew Ransier, Trustees, for one barley corn (ASI, 2010, p.3). This lease further stated this land would be owned for a term of 999 years in trust for a free or common School Meeting House and burial grounds. This common school and meeting house was one and the same and used as a place of worship by various religious groups and in 1965, it was purchased from the Bertram Estate. Few gravestones remain and the last burial took place in 1894 (ASI, 2010, p.3).

1.4.6.2 Early Cemeteries Immediately Adjacent to the Study Area

Alloa Cemetery

The early history of the Alloa Cemetery dates from 1829 when the northeast quarter of Lot 15, Concession 4 WHS was given by William Clarridge to establish a log structure school house,

church and cemetery for the Methodist community of Alloa. This log structure school house was originally used as a place of worship, and many early pioneers were buried in the Alloa Cemetery grounds. Eventually, a separate log church structure was constructed and named 'Home Church' since the Counties of York and Peel were known as the Home District at this time. The land was given at an annual rate of one barley-corn (or one kernel) to be paid by the Trustees (William Fox, George Ferguson, and Jacob Shook) to William Clarridge. This original land severance does not appear in the *Abstract Land Index;* the land for the cemetery was officially severed in 1858 between George Clarridge, and William Sharpe and Joseph Young, Trustees appointed by the Proprietors and Holders of Lots in the burying ground (Instrument and Deed, no.5812: film 179302) (OGS, 1991; N.A.,1966; Dolson, 2003; Home United Church, 1982; N.A., N.D.).

It is not known when, but the log church structure was replaced by a frame structure. By 1862, a brick church was built across the road, on Lot 16, Concession 3 WHS. William Drinkwater donated his land at an annual rent of one grain of barley-corn for a period of 999 years. This church was dedicated as the Methodist Episcopal Church, but commonly known as Home Methodist Church. The white brick used for the corners was brought from Little York and laid by Levi Fuller, a member of the congregation. A new school was constructed across the street from the old schoolhouse/church and cemetery (N.A.,1966; Dolson, 2003; Home United Church, 1982; N.A., N.D.).

Dixon's Union Cemetery

The earliest section of the cemetery is located on the south side of the Dixon's Primitive Methodist Church which was built in 1855 (OGS, 1999, p.1). The earliest headstone dates to 1849 and the cemetery is still an active cemetery. According to the *Abstract Land Indexes* and *Instruments and Deed*, a deed dated to 1860 (and registered in 1861) is associated with half-acre parcel of Lot 22, Concession 2 East of Centre Road (ECR) being severed and sold by Robert Norris and his wife, Mary Ann, to Trustees of the Methodist church (Instrument and Deed, No.8787: film 179303). No value was included in this deed. In May of 1872 (and registered in 1873), Robert and Mary Ann sold a one-acre part of the west half of Lot 22, Concession 2 ECR to William Dodgson, Samuel Heart, William Dixon, James Topham, Joseph Cunnington and Thomas Edwards, Trustees, for the purpose of a Methodist church, chapel, parsonage, burying ground for a primitive Methodist congregation (Instrument and Deed, No.1497: film 179304). In 1875, a wind storm destroyed the church, and a new brick church (still presently standing) was constructed. The cemetery grounds are kept in good condition with headstones standing on solid foundations. Plots ranged in size from two, four and eight individuals and there is a potter's field for individuals who died without relatives (OGS, 1999, p.1).

Zion Cemetery

Zion Cemetery was known as Ebenezer Baptist Church Cemetery or the Snelgrove Wesleyan Methodist Cemetery. The earliest burial occurred in the 1840's and the last was in 1951; there are 39 memorial markers and one other known unmarked burial within the cemetery (Mann, 2000, p.90). In 1851, part of Lot 15, Concession 1 East of Centre Road (ECR) was bequeathed by John Watson Sr. to the Trustees of the Christian Brethren Baptist Church; he requested to be buried in his family burying ground. "The Snelgrove Women's Institute reports that a Baptist

Church was built here in the 1840's" (OGS, 2018, p.2). In April 1852, Samuel Snell, Thomas Hill and Henry Carter, all Trustees of the Christian Brethren, purchased ½ of Lot 15 for five shillings for the purpose for a site of worship. The Baptist congregation moved to a new building at Highway 10 and 17 Sideroad. By the 20th century, the church was torn down and only the cemetery remained.

1.4.6.3 Other Early Cemeteries Within 300 Metres of the Study Area

Union Presbyterian Cemetery in Halton Hills

The Union Presbyterian Church was established in 1835 after James Fraser donated a parcel of his farmland. Initially, the Presbyterian congregation worshipped in the Fraser Barn, but this was replaced by a log structure. By 1848, a frame church was constructed, and by 1884, construction had finished on the brick church. This brick church is currently still standing. The cemetery is still an active cemetery (lostcemeteries.com, 2011).

This cemetery is located approximately 250 metres away from the current study area, at 16789 Side Road 22/Old School Road in the Town of Halton Hills. This cemetery will not be impacted by the current development project.

1.4.7 Registered Archaeological Sites

Per *Section 1.1, Standard 1* and *Section 7.5.8, Standard 1* of the *2011 S&G*, the *Ontario Archaeological Sites Database* (OASD) maintained by the *MHSTCI* was consulted in order to provide a summary of registered or known archaeological sites within a minimum one-kilometre distance of the study area limits. A total of 146 archaeological sites have been registered within one kilometre of the study area (MHSTCI, 2022). Of these, 108 are either located within or immediately adjacent to (i.e., within 50 metres of) the study area limits (***see Table 6***).

Table 6: Registered Archaeological Sites within One Kilometre of the Study Area

Borden #	Site Name	Time Period	Site Type	Affinities
Archaeological Sites within the Study Area Limits				
AkGw-10	John's			
AkGw-16	Mellow Gardens	Post-Contact	homestead	Euro-Canadian
AkGw-65	Snelgrove	Other		Unknown
AkGw-88	Bartholomew Snell Homestead	Post-Contact	homestead; midden	Euro-Canadian
AkGw-89	Ontario Seed 5	Post-Contact	homestead	Euro-Canadian
AkGw-90	Ontario Seed 4	Pre-Contact	Other: camp/campsite	Aboriginal
AkGw-97	Yeoman	Pre-Contact	Unknown	Aboriginal
AkGw-107	Elias Snell Pioneer Homestead	Post-Contact	homestead	Euro-Canadian
AkGw-119	Brampton Historic 1	Post-Contact	homestead	Euro-Canadian
AkGw-120	Brampton Historic 2	Post-Contact	homestead	Euro-Canadian
AkGw-121	Brampton Historic 3	Post-Contact	homestead	Euro-Canadian
AkGw-126	Brampton 5	Pre-Contact	findspot	Aboriginal
AkGw-194	Hogg	Post-Contact	homestead	Euro-Canadian
AkGw-195	Watson	Post-Contact	homestead	Euro-Canadian

Borden #	Site Name	Time Period	Site Type	Affinities
AkGw-196	-	Pre-Contact	findspot	Aboriginal
AkGw-197	-	Pre-Contact	findspot	Aboriginal
AkGw-198	-	Archaic, Middle	findspot	Aboriginal
AkGw-199	-	Pre-Contact	findspot	Aboriginal
AkGw-200	-	Archaic, Middle	findspot	Aboriginal
AkGw-201	-	Pre-Contact	findspot	Aboriginal
AkGw-202	-	Pre-Contact	scatter	Aboriginal
AkGw-203	-	Pre-Contact	findspot	Aboriginal
AkGw-204	-	Post-Contact	homestead	Euro-Canadian
AkGw-226	-	Pre-Contact	scatter	Aboriginal
AkGw-237	McCarthy	Woodland, Early	findspot	Aboriginal
AkGw-238	Square Head 1 Site	Post-Contact	findspot	
AkGw-239	Felis Arbor	Pre-Contact	findspot	
AkGw-240	Pilum	Pre-Contact	findspot	
AkGw-241	Sagitta	Archaic, Late	findspot	
AkGw-242	Square Head 2	Post-Contact	findspot	
AkGw-243	Saxum	Pre-Contact	findspot	
AkGw-244	Acutum	Pre-Contact	findspot	
AkGw-313	Ransier	Post-Contact	Unknown	
AkGw-327	St. John's Anglican Cemetery (Edmonton)	Post-Contact	Unknown	Euro-Canadian
AkGw-328/ AkGw-380	Tortuga Site	Pre-Contact	scatter	
AkGw-334	Dennison	Post-Contact	homestead	Euro-Canadian
AkGw-336	Mayfield North	Post-Contact	Unknown	Euro-Canadian
AkGw-378	Rowan	Post-Contact	homestead	Euro-Canadian
AkGw-379		Archaic, Late	findspot	Aboriginal
AkGw-397	Dunsmore	Post-Contact	homestead	Euro-Canadian
AkGw-415	Fernbrook	Archaic, Early	camp / campsite	
AkGw-425	Etobicoke Creek	Pre-Contact	camp / campsite	Aboriginal
AkGw-464	Wiggins	Post-Contact	homestead	Euro-Canadian
AkGw-473	Landmart H1	Post-Contact		
AkGw-474	Landmart H2	Post-Contact		
AkGw-475	Landmart P1 site	Archaic, Middle	findspot	Aboriginal
AkGw-489	Hare	Post-Contact	homestead	Euro-Canadian
AkGw-490	Chinguacousy Hills	Pre-Contact	camp / campsite	Aboriginal
AkGw-501	Snell	Archaic, Middle	findspot	Aboriginal
AkGx-3	Wey	Archaic	Unknown	Aboriginal
AkGx-8	William Graham	Post-Contact	homestead	Euro-Canadian
AkGx-10	Bottner	Pre-Contact	findspot	Aboriginal
AkGx-42	Alloa	Archaic, Late; Archaic, Middle	Other: camp/campsite; Other: camp/campsite	Aboriginal, Aboriginal
AkGx-43	Alloa	Archaic, Late	findspot	Aboriginal
AkGx-44	Orth	Post-Contact	homestead	Euro-Canadian
AkGx-46	Alloa General Store Site	Post-Contact	Other: commercial, residential	Euro-Canadian
AkGx-47		Archaic, Late	findspot	Aboriginal
AkGx-54		Post-Contact	homestead; house	Euro-Canadian
AkGx-55		Pre-Contact	Other: camp/campsite; scatter	Aboriginal
AkGx-56		Pre-Contact	Other: camp/campsite; scatter	Aboriginal
AkGx-60	Home Church	Post-Contact		

Borden #	Site Name	Time Period	Site Type	Affinities
AkGx-61	Alloa H1	Post-Contact		Euro-Canadian
AkGx-65		Post-Contact	farmstead	
AkGx-66		Pre-Contact	scatter	
AkGx-67		Pre-Contact	scatter	
AkGx-68		Pre-Contact	scatter	
AkGx-70		Pre-Contact	scatter	Aboriginal
AkGx-73		Post-Contact	homestead	
AkGx-74		Woodland, Late	hamlet	
AkGx-75	Clark	Post-Contact	midden	Euro-Canadian
AkGx-76		Post-Contact	homestead	Euro-Canadian
AkGx-78	H1	Post-Contact	farmstead	Euro-Canadian
AkGx-79	M1	Post-Contact	Other: Artifacts related to adjacent occupation	
AkGx-173	Andrew Crawford	Post-Contact	homestead	Euro-Canadian
AkGx-174	Sawmill	Post-Contact	mill	Euro-Canadian
AkGx-689	P5	Archaic, Late	camp / campsite; domestic; manufacturing; short term	Aboriginal
AkGx-690	P4	Pre-Contact	scatter	
AkGx-691	P6	Pre-Contact	scatter	Aboriginal
AkGx-692	P10	Archaic, Late	scatter	
AkGx-693	P13	Archaic, Middle	findspot	
AkGx-694	M1	Archaic, Late; Post-Contact	camp / campsite; dump; manufacturing; short term	Aboriginal
AkGx-695	Johnston Site	Post-Contact	homestead	Euro-Canadian
AkGx-696	Ferris Site	Post-Contact	homestead	Euro-Canadian
AkGx-697	Hunter Site	Post-Contact	homestead	
AkGx-698	Kelly	Post-Contact	homestead	Euro-Canadian
AkGx-699	P2	Archaic, Early	findspot	
AkGx-700	Dolson	Post-Contact	homestead	Euro-Canadian
AkGx-701	P1	Archaic, Middle	findspot	Aboriginal
AkGx-702	Urias Everson	Post-Contact	homestead	Euro-Canadian
AkGx-703	Beech Wood Farm Site	Post-Contact	scatter	
AkGx-704	12529 Chinguacousy WHS 1	Archaic	findspot	
AkGx-705	12529 Chinguacousy WHS 2	Archaic	findspot	
AkGx-706	Patrick McLean	Post-Contact	farmstead	Euro-Canadian
AkGx-707		Post-Contact	homestead	
AkGx-708		Post-Contact	homestead	
AkGx-709	Oney	Post-Contact	dump	
AkGx-710	H3	Post-Contact; Post-Contact	homestead; scatter	Aboriginal, Euro-Canadian
AkGx-715	Watkins Site	Post-Contact; Post-Contact	agricultural; farmstead; farmstead	Euro-Canadian
AkGx-716	Kirk Site	Post-Contact	agricultural; farmstead	Euro-Canadian
Archaeological Sites less than 50 metres away from the Study Area Limits				
AkGx-6	Beatty Churchschool	Post-Contact	Other: church/chapel; school	Euro-Canadian
AkGx-13		Pre-Contact	findspot	Aboriginal
AkGx-28	Hagemann	Post-Contact	homestead	Euro-Canadian
AkGx-72	Alloa School House	Post-Contact	school	Euro-Canadian
Archaeological Sites more than 50 metres away from the Study Area Limits				

Borden #	Site Name	Time Period	Site Type	Affinities
AjGx-174/ AjGx-252	Churchill Valley historic	Post-Contact	homestead	Euro-Canadian
AjGx-175		Post-Contact	findspot	Aboriginal, Euro-Canadian
AjGx-176		Other	findspot	
AjGx-267	Heritage Layover H1	Post-Contact	homestead	Euro-Canadian
AjGx-268	Heritage Layover H2	Post-Contact	homestead	Euro-Canadian
AkGw-2	Heart Lake	Pre-Contact	Other: camp/campsite	Aboriginal
AkGw-249	Clarkson I	Post-Contact	homestead	Euro-Canadian
AkGw-250	Clarkson II	Post-Contact	homestead	Euro-Canadian
AkGw-320	Stopover 5	Pre-Contact	findspot	Aboriginal
AkGw-332		Woodland, Early	findspot	Aboriginal
AkGw-333	Kennedy Road	Post-Contact	midden; outbuilding	Euro-Canadian
AkGw-335	Edwards	Post-Contact	homestead	Euro-Canadian
AkGw-413	Ibrox	Pre-Contact	Other: camp/campsite	Aboriginal
AkGw-414		Pre-Contact	findspot	Aboriginal
AkGw-462	Heart Lake 1	Archaic, Late	findspot	Aboriginal
AkGw-532		Pre-Contact	scatter	
AkGw-533		Pre-Contact	scatter	
AkGw-534		Pre-Contact	scatter	
AkGw-535		Pre-Contact	scatter	
AkGw-536		Pre-Contact	scatter	
AkGw-537	Samuel Snell	Post-Contact	homestead	
AkGw-538		Pre-Contact	scatter	
AkGw-539		Pre-Contact	scatter	
AkGx-2	McClure	Archaic	Unknown	Aboriginal
AkGx-7	George Petch	Post-Contact	homestead	Euro-Canadian
AkGx-9	Dixon	Pre-Contact	findspot	Aboriginal
AkGx-14		Archaic, Early; Archaic, Late	findspot; findspot	Aboriginal, Aboriginal
AkGx-15		Archaic, Middle		Aboriginal
AkGx-16		Pre-Contact	findspot	Aboriginal
AkGx-18	Westerveld	Post-Contact	midden	Euro-Canadian
AkGx-32	McCluredale 3	Pre-Contact	findspot	Aboriginal
AkGx-37		Archaic, Early; Archaic, Early	findspot	Aboriginal
AkGx-38		Woodland, Middle	findspot	Aboriginal
AkGx-39		Other	Other: findspot_	
AkGx-40		Pre-Contact	scatter	Aboriginal
AkGx-41		Woodland, Early	Other: camp/campsite	Aboriginal
AkGx-57	P1/H1	Post-Contact; Pre-Contact	Unknown; Unknown; homestead	Aboriginal, Euro-Canadian
AkGx-58	P2	Post-Contact	Unknown	Aboriginal, Euro-Canadian
AkGx-62		Post-Contact	farmstead	
AkGx-63		Post-Contact	farmstead	
AkGx-64		Post-Contact	farmstead	
AkGx-80	Location 2	Post-Contact; Pre-Contact		
AkGx-82	Pine View	Woodland	camp / campsite	Aboriginal

Per *Section 1.3.1* of the *2011 S&G*, previously registered archaeological sites in close proximity to the study area are considered to be features or characteristics that indicate archaeological potential. Therefore, given the presence of 108 archaeological sites within or immediately adjacent to the study area, this feature contributes to establishing archaeological potential.

1.4.8 Previous Archaeological Assessments

Per *Section 1.1, Standard 1* and *Section 7.5.8, Standards 4-5* of the *2011 S&G*, to further establish the archaeological context of the study area, a review of previous AAs carried out within the limits of, or immediately adjacent (e.g., within 50 metres) to the study area, as documented by all available reports, was undertaken.

More than 200 reports documenting previous archaeological work within and immediately adjacent to the study area were identified. A description of the findings and recommendations, as well as depictions of the extents of assessments, are presented in **Table B1** within **Appendix B**.

The comprehensive review of reports revealed that a significant portion of the study area south of Mayfield Road and around the Highway 410-Highway 10 connection has already been subjected to archaeological assessments in support of residential subdivision developments and road- and utility/servicing improvements since the late 1980s. The comprehensive review also confirmed that several sites still retained cultural heritage value or interest (CHVI) and were therefore still of archaeological concern (***see Appendix B – Table B2***).

1.4.9 Physical Features

An investigation of the study area's physical features was conducted to aid in the development of an argument for archaeological potential based on the environmental conditions of the study area. Environmental factors such as close proximity to water, soil type, and nature of the terrain, for example, can be used as predictors to determine where human occupation may have occurred in the past.

1.4.9.1 Physiographic Region

The study area is located within three physiographic regions of Southern Ontario: South Slope, Niagara Escarpment and Horseshoe Moraines.

Most of the study area is encompassed within the South Slope physiographic region, which is the southern slope of the Oak Ridges Moraine extending from the Niagara Escarpment in the west to the Trent River in the east. The portion encompassing the study area is morainic, most being a ground moraine of limited relief. The South Slope in general is situated across Verulam and Lindsay Formation limestone, Georgian Bay Formation grey shales and the reddish shales of the Queenston Formation. The shale content increases going westward and the soils in this area are more clayey and less steep than in the east (Chapman & Putnam, 1984, pp.172-174).

The Niagara Escarpment travels through the northwestern corner of the study area. This region, which extends from the Niagara River in the south to the northern tip of the Bruce Peninsula and through the Manitoulin Islands, is characterized by slopes carved in red shale and vertical cliffs along the brow of the escarpment which outline the edge of Lockport and Amabel Formation dolostone. In the Town of Caledon long stretches of the impressive topography are almost completely hidden where the slopes are mantled by morainic deposits. The stretch of the escarpment near the study area is cut by numerous creeks, and the long lower slopes of the escarpment are highly eroded, exposing red shales, as demonstrated by the Cheltenham Badlands (Chapman & Putnam, 1984, pp.114-122).

A small section of the study area at the northwest corner is located within the Horseshoe Moraines physiographic region. This horseshoe-shaped region flanks the uplands lying west of the highest part of the Niagara Escarpment. The moraines in the Town of Caledon trend west from the escarpment to form a belt of moderately hilly relief. A system of old spillways is associated with the moraines, consisting of broad gravel and sand terraces and swampy floors (Chapman & Putnam, 1984, pp.127-129).

1.4.9.2 Soil Types and Topography

The study area encompasses several native soil types; a description of their characteristics is presented in **Table 7** and are also depicted in **Map 10** (Experimental Farms Service, 1953).

Table 7: Study Area Soil Types

Soil Series and Type	Great Soil Group	Soil Materials	Profile	Drainage	Topography and Surface Stoniness
Bottom Land	Alluvial	Alluvial	Low-lying land along stream courses; subject to flooding; profile immature and horizons poorly defined	Variable	variable
Caledon loam	Grey-Brown Podzolic	Well sorted outwash: gravelly	4” very dark grey-brown loam; profile well developed; concentration of stones in B horizon; parent material consists of well sorted sand and gravel; brown in colour; shaley	Good	Smooth gently sloping to smooth moderately sloping; few stones
Chinguacousy clay loam	Grey-Brown Podzolic	Heavy textured till; shale and limestone	7” dark greyish brown clay loam over mottled less defined A2 and B horizons; clay parent material dark yellowish brown in colour	Imperfect	Smooth gently sloping; few stones
Dumfries loam	Grey-Brown Podzolic	Coarse, stony till	6” dark grey-brown loam or sandy loam over well developed horizons; stony throughout; parent material is grey calcareous stony till	Good	Irregular steeply sloping; frequent stones

Soil Series and Type	Great Soil Group	Soil Materials	Profile	Drainage	Topography and Surface Stoniness
Farmington loam	Brown Forest	Shallow soils over bedrock; limestone	6” dark brown loam over well defined B horizon; limestone bedrock at depths of 1 foot and less	Good	Smooth gently sloping; few to frequent stones
Fox sandy loam	Grey-Brown Podzolic	Well sorted outwash; sandy	4” brown sand or sandy loam underlain by well defined sand or sandy loam A2 and sandy loam or loam B horizons; parent material is calcareous grey sand	Good	Smooth gently sloping; stonefree
Gilford loam	Dark Grey Gleisolic	Well sorted outwash: gravelly	8” very dark grey loam over mottled lower horizons; horizons indistinct	Poor	Smooth very gently sloping; few stones
Jeddo clay loam	Dark Grey Gleisolic	Heavy textured till; shale and limestone	8” very dark grey to black clay loam over very mottled, poorly defined lower horizons. Dark yellowish brown clay parent materials, few stones	Poor	Smooth very gently sloping; few stones
Lockport clay	Grey-Brown Podzolic	Shallow soils over bedrock; red shale	5” dark brown clay loam over well defined stonefree A2 and B horizons; red shale at depths of 3 feet and less	Good	Smooth gently sloping; stonefree
Muck	Bog	Organic	Black well decomposed organic material of varying depths over sand, clay or marl; organic materials usually exceed 18 inches	Very poor	depressional
Oneida clay loam	Grey-Brown Podzolic	Heavy textured till; shale and limestone	6” dark greyish brown clay loam surface soil over well developed horizons. Dark yellowish brown, calcareous parent material, few stones	Good	Smooth moderately sloping; few stones
Pontypool sandy loam	Grey-Brown Podzolic	Poorly sorted outwash	4” dark greyish brown sandy loam underlain by well defined A2 and B horizons; parent material usually sandy with occasional pockets of gravel; profile well developed	Good	Irregular steeply sloping; few stones

The topography within the study area decreases from north to south with a significant rise in elevation along the Niagara Escarpment in the northwest corner. The elevation across the study area measures between approximately 238 to 397 metres above sea level.

1.4.9.3 Hydrological Features

Hydrological features such as primary water sources (e.g., lakes, rivers, creeks, streams) and secondary water sources (e.g., intermittent streams and creeks, springs, marshes, swamps) would have helped supply plant and food resources to the surrounding area and are indicators of archaeological potential (per *Section 1.3.1* of the *2011 S&G*). The study area is encompassed within three different watersheds: West Humber River, Etobicoke Creek and Credit River. Main branches of the Credit River and Etobicoke Creek travel through the study area as well as numerous tributaries draining into these larger watercourses. Therefore, this feature contributes to establishing the archaeological potential of the study area.

1.4.9.4 Natural Heritage Features

Per *Section 1.3.1* of the *2011 S&G*, distinctive land formations that might have special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds and promontories and their bases, are considered features or characteristics that indicate archaeological potential. The study area encompasses the 36-hectare site of the Cheltenham Badlands, which is designated as a provincially significant Earth Science Area of Natural and Scientific Interest (ANSI) and, due to its importance as a groundwater discharge area, the property is also recognized as an Environmentally Significant Area (ESA) (OHT, 2022).

The Cheltenham Badlands were "formed at the base of an ancient sea about 450 million years ago" and exposed with the arrival of European settlers. Ancestors of the Mississaugas of the Credit First Nation lived lightly on the land for many generations, setting up small and temporary villages on the river flats to hunt, fish and forage. The more intensive land clearing and agricultural activities practiced by Euro-Canadian settlers establishing homesteads and farms in the 19th century "caused the shallow topsoil to erode away, in turn exposing the underlying Queenston shale. Rain, snowmelt and freeze-thaw conditions caused rapidly accelerating erosion of the shale, resulting in the unique ridge and gully landscape known today as the Cheltenham Badlands" (OHT, 2022). There is a coldwater stream at the foot of the exposed badlands which is a tributary of the Credit River. The Cheltenham Badlands property consists of a diversity of habitat types, such as the badlands, mature forests, wetlands and regenerating cultural woodland which "allows the property to host rare flora, ranging from prairie sundrops to butternut" (OHT, 2022).

1.4.10 Current Land Conditions

The study area encompasses a rural section of the Town of Caledon and the northern urban limits of the City of Brampton. Several small, rural centres are also scattered throughout the study area, consisting primarily of residential subdivisions, parks, churches, schools, community centres and local businesses. A larger commercial and industrial centre is in Victoria, with the Brampton Caledon airport located to the southwest. Most of the study area consists of a farming community and agricultural land with a denser block of forest in the northwest corner in and around the Niagara Escarpment and Credit River. Most modern development is clustered within the limits of the City of Brampton, consisting mostly of subdivisions.

1.4.11 Date of Desktop Review

A desktop review of field conditions using a 1954 air photograph and past and current orthophotographs was undertaken on March 29th, 2022.

1.5 Confirmation of Archaeological Potential

Based on the information gathered from the background research documented in the preceding sections, elevated archaeological potential has been established within the study area limits. Features contributing to archaeological potential are summarized in **Appendix B** and presented in **Maps 11-12**. Specific review and assessment of conditions within the study area will be addressed in **Section 2.0**.

2.0 ANALYSIS AND CONCLUSIONS

In combination with data gathered from the background research (***see Sections 1.3 and 1.4***) and review of aerial imagery, an evaluation of the established archaeological potential of the study area was performed. The results of this larger-scale evaluation are presented as **Maps 13-14**. The results of more specific evaluations in the immediate vicinities of cemeteries are presented as **Maps 15-22**.

2.1 General Study Area

2.1.1 Previous Archaeological Assessments

Comprehensive background research revealed that many portions of the study area have already been subjected to a previous archaeological assessment, sometimes resulting in the discovery of archaeological sites (***see Appendix B***).

Properties for which a Stage 1 background study, Stage 2 property assessment, Stage 3 site-specific assessment, and/or Stage 4 mitigation of development impacts had already been carried out that could definitively eliminate areas of further archaeological assessment are presented in ***Section 2.2.1.1*** below.

Some previous assessments, however, have indicated that the lands subject to assessment have outstanding archaeological concerns (e.g., containing recommendations for further Stage 2 property survey, Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts), or has no further work recommended but is pending *MHSTCI* approval. These are presented in ***Section 2.2.1.2*** below.

Finally, there are also several previous archaeological assessments documenting fieldwork within the study area for which the reports have been requested from the MHSTCI but not yet received for inclusion in the comprehensive review presented in **Appendix B** and the two subsections below.

2.1.1.1 No Further Archaeological Assessment Required

Lands encompassed within the study area which have already been subjected to an archaeological assessment (Stage 1 AA, Stage 2 AA, Stage 3 AA and/or Stage 4 mitigation) and cleared of further archaeological concerns are detailed in **Appendix B** are recommended to be exempt from further assessment (***see Maps 13-14***). No additional archaeological assessment is required.

2.1.1.2 Further Archaeological Assessment Required and/or Pending MHSTCI Approval

Properties and archaeological sites listed in this subsection still have outstanding archaeological concerns that require attention. Prior to any soil-intrusive activities within the properties and near the archaeological sites enumerated below, copies of the associated reports (if available) must be obtained to review the recommendations for further archaeological assessment.

Archaeological sites within the study area for which remaining archaeological concerns have been addressed, but the associated fieldwork reports are still in the draft stage or are awaiting *MHSTCI* approval:

- Hunter (AkGx-697): Stage 4 mitigation has been carried out (ASI, 2021f).
- Kelly (AkGx-698): Stage 4 mitigation has been carried out (ASI, 2021g).
- Everson (AkGx-702): Stage 4 excavation has been carried out within the limits of the Mayfield Road widening project (Archeoworks, 2021c).
- Oney (AkGx-709): Stage 4 excavation has been carried out within the limits of the Mayfield Road widening project (Archeoworks, 2021d).
- H4, formerly AkGx-711 (now part of AkGx-702): Stage 3 AA has been carried out within the limits of the Mayfield Road widening project (Archeoworks, 2021a).

Sites and areas for which Stage 4 mitigation is recommended:

- Northern edge of Alloa Cemetery: If this portion of the Wanless Drive ROW cannot remain avoided and protected, it must be subjected to Stage 4 excavation and cemetery closure procedures (ASI, 2008a).
- H3 (AkGx-710): Stage 4 mitigation via site excavation recommended within the limits of the Mayfield Road widening project (Archeoworks, 2021b).

Sites for which further Stage 3 AA remains outstanding:

- Ransier (AkGw-313): site area is currently protected by the TRCA from further development, but in the event the site is to be impacted by future alterations a Stage 3 AA is required to be carried out (TRCA, 2009).
- St. John's Anglican Cemetery (Edmonton) (AkGw-327): Stage 2/3 investigation required in areas to be impacted by future work within the cemetery limits (ASI, 2021d).
- Orth (AkGx-44): Stage 3 AA recommended (ASI, 2003b).
- Watkins (AkGx-715) and Kirk (AKGx-716): Stage 3 AA recommended (TAI, 2021).

Stage 2 AA is provisionally recommended for previously identified sites whose level of CHVI is not clear and the associated assessment report has not been available for review. This recommendation is subject to change pending the receipt and review of the concerned report:

- Beatty Churchschool (AkGx-6), William Graham (AkGx-8) and Bottner (AkGx-10): All documented in the ca. 1993/1994 report by D.R. Poulton & Associates titled "*Report on the Step 6 Archaeological Investigations in Five Candidate Landfill Sites, City of Brampton and Town of Caledon, Regional Municipality of Peel, Ontario (VOLUMES 1 AND 2)*."

To obtain more artifactual information, Stage 2 AA is recommended for previously identified sites for which the level of CHVI is not clear, but either have no available assessment report, or have an associated report that does not give enough information:

- John's (AkGw-10) and Snelgrove (AkGw-65): both sites lie within TRCA (Etobicoke Creek) lands north of Conservation Drive.

- Yeoman (AkGw-97): site area was avoided by the TRCA during the construction of the Snelgrove pedestrian trail (TRCA, 1995). Site's level of CHVI not explicitly stated on the report.

Below is a list of properties within the study area for which further Stage 2 AA is recommended. Note that Stage 1 AA reports for large area studies and linear corridor projects are not included in the list:

- 14525 and 14529 Creditview Road: Stage 2 test pit survey recommended for undisturbed areas within the two residential lots (ASI, 2009b).
- Lot 34, Concession 3 WHS: Stage 2 test pit survey recommended for undisturbed and testable areas within the Cheltenham Badlands property (SJAI, 2011).
- 739 Wanless Drive: Stage 2 test pit survey recommended for undisturbed areas within the residential lot (Earthworks Archaeological Services, 2015).
- Lot 19, Concession 1 WHS: Stage 2 test pit survey remains outstanding for the two woodlots (TLA, 2017a).
- 93 and 95 Kennedy Road: Stage 2 test pit survey recommended for undisturbed areas along the fenceline separating the two properties (ASI, 2019b).
- Dixon's Union Cemetery: Stage 2 construction monitoring is recommended for the Kennedy Road frontage of the cemetery (ASI, 2021e).

2.1.2 Identified Deep and Extensive Disturbances

The study area was evaluated for deep and extensive land alterations – commonly referred to as disturbances – that have severely impacted the integrity of any archaeological resources. Per *Section 1.3.2* of the *2011 S&G*, these include, but are not limited to: quarrying, major landscaping involving grading below topsoil, building footprints, or sewage and infrastructure development.

Obvious disturbances noted within the study area include (but are not limited to): the various asphalt roadways and associated features within the road right-of-way (e.g., gravel shoulders, concrete curbs and barriers, cut slopes and embankments, shallow and deep drainage ditching, utilities, etc.), building footprints (e.g., residential houses, barns, outbuildings and sheds; commercial and small industrial structures), asphalt and gravel driveways and parking areas, the Cheltenham Brickyard, Brampton-Caledon Airport and Flight School, and the Orangeville-Brampton Railway (formerly the Credit Valley Railway).

The construction of these features would likely have resulted in severe damage to the integrity of any archaeological resources which may have been present within their footprints and, as such, are exempt from requiring a systematic Stage 2 property survey. It must be noted that given the size of the study area, only the larger developments and more prominent areas of disturbance have been marked in **Maps 13-14**. Once more detailed project designs are available, on-site confirmation and documentation of the actual condition and exact extent of the disturbances within the proposed areas of impact will be required during a detailed property inspection during a Stage 2 AA, in accordance with *Section 2.1.8* of the *2011 S&G*.

2.1.3 Identified Physical Features of No or Low Archaeological Potential

The study area was also evaluated for physical features of no or low archaeological potential. These usually include but are not limited to: permanently wet areas, exposed bedrock, and steep slopes (greater than 20°) except in locations likely to contain pictographs or petroglyphs, as per *Section 2.1, Standard 2.a* of the *2011 S&G.*

Physical features of low or no archaeological potential include but are not limited to: permanently wet and low-lying terrain associated with the Credit River, Etobicoke Creek and Humber River and their numerous tributaries, the steeply sloping terrain of the river and creek valleys and the Niagara Escarpment.

Due to their low to no archaeological potential classification, these areas within the study area are exempt from requiring a systematic Stage 2 property survey. It must be noted that only the bodies of water and watercourses have been marked in **Maps 13-14**; areas of steep slope were not marked given the large size of the study area and lack of more detailed elevation information. Once more detailed project designs are available, on-site confirmation and documentation of the actual condition and exact extent of permanently wet areas and steep slopes within the proposed areas of impact will be required during a detailed property inspection during a Stage 2 AA, in accordance with *Section 2.1.8* of the *2011 S&G*.

2.1.4 Identified Areas of Archaeological Potential

Portions of the study area which have not been previously assessed and/or cleared of further archaeological concern, and do not exhibit extensively disturbed conditions nor contain physical features of low to no archaeological potential, are therefore considered to retain archaeological potential. These areas include but are not limited to: agricultural fields, open grasslands, wooded areas/woodlots, grassed road margins and residential frontages/backyards, and areas of overgrown vegetation (***see Maps 13-14***).

Given the established potential to recover archaeological resources within these identified areas, a Stage 2 AA will be required. The actively or recently cultivated agricultural fields must be subjected to pedestrian survey at five metre transects in accordance with *Section 2.1.1* of the *2011 S&G*. In areas where ploughing is not possible or viable (some examples include, but are not limited to: wooded areas/woodlots, overgrown vegetation, grass frontages/backyards, grassed margins between ploughed fields, areas of overgrown brush and weed growth, urban areas), a Stage 2 test pit survey at five metre intervals must be performed, in accordance with the standards outlined in *Section 2.1.2* of the *2011 S&G*.

2.1.5 Conclusions

Based on the background research, elevated archaeological potential for the recovery of archaeologically significant materials has been established within the study area. Where archaeological potential had been identified, a desktop review of ground conditions was undertaken using past and current air photographs and orthophotographs to determine if recent disturbance removed this potential classification. The desktop review identified areas of previous disturbance and permanently wet or low-lying areas; these locations are considered to have no

and low archaeological potential and are marked in **Maps 13-14** as provisionally requiring no further assessment pending on-site confirmation of their exact condition and extent.

For now, the only areas that can be definitively eliminated from requiring further AA within the study area are those for which a previous assessment report — which has been accepted by the *MHSTCI* into the Ontario Public Registry of Archaeological Reports — recommended either: 1) that the property be cleared of requiring further archaeological assessment, or 2) that the discovered archaeological site no longer retained cultural heritage value or interest.

Generally a Stage 2 AA using appropriate methods (i.e., pedestrian survey in ploughed and weathered fields, and test pit survey everywhere else) is being recommended for the balance of the study area. However, there are several registered archaeological sites and cemeteries with cultural heritage value or interest (CHVI) located within and immediately adjacent to the study area. Any proposed impacts within or in proximity to these sites and cemeteries will require further archaeological investigation.

Detailed recommendations are provided within **Section 3.0**.

2.2 Areas Immediately Adjacent to Cemeteries

As per the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 no intrusive activity may occur within the limits of a cemetery without consent from the *Bereavement Authority of Ontario (BAO)*. The *Registrar's Directive: Authorization for Stage 2-4 Archaeological Fieldwork (Assessments and Investigations) on Cemetery Lands (updated February 12, 2021)* also require that a Cemetery Investigation Authorization (CIA) be obtained whenever archaeological investigations are contemplated to verify and/or determine the boundaries of a cemetery where available documents cannot confirm the existence and exact locations of burials within that cemetery. The CIA will relieve the archaeologist of the prohibition and liability related to the intentional disturbance of a human burial within a cemetery should such an incident occur.

Five cemeteries are located within the study area (***see Maps 11-12***):

- *Boston Mills Cemetery* at 1942 Boston Mills Road: Lot 33, Concession 3 West of Centre Road, Geographic Township of Chinguacousy (North), County of Peel.
- *Cheltenham Cemetery* at 14189 Cheltenham Road: Lot 28 + 29, Concession 3 West of Centre Road, Geographic Township of Chinguacousy (North), County of Peel.
- *Cork Cemetery* at 13402 McLaughlin Road: Lot 25, Concession 2 West of Centre Road, Geographic Township of Chinguacousy (North), County of Peel.
- *St. John's Anglican (Edmonton) Cemetery* at 11865 Hurontario Street: Lot 17, Concession 1 East of Centre Road, Geographic Township of Chinguacousy (South), County of Peel.
- *Old Zion (Bertram) Cemetery* at the northeast corner of Wanless Drive and Hurontario Street: Lot 16, Concession 1 West of Centre Road, Geographic Township of Chinguacousy (South), County of Peel.

Three cemeteries are located along roads that form the study area boundary (***see Maps 11-12***):

- *Dixon's Union Cemetery* at 12895 Kennedy Road: Lot 22, Concession 2 EHS, Geographic Township of Chinguacousy, County of Peel.
- *Zion Cemetery* at the southeast corner of Conservation Drive and Hurontario Street: Lot 11, Concession 1 EHS, Geographic Township of Chinguacousy, County of Peel.
- *Alloa Cemetery* at the southwest corner of Wanless Drive and Creditview Road: Lot 14, Concession 4 WHS, Geographic Township of Chinguacousy, County of Peel.

The above-mentioned pioneer cemeteries are considered sensitive cultural heritage resources of high archaeological potential. Nineteenth century historic cemeteries were not highly regulated, and often employed markers of little substance that have since disappeared. The possible absence of grave markers can result in inaccurate depictions of the recognized cemetery property limits. Furthermore, the 'sneaking' of burials near the property limits of cemeteries is a phenomenon associated with early 19th century church burial grounds where the congregation influenced who was buried within the cemetery.

To gain a better understanding of the land use history immediately adjacent to these cemeteries, multiple resources (e.g., archival records, cemetery transcripts, previous archaeological assessment reports) and contacts (including the cemetery operators and the BAO) were consulted to gather as much information as possible. The collected data, combined with an on-site inspection conducted within and adjacent to the cemeteries on March 22nd and 29th, 2022, resulted in an assessment of the likelihood of unmarked burials within 10 metres of the current cemetery property limits.

2.2.1 Specific Assessments Per Cemetery

The cemetery-specific assessments are summarized in this sub-section. For the full information presented to the *MHSTCI*, including sensitive archaeological information, see the **Supplementary Document**.

Given the ongoing and ever-evolving requirements of the *MHSTCI* regarding archaeological work in the vicinity of cemeteries, *Archeoworks Inc*. presented collected data and sought guidance from the Ministry to ensure the recommendations presented in this report complied with the most up-to-date advice. The recommendations (***see Section 3.0***) received concurrence on April 25, 2022 (***see Supplementary Document – Section 2.0-4.0***).

2.2.1.1 Alloa Cemetery

The north/northwest limit of Alloa Cemetery immediately abuts the study area limits. This strip of land along the south edge of Wanless Drive was previously subjected to Stage 3 mechanical topsoil removal (MTR), revealing grave shafts and other cultural features (ASI, 2008a). The east end of this strip was subjected to Stage 4 excavation, thereby removing archaeological concerns only in this area (The Archaeologists Inc., 2013c). The remainder of the strip was subjected to avoidance and protection measures during the Wanless Drive road widening activities. Archaeological concerns therefore remain outstanding along the northern edge of the Alloa Cemetery, and the recommendations outlined in ASI's Stage 3 AA report (ASI, 2008a) still apply,

namely that avoidance and protection is still the preferred mitigation strategy but if avoidance and protection of this portion of the Wanless Drive ROW is not an option, Stage 4 mitigation by excavation is required (***see Map 15***).

This Stage 4 excavation requires careful mechanical topsoil removal to re-expose previously identified sub-surface cultural features (i.e., three grave shafts, and eight postholes lying along the original cemetery fenceline), followed by their detailed documentation and careful excavation in preparation for removal and, in the case of the graves, subsequent re-burial (see Map 9). A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* (BAO) must be obtained prior to any soil intrusive activities within the one metre of the grave shafts.

Furthermore, in accordance with the original Stage 3 AA report recommendations: if a portion of the Alloa Cemetery cannot be protected from further development, it is required to follow the relevant provincial regulations concerning the formal closure and relocation of the affected cemetery portion (see *Sections 88-93* of the *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c. 33*).

2.2.1.2 Boston Mills Cemetery

The cemetery operator provided verbal confirmation that no records exist of unmarked burials beyond the current fence line of Boston Mills Cemetery based on extensive records dating to the 1850s. However, no credible historical records (e.g. survey plan, burial plot maps, etc.) were provided to definitively confirm this. However, it is known that large parts of the cemetery were opened to burials relatively late and have no potential for unmarked burials. These include the northern (Plan 6; opened only in the early 2000s), central (Plan 2; late 1890s) and western (Plan 5; 1960s) sections. Therefore only a standard Stage 2 AA is required (where feasible) in these areas.

The only lands outside the Boston Mills Cemetery fence where there is potential to encounter unmarked burials are those lying adjacent to the oldest cemetery portion (i.e. the east/southeast section). To confirm the presence or absence of burials in these areas, the required Stage 2 AA in the grassed margins – consisting of test pit survey at five-metre intervals, where feasible – must be followed by Stage 3 MTR even if no archaeological resources are found (***see Map 16***). Additionally, Stage 3 MTR is also recommended for the pavement/ shoulder/ditching of Boston Mills Road and Chinguacousy Road that falls within 10 metres of the cemetery fence. Stage 3 MTR will start at the farthest extent (where conditions permit) and move towards the cemetery fence. However, should further discussion/research reveal buried utilities or pipelines within the roadway, or time and circumstances do not permit mechanical removal, construction monitoring will occur instead. Depending on what is uncovered, additional cemetery investigations may be required.

A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* (BAO) must be obtained prior to any invasive archaeological fieldwork (construction monitoring,

Stage 2 AA and Stage 3 mechanical removal of topsoil/gravel/asphalt) within 10 metres of the Boston Mills Cemetery's fence.

2.2.1.3 Cheltenham Cemetery

Taking into consideration all identified factors — i.e., discrepancies between burial plot maps, presence of marked burials immediately next to the Creditview Road ROW, and a survey plan that only outlining a portion of the current cemetery property limits — there is potential to encounter unmarked burials beyond the current limits of the Cheltenham Cemetery in all directions.

To confirm the presence or absence of burials, the required Stage 2 AA within the grassed margins immediately surrounding the cemetery – consisting of test pit survey at five-metre intervals, where feasible – must be followed by Stage 3 MTR even if no archaeological resources are found (***see Map 17***). Additionally, Stage 3 MTR is also recommended for the pavement/shoulder/ ditching of Creditview Road and the nearby park paths which fall within 10 metres of the cemetery boundary. Stage 3 MTR will start at the farthest extent (i.e., 10 metres from the cemetery boundary, where conditions permit) and move towards the cemetery boundary. However, should further discussion/research reveal buried utilities or pipelines within the roadway/path, or time and circumstances do not permit mechanical removal, construction monitoring will occur instead. Depending on what is uncovered, additional cemetery investigations may be required.

A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* (BAO) must be obtained prior to any invasive archaeological fieldwork (construction monitoring, Stage 2 AA and Stage 3 mechanical removal of topsoil/gravel/asphalt) within 10 metres of the Cheltenham Cemetery's limits.

2.2.1.4 Cork Cemetery

Taking into consideration all identified factors — i.e., lack of credible mapping outlining the historical/19th century cemetery property limits, and lack of official surveys outlining the current cemetery property limits — there is potential to encounter unmarked burials beyond the presumed limits of the Cork Cemetery in all directions.

To confirm the presence or absence of burials in these areas, the required Stage 2 AA within the cultivated field and grassed margins immediately surrounding the cemetery – consisting of pedestrian or test pit survey at five-metre intervals, where feasible – must be followed by Stage 3 MTR even if no archaeological resources are found (***see Map 18***). Additionally, Stage 3 MTR is also recommended for the pavement/shoulder/ditching of McLaughlin Road which falls within 10 metres of the presumed cemetery boundary. Stage 3 MTR will start at the farthest extent (i.e. 10 metres from the presumed cemetery boundary, where conditions permit) and move towards the presumed cemetery boundary. However, should further discussion/research reveal buried utilities or pipelines within the roadway/path, or time and circumstances do not permit mechanical removal, construction monitoring will occur instead. Depending on what is uncovered, additional cemetery investigations may be required.

A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* (BAO) must be obtained prior to any invasive archaeological fieldwork (construction monitoring, Stage 2 AA and Stage 3 mechanical removal of topsoil/gravel/asphalt) within 10 metres of the Cork Cemetery's presumed limits.

2.2.1.5 Dixon's Union Cemetery

The west/southwest limit of Dixon's Union Cemetery immediately abuts the study area limits. This strip of land along the east edge of Kennedy Road was previously subjected to Stage 2 test pit survey, revealing that the installation of utility and servicing lines have impacted this area (ASI, 2021e). Furthermore, a previous Stage 1 covering an approximately 660-metre stretch of Kennedy Road south of Old School Road also determined that the roadway fronting the cemetery is disturbed and no longer requires further work (ASI, 2021c). The recommendations from both assessments therefore still apply (***see Map 19***), namely:

- that construction monitoring is required for the strip along the east edge of Kennedy Road that immediately fronts the cemetery: A licensed archaeologist should be present on site for the duration of impacts to monitor for the presence of unmarked burials and shall have the authority to direct construction to subsoil to identify any grave shafts that may be present until it is confirmed that no burials are located within the Stage 2 subject area. If any burials are identified, all work must cease and the MHSTCI and BAO should be contacted for further direction. A contingency plan to address any undocumented archaeological sites that may be identified during the monitoring is required. An investigation authorization issued by the BAO must be acquired in advance of fieldwork.
- and, that no further archaeological work is recommended for the rest of the disturbed Kennedy Road ROW lands falling within 10 metres of the cemetery boundary.

A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* (BAO) must be obtained prior to any invasive archaeological fieldwork (construction monitoring, Stage 2 AA and Stage 3 mechanical removal of topsoil/gravel/asphalt) within 10 metres of the Dixon's Union Cemetery limits.

2.2.1.6 Old Zion (Bertram) Cemetery

Taking into consideration all identified factors — i.e., lack of credible mapping outlining the historical/19th century cemetery property limits; and recommendations from previous archaeological assessments (ASI, 2005; ASI, 2006c; ASI, 2011a) conducted at the northwest fence post area and along the east and south edges of the cemetery — there is potential to encounter unmarked burials beyond only the north and west limits of the Old Zion (Bertram) Cemetery.

To confirm the presence or absence of burials in these areas, the required Stage 2 AA within the 1- to 1.5-metre wide grassed margins immediately to the north and west of the cemetery – consisting of test pit survey at five-metre intervals, where feasible – must be followed by Stage 3 MTR even if no archaeological resources are found (***see Map 20***).

A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* (BAO) must be obtained prior to any invasive archaeological fieldwork (construction monitoring, Stage 2 AA and Stage 3 mechanical removal of topsoil/gravel/asphalt) within 10 metres of the Old Zion (Bertram) Cemetery's limits.

2.2.1.7 St. John's Anglican (Edmonton) Cemetery

Taking into consideration all identified factors (i.e., lack of credible mapping outlining the historical/19th century cemetery property limits; lack of official surveys outlining the locations of burials within the cemetery; and recommendations from previous archaeological assessments conducted along the west and south edges of the cemetery) there is potential to encounter unmarked burials beyond only the north and east limits of the St. John's Anglican (Edmonton) Cemetery.

To confirm the presence or absence of burials in these areas, the required Stage 2 AA within the grassed margins immediately to the north and east of the cemetery – consisting of test pit survey at five-metre intervals, where feasible – must be followed by Stage 3 MTR even if no archaeological resources are found (***see Map 21***). Additionally, Stage 3 MTR is also recommended for the paved/built-up areas falling within 10 metres of the cemetery boundary. Stage 3 MTR will start at the farthest extent (i.e. 10 metres from the cemetery boundary, where conditions permit) and move towards the cemetery boundary. However, should further discussion/research reveal buried utilities or pipelines, or time and circumstances do not permit mechanical removal, construction monitoring will occur instead. Depending on what is uncovered, additional cemetery investigations may be required.

A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* (BAO) must be obtained prior to any invasive archaeological fieldwork (construction monitoring, Stage 2 AA and Stage 3 mechanical removal of topsoil/gravel/asphalt) within 10 metres of the St. John's Anglican (Edmonton) Cemetery's limits.

2.2.1.8 Zion Cemetery

The north/northwest limit of Zion Cemetery immediately abuts the study area limits. Only the cemetery gate entrance along the south side of Conservation Drive had been previously assessed by means of Stage 3 MTR, yielding neither archaeological resources nor human remains (ASI, 2011a). Despite the negative result of this assessment, there is a lack of credible mapping outlining the historical/19th century cemetery property limits. Therefore there is potential for unmarked burials beyond the north limit of the Zion Cemetery.

To confirm the presence or absence of burials along the north edge, the required Stage 2 AA within the grassed margin – consisting of test pit survey at five-metre intervals, where feasible – must be followed by Stage 3 MTR even if no archaeological resources are found (***see Map 22***). Additionally, Stage 3 MTR is also recommended for the pavement/shoulder/ditching of Conservation Drive which falls within 10 metres of the cemetery boundary. Stage 3 MTR will start at the farthest extent (i.e. 10 metres from the cemetery boundary, where conditions permit) and move towards the cemetery boundary. However, should further discussion/research reveal

buried utilities or pipelines within the roadway, or time and circumstances do not permit mechanical removal, construction monitoring will occur instead. Depending on what is uncovered, additional cemetery investigations may be required.

A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* (BAO) must be obtained prior to any invasive archaeological fieldwork (construction monitoring, Stage 2 AA and Stage 3 mechanical removal of topsoil/gravel/asphalt) within 10 metres of the Zion Cemetery's limits.

3.0 RECOMMENDATIONS

Considering the findings outlined within this report, the following recommendations are presented:

1. Lands which have already been subjected to a previous archaeological assessment (Stage 1 AA, Stage 2 AA, Stage 3 AA and/or Stage 4 Mitigation), deemed free of further archaeological concern, have no recommendations for further work and/or determined to no longer retain cultural heritage value or interest (CHVI) — and with the associated report accepted by the *MHSTCI* into the *Ontario Public Register of Archaeological Reports* — are recommended to be exempt from further assessment. No further work is required within the scope of this project.

2. Prior to any proposed impacts to or in the immediate vicinity of archaeological sites for which remaining archaeological concerns have been addressed, but the associated fieldwork reports are still in the draft stage or are awaiting *MHSTCI* approval —Hunter (AkGx-697), Kelly (AkGx-698), Everson (AkGx-702), Oney (AkGx-709) and H4/former AkGx-711 (now part of AkGx-702) — renewed review of the associated fieldwork reports is required in order to confirm whether or not these sites (or portions thereof) still retain CHVI and thereby inform appropriate strategies.

3. Any proposed impacts to or in the immediate vicinity of archaeological sites previously determined to require either Stage 3 AA or Stage 4 mitigation — H3 (AkGx-710), Ransier (AkGw-313), St. John's Anglican Cemetery (Edmonton) (AkGw-327), Orth (AkGx-44), Watkins (AkGx-715) and Kirk (AKGx-716) — must be preceded by the appropriate stage of archaeological investigation in accordance with recommendations in their respective reports.

4. Any proposed impacts to or in the immediate vicinity of archaeological sites Beatty Churchschool (AkGx-6), William Graham (AkGx-8) and Bottner (AkGx-10) must be preceded by a renewed Stage 2 AA to more clearly identify whether further Stage 3 AA is merited. This recommendation is subject to change pending the receipt and review of the concerned ca. 1993/1994 report.

5. Any proposed impacts to or in the immediate vicinity of archaeological sites with sparse information — John's (AkGw-10), Snelgrove (AkGw-65) and Yeoman (AkGw-97) — must be preceded by Stage 2 AA to more clearly identify whether further Stage 3 AA is merited.

6. Parts of the study area that were identified as having archaeological potential removed (i.e., areas of deep and extensive disturbances) are exempt from requiring Stage 2 AA; the extents of these areas are to be confirmed through a detailed on-site property inspection during a Stage 2 AA as per *Section 2.1.8* of the *2011 S&G*.

7. Parts of the study area that were identified as having no or low archaeological potential (i.e., permanently wet and/or low-lying areas; areas of steep slope) are exempt from requiring Stage 2 AA; the extents of these areas are to be confirmed through a detailed on-site property inspection during a Stage 2 AA.

8. As per the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 no intrusive activity may occur within the property limits of Alloa Cemetery, Boston Mills Cemetery, Cheltenham Cemetery, Cork Cemetery, Dixon's Union Cemetery, Old Zion (Bertram) Cemetery, St. John's Anglican (Edmonton) Cemetery and Zion Cemetery without consent from the cemetery operator and the *Bereavement Authority of Ontario*.
    a. Any proposed impacts to lands within the above-listed cemeteries must be preceded by archaeological investigation, consisting of Stage 2 test pit survey followed by Stage 3 mechanical topsoil removal. A Cemetery Investigation Authorization (CIA) issued by the *Bereavement Authority of Ontario* is also required and needs to be obtained prior to conducting any soil-intrusive work (e.g., Stage 2/3/4 investigations; construction monitoring).
    b. If any portion of the above-mentioned cemeteries cannot be protected from further development, it is required to follow the relevant provincial regulations concerning the formal closure and relocation of the affected cemetery portion (see Section 88 to 93 of the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33).
    c. Should proposed impacts occur within 10 metres of the limits of the above-listed cemeteries, the following specific recommendations apply:
        i. Alloa Cemetery: Burials still remain along the cemetery's north edge, within the current Wanless Drive ROW. If continued avoidance and protection of this strip is not an option, Stage 4 mitigation via careful excavation and documentation of the previously exposed cultural features (i.e., three grave shafts and eight postholes representing the historical cemetery fenceline) and subsequent re-burial of the removed graves is required (ASI, 2008a). A CIA issued by the BAO must be obtained prior to any soil-intrusive activities within this area. No further archaeological concerns remain for the area at the north/northeast corner of the cemetery, which has already been subjected to Stage 4 excavation (TAI, 2013c).
        ii. Boston Mills Cemetery: Potential to encounter unmarked burials remain for the cemetery's east/southeast corner. Any proposed impacts within testable grassed margins areas must be subjected Stage 2 test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 mechanical topsoil removal (MTR). Any proposed impacts to the Boston Mills Road and Chinguacousy Road pavement/shoulder/ditching must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead. Owing to the later date of interments to the north and west, only regular Stage 2 test pit survey is recommended (no Stage 3 MTR

necessary) for the testable areas along the north and west edges of the cemetery.

iii. Cheltenham Cemetery: Potential to encounter unmarked burials remain along all edges of the cemetery, and any proposed impacts must be preceded by a Stage 2 test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 MTR. Any proposed impacts to the Creditview Road pavement/shoulder/ditching and adjacent paved park path must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead.

iv. Cork Cemetery: Potential to encounter unmarked burials remain along all edges of the cemetery, and any proposed impacts must be preceded by a Stage 2 pedestrian survey or test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 MTR. Any proposed impacts to the McLaughlin Road pavement/shoulder/ditching must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead.

v. Dixon's Union Cemetery: Previous Stage 2 test pit survey along the Kennedy Road frontage of this cemetery determined that this strip has been previously disturbed by the installation of roadside utility and servicing corridors. Construction monitoring continues to be recommended for this area (ASI, 2021e).

vi. Old Zion (Bertram) Cemetery: Previous investigations have resulted in the confirmation of the absence of burials and the removal of archaeological concerns along the south and east edges of the cemetery, as well as the west/northwest corner post area (ASI, 2005; ASI, 2006c; ASI, 2011a). However, potential to encounter unmarked burials remain for the cemetery's north and west edges. Any proposed impacts here must be preceded by a Stage 2 test pit survey at 5-metre intervals, and followed by Stage 3 mechanical topsoil removal (MTR).

vii. St. John's Anglican (Edmonton) Cemetery: Previous investigations have resulted in the confirmation of the absence of burials and the removal of archaeological concerns along the south and west edges of the cemetery. However, potential to encounter unmarked burials remain for the cemetery's north and east edges. Any proposed impacts here must be preceded by a Stage 2 test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 MTR. Any proposed impacts to paved/built-up areas in the adjacent residential areas to the north and east of the cemetery must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead.

viii. Zion Cemetery: A previous investigation has resulted in the confirmation of the absence of burials as well as the removal of archaeological concerns

in the cemetery's entrance along the south side of Conservation Drive. However, potential to encounter unmarked burials remain for the cemetery's north edge. Any proposed impacts here must be preceded by a Stage 2 test pit survey at 5-metre intervals (where feasible), and followed by Stage 3 MTR. Any proposed impacts to the Conservation Drive pavement/shoulder/ditching must be preceded by Stage 3 MTR; if this is not feasible due to time/circumstances or due to the confirmed presence of buried utilities/pipelines, construction monitoring is required instead.

9. All other areas identified as retaining archaeological potential must be subjected to a Stage 2 AA. These areas must be subjected to pedestrian or test pit survey, as appropriate, at five-metre intervals in accordance with the standards set within *Sections 2.1.1* and *2.1.2* of the *2011 S&G*.

No construction activities shall take place within the study area prior to the *Ministry of Heritage, Sport, Tourism and Culture Industries* (Archaeology Programs Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

1. This report is submitted to the *MHSTCI* as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, 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 fieldwork and report recommendations ensure the conservation, protection and preservation 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 *MHSTCI*, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

2. 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 fieldwork 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*.

3. 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 Section 48 (1) of the *Ontario Heritage Act*.

4. The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar at the *Ministry of Government and Consumer Services*.

5. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

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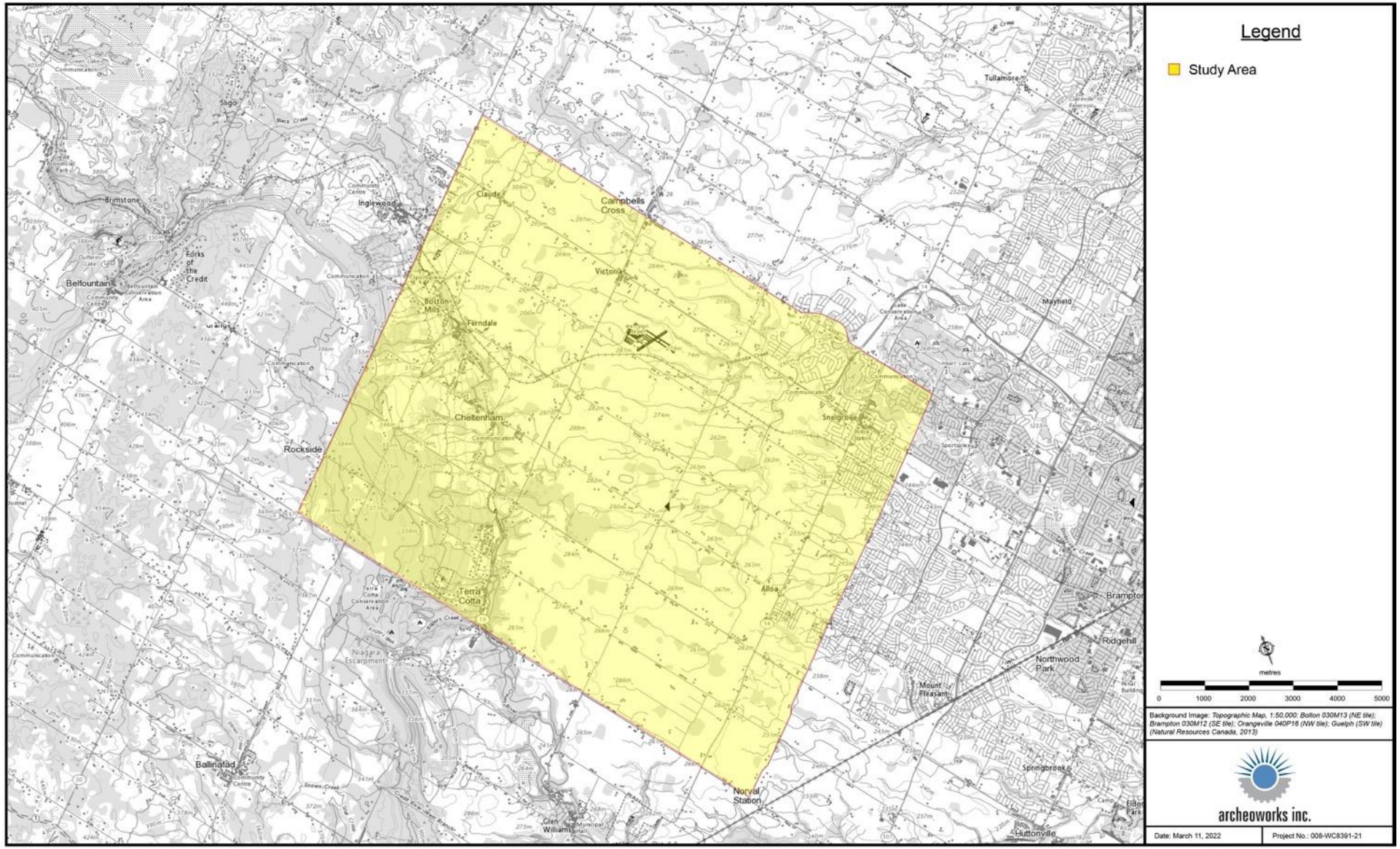
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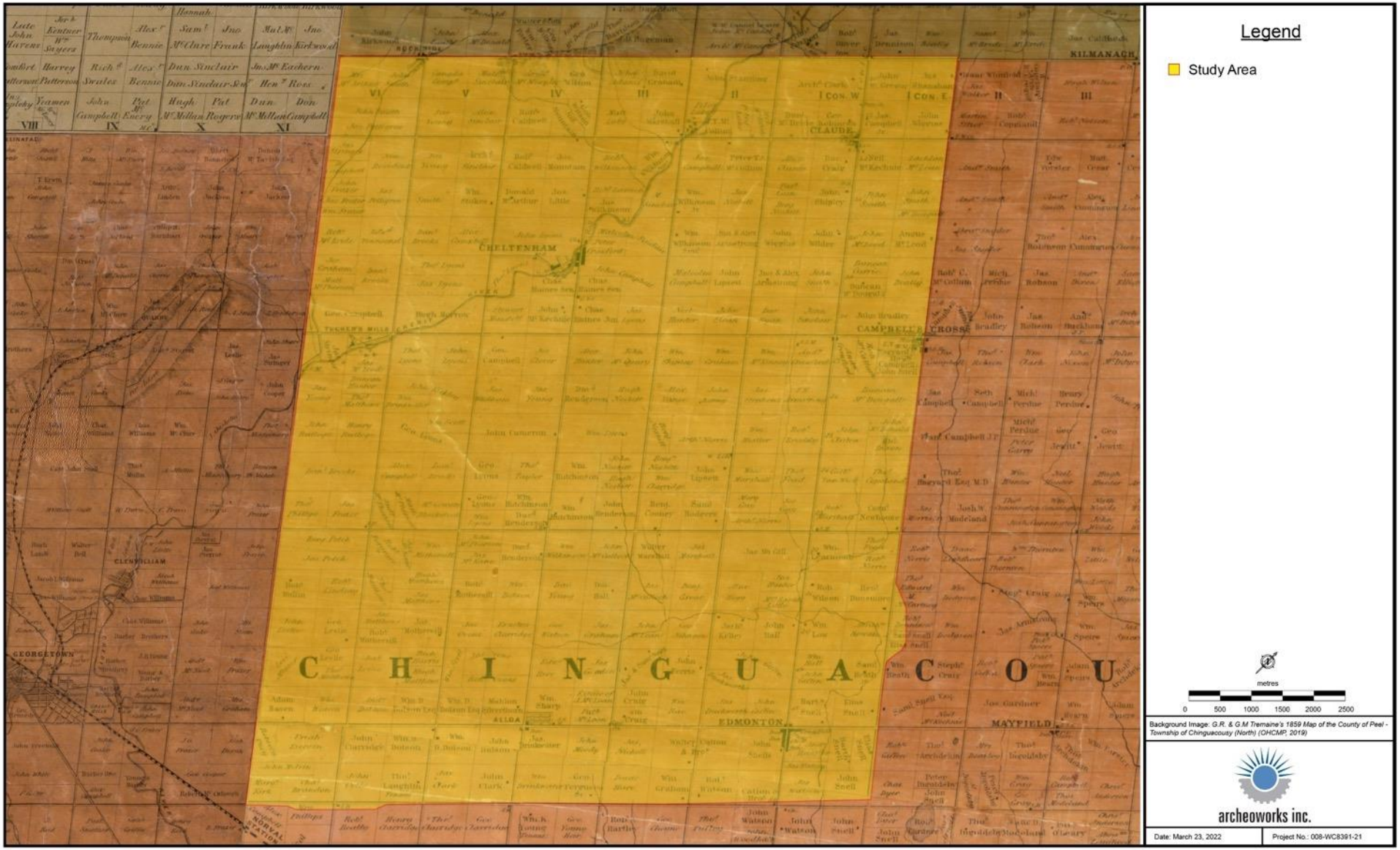
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APPENDICES

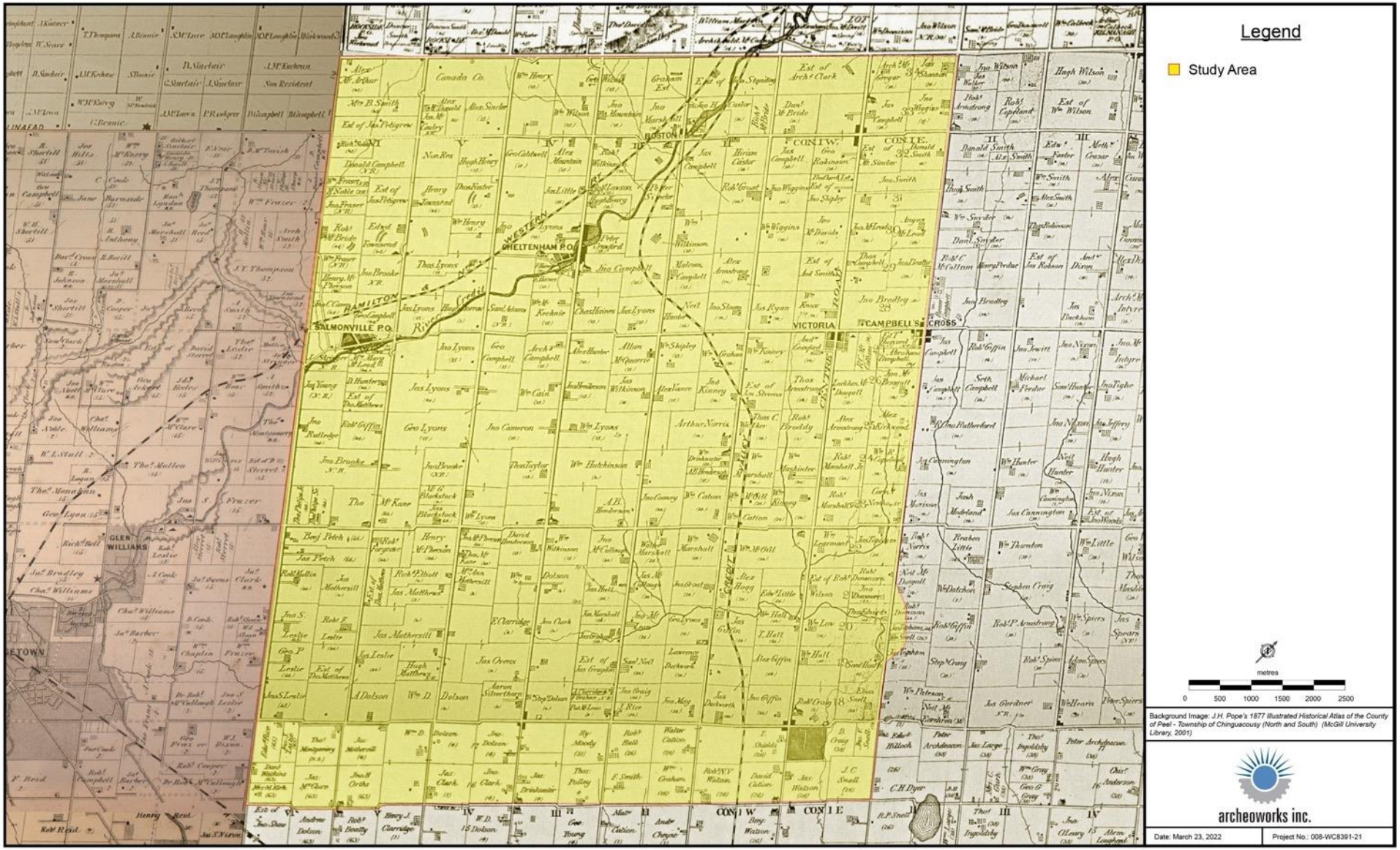
APPENDIX A: MAPS



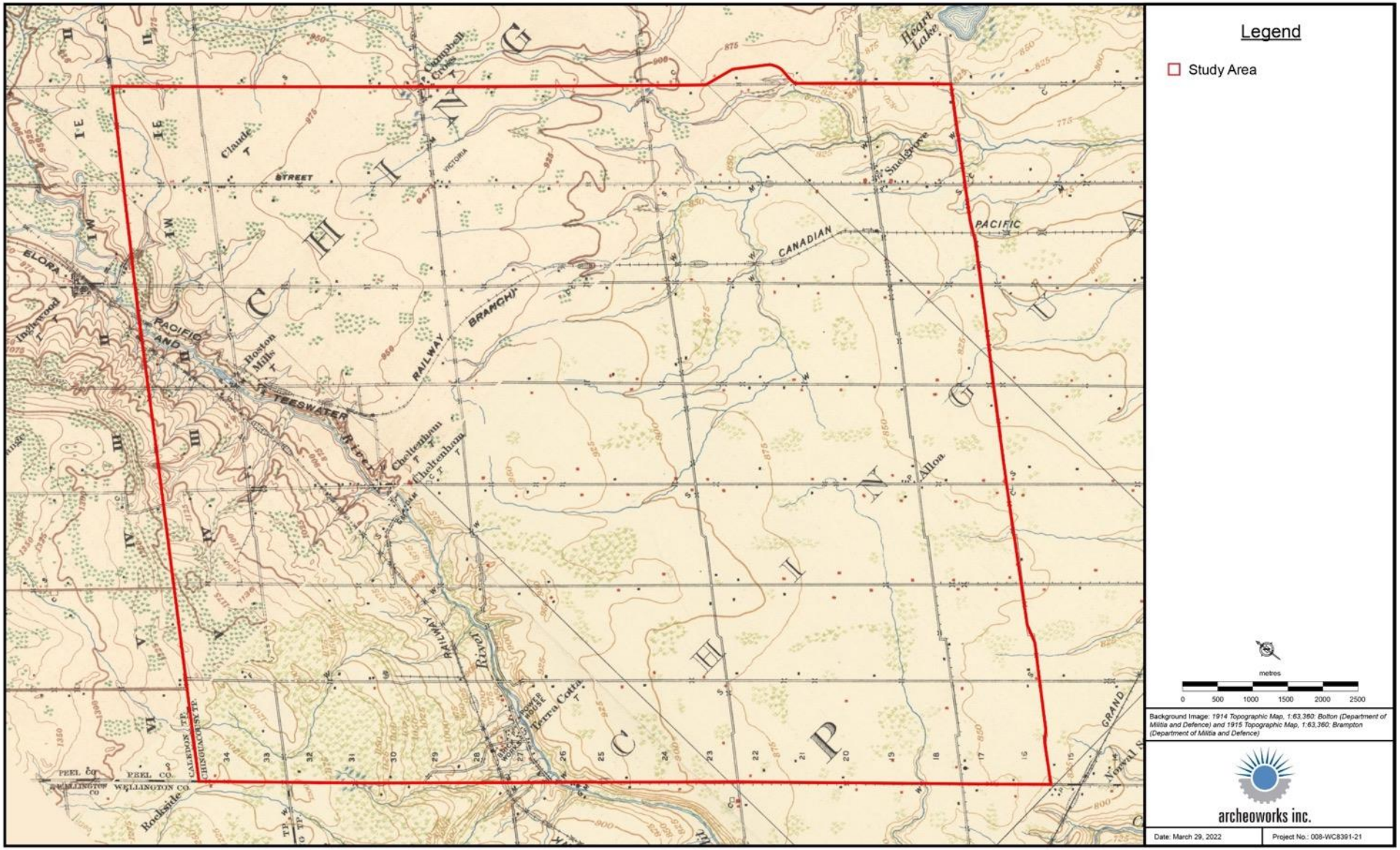
Map 1: National Topographic Map (1:30,000) identifying the Stage 1 AA study area.



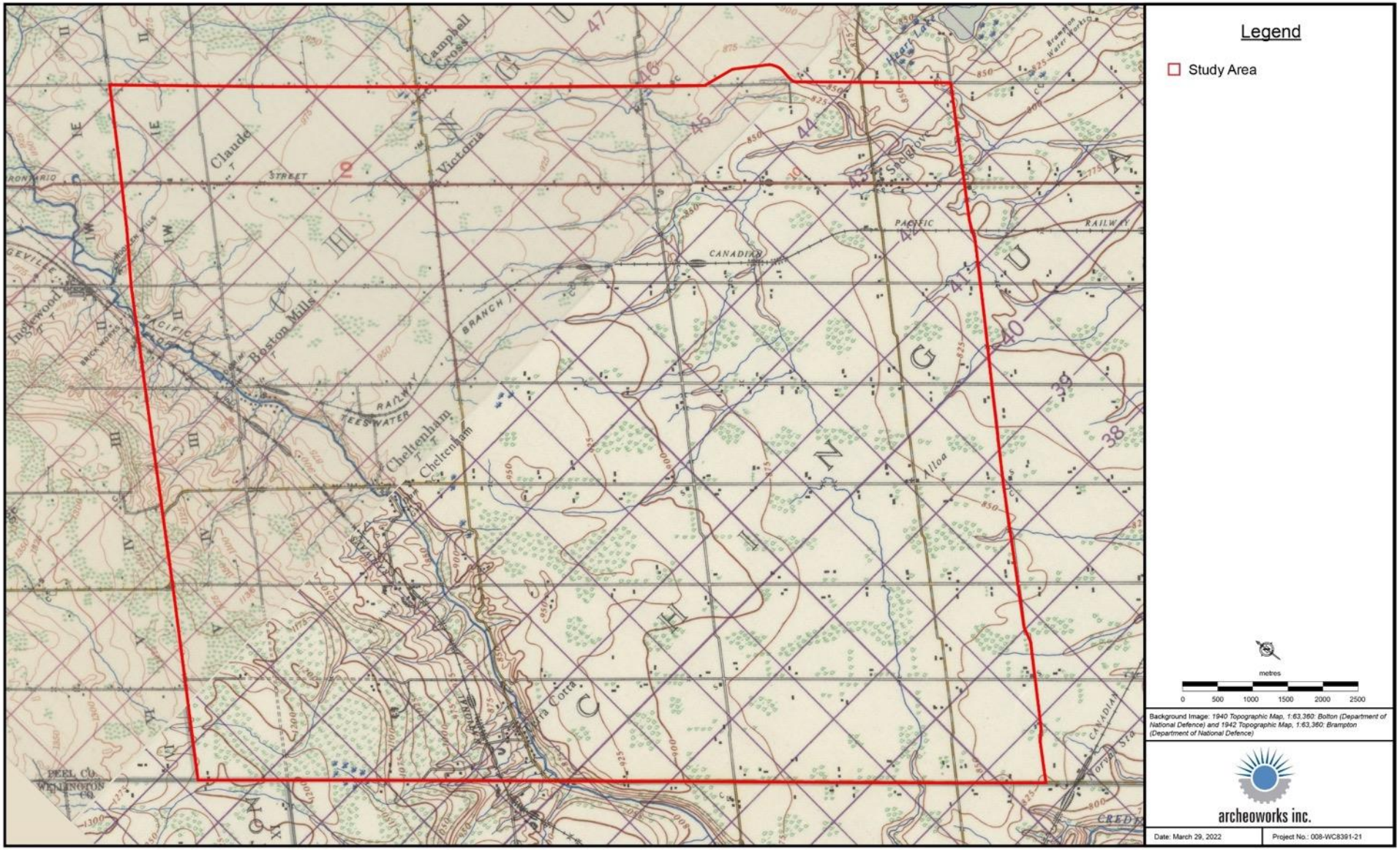
Map 2: Stage 1 AA study area within the 1859 *Tremaine's Map of the County of Peel*.



Map 3: Stage 1 AA study area within the 1877 *Illustrated Historical Atlas of the County of Peel*.



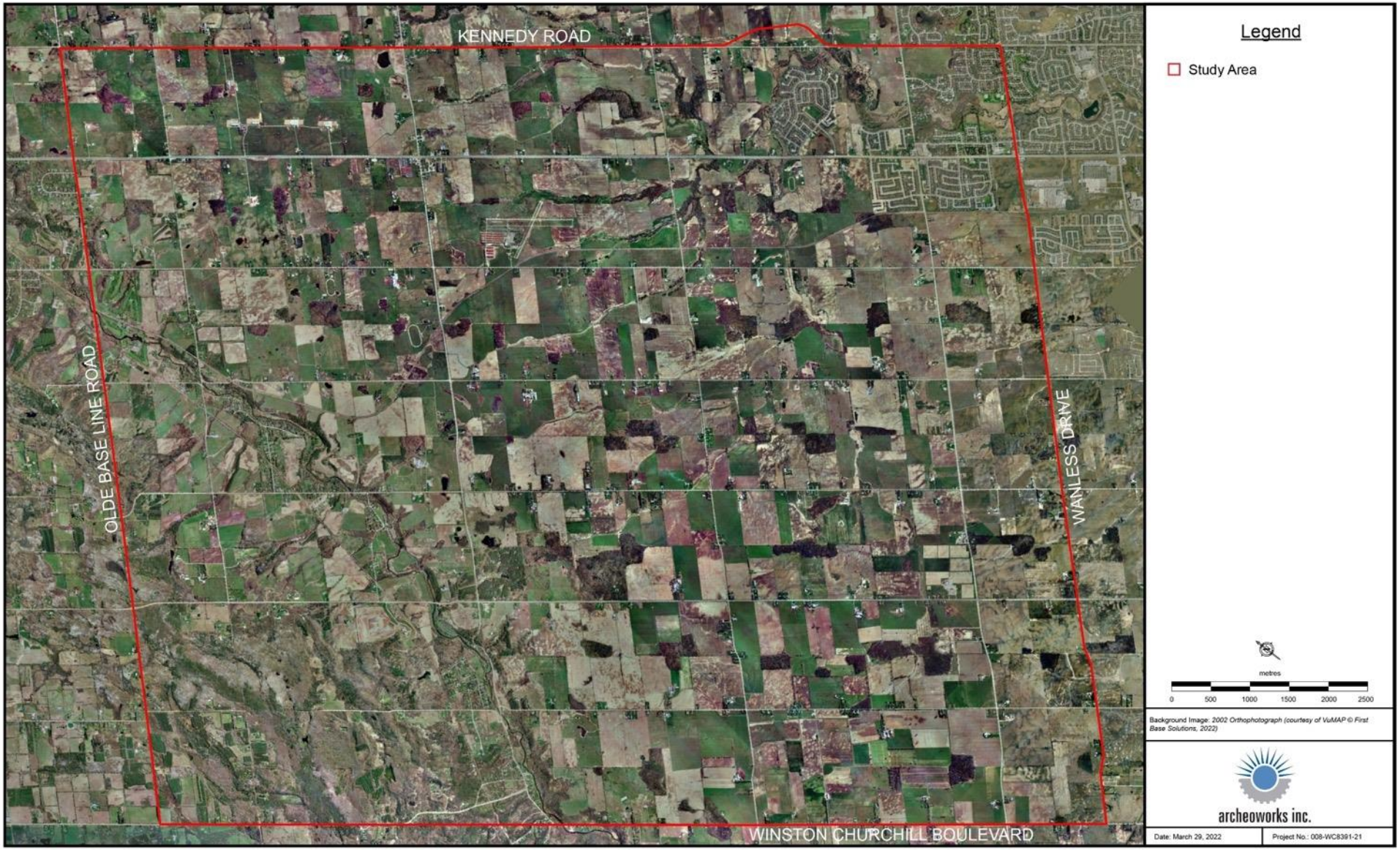
Map 4: Stage 1 AA study area within 1914/1915 topographic maps.



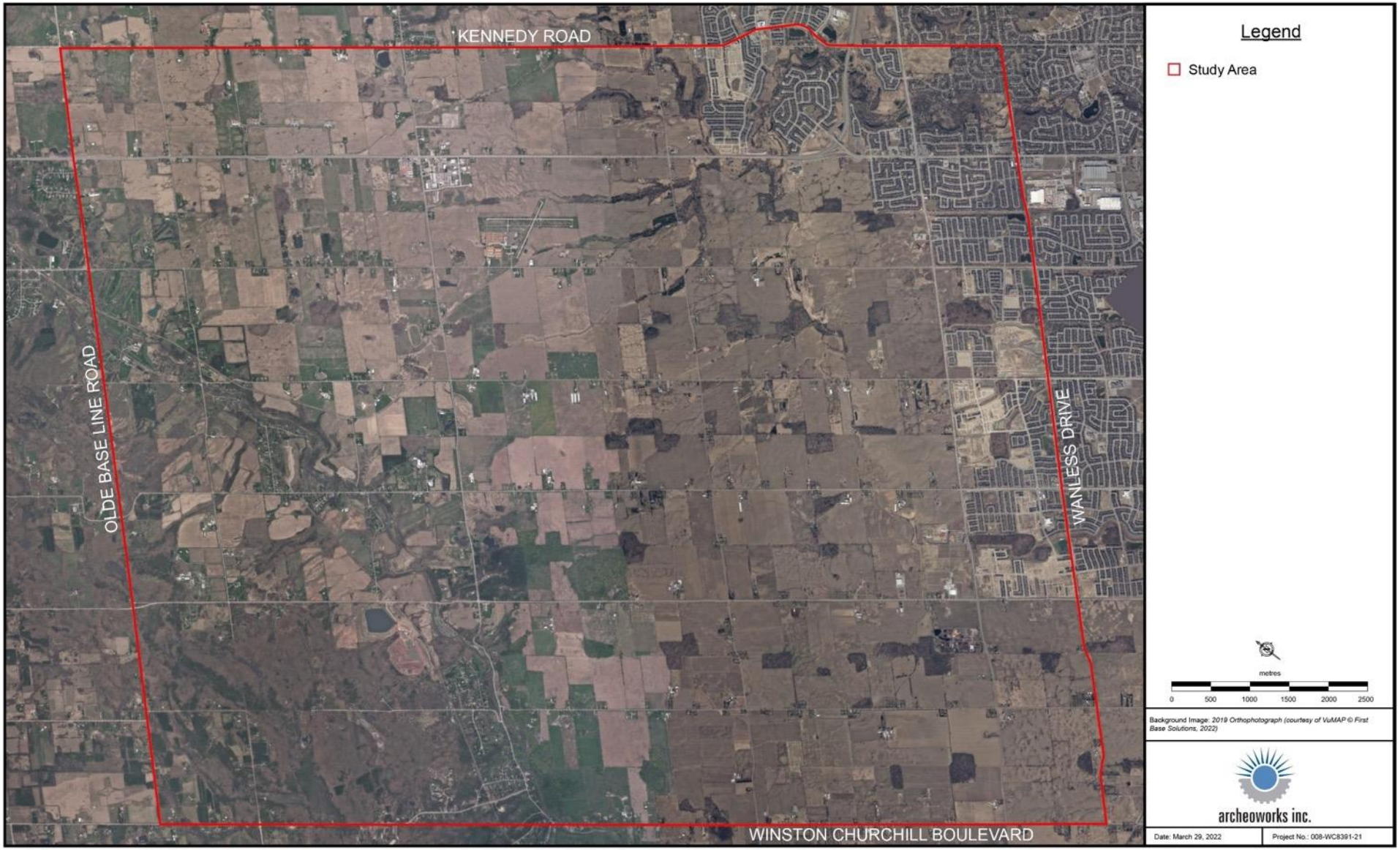
Map 5: Stage 1 AA study area within 1940/1942 topographic maps.



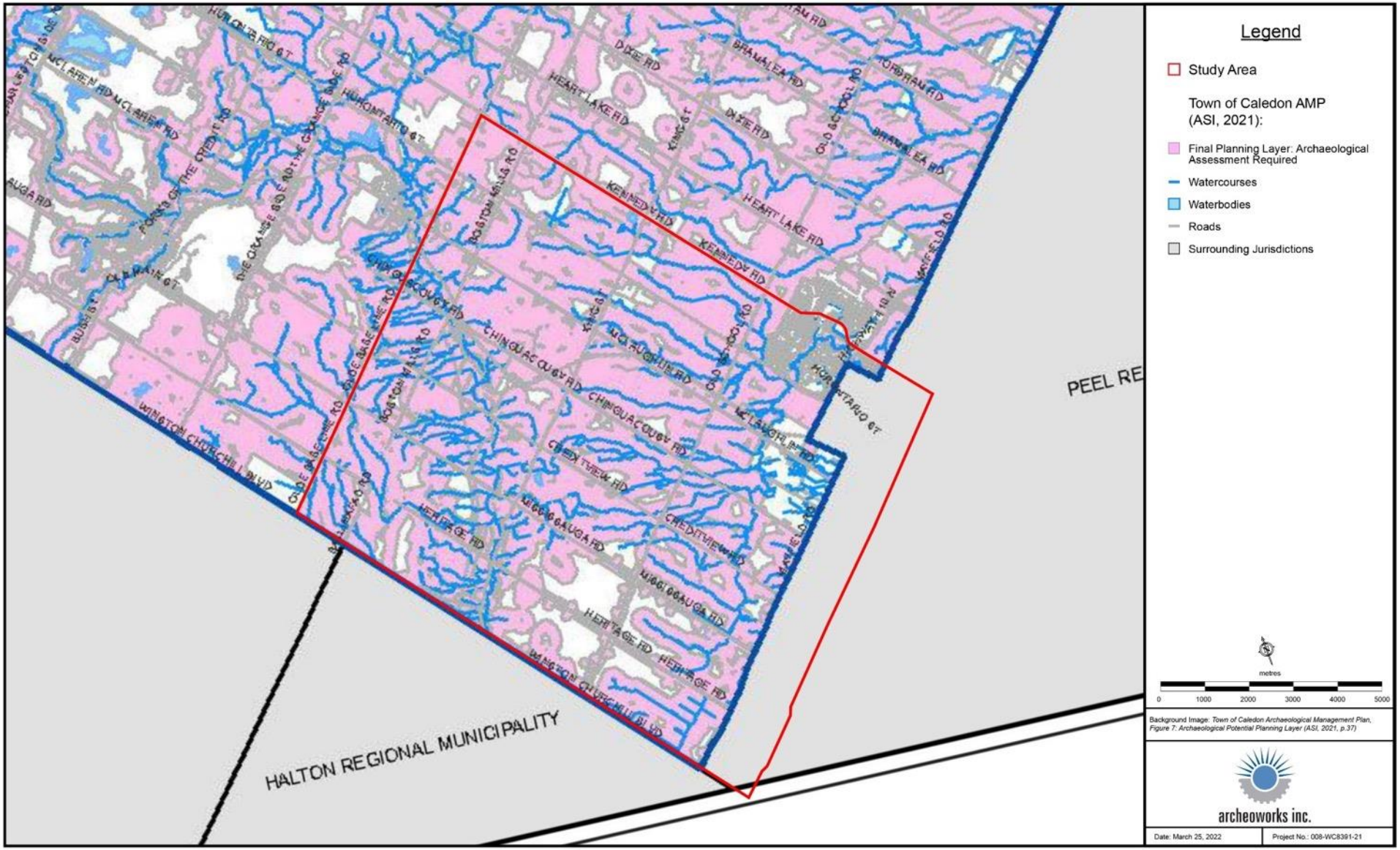
Map 6: Stage 1 AA study area within 1954 aerial images.



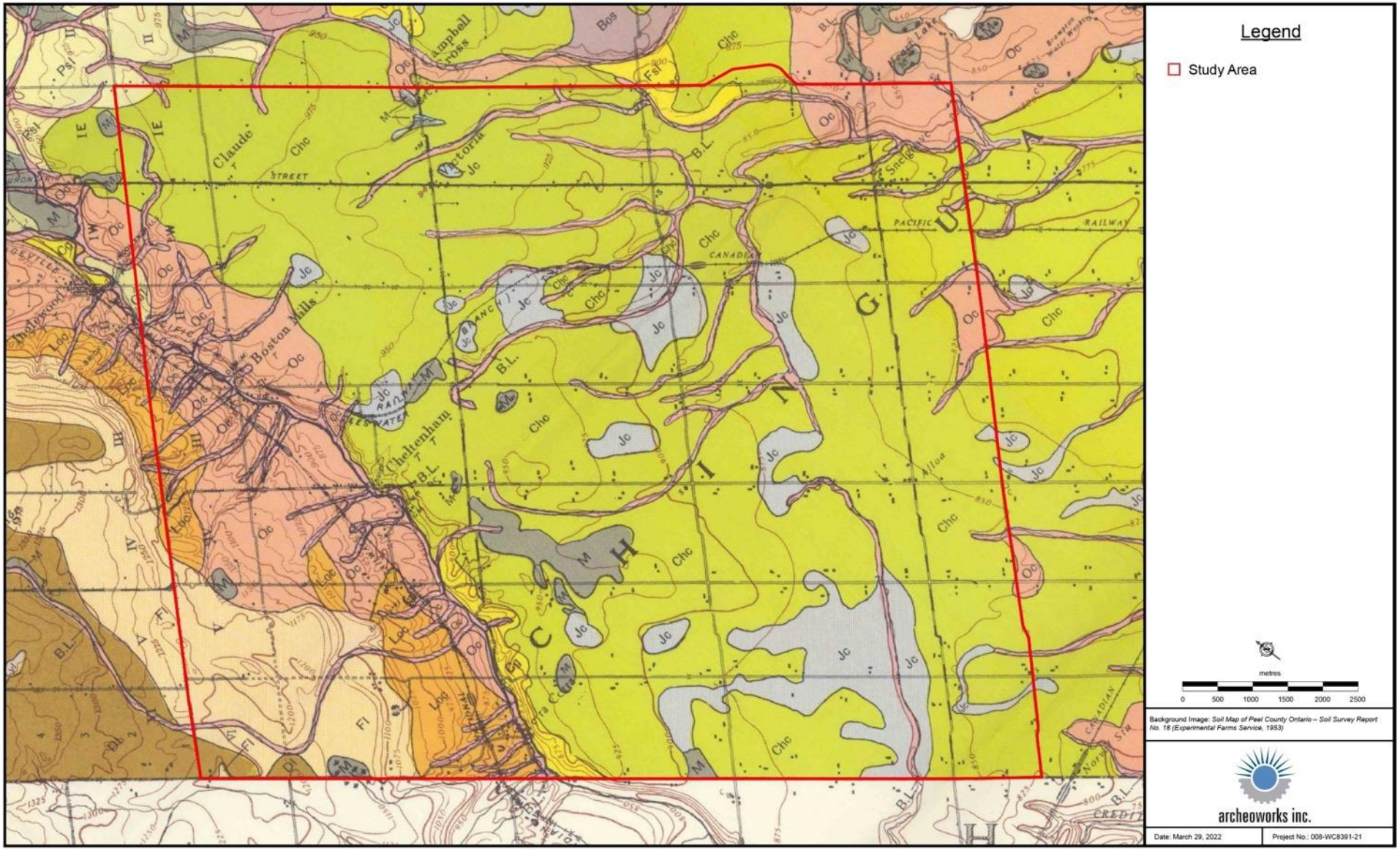
Map 7: Stage 1 AA study area within 2002 orthoimagery.



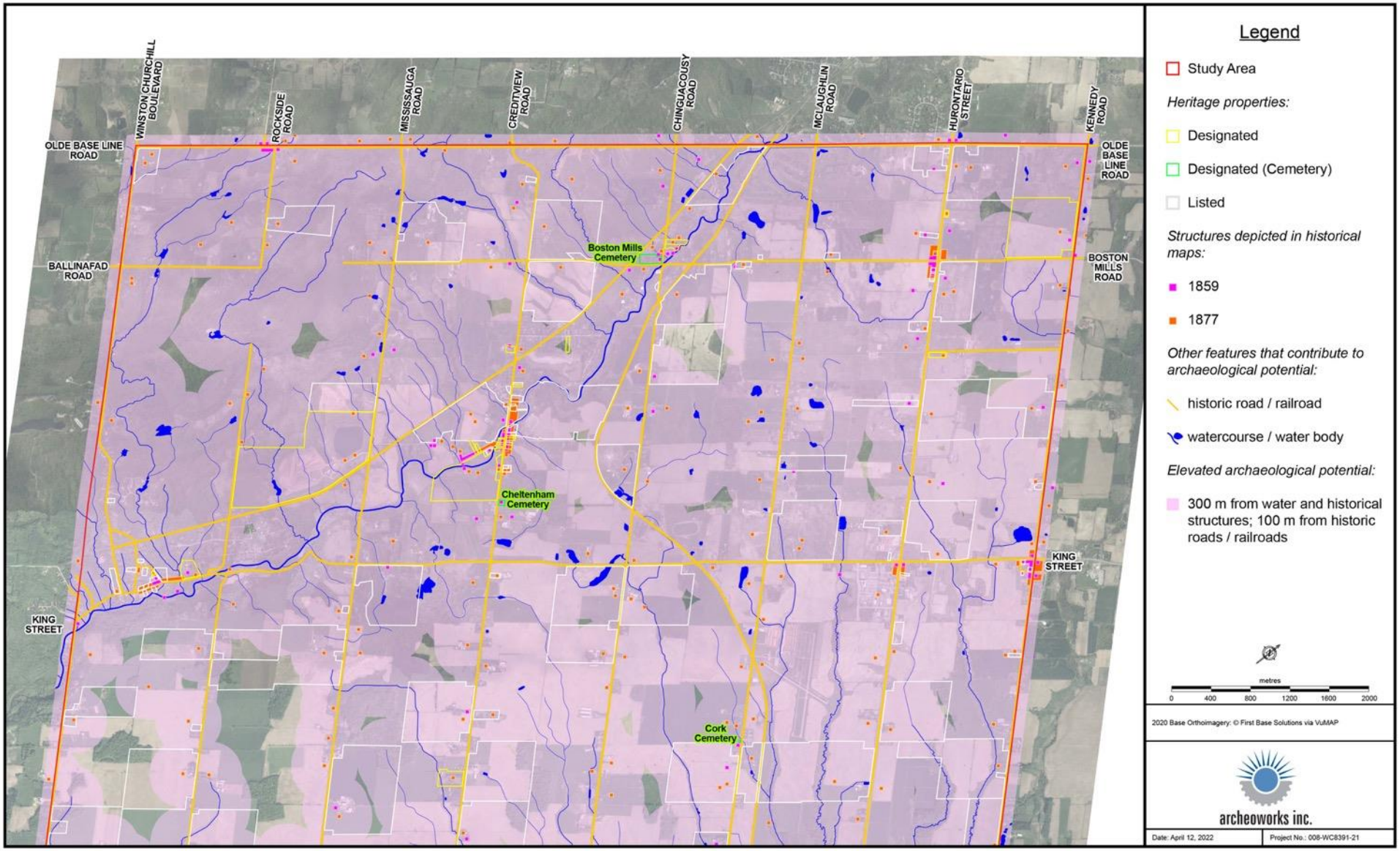
Map 8: Stage 1 AA study area within 2019 orthoimagery.



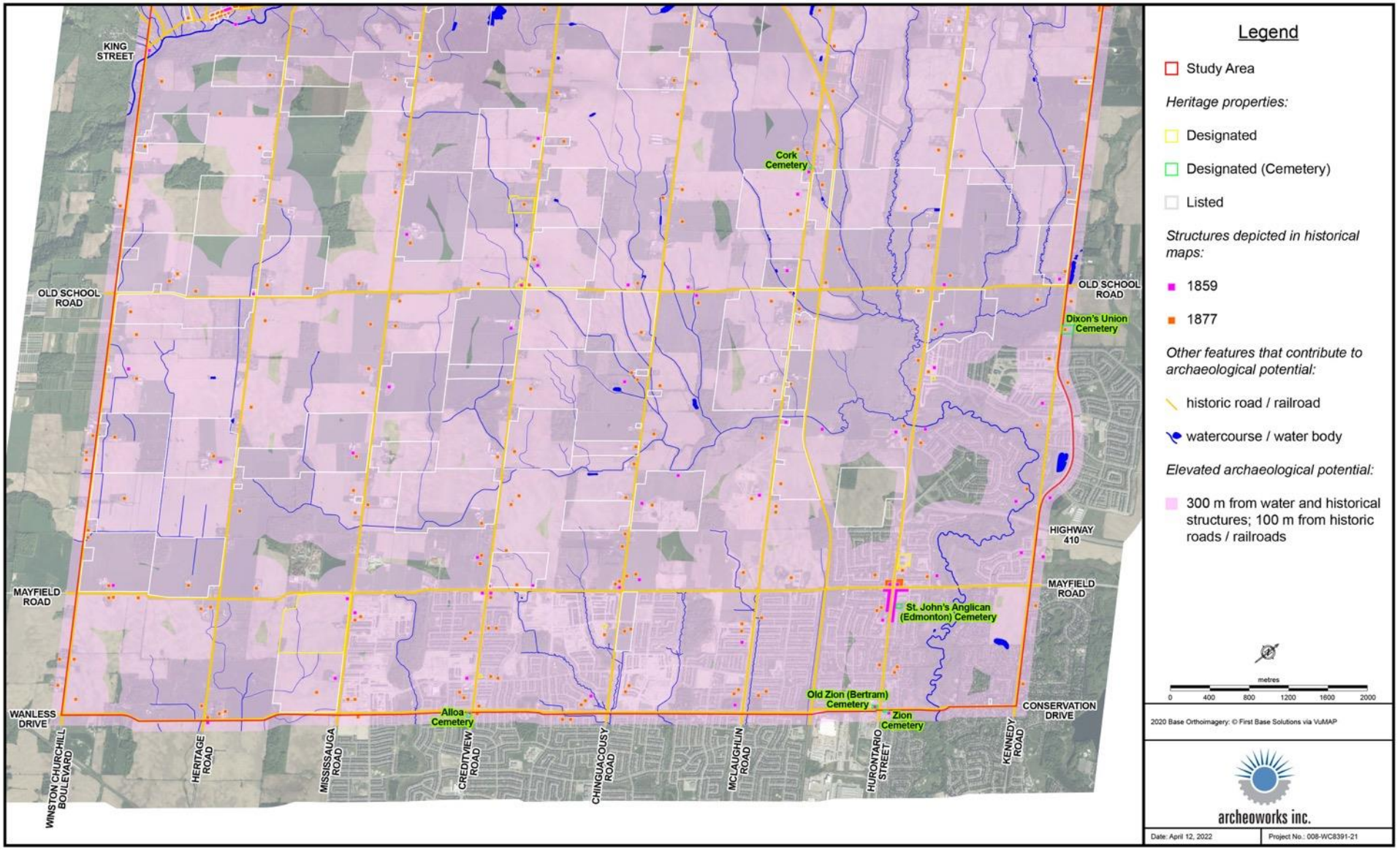
Map 9: Stage 1 AA study area within archaeological potential mapping from the Town of Caledon's *Archaeological Management Plan*.



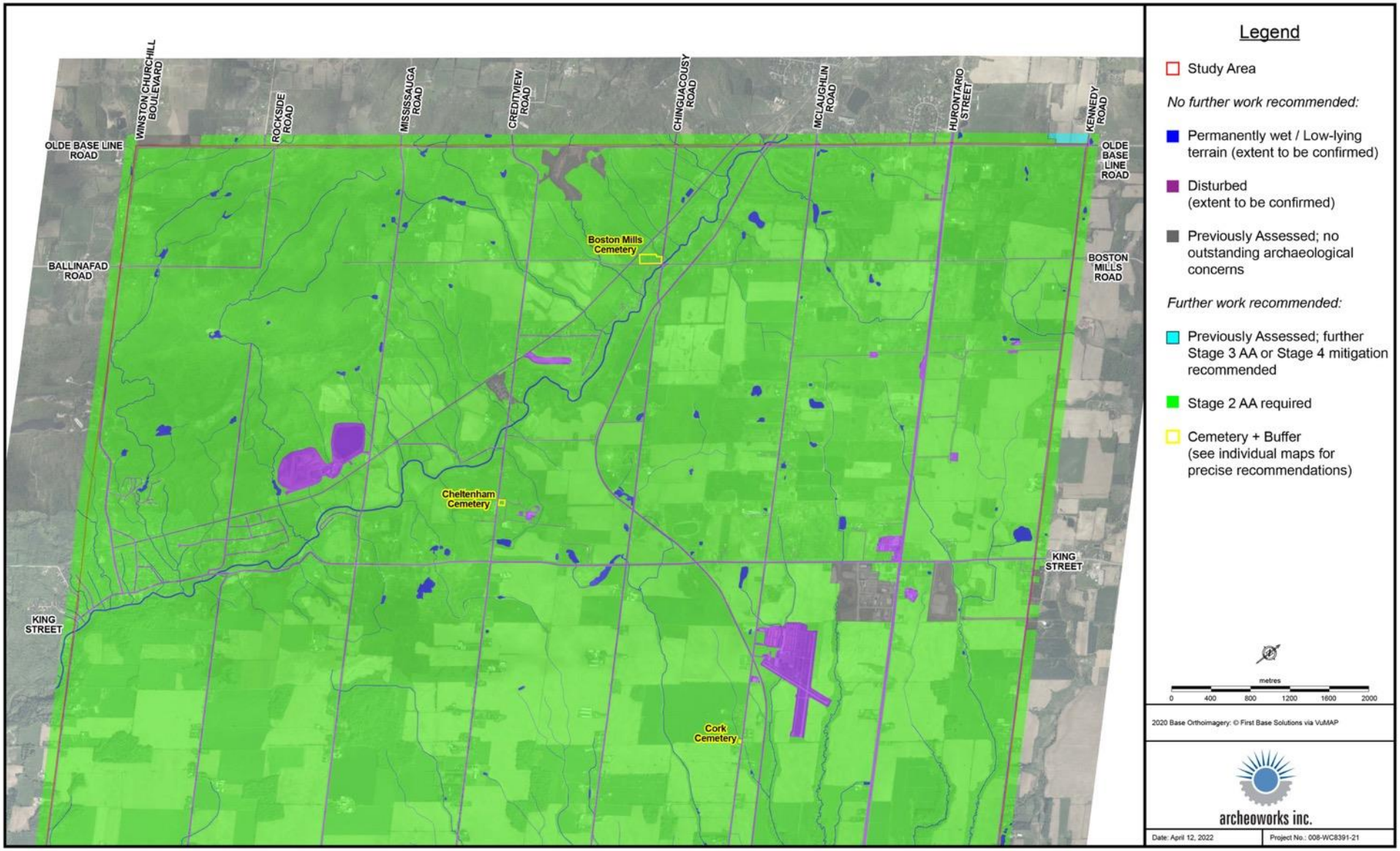
Map 10: Stage 1 AA study area within the 1953 *Soil Map of Peel County*.



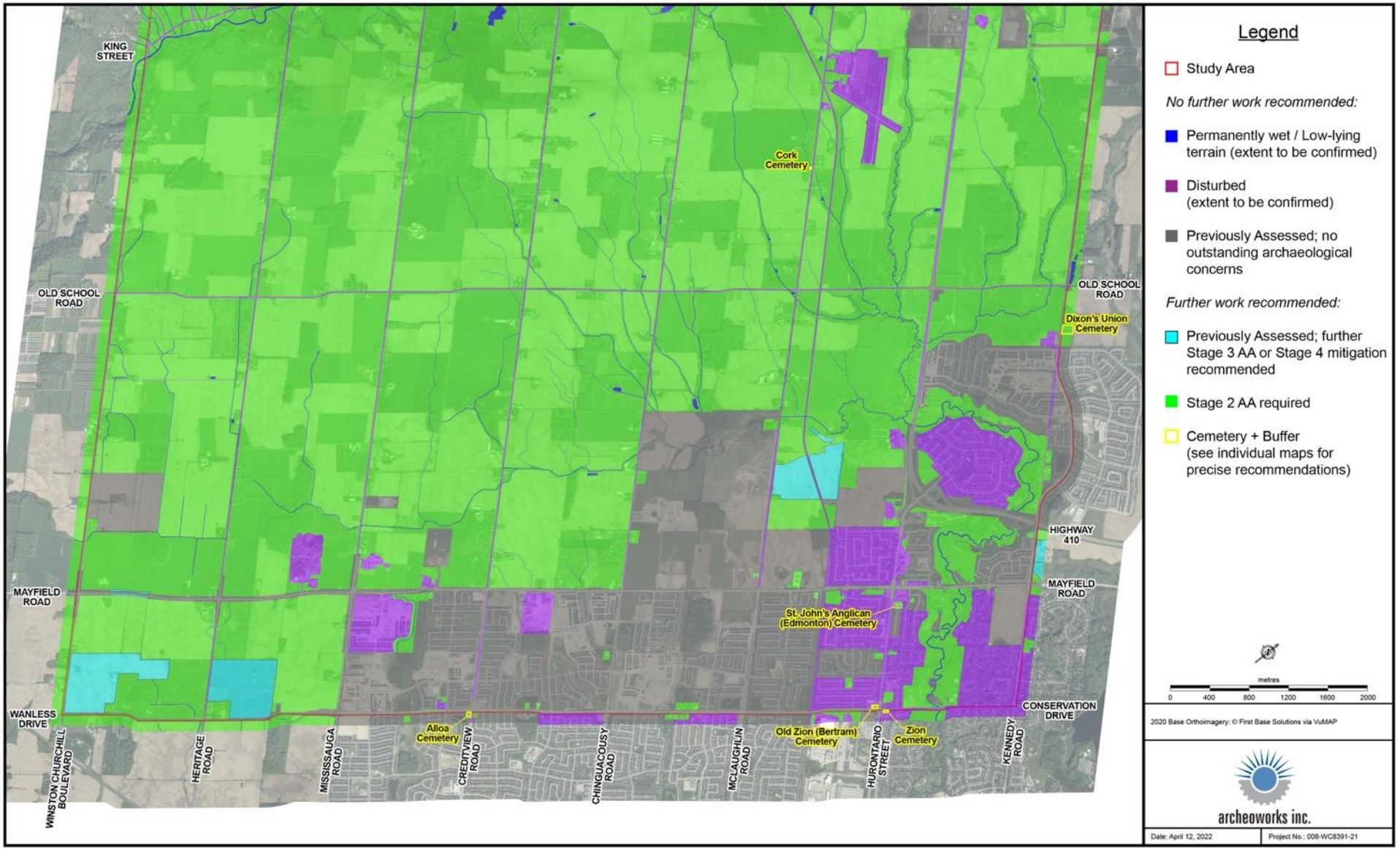
Map 11: Map of the northern portion of the study area, showing locations of water sources and historic features (e.g., roads, railroads, structures), and their associated elevated areas of potential. Heritage properties are also marked for reference.



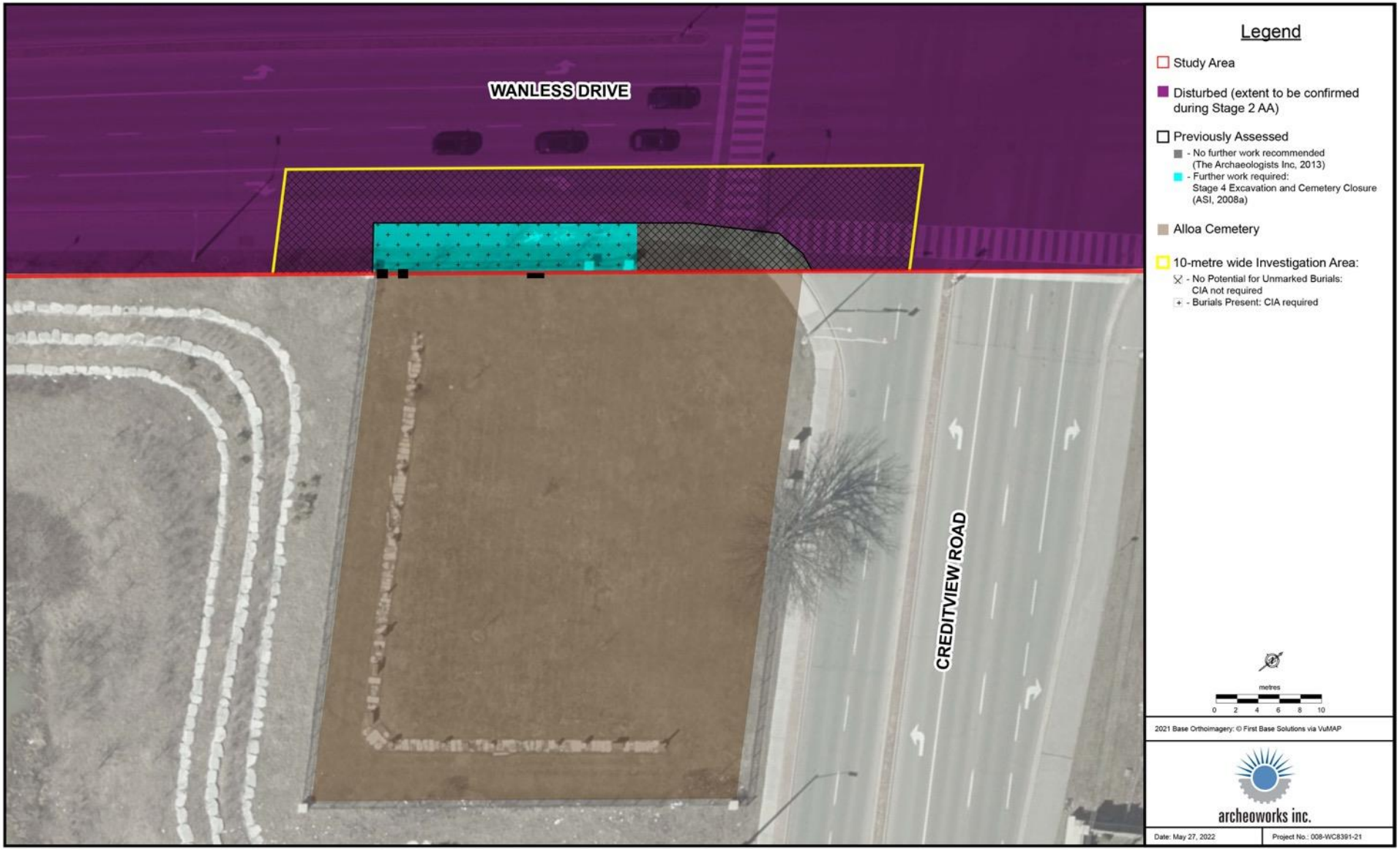
Map 12: Map of the southern portion of the study area, showing locations of water sources and historic features (e.g., roads, railroads, structures), and their associated elevated areas of potential. Heritage properties are also marked for reference.



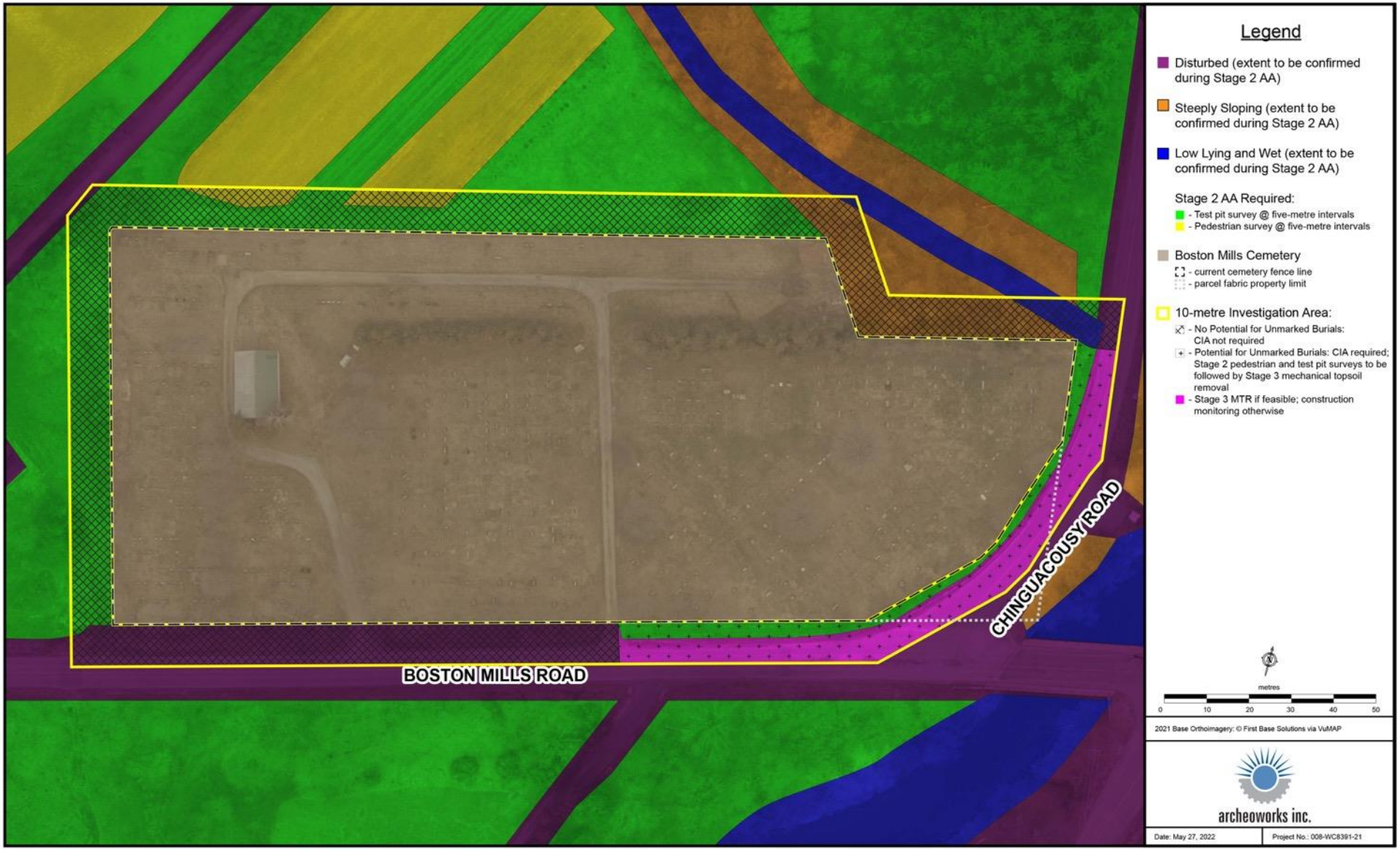
Map 13: Stage 1 AA results for the northern portion of the study area. Note: A version depicting the locations of archaeological sites with outstanding archaeological concerns/further CHVI is provided in the ***Supplementary Document***.



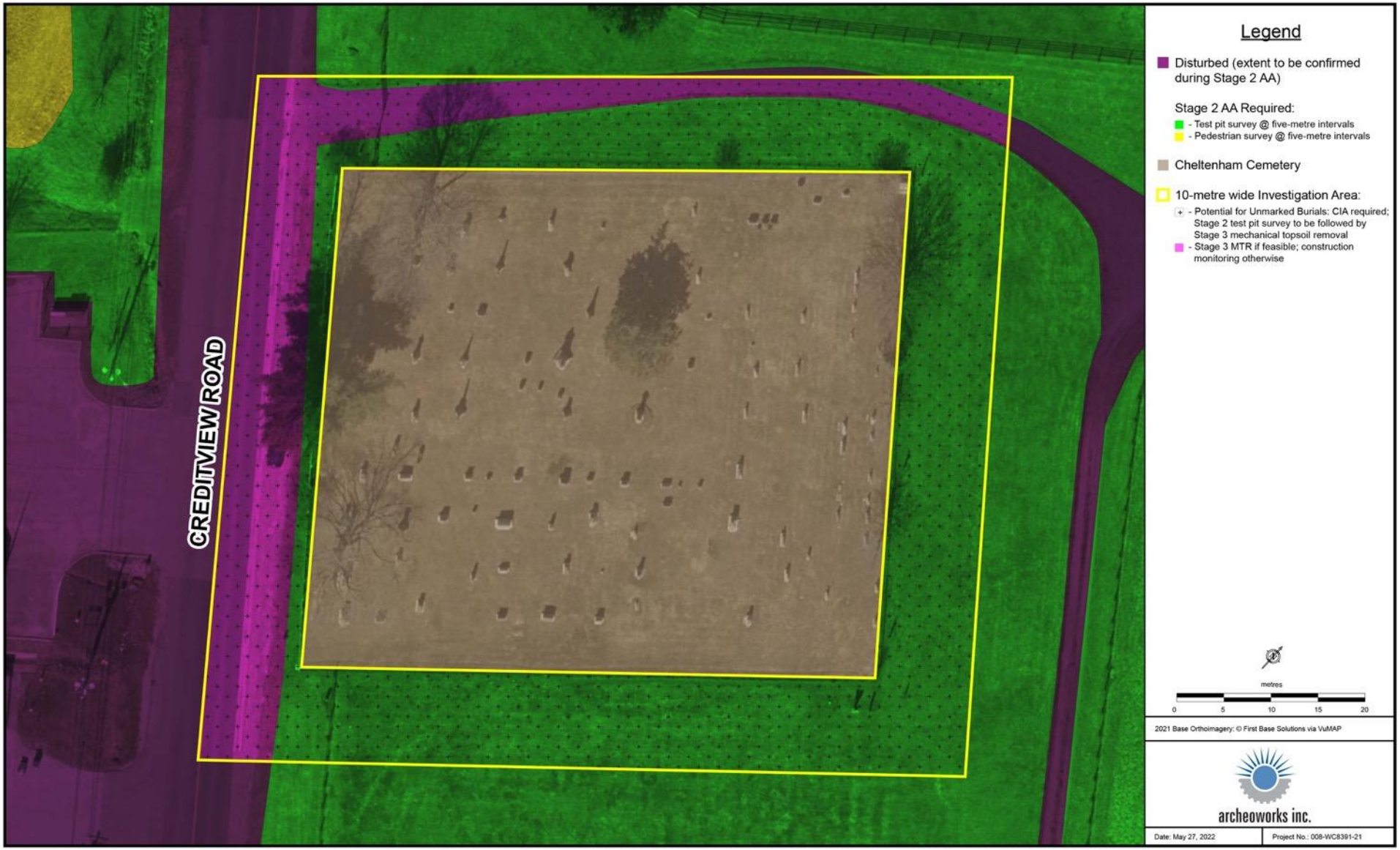
Map 14: Stage 1 AA results for the southern portion of the study area. Note: A version depicting the locations of archaeological sites with outstanding archaeological concerns/further CHVI is provided in the ***Supplementary Document***.



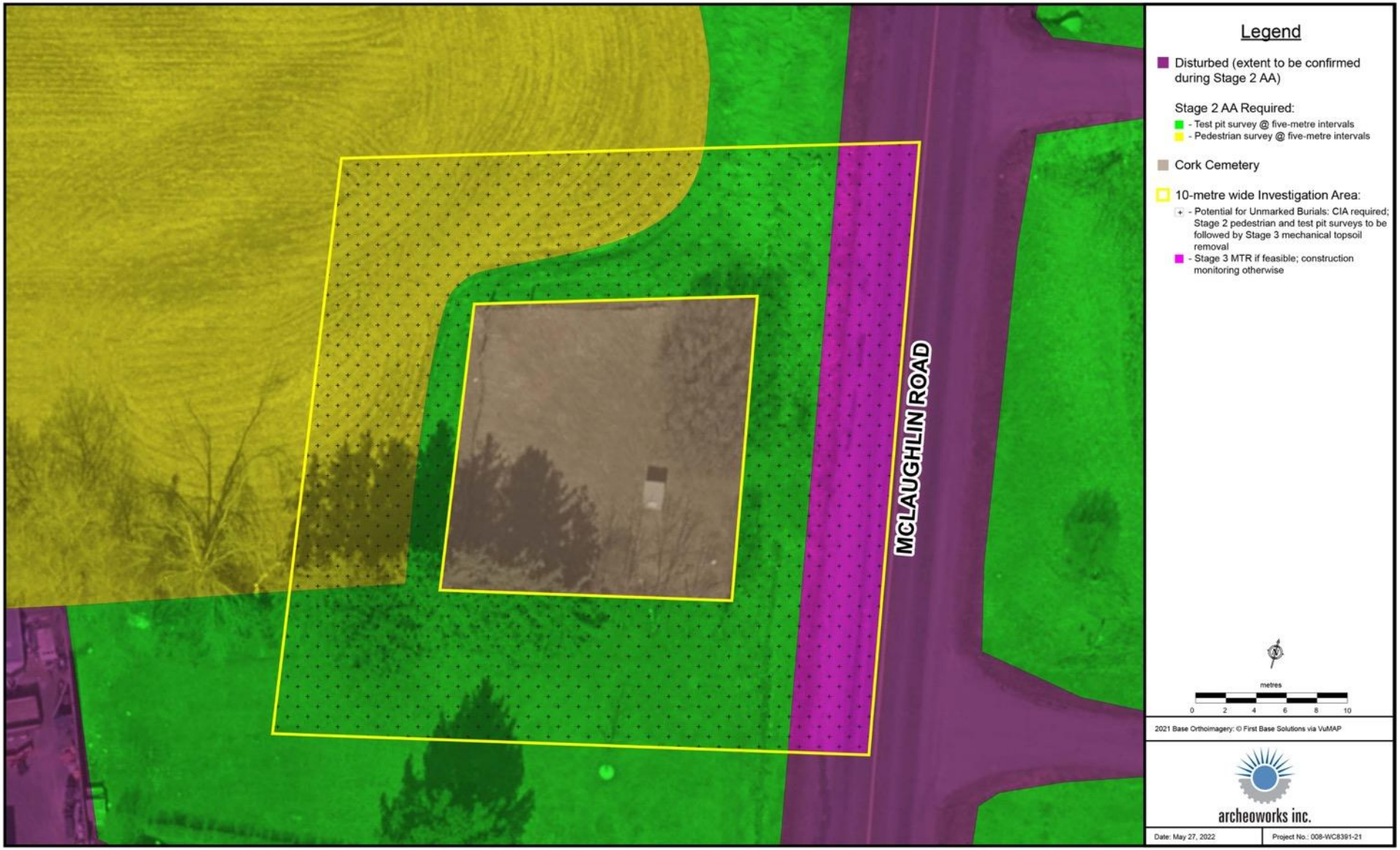
Map 15: Stage 1 AA recommendations for Alloa Cemetery and vicinity. Note: A version depicting the locations of grave shafts is provided in the ***Supplementary Document***.



Map 16: Stage 1 AA recommendations for Boston Mills Cemetery and vicinity.



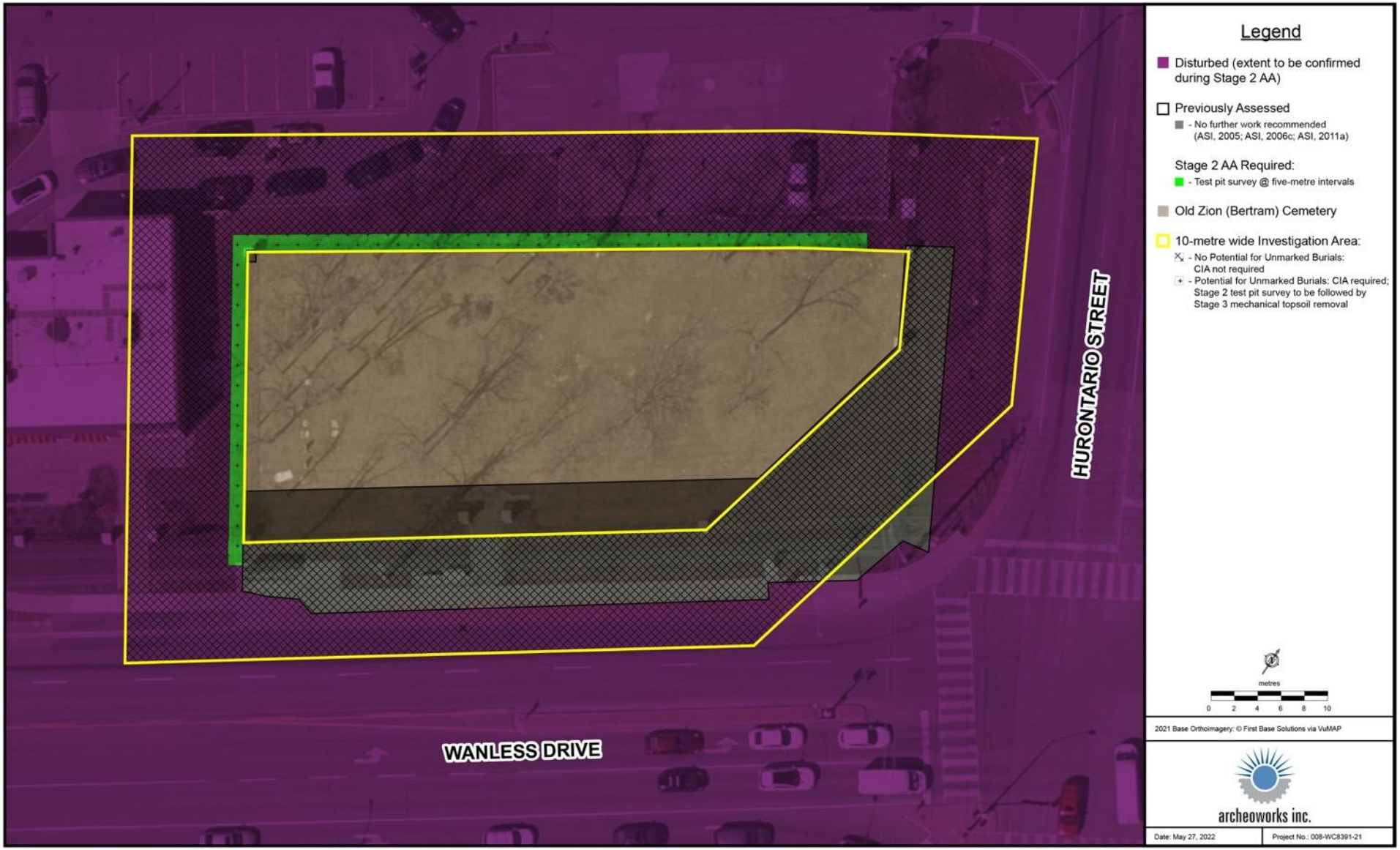
Map 17: Stage 1 AA recommendations for Cheltenham Cemetery and vicinity.



Map 18: Stage 1 AA recommendations for Cork Cemetery and vicinity.



Map 19: Stage 1 AA recommendations for Dixon's Union Cemetery and vicinity.



Map 20: Stage 1 AA recommendations for Old Zion (Bertram) Cemetery and vicinity.



Map 21: Stage 1 AA recommendations for St. John's Anglican (Edmonton) Cemetery and vicinity.

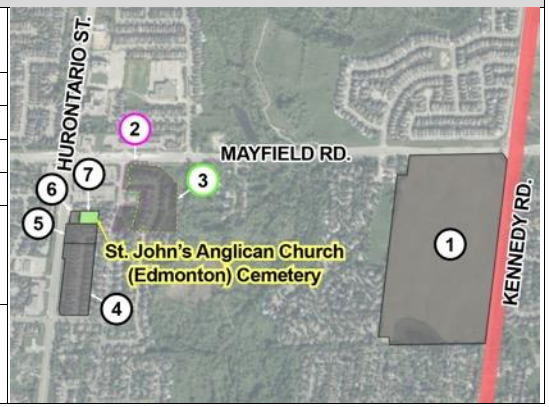


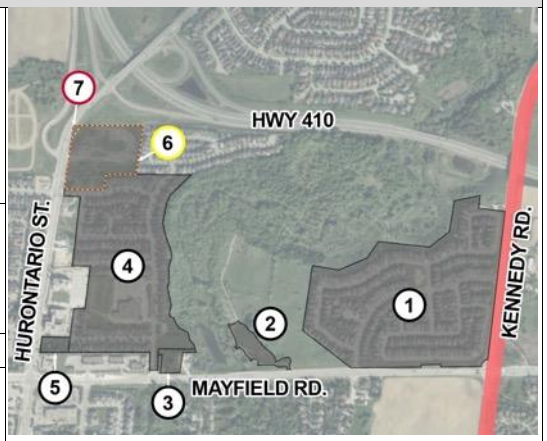
Map 22: Stage 1 AA recommendations for Zion Cemetery and vicinity.

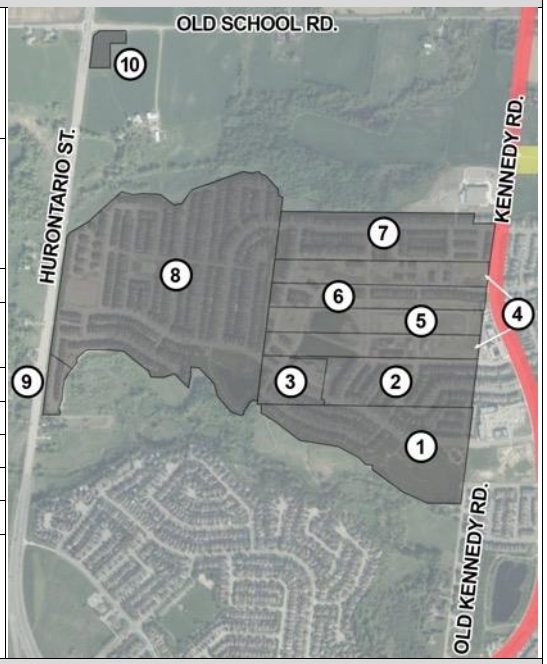
APPENDIX B: REVIEW OF REPORTS DOCUMENTING PREVIOUS ARCHAEOLOGICAL FIELDWORK

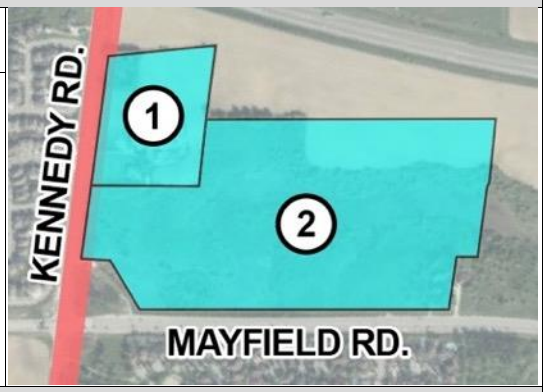
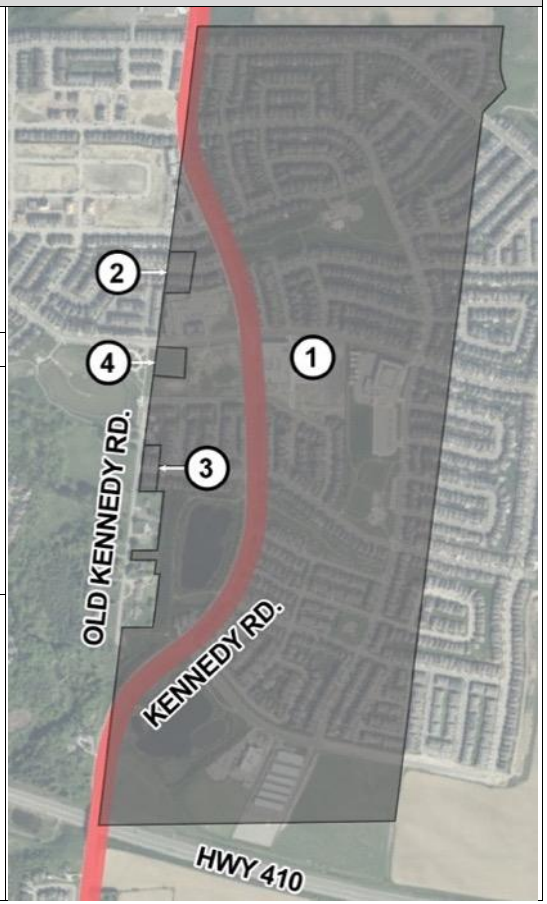
Table B1: Summary of Reports Documenting Previous Archaeological Fieldwork

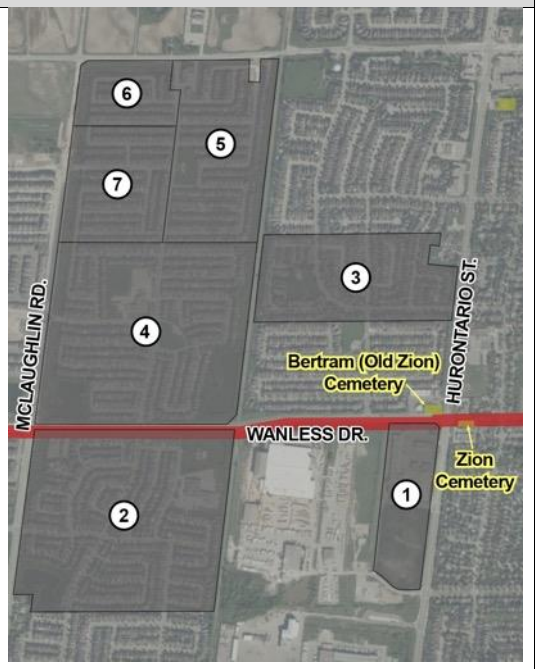
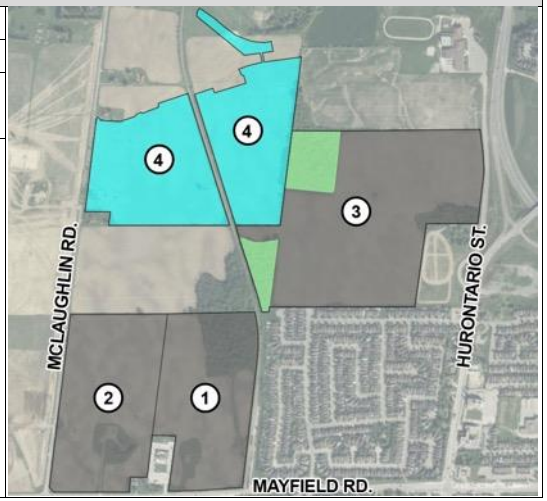
References	Stage	Results and Recommendations	Map Showing Extent
GEOGRAPHIC TOWNSHIP OF CALEDON, CONCESSIONS EAST OF CENTRE ROAD			
CONCESSION 1 ECR, LOTS 1-3			
AAL, 2004; AAL, 2011	Stage 1-2 AA	AkGw-249 site discovered; however, it lies more than 50 metres from the study area boundary. Stage 3 AA of the site recommended further Stage 4 mitigation (AAL, 2011); therefore the property is not yet fully cleared of archaeological concern.	
GEOGRAPHIC TOWNSHIP OF CALEDON, CONCESSIONS WEST OF CENTRE ROAD			
CONCESSION 2 WCR, LOT 1			
Fisher Archaeological Consulting, 2016	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 6 WCR, LOTS 1-3			
YNAS, 1997	Stage 1-2 AA	Sites discovered within 50 m of current study area during Stage 2 AA: - AkGx-13: consists of single lithic flake; no further work recommended. Other sites and findspots lying more than 50 m outside the study area: - AkGx-14, AkGx-15, AkGx-16, AkGx-17: isolated lithic findspots; no further work recommended. - Westerveld/AkGx-18: historic site considered to have been sufficiently assessed; no further work recommended.	

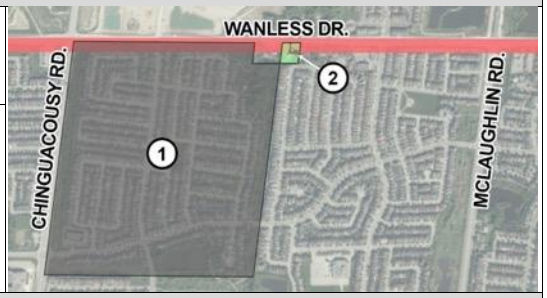
GEOGRAPHIC TOWNSHIP OF CHINGUACOUSY, CONCESSIONS EAST OF HURONTARIO STREET			
CONCESSION 1 EHS, LOTS 16-17 (TRCA LANDS SOUTH OF MAYFIELD ROAD)			
(1) TRCA, 1995	Stage 1-2 AA	Yeoman/AkGx-97 site discovered during survey. Route of proposed trail recommended to be altered to protect the site.	
(2) TRCA, 2018	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) TRCA, 2009	Stage 1-2 AA	Ransier/AkGx-313 site discovered during survey. Further work recommended for a portion of the study area.	
(4) TRCA, 2019b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 1 EHS, LOT 17			
(1) AMICK, 2017a	Stage 1-2 AA	Two isolated findspots (IF#2 and AkGw-501) discovered during Stage 2 survey and were assessed to have no further CHVI; no further work recommended.	
(2) ASI, 2000b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) AMICK, 2012b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(4) AMICK, 2004	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(5) AMICK, 2006b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(6) AMICK, 2008b; AMICK, 2013b	Stage 2 AA	No archaeological resources found and no further work recommended in both instances of Stage 1-2 fieldwork, the latter involving topsoil stripping adjacent to St. John's Anglican Church (Edmonton/Snelgrove) Cemetery.	
(7) ASI, 2021d	Stage 1 AA	Cemetery investigation required prior to impacts within St. John's Anglican Church (Edmonton/Snelgrove) Cemetery.	

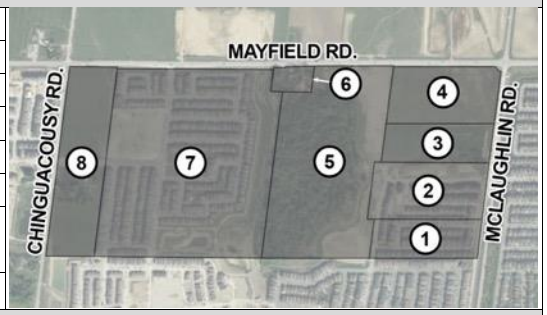
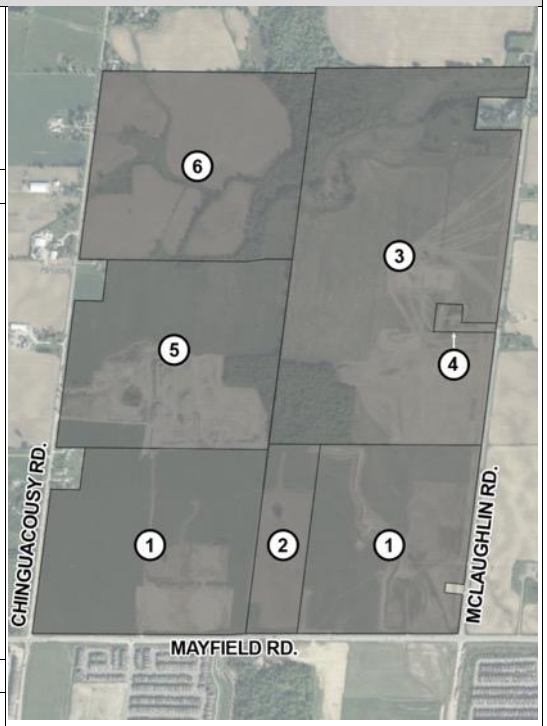
CONCESSION 1 EHS, LOTS 18-19			
(1) Museum of Ontario Archaeology, 1999a; AAL, 2010c; AAL, 2010d	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Elias Snell/AkGw-107 site identified during Stage 2 AA (MOA, 1999a). This site was later subjected to a renewed Stage 2 AA and subsequently Stage 3 AA (AAL, 2010c). It was ultimately subjected to Stage 4 excavation and is no longer of archaeological concern (AAL, 2010d). Fernbrook/AkGw-415 discovered during the renewed Stage 2 AA, and determined to have no significant CHVI and is no longer of archaeological concern (AAL, 2010c).	
(2) AAL, 2010b; AAL, 2013	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Etobicoke Creek/AkGw-425 site discovered during Stage 2 AA and assessed to have significant CHVI (AAL, 2010b). Site was later subjected to Stage 4 excavation and is no longer of archaeological concern (AAL, 2013).	
(3) Archeoworks, 2020c	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(4) Museum of Ontario Archaeology, 1997; MOA, 2000a; MOA, 2000b	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Snelgrove Historic/Bartholomew Snell Homestead/AkGw-88 site identified during Stage 2 AA (MOA, 1997). This site was later subjected to Stage 3 AA (MOA, 2000b) and Stage 4 excavation and is no longer of archaeological concern (MOA, 2000a).	
(5) Golder, 2015b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(6) AMICK, 2007; AMICK, 2021	Stage 1-2 AA	No archaeological resources found and no further work recommended in both instances of Stage 1-2 fieldwork.	
(7) AAL, 2008a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 1 EHS, LOTS 18-20 (TRCA LANDS NORTH OF MAYFIELD ROAD)			
(1) TRCA, 2019a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(2) TRCA, 2017	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) TRCA, 2020	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(4) TRCA, 2015a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(5) TRCA, 2020	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(6) TRCA, 2007b	Stage 1-2 AA	Sites/findspots discovered during Stage 2 survey: - Square Head 1/AkGw-238, Felis Arbor/AkGw-239, Pilum/AkGw-240, Sagitta/AkGw-241, Square Head 2/AkGw-242 and Saxum/AkGw-243: all assessed to have no further CHVI; no further work recommended.	
(7) TRCA, 2007a	Stage 1-2 AA; Stage 3 AA	Tortuga/AkGw-328 (also designated AkGw-380) site discovered during Stage 2 survey and assessed to have no further CHVI; no further work recommended.	
(8) TRCA, 2011	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(9) TRCA, 2014	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(10) TRCA, 2012	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(11) TRCA, 2015b	Stage 1-2 AA	No archaeological resources found and no further work recommended for Area D which lies within the current study area.	

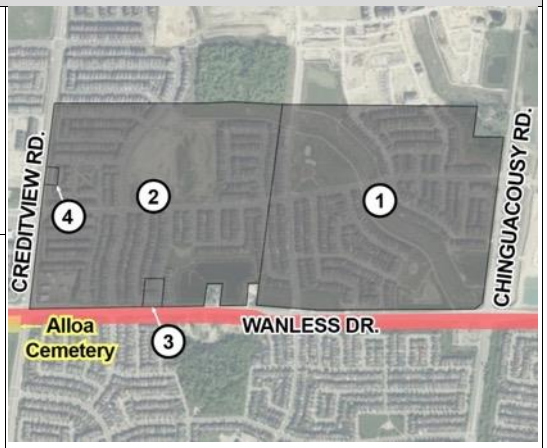
CONCESSION 1 EHS, LOTS 20-22			
(1) ASI, 2008c; ASI, 2009e; Archeoworks, 2011c	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Rowan/AkGw-378 site discovered during Stage 2 AA (ASI, 2008c). Site was later subjected to Stage 3 AA (ASI, 2009e) and Stage 4 excavation and is no longer of archaeological concern (Archeoworks, 2011c).	
(2) ASI, 2009a; Archeoworks, 2013c; Archeoworks, 2015b	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Dunsmore/AkGw-397 site discovered during Stage 2 AA (ASI, 2009a). Site was later subjected to Stage 3 AA (Archeoworks, 2013c) and Stage 4 excavation and is no longer of archaeological concern (Archeoworks, 2015b).	
(3) Archeoworks, 2012	Stage 2 AA	No archaeological resources found and no further work recommended.	
(4) AAL, 2014	Stage 1-2 AA	One lithic findspot discovered; assessed as not having further CHVI and no further work is recommended.	
(5) ASI, 2015	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(6) AMICK, 2012c	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(7) Archeoworks, 2011a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(8) AMICK, 2012a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(9) AMICK, 2018	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(10) AMICK, 2013a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 1 EHS, LOT 27 + CONCESSION 2 EHS, LOTS 26-27			
(1) DRPAI, 2007; DRPAI, 2011	Stage 1 AA; Stage 2 AA	One late historic site ("Campbell") discovered, assessed as not having further CHVI. No further work is recommended for portions subjected to Stage 2 survey. Stage 2 AA technically remains outstanding for unsurveyed portions.	
(2) ASI, 2010a	Stage 2 AA	Sites discovered during Stage 2 survey (all more than 50 m from the study area limit): - P1/AkGx-57: Stage 3 AA recommended. - P2/AkGx-58: site assessed to have no further CHVI; no further work recommended.	
(3) ASI, 2011b; ASI, 2014e	Stage 1 AA; Stage 2 AA	AkGx-82 discovered during Stage 2 survey, assessed to have further CHVI and recommended to be subjected to Stage 3 AA. Note: the site lies more than 50 m from the study area limit):	
(4) ASI, 2013b	Stage 2 AA	No archaeological resources found and no further work recommended.	

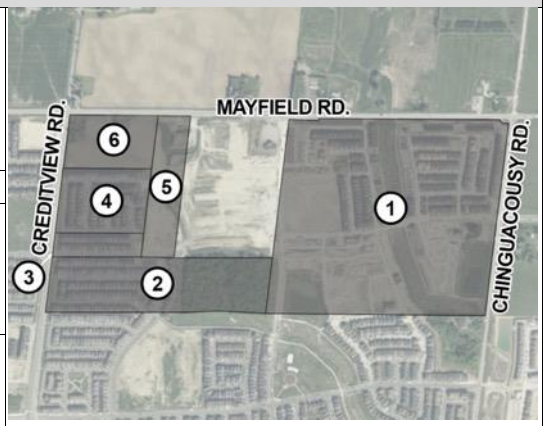
CONCESSION 2 EHS, LOT 18			
(1) ASI, 2021b	Stage 1-2 AA	AkGw-537 site discovered during Stage 2 survey; Stage 3 AA recommended. Note: this site lies more than 50 m from the study area limit.	
(2) ASI, 2021a	Stage 1-2 AA	Sites discovered during Stage 2 survey (all more than 50 m from the study area limit): - AkGw-538: Stage 3 AA recommended. - AkGw-539: site assessed to have no further CHVI; no further work recommended.	
CONCESSION 2 EHS, LOTS 19-21			
(1) ASI, 2008b; ASI, 2013c; ASI 2013d	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered within current study area during Stage 2 AA (ASI, 2008b): - Dennison/AkGw-334: site was later subjected to Stage 3 AA and Stage 4 excavation and is no longer of archaeological concern (ASI, 2013c). - Mayfield North/AkGw-336: site was assessed as not having further CHVI and is no longer of archaeological concern (ASI, 2008b). Other sites and findspots lying more than 50 m outside the study area: - H2, P1/AkGw-332, Kennedy Road/AkGw-333: sites assessed as not having further CHVI and are no longer of archaeological concern (ASI, 2008b). - Edwards/AkGw-335: The site was later subjected to Stage 3 AA and Stage 4 excavation and is no longer of archaeological concern (ASI, 2013d).	
(2) Archeoworks, 2011b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) Archeoworks, 2013a; Archeoworks, 2013b; Archeoworks, 2015c	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Wiggins/AkGw-464 site discovered during Stage 2 AA (Archeoworks, 2013a). Site was later subjected to Stage 3 AA (Archeoworks, 2013b) and Stage 4 excavation (Archeoworks, 2015c). Portion of the site that lies within the 12455 Old Kennedy Road residential property has been completely excavated and is no longer of archaeological concern. However, further work is recommended for the adjacent segment of the Old Kennedy Road ROW (west of the east-side road ditch) as the site potentially extends into this area.	
(4) AAL, 2015	Stage 1-2 AA	No archaeological resources found and no further work recommended.	

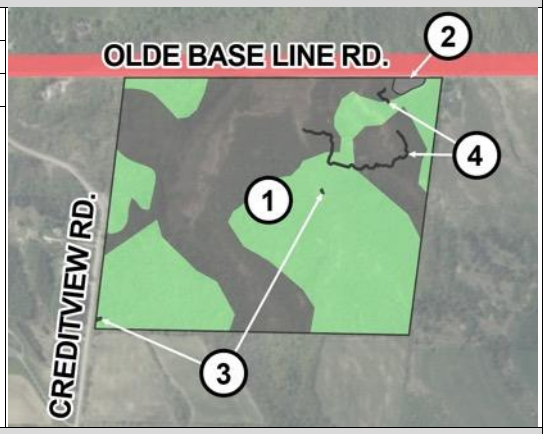
GEOGRAPHIC TOWNSHIP OF CHINGUACOUSY, CONCESSIONS WEST OF HURONTARIO STREET			
CONCESSION 1 WHS, LOTS 15-17			
(1) ASI, 2002b	Stage 1-2 AA	Sites discovered during Stage 2 survey (all more than 50 m from the study area limit): - H1/Hogg/AkGw-194: site originally recommended to be subjected to Stage 3 AA but was later reported to have been destroyed by grading, and therefore is no longer of archaeological concern. - H2/Watson/AkGw-195, H3 and P1: site/findspots were determined to have low CHVI; no further work recommended.	
(2) ASI, 2000a	Stage 1-2 AA	Sites discovered during Stage 2 survey (all more than 50 m from the study area limit): - P1, P2, P3 and P4/AkGw-130: findspots/site were determined to have low CHVI; no further work recommended.	
(3) ASI, 1992	Stage 1-2 AA	One historic findspot (H1) discovered, assessed as not having further CHVI. No further work is recommended.	
(4) ASI, 2003a; ASI, 2003c	Stage 1-2 AA; Stage 3 AA	Sites discovered during Stage 2 AA (ASI, 2003a): - AkGw-196, AkGw-197, AkGw-198, AkGw-199, AkGw-200, AkGw-200, AkGw-201 and AkGw-203: these isolated lithic findspots were assessed to be of low CHVI and therefore no further work recommended. - AkGw-204: this disturbed historic site was assessed to be of low CHVI and therefore no further work recommended. - AkGw-202 and AkGw-226: sites were assessed as not having significant CHVI during Stage 3 AA and are no longer of archaeological concern (ASI, 2003c).	
(5) AMICK, 2006c	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(6) AMICK, 2006a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(7) DRPAI, 2006; AMICK, 2006d	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 1 WHS, LOTS 18-20			
(1) TAI, 2013b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(2) ASI, 2018b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) TLA, 2017a	Stage 1-2 AA	No archaeological resources found in the surveyed portions. Stage 2 AA remains outstanding in the two woodlots.	
(4) ASI, 2018c; ASI, 2018d; ASI, 2018e; ASI, 2021f; ASI, 2021g	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavations	Sites discovered during Stage 2 AA (ASI, 2018c): - Hunter/AkGx-697: site was subjected to Stage 3 AA (ASI, 2018d) and Stage 4 excavation, and is no longer of archaeological concern (ASI, 2021f). Note: MHSTCI acceptance of Stage 4 excavation report is still pending. - Kelly/AkGx-698: site was subjected to Stage 3 AA (ASI, 2018e) and Stage 4 excavation, and is no longer of archaeological concern (ASI, 2021g). Note: MHSTCI acceptance of Stage 4 excavation report is still pending. - AkGx-699: site was assessed as not having significant CHVI during Stage 3 AA and is no longer of archaeological concern (ASI, 2018d). - P5, P6, P7, P8 and P9: isolated findspots assessed as not having further CHVI and are no longer of archaeological concern (ASI, 2018c).	

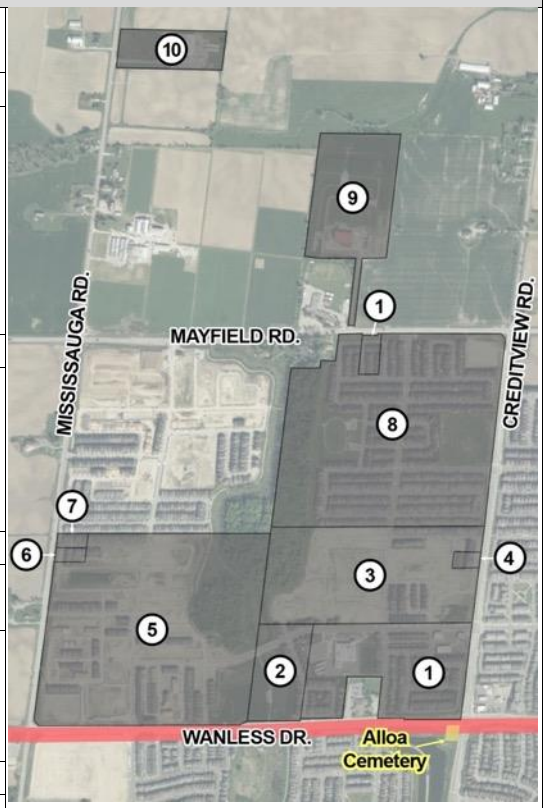
CONCESSION 1 WHS, LOT 27			
(1) AMICK, 2002; AMICK, 2008a; AMICK, 2011	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered during Stage 2 AA (AMICK, 2002): - Andrew Crawford/AkGx-173: site was subjected to Stage 3 AA (AMICK, 2002) and two rounds of Stage 4 excavation, and is no longer of archaeological concern (AMICK, 2008a; AMICK, 2011). - Sawmill/AkGx-174: site was subjected to Stage 3 AA (AMICK, 2002) and Stage 4 excavation, and is no longer of archaeological concern (AMICK, 2011).	
CONCESSION 1 WHS, LOT 34			
(1) Arnold and Leslie Currie & Associates, 2000	Stage 1-2 AA	One lithic findspot discovered; assessed as not having further CHVI. No further work is recommended.	
CONCESSION 2 WHS, LOT 15			
(1) Earthworks Archaeological Services, 2015	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.	
(2) Museum of Ontario Archaeology, 1999b; DRPAI, 2003	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered during Stage 2 survey (all more than 50 m from the study area limit): - AkGw-126: site assessed to have no further CHVI; no further work recommended. - AkGw-119, AkGw-120, AkGw-121: sites were later subjected to Stage 3 AA and Stage 4 excavation, and is no longer of archaeological concern (DRPAI, 2003).	
CONCESSION 2 WHS, LOT 16			
(1) AAL, 2016	Stage 1-2 AA	Three isolated findspots (IF#1, IF#2 and AkGx-379) discovered during Stage 2 survey and were assessed to have no further CHVI; no further work recommended.	
(2) AAL, 2017a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) AAL, 2016b; AAL, 2017b	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered during Stage 2 AA (TAI, 2016b): - Hare/AkGw-489: site was subjected to Stage 3 AA (TAI, 2016b) and Stage 4 excavation, and is no longer of archaeological concern (TAI, 2017b). - Chinguacousy Hills/AkGw-490: site was assessed as not having significant CHVI during Stage 3 AA and is no longer of archaeological concern (TAI, 2016b).	

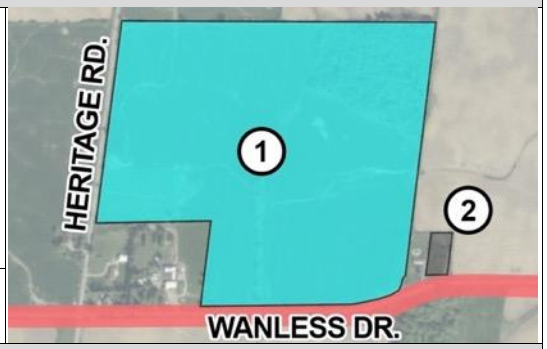
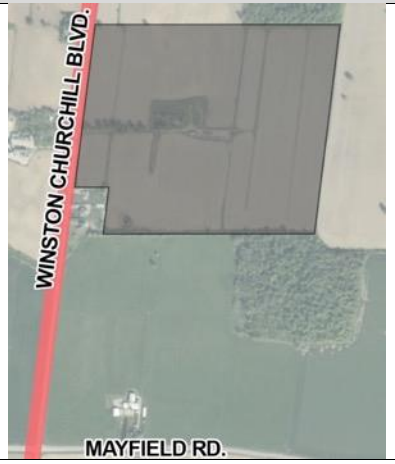
CONCESSION 2 WHS, LOT 17			
(1) TAI, 2015	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(2) TAI, 2011b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) Archeoworks, 2015a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(4) TLA, 2018	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(5) ASI, 2017a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(6) AMICK, 2020	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(7) Golder, 2012	Stage 1-2 AA	Two findspots (Locations 1 and 2) discovered during Stage 2 survey and were assessed to have no further CHVI; no further work recommended.	
(8) TAI, 2011d	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 2 WHS, LOTS 18-20			
(1) Archeoworks, 2014b; TLA, 2017b; TLA, 2017c	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered during Stage 2 AA (Archeoworks, 2014b): - H1/AkGx-78: site was later subjected to Stage 3 AA (TLA, 2017b) and Stage 4 excavation, and is no longer of archaeological concern (TLA, 2017c). - M1/AkGx-79: site was assessed as not having significant CHVI during Stage 3 AA and is no longer of archaeological concern (TLA, 2017b).	
(2) TAI, 2013a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) Archeoworks, 2016a; Archeoworks, 2016b; Archeoworks, 2017a; Archeoworks, 2017b; Archeoworks, 2017c; Archeoworks, 2017d; Archeoworks, 2018e	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered during Stage 2 AA (Archeoworks, 2016a): - H4, H5, P1, P2, P3, P4/AkGx-690, P7, P9, P10/AkGx-692, P11, P12, P13/AkGx-693 and P14: sites/findspots were assessed to have no further CHVI; no further work recommended. - P5/AkGx-689: site was assessed as not having significant CHVI during Stage 3 AA and is no longer of archaeological concern (Archeoworks, 2016b). - P6/AkGx-691: site was assessed as not having significant CHVI during Stage 3 AA and is no longer of archaeological concern (Archeoworks, 2017d). - M1/AkGx-694: site was assessed as not having significant CHVI during Stage 3 AA and is no longer of archaeological concern (Archeoworks, 2017c). - H2/Johnston/AkGx-695: site was assessed as not having significant CHVI during Stage 3 AA and is no longer of archaeological concern (Archeoworks, 2017a). - H3/Ferris/AkGx-696: site was subjected to Stage 3 AA (Archeoworks, 2017b) and Stage 4 excavation, and is no longer of archaeological concern (Archeoworks, 2018e).	
(4) Archeoworks, 2018c	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(5) Golder, 2016	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(6) AMICK, 2017c	Stage 1-2 AA	Sites discovered during Stage 2 AA (AMICK, 2017c): - Findspots 1 through 10, 12 through 33 and 35 through 39: findspots were assessed to have no further CHVI; no further work recommended. - Location 11/12529 Chinguacousy WHS 1/AkGx-704: findspots were assessed to have no further CHVI; no further work recommended. - Location 34/12529 Chinguacousy WHS 2/AkGx-705: findspots were assessed to have no further CHVI; no further work recommended.	

CONCESSION 3 WHS, LOT 15			
(1) Archeoworks, 2004c	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(2) Archeoworks, 2004b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) ACC, 2020	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 3 WHS, LOT 16			
(1) Archeoworks, 2014a; Archeoworks, 2014c; Golder, 2014a; Golder, 2014b; Golder, 2014c	Stage 1 AA; Stage 2 AA; Stage 3 AA; Stage 4 Excavations	Sites discovered during Stage 2 AA (Archeoworks, 2014c): - Landmart H3, Landmart H4, Landmart H5 and Landmart P1/AkGw-475: sites assessed to have no further CHVI; no further work recommended. - Landmart H1/AkGw-473: site was later subjected to Stage 3 AA (Golder, 2014a) and Stage 4 excavation, and is no longer of archaeological concern (Golder, 2014b). - Landmart H2/AkGw-474: site was later subjected to Stage 3 AA (Golder, 2014a) and Stage 4 excavation, and is no longer of archaeological concern (Golder, 2014c).	
(2) Archaeologix, 2007; Archaeologix, 2008; Golder, 2009	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavations	Sites discovered during Stage 2 AA (Archaeologix, 2007): - Locations 1, 2, 6, 7, 8: sites assessed to have no further CHVI; no further work recommended. - Location 3/AkGx-54, Location 4/AkGx-55 and Location 5/AkGx-56: sites were assessed as not having significant CHVI during Stage 3 AA and are no longer of archaeological concern (Archaeologix, 2008). - Location 9/Home Church/AkGx-60: site was later subjected to Stage 3 AA (Archaeologix, 2008) and Stage 4 excavation — conducted separately as part of the widening of Wanless Drive — and is no longer of archaeological concern (Golder, 2009).	
(3) Golder, 2013	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(4) Golder, 2015a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	

CONCESSION 3 WHS, LOT 17			
(1) AMICK, 2017b; AMICK, 2017d; AMICK, 2017e	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered during Stage 2 AA (AMICK, 2017b): - Isolated Finds 1-5: findspots assessed to have no further CHVI; no further work recommended (AMICK, 2017b). - Beech Wood Farm/AkGx-703: site was later subjected to Stage 3 AA (AMICK, 2017d) and Stage 4 excavation, and is no longer of archaeological concern (AMICK, 2017e).	
(2) TAI, 2011c	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) TAI, 2011a; TAI, 2012b; TAI, 2012c	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	AkGx-76 site discovered during Stage 2 AA (TAI, 2011a) and later assessed as having significant CHVI during Stage 3 AA (TAI, 2012b). Site was subjected to full Stage 4 excavation and is no longer of archaeological concern (TAI, 2012c).	
(4) DRPAI, 2012b	Stage 1-2 AA	Three isolated finds discovered, all assessed to have no further CHVI; no further work recommended.	
(5) TAI, 2016	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(6) Archeoworks, 2008; Archeoworks, 2009	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Alloa/AkGx-61 site discovered during Stage 2 AA (Archeoworks, 2008). Site was subjected to Stage 3 AA and Stage 4 excavation and is no longer of archaeological concern (Archeoworks, 2009).	
CONCESSION 3 WHS, LOTS 30-31			
(1) ASI, 2009b	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.	
(2) ASI, 2019a	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.	

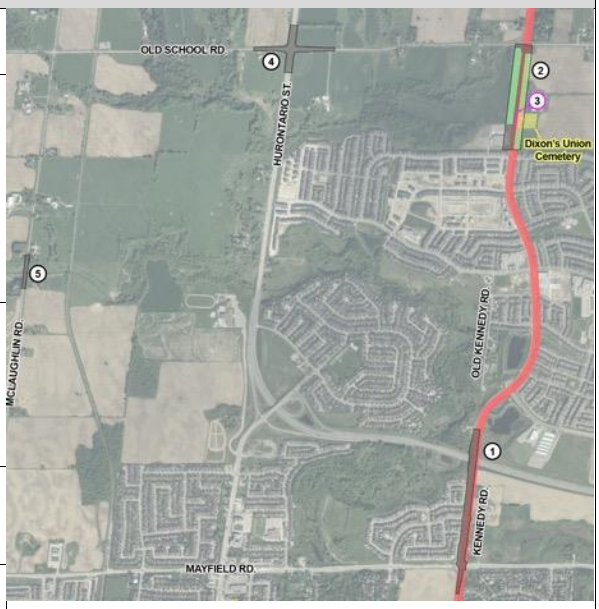
CONCESSION 3 WHS, LOT 34			
(1) SJAI, 2011	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.	
(2) OHT, 2014	Stage 2 AA	No archaeological resources found and no further work recommended.	
(3) CRMLAS, 2018a	Stage 2 AA	No archaeological resources found and no further work recommended.	
(4) CRMLAS, 2018b	Stage 2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 4 WHS, LOT 15			
(1) TAI, 2009c; TAI, 2009d; TAI, 2011e	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	AkGx-64 site discovered during Stage 2 AA (TAI, 2009c) and later assessed as having significant CHVI during Stage 3 AA and recommended to be subjected to Stage 4 mitigation (TAI, 2009d). The Stage 4 report documents the site's removal through excavation but recommends Stage 4 again, perhaps in error (TAI, 2011e). The site area has since been developed into a residential subdivision.	
(2) ASI, 2002	Stage 1-2 AA	Sites discovered during Stage 2 survey: - P2, P3, P4 and AkGx-37: findspots/site were assessed as not having further CHVI and is no longer of archaeological concern. Mechanical topsoil removal recommended along the west and south boundaries of the adjacent Alloa Cemetery.	
(3) ASI, 2008a	Stage 3 AA	Topsoil stripping along the edges of the Alloa Cemetery resulted in the exposure of grave shafts and posthole features immediately outside of the present boundaries of the cemetery, within the current Wanless Drive and Creditview Road rights-of-way (ROWs). Avoidance and protection measures were recommended during Wanless Drive widening works, but if not possible full excavation and official closure of the affected portions of the cemetery is required.	
(4) ASI, 2008a; TAI, 2013c	Stage 3 AA; Stage 4 Excavation	Topsoil stripping along the northeast corner of Alloa Cemetery resulted in the exposure of features related to the Alloa School House/AkGx-72 site (ASI, 2008a). Site was later subjected to Stage 4 excavation and has no further CHVI (TAI, 2013c).	

CONCESSION 4 WHS, LOTS 16-19			
(1) AMICK, 2010	Stage 1-2 AA; Stage 3 AA	Clark/AkGx-75 site discovered during Stage 2 AA. The site was assessed as not having further CHVI during Stage 3 AA and is no longer of archaeological concern.	
(2) TAI, 2009b	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(3) TAI, 2010a; TAI, 2010b; TAI, 2010c	Stage 1-2 AA; Stage 3 AA	Sites discovered during Stage 2 AA (TAI, 2010a): - AkGx-73: assessed as having significant CHVI during Stage 3 AA and recommended to be subjected to Stage 4 mitigation (ASI, 2010b). No Stage 4 report can be found, but the site area has already been developed into a residential subdivision. - AkGx-74: assessed as having significant CHVI during Stage 3 AA and recommended to be subjected to Stage 4 mitigation (ASI, 2010c). No Stage 4 report can be found, but the site area has already been developed into a residential subdivision.	
(4) DRPAI, 2012a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(5) TAI, 2009a; TAI, 2009e; TAI, 2009f; TAI, 2010d	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered during Stage 2 AA (TAI, 2009a): - AkGx-65: site was later subjected to Stage 3 AA (TAI, 2009e) and Stage 4 excavation and is no longer of archaeological concern (TAI, 2010d). - AkGx-66, AkGx-67, AkGx-68: sites were assessed as not having significant CHVI during Stage 3 AA and are no longer of archaeological concern (TAI, 2009f).	
(6) TAI, 2012a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(7) AS&G Archaeological Consulting, 2012	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(8) AMICK, 2005	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	Sites discovered during Stage 2 survey: - unnamed isolated findspot: no further work recommended. - Alloa General Store/AkGx-46: subjected to Stage 3 AA and Stage 4 excavation; no longer of archaeological concern.	
(9) AAL, 2010a	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
(10) ASI, 2014c; ASI, 2014d	Stage 1 AA; Stage 2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 4 WHS, LOTS 30-31			
AAL, 1999	Stage 1-2 AA	No archaeological resources found and no further work recommended.	

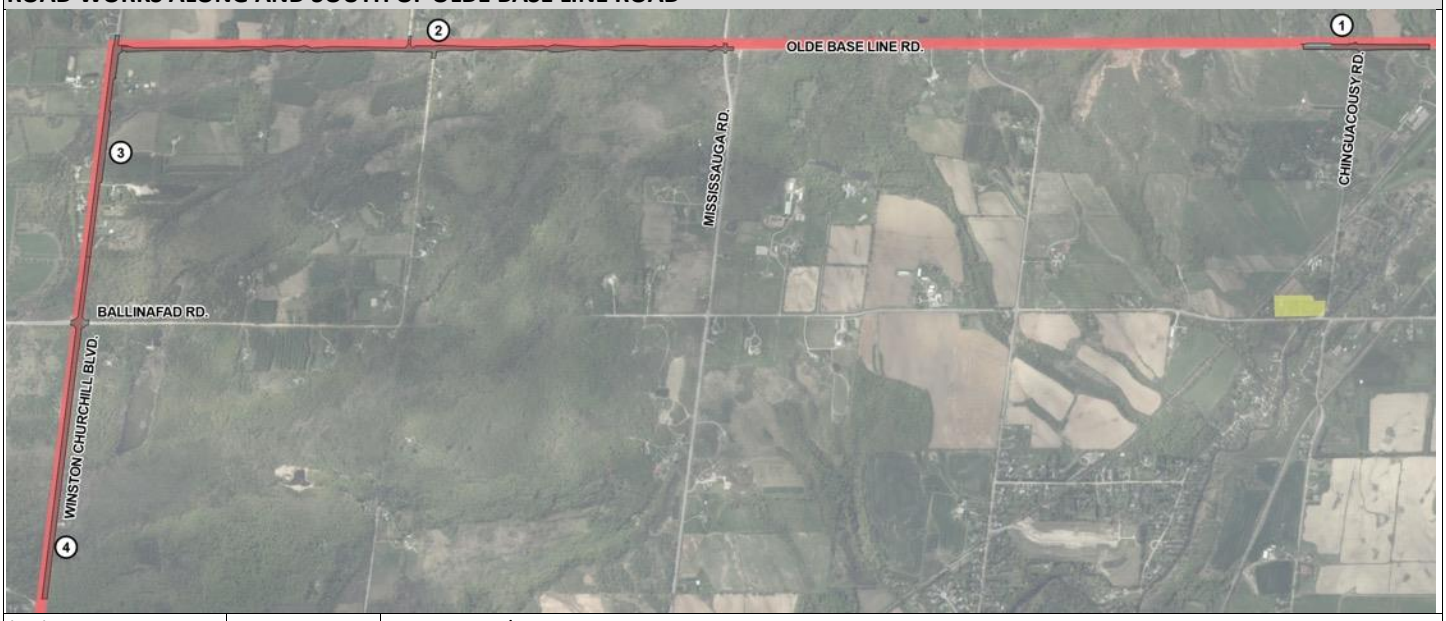
CONCESSION 5 WHS, LOT 16			
(1) ASI, 2003b; ASI, 2004	Stage 1-2 AA; Stage 3 AA	Sites discovered during Stage 2 AA (ASI, 2003b): - Alloa/AkGx-42: assessed as not having significant CHVI during Stage 3 AA and is longer of archaeological concern (ASI, 2004). - P2/AkGx-43: assessed as not having further CHVI and is no longer of archaeological concern (ASI, 2003b). - Orth/AkGx-44: site recommended for further work (ASI, 2003b), but there is no record of Stage 3 or 4 fieldwork found in the OASD. Therefore property still has outstanding archaeological concerns.	
(2) Detritus Consulting, 2020	Stage 1-2 AA	No archaeological resources found and no further work recommended.	
CONCESSION 6 WHS, LOT 16			
TAI, 2021	Stage 1-2 AA	Sites discovered: Watkins/AkGx-715 and Kirk/AkGx-716. Further work recommended for both sites; property still has outstanding archaeological concerns. Note: MHSTCI acceptance of Stage 1-2 AA report is still pending.	
CONCESSION 6 WHS, LOT 19			
TAI, 2018; TAI, 2019a; TAI, 2019b; TAI, 2020a; TAI, 2020b	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavations	Two sites discovered during Stage 2 AA (TAI, 2018): - AkGx-707: site was later subjected to Stage 3 AA and Stage 4 excavation and is no longer of archaeological concern (TAI, 2019a; TAI, 2020a). - AkGx-708: site was later subjected to Stage 3 AA and Stage 4 excavation and is no longer of archaeological concern (TAI, 2019b; TAI, 2020b).	

LINEAR CORRIDORS AND LARGER PROJECTS		
WANLESS DRIVE FROM WINSTON CHURCHILL BOULEVARD TO CREDITVIEW ROAD		
		
(01) DRPAI, 2014	Stage 2 AA	Stage 2 survey of previously unassessed lands along the proposed Wanless Drive ROW. No archaeological resources found, and no further work recommended.
(02) AMAA, 2012a	Stage 1 AA	No further work recommended for disturbed areas. Stage 2 AA recommended for undisturbed areas (not depicted above). Construction monitoring recommended for areas within 50m of AkGx-66 archaeological site; this recommendation no longer applies, per the Stage 2 AA recommendations (DRPAI, 2014).
(03) AMAA, 2012b	Stage 1 AA	No further work recommended for disturbed areas. Stage 2 AA recommended for undisturbed areas (not depicted above).
WANLESS DRIVE FROM CREDITVIEW ROAD TO HURONTARIO STREET		
		
(01) ASI, 2011a	Stage 3 AA	Entrance gate area of Zion Cemetery investigated by mechanical topsoil stripping ahead of landscape improvements; no archaeological resources encountered and further work recommended.
(02) ASI, 2005; ASI, 2006c; ASI, 2011a	Stage 3 AA; Stage 4 Excavation	Portions of the south and east edges of the Old Zion (Bertram) cemetery investigated by Stage 3 trenching (ASI, 2005), followed by a full Stage 4 excavation (ASI, 2006c) ahead of Wanless Drive widening. No further work recommended for this area. As part of landscape improvements to the cemetery, the area of proposed new cemetery gate, as well as vicinity of corner pillars, were later investigated by mechanical topsoil stripping; no archaeological resources were encountered and no further work recommended (ASI, 2011a).
(03) ASI, 2005	Stage 1 AA	No further work recommended.
(04) ASI, 2010b; Archaeologix, 2008; Golder, 2009	Stage 2 AA	Sites discovered during Stage 2 AA (ASI, 2010b): - Home Church/AkGx-60: site was later subjected to Stage 3 AA (Archaeologix, 2008) and Stage 4 excavation and is no longer of archaeological concern (Golder, 2009). - AkGx-70: assessed as not having further CHVI and is no longer of archaeological concern (ASI, 2010b).
VICTORIA FEEDERMAIN, MAYFIELD ROAD SUB-TRANSMISSION MAIN CLASS EA STUDY		
		
(01) ASI, 2014b	Stage 1 AA	No further work recommended for disturbed areas (depicted above). Stage 2 AA recommended for areas along the corridor that exhibit archaeological potential (not depicted above).

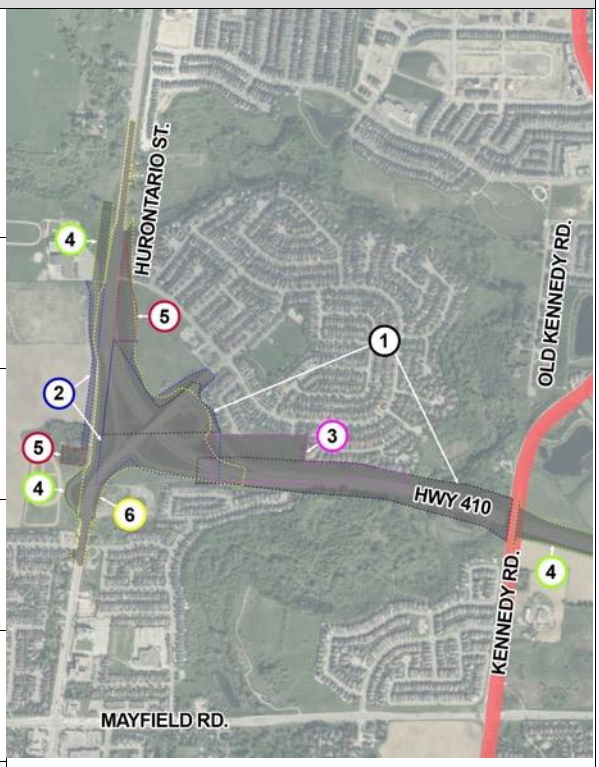
MAYFIELD ROAD FROM WINSTON CHURCHILL BOULEVARD TO CHINGUACOUSY ROAD		
		
(01) ASI, 2014a; ASI, 2016b; ASI, 2017d; ASI, 2018f; Archeoworks, 2021c; Archeoworks, 2021d	Stage 1 AA; Stage 2 AA; Stage 3 AA; Stage 4 Excavations	Sites discovered during Stage 2 AA (ASI, 2016b): - H1/Oney/AkGx-709: site was later subjected to Stage 3 AA (ASI, 2018f) and Stage 4 excavation and is no longer of archaeological concern within the road widening limits (Archeoworks, 2021c). Note: MHSTCI acceptance of Stage 4 excavation report is still pending. - H2/Everson/AkGx-702: site was later subjected to Stage 3 AA (ASI, 2017d) and Stage 4 excavation and is no longer of archaeological concern within the road widening limits (Archeoworks, 2021d). Note: MHSTCI acceptance of Stage 4 excavation report is still pending. - H3/Patrick McLean/AkGx-706: site was subjected to further work (see #4 below).
(02) Archeoworks, 2020b	Stage 1-2 AA	Sites discovered during Stage 2 survey (Archeoworks, 2020b): - H1 and H2: assessed as not having further CHVI and is no longer of archaeological concern (Archeoworks, 2020b). - H3/AkGx-710: site was later subjected to Stage 3 AA (Archeoworks, 2021b) and Stage 4 mitigation is recommended. Note: MHSTCI is currently reviewing the Stage 3 AA report. - H4/AkGx-711: site was later subjected to Stage 3 AA (Archeoworks, 2021a) which determined that the site represented the displaced/disturbed portion of nearby AkGx-702 on the opposite side of Mayfield Road. No further work recommended within the road widening limits. Note: MHSTCI is currently reviewing the Stage 3 AA report.
(03) Archeoworks, 2018b	Stage 1-2 AA	No archaeological resources encountered and no further work recommended.
(04) ASI, 2017c; ASI, 2019b	Stage 3 AA; Stage 4 Excavation	Patrick McLean/AkGx-706 site determined to have significant CHVI during Stage 3 AA (ASI, 2017c) and subjected to Stage 4 excavation. Site has no further CHVI and no further work is recommended within the limits of the road widening project (ASI, 2019b).
MAYFIELD ROAD FROM CHINGUACOUSY ROAD TO KENNEDY ROAD		
		
(01) ASI, 2012a	Stage 1 AA	No further work recommended for areas not exhibiting archaeological potential. Stage 2 AA recommended for undisturbed areas (see #2 below).
(02) ASI, 2016a	Stage 2 AA	No archaeological resources encountered and no further work recommended.
(03) MHCI, 2002	Stage 1 AA	No further work recommended.

NORTHWEST/SOUTHEAST-RUNNING ROADS SOUTH OF MAYFIELD ROAD		
		
(01) Archeoworks 2014a	Stage 1 AA	No further work recommended for areas not exhibiting archaeological potential. Stage 2 AA recommended for undisturbed areas.
(02) Archeoworks, 2018a; Archeoworks, 2018d; Archeoworks, 2020d	Stage 1-2 AA; Stage 3 AA; Stage 4 Excavation	H1/Dolson/AkGx-700 site discovered during Stage 2 survey (Archeoworks, 2018a). The site was later subjected to Stage 3 AA (Archeoworks, 2018d) and Stage 4 excavation and is no longer of archaeological concern within the road widening limits (Archeoworks, 2020d).
(03) Archeoworks, 2020a	Stage 1 AA	No further work recommended for the proposed new entranceway for 11722 Mississauga Road.
(04) TAI, 2014b	Stage 2 AA	No archaeological resources encountered and no further work recommended.
(05) TAI, 2014a	Stage 1 AA	No archaeological resources encountered and no further work recommended.
(06) AMEC, 2012a; AMEC Foster Wheeler, 2019a	Stage 1 AA; Stage 2 AA	No archaeological resources encountered and no further work recommended.
(07) AMEC, 2012b; AMEC Foster Wheeler, 2019b	Stage 1 AA; Stage 2 AA	No archaeological resources encountered and no further work recommended.
NORTHWEST/SOUTHEAST-RUNNING ROADS NORTH OF MAYFIELD ROAD		
(01) ASI, 2006a; ASI, 2009d	Stage 1 AA; Stage 2 AA	No archaeological resources encountered and no further work recommended.
(02) ASI, 2021c	Stage 1 AA	No further work recommended for areas not exhibiting archaeological potential. Stage 2 AA recommended for undisturbed areas. Stage 3 mechanical topsoil removal recommended for areas immediately abutting the property limits of Dixon's Union Cemetery.
(03) ASI, 2021e	Stage 2 AA	Test pit survey conducted in lands fronting Dixon's Union Cemetery. It was determined that buried utility and servicing lines have impacted this area. Construction monitoring recommended.
(04) ASI, 2008d; ASI, 2009c; ASI, 2012b	Stage 1 AA; Stage 2 AA	No archaeological resources encountered and no further work recommended.
(05) ASI, 2018a	Stage 1-2 AA	No archaeological resources encountered and no further work recommended.
		

ROAD WORKS ALONG AND SOUTH OF OLDE BASE LINE ROAD



(01) ASI, 1997	Stage 2 AA	Hagemann/AkGx-28 site discovered during Stage 2 survey. Stage 3 AA recommended.
(02) ASI, 2013a; WSP, 2020	Stage 1 AA; Stage 2 AA	No archaeological resources encountered and no further work recommended for the portion subjected to Stage 2 AA. Note: MHSTCI acceptance of the Stage 2 AA report is still pending.
(03) AMAA, 2008	Stage 1-2 AA	No archaeological resources encountered and no further work recommended.
(04) AMAA, 2006	Stage 1-2 AA	No archaeological resources encountered and no further work recommended.
HIGHWAY 410		
(01) CRF, 1988	Stage 1-2 AA	Sites discovered within current study area during the 1988 survey: - Area 2 (later identified as Mellow Gardens/AkGx-16): further work recommended. - Area 1, Area 3 and Area 4 findspots: no further work recommended.
(02) AAL, 2003	Stage 1-2 AA	No archaeological resources encountered; remains of Mellow Gardens/AkGx-16 site could not be located. No further work recommended.
(03) NDA, 2010	Stage 1-2 AA	Section of ROW west of Etobicoke Creek subjected to re-survey. No archaeological resources encountered and no further work recommended.
(04) AAL, 2007	Stage 1-2 AA	No archaeological resources encountered and no further work recommended within parcels that lie within/immediately adjacent to the current study area.
(05) NDA, 2007	Stage 1-2 AA	No archaeological resources encountered and no further work recommended within parcels that lie within the current study area.
(06) WEIS, 2018	Stage 1 AA	No further work recommended for disturbed portions. Stage 2 AA recommended for undisturbed margins (not depicted).



CHELTENHAM AND TERRA COTTA ENVIRONMENTAL SERVICING PLAN CLASS EA		
		
ASI, 1995	Stage 1-2 AA	No archaeological resources encountered and no further work recommended. Note: extents depicted above may not be precise due to lack of more detailed mapping.
OTHER LARGE PROJECTS		
DRPAI, 2001	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.
Archeoworks, 2006	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.
ASI, 2007	Stage 1 AA	No further work recommended for feedermain routes. Stage 2 AA recommended for areas exhibiting archaeological potential.
Historic Horizon, 2008	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.
ASI, 2006b	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.
ASI, 2011b	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.
ASI, 2017b	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.
ASI, 2020	Stage 1 AA	Stage 2 AA recommended for areas exhibiting archaeological potential.

Table B2: Development Statuses of Registered Archaeological Sites Within and Immediately Adjacent to the Study Area[1]

Borden #	Site Name	Time Period	Site Type	Affinities	Development Status	PIF Number(s) of Most Recent Relevant Report(s)
Archaeological Sites within the Study Area Limits						
AkGw-10	John's				Further CHVI (presumed)	
AkGw-16	Mellow Gardens	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P013-015; P013-015-STG3
AkGw-65	Snelgrove	Other		Unknown	Further CHVI (presumed)	
AkGw-88	Bartholomew Snell Homestead	Post-Contact	homestead; midden	Euro-Canadian	No Further CHVI	PIF-97-007-26-LIC-1997-007
AkGw-89	Ontario Seed 5	Post-Contact	homestead	Euro-Canadian	No Further CHVI	PIF-97-043-LIC-1997-001-S4EX
AkGw-90	Ontario Seed 4	Pre-Contact	Other: camp/campsite	Aboriginal	No Further CHVI	PIF-97-043-LIC-1997-001-S4EX
AkGw-97	Yeoman	Pre-Contact	Unknown	Aboriginal	Further CHVI	1995-030-003-1995
AkGw-107	Elias Snell Pioneer Homestead	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P013-527-2010
AkGw-119	Brampton Historic 1	Post-Contact	homestead	Euro-Canadian	No Further CHVI	2000-057-068-S4EX
AkGw-120	Brampton Historic 2	Post-Contact	homestead	Euro-Canadian	No Further CHVI	2000-057-068-S4EX
AkGw-121	Brampton Historic 3	Post-Contact	homestead	Euro-Canadian	No Further CHVI	2000-057-068-S4EX
AkGw-126	Brampton 5	Pre-Contact	findspot	Aboriginal	No Further CHVI	1999-021-003
AkGw-194	Hogg	Post-Contact	homestead	Euro-Canadian	No Further CHVI	2001-020-259
AkGw-195	Watson	Post-Contact	homestead	Euro-Canadian	No Further CHVI	2001-020-259
AkGw-196	-	Pre-Contact	findspot	Aboriginal	No Further CHVI	2001-020-125
AkGw-197	-	Pre-Contact	findspot	Aboriginal	No Further CHVI	2001-020-125
AkGw-198	-	Archaic, Middle	findspot	Aboriginal	No Further CHVI	2001-020-125
AkGw-199	-	Pre-Contact	findspot	Aboriginal	No Further CHVI	2001-020-125
AkGw-200	-	Archaic, Middle	findspot	Aboriginal	No Further CHVI	2001-020-125
AkGw-201	-	Pre-Contact	findspot	Aboriginal	No Further CHVI	2001-020-125
AkGw-202	-	Pre-Contact	scatter	Aboriginal	No Further CHVI	P061-018
AkGw-203	-	Pre-Contact	findspot	Aboriginal	No Further CHVI	2001-020-125
AkGw-204	-	Post-Contact	homestead	Euro-Canadian	No Further CHVI	2001-020-125
AkGw-226	-	Pre-Contact	scatter	Aboriginal	No Further CHVI	P061-018
AkGw-237	McCarthy	Woodland, Early	findspot	Aboriginal	No Further CHVI	P013-015-STG3
AkGw-238	Square Head 1 Site	Post-Contact	findspot		No Further CHVI	P019-004
AkGw-239	Felis Arbor	Pre-Contact	findspot		No Further CHVI	P019-004
AkGw-240	Pilum	Pre-Contact	findspot		No Further CHVI	P019-004
AkGw-241	Sagitta	Archaic, Late	findspot		No Further CHVI	P019-004
AkGw-242	Square Head 2	Post-Contact	findspot		No Further CHVI	P019-004
AkGw-243	Saxum	Pre-Contact	findspot		No Further CHVI	P019-004
AkGw-244	Acutum	Pre-Contact	findspot		No Further CHVI	P019-004
AkGw-313	Ransier	Post-Contact	Unknown		Further CHVI	P019-042

[1] Note: only sites lying within and immediately adjacent to the study area limits are included in this table.

Borden #	Site Name	Time Period	Site Type	Affinities	Development Status	PIF Number(s) of Most Recent Relevant Report(s)
AkGw-327	St. John's Anglican Cemetery (Edmonton)	Post-Contact	Unknown	Euro-Canadian	Further CHVI	P038-263-2007
AkGw-328/ AkGw-380	Tortuga Site	Pre-Contact	scatter		No Further CHVI	P019-107-2007
AkGw-334	Dennison	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P128-022-2008
AkGw-336	Mayfield North	Post-Contact	Unknown	Euro-Canadian	No Further CHVI	P264-022-2008; P049-229-2007
AkGw-378	Rowan	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P029-771-2010
AkGw-379		Archaic, Late	findspot	Aboriginal	No Further CHVI	P013-419-2008
AkGw-397	Dunsmore	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P390-031-2013
AkGw-415	Fernbrook	Archaic, Early	camp / campsite		No Further CHVI	P013-526-2010
AkGw-425	Etobicoke Creek	Pre-Contact	camp / campsite	Aboriginal	No Further CHVI	P123-044-2010
AkGw-464	Wiggins	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P390-0046-2013
AkGw-473	Landmart H1	Post-Contact			No Further CHVI	P362-0078-2014
AkGw-474	Landmart H2	Post-Contact			No Further CHVI	P362-0077-2014
AkGw-475	Landmart P1 site	Archaic, Middle	findspot	Aboriginal	No Further CHVI	P390-0082-2014
AkGw-489	Hare	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P013-1134-2015
AkGw-490	Chinguacousy Hills	Pre-Contact	camp / campsite	Aboriginal	No Further CHVI	P013-1132-2015
AkGw-501	Snell	Archaic, Middle	findspot	Aboriginal	No Further CHVI	P1024-0213-2017
AkGx-3	Wey	Archaic	Unknown	Aboriginal	No Further CHVI[2]	
AkGx-8	William Graham	Post-Contact	homestead	Euro-Canadian	Further CHVI (presumed)	
AkGx-10	Bottner	Pre-Contact	findspot	Aboriginal	Further CHVI (presumed)	
AkGx-42	Alloa	Archaic, Late; Archaic, Middle	Other: camp/campsite	Aboriginal,	No Further CHVI	P049-088; P047-046
AkGx-43	Alloa	Archaic, Late	findspot	Aboriginal	No Further CHVI	2001-020-143; 2001-020-087; P052-007
AkGx-44	Orth	Post-Contact	homestead	Euro-Canadian	Further CHVI	2001-020-143; 2001-020-087; P052-007
AkGx-46	Alloa General Store Site	Post-Contact	Other: commercial, residential	Euro-Canadian	No Further CHVI	P058-047
AkGx-47		Archaic, Late	findspot	Aboriginal	No Further CHVI	P058-072; P058-072-STG3
AkGx-54		Post-Contact	homestead; house	Euro-Canadian	No Further CHVI	P001-379-2007
AkGx-55		Pre-Contact	Other: camp/campsite; scatter	Aboriginal	No Further CHVI	P001-379-2007
AkGx-56		Pre-Contact	Other: camp/campsite; scatter	Aboriginal	No Further CHVI	P001-379-2007
AkGx-60	Home Church	Post-Contact			No Further CHVI	P001-528-2009
AkGx-61	Alloa H1	Post-Contact		Euro-Canadian	No Further CHVI	P029-536-2008
AkGx-65		Post-Contact	farmstead		No Further CHVI	P052-166-2009

[2] OASD entry describes site environment as "Disturbed. Destroyed." Moreover, it appears that the most recent Stage 1-2 AA of the property on which the site is situated (P052-0995-2019) has not resulted in the recovery of more artifacts related to the site.

Borden #	Site Name	Time Period	Site Type	Affinities	Development Status	PIF Number(s) of Most Recent Relevant Report(s)
AkGx-66		Pre-Contact	scatter		No Further CHVI	P052-158-2009
AkGx-67		Pre-Contact	scatter		No Further CHVI	P052-158-2009
AkGx-68		Pre-Contact	scatter		No Further CHVI	P052-158-2009
AkGx-70		Pre-Contact	scatter	Aboriginal	No Further CHVI	P264-060-2008
AkGx-73		Post-Contact	homestead		No Further CHVI[3]	P052-228-2010; P052-228-2010-S4EX
AkGx-74		Woodland, Late	hamlet		No Further CHVI[4]	P052-227-2010; P052-227-2010-S4EX
AkGx-75	Clark	Post-Contact	midden	Euro-Canadian	No Further CHVI	P058-643-2010
AkGx-76		Post-Contact	homestead	Euro-Canadian	No Further CHVI	P052-315-2010
AkGx-78	H1	Post-Contact	farmstead	Euro-Canadian	No Further CHVI	P059-0707-2016
AkGx-79	M1	Post-Contact	Other: Artifacts related to adjacent occupation		No Further CHVI	P059-0691-2016
AkGx-173	Andrew Crawford	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P038-207-2006
AkGx-174	Sawmill	Post-Contact	mill	Euro-Canadian	No Further CHVI	P038-207-2006
AkGx-689	P5	Archaic, Late	camp / campsite; domestic; manufacturing; short term	Aboriginal	No Further CHVI	P390-0157-2015
AkGx-690	P4	Pre-Contact	scatter		No Further CHVI	P1016-0036-2014
AkGx-691	P6	Pre-Contact	scatter	Aboriginal	No Further CHVI	P390-0222-2016
AkGx-692	P10	Archaic, Late	scatter		No Further CHVI	P1016-0036-2014
AkGx-693	P13	Archaic, Middle	findspot		No Further CHVI	P1016-0036-2014
AkGx-694	M1	Archaic, Late; Post-Contact	camp / campsite; dump; manufacturing; short term	Aboriginal	No Further CHVI	P390-0220-2016
AkGx-695	Johnston	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P390-0221-2016
AkGx-696	Ferris	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P029-0938-2017
AkGx-697	Hunter	Post-Contact	homestead		No Further CHVI (pending report approval)	P125-0292-2019
AkGx-698	Kelly	Post-Contact	homestead	Euro-Canadian	No Further CHVI (pending report approval)	P125-0293-2019
AkGx-699	P2	Archaic, Early	findspot		No Further CHVI	P125-0260-2017
AkGx-700	Dolson	Post-Contact	homestead	Euro-Canadian	No Further CHVI	P029-1021-2018
AkGx-701	P1	Archaic, Middle	findspot	Aboriginal	No Further CHVI	P046-0283-2018
AkGx-702	Urias Everson	Post-Contact	homestead	Euro-Canadian	No Further CHVI (pending report approval)	P439-0116-2020
AkGx-703	Beech Wood Farm	Post-Contact	scatter		No Further CHVI	P038-0889-2017
AkGx-704	12529 Chinguacousy WHS 1	Archaic	findspot		No Further CHVI	P1024-0182-2016

[3] The Stage 3 AA report recommends further Stage 4 mitigation, but no Stage 4 report could be located. The site area has since been developed into a residential subdivision.
[4] The Stage 3 AA report recommends further Stage 4 mitigation, but no Stage 4 report could be located. The site area has since been developed into a residential subdivision.

Borden #	Site Name	Time Period	Site Type	Affinities	Development Status	PIF Number(s) of Most Recent Relevant Report(s)
AkGx-705	12529 Chinguacousy WHS 2	Archaic	findspot		No Further CHVI	P1024-0182-2016
AkGx-706	Patrick McLean	Post-Contact	farmstead	Euro-Canadian	No Further CHVI	P125-0261-2017
AkGx-707		Post-Contact	homestead		No Further CHVI	P052-0963-2019
AkGx-708		Post-Contact	homestead		No Further CHVI	P052-0964-2019
AkGx-709	Oney	Post-Contact	dump		No Further CHVI (pending report approval)	P439-0122-2020
AkGx-710	H3	Post-Contact	homestead; scatter	Aboriginal, Euro-Canadian	Further CHVI	P439-0115-2020
AkGx-715	Watkins Site	Post-Contact	agricultural; farmstead; farmstead	Euro-Canadian	Further CHVI	P052-0995-2019
AkGx-716	Kirk Site	Post-Contact	agricultural; farmstead	Euro-Canadian	Further CHVI	P052-0995-2019
Archaeological Sites less than 50 m away from the Study Area Limits						
AkGx-6	Beatty Churchschool	Post-Contact	Other: church/chapel; school	Euro-Canadian	Further CHVI (presumed)	
AkGx-13		Pre-Contact	findspot	Aboriginal	No Further CHVI	PIF-97-01-LIC-1997-067
AkGx-28	Hagemann	Post-Contact	homestead	Euro-Canadian	Further CHVI	97PB-01
AkGx-72	Alloa School House	Post-Contact	school	Euro-Canadian	No Further CHVI	P052-405-2012

APPENDIX C: SUMMARY OF BACKGROUND RESEARCH

Feature of Archaeological Potential		Yes	No	Unknown	Comment
1	Known archaeological sites within 300 m?	X			If Yes, potential confirmed
Physical Features		**Yes**	**No**	**Unknown**	**Comment**
2	Is there water on or adjacent to the property?	X			If Yes, potential confirmed
2a	Presence of primary water source within 300 metres of the study area (lakes, rivers, streams, creeks)	X			If Yes, potential confirmed
2b	Presence of secondary water source within 300 metres of the study area (intermittent creeks and streams, springs, marshes, swamps)	X			If Yes, potential confirmed
2c	Features indicating past presence of water source within 300 metres (former shorelines, relic water channels, beach ridges)		X		If Yes, potential confirmed
2d	Accessible or inaccessible shoreline (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)		X		If Yes, potential confirmed
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
4	Pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
Cultural Features		**Yes**	**No**	**Unknown**	**Comment**
6	Is there a known burial site or cemetery that is registered with the Cemeteries Regulation Unit on or directly adjacent to the property?	X			If Yes, potential confirmed
7	Associated with food or scarce resource harvest areas (traditional fishing locations, food extraction areas, raw material outcrops, etc.)		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
8	Indications of early Euro-Canadian settlement (monuments, cemeteries, structures, etc.) within 300 metres	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
9	Associated with historic transportation route (historic road, trail, portage, rail corridor, etc.) within 100 metres of the property	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
Property-specific Information		**Yes**	**No**	**Unknown**	**Comment**
10	Contains property designated under the Ontario Heritage Act	X			If Yes, potential confirmed
11	Local knowledge (Indigenous communities, heritage organizations, municipal heritage committees, etc.)	X			If Yes, potential confirmed
12	Recent ground disturbance, not including agricultural cultivation (post-1960, extensive and deep land alterations)	X - parts			If Yes, low archaeological potential is determined

APPENDIX D: INVENTORY OF DOCUMENTARY AND MATERIAL RECORD

Project Information:				
Project Number:	008-WC8391-21			
Licensee:	Kim Slocki (P029)			
MHSTCI PIF:	P029-1039-2022			
Document/ Material		**Details**	**Location**	
1.	Research/ Analysis/ Reporting Material	Digital files stored in: /2021/ 008-WC8391-21 - West Caledon Storage Facility and Transmission Main Class EA/Stage 1	Archeoworks Inc. 16715-12 Yonge Street Suite 1029 Newmarket, ON L3X 1X4	Stored on Archeoworks network servers

Under Section 14 of the Terms and Conditions for Archaeological Licences issued under the Ontario Heritage Act, “the licensee shall hold in safekeeping all artifacts and records of archaeological fieldwork carried out under this licence, except where those artifacts and records are transferred by the licensee to Her Majesty the Queen in right of Ontario or the licensee is directed to deposit them in a public institution in accordance with subsection 66(1) of the Act." The collections are being stored at *Archeoworks Inc.* on the licensee's behalf.



PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3E: Cultural Heritage Screening Report

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.

Cultural Heritage Screening Report

Stage One Assessment

West Caledon Storage Facility and Transmission Main Class EA

Date:
August 10, 2022

Prepared for:
GM BluePlan Engineering Ltd.

Prepared by:
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Project No. 21248F

MHBC
PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE

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Project Personnel

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Rachel Redshaw, MA, HE Dipl, CAHP	*Heritage Planner*	Author
Lucy Chen	*Planning and Design Technician*	Map Figures

Glossary of Abbreviations

CHVI	*Cultural Heritage Value or Interest*
CHIA	*Cultural Heritage Impact Assessment*
HCD	*Heritage Conservation District*
MHBC	*MacNaughton Hermsen Britton Clarkson Planning Limited*
MHSTCI	*Ministry of Heritage, Sport, Tourism and Culture Industries*
OHA	*Ontario Heritage Act*
OHTK	*Ontario Heritage Toolkit*
O-REG 9/06	*Ontario Regulation 9/06 for determining cultural heritage significance*
PPS 2020	*Provincial Policy Statement (2020)*

Acknowledgement of Indigenous Communities

This Cultural Heritage Screening Report acknowledges that the Study Area is situated within territory of the Petun, Anishinabewaki ᐊᓂᔑᓇᐯᒧᐊᑭ, Attiwonderonk (Neutral) , Haudenosaunee, Mississaugas of the Credit First Nation, Missisauga and Wendake-Nionwentsïo. These lands are acknowledged as being associated with the following treaties:

- Ajetance Purchase/ Treaty #19 signed on October 28, 1818

This document takes into consideration the cultural heritage of indigenous communities including their oral traditions and history when available and related to the scope of work.

Executive Summary

GM BluePlan Engineering Limited ("GM BluePlan") retained MHBC Planning Ltd. ("MHBC") to complete a Cultural Heritage Screening Report (CHSR) for the West Caledon Transmission Main and Storage Facility Class EA based on the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* by the *Ontario Ministry of Tourism, Culture and Sport* (currently the *Ministry of Heritage, Sport, Tourism and Culture Industries*). This report is intended to be a desktop screening as part of Stage One of the required cultural heritage assessments.

The approximate 96 square kilometre project study area (the "Study Area") is bound by Winston Churchill Road to the west, Old Base Line Road to the north, Wanless Drive to the south, and Hurontario Street to the east. The Study Area includes 17,729 properties and includes the communities of Cheltenham, Terra Cotta, Boston Mills and Victoria. As part of the Project's Stage One (Desktop Study), the objectives of this CHSR were to:

1) Complete the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* by the *Ontario Ministry of Tourism, Culture and Sport* checklist (2016) from a desktop screening and in doing so, identify potential and previously identified cultural heritage resources, including built heritage and cultural heritage landscapes; and,

2) Identify areas that have concentrations of potential and identified cultural heritage resources that should be avoided for the purpose of the proposed development.

This Study determined the following:

- Total of 13 protected heritage properties designated under Part IV of the *Ontario Heritage Act* in the Town of Caledon and City of Brampton;
- Total of four (4) listed properties on the Town of Caledon's municipal heritage register and City of Brampton Municipal Register of Cultural Heritage Resources;
- The Study Area is identified on the *Town of Caledon's Cultural Heritage Landscapes Inventory* (2009) as "Cheltenham and the Brickworks" cultural heritage landscape (as part of the Credit River Valley: Settlements of the Niagara Escarpment) which includes two (2) identified streetscapes and one (1) viewscape;
- Cheltenham Badlands designated as a provincially significant Earth Science Area of Natural Scientific Interest (ANSI) operating under the Ontario Heritage Trust;
- 5 registered cemeteries; and,
- 7 trails (includes The Bruce Trail and the Caledon Trailway).

There are over 16,000 parcels located in the Study Area many of which include buildings and/or structures that were constructed prior to 1982 based on the 40 year threshold and therefore, would be identified as having potential cultural heritage value or interest (CHVI). It is recommended that further analysis be provided in Stage 2 to identify parcels as they relate to short-listed alternative routes.

It is recommended that the proposed alignment take into consideration the above cultural heritage constraints. Once a shortlist of routes and/ or sites are determined, it is recommended that a Stage Two cultural heritage assessment be completed to assess relativity to potential and identified cultural heritage resources and their existing conditions as it relates to short-listed alternative routes and/ or sites.

Note to the Reader: The purpose of this executive summary is to highlight key aspects of this report and therefore does not elaborate on other components. Please note that this report is intended to be read in its entirety in order to gain a full understanding of its contents.

1.0 Introduction

GM BluePlan Engineering Limited ("GM BluePlan") retained MHBC Planning Ltd. ("MHBC") to complete a Cultural Heritage Screening Report (CHSR) for the West Caledon Storage Facility and Transmission Main Class EA based on the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* by the *Ontario Ministry of Tourism, Culture and Sport* (currently the *Ministry of Heritage, Sport, Tourism and Culture Industries*). This report is intended to be a desktop screening as part of Stage One of the required cultural heritage assessments. The screening identifies potential, listed and designated cultural heritage resources; cultural heritage resources includes both built heritage and cultural heritage landscapes.

1.1 Location and Description of Study Area

The project Study Area is bound by Winston Churchill Road to the west, Old Base Line Road to the north, Wanless Drive to the south, and Hurontario Street to the east and is approximately 96 square kilometres in size; the project area is located within the Town of Caledon and the City of Brampton (see Figure 1 and Appendix 'A'). The Study Area includes 17, 729 properties and includes the communities of Cheltenham, Terra Cotta, Alloa, Boston Mills, Snelgrove and Victoria in West Caledon. The Cheltenham Badlands (also referred to as the Chinguacousy Badlands, the Red Clay Hills, the Caledon or Ingelwood Badlands) are located within the Study Area; they are considered a provincially significant Earth Science Area of Natural and Scientific Interest (ANSI) and were acquired by the Ontario Heritage Trust in 2002 in collaboration with the Bruce Trail Conservancy and the Ministry of Natural Resources and Forestry (Ontario Heritage Trust).

Consistent with the size of Study Area, land uses range from residential, agricultural, commercial, industrial and institutional. The Study Area is located within the Town of Caledon's designated Community Improvement Plan Areas (Appendix III of the Official Plan, "Future Caledon"). A portion of the area located on the south-east corner of the Study Area is identified as Mayfield West Phase 2 Secondary Plan Planning Area a, GTA West Preliminary Route Planning Study Area (Figure 18 & 19 of the Official Plan, "Future Caledon"). The south end of the Study Area includes the Mount Pleasant, Mount Pleasant West, Northwest Sandalwood Parkway and Snelgrove Heart Lake Secondary Plans in the City of Brampton.

The Study Area is within the Niagara Escarpment Plan (designated as a UNESCO World Biosphere Reserve) as well as Greenbelt Plan Protected Countryside and Greenbelt Plan Natural Heritage System (Figure 21 of the Official Plan, "Future Caledon"). The Study Area is located within the Credit River Watershed which is not a Canadian Heritage River watershed.

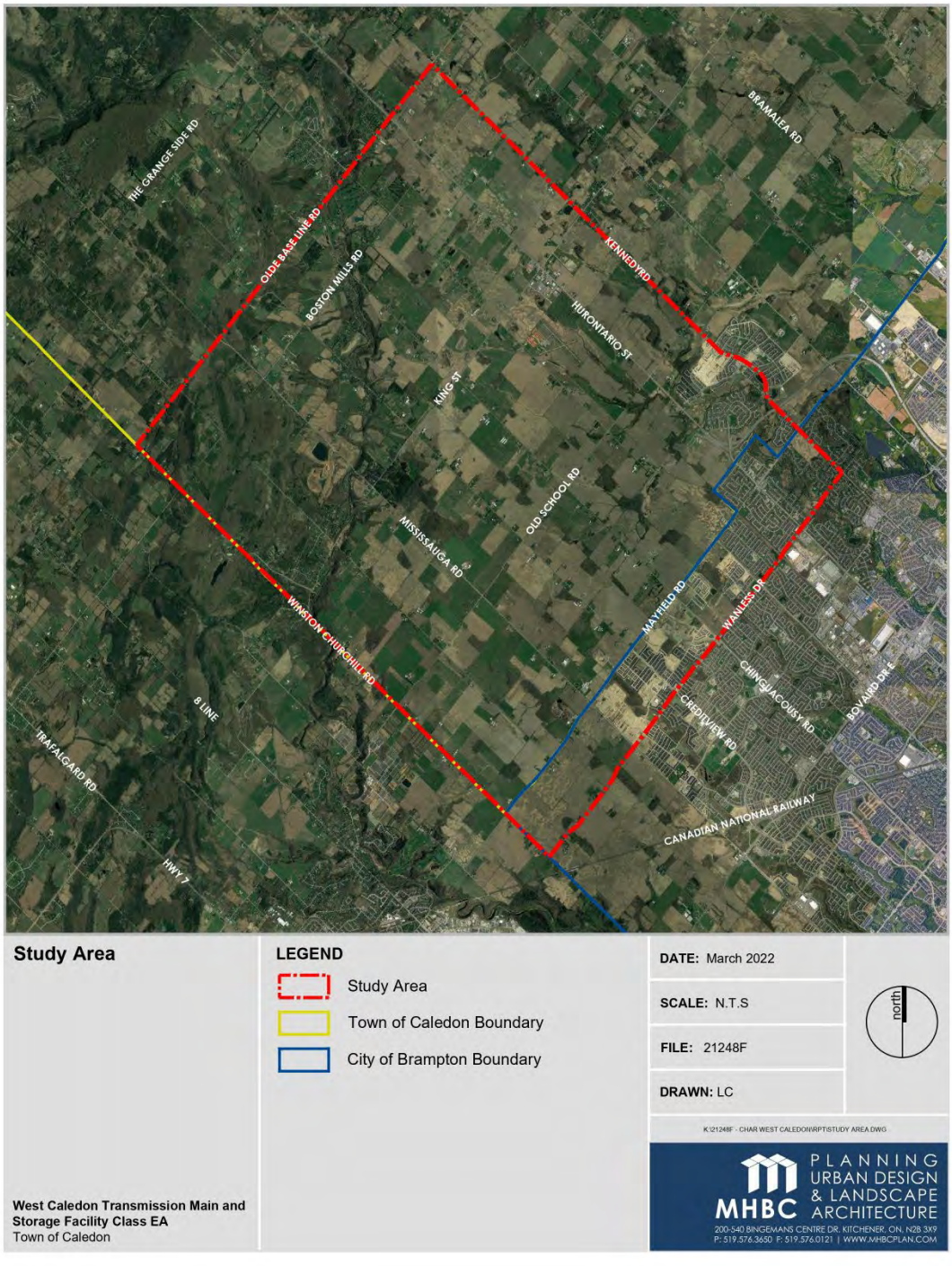


Figure 1- General location of Study Area (Source: MHBC, 2022).

1.2 Project Description and Scope of Work

Due to growth increases, a new transmission main from the Alloa Pumping Station to the proposed West Caledon storage facility will enhance the water supply the existing and future areas in south Caledon and northwest Brampton. As part of the Environmental Assessment (EA) a Cultural Heritage Assessment is required. This assessment is separated into three stages: 1) Desktop Study, 2) Analysis for shortlisted routes and/ or site; and 3) Analysis for preferred route and/ or site (pending results of Stage 2). This report constitutes as Stage One of the Study which is a desktop screening of the entire Study Area.

1.3 Methodology and Approach

1.3.1 Methodology

The methodology of this screening report is guided by provincial guidelines and definitions including: the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscape*s by the *Ministry of Heritage, Sport, Tourism and Culture Industries* (MHSTCI) as well as *Ontario Regulation 9/06*. A built structure or landscape is identified as a cultural heritage resource when it is considered to be 40 years and older and if the resource meets at least one of the criteria of *Ontario Regulation 9/06*.

The 40-year threshold has been employed as a guideline in the screening for cultural heritage resources. This rolling age of 40 years for the preliminary identification of cultural heritage resource of potential cultural heritage value or interest has been accepted at the provincial and federal level as per the *Environmental Guide for Built Heritage and Cultural Heritage Landscapes* (Ministry of Transportation, 2007). While this is true, resources must be evaluated as per *Ontario Regulation 9/06* or *Ontario Regulation 10/06* in order to determine whether or not they are of significant cultural heritage value. Available historic topographic maps, aerial photographs and Fire Insurance Plans aid in the identification of structures, neighbourhoods, landforms, and other features which were constructed prior to 1982 as per the established 40 year rolling baseline.

1.3.2 Approach

As part of the Environmental Assessment process, cultural heritage and archaeological assessments are required. The assessments are divided into three (3) phases including:

- Stage One (desktop) Study for the entire Study Area

- Stage Two Analysis for shortlisted routes and/ or sites; and,
- Stage Three Analysis for preferred route and/ or site (pending results of Stage One and Stage Two Analysis).

This report constitutes Stage One of the above stages.

In order to complete the checklist and overall screening report, MHBC reviewed federal, provincial and municipal heritage registers, inventories and other related databases and consulted with municipal staff. The following sources were consulted as part of the Study:

- *Canadian Register of Historic Places*
- *Parks Canada Directory of Federal Heritage Designations and Directory of Heritage Railway Stations and Heritage Lighthouses of Canada*
- *World Heritage Sites, Parks Canada*
- *Ontario Heritage Trust: Ontario Places of Worship Inventory and Online Plaque Guide*
- *Ontario Historical Plaques*
- *Canadian Heritage Rivers System*
- *Canada GenWeb's Cemetery Project*
- *The Ontario Genealogical Society-Ontario Cemetery Index*
- *Historic Topographic Map Digitization Project*
- *Ontario Historical County Maps Project Web Map Application*
- *The Canadian County Atlas Digital Project*

Review of the following previous cultural heritage reports associated with the Study Area:

- *Town of Caledon Cultural Heritage Landscapes Inventory (2009) by Andrew Scheinman, Heritage Preservation Consultant and Envision-The Hough Group.*
- *Cultural Heritage Assessment Report: Built Heritage Resources and Cultural Heritage Landscapes, Existing Conditions- Impact Assessment: Mayfield Road Class EA Chinguacousy Road to Heart Lake Road Regional Municipality of Peel, Ontario (July 2011 (Revised November 2013, October 2014) by ASI*

2.0 Policy Framework

2.1 The Planning Act and PPS 2020

The *Planning Act* makes a number of provisions respecting cultural heritage, either directly in Section 2 of the Act or Section 3 respecting policy statements and provincial plans. In Section 2, the *Planning Act* outlines 18 spheres of provincial interest that must be considered by appropriate authorities in the planning process. One of the intentions of *The Planning Act* is to "encourage the co-operation and co-ordination among the various interests". Regarding cultural heritage, Subsection 2(d) of the Act provides that:

> *The Minister, the council of a municipality, a local board, a planning board and the Municipal Board, in carrying out their responsibilities under this Act, shall have regard to, among other matters, matters of provincial interest such as, …*
>
> *(d) the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest;*

The *Planning Act* therefore provides for the overall broad consideration of cultural heritage resources through the land use planning process.

In support of the provincial interest identified in Subsection 2 (d) of the *Planning Act*, and as provided for in Section 3, the Province has refined policy guidance for land use planning and development matters in the *Provincial Policy Statement, 2020* (PPS). The PPS is "intended to be read in its entirety and the relevant policy areas are to be applied in each situation". This provides a weighting and balancing of issues within the planning process. When addressing cultural heritage planning, the PPS provides for the following:

> *2.6.1 Significant built heritage resources and significant cultural heritage landscapes shall be conserved.*
>
> *Significant: e) in regard to cultural heritage and archaeology, 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 Ontario Heritage Act.

Built Heritage Resource: *means a building, structure, monument, installation or any manufactured or constructed part or 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 Ontario Heritage Act, or that may be included on local, provincial, federal and/or international registers.*

Cultural Heritage Landscape: *means 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 Ontario Heritage Act, 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.*

Conserved: *means the identification, protection, management and use of built heritage resources, cultural heritage landscapes and archaeological resources in a manner that ensures their cultural heritage value or interest is retained. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment that has been approved, accepted or adopted by the relevant planning authority and/or decision-maker. Mitigative measures and/or alternative development approaches can be included in these plans and assessments*

Protected Heritage Property: *means property designated under Parts IV, V or VI of the Ontario Heritage Act; property subject to a heritage conservation easement under Parts II or IV of the Ontario Heritage Act; property identified by the Province and prescribed public bodies as provincial heritage property under the Standards and Guidelines for Conservation of Provincial Heritage Properties; property protected under federal legislation, and UNESCO World Heritage Sites.*

2.2 The Ontario Heritage Act

The *Ontario Heritage Act*, R.S.O, 1990, c.0.18 remains the guiding legislation for the conservation of significant cultural heritage resources in Ontario. Preparation of this report has been guided by the criteria provided with *Regulation 9/06* of the *Ontario Heritage Act*, which outlines the mechanism for determining cultural heritage value or interest. The regulation sets forth categories of criteria and several sub-criteria. In Section 2.0 of the *Ontario Heritage Act* directs the *Ministry of Heritage, Sport, Tourism and Culture Industries* to determine policies, priorities and programs for the conservation, protection and preservation of the heritage of Ontario.

2.3 The Ontario Heritage Tool Kit

The Province has published several resources containing information related to cultural heritage resources, and compiled the information into the *Ontario Heritage Toolkit*. This compilation is a collection of documents authored by the *Ministry of Heritage, Sport, Tourism and Culture Industries*, which provide guidance related to a variety of cultural heritage planning matters. The documents contained within the Heritage Resources in the Land Use Planning Process compilation have specifically been referenced in the preparation of this report, to ensure consistency with best practices.

2.4 Town of Caledon Official Plan (2018)

In Section 3.3 of the Town of Caledon Official Plan, policies regarding cultural heritage conservation are presented. It is stated, "The Town seeks to wisely manage cultural heritage resources within its municipal boundaries that are of historical, architectural and archaeological value." The Town states that all development proposal will be reviewed to determine if a Cultural Heritage Survey, also known as a Cultural Heritage Screening Report, be required.

> *All development or redevelopment proposals will be reviewed by the Town to determine whether a Cultural Heritage Survey is required or whether, as appropriate, a Cultural Heritage Survey will be requested. In making this determination, the Town will consider the scope of the proposal and, through reference to the archaeological master plan, built heritage resources inventory, cultural heritage landscape inventory, or local information, the likelihood of significant cultural heritage resources being encountered.*

> *Where a Cultural Heritage Survey is required, the proponent is encouraged to consult with the Town and other relevant agencies concerning the scope of the work to be undertaken. The Cultural Heritage Survey will be the responsibility of the proponent and must be undertaken by a qualified professional with appropriate expertise, and it should generally:*
>
> > *a) Identify the level of significance of any cultural heritage resources, including archaeological resources and potential, existing on and in close proximity to the subject lands; and,*
> >
> > *b) Make recommendations for the conservation of the cultural heritage resources including whether a Cultural Heritage Impact Statement should be prepared.*

If the Cultural Heritage Survey identifies potential cultural heritage value or interest, than a Cultural Heritage Impact Statement may be required (Sub-section 3.3.3.1.5).

The Town of Caledon has completed a Cultural Heritage Landscape Study which inventoried cultural heritage landscapes in the Town. The Study Area includes one of these identified areas. The Official Plan states.

> *A cultural heritage landscape identified by either this section or by a Cultural Heritage Survey will be appropriately conserved and may be considered for designation under the Ontario Heritage Act. Prior to the preparation of the inventory of candidate cultural heritage landscapes, candidate cultural heritage landscapes shall be identified by the proponent of development or redevelopment proposals by way of a Cultural Heritage Surveys and, where necessary, a Cultural Heritage Impact Statements as described in Sections 3.3.3.1.4 and 3.3.3.1.5 of this Plan (Sub-section) 3.3.3.4.1*

2.5 City of Brampton Official Plan (2006)

The City of Brampton Official Plan states that "Cultural Heritage will be preserved and forms part of the functional components of the daily life" (Our Brampton, Our Future-The Vision). The objective to conservation cultural heritage, both tangible and intangible, is throughout the City's Plan. Section 4.10 of the Plan is dedicated to cultural heritage objectives which are as follows:

> *a) Conserve the cultural heritage resources of the City for the enjoyment of existing and future generations;*
>
> *b) Preserve, restore and rehabilitate structures, buildings or sites deemed to have significant historic, archaeological, architectural or cultural significance and, preserve cultural heritage landscapes; including significant public views; and,*
>
> *c) Promote public awareness of Brampton's heritage and involve the public in heritage resource decisions affecting the municipality.*

This Section discusses the protection of Built Heritage and Cultural Heritage Landscapes. The City maintains the Cultural Heritage Resources Register with over 400 heritage resources. Built Heritge Resources are defined as" -one or more significant buildings, structures, monuments, installations, or remains associated with architectural, cultural, social, political, economic, or military history, and identified as being important to a community" (4.10.1).

A Cultural Heritage Landscape is described as "a defined geographical area which has been modificed and characterized by human activity…examples of cultural heritage landscape include heritage conservation districts designated under the Ontario Heritage Act, villages, parks, gardens, cemeteries, main streets, neighbourhoods valley and watercourses, lakes, woodlands, wetlands, hedgerows, scenic vistas etc." (4.10.2). Cultural heritage landscapes are inventoried as part of the City's Cultural Heritage Register.

This report takes into consideration built heritage and cultural heritage landscapes that are inventoried in the City's Cultural Heritage Register to identify and assess potential impact as a result of the proposed development. Cultural heritage resources within the Study Area within the limits of the City of Brampton are identified in the Cultural Heritage Map of the City of Brampton Official Plan; an excerpt of this map as it relates to the Study Area is provided in Figure 2.

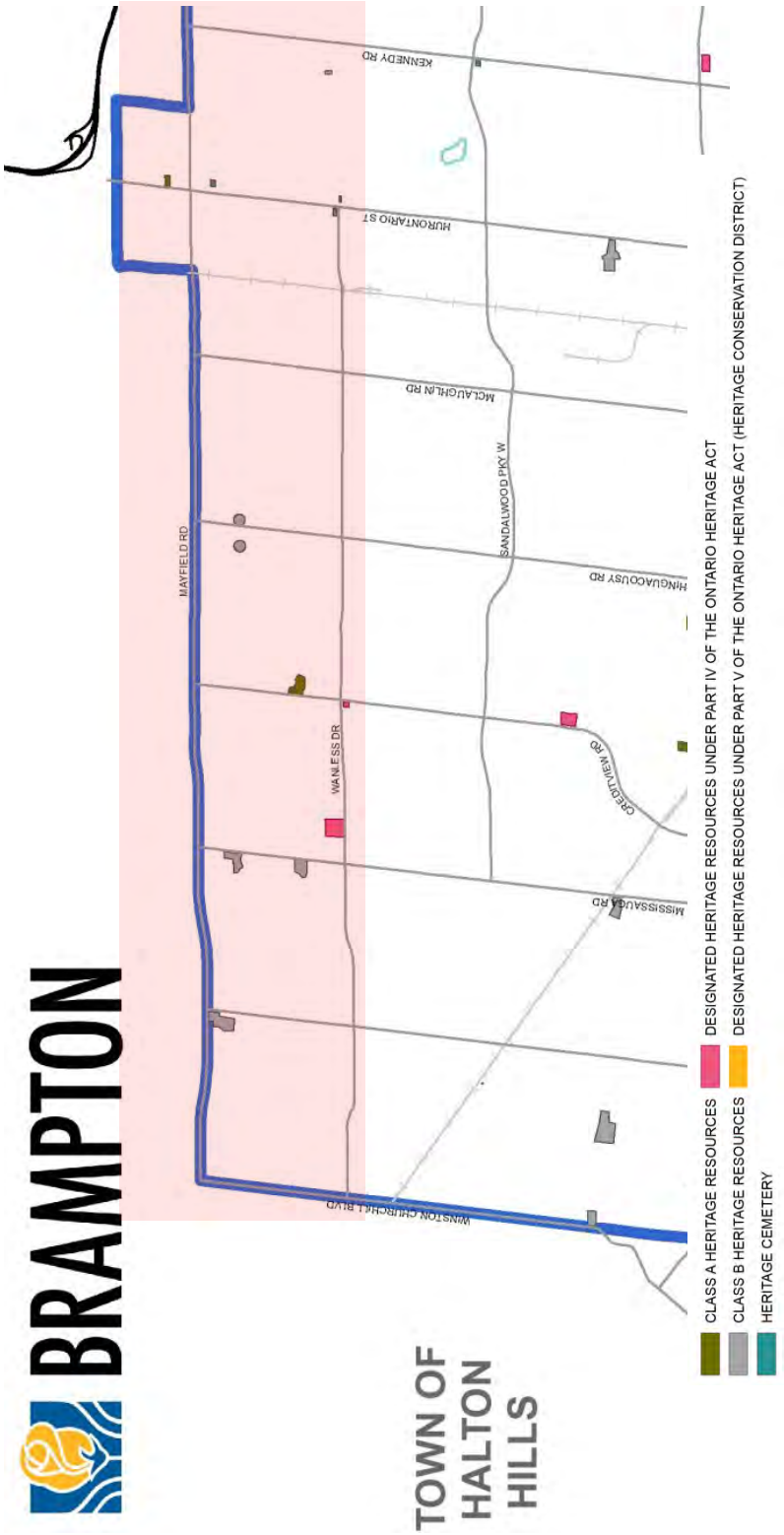


Figure 2- Excerpt of the Cultural Heritage Map from the City of Brampton Official Plan; red box indicates area within the City of Brampton located within the Study Area (City of Brampton Official Plan).

3.0 Historical Context

3.1 Pre and Post European Contact Era/ Indigenous Communities

The first inhabitants of Southern Ontario arrived approximately 11,000 years before present after the retreat of the glaciers which shaped the landscape and created large glacial lakes. Inhabitants were small groups of nomadic hunter-gatherers which seasonally resided in Southern Ontario during the Paleo-Indian, Archaic and Woodland periods (TRCA). Within the Town of Caledon, the Graham Site (AkGx-41) was identified as a small Early Woodland period ritual site which is dated 2,000-1,200 B.C. (ASI, 2011). The site yielded, "a large number of native copper artifacts, lithics, and a unique animal cremation burial with copper bead and biface offerings (ASI, 2011).

On October 28, 1818, the Ajetance Purchase (also known as Treaty 19) was signed by representatives of the Crown and Anisinaabe peoples and included a land area of approximately 6,500km². This treaty is named for the Chief of the Credit River Mississaugas and the Purchase included lands that are now the communities of: Brampton, Georgetown and the Caledon "Badlands" (Ministry of Indigenous Affairs).

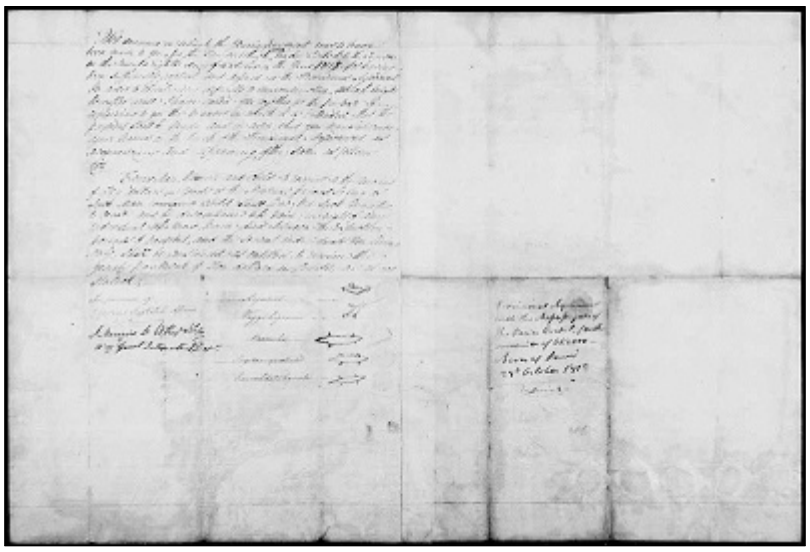


Figure 3- A copy of the Ajetance Purchase, with the doodems of the signatories visible (Library and Archives Canada).

3.2 Township of Chinguacousy, Peel County

The Study Area is located in the former Township of Chinguacousy, County of Peel. The Township was named in honour of Chief Chinguacousy (Shinguacose meaning "the small pine") who was a successful leader in the War of 1812. By 1819, the Township was surveyed and land was granted to descendants of United Empire Loyalists and immigrants from the British Isles and the United States and the first Township clerk, John Scott, was appointed in 1821 (Corporation of the County of Peel). Mills were erected and by the mid-1800s, the Township's population was approximately 7,000 persons within the villages and hamlets including: Cheltenham, Victoria, Tullamore, Terra Cotta, Snelgrove and Campbell's Cross (Corporation of the County of Peel). The main industry was agricultural (wheat crops) and also manufacturing including barrel staves and timber products (Corporation of the County of Peel). In 1834, John Elliot laid out the village of Brampton naming it after his home in England. Brampton separated from the Township in 1852 when it was incorporated as a village.



Figure 4- Historical map of 1837 of the Township of Chinguacousy (Source: Heritage Property Index).

3.3 Study Area and Surrounding Area

The 1859 Tremaine Map shows there were several settlements within the Study Area including: Tucker's Mills (also Plewes Mills, Salmonville and currently Terra Cotta), Cheltenham, Claude, Boston, Campbell's Cross, Edmonton (currently Snelgrove) and Alloa. The largest settlements were Cheltenham, Terra Cotta, Edmonton and Campbell's Cross. The Study Area also included the Credit River which traverses through the north-west corner.

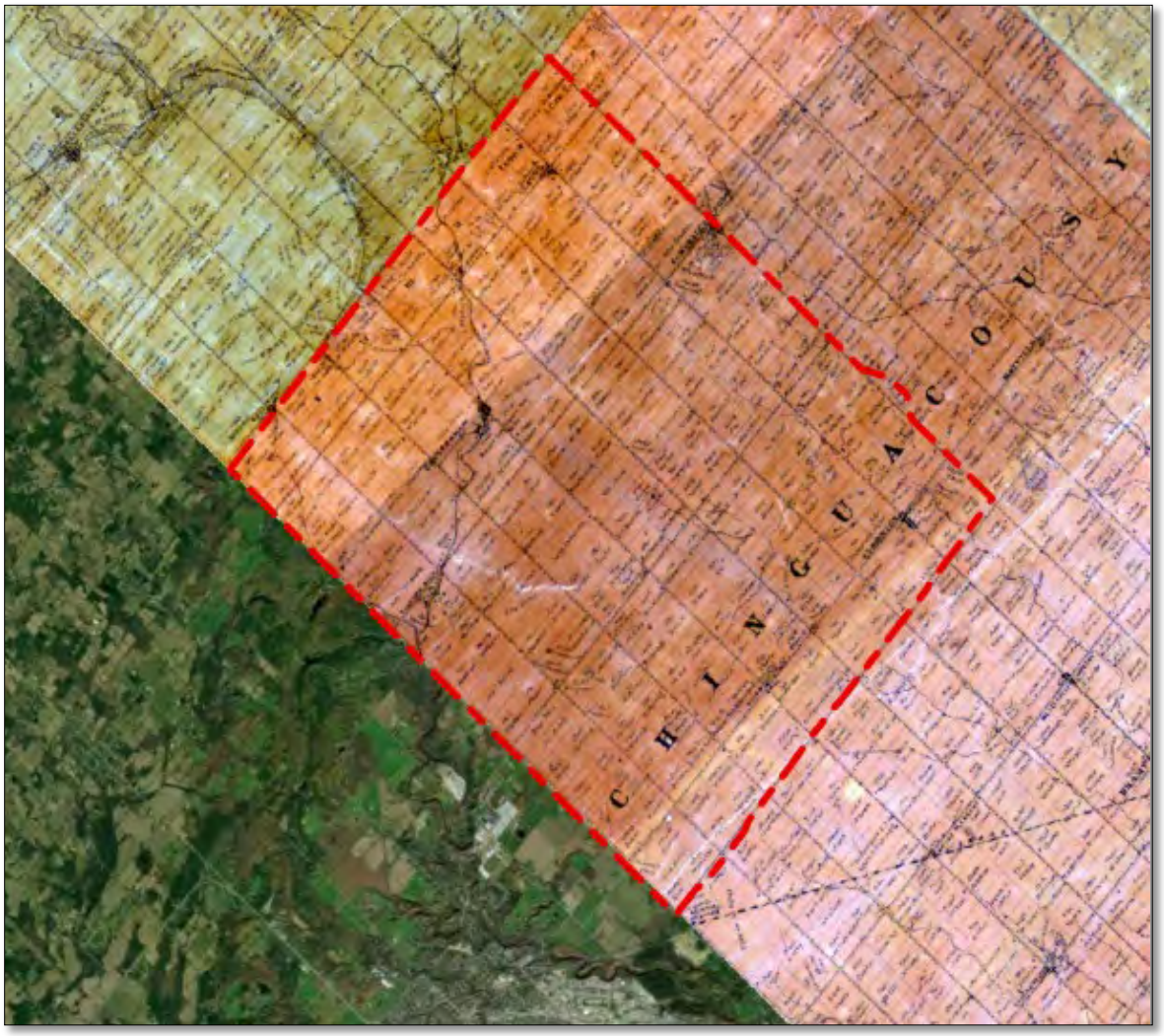


Figure 5- Excerpt of 1859 Tremaine Map of the County of Peel; red dotted line identifies location of Study Area (Source: Ontario Historical County Map Project & MHBC, 2022).

In the 1877 Illustrated historical atlas of the County of Peel, Ontario both the Hamilton & North-Western Railway (H & NW) and the Credit Valley Railway were established which supported the growth of the various communities within the Study Area. Aside from the urbanized communities previously mentioned, the area was historically used for agriculture.

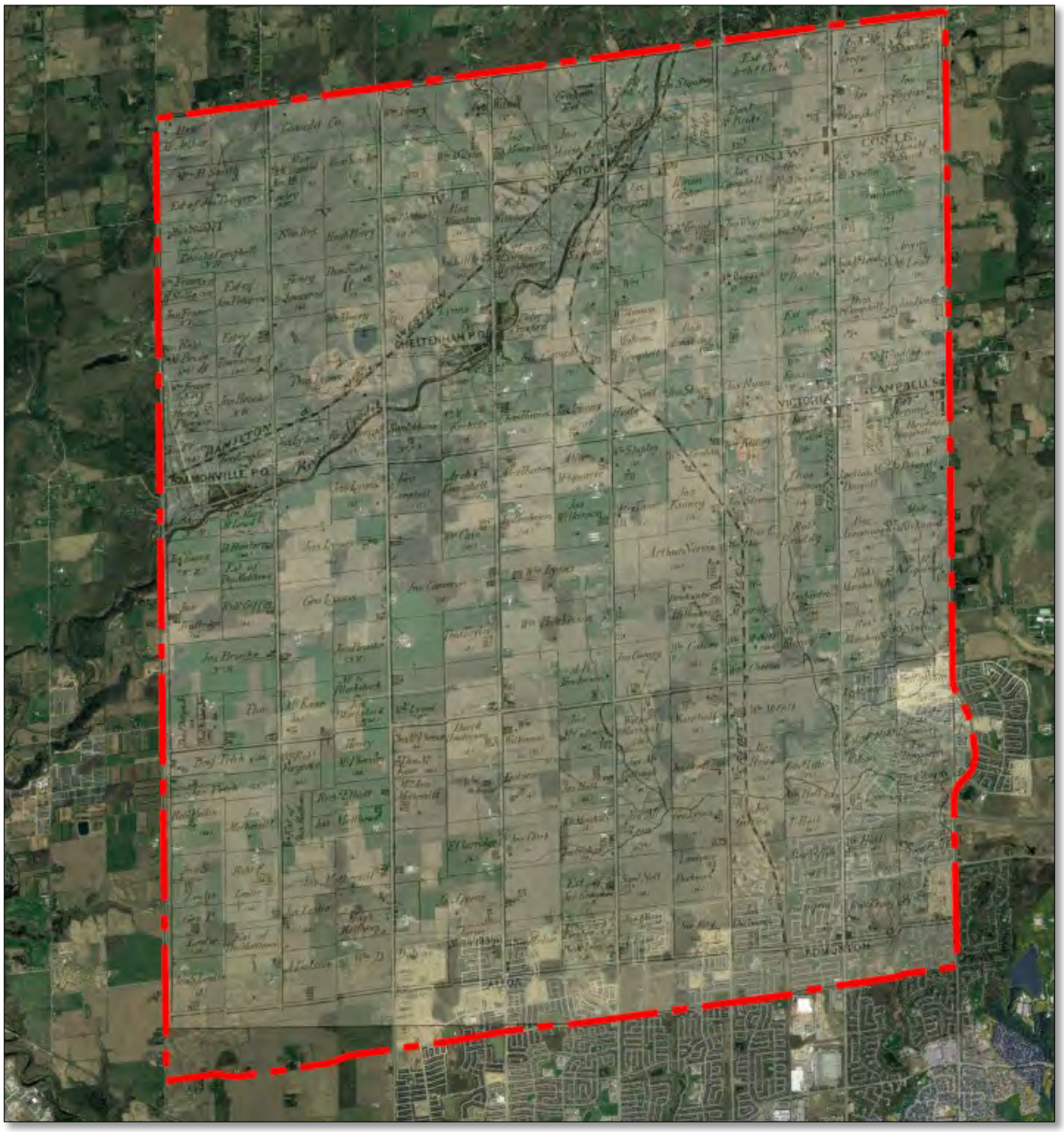


Figure 6- Excerpt of the 1877 Illustrated historical atlas of the county of Peel, Ontario, the northern part of Chinguacousy; red dotted line identifies Study Area (Courtesy of the Canadian County Atlas Digital Project).

History of Cheltenham

The communities of Cheltenham and Terra Cotta were important in the development of the lands contained within Study Area and particularly due to their proximity the railway lines. Cheltenham which was first settled in 1820 by Charles Haines who constructed a log grist mill (Scheinman, 7-4). By 1837, the village of Cheltenham had been incorporated. Ten years later, Haines established a larger grist mill as demand for local wheat increased; this grist mill was a significant building until it burned down in 1945 (Scheinman, 7-4). The descendants of the Charles Haines are attributed to developing the village, Frederick opened the first store in 1842 and Ebenezer was a general merchant, proprietor of a saw mill and bedstead and chair factory (Scheinman, 7-4). By 1855, the village had two taverns, two distilleries, three hotels and was a hub for the milling and marketing of wheat being produced in the northern Peel Plain. At the time of the publication of the Tremaine Map in 1859, the village plan was registered and expanded 10 years later.

The establishment of the railway (Hamilton and Northwestern Railway in 1874 and Credit Valley Railway in 1877) supported by the economic boom caused by the demand for agricultural goods due to the American Civil War. In 1886, there was a fire that unfortunately burned the majority of the original wood frame commercial buildings in the downtown core which were rebuilt in masonry.

In 1914, Interprovincial Brick, also known as "Cheltenham Brickworks" was established at Mississauga Road and Mill Street. The brickyards remained in operation until 1964, although was taken over by Domtar in 1928 (Scheinman, 7-5).

History of Terra Cotta

Terra Cotta (formerly named Tucker's Mills and Salmonville) received its current name in 1891 which was reflective of the local red clay that historically had been extracted from the brickworks (Raue, 11). The community was originally settled by Henry Tucker who named the settlement Tucker's Mills in 1855. Tucker commissioned the survey of 18 village lots, selling his holdings in 1859 to Simon Plewes who renamed the settlement "Plewe's Mills" (Rowe, 1). In 1866, a new name, "Salmonville" was given to the settlement with the establishment of the post office accounting from the ample amount of salmon that used to thrive in the Credit River. In addition to the extraction of the local red clay, limestone and sandstone were quarried in the area (Rowe, 1). By 1906, the Terra Cotta Pressed Brick Co. commenced followed by other brick companies including the Halton Brick Company. The combination of the Great Depression of 1929 and the destruction of the CNR train station by fire in 1956 caused a significant decline in industry in the community (Rowe, 2).

Review of Historical Topographic Maps and Aerials

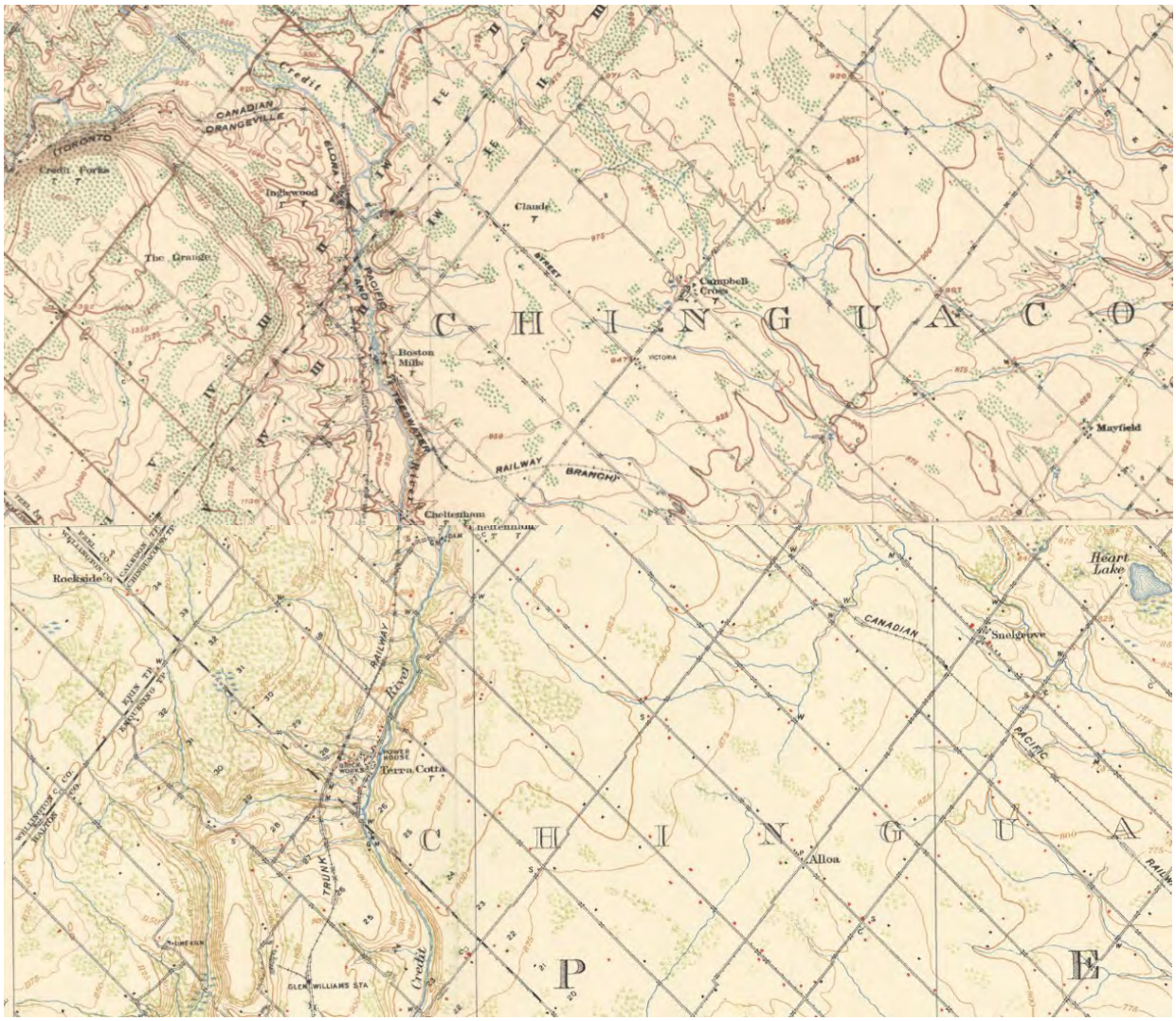
The historical topographic maps related to the Study Area are divided between Bolton, Ontario and Brampton, Ontario. The following reviews the topography of the Study Area in:

- North Side: 1914 (Bolton) & South Side: 1915 (Brampton)
- North Side: 1926 (Bolton) & South Side: 1929 (Brampton)
- North Side: 1940 (Bolton) & South Side: 1942 (Brampton)

The above topographic maps are reviewed in Figures 7-12. Aerials are also reviewed from 1954 and 2022 as a comparative analysis (Figures 13-15).

North Side: 1914 (Bolton) & South Side: 1915 (Brampton)

The topographic maps of 1914 and 1915 indicate that at the time, the Study Area was predominately rural primarily used for agricultural purposes. Brickworks and power house are identified in Terra Cotta. Urbanized areas included: Boston Mills, Campbell's Cross, Cheltenham, Snelgrove, Claude and Alloa.



Figures 7 & 8- (above) 1914 topographic map of Bolton; (below) 1915 topographic map of Brampton (Courtesy of the Historical Topographic Map Digitization Project).

North Side: 1926 (Bolton) & South Side: 1929 (Brampton)

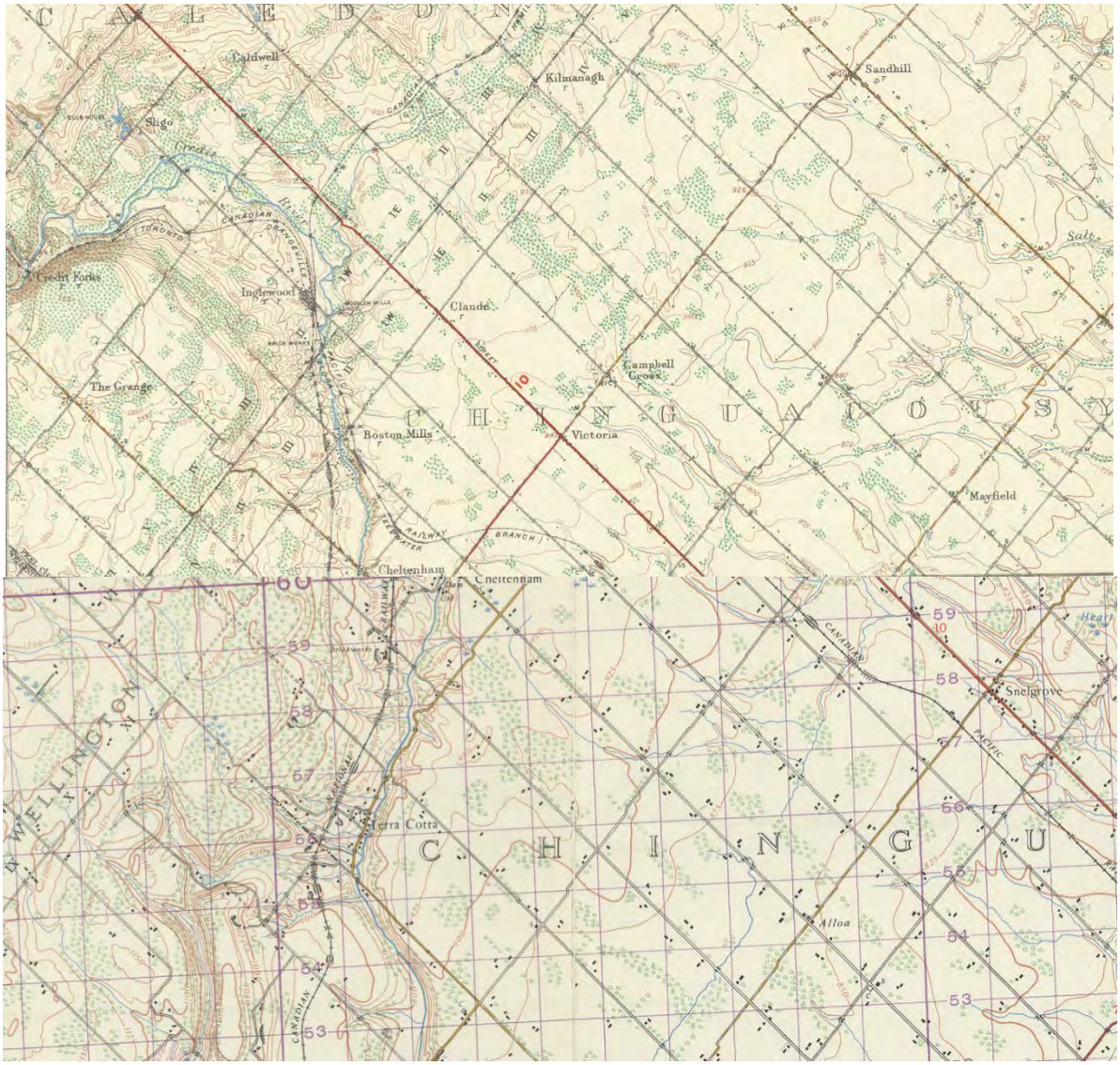
The topographic maps of 1926 and 1929 indicate that at the time, the Study Area was remained predominately rural, primarily used for agricultural purposes. Three brickworks are identified in Terra Cotta and south west of the community was a lime kiln. South of Inglewood within close proximity of Old Base Line Road are brickworks and woollen mill. The most urbanized areas include: Snelgrove, Cheltenham and Terra Cotta.



Figures 9 & 10- (above) 1926 topographic map of Bolton; (below) 1929 topographic map of Brampton (Courtesy of the Historical Topographic Map Digitization Project).

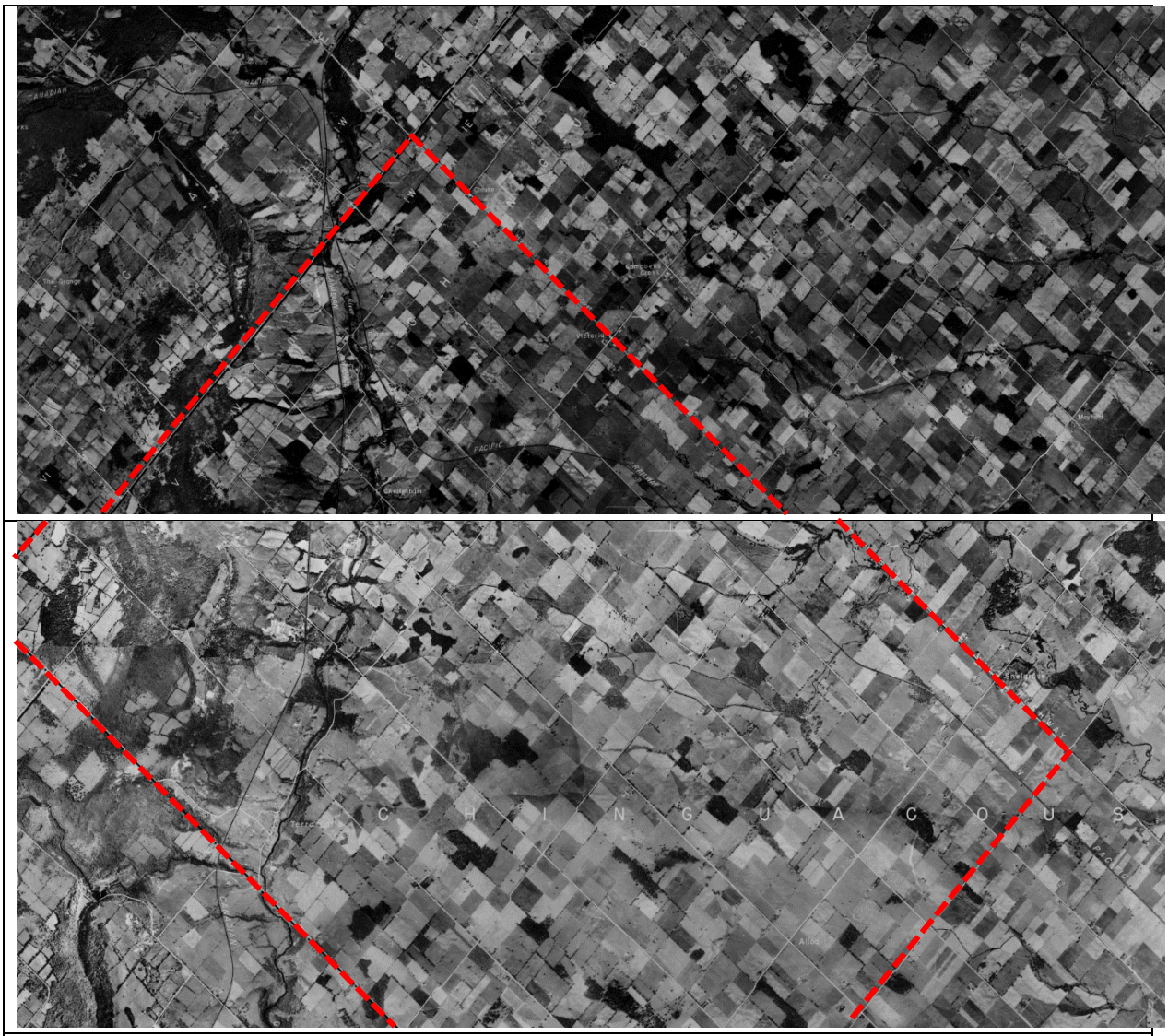
North Side: 1940 (Bolton) & South Side: 1942 (Brampton)

The topographic maps of 1940 and 1942 indicate that at the time, the Study Area remained predominately rural, primarily used for agricultural purposes. The brickworks previously identified in Terra Cotta are no longer present nor is the lime kiln south west of the community, however, there is a brickworks south-west of Cheltenham and the brickworks and woollen mill previously identified south of Inglewood are still present. The most urbanized areas include: Snelgrove, Cheltenham, Boston Mills, Victoria, Campbell's Cross, Claude and Terra Cotta. Buildings in the rural area are generously spaced along the Concessions; the spatial organization is representative of rural, agricultural homesteads.



Figures 11 & 12- (above) 1940 topographic map of Bolton; (below) 1942 topographic map of Brampton (Courtesy of the Historical Topographic Map Digitization Project).

In 1954, the evidence of land patterns, circulation and spatial organization of the broader Study Area, aside from the urbanized areas previously mentioned, is representative of a rural, farming community. There are woodlots amongst a collection of farmed land lots which contribute to the overall rural, agricultural landscape.



Figures 13 & 14- (above) 1954 aerial of north side of Study Area (Bolton); (below) 1954 aerial of south side of Study Area (Brampton) (Courtesy of the University of Toronto Air Photo Collection 1954).

Since the mid-20th century, the more urban areas of Cheltenham, Terra Cotta and Snelgrove grew. Currently, the majority of the Study Area includes agricultural lots and natural open space. In the past decade, the southern portion of the Study Area, particularly between County Road 14 (Mayfield Road) and Wanless Drive, has been developed into urban neighbourhoods.



Figure 15- 2022 aerial photograph including Study Area identified by red dotted line (Source: VuMap, 2022)

5.0 Cultural Heritage Assessment

5.1 Summary of Screening

The completion of the Provincial checklist, *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* by the *Ministry of Heritage, Sport, Tourism and Culture Industries* included in Appendix 'B' of this report, concluded the following for the Study Area:

- Includes identified, designated or otherwise protected properties under the Ontario Heritage Act as being of cultural heritage value;
- Includes a known cemetery;
- Contains buildings or structures that are 40 years or older;
- Is considered to have a landmark in the local community or contains any structures or sites that are important in defining the character of the area;
- Has a special association with a community, person or historical event; and,
- Contains or is part of a cultural heritage landscape.

Please note that properties and landscape features identified as part of a Cultural Heritage Landscape in the Town of Caledon are identified by "CB". Built heritage resources identified by the City of Brampton are identified by "BHR". The following sub-section identified the cultural heritage resources within the Study Area.

5.1.1 Protected Heritage Properties

- Eleven (11) protected heritage properties designated under Part IV of the *Ontario Heritage Act* in the Town of Caledon (see Table 1.0 below and referenced in Figure 16);

Table 1.0 – List of protected heritage properties designated under Part IV of the OHA in the Town of Caledon

Address	Brief Description	Reference in *Town of Caledon's Cultural Heritage Landscapes Inventory* (2009)
14411 Creditview Road	King-Brown House	CB-1
14409 Creditview Road	Beaver Hall	CB-2
14377 Creditview Road	Edwards-Andrews House	CB-3

14396 Creditview Road	Former Cheltenham Hotel	CB-4
14386 Creditview Road	Cheltenham Store	CB-5
14376 Creditview Road	Haines- Thoman House	CB-6
14318 Creditview Road	Haines-Lyons House	CB-7
1406 Mill Street Road	Haines-Reid House	CB-9
1402 Mill Street	Haines-Dennis House	CB-10
14360 Creditview Road	Haines Sawmill	CB-11
14575 Creditview Road	Unicorn House	CB-17

- Two (2) protected heritage properties designated under Part IV of the *Ontario Heritage Act* in the City of Brampton (see **Table 2.0** below and referenced in **Figure 16**);

Table 2.0 – List of protected heritage properties designated under Part IV of the OHA in the City of Brampton

Address	Brief Description	Reference in *Municipal Register of Cultural Heritage Resources*
12061 Huronontario Road	Archangel Michael & Saint Tekla Coptic Orthodox Church (Formerly Snelgrove Baptist Church)	BHR-3
11722 Mississauga Road	Dolson Farm	BHR-1

5.1.2 Listed (Non-deisgnated) Heritage Properties

- Two (2) listed properties on the Town of Caledon's municipal heritage register (see **Table 3.0** below and referenced in **Figure 16**);

Table 3.0 – List of listed (undesignated) properties

Address	Brief Description	Reference in *Town of Caledon's Cultural Heritage Landscapes Inventory* (2009)
Cheltenham Brickworks	Collection of brick industrial buildings associated with early 20th century brickworks located off of Mississauga Road	CB-14
14460 Creditview Road	Brick farmstead with mature trees	CB-18

- Two (2) listed properties on the City of Brampton's Municipal Register of Cultural Heritage Resources (see **Table 4.0** below and referenced in **Figure 16**);

Table 4.0 – List of listed (undesignated) properties

Address	Brief Description	Reference in Reference in *Municipal Register of Cultural Heritage Resources*
11687 Chinguacousy Road	No description provided in register.	BHR-3
11248 Mississauga Road	No description provided in register.	BHR-2

5.1.3 Cultural Heritage Landscapes Inventory

- The Study Area is identified on the *Town of Caledon's Cultural Heritage Landscapes Inventory* (2009) as "Cheltenham and the Brickworks" cultural heritage landscape (as part of the Credit River Valley: Settlements of the Niagara Escarpment, see **Table 5.0** and referenced in **Figure 16** and **Appendix 'A'**) which includes two (2) identified streetscapes and one (1) viewscape;

Table 5.0 – Streetscapes and viewscape

Brief Description	Reference in *Town of Caledon's Cultural Heritage Landscapes Inventory* (2009)
The streetscape along Creditview Road	CB-8
The streetscape along Mill Street to the 'elbow'	CB-12
View from Mississauga Riad northwest to the brickyards	CB-15

The Statement of Significance identified for this landscape within the Study Area is as follows:

> *Charles Haines was relatively newly arrived in Canada when he and his sons made their way to his allotment on the Credit River in the newly surveyed Chinguacousy Township. Trained as a millwright he had, by 1827 constructed a grist mill of one run of stones at a southwest bend in the river which came to serve the steadily increasing number of settlers to the area. The neighbouring Peel Plain proved to be a prime wheat growing area and this, in association with world events such as the Crimean War and the American Civil War, gave continued impetus to*

the Haines' mill. In 1847 Haines' built a much larger flour mill of three run of stones which was a village landmark until its razing in 1945. The mill became the catalyst for further development in the immediate vicinity, initially in the form of hotels/taverns along 3rd Line (Creditview Road) to serve the farmers whose wheat was being ground. Gradually permanent settlement increased on land severed largely from the Haines' holdings. Through the 1840's the Haines' family opened a store (1842) and a sawmill was constructed across from the grist mill. The Haines family continued to be at the centre of village growth throughout the 19th century making it the most important milling and marketing village in northwest Chinguacousy. From earliest settlement the potential for brick making from local shales/clays was known and by the mid 19th century small scale production was being undertaken throughout the stretch of the Credit Valley between Cheltenham and Terra Cotta (then known as Salmonville) including the site of the Cheltenham Brickworks. However with the purchase of that site by Interprovincial Brick in 1912, the manufacturing of brick increased to a national scale, continuing until 1964. The village of Cheltenham retains a high percentage of its historic form, fabric and context. Many properties are designated under the Ontario Heritage Act with an appropriate focus on the Haines family. It is a picturesque, appealing village through the retention of its heritage character (Section 7.14, Town of Caledon's Cultural Heritage Landscapes Inventory (2009)).

- Cheltenham Badlands designated as a provincially significant Earth Science Area of Natural Scientific Interest (ANSI) operating under the Ontario Heritage Trust;

- 5 registered cemeteries (referenced in **Figure 16**);

Table 6.0 – Cemeteries
Old Snelgroce Cemetery
St. John Anglican's Cemetery
Cheltenham Cemetery
Boston Mills Cemetery
Cork Cemetery

- Seven (7) trails including former railscape (Caledon Trailway) that could be potential cultural heritage landscapes;

Table 7.0 – Trails
Caledon Trailway
Bruce Trail
Cheltenham Badlands
Creditview Trail
Etobicoke Creek Trail
Rockside Side Trail
Fletcher's Creek Recreation Trail

There are over 16,000 parcels located in the Study Area many of which include buildings and/or structures that were constructed prior to 1982 based on the 40 year threshold and therefore, may have potential cultural heritage value or interest (CHVI).

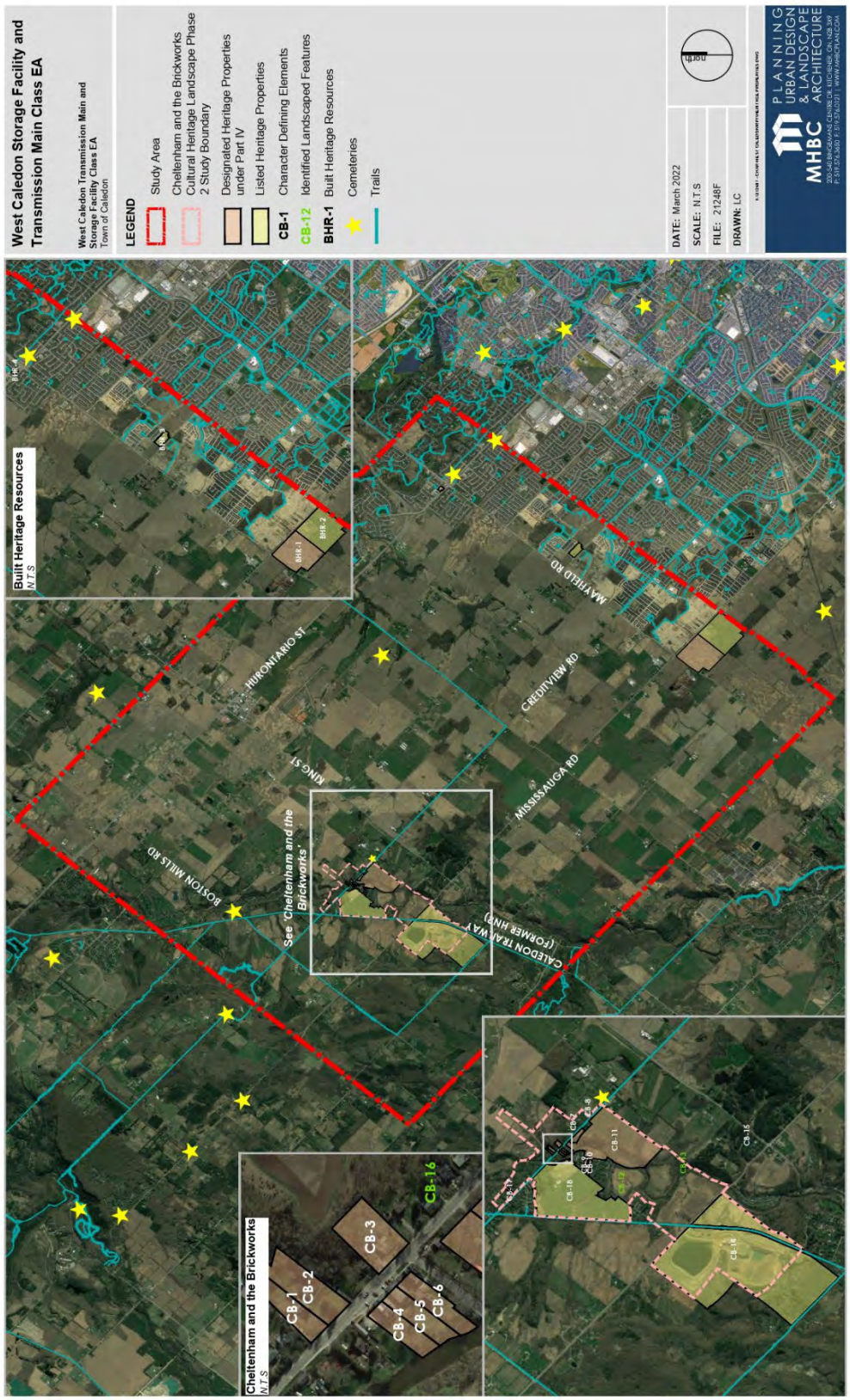


Figure 16- Map figure identifying built heritage and cultural heritage landscapes (Source, MHBC, 2022)

6.0 Conclusions and Recommendations

In conclusion, the Provincial checklist, *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* by the *Ontario Ministry of Tourism, Culture and Sport* (currently the *Ministry of Heritage, Sport, Tourism and Culture Industries*) identifies potential and identified built heritage and cultural heritage landscapes ("cultural heritage resources"). The following identifies inventoried/ listed and designated cultural heritage resources in the Study Area (see Section 5.0 for more detailed information):

- Total of 13 protected heritage properties designated under Part IV of the *Ontario Heritage Act* in the Town of Caledon and City of Brampton;
- Total of four (4) listed properties on the Town of Caledon's municipal heritage register and City of Brampton Municipal Register of Cultural Heritage Resources;
- The Study Area is identified on the *Town of Caledon's Cultural Heritage Landscapes Inventory* (2009) as "Cheltenham and the Brickworks" cultural heritage landscape (as part of the Credit River Valley: Settlements of the Niagara Escarpment) which includes two (2) identified streetscapes and one (1) viewscape;
- Cheltenham Badlands designated as a provincially significant Earth Science Area of Natural Scientific Interest (ANSI) operating under the Ontario Heritage Trust;
- 5 registered cemeteries; and,
- 7 trails (includes The Bruce Trail and the Caledon Trail way).

Since there is a high concentration of cultural heritage resources within the identified "Cheltenham and the Brickworks" inventoried cultural heritage landscape from the *Town of Caledon's Cultural Heritage Landscapes Inventory* (2009), it is recommended that sites and alignments avoid this identified area, and if unfeasible, avoid particularly the eastern side of the identified landscape which includes the majority of the identified 'listed' and 'designated' heritage properties.

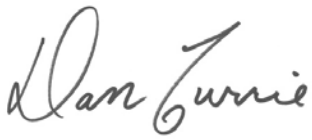
It is recommended that the proposed site and alignment take into consideration the above cultural heritage constraints. Once a shortlist of routes and/ or sites are determined, it is

recommended that a Stage Two cultural heritage assessment be completed to assess relativity to potential and identified cultural heritage resources and their existing conditions as it relates to short-listed alternative routes and sites.

Respectfully submitted,



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Heritage Planner, MHBC



Dan Currie, MA, MCIP, RPP, CAHP
Partner, MHBC

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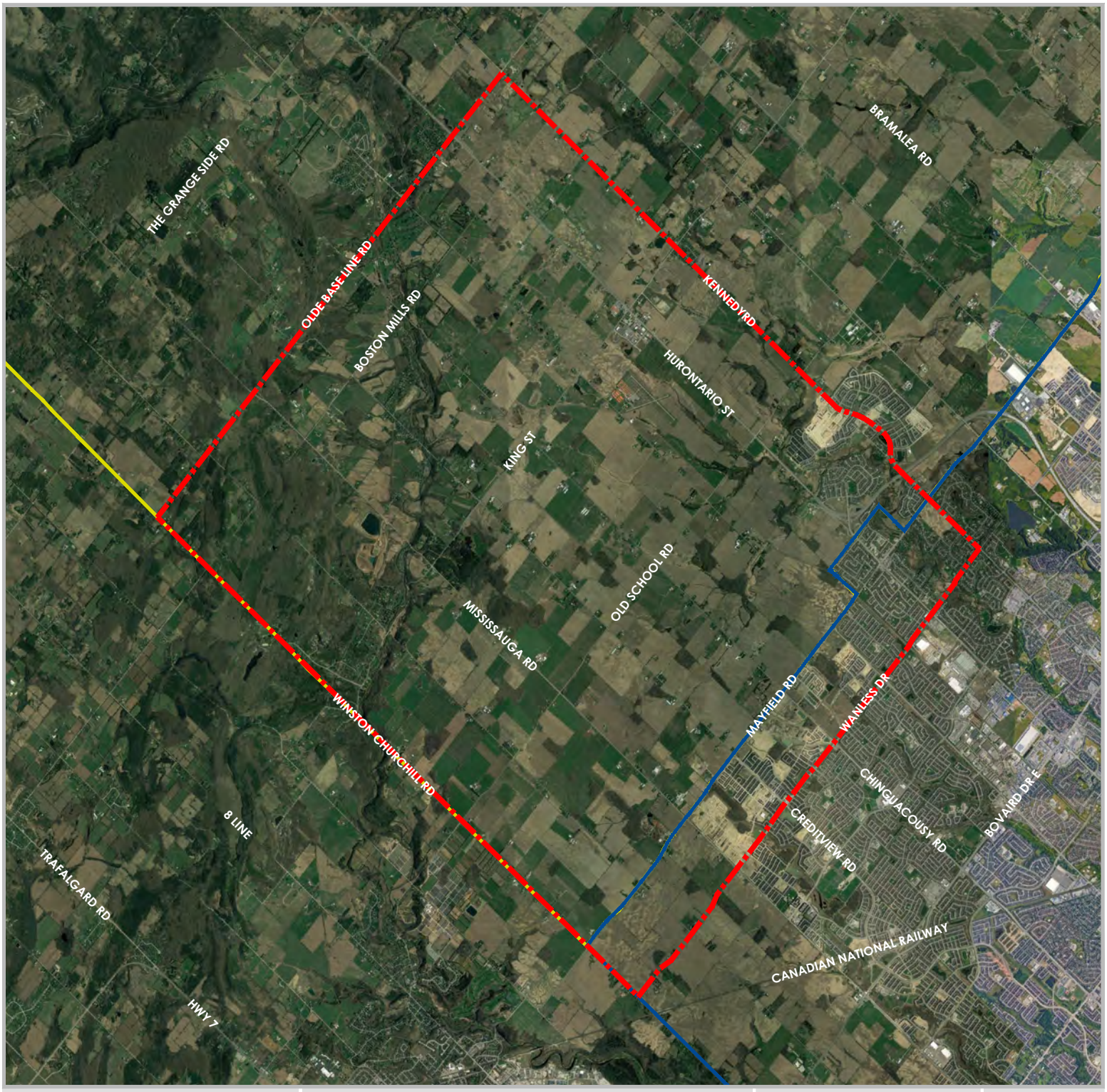
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Appendix A

Map Figures



Study Area

LEGEND

- Study Area
- Town of Caledon Boundary
- City of Brampton Boundary

DATE: March 2022

SCALE: N.T.S

FILE: 21248F

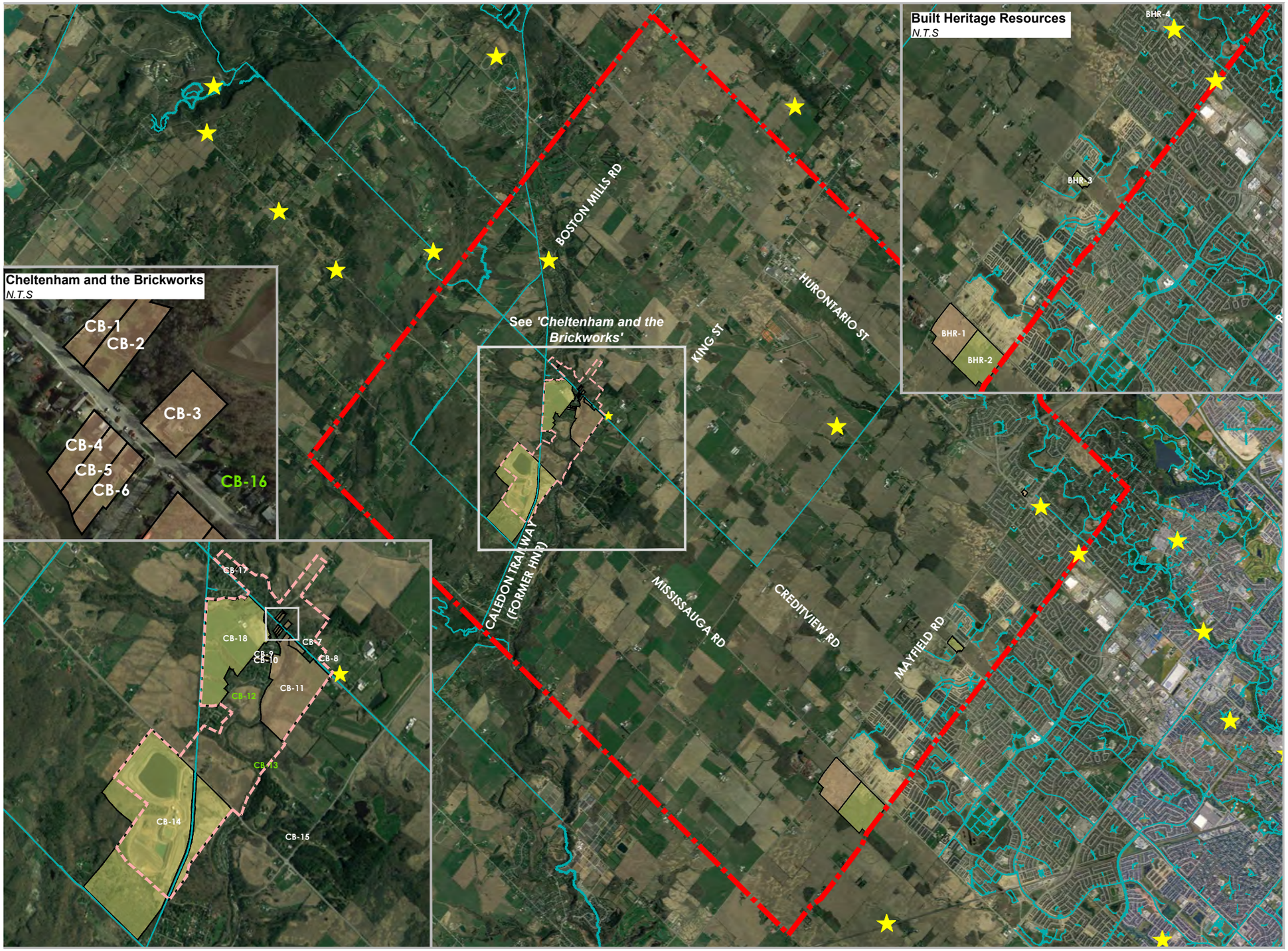
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West Caledon Transmission Main and Storage Facility Class EA
Town of Caledon

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR, KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM



West Caledon Storage Facility and Transmission Main Class EA

West Caledon Transmission Main and Storage Facility Class EA
Town of Caledon

LEGEND

- Study Area
- Cheltenham and the Brickworks Cultural Heritage Landscape Phase 2 Study Boundary
- Designated Heritage Properties under Part IV
- Listed Heritage Properties
- **CB-1** Character Defining Elements
- **CB-12** Identified Landscaped Features
- **BHR-1** Built Heritage Resources
- Cemeteries
- Trails

DATE: March 2022
SCALE: N.T.S
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Appendix B

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes Checklist

Clear Form Print Form

Ministry of Tourism, Culture and Sport

Programs & Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
  - is a recognized heritage property
  - may be of cultural heritage value
- it 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 roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

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Project or Property Name
West Caledon Transmission Main and Storage Facility Class EA

Project or Property Location (upper and lower or single tier municipality)
West Caledon, Region of Peel, Ontario

Proponent Name
GM BluePlan Engineering Limited

Proponent Contact Information
sandra.anastasio@gmblueplan.ca, 416-428-2836

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☑

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found **not** to be of cultural heritage value?	☐	☑

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value?	☑	☐
b. a National Historic Site (or part of)?	☐	☑
c. designated under the *Heritage Railway Stations Protection Act*?	☐	☑
d. designated under the *Heritage Lighthouse Protection Act*?	☐	☑
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	☐	☑
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	☐	☑

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	☐	☑
b. has or is adjacent to a known burial site and/or cemetery?	☑	☐
c. is in a Canadian Heritage River watershed?	☐	☑
d. contains buildings or structures that are 40 or more years old?	☑	☐

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	☑	☐
b. has a special association with a community, person or historical event?	☑	☐
c. contains or is part of a cultural heritage landscape?	☑	☐

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act, Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
  - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's Ontario Heritage Toolkit or Standards and Guidelines for Conservation of Provincial Heritage Properties.

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

i. designated under the *Ontario Heritage Act*

- individual designation (Part IV)
- part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note**: To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
- Ontario Heritage Trust
- local land registry office (for a title search)

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ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- Ontario Heritage Trust - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
- municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
- local land registry office (for a title search)

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iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
- municipal heritage planning staff
- municipal heritage committee

---

iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act.* **Note**: To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
- Ontario Heritage Trust

---

v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the National Historic Sites website.

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the Directory of Designated Heritage Railway Stations.

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the Heritage Lighthouses of Canada website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the Federal Heritage Buildings Review Office.

See a directory of all federal heritage designations.

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – World Heritage Site website.

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- municipal heritage committees or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's Heritage directory – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a list of plaques commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a list of plaques commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a database of registered cemeteries
- Ontario Genealogical Society (OGS) – to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to locate early cemeteries

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the Canadian Heritage River System.

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide Heritage Property Evaluation.

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- municipal heritage committees or local heritage organizations
- Ontario Historical Society's "Heritage Directory" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through Ontario Trails.

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PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3F: Hydrogeological Desktop Study

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.

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HYDROGEOLOGICAL DESKTOP STUDY

PREFERRED ALIGNMENT
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA
REGION OF PEEL, ONTARIO

Client Name: GEI Canada
Date: December 12, 2025
File: 32826

Suite 202 - 1908 Ironoak Way, Oakville, ON L6H 0N1 | Phone: (905) 829-8666

THURBER

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APPENDICES

APPENDIX A

MECP Well Records

1. INTRODUCTION

At the request of GEI Canada (GEI), Thurber Engineering Ltd. (Thurber) has prepared an updated Hydrogeological Desktop Study that focuses on the preferred alignment of the West Caledon Transmission Main and Storage Facility in support of the ongoing Class EA Study.

The purpose of this study is to provide a description of the local geology and anticipated subsurface conditions along the preferred new transmission main and water storage facility based on available background information, evaluate potential dewatering requirements and potential impacts based on the proposed design and construction of the new trunk watermain.

It is a condition of this report that Thurber's performance of its professional services is subject to the attached Statement of Use and Interpretation of Report.

2. SITE DESCRIPTION AND BACKGROUND

Thurber previously provided a geotechnical and hydrogeological desktop study for a number of selected short listed transmission main alignments, dated August 31, 2023. GEI has reported that Mississauga Road from between Mayfield Road and Old School Road has been selected as the preferred transmission main alignment.

The following preliminary design drawings were prepared by GEI and made available to Thurber:

- *Project No. XX-XXXX PEEL WEST CALEDON STORAGE FACILITY EA MISSISSAUGA ROAD FROM MAYFIELD ROAD TO OLD SCHOOL ROAD.* Prepared by GEI Consultants Canada. Dated June 2025.

As noted on the drawings, a new 750 mm diameter transmission main will extend from the Alloa Pumping Station, to the north and west through easements to Mississauga Road, then north along Mississauga Road to the proposed West Caledon storage facility (elevated tower). A proposed 600 mm diameter feedermain will extend from the elevated tower south along Mississauga Road and connecting with an existing watermain on Mayfield Road. The elevated tower will be located next to Mississauga Road (on the east side), approximately 430 m south of the intersection of Old School Road and Mississauga Road.

Based on the preliminary conceptual design, it is understood that 750 mm and 600 mm concrete pressure pipes will be installed for the transmission main and feedermain, respectively. The invert depth of the proposed transmission watermain and feedermain ranges from approximately 3 m to 6 m below ground surface along the total length of the alignment. Several chambers are also proposed to be installed at depths ranging from 2.8 m to 7 m below ground surface. Based on the

design drawings, the foundations of the elevated tower are expected to extend from 4 m to 6 m below ground surface.

The preferred alignment (along Mississauga Road) and selected Storage Site is further shown on Figure 1, including an area within a distance of approximately 500 m from the alignment defined as the “Study Area”.

2.1 Reference Information

The following data sources were reviewed to develop preliminary profiles, Figures, and a description of subsurface conditions for the preferred alignment:

- York, Peel, Durham, Toronto and The Conservation Authorities Moraine Coalition (YPDT-CAMC) Oak Ridges Moraine.
- MECP Well Records, Permits To Take Water, and Environmental Activity and Sector Registry (EASR) water taking registrations.
- Ontario Geological Survey geologic and topographic mapping.
- Natural Heritage and Information Centre mapping.

Additionally, the following relevant reports were previously prepared by Thurber and used in preparing the description of the subsurface:

- Alloa Feedermain & Watermain and Mississauga Road Truck Sanitary Sewer, Geotechnical Data Report, Brampton, Ontario, May 2012.
- Geotechnical Investigation, Mayfield Road Class EA Study, Winston Churchill Boulevard to Chinguacousy Road, Brampton / Caledon, Region of Peel, January 2015.
- Geotechnical Investigation and Pavement Analysis Report, Mayfield Road Reconstruction, Mississauga Road to Chinguacousy Road, Brampton / Caledon, Region of Peel, March 2019.
- Hydrogeology Investigation, Mayfield Road Reconstruction, Mississauga Road to Chinguacousy Road, Brampton / Caledon, Region of Peel, March 2019.

2.2 Topography and Drainage

The Study Area is located within the Credit River Watershed and the Etobicoke Creek Watershed, which fall under the jurisdiction of Credit Valley Conservation (CVC) and the Toronto and Region Conservation Authority (TRCA), respectively. The regional topography slopes generally in a southerly direction. Ground surface within the Study Area undulates gently and elevations range from about 280 m at Old School Road to approximately 265 m at Mayfield Road. A topographic map of the Study Area is shown on Figure 2. Overland flow in the Study Area is generally interpreted to follow the existing topography, with the Study Area generally draining to the tributary

of Etobicoke Creek except for the southern portion of the Study Area, where surface water is expected to drain towards the tributaries of Credit River.

2.3 Physiography

The Study Area is situated within the physiographic region of Southern Ontario known as the South Slope. The South Slope is typically a drumlinized area consisting of areas of thin (<1 m) aeolian sand deposits underlain by glacial deposits, primarily till (Chapman and Putnam, 1984). A physiographic region map of the Study Area is shown on Figure 3. The predominant physiographic landform found within the Study Area is till plains (drumlinized).

2.4 Regional Geology and Hydrogeology

Geological and hydrogeological conditions were based on publicly available information obtained from the Ontario Geological Survey (OGS), and York, Peel, Durham, Toronto and the Conservation Authorities Moraine Coalition (YPDT-CAMC) Oak Ridges Moraine Groundwater Program (ORMGP), and TRCA.

The surficial geology of the Study Area consists primarily of clay to silt-textured till, derived from glaciolacustrine deposits or shale. Smaller areas of fine-textured glaciolacustrine deposits composed of silt and clay, minor sand and gravel, interbedded with silt and clay and gritty, pebbly flow till and rainout deposits, and modern alluvial deposits composed of clay, silt, sand, gravel, and may contain organic remains, are found within the Study Area (OGS, 2010). The surficial geology of the Study Area is shown on Figure 4.

The predominant bedrock of the Study Area consists of shale, limestone, dolostone, and siltstone of the Queenston Formation (OGS, 2011). The bedrock surface in the vicinity of the Site is expected to be at approximate elevation of 237 m to 257 m or between 17 m to 29 m below ground surface. The bedrock geology of the Study Area is shown on Figure 5.

The regional geological cross section for the preferred road option is provided on Figure 6. Based on the review of the geological cross section the following units overlie the bedrock in the Study Area from the youngest to oldest:

- Undifferentiated Upper Sediments - This unit consists of a thin veneer of glaciolacustrine deposits of fine sands, silts, and clays or modern alluvial or organic deposits. Locally, undifferentiated upper sediments can reach several metres thick (TRCA, 2010).
- Halton Till - The Halton Till is typically 3 m to 6 m thick and comprises of sandy silt to clayey silt till. The Halton Till is estimated to be approximately 4 m to 23 m thick in the vicinity of the Site and encountered approximately at elevation ranging from 261 m to of 275 m.

- Oak Ridges Moraine – The Oak Ridges Moraine Aquifer consists of fine sands and silt materials, with coarse sand and gravel occurring locally. Regionally, the aquifer is 160 km long and 5 to 20 km wide with a maximum thickness of approximately 150 m. In the vicinity of the Site, the Oak Ridges Moraine is intermittent and has a maximum thickness up to 3 m thick and encountered ranging approximately from an elevation of 240 m to 267 m.
- Newmarket Till – The Newmarket Till including the Upper Newmarket Till, Inter-Newmarket Sediment, and Lower Newmarket Till was deposited by the Laurentide ice sheet and consists of mainly sandy silt to silty sand with limestone clasts. Discontinuous sand units up to 2 m thick may be present (TRCA, 2010). In the vicinity of the Site, the Newmarket Till is intermittent and has a maximum thickness up to 15 m and encountered approximately from elevations ranging from 240 m to 260 m.
- Thorncliffe Formation – The Thorncliffe Formation consists of glaciofluvial deposits of sand and silty sand. Regionally, it acts as an aquifer with variable grain size and thickness. Within the vicinity of the Site, the Thorncliffe Formation is intermittent with a maximum thickness of 8 m, and encountered at approximate elevations from 240 m to 262 m.

Information obtained from the OGRMP shows that the regional groundwater flow is in a southeasterly direction, towards Lake Ontario. The water table in the vicinity of the Site is anticipated to be encountered between elevation 253 m to 270 m, or between 2 m to 10 m below ground surface.

Information collated from the Etobicoke Creek Watershed Characterization report (TRCA, 2021), augmented by climate modelling from the ORMGP, indicate that the tributaries of Etobicoke Creek within West Caledon are typically characterised as discharge zones, where the surface water features are classified as groundwater dependent systems. However, additional investigation may be needed, to determine the vertical hydraulic gradients and to confirm the relationship between groundwater and surface water.

2.5 Existing Borehole, Monitoring Well, and Records Information

Based on available borehole and well record information, the subsurface conditions generally appear to consist of various layers of silty clay to clayey silt till, clay, silty sand till to sand & silt till, sand, gravel, and silt, above shale bedrock. Previous boreholes advanced at the intersection of Mayfield Road and Mississauga Road encountered bedrock at approximately 6 m below ground surface.

A slug test was previously conducted by Thurber in monitoring well 18-C1, screened primarily within the stiff to hard silty clay till deposit, located on Mayfield Road approximately 420 m northeast of Mississauga Road, yielded a hydraulic conductivity value for the silty clay till of 1.1 x

10^{-7} m/s. Based on the published book “Groundwater” by Freeze and Cherry, 1979, the K Values within glacial till can range from 10^{-12} to 10^{-6} m/s.

2.6 MECP Well Records Review

A search of the Ministry of Environment, Conservation and Parks (MECP) well records database conducted in July, 2025 with the Study Area returned a total of 118 records (MECP, 2025a). The approximate locations of the well records are shown on Figure 7. A summary of well record details is provided in Table 2-1 below. Of the available 118 well records, 53 were identified as water supply wells. Details of the MECP well records are further shown in Appendix A.

Table 2-1: MECP Well Records Details

Well Use Description	Count	%
Abandoned / Other / Unknown/ Replacement Well	48	41%
Monitoring/Observation Test Well	17	14%
Water Supply	53	45%
Total	**118**	**100%**

The shallowest water supply well based on the well records had a depth of 7.3 m below ground surface, located adjacent to Old School Road at a distance approximately 370 m northwest of the Site. The deepest water supply based on the well records had a depth of 55.2 m and was located adjacent to Malala Yousafzai Public School on Mayfield Road, approximately 150 m southeast of the transmission line at Alloa Reservoir and pumping station.

The shallowest depth to bedrock recorded on the well records was 0.9 m, the deepest depth to bedrock recorded on the well records was 29.6 m and the average depth to bedrock within the Study Area based on the well records was approximately 13 m.

The shallowest static water level recorded on the well records was 0.3 m, the deepest static water level recorded on the well records was 22.9 m, and the average static water level based on the well records was approximately 5 m.

Considering water supply wells are found within the Study Area, dewatering activities could impact the quantity and/or quality of water obtained by water well users within the radius of influence. A baseline private well survey is recommended to be conducted during final design stages. The private well survey would consist of canvassing well users within the Study Area for background information on their wells and to request permission for Thurber to collect a single water level and non-treated well water sample from their well. The results of the private well survey will assist in verifying potential impacts on well users and provide the data required to document the effects, where permission is given by residents to monitor their wells. Remedial measures that the Region

of Peel may consider for affected well users include the provision of potable water or assistance with improving or restoring well productivity.

2.7 Existing Water Taking Permits

A search of permitted water takers within the Study Area was conducted in July 2025 and indicated no active PTTW permits existed within the Study Area.

A search of MECP's EASR mapping application (MECP, 2025b) in July 2025 indicated one EASR water taking registration for construction dewatering (approval number R-009-1272773382), registered under Eastern Construction Company Limited (Ltd)., located approximately 200 m southeast of the intersection of Mayfield Road and Mississauga Road. The location of the EASR registration is illustrated on Figure 7.

2.8 Source Water Protection Areas

The MECP mandates the protection of existing and future sources of drinking water under the Clean Water Act, 2006 (CWA). Initiatives undertaken under the CWA include the delineation of wellhead protection areas (WHPAs), significant groundwater recharge areas (SGRAs) and highly vulnerable aquifers (HVAs) as well as the assessment of drinking water quality and quantity threats within Source Protection Regions. A review of the MECP Source Protection Information Atlas (MECP, 2025c) mapping indicated that no WHPAs are located in the Study Area; however, portions of the Site are located within a HVA with a score of 6. In addition, SGRAs are located approximately 380 m east of the Site.

SGRAs are areas that are characterized by porous soils, such as sand or gravel which allows water to easily infiltrate into the aquifer. A HVA is an aquifer that is particularly susceptible to contamination due to the presence of highly permeable sediments that are located close to ground surface.

HVAs intersect the Site on Mississauga Road from approximately 640 m to 950 m from the intersection of Old School Road and Mississauga Road and from the intersection of Mississauga Road and Mayfield Road (0 m) to 785 m northwest of the intersection.

The Source Water Protection Features located within the Study Area are illustrated on Figure 8.

2.9 Environmental Features

A review of the Natural Heritage Map by the Ministry of Natural Resources (MNR) in July 2025 indicated that no Areas of Natural Scientific Interest (ANSI) are located within the Study Area. A provincially significant wetland evaluated per the Ontario Wetland Evaluation System (OWES) as part of the *Huttonville Creek & Area Wetland Complex* is located within the Study Area, southeast

of the Site, approximately 200 m southeast of the Alloa Reservoir and pumping station. The Etobicoke Creek II Wetland Complex intersects a small portion of the southwestern portion of the Study Area and is approximately 300 m at the nearest point. All other significant and non-significant wetlands are located further outside of the Study Area.

The Study Area is predominantly located within the Toronto Source Protection Area (SPA). Portions of the Study Area, namely along Mayfield Road are located with the Credit Valley SPA. Credit Valley Conservation (CVC) and Toronto and Region Conservation Authority (TRCA) regulated areas exist within the Study Area, generally situated around the creeks and watercourses. The tributaries of Etobicoke Creek are under the jurisdiction of the TRCA, and the tributaries of the Credit River are under the jurisdiction of the CVC. However, only a relatively small portion of the Site is under jurisdiction of the CVC, located southeast of the Site. The Site and Study Area are located within the Region of Peel.

A tributary of Etobicoke Creek passes through the southern portion of the Site. Based on the extents of the TRCA regulated areas, a tributary of Etobicoke creek is expected to pass through the northern portion of the Site, located approximately 800 m southeast of the proposed water supply tower. Additionally, the tributaries are expected to run parallel to the transmission line and feedermain. The tributaries of Etobicoke creek are interpreted to be flowing in a general easterly direction towards Etobicoke Creek.

The environmental features located within the Study Area are illustrated on Figure 9.

3. PRELIMINARY DEWATERING RECOMENDATIONS

Groundwater taking for construction dewatering is governed by the Ontario Water Resources Act (OWRA), Environmental Protection Act (EPA) and the Water Taking and Transfer Regulation 387/04, a regulation under the OWRA. Effective July 1, 2025, amendments to Ontario Regulation 63/16 have removed the upper volumetric limit for construction site dewatering. As a result, any construction dewatering activity involving the taking of more than 50,000 litres per day of groundwater, stormwater, or a combination of both must be registered on the EASR.

Information from the ORMGP and design drawings indicates that the proposed excavation may extend to an elevation of 255.8 m approximately 580 m from the intersection of Mississauga Road and Mayfield Road. This is significant because it potentially penetrates the Oak Ridges Moraine Aquifer Complex (ORAC), where the top of the ORAC is predicted to be at an elevation of between 254 m to 257 m within that approximate area. Based on the ORMGP, the local groundwater table may be encountered at an elevation from 259 m to 270 m, indicating the potential for saturated conditions and thus, potential significant dewatering requirements.

At this time, pumping rates could not be determined. However, based on the current understanding of the Site conditions and the depth of excavation, registration on the EASR is anticipated to be required.

It should be noted that potential dewatering estimates vary depending on the geological conditions encountered. Permeable geological units such as sand and gravels that exhibit a higher conductivity yield larger estimates relative to more cohesive, less permeable geological materials such as clay.

At this time, options for groundwater discharge have not been selected. As such, it is recommended that groundwater quality samples be collected to evaluate potential discharge options. Depending on the preferred option for discharge, a discharge agreement may need to be obtained. If discharge to the natural environment is proposed, approval from the CVA or TRCA may need to be obtained prior to discharge. Consultation with all governing bodies may be required. If it is determined upon additional investigation and analysis that an EASR will be required, a discharge report, and a monitoring and contingency plan will be required as outline in the activity requirements under Ontario Regulation (O.Reg) 63/16. The criteria as outlined under O.Reg 63/16 must be adhered to including discharge water taken during the construction project has no visible petroleum hydrocarbon film or sheen present on any ground water or storm water that is intended to be discharged to land or storm sewer.

Any groundwater that is discharged to land or storm sewer that is within 30 m of a water body shall ensure that turbidity of the discharge does not exceed 9 Nephelometric Turbidity Units (NTU). The background turbidity levels should be measured upstream and out of influence of the discharge location. Any erosion, sediment and total suspended solids control measures should be used, operated and maintained as per the recommendations of the manufacturer, or in the absence of manufacturer recommendations, as directed in a discharge report. The concentration of total suspended solids (TSS) should not exceed 25 mg/L.

4. TECHNICAL EVALUATION OF PREFFERED ALIGNMENT

A hydrogeological review of the preferred Mississauga Road alignment is described below:

- Based on the preliminary conceptual design it is understood the invert depth of the proposed transmission main and feedermain will range from 3.0 m to 6.0 m below ground surface along the total length of the alignment.
- A slug test was previously conducted by Thurber in monitoring well 18-C1, screened primarily within the stiff to hard silty clay till deposit, located on Mayfield Road approximately 420 m northeast of Mississauga Road, yielding a hydraulic conductivity

value for the silty clay till of 1.1 x 10^{-7} m/s. Additional hydrogeological investigation is recommended as described in Section 5 of this report.

- Based on the MECP Well Record database (MECP, 2025a), 53 water supply wells were identified to be within the Study Area. The shallowest static water level recorded on the well records was 0.3 m below ground surface, the deepest static water level recorded on the well records was 22.9 m below ground surface, and the average static water level based on the well records was approximately 5 m. It is recommended that a private well survey be conducted as described in Section 5 of this report.
- The Study Area is located within a HVA and SGRA. The HVA intersects the Site at the along Mississauga Road from approximately 640 m to 950 m from the intersection old School Road and Mississauga Road and from the intersection of Mississauga Road and Mayfield Road (0 m) to 785 m northwest of the intersection. The SGRA is located approximately 380 m east of the Site.
- The Study Area is predominantly located within the Toronto Source Protection Area (SPA). Portions of the Study Area, namely along Mayfield Road, are located with the Credit Valley Source Protection Area SPA. Credit Valley Conservation (CVC) and Toronto and Region Conservation Authority (TRCA) regulated areas exist within the Study Area, generally situated around the creeks and watercourses.
- Groundwater in the vicinity of the Site is anticipated to be encountered between elevation 253 m to 260 m, or between 2 m to 11 m below ground surface.
- Shallow saturated deposits of the ORAC may be encountered within the southeastern portion of the Site. Information from the design drawings indicates the potential that excavations for the watermain will extend into these deposits and significant dewatering may be required. It is recommended that if ORAC conditions are encountered at the anticipated excavation depths then monitoring wells should be installed and additional hydraulic conductivity tests be conducted.

4.1 Preliminary Impact assessment

Within the construction dewatering Zone of Influence, potential impacts such as ground subsidence, reduction in groundwater flow to groundwater users and water courses, and other impacts must be considered. The potential impacts discussed herein at a high level and should be re-evaluated and developed further for detailed design.

- The potential for ground settlement resulting from construction dewatering is generally greatest where the required drawdown is greatest and compressible (loose, soft or organic) soils are located within the zone of influence of the dewatering. Depending upon the predicted magnitude of settlement and the sensitivity of the surrounding facilities,

infrastructure or buildings located within this zone may potentially be impacted by the ground settlement. The maximum settlement typically occurs at the ground surface at the edge of the dewatered excavation and decreases away from the excavation to essentially zero at the outer limit of the respective zone of influence. The potential settlement due to dewatering should be re-evaluated during detailed design.

- MECP well records review as documented in Section 2.6 indicated 53 water supply well records within the Study Area. Temporary dewatering activities and permanent drainage may impact well water users within the radii of influence, including impacting the quality or quantity of drinking water. The magnitude of any drawdown and the relative impact is anticipated to decrease as the distance between the well and the edge of the excavation increases. A pre-construction, construction stage, and post-construction monitoring program may be considered based on additional investigation
- Prolonged dewatering activities can potentially mobilize inorganic or organic chemical compounds if present within the radius of influence. Such migration may lead to the impacts along the contaminant travel path toward the excavation, such as:
    - Environmental impacts to adjacent properties;
    - Adverse effects on sensitive natural features (e.g., creeks, wetlands);
    - Risks to private or municipal well users.
  - In addition, the presence of contaminated groundwater in the excavation could:
    - Pose health risks to exposed workers and contractors;
    - Affect the receiving environment or municipal infrastructure (e.g., sewer systems or natural water bodies) if discharged without appropriate treatment;
    - Compromise the effectiveness or functionality of the water treatment system if it is not designed to handle the specific contaminants present.
- Considering the temporary duration of dewatering activities, as well as the limited commercial and industrial development in the area, there is a low likelihood that contaminants would be mobilized during dewatering activities; however, a contaminant overview study would be required to confirm this. If any contaminated groundwater is collected from the dewatering operations it should be treated to meet any discharge criteria or disposed of at a facility licensed to handle such materials.
- The Site is not located within a WHPA; however, the Site is located within a HVA and within close proximity to a SGRA, which are sensitive to surface contamination such as spills; therefore, certain construction activities such as fuel handling and storage should be appropriately managed.
  - Appropriate measures such as secondary containment systems, spill kits, and spill response plans must be implemented and utilized during fuel storage and refueling activities to ensure that any potential spills or other hazardous events

are promptly addressed and contained. In the event of a spill the MECP Spills Action Centre (1-800-268-6060) and the Region of Peel (905-791-7800) should be contacted immediately.

- The tributary of Etobicoke Creek that intersects the southern portion of the Site is classified as potential groundwater discharge area. Dewatering has the potential to lower the groundwater supply to the local surface water feature.

4.2 Control of Impacts and Monitoring Program

The following measures are recommended to mitigate the potential for the dewatering activities to cause negative impacts discussed in Section 4.1:

- Monitoring of water quality for groundwater collected within the excavation dewatering system to confirm the water quality is appropriate for the selected discharge option.

- Where possible, if discharging to the natural environment, it is recommended that groundwater be discharged at least 30 m away from any water bodies.

- If discharge to sewers or the natural environment is proposed, sufficient dewatering and treatment methods are required to ensure the discharge water quality meets the required limits. It is anticipated that sediment control alone would be insufficient for groundwater quality to meet the required limits and additional treatment would likely be required. The operation and monitoring of discharge facilities should be carried out by an experienced dewatering contractor and water treatment specialist familiar with fisheries and water quality requirements.

- Where discharge is to ground surface, temporary erosion control measures should be developed and installed to control erosion at the discharge points.

- During the detailed design stage, it will be necessary to refine the analysis of the hydrogeological conditions of the Site, which may include additional hydraulic testing of the overburden, and to review the design and construction methodology in order to update the estimate dewatering rates and radius of influence. These findings will be used to confirm the water takings requirements and the appropriate approvals from the MECP prior to commencement of construction.

- Actual daily water taking volumes must be recorded daily. The values must be registered on the Regulatory Self-Report System by March 31 for the previous year.

- Additional monitoring and terms and conditions will apply as determined by the water taking permitting, by any discharge agreement or permit, and by other regulatory or jurisdictional bodies.

It is noted that the contractors means and methods are not known at this time and that a detailed monitoring and contingency plan should be generated once additional details are known during the detailed design phase.

5. FUTURE HYDROGEOLOGICAL INVESTIGATIONS

Further hydrogeological investigation and analysis should be completed in support of the preliminary and detailed design.

Typical investigations for trenchless and open cut utilities are provided below; however, the field program will need to be designed to suit the particular alignment and proposed works. External approval agencies (such as trench crossings and conservation authorities) may have additional requirements as well.

A private well survey should be conducted for both open cut and trenchless options and would consist of canvassing well users within the Study Area for background information on their wells and to collect water level measurements and non-treated well water baseline samples. The results of the private well survey will assist in assessing the risk of design and verifying potential impacts on well users during construction.

Based on the preliminary design drawings it is anticipated that the proposed works will be facilitated by open cut excavations with the potential that trenchless methods will be required at culvert crossings. The contractors' means and methods are not known at this time and as such, considerations for both open cut and trenchless methods are given below.

Open Cut

Monitoring wells should be installed with a maximum spacing of 300 m along the alignment and should be screened within the most representative hydrostratigraphic water bearing units within the footprint of the cut. As noted in Section 2.4, the ORAC is present within the Study Area and installation of monitoring wells to determine the hydrogeological properties of the aquifer that excavations may extend into will likely be required in key areas. Slug tests should be conducted in the installed monitoring wells and groundwater quality samples should be collected from select monitoring wells to assess discharge options.

Trenchless

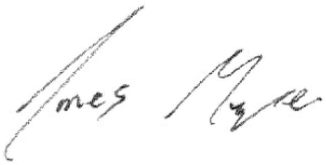
Monitoring wells should be installed at any shaft location and should be screened within the most representative hydrostratigraphic water bearing units within the footprint of the shaft. The ORAC is present below the Study Area and installation of monitoring wells to determine the hydrogeological properties of the aquifer that excavations may extend into will likely be required in key areas. Slug tests should be conducted in the installed monitoring wells and groundwater

quality samples should be collected from select monitoring wells to assess discharge options. For any culvert crossings, a monitoring well should be installed for both the launch shaft and receiving shaft.

The hydrogeological investigation should be performed as part of a combined field investigation with any geotechnical and environmental subsurface investigations.

6. CLOSURE

We trust this information meets your present needs. If you have any questions, please contact the undersigned at your convenience.



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THURBER

STATEMENT OF LIMITATIONS AND CONDITIONS

1. STANDARD OF CARE

This Report has been prepared in accordance with generally accepted engineering or environmental consulting practices in the applicable jurisdiction. No other warranty, expressed or implied, is intended or made.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report, which is of a summary nature and is not intended to stand alone without reference to the instructions given to Thurber by the Client, communications between Thurber and the Client, and any other reports, proposals or documents prepared by Thurber for the Client relative to the specific site described herein, all of which together constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. THURBER IS NOT RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives and purposes that were described to Thurber by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the Report, subject to the limitations provided herein, are only valid to the extent that the Report expressly addresses proposed development, design objectives and purposes, and then only to the extent that there has been no material alteration to or variation from any of the said descriptions provided to Thurber, unless Thurber is specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT THURBER'S WRITTEN CONSENT AND SUCH USE SHALL BE ON SUCH TERMS AND CONDITIONS AS THURBER MAY EXPRESSLY APPROVE. Ownership in and copyright for the contents of the Report belong to Thurber. Any use which a third party makes of the Report, is the sole responsibility of such third party. Thurber accepts no responsibility whatsoever for damages suffered by any third party resulting from use of the Report without Thurber's express written permission.

5. INTERPRETATION OF THE REPORT

a) Nature and Exactness of Soil and Contaminant Description: Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and the Client and all other persons making use of such documents or records with our express written consent should be aware of this risk and the Report is delivered subject to the express condition that such risk is accepted by the Client and such other persons. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. If special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

b) Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to Thurber. Thurber has relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, Thurber does not accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by Thurber. Thurber is entitled to rely on such representations, information and instructions and is not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.

c) Design Services: The Report may form part of design and construction documents for information purposes even though it may have been issued prior to final design being completed. Thurber should be retained to review final design, project plans and related documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the Report's recommendations and the final design detailed in the contract documents should be reported to Thurber immediately so that Thurber can address potential conflicts.

d) Construction Services: During construction Thurber should be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions in order to confirm and document that the site conditions do not materially differ from those interpreted conditions considered in the preparation of the report. Adequate field reviews are necessary for Thurber to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

6. RELEASE OF POLLUTANTS OR HAZARDOUS SUBSTANCES

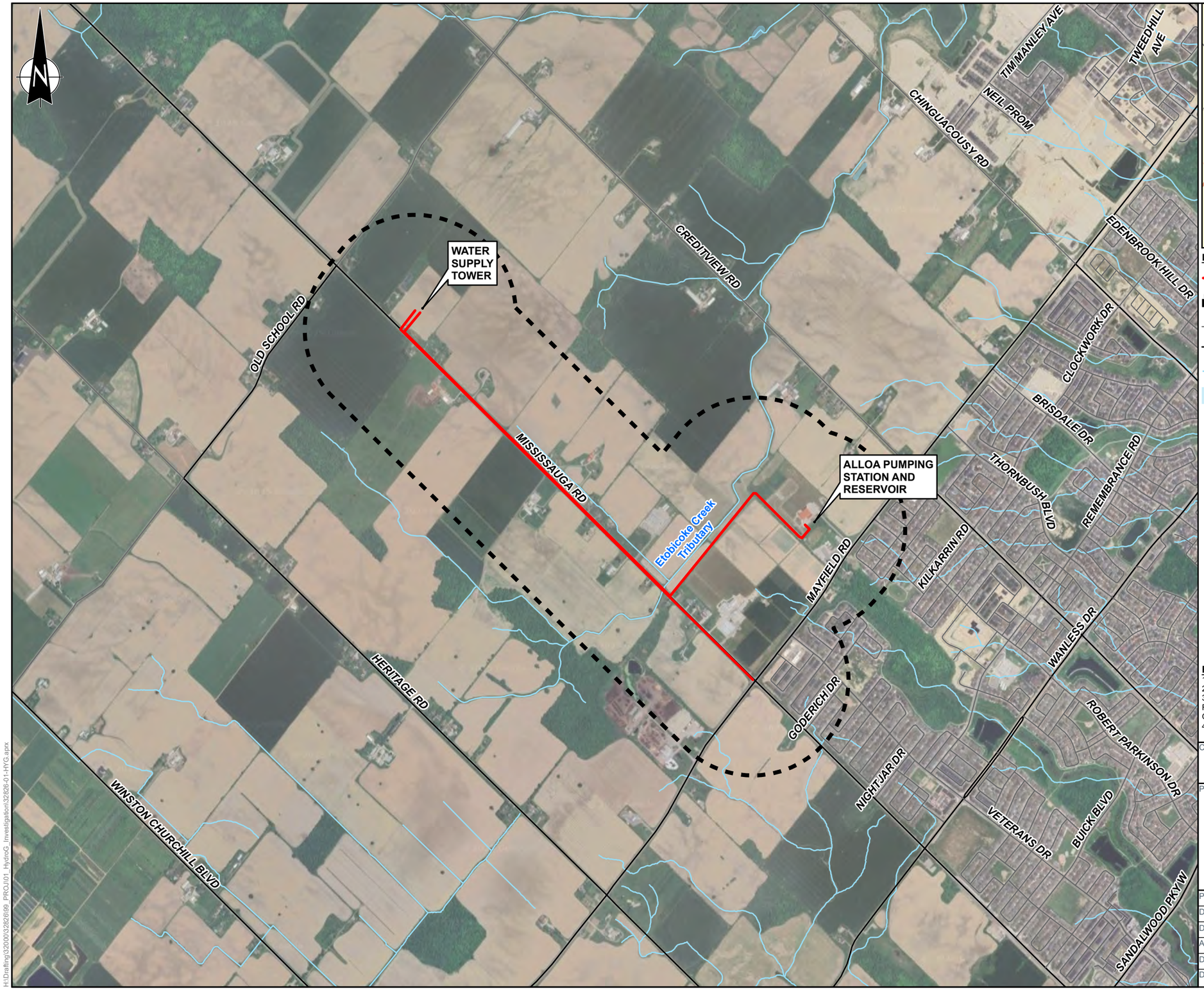
Geotechnical engineering and environmental consulting projects often have the potential to encounter pollutants or hazardous substances and the potential to cause the escape, release or dispersal of those substances. Thurber shall have no liability to the Client under any circumstances, for the escape, release or dispersal of pollutants or hazardous substances, unless such pollutants or hazardous substances have been specifically and accurately identified to Thurber by the Client prior to the commencement of Thurber's professional services.

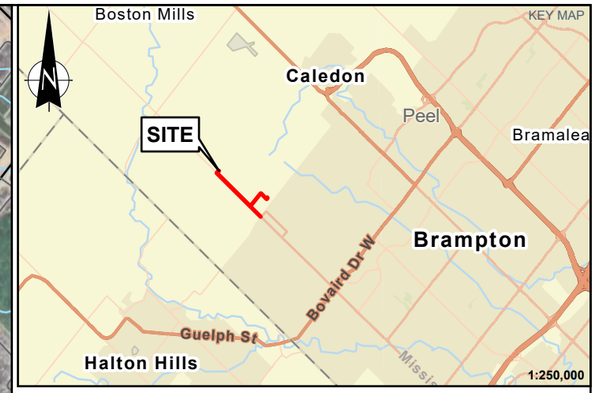
7. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on Thurber's interpretation of conditions revealed through limited investigation conducted within a defined scope of services. Thurber does not accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes but is not limited to decisions made to develop, purchase or sell land.

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FIGURES





LEGEND

- PREFERRED ALIGNMENT (SITE)
- STUDY AREA (500 m BUFFER)
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE
- WATERBODY

0 250 500 1,000

1:20,000 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
3. SERVICE LAYER CREDITS: WORLD STREET MAP: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY, GOOGLE MAP: © OPENSTREETMAP (AND) CONTRIBUTORS, CC-BY-SA
4. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT

GEI CANADA ON BEHALF OF REGION OF PEEL

PROJECT

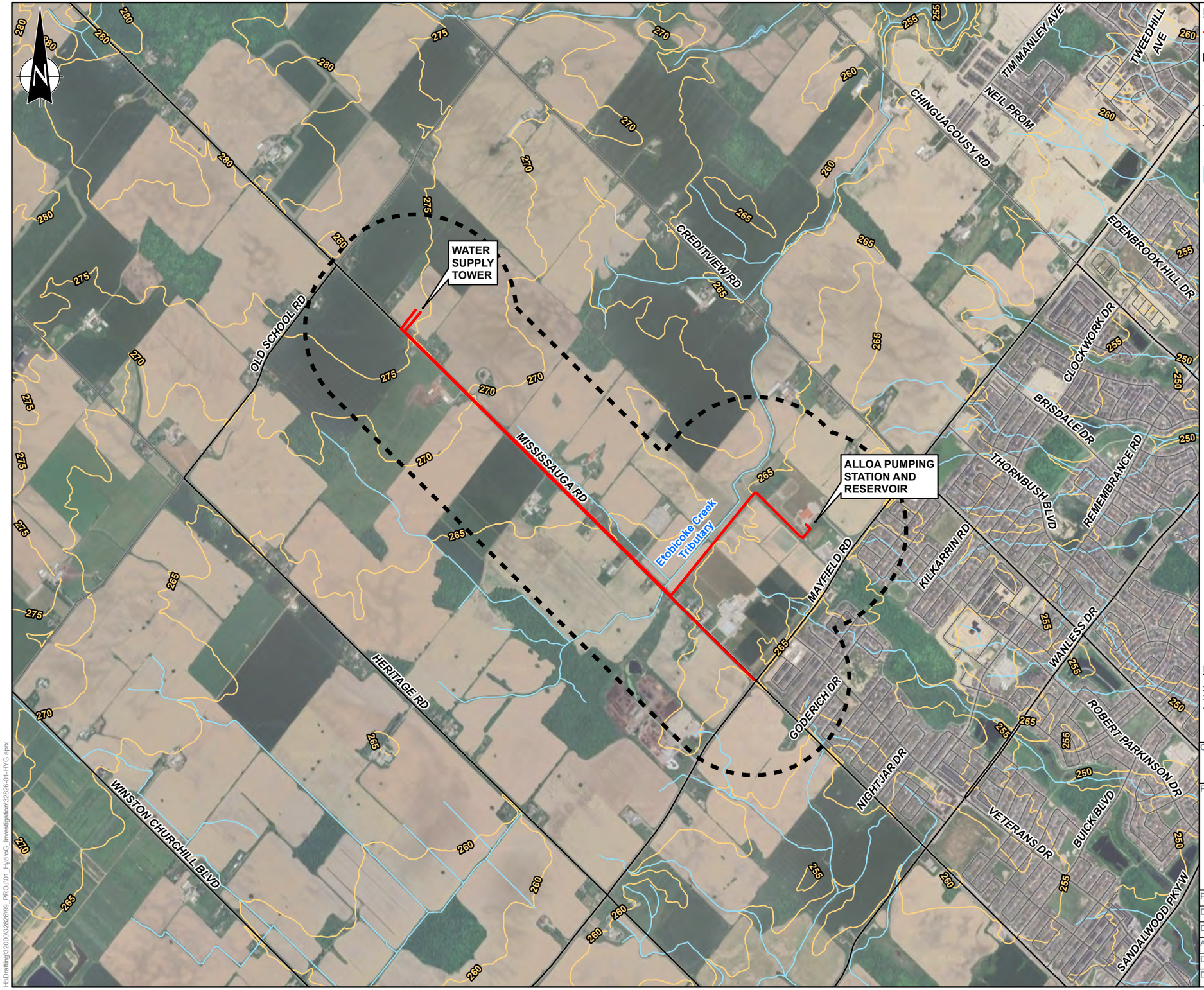
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA, REGION OF PEEL, ONTARIO

SITE LOCATION MAP

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-1

THURBER

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LEGEND

- PREFERRED ALIGNMENT (SITE)
- STUDY AREA (500 m BUFFER)
- TOPOGRAPHIC ELEVATION CONTOUR, 5 m
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE
- WATERBODY

0 250 500 1,000

1:20,000 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
3. GOOGLE MAP: © OPENSTREETMAP (AND) CONTRIBUTORS, CC-BY-SA
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PROJECT

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA, REGION OF PEEL, ONTARIO

TOPOGRAPHY

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-2

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LEGEND

- PREFERRED ALIGNMENT (SITE)
- STUDY AREA (500 m BUFFER)
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE
- WATERBODY

PHYSIOGRAPHIC REGION

- 32, SOUTH SLOPE

0 250 500 1,000

1:20,000 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
3. CHAPMAN, L.J. AND PUTNAM, D.F. 2007. PHYSIOGRAPHY OF SOUTHERN ONTARIO; ONTARIO GEOLOGICAL SURVEY, MISCELLANEOUS RELEASE--DATA 228.
4. GOOGLE MAP: © OPENSTREETMAP (AND) CONTRIBUTORS, CC-BY-SA
5. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

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PROJECT

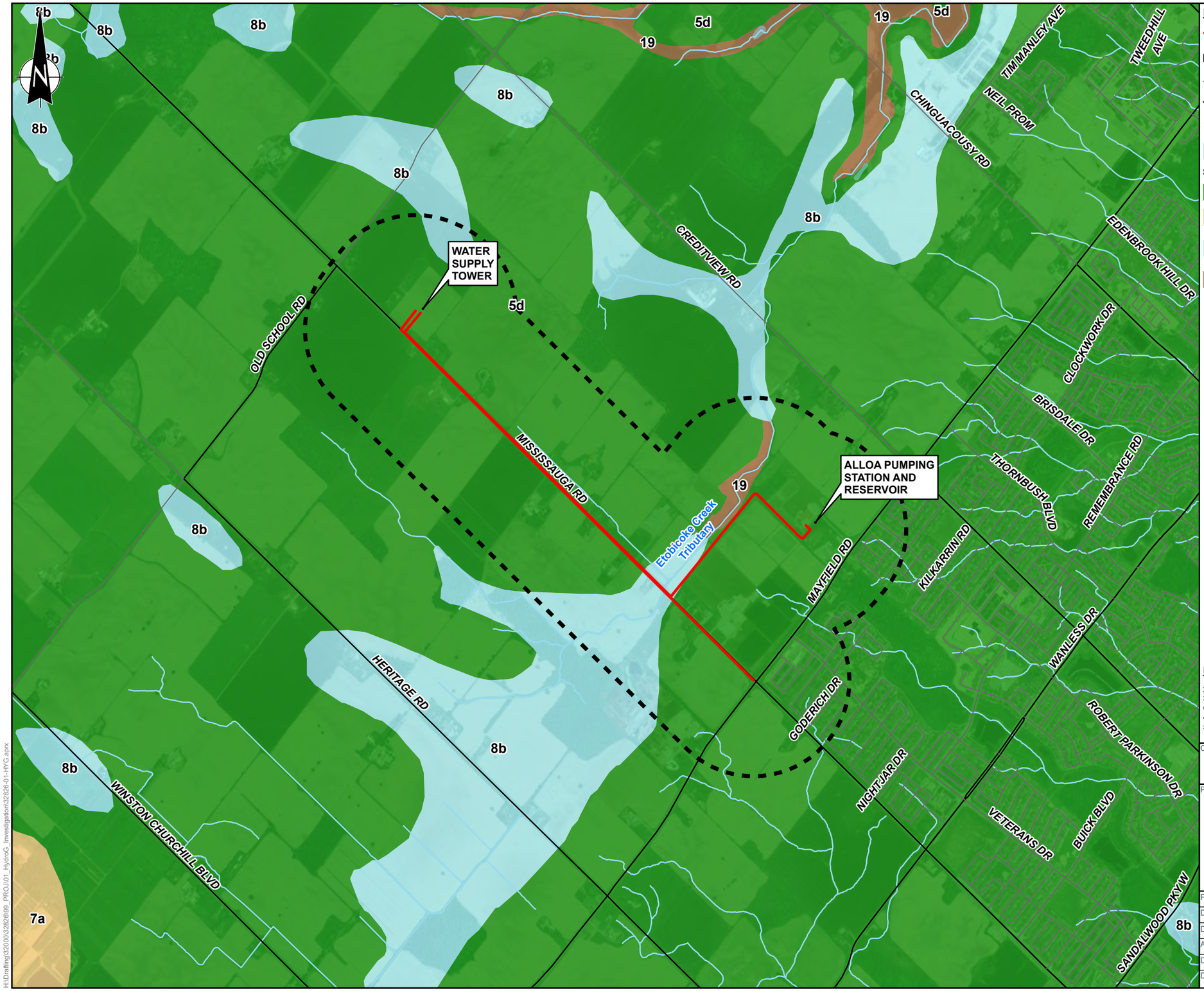
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA, REGION OF PEEL, ONTARIO

PHYSIOGRAPHY

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-3

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LEGEND

- PREFERRED ALIGNMENT (SITE)
- STUDY AREA (500 m BUFFER)
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE
- WATERBODY

SURFICIAL GEOLOGY

- 5d. **TILL:** CLAY TO SILT-TEXTURED TILL (DERIVED FROM GLACIOLACUSTRINE DEPOSITS OR SHALE)
- 7a. **GLACIOFLUVIAL DEPOSITS:** RIVER DESPOTS AND DELTA TOPSET FACIES; SANDY DEPOSITS
- 8b. **FINE-TEXTURED GLACIOLACUSTRINE DEPOSITS:** SILT AND CLAY, MINOR SAND AND GRAVEL; INTERBEDDED SILT AND CLAY AND GRITTY, PEBBLY FLOW TILL AND RAINOUT DEPOSITS
- 19. **MODERN ALLUVIAL DEPOSITS:** CLAY, SILT, SAND, GRAVEL, MAY CONTAIN ORGANIC REMAINS

0 250 500 1,000

1:20,000 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
3. ONTARIO GEOLOGICAL SURVEY. 2010. SURFICIAL GEOLOGY OF SOUTHERN ONTARIO; ONTARIO GEOLOGICAL SURVEY, MISCELLANEOUS RELEASE--DATA 128-REV.
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PROJECT

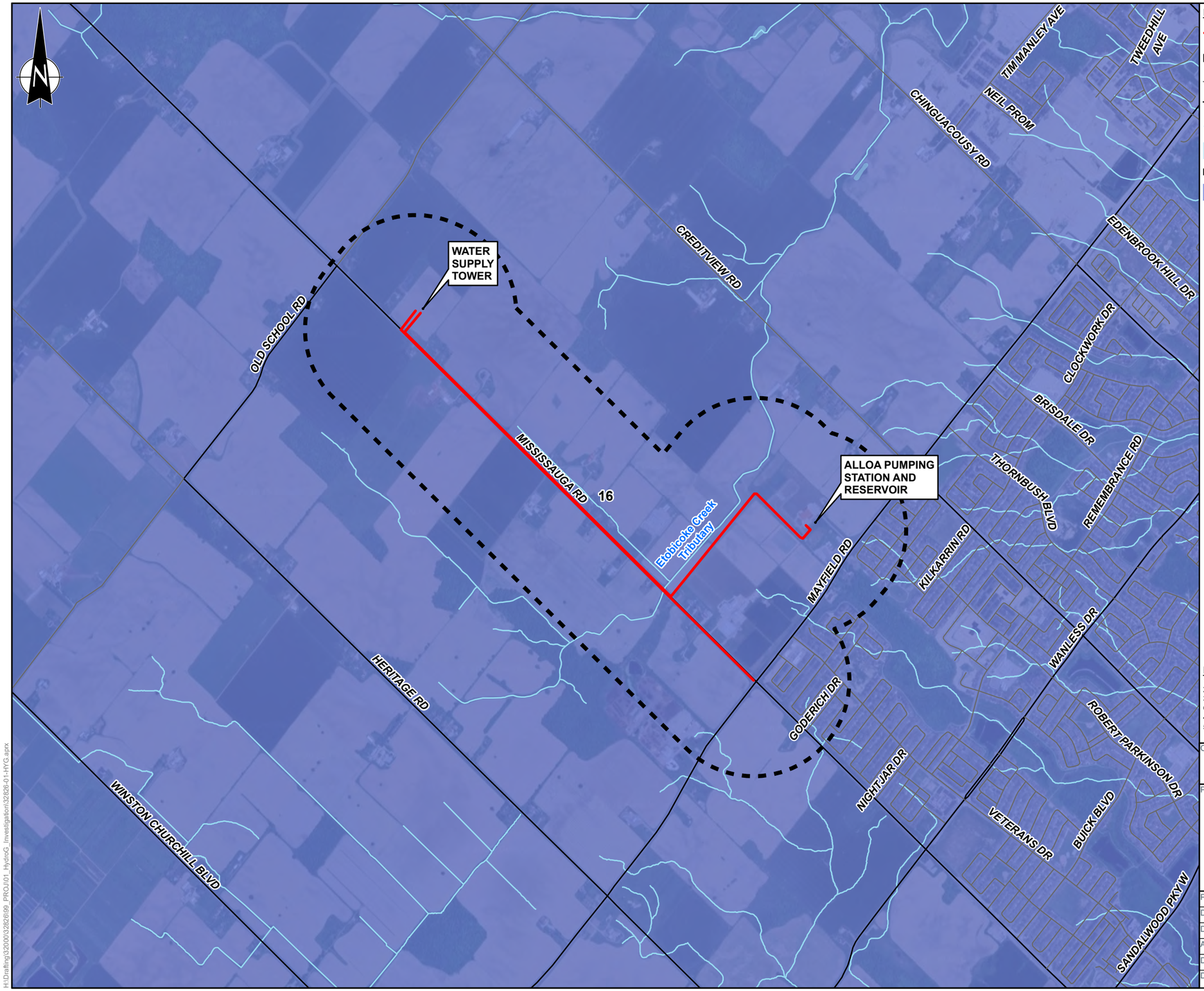
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA, REGION OF PEEL, ONTARIO

SURFICIAL GEOLOGY

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-4

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LEGEND

- PREFERRED ALIGNMENT (SITE)
- STUDY AREA (500 m BUFFER)
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE
- WATERBODY

BEDROCK FORMATION

16. **QUEENSTON FORMATION:** SHALE, SILTSTONE, MINOR LIMESTONE AND SANDSTONE

0 250 500 1,000

1:20,000 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
3. ARMSTRONG, D.K. AND DODGE, J.E.P. 2007. PALEOZOIC GEOLOGY OF SOUTHERN ONTARIO; ONTARIO GEOLOGICAL SURVEY, MISCELLANEOUS RELEASE--DATA 219.
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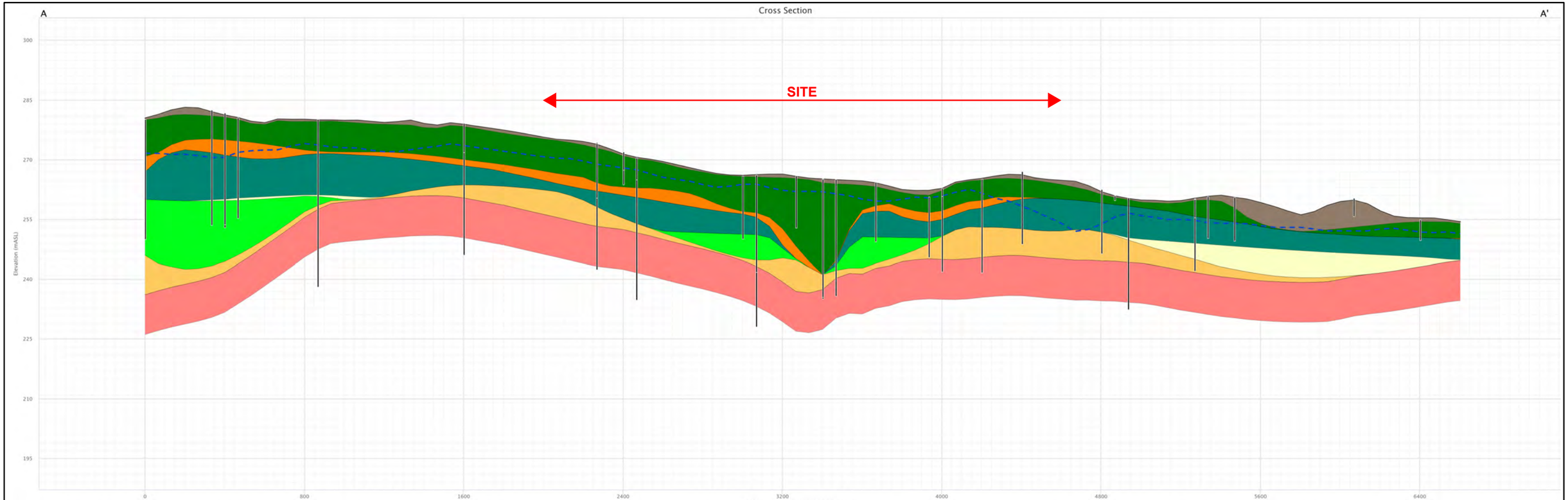
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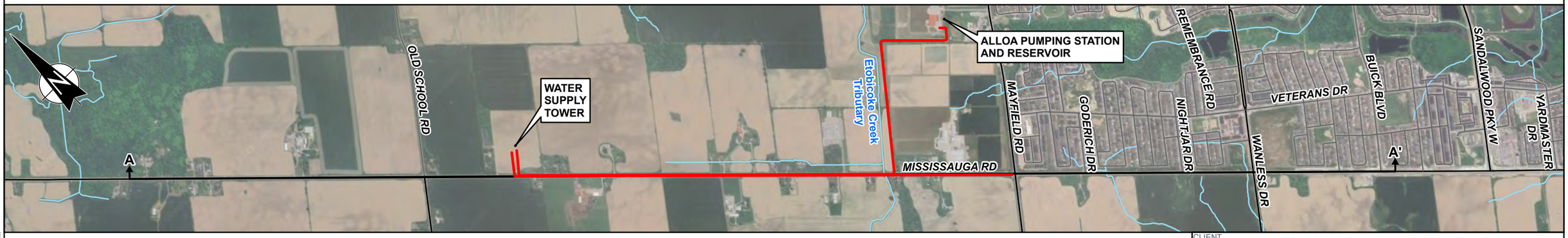
BEDROCK GEOLOGY

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-5

THURBER

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LEGEND

- PREFERRED ALIGNMENT (SITE)
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE

- Ground Surface
- Water Table
- Undifferentiated Upper Sediments
- Halton Till (or equiv. upper till)
- Oak Ridges Moraine (or equiv. upper aquifer)
- Channel Silt Aquitard
- Channel Sand Aquifer
- Upper Newmarket Till
- Inter-Newmarket Sediment
- Lower Newmarket Till
- Thorncliffe Fm.
- Sunnybrook Drift (or equiv. lower aquitard)
- Scarborough Fm. (or equiv. lower aquitard)
- Bedrock
- Wells

0 250 500 1,000

1:20,000 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
3. YORK, PEEL, DURHAM, TORONTO AND THE CONVSERVATION AUTHORITIIES MORAINE COALITION (YPDT-CAMC) OAK RIDGES MORAINE.
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PROJECT

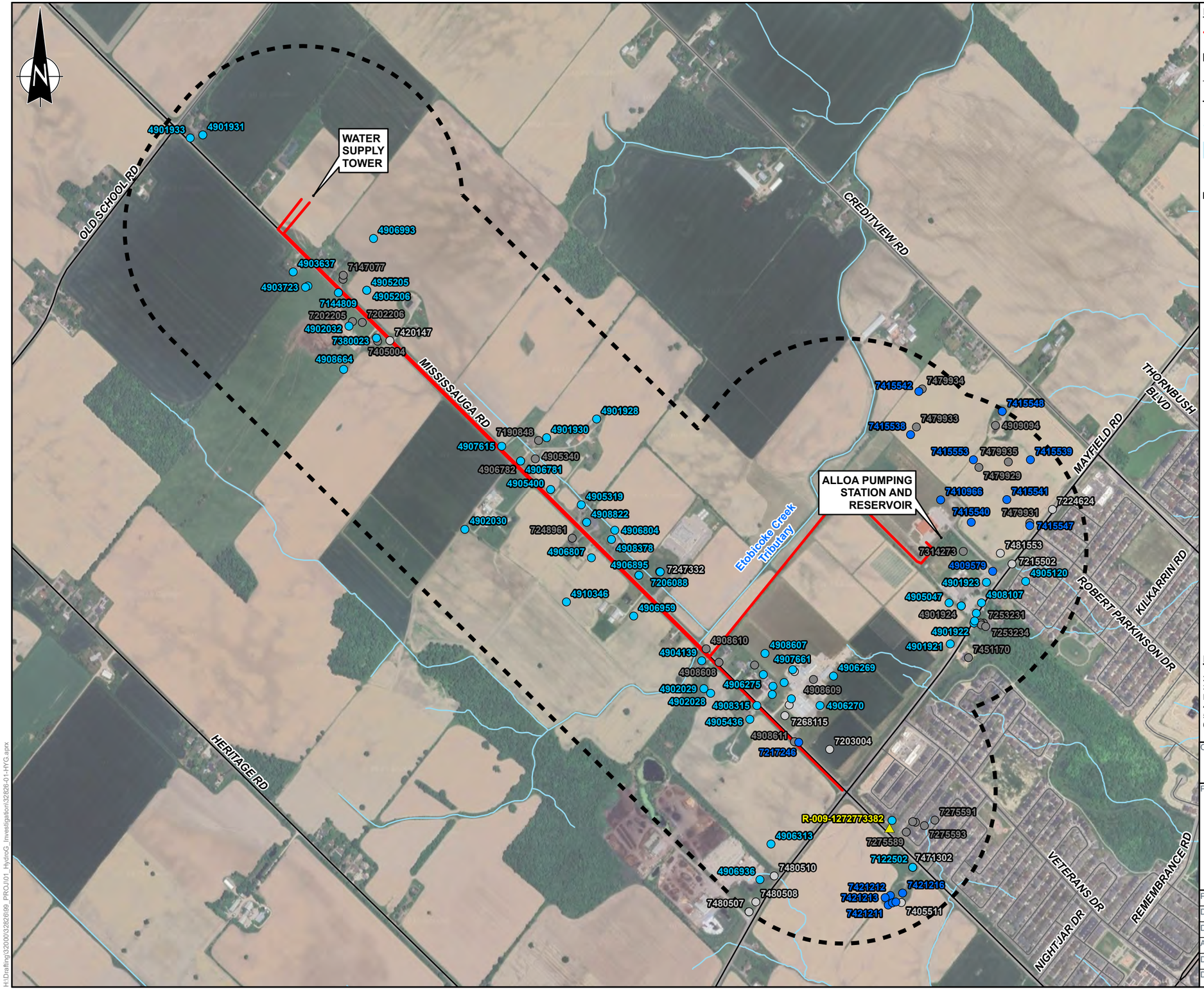
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA, REGION OF PEEL, ONTARIO

REGIONAL GEOLOGICAL CROSS-SECTION

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-6

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LEGEND

- PREFERRED ALIGNMENT (SITE)
- STUDY AREA (500 m BUFFER)
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE
- WATERBODY
- EASR: WATER TAKING - CONSTRUCTION DEWATERING

MECP WELL RECORD

- WATER SUPPLY
- MONITORING/TEST HOLE/OBSERVATION WELL
- ABANDONED/OTHER
- UNKNOWN

0 150 300 600

1:12,500 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
3. MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS. 2025. WATER WELL RECORD DATABASE
4. ACCESS ENVIRONMENT: © KING'S PRINTER FOR ONTARIO, 2025
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6. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

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PROJECT

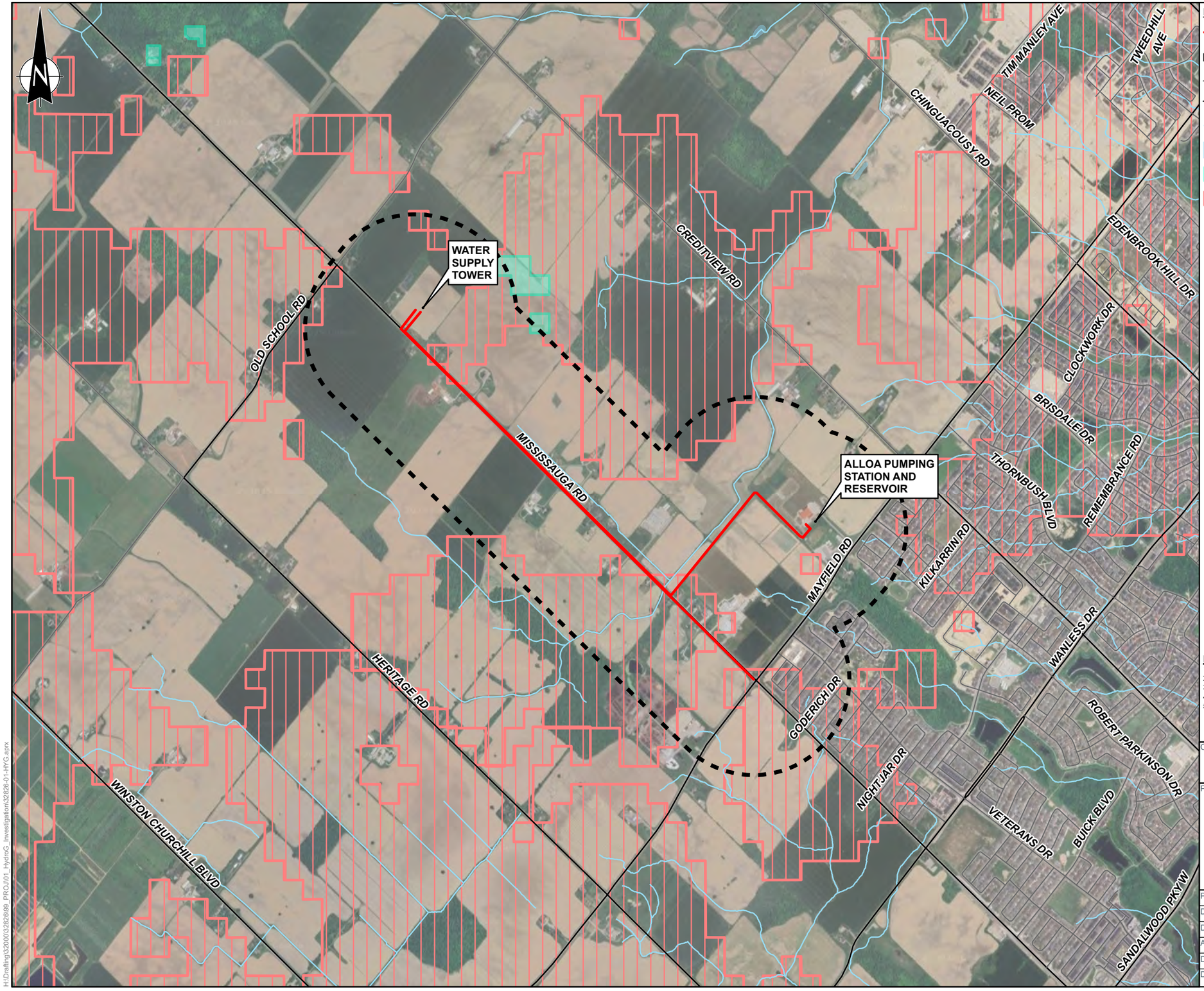
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA, REGION OF PEEL, ONTARIO

MECP WELL RECORDS AND WATER TAKING PERMIT LOCATIONS

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-7

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LEGEND

- PREFERRED ALIGNMENT (SITE)
- STUDY AREA (500 m BUFFER)
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE
- WATERBODY
- SIGNIFICANT GROUNDWATER RECHARGE AREA (SGRA)
- HIGHLY VULNERABLE AQUIFER (HVA)

0 237.5 475 950

1:20,000 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
3. LAND INFORMATION ONTARIO (LIO) SOURCE PROTECTION INFORMATION ATLAS, 2025
4. GOOGLE MAP: © OPENSTREETMAP (AND) CONTRIBUTORS, CC-BY-SA
5. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

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PROJECT

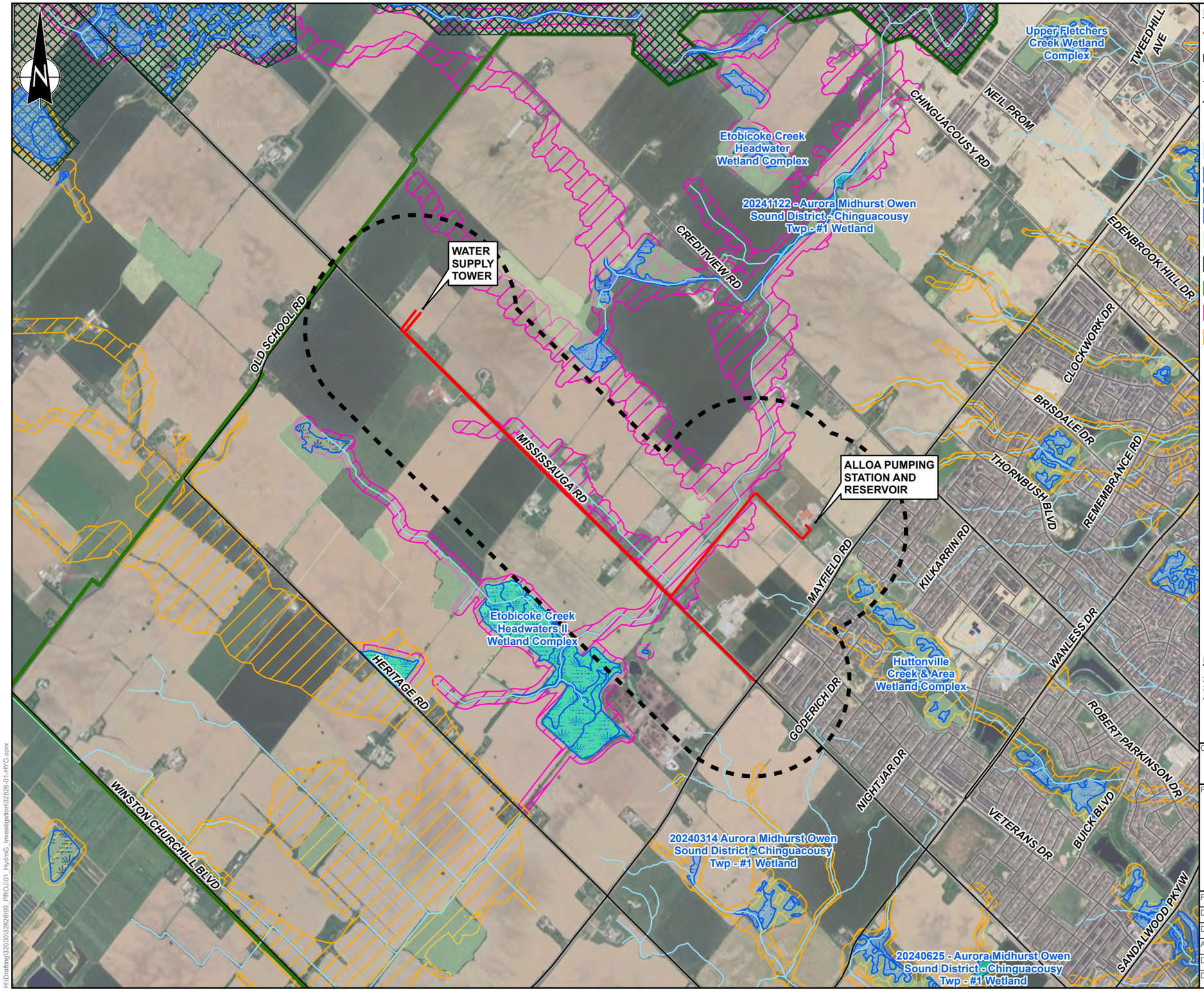
WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA, REGION OF PEEL, ONTARIO

SOURCE WATER PROTECTION AREAS

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-8

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LEGEND

- PREFERRED ALIGNMENT (SITE)
- STUDY AREA (500 m BUFFER)
- LOCAL ROAD
- ARTERIAL ROAD
- WATERCOURSE
- WATERBODY
- UNEVALUATED WETLAND
- PROVINCIALLY SIGNIFICANT WETLAND (PSW)
- NON-PROVINCIALLY SIGNIFICANT WETLAND
- WOODED AREA
- NATURAL HERITAGE SYSTEM
- GREENBELT AREA
- TRCA REGULATED AREA
- CVC REGULATED AREA

0 237.5 475 950

1:20,000 METRES

REFERENCES

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ON
2. ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY
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GEI CANADA ON BEHALF OF REGION OF PEEL

PROJECT

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS EA, REGION OF PEEL, ONTARIO

NATURAL HERITAGE AREAS

PROJECT No.	32826
DESIGNED	JM
DRAWN	JEM
APPROVED	RP
DATE	2025-08-14
DRAWING No.	32826-9

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APPENDIX A

MECP Well Records

THURBER

Borehole ID	Well ID	UTM Zone 17		Date Completed (yyyy-mm-dd)	Well Depth (m)	Depth to Bedrock (m)	Depth to Static Groundwater Level (m)	Well Use [Description]
		Easting	Northing					
	7147077	589638	4840272	2010-05-18	--	--	2.1	Abandoned-Other
1004193046	7190848	590275	4839733	2012-10-26	--	--	--	Abandoned-Other
1004317103	7202205	589668	4840121	2013-05-17	--	--	--	Abandoned-Other
1004317106	7202206	589700	4840118	2013-05-17	--	--	--	Abandoned-Other
1004499827	7206084	590670	4839305	2013-07-09	--	--	--	Abandoned-Other
1005707711	7248961	590385	4839414	2015-08-27	--	--	--	Abandoned-Other
1005824997	7253231	591727	4839137	2015-10-15	--	--	--	Abandoned-Other
1005825000	7253232	591718	4839137	2015-10-09	--	--	--	Abandoned-Other
1005825003	7253233	591720	4839131	2015-10-15	--	--	--	Abandoned-Other
1005825006	7253234	591734	4839126	2015-10-09	--	--	--	Abandoned-Other
1006295633	7275589	591475	4838455	2016-09-21	--	--	--	Abandoned-Other
1006296023	7275591	591568	4838494	2016-09-21	--	--	--	Abandoned-Other
1006296026	7275592	591496	4838489	2016-09-21	--	--	--	Abandoned-Other
1006296062	7275593	591534	4838476	2016-09-21	--	--	--	Abandoned-Other
1007145999	7314273	591661	4839371	2018-06-08	--	--	--	Abandoned-Other
1008871887	7405004	589750	4840057	2021-11-10	--	--	--	Abandoned-Other
1009459764	7451170	591678	4839024	2023-06-06	--	--	--	Abandoned-Other
1010341128	7479929	591712	4839645	2024-04-25	--	--	--	Abandoned-Other
1010341134	7479931	591878	4839464	2024-04-25	--	--	--	Abandoned-Other
1010341140	7479933	591508	4839777	2024-04-25	--	--	--	Abandoned-Other
1010341143	7479934	591527	4839901	2024-04-25	--	--	--	Abandoned-Other
1010341146	7479935	591808	4839663	2024-04-25	--	--	--	Abandoned-Other
10321343	4906782	590216	4839666	1987-09-30	38.1	23.2	--	Abandoned-Quality
10540529	4909094	591766	4839782	2002-11-21	--	--	--	Abandoned-Quality
1003046679	7147073	589637	4840259	2010-05-18	--	--	1.8	Abandoned-Quality
10316767	4901924	591654	4839193	1960-12-13	11	8.5	--	Abandoned-Supply
10320090	4905340	590264	4839673	1978-03-27	21.9	11.9	0.3	Abandoned-Supply
10323143	4908608	590864	4839009	2000-02-17	15.2	11.6	--	Abandoned-Supply
10323144	4908609	591172	4838953	2000-02-17	19.8	14.6	--	Abandoned-Supply
10323145	4908610	590822	4839053	2000-02-16	15.2	8.2	--	Abandoned-Supply
10323146	4908611	591110	4838750	2000-02-15	18.3	12.2	--	Abandoned-Supply
10323147	4908612	590980	4839000	2000-02-14	23.2	17.1	--	Abandoned-Supply
1006295636	7275590	591505	4838487	2016-09-21	--	--	--	Abandoned-Supply
1009077579	7421211	591416	4838217	2022-06-17	4.6	--	--	Monitoring and Test Hole
1009077582	7421212	591423	4838248	2022-06-16	4.6	--	--	Monitoring and Test Hole
1009077585	7421213	591406	4838241	2022-06-17	4.6	--	--	Monitoring and Test Hole
1009077588	7421214	591430	4838224	2022-06-17	4.6	--	--	Monitoring and Test Hole
1009077591	7421215	591441	4838227	2022-06-17	4.6	--	--	Monitoring and Test Hole
1009077594	7421216	591463	4838256	2022-06-17	4.6	--	--	Monitoring and Test Hole
11177207	4909579	591757	4839306	2004-04-23	7.5	6.4	--	Observation Wells
1004717698	7217246	591124	4838748	2014-02-19	6.1	--	--	Observation Wells
1008951150	7410966	591587	4839539	2021-11-16	6.1	--	--	Observation Wells
1008999910	7415538	591489	4839752	2022-01-31	6.1	--	--	Observation Wells
1008999913	7415539	591880	4839670	2022-02-02	6.1	--	--	Observation Wells
1008999916	7415540	591687	4839466	2022-02-02	6.1	--	--	Observation Wells
1008999919	7415541	591803	4839540	2022-02-02	6.1	--	--	Observation Wells
1008999922	7415542	591516	4839893	2022-01-31	6.1	--	--	Observation Wells
1008999937	7415547	591878	4839455	2022-02-03	6.1	--	--	Observation Wells
1008999940	7415548	591788	4839828	2022-02-01	6.1	--	--	Observation Wells
1008999955	7415553	591694	4839670	2022-02-01	6.1	--	--	Observation Wells
1008631193	7380023	589746	4840067	2021-01-09	35.7	--	22.9	Replacement Well
1004335971	7203004	591225	4838725	2013-05-15	--	--	--	Unknown
1004671813	7213631	591110	4838979	2013-11-14	--	--	--	Unknown
1004671816	7213632	591093	4838870	2013-11-14	--	--	--	Unknown
1004699270	7215502	591820	4839330	2013-12-10	--	--	--	Unknown
1004978567	7224624	591952	4839508	2014-02-01	--	--	--	Unknown
1005645991	7247332	590672	4839304	2015-07-02	31.1	--	--	Unknown
1006182829	7268115	591079	4838835	2016-07-20	--	--	--	Unknown
1008880546	7405511	591459	4838225	2021-07-15	--	--	--	Unknown
1009072585	7420147	589790	4840059	2022-05-12	--	--	--	Unknown
1010245194	7471302	591496	4838340	2024-01-16	--	--	--	Unknown
1010368731	7480507	590962	4838195	2024-04-09	--	--	--	Unknown
1010368734	7480508	590984	4838227	2024-04-09	--	--	--	Unknown
1010368740	7480510	591044	4838312	2024-05-06	--	--	--	Unknown
1010370290	7481553	591782	4839365	2024-04-25	--	--	--	Unknown
10316763	4901920	591428	4838493	1962-09-15	16.2	6.4	12.5	Water Supply
10316764	4901921	591618	4839069	1962-01-15	12.5	10.1	7	Water Supply
10316765	4901922	591696	4839137	1962-03-02	27.4	10.4	10.7	Water Supply
10316766	4901923	591736	4839270	1962-04-21	13.4	8.5	7.3	Water Supply
10316768	4901925	591654	4839193	1960-12-15	48.2	11	5.5	Water Supply
10316771	4901928	590465	4839803	1959-11-19	7.6	--	3	Water Supply
10316773	4901930	590302	4839742	1961-01-09	22.9	--	--	Water Supply
10316774	4901931	589179	4840730	1960-05-25	7.3	--	3.7	Water Supply
10316776	4901933	589139	4840720	1965-04-01	32.9	15.2	7.6	Water Supply

APPENDIX a

MECP Well Records

Borehole ID	Well ID	UTM Zone 17		Date Completed (yyyy-mm-dd)	Well Depth (m)	Depth to Bedrock (m)	Depth to Static Groundwater Level (m)	Well Use [Description]
		Easting	Northing					
10316871	4902028	590837	4838908	1965-07-17	13.4	10.4	6.1	Water Supply
10316872	4902029	590815	4838923	1965-07-21	16.8	9.8	2.1	Water Supply
10316873	4902030	590034	4839443	1959-11-21	10.1	--	3.4	Water Supply
10316874	4902031	589523	4840237	1962-07-03	9.8	--	6.1	Water Supply
10316875	4902032	589657	4840106	1967-06-21	9.1	--	3	Water Supply
10318556	4903723	589515	4840233	1971-12-16	34.1	11.6	3	Water Supply
10318471	4903637	589475	4840283	1971-06-16	12.2	11.6	4.6	Water Supply
10318927	4904139	590808	4839014	1973-07-06	18.9	18.3	1.8	Water Supply
10319806	4905047	591614	4839203	1976-09-17	55.2	4.9	--	Water Supply
10319877	4905120	591864	4839273	1977-05-23	8.5	6.1	3.7	Water Supply
10319960	4905205	589714	4840223	1977-08-10	30.2	16.2	3.7	Water Supply
10319961	4905206	589714	4840223	1977-08-15	29.9	16.2	3	Water Supply
10320069	4905319	590415	4839523	1977-12-16	34.1	14	0.3	Water Supply
10320143	4905400	590315	4839573	1977-08-12	13.1	--	3	Water Supply
10320169	4905436	590964	4838823	1978-08-07	10.7	--	2.4	Water Supply
10320835	4906269	591237	4838964	1984-11-19	12.5	9.8	5.2	Water Supply
10320836	4906270	591193	4838868	1984-11-09	11.6	7	4.3	Water Supply
10320841	4906275	591008	4838969	1984-08-14	15.2	8.5	1.5	Water Supply
10320843	4906277	591038	4838904	1984-06-16	18.9	11	1.5	Water Supply
10320879	4906313	591034	4838416	1985-05-07	36.6	28.7	3.4	Water Supply
10321282	4906720	591704	4839169	1986-09-18	14.9	9.1	11	Water Supply
10321342	4906781	590216	4839666	1987-10-02	24.4	8.5	--	Water Supply
10321365	4906804	590524	4839440	1988-03-08	9.1	0.9	4.6	Water Supply
10321368	4906807	590448	4839350	1987-12-10	26.8	20.7	1.8	Water Supply
10321456	4906895	590602	4839293	1988-08-18	14.9	--	2.7	Water Supply
10321497	4906936	590998	4838300	1988-09-15	21.9	18.3	12.2	Water Supply
10321520	4906959	590586	4839160	1988-10-06	9.8	--	5.2	Water Supply
10321554	4906993	589736	4840392	1988-11-20	13.4	--	3	Water Supply
10322914	4908378	590513	4839410	1998-10-08	29.3	--	0.3	Water Supply
10322174	4907615	590155	4839714	1991-09-10	15.8	--	3	Water Supply
10322219	4907660	591077	4838943	1992-07-09	23.2	17.4	1.8	Water Supply
10322220	4907661	591105	4838985	1992-07-09	23.2	16.5	2.1	Water Supply
10322329	4907770	591698	4839144	1993-08-12	43	8.2	11.6	Water Supply
10322666	4908107	591721	4839203	1995-07-27	29.3	15.2	5.5	Water Supply
10322851	4908315	590988	4838868	1998-02-23	23.5	10.4	1.8	Water Supply
10323141	4908606	591100	4838890	2000-03-07	19.8	14.3	5.8	Water Supply
10323142	4908607	591014	4839038	2000-02-18	24.4	17.1	5.2	Water Supply
10323199	4908664	589639	4839965	2000-11-17	28.7	13.1	5.5	Water Supply
10520742	4908822	590432	4839466	2000-07-25	30.2	29.6	2.4	Water Supply
11694227	4910346	590366	4839206	2006-08-24	22.6	--	--	Water Supply
1002420552	7122502	591496	4838340	2009-03-03	28	--	2.7	Water Supply
1002979255	7144809	589622	4840215	2010-04-28	31.1	--	--	Water Supply
1004500055	7206088	590672	4839304	2013-07-08	31.1	--	0.4	Water Supply
1007624104	7340648	591040	4838931	2019-07-24	14.3	--	2.1	Water Supply

"--" denotes data not availabe



PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3G: Cultural Heritage Screening Letter

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

September 22, 2025

Sandra Anastasio
Senior Project Manager, GEI Canada
3300 Highway No. 07, Suite 402
Vaughan, ON L4K 4M3

Dear Sandra:

RE: Cultural Heritage Screening – West Caledon Storage Facility and Transmission Main Municipal Class Environmental Assessment
OUR FILE 21248F

We have reviewed the conceptual design of the West Caledon elevated water tank site, transmission main and feedermain alignments, and provide this review in regard to cultural heritage resources.

Proposal Overview

The proposed water storage and transmission infrastructure for West Caledon is intended to include:

A. An elevated water tower site on the property of 12879 Mississauga Road (subject to a future severance/consent), generally with an overflow pond, parking area with four spaces, and water tower with a height of 58.5 metres and a top width of 35.6 metres;
B. Feedermains within the right-of-way of Mississauga Road (noting an expansion of the right-of-way as a part of the planned Highway 413); and
C. A transmission main with a gravel access road from Mississauga Road to the Alloa Pumping Station (via a utility line easement over the unaddressed lands to the north of 12191 Mississauga Road and along a portion of the perimeter of the lands addressed as 12240 and 12254 Creditview Road).

The Preliminary Design package is included as **Attachment 'A'**.

Identified Cultural Heritage Resources

As per a review of the Cultural Heritage Screening Report (MHBC, 2022), as well as a review of recently approved Town of Caledon documents, including the Alloa Secondary Plan (approved July 8th, 2025), there are six built heritage resources and one Inventoried Cultural Heritage Landscape (Farmsteads of Former Chinguacousy Township) in proximity to the proposed elevated watermain tank site, feedermains and transmission main alignments (see **Attachment 'B'**).

The properties labeled as 1 to 6 on the attached figure are identified in the Alloa Secondary Plan as built heritage resources and are also presently identified as listed (non-designated) properties within the Town of Caledon Municipal Heritage Register. Each of these have been reviewed and evaluated in the Cultural Heritage Assessment Report for the Alloa Planning Area (WSP, August 2025)

A Notice of Intent to Designate (NOID) was issued in 2024 for the property of 12466 Mississauga Road and a Designation Timeline Extension Agreement was executed to suspend its pending designation. The property of 12872 Creditview Road is identified as a part of the Inventoried (neither designated in accordance with the *Ontario Heritage Act* (*OHA*) or adopted under the *Planning Act*) Cultural Heritage Landscape (CHL): Farmsteads of Former Chinguacousy.

A site visit was conducted by MHBC on September 12, 2025 from the public right-of-way to verify the presence of the identified built heritage resources and document the properties that front onto the alignment route, contain components of the proposed water storage and transmission infrastructure, and/or are adjacent to the infrastructure. The documentation of these properties is included in **Attachment 'C'** and demonstrates that the documented properties do not contain built heritage resources with the exception of the six listed properties. The non-listed properties generally are vacant (agricultural fields) or contain development from the latter half of the 20th century and/or early 21st century that do not readily depict cultural heritage design value.

Built Heritage Resources

The six identified properties with built heritage resources can be described as follows:

1. 12679 Mississauga Road: Contains a Victorian farmhouse (currently vacant) that is setback approximately 67 metres from the current Mississauga Road right-of-way (approximately 44 metres from the new right-of-way shown in the Preliminary Design package that accounts for an overpass associated with Highway 413) as well as agricultural buildings and fields. The preliminary heritage attributes (WSP) pertain to the farmhouse.

2. 12441 Mississauga Road: Contains a Gothic Dwelling, agricultural buildings (including a barn with a stone foundation), and agricultural fields. The preliminary heritage attributes (WSP) pertain to the Gothic Revival farmhouse, gable barn with a stone foundation, and long access laneway. The dwelling is located approximately 155 metres from the right-of-way of Mississauga Road and the barn is located approximately 145 metres from the right-of-way.

3. 12240 Creditview Road: The property contains an Italianate style farmhouse (12240 Creditview Road), a late-20th century Cape-Cod style house (12254 Creditview Road), agricultural buildings, and agricultural fields. The preliminary heritage attributes (WSP) pertain to the Queen Anne Revival residence, bank barn with a gambrel roof and access laneway lined with vegetation. The building cluster is located over 500 metres from the proposed infrastructure.

4. 12466 Mississauga Road: Contains a Gothic Victorian dwelling, agricultural buildings (including a gambrel roof barn and silos) and agricultural fields. The heritage attributes (as identified in the NOID) pertain to the Ontario Cottage style farmhouse, early 20th century barn, the scale and massing of dwelling and barn, as well as setback from and relationship to Mississauga Road. The dwelling is located approximately 120 metres from the right-of-way of Mississauga Road and the gambrel roof barn is located approximately 144 metres from the right-of-way.

5. 12300 Mississauga Road: The property contains a Gothic Victorian dwelling with agricultural buildings to the rear (12300 Mississauga Road), a late-20th century ranch style dwelling (12266 Mississauga Road), and agricultural fields. The preliminary heritage attributes (WSP) pertain to the Victorian Gothic Revival farmhouse, wood-frame gable barn, and access laneway. The dwelling addressed as 12300 Mississauga Road is located approximately 35 metres from the right-of-way.

6. 12872 Creditview Road: The property contains a four-square dwelling likely constructed in the early 20th century with agricultural buildings and fields. The preliminary heritage attributes (WSP) pertain to the Edwardian farmhouse, bank barn and access laneway. The building cluster is located over 1000 metres from the proposed infrastructure.

<u>Cultural Heritage Landscapes</u>

The Inventoried Farmsteads of Former Chinguacousy Township CHL is generally centered around the intersection of Old School Road and Creditview Road. The property at 12872 Creditview Road comprises the southern corner of the CHL. The Town of Caledon CHL Inventory provides the following Statement of Significance and Character-Defining Elements for the Inventoried CHL:

> "This crossroads grouping of farmsteads around the fine stone school is representative of rural life throughout the large, fertile Peel Plain. This region was an extremely important agricultural area throughout the 19th and early 20th century being a major producer of wheat during the mid 19th century 'boom' and diversifying in the later 19th century to include a greater variety of crops and an emphasis on livestock. The traditional agricultural landscape of the Plain is shrinking as the number of severances increase and sub-divisions march relentlessly northward.
>
> The farmsteads which make up this Candidate CHL still, for the most part, retain their historic attributes including: original lot size; patchwork of fields, farmyards, and windrows; complement of widely varied barns and outbuildings; and farmhouses of local brick, the construction of which spans the period c.1850 – c.1910. The presence of the schoolhouse emphasizes the sense of this area as a rural community. The quality of the school's design and stonework is testament to the regard with which education was held.
>
> Character-Defining Elements:
>
> - CF-1: *13278 Creditview Road, 'Taylor-Echlin House' (now Pt. E ½ Lot 24, Con. 4)

- CF-2, 4, 8: Seasonal streams and minor tributary of the Etobicoke Creek
- CF-3: 13089 Creditview Road (W ½ Lot 23, Con. 3)
- CF-5: *1488 Old School Road, 'Sharpe Schoolhouse' (Pt. E ½ Lot 23, Con.4)
- CF-6: 12911 Creditview Road (W ½ Lot 22, Con.3)
- CF-7: 12872 Creditview Road (E ½ Lot 22, Con. 4)
- CF-9: Associated lanes, fields, windrows and yard plantings."

The property of 12872 Creditview Road is identified as a Character-Defining Element of the Inventoried CHL (CF-7) and contains the Character-Defining Elements of part of a stream or tributary of the Etobicoke Creek (CF-8) and forms part of the associated lanes, fields, windrows and yard plantings (CH-9) of the Inventoried CHL. As shown in **Attachment 'B'**, 12872 Creditview Road abuts the rear lot line of the property that contains the proposed elevated water tower. The building cluster is approximately one kilometer from the water tower.

Preliminary Impact Assessment

The following table provides a review of the potential impacts which may occur as a result of the proposed infrastructure project on the identified heritage resources. The following analysis is guided by the categories of impact set out in the Ontario Heritage Toolkit and by the grading of impacts published by the International Council on Monuments and Sites.

Resource	Potential Impact
12679 Mississauga Road	There is the potential for adverse impacts related to vibrations during excavation and construction given that the farmhouse (preliminary heritage attribute) is located within 50 metres of the Mississauga Road right-of-way and watermain route shown in the Preliminary Design package (separation of approximately 44 metres). No other impacts are anticipated. It is furthermore acknowledged that the water tower site on the adjacent property of 12879 Mississauga Road is not anticipated to generate impacts given the separation of over 400 metres from the building cluster on this property.
12441 Mississauga Road	None. As the farmhouse and gable barn with a stone foundation (preliminary heritage attributes) are not located within 50 metres of proposed works, no potential adverse impacts are anticipated to this property (separation of over 140 metres for both structures). No works are proposed outside of the Mississauga Road right-of-way that would impact the laneway (preliminary heritage attribute).
12240 Creditview Road	None. As the dwelling and bank barn (preliminary heritage attributes) are not located within 50 metres of proposed works, no potential adverse impacts are anticipated to this property (separation of over 500 metres for both structures). No works are proposed on the

	property outside of the utility easement area on the southeast perimeter of the agricultural fields to the rear of the property. There is no potential for impacts related to the laneway (preliminary heritage attribute).
12466 Mississauga Road	None. As the farmhouse and early-20th century barn (identified heritage attributes) are not located within 50 metres of proposed works, no potential adverse impacts are anticipated to this property (separation of over 120 metres for both structures). No works are proposed outside of the Mississauga Road right-of-way that would impact the setback and relationship to Mississauga Road (identified heritage attribute).
12300 Mississauga Road	There is the potential for adverse impacts related to vibrations during excavation and construction given that the farmhouse (preliminary heritage attribute) is located within 50 metres of the Mississauga Road right-of-way and watermain route (approximately 35 metres from the right-of-way and 43 metres from the proposed infrastructure). No other impacts are anticipated. The gable barn (preliminary heritage attribute) is located to the rear of the dwelling and is over 50 metres from the right-of-way (approximately 85 metres). No works are proposed outside of the Mississauga Road right-of-way that would impact the laneway (preliminary heritage attribute).
12872 Creditview Road	None. As the farmhouse and bank barn (preliminary heritage attributes) are not located within 50 metres of proposed works, no potential adverse impacts are anticipated to this property (over 500 metres of separation). No works are proposed outside of the adjacent property of 12879 Mississauga Road (water tower site) that would impact the laneway (preliminary heritage attribute).
Inventoried Farmsteads of Former Chinguacousy Township CHL	None. No works are proposed outside of the adjacent property of 12879 Mississauga Road (water tower site) that would implicate the character-defining elements of the Inventoried CHL. Furthermore, there are no identified significant views that would capture the elevated water tower in the frame/background.

In conclusion, no direct impacts are anticipated to the identified built heritage resources as a result of the proposed work. There is the potential for indirect adverse impacts related to vibration from excavation and construction on the farmhouse located at 12679 Mississauga Road and the farmhouse located at 12300 Mississauga Road given that these resources are located within the standard 50-metre buffer that represents the distance threshold for vibration monitoring of cultural heritage resources. It is recommended that vibration monitoring be conducted during excavation and

construction activities to ensure that these two adjacent identified resources are not adversely impacted by vibrations.

Conclusion

The Ministry of Citizenship and Multiculturalism (MCM) "Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes" form is included in **Attachment 'D'**. A response of "Yes" to Question 3A has been triggered by the presence of the six listed properties within the project area and by the feedermains within the easement area on the listed property of 12240 Creditview Road. The cultural heritage value of the six properties, including the heritage attributes, have generally been evaluated and set-out in the Cultural Heritage Assessment Report for the Alloa Planning Area (WSP, August 2025) and have been captured from a high-level in this letter and its attachments. This letter serves to provide a preliminary heritage impact assessment to identify, avoid, eliminate and/or mitigate impacts pursuant to the MCM form.

The preliminary impact assessment determined that the proposed works are not anticipated to generate direct impacts to the six identified heritage resources but that there is the potential for indirect impacts related to vibrations for the farmhouses located on 12679 and 12300 Mississauga Road given their proximity to the works (i.e. less than 50 metres of separation). To address the potential indirect impact of vibration, it is recommended that vibration monitoring be conducted during excavation and construction activities for the two resources to ensure that adverse impacts are avoided.

Based on this review, we do not expect that a more detailed analysis (i.e. heritage impact assessment) for any of the identified properties will be required.

Yours truly,

MHBC

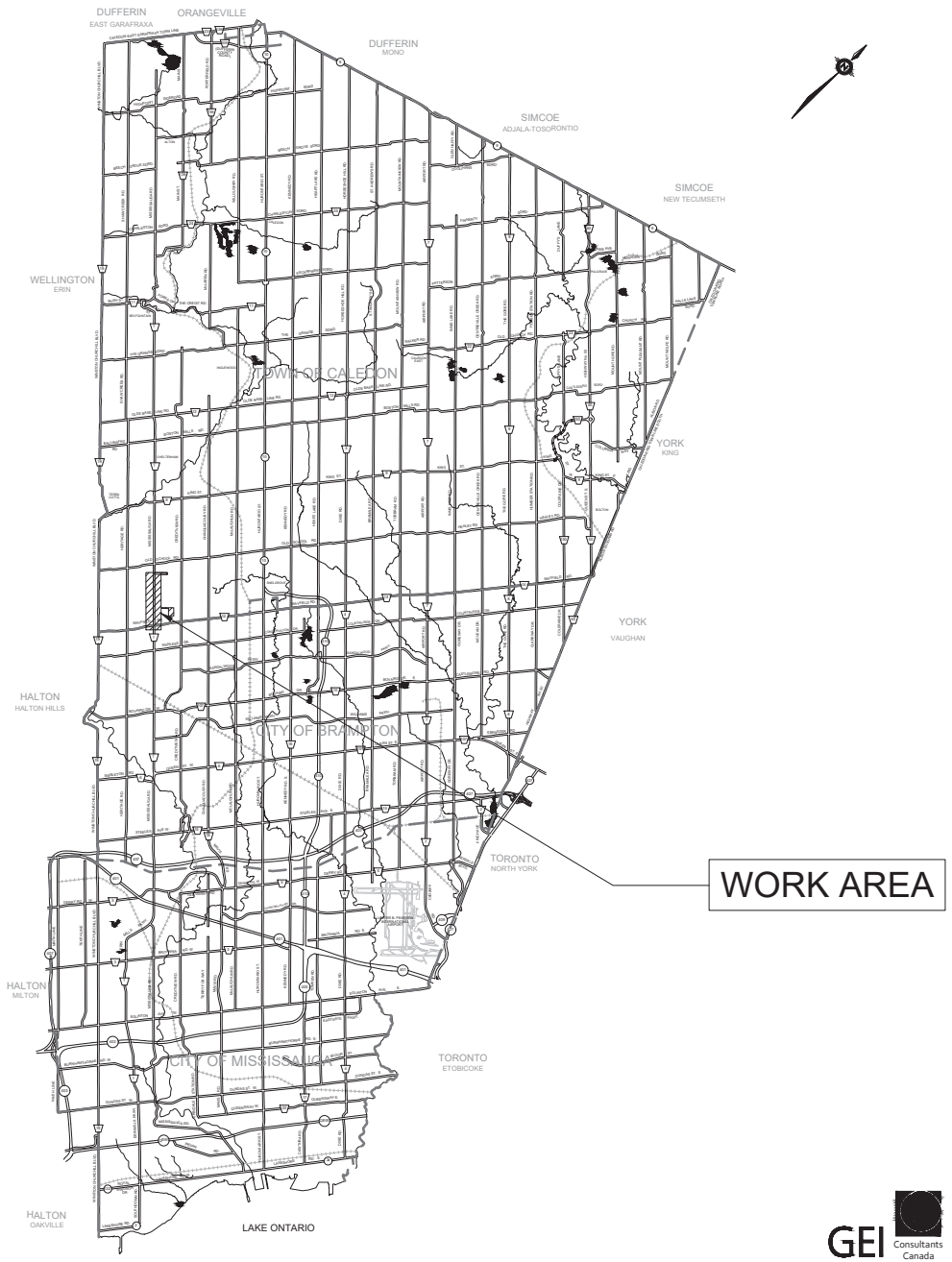
Dan Currie, MA, MCIP, RPP, CAHP
Partner

Rachel Mantel, MSc
Heritage Planner

cc. Chris Campbell, GEI Canada

A

Attachment A: Preliminary Design Package



PROJECT No. XX-XXXX
PEEL WEST CALEDON STORAGE FACILITY EA

MISSISSAUGA ROAD
FROM MAYFIELD ROAD TO OLD SCHOOL ROAD
AND ALLOA PUMPING STATION

PRELIMINARY DESIGN

GEI Consultants Canada

Region of Peel
working with you

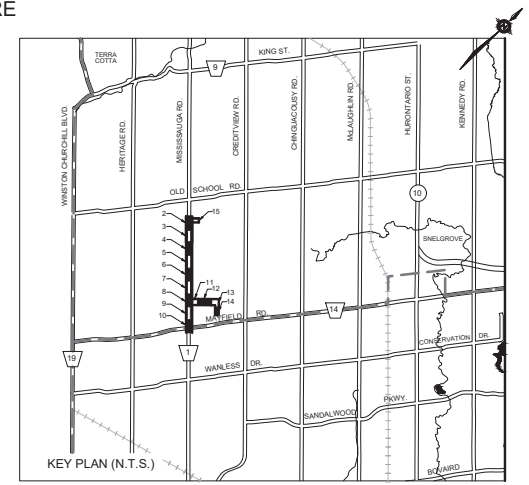
Document 2025-XXXT

DRAWING INDEX

SHEET NUMBER	PLAN NUMBER	DRAWING TITLE
1		INDEX, LEGEND AND NOTES - G01
2		PROPOSED 600 AND 750 WATERMAIN STA. -0+010 TO STA. 0+305
3		PROPOSED 600 AND 750 WATERMAIN STA. 0+305 TO STA. 0+620
4		PROPOSED 600 AND 750 WATERMAIN STA. 0+620 TO STA. 0+935
5		PROPOSED 600 AND 750 WATERMAIN STA. 0+935 TO STA. 1+250
6		PROPOSED 600 AND 750 WATERMAIN STA. 1+250 TO STA. 1+565
7		PROPOSED 600 AND 750 WATERMAIN STA. 1+565 TO STA. 1+880
8		PROPOSED 600 AND 750 WATERMAIN STA. 1+880 TO STA. 2+195
9		PROPOSED 600 WATERMAIN STA. 2+195 TO STA. 2+510
10		PROPOSED 600 WATERMAIN STA. 2+510 TO STA. 2+700
11		PROPOSED 750 WATERMAIN STA. 3+990 TO STA. 4+285
12		PROPOSED 750 WATERMAIN STA. 4+285 TO STA. 4+600
13		PROPOSED 750 WATERMAIN STA. 4+600 TO STA. 4+870
14		PROPOSED 750 WATERMAIN STA. 4+870 TO STA. 5+056.56
15		ELEVATED TOWER SITE PLAN
16		ELEVATED TOWER PROFILE VIEW

NOMENCLATURE

PE	PLAIN END
FL	FLANGED
WJ	WELDED JOINT
EX.	EXISTING
w/	WITH
c/w	COMPLETE WITH
(TYP.)	TYPICAL
Ø	DIAMETER
CPP	CONCRETE PRESSURE PIPE
SS	STAINLESS STEEL
PS	PAINTED STEEL
DI	DUCTILE IRON
BFV	BUTTERFLY VALVE
CV	CHECK VALVE
HV	HAND VALVE
AV	AIR VALVE
GM	GAS METER
RD	ROOF DRAIN



LEGEND

- VALVE
- HYDRANT
- WATER VALVE
- WATER SERVICE
- STORM MANHOLE
- SANITARY MANHOLE
- CATCH BASIN
- HYDRO POLE AND GUY WIRE
- HAND WELL
- LIGHT STANDARD
- BOLLARD
- EXTERIOR DOOR
- SIGN
- BOREHOLE
- SIB
- VALVE AND BOX TO BE REMOVED AND DISPOSED OF OFF SITE
- ASPHALT TO BE REMOVED
- REMOVAL
- CONIFEROUS/DECIDUOUS TREE
- TOPOGRAPHICAL CONTOUR (M.A.S.L.)
- STORM PIPE
- SANITARY PIPE
- WATER MAIN
- PROPOSED STORM PIPE
- PROPOSED SANITARY PIPE
- PROPOSED WATER MAIN
- UNDERGROUND HYDRO
- GAS
- BELL
- CABLE
- FENCE
- RIGHT OF WAY (R.O.W.)
- PROPERTY LINE
- TRCA REGULATION LIMIT

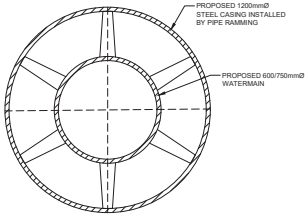
NOTES

GENERAL

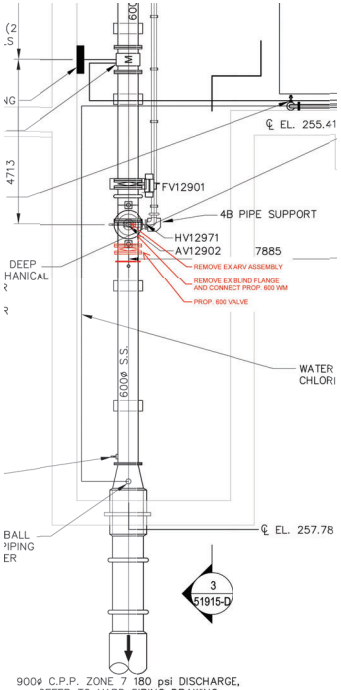
1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL COORDINATE CONSTRUCTION AND EQUIPMENT DELIVERY TO MINIMIZE DISRUPTIONS TO OPERATION OF STATION. CONTRACTOR SHALL MAINTAIN ACCESS TO FACILITY FOR OWNER AND OPERATIONS STAFF AT ALL TIMES.
4. ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE SITE PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING.
5. UNLESS OTHERWISE NOTED, THE MOST STRINGENT DRAWINGS AND SPECIFICATIONS FROM TOWN OF CALEDON, REGION OF PEEL, OPSD AND OPSS ARE TO CONSTITUTE PART OF THIS CONTRACT.
6. EXISTING STRUCTURES ARE NOT TO BE DISTURBED UNLESS OTHERWISE NOTED, ENCROACHMENT ON ADJACENT PROPERTIES IS NOT PERMITTED.
7. COMPLY WITH THE INSPECTION REQUIREMENTS OUTLINED IN THE TOWN OF CALEDON BUILDING PERMIT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING CONSTRUCTION, INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS ALL IN ACCORDANCE WITH MTO BOOK 7 AS A MINIMUM. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR THE TOWN OF CALEDON AND REGION OF PEEL.
9. THE CONTRACTOR SHALL ENDEAVOUR TO PREVENT MUD TRACKING ONTO EXISTING RIGHT-OF-WAYS AND SHALL PROVIDE FOR CLEANUP AT THEIR OWN EXPENSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTROLLING DUST ON THE SITE AND SHALL PROVIDE SUITABLE CONTROLLING MEASURES AT THEIR OWN EXPENSE.
10. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED.
11. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES TO BE VERIFIED IN THE FIELDUSING A PRIVATE UTILITY LOCATOR CONTRACTOR SHALL UTILIZE HAND OR HYDRO VAC EXCAVATION TECHNIQUES WITHIN 1.0m OF EXISTING BURIED UTILITIES.
12. ALL UTILITIES SHALL BE LOCATED, SUPPORTED AND PROTECTED TO THE SATISFACTION OF THE UTILITY COMPANY AND THE REGION OF PEEL.
13. REFER TO THE GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION REPORTS FOR INFORMATION REGARDING SUBSURFACE SOIL AND GROUNDWATER CONDITIONS.
14. CONTRACTOR SHALL OBTAIN ROAD OCCUPANCY PERMITS FROM THE TOWN OF CALEDON AT THEIR OWN EXPENSE. TRAFFIC CONTROL MEASURES SHALL COMPLY WITH MTO BOOK 7 AS A MINIMUM.
15. LIMITS OF CONSTRUCTION ARE CONFINED TO PROPERTY BOUNDARY, CONSTRUCTION EASEMENTS OR AREAS WITH ACTIVE PERMISSION TO ENTER AGREEMENTS.
16. CONTRACTOR SHALL NOT REMOVE OR DAMAGE ANY TREES UNLESS THEY ARE INDICATED AS REMOVAL ITEMS ON THE DRAWINGS.
17. REFER TO THE CONTRACT DOCUMENTS FOR SEQUENCE OF CONSTRUCTION REQUIREMENTS.
18. WITHIN A MINIMUM OF FORTY-EIGHT HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE MUNICIPAL RIGHT-OF-WAY, THE CONTRACTOR MUST CONTACT THE FOLLOWING:

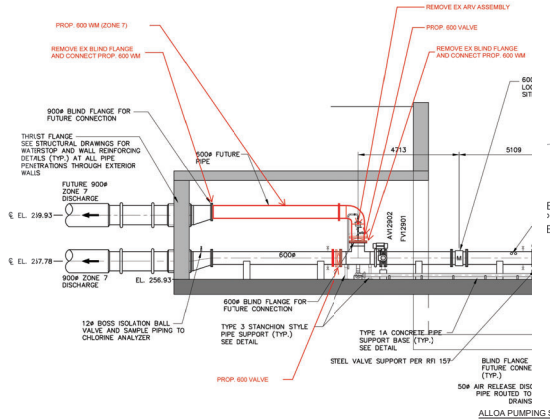
THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT	905-584-2272
ENBRIDGE CONSUMERS GAS	905-759-7924
HYDRO ONE	519-941-1211
BELL CANADA	416-296-6929
ROGERS CABLE	905-897-3914

19. THE SUITABILITY OF ALL FILL MATERIALS ARE TO BE CONFIRMED BY A PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION OF ANY ROAD BASE OR BEDDING MATERIALS.
20. ALL TEMPORARY CONSTRUCTION FENCING AND HOARDING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.
21. SILT FENCE(S) TO BE INSTALLED AND MAINTAINED TO PREVENT SILT FLOWING ONTO ADJACENT LANDS. SILTATION CONTROL SHALL BE ERECTED PRIOR TO ANY GRADING OR CONSTRUCTION AND SHALL BE IN GOOD REPAIR THROUGHOUT THE CONSTRUCTION AND GRADING PHASES. SEE STAGING, EROSION AND SEDIMENT CONTROL PLAN FOR ADDITIONAL REQUIREMENT.
22. ANY CHANGES IN GRADES, CATCH BASINS OR STORM AND SANITARY SEWERS REQUIRE THE APPROVAL OF GM BLUEPLAN ENGINEERING LIMITED.
23. ALL LANDSCAPING TO BE INSTALLED AS SOON AS POSSIBLE OR PRIOR TO THE END OF THE FIRST GROWING SEASON. LANDSCAPING TO BE MAINTAINED UNTIL IT IS ESTABLISHED.
24. NO STOCKPILING OF FILL IS PERMITTED ON SITE.
25. PAVEMENT GRADE SHALL BE MIN. 0.5%%%, MAX. 6%%%.
26. SLOPES IN LANDSCAPE AREAS AND ON BERMS SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL, UNLESS NOTED OTHERWISE.

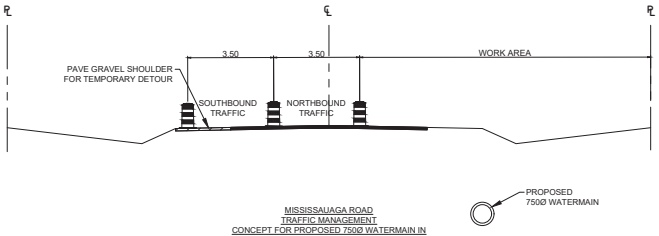


WATERMAIN CROSSING DETAIL
N.T.S.

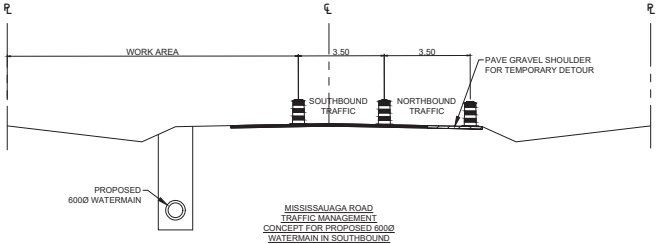




ALLOA PUMPING STATION
INTERIOR BUILDING MODIFICATION
DETIALS
N.T.S



MISSISSAUAGA ROAD
TRAFFIC MANAGEMENT
CONCEPT FOR PROPOSED 750Ø WATERMAIN IN NORTHBOUND SHOULDER
(TYPICAL)
N.T.S



MISSISSAUAGA ROAD
TRAFFIC MANAGEMENT
CONCEPT FOR PROPOSED 600Ø WATERMAIN IN SOUTHBOUND SHOULDER
(TYPICAL)
N.T.S

REVISIONS		
DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.

NOTES:

1. ALL MEASUREMENTS ARE IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED.

Designed by — Chkd. — Approved by

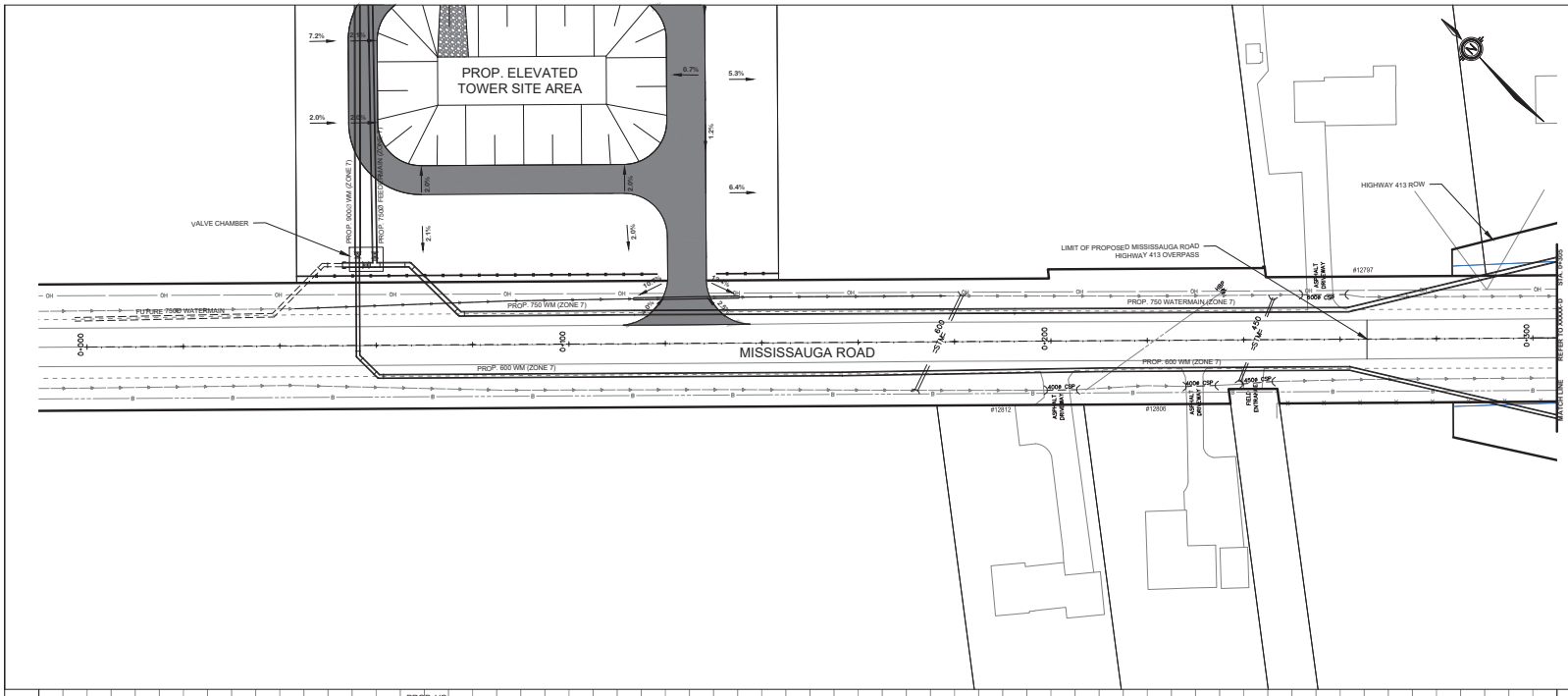
SCALE: INSERT SCALE BAR AND RATIO, OR AS SHOWN

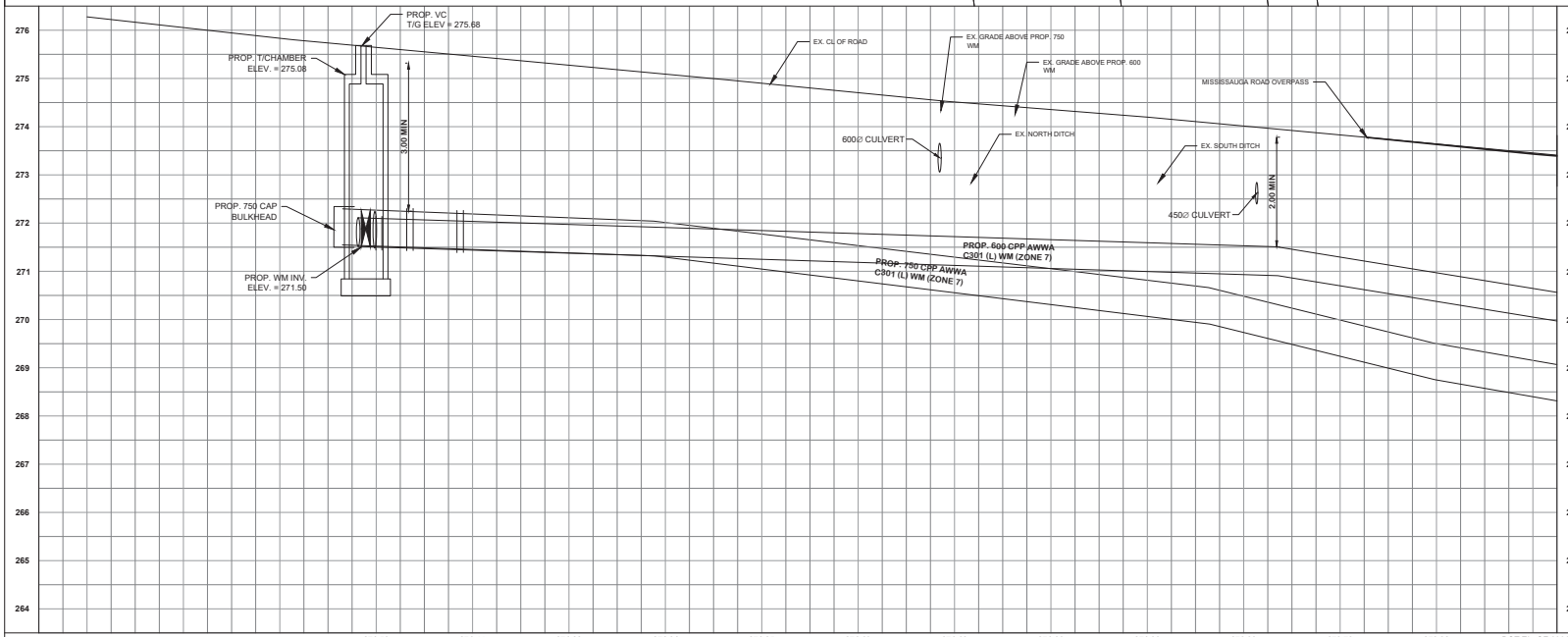
Region of Peel
working with you

PEEL WEST CALEDON STORAGE FACILITY

INDEX, LEGEND AND NOTES - G01

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	AUGUST 2025	Sheet	1 of 16	Plan No.	XXXXX-D





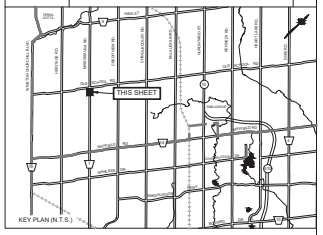
			271.50	271.44	271.38	271.31	271.25	271.19	271.12	271.06	271.00	270.93	270.70	270.38	BOT.EL. OF 600 WM.
			271.52	271.45	271.38	271.29	271.05	270.80	270.56	270.31	270.06	269.73	269.24	268.75	BOT.EL. OF 750 WM.
	276.06	275.83	275.64	275.46	275.28	275.09	274.90	274.70	274.51	274.36	274.20	274.01	273.83	273.64	EX. ROAD ELEV.
0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	ROAD CHAINAGE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
ONT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



General Notes

All Driveways Are ASPHALT Unless Otherwise Noted
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20C Existing Water Service, Size In mm
WS25 Proposed Water Service, Size In mm
B.M. No. Elev.
Description
Location
The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction. Location Of Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

Designed by — Chkd — Approved by

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL CANADA
ENBRIDGE INCORPORATED-GAS DISTRIBUTION
ONTARIO MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m HORIZONTAL SCALE
1m 0 1 2 3m VERTICAL SCALE

Region of Peel
working with you

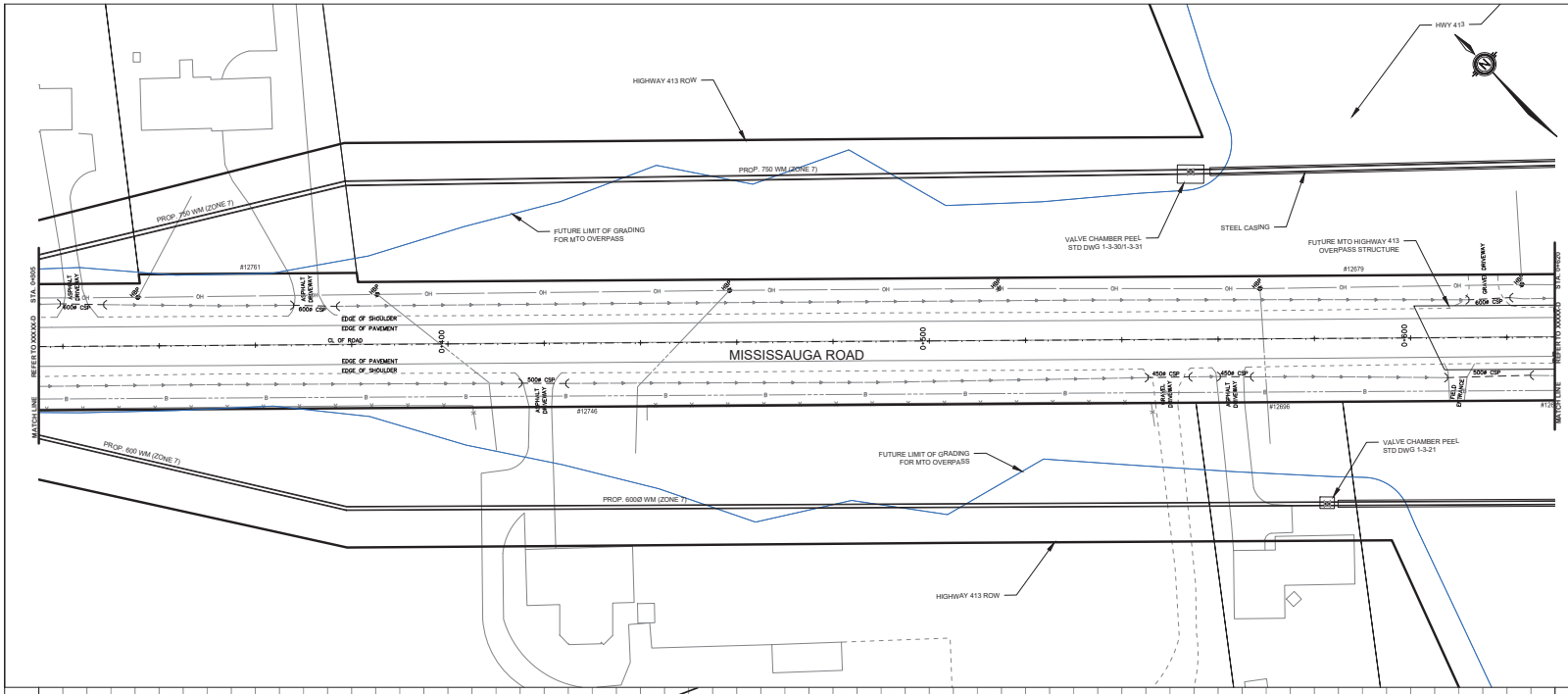
MISSISSAUGA ROAD

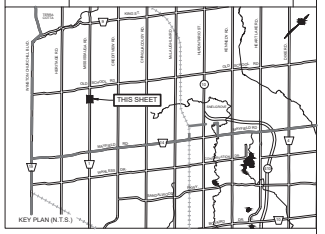
(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

PROPOSED 600 AND 750 WATERMAIN

STA. -0+010 TO STA. 0+305

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	2 of 16	Plan No.	XXXXX-D



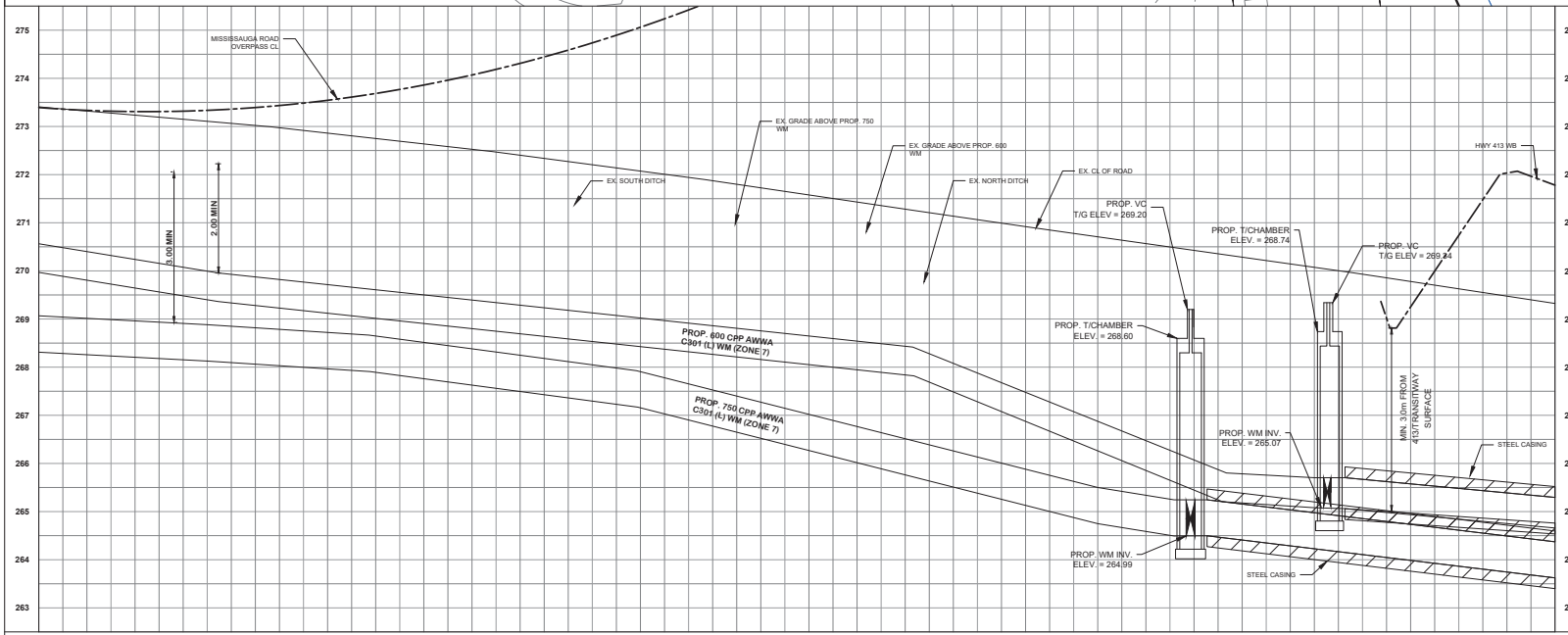


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



269.73	269.40	269.17	268.96	268.75	268.53	268.32	268.11	267.89	267.28	266.47	265.65	265.15	265.03	264.84	BOT.EL. OF 600 WM.
268.23	268.13	268.00	267.83	267.56	267.29	266.90	266.40	265.89	265.38	264.88	264.51	264.35	264.11	263.86	BOT.EL. OF 750 WM.
273.28	273.11	272.92	272.69	272.47	272.21	271.94	271.65	271.36	271.07	270.78	270.50	270.21	269.93	269.63	EX. ROAD ELEV.
0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	ROAD CHAINAGE

General Notes

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B.M. No. Elev.
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Designed by — Chkd — Approved by

NOTICE TO CONTRACTOR

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HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
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HYDRO ONE TELECOM
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PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m — HORIZONTAL SCALE
1m 0 1 2 3m — VERTICAL SCALE

Region of Peel
working with you

MISSISSAUGA ROAD

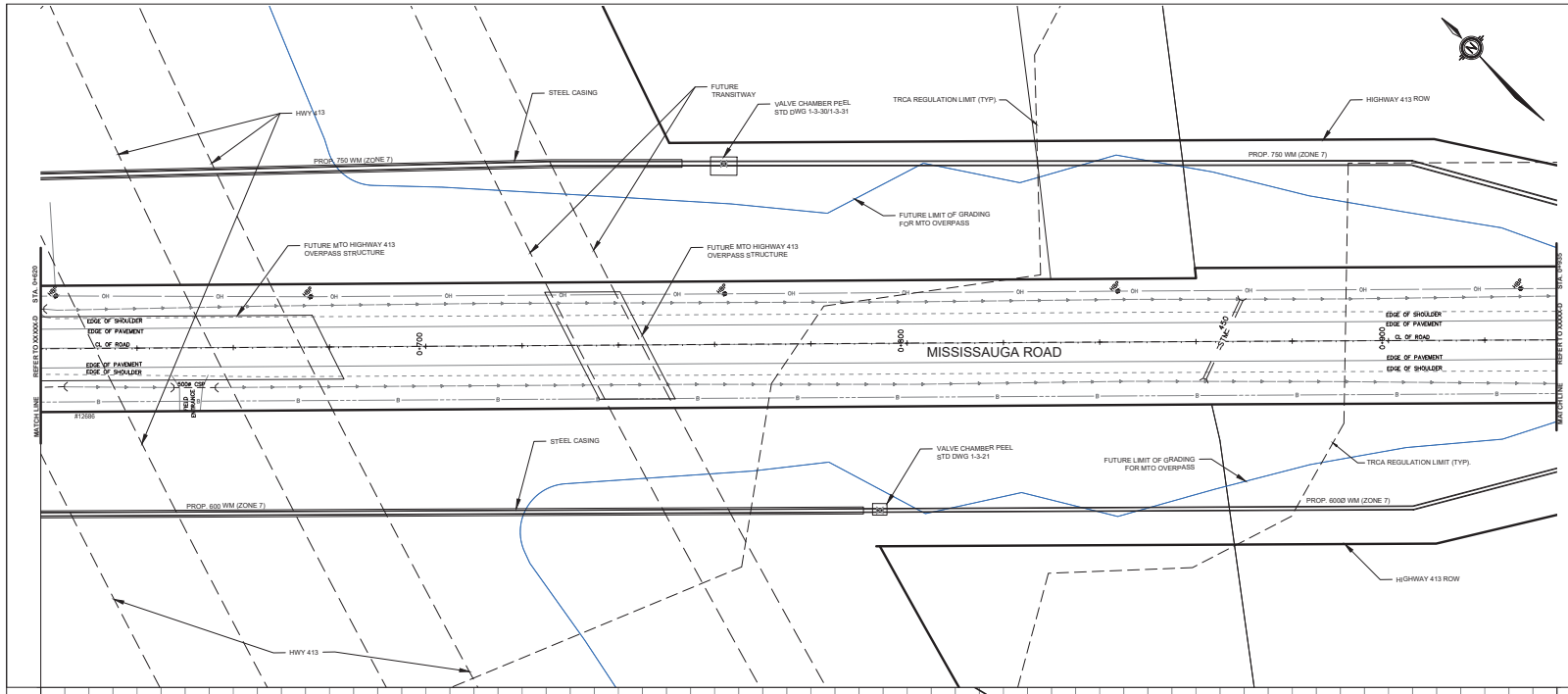
(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

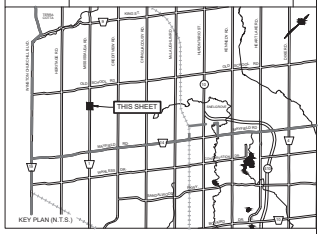
PROPOSED 600 AND 750 WATERMAIN

STA. 0+305 TO STA. 0+620

CAD Area	X-XX	Area	X-XX
Checked by	B.P.	Drawn by	S.G.
Date	JUNE 2025	Sheet	3 of 16

Project No. XX-XXXX
Plan No.



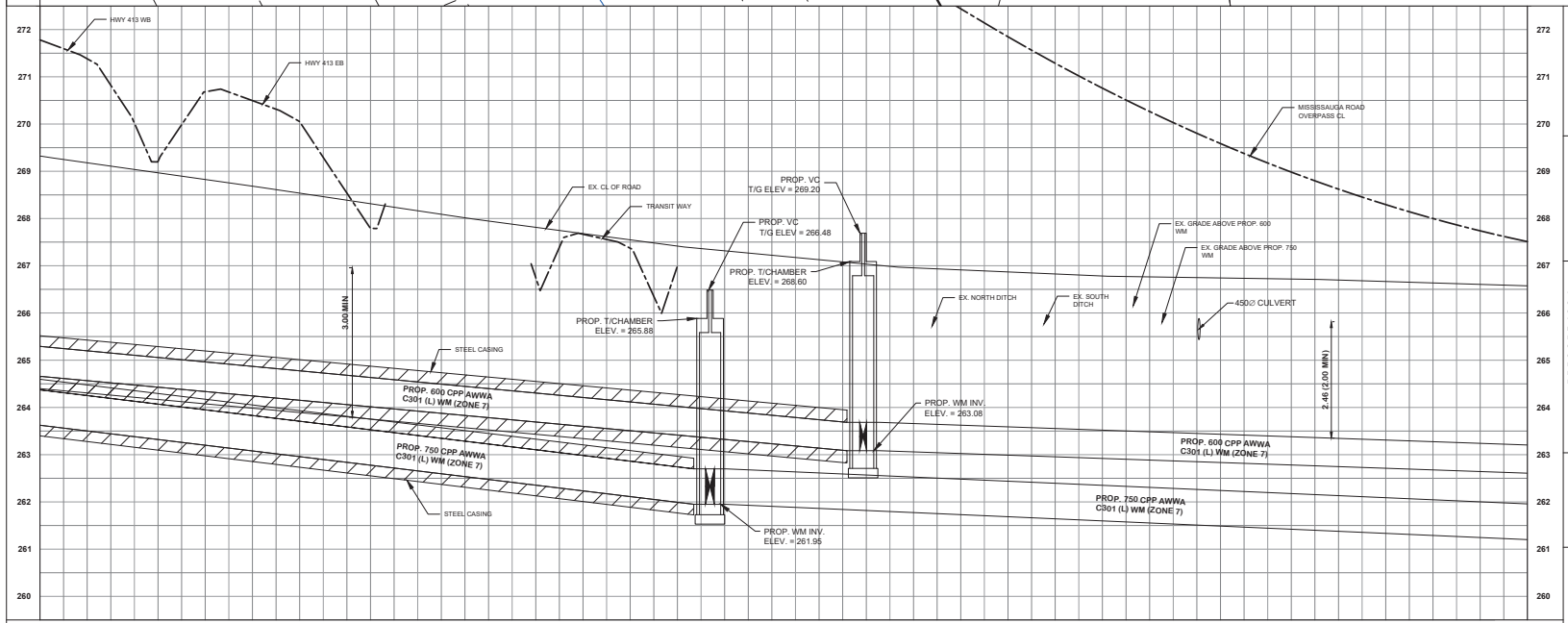


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



264.66	264.47	264.29	264.11	263.92	263.74	263.55	263.37	263.18	263.08	263.01	262.94	262.87	262.80	262.73	262.66	BOT.EL. OF 600 WM.
	263.38	263.14	262.90	262.66	262.41	262.17	261.95	261.88	261.80	261.71	261.62	261.53	261.44	261.36	261.27	BOT.EL. OF 750 WM.
	269.04	268.76	268.46	268.16	267.88	267.61	267.36	267.18	266.99	266.89	266.80	266.76	266.73	266.68	266.62	EX. ROAD ELEV.
	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	ROAD CHAINAGE

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Designed by — Chkd — Approved by

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10m 0 10 20 30m — HORIZONTAL SCALE
1m 0 1 2 3m — VERTICAL SCALE

Region of Peel
working with you

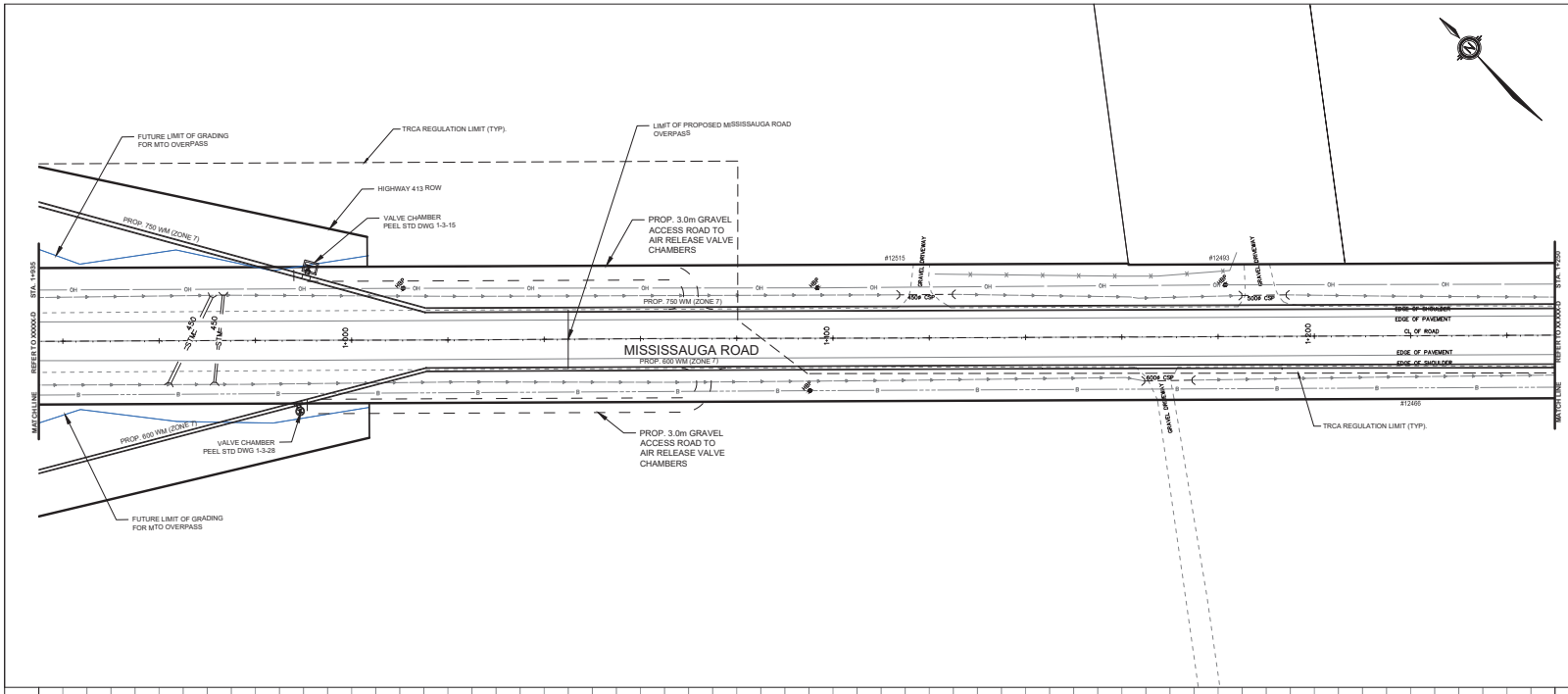
MISSISSAUGA ROAD

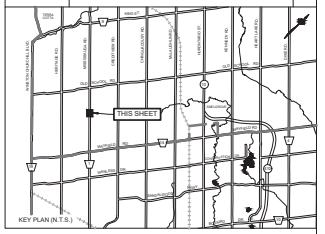
(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

PROPOSED 600 AND 750 WATERMAIN

STA. 0+620 TO STA. 0+935

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	4 of 16	Plan No.	



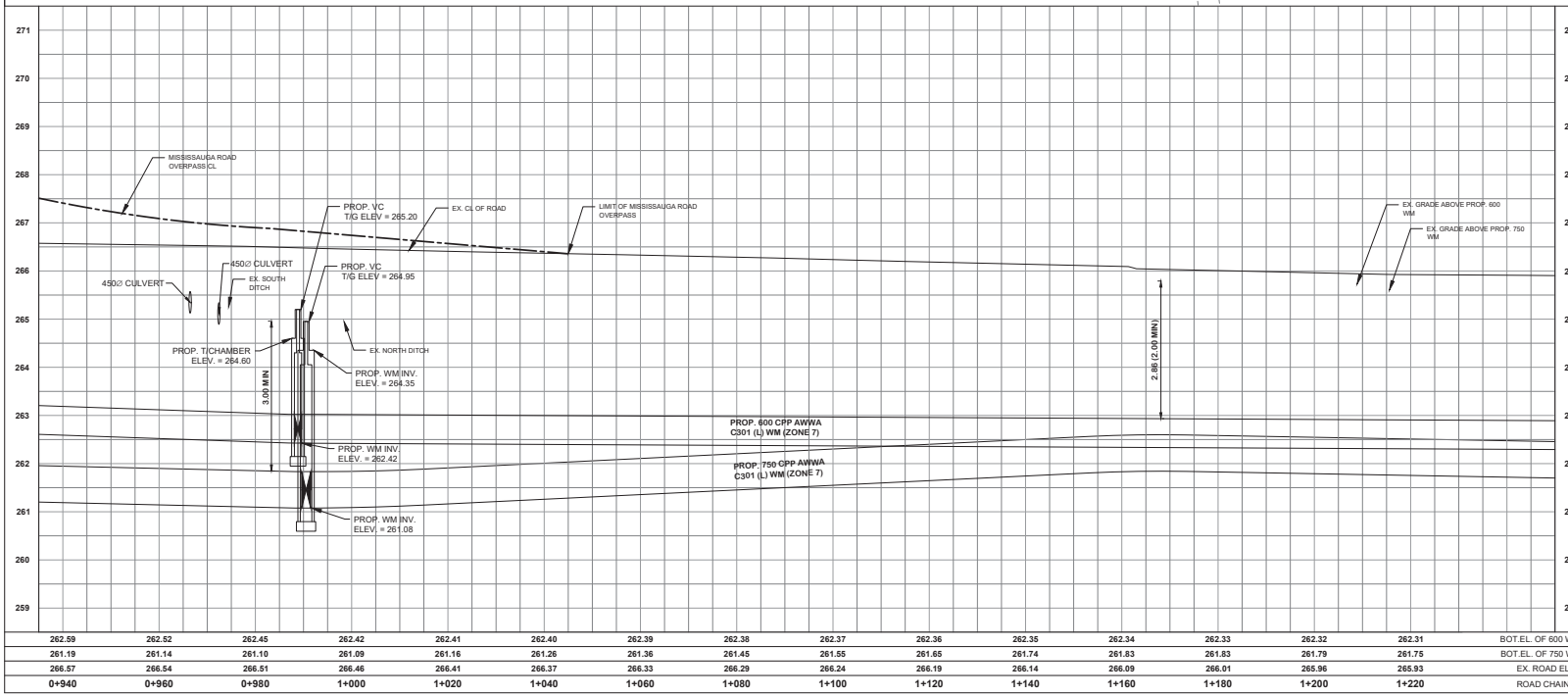


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X	X.X.	GAS MAINS	X.X	X.X.
STORM SEWERS	X.X	X.X.	BELL U/G CABLE	X.X	X.X.
WATERMAINS	X.X	X.X.	HYDRO U/G CABLE	X.X	X.X.
TRANSIT	X.X	X.X.	HYDRO ONE	X.X	X.X.
PARKS & REC.	X.X	X.X.	CTV	X.X	X.X.
CNT. CLEAN WATER	X.X	X.X.	COMMUNIC. CABLES	X.X	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



262.59	262.52	262.45	262.42	262.41	262.40	262.39	262.38	262.37	262.36	262.35	262.34	262.33	262.32	262.31	BOT.EL. OF 600 WM.
261.19	261.14	261.10	261.09	261.16	261.26	261.36	261.45	261.55	261.65	261.74	261.83	261.83	261.79	261.75	BOT.EL. OF 750 WM.
266.57	266.54	266.51	266.46	266.41	266.37	266.33	266.29	266.24	266.19	266.14	266.09	266.01	265.96	265.93	EX. ROAD ELEV.
0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	ROAD CHAINAGE

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B.M. No. Elev.
Description
Location
The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction, Location Of Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

Designed by — Chkd — Approved by

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL CANADA
ENBRIDGE INCORPORATED-GAS DISTRIBUTION
ONTARIO MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m — HORIZONTAL SCALE
1m 0 1 2 3m — VERTICAL SCALE

Region of Peel
working with you

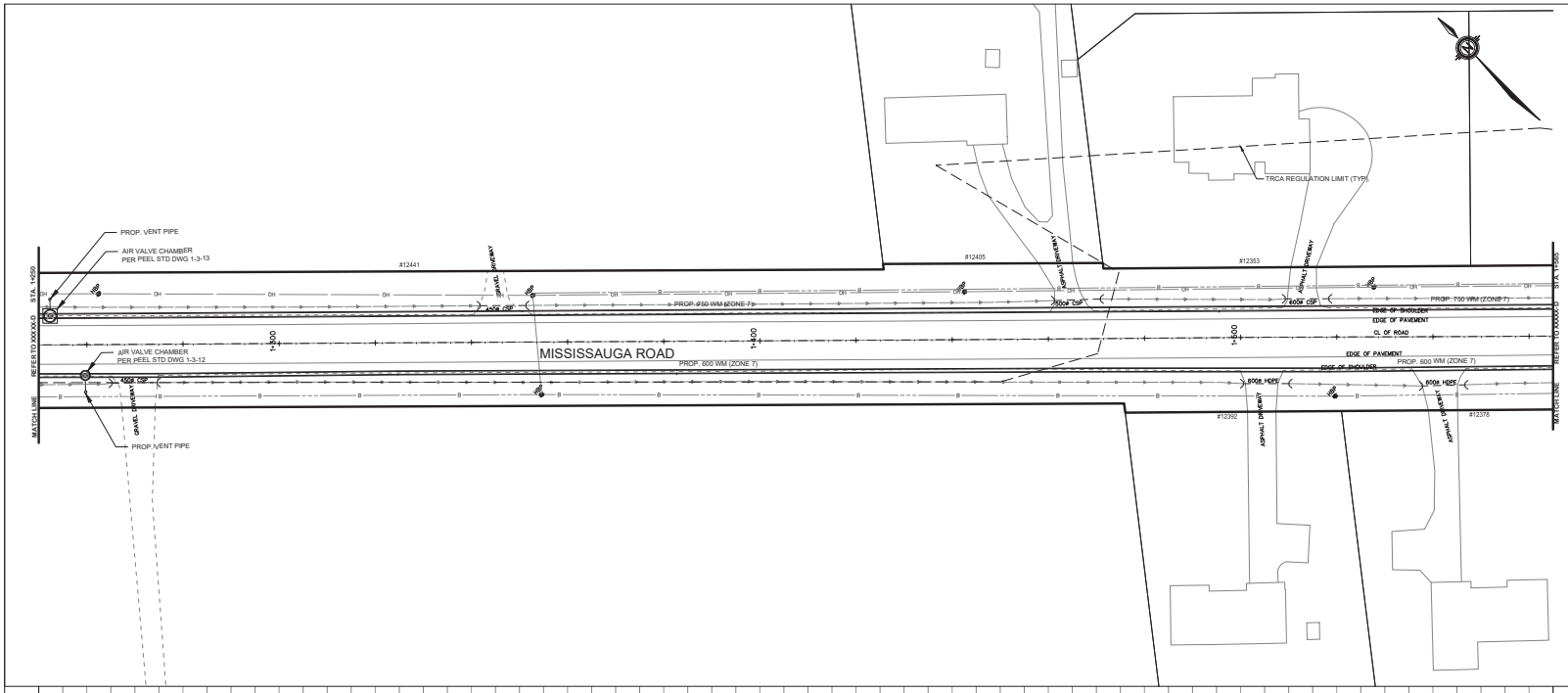
MISSISSAUGA ROAD

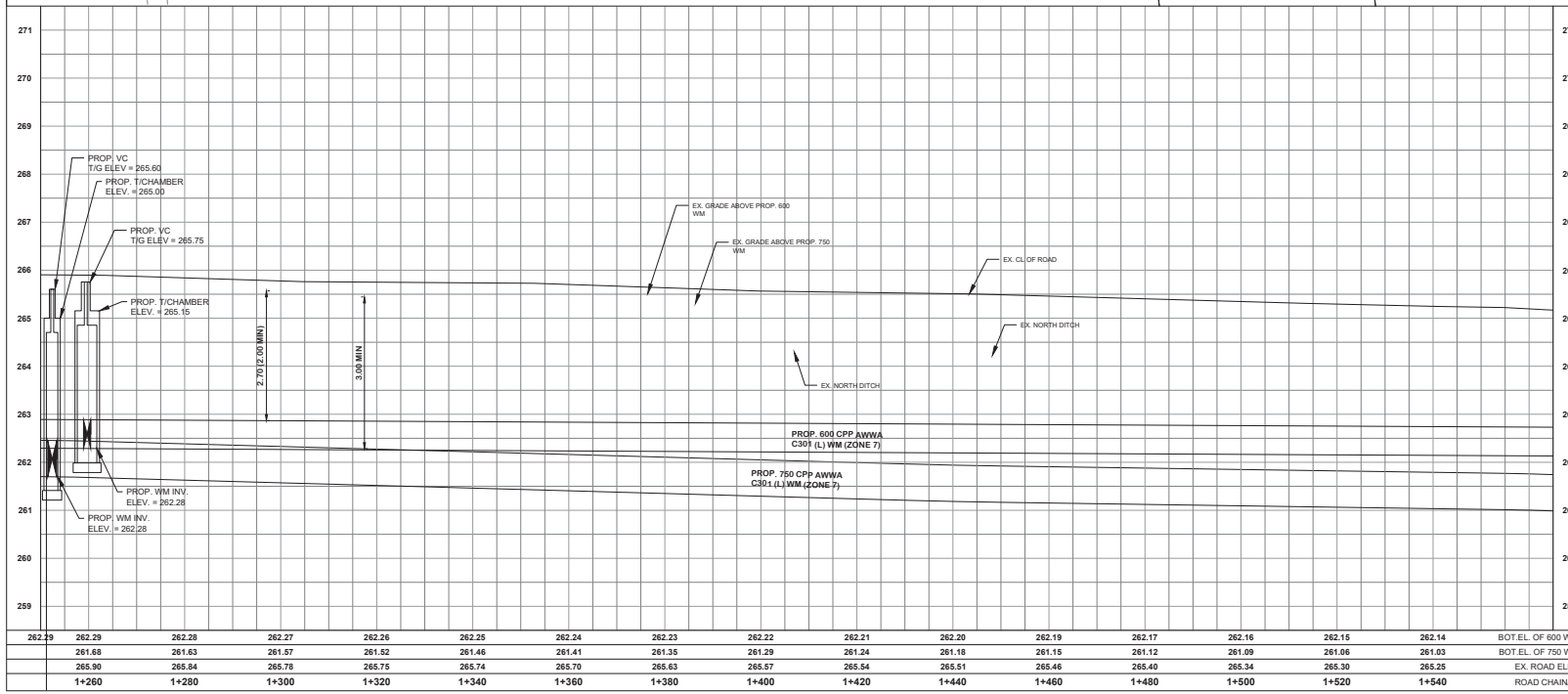
(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

PROPOSED 600 AND 750 WATERMAIN

STA. 0+935 TO STA. 1+250

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	5 of 16	Plan No.	





262.29	262.29	262.28	262.27	262.26	262.25	262.24	262.23	262.22	262.21	262.20	262.19	262.17	262.16	262.15	262.14	BOT.EL. OF 600 WM.
	261.68	261.63	261.57	261.52	261.46	261.41	261.35	261.29	261.24	261.18	261.15	261.12	261.09	261.06	261.03	BOT.EL. OF 750 WM.
	265.90	265.84	265.78	265.75	265.74	265.70	265.63	265.57	265.54	265.51	265.46	265.40	265.34	265.30	265.25	EX. ROAD ELEV.
	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	ROAD CHAINAGE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.

General Notes

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All Pipes Size In mm
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WS25 Proposed Water Service, Size In mm
B.M. No. Elev.
Description
Location
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FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m — HORIZONTAL SCALE
1m 0 1 2 3m — VERTICAL SCALE

Region of Peel
working with you

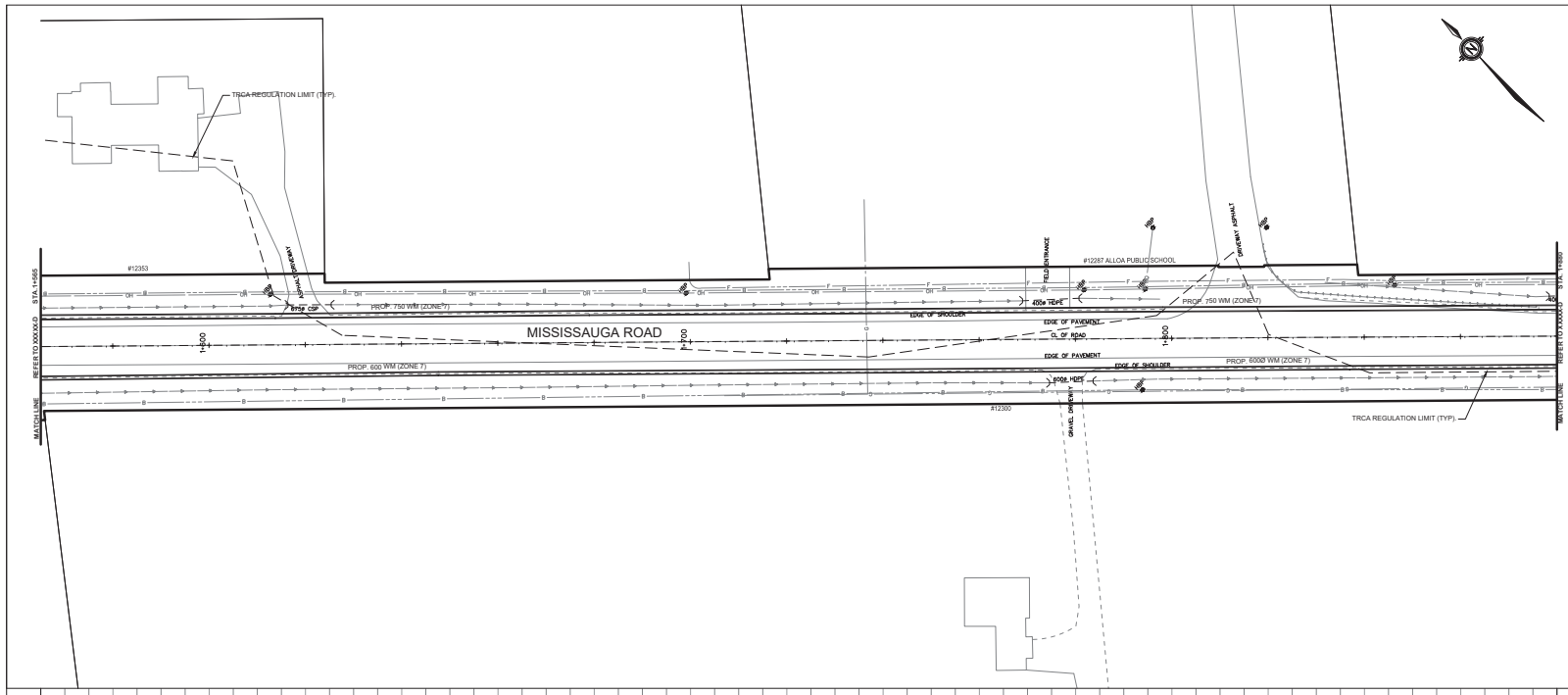
MISSISSAUGA ROAD

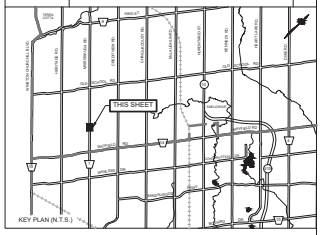
(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

PROPOSED 600 AND 750 WATERMAIN

STA. 1+250 TO STA. 1+565

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	6 of 16	Plan No.	



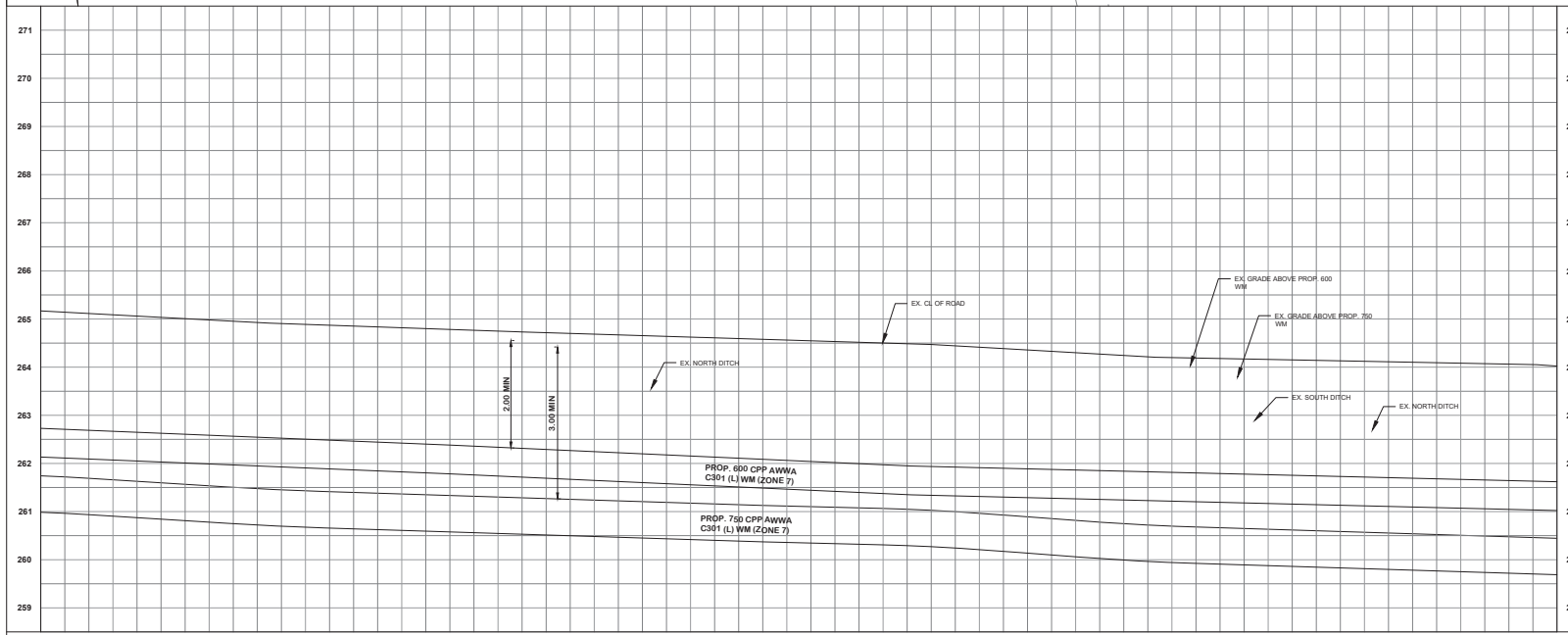


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



262.07	261.99	261.91	261.82	261.74	261.65	261.56	261.47	261.37	261.31	261.27	261.22	261.17	261.12	261.07	BOT.EL. OF 600 WM.
260.90	260.78	260.67	260.61	260.55	260.48	260.42	260.36	260.31	260.21	260.06	259.94	259.88	259.81	259.75	BOT.EL. OF 750 WM.
265.09	264.98	264.89	264.82	264.75	264.69	264.62	264.56	264.50	264.41	264.30	264.20	264.16	264.12	264.08	EX. ROAD ELEV.
1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	ROAD CHAINAGE

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B.M. No. Elev.
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10m 0 10 20 30m — HORIZONTAL SCALE
1m 0 1 2 3m — VERTICAL SCALE

Region of Peel
working with you

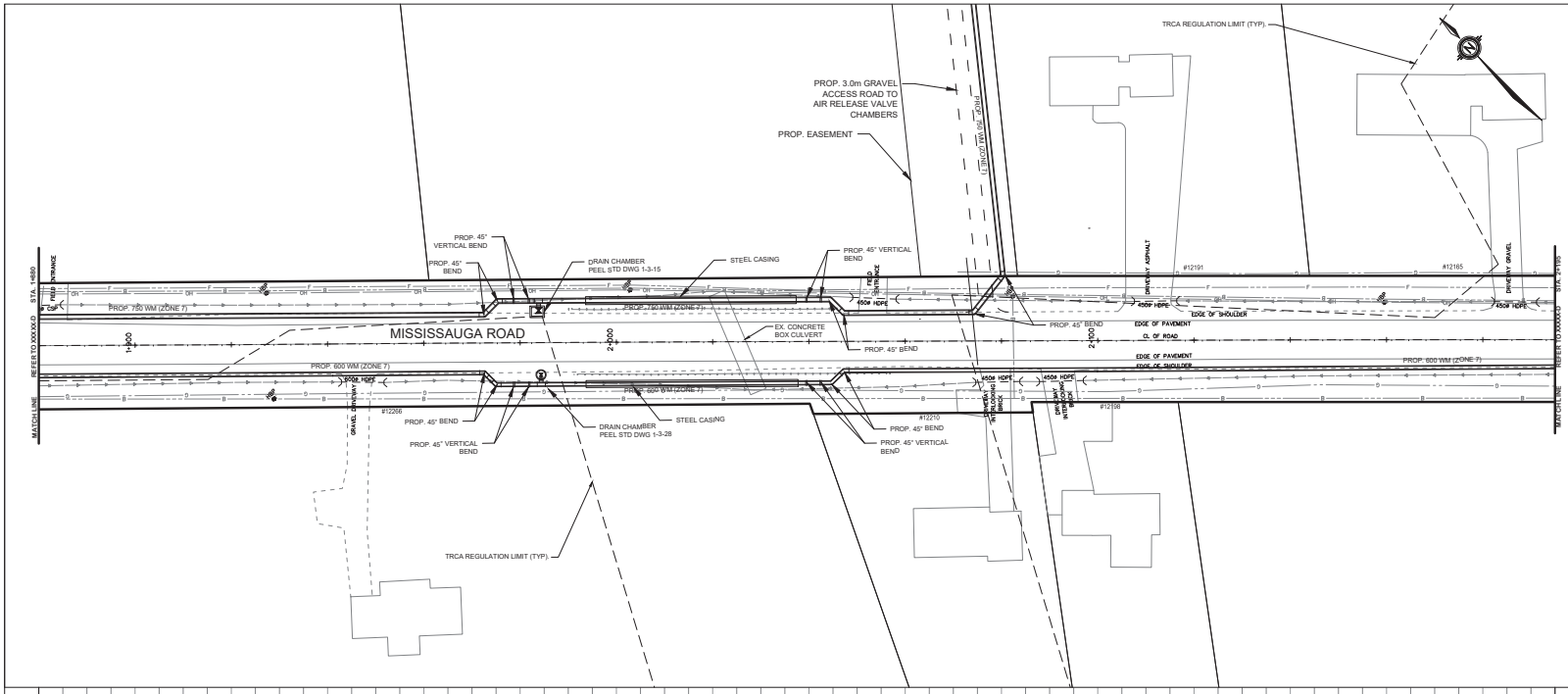
MISSISSAUGA ROAD

(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

PROPOSED 600 AND 750 WATERMAIN

STA. 1+565 TO STA. 1+880

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	7 of 16	Plan No.	

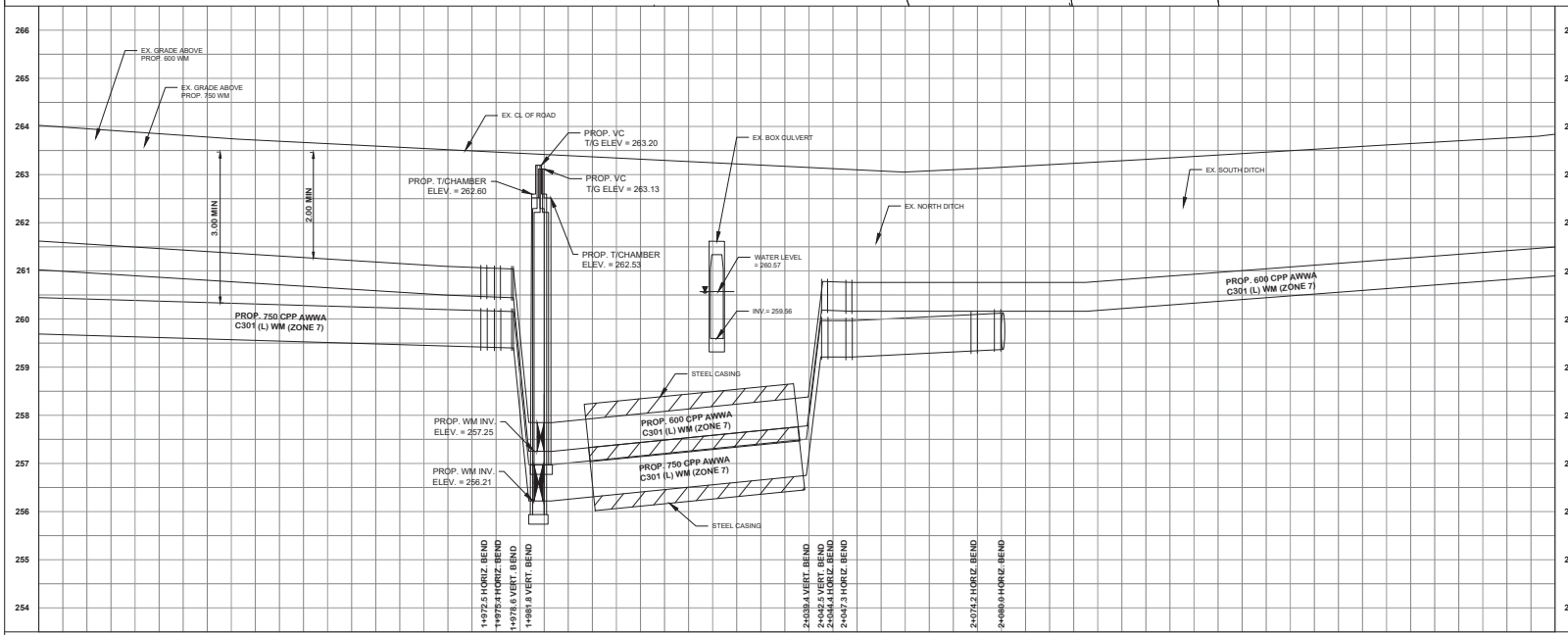


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



260.90	260.77	260.65	260.53	259.05	257.38	257.58	258.08	260.16	260.16	260.18	260.33	260.48	260.63	260.78	BOT.EL. OF 600 WM.
259.63	259.57	259.51	259.45	258.03	256.36	256.56	257.19	259.27	259.37						BOT.EL. OF 750 WM.
263.88	263.75	263.64	263.54	263.44	263.34	263.25	263.15	263.05	263.15	263.26	263.38	263.50	263.61	263.73	EX. ROAD ELEV.
1+900	1+920	1+940	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	ROAD CHAINAGE

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10m 0 10 20 30m — HORIZONTAL SCALE
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Region of Peel
working with you

MISSISSAUGA ROAD

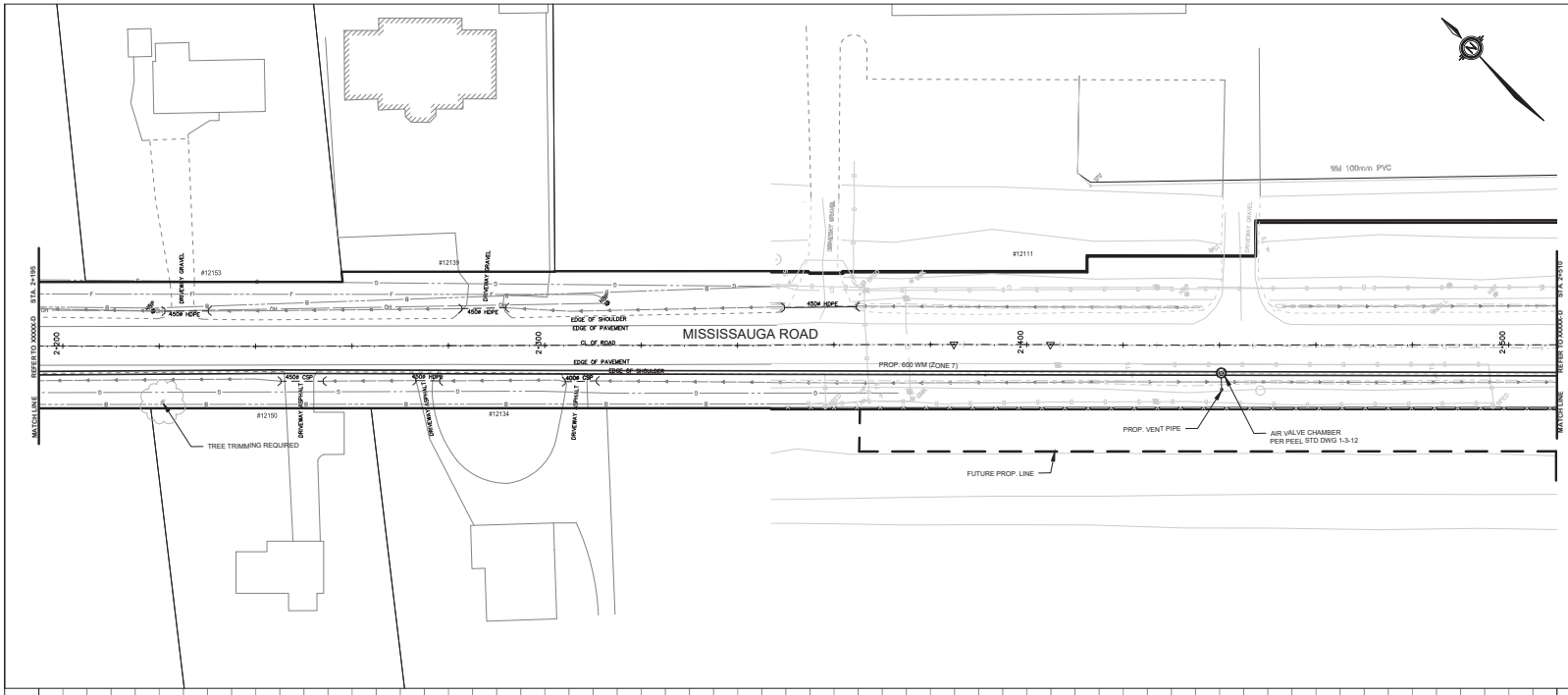
(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

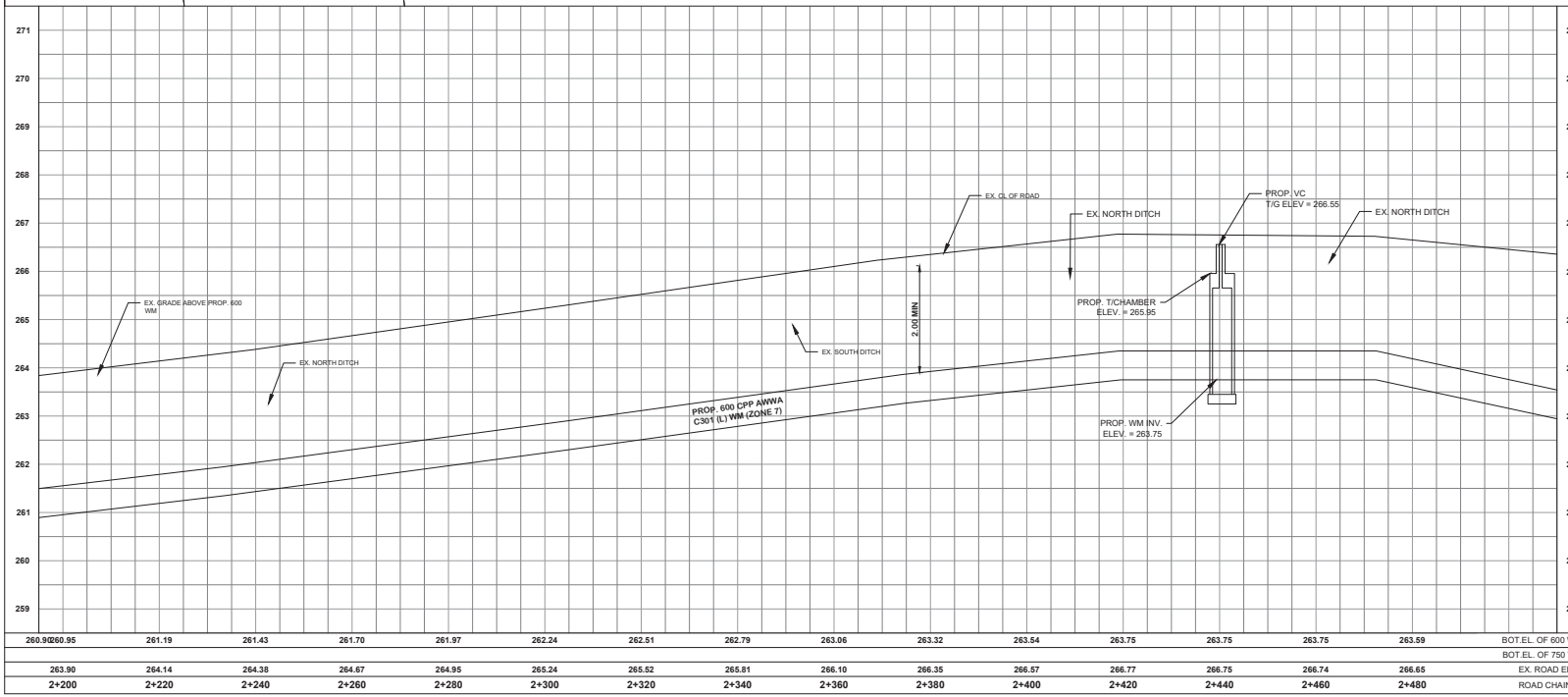
PROPOSED 600 AND 750 WATERMAIN

STA. 1+880 TO STA. 2+195

CAD Area	X-XX	Area	X-XX
Checked by	B.P.	Drawn by	S.G.
Date	JUNE 2025	Sheet	8 of 16

Project No. XX-XXXX
Plan No.





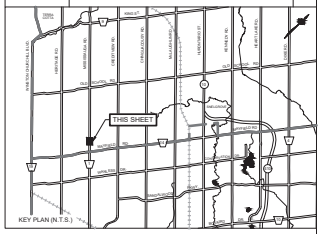
260.90	260.95	261.19	261.43	261.70	261.97	262.24	262.51	262.79	263.06	263.32	263.54	263.75	263.75	263.75	263.59	BOT.EL. OF 600 WM.
																BOT.EL. OF 750 WM.
263.90		264.14	264.38	264.67	264.95	265.24	265.52	265.81	266.10	266.35	266.57	266.77	266.75	266.74	266.65	EX. ROAD ELEV.
2+200		2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	ROAD CHAINAGE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



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B.M. No. Elev.
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Region of Peel
working with you

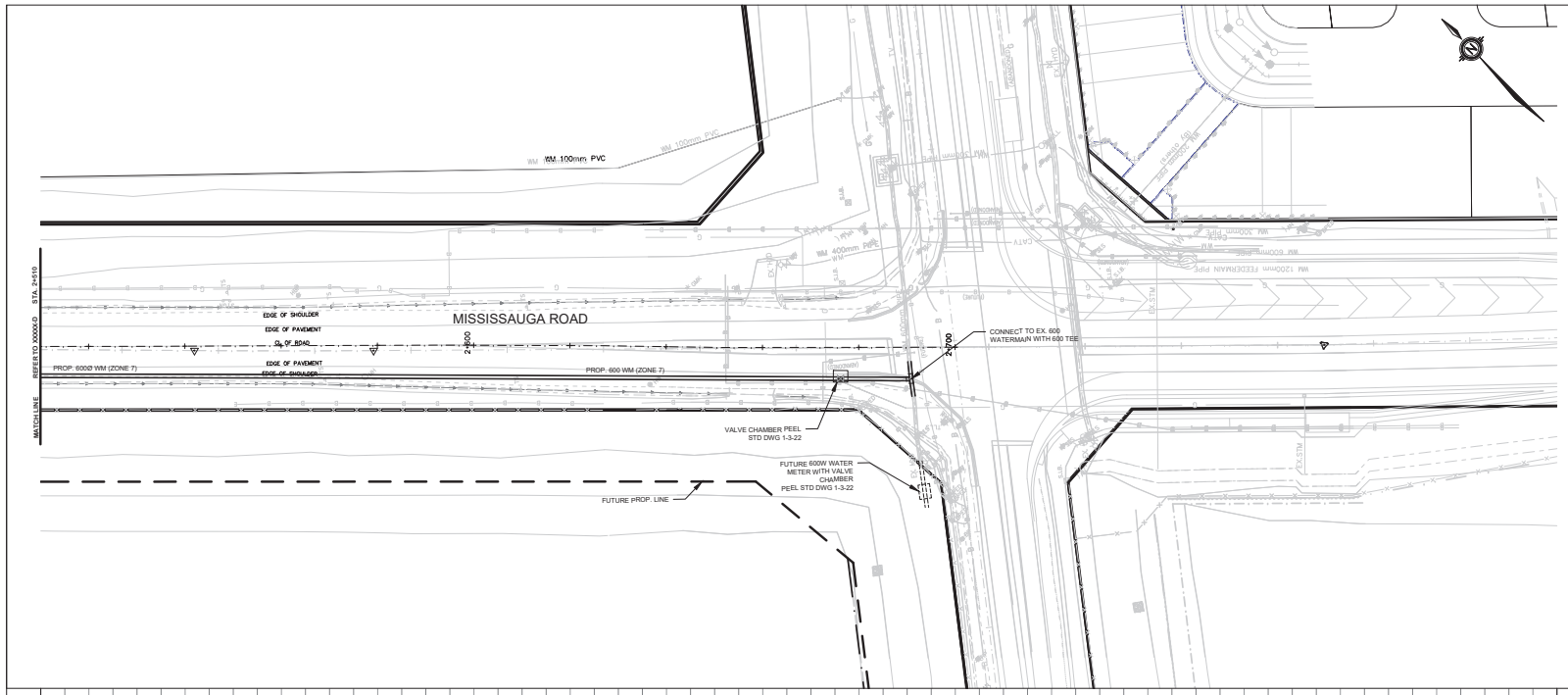
MISSISSAUGA ROAD

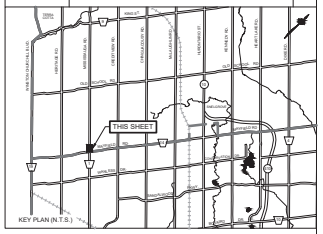
(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

PROPOSED 600 WATERMAIN

STA. 2+195 TO STA. 2+510

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	9 of 16	Plan No.	



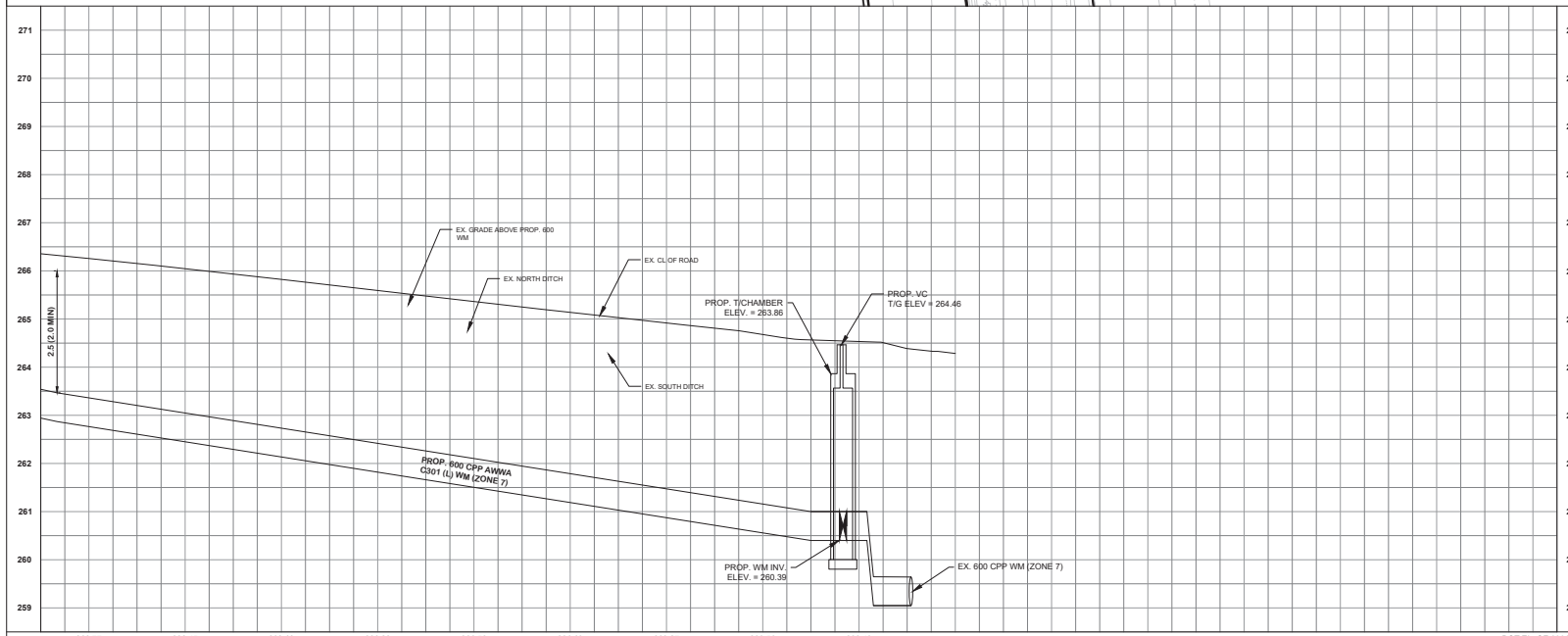


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



262.77	262.45	262.13	261.82	261.50	261.19	260.87	260.56	260.40								BOT.EL. OF 600 WM.
																BOT.EL. OF 750 WM.
266.26	266.04	265.82	265.59	265.36	265.14	264.92	264.68	264.53	264.29							EX. ROAD ELEV.
2+520	2+540	2+560	2+580	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800		ROAD CHAINAGE

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Region of Peel
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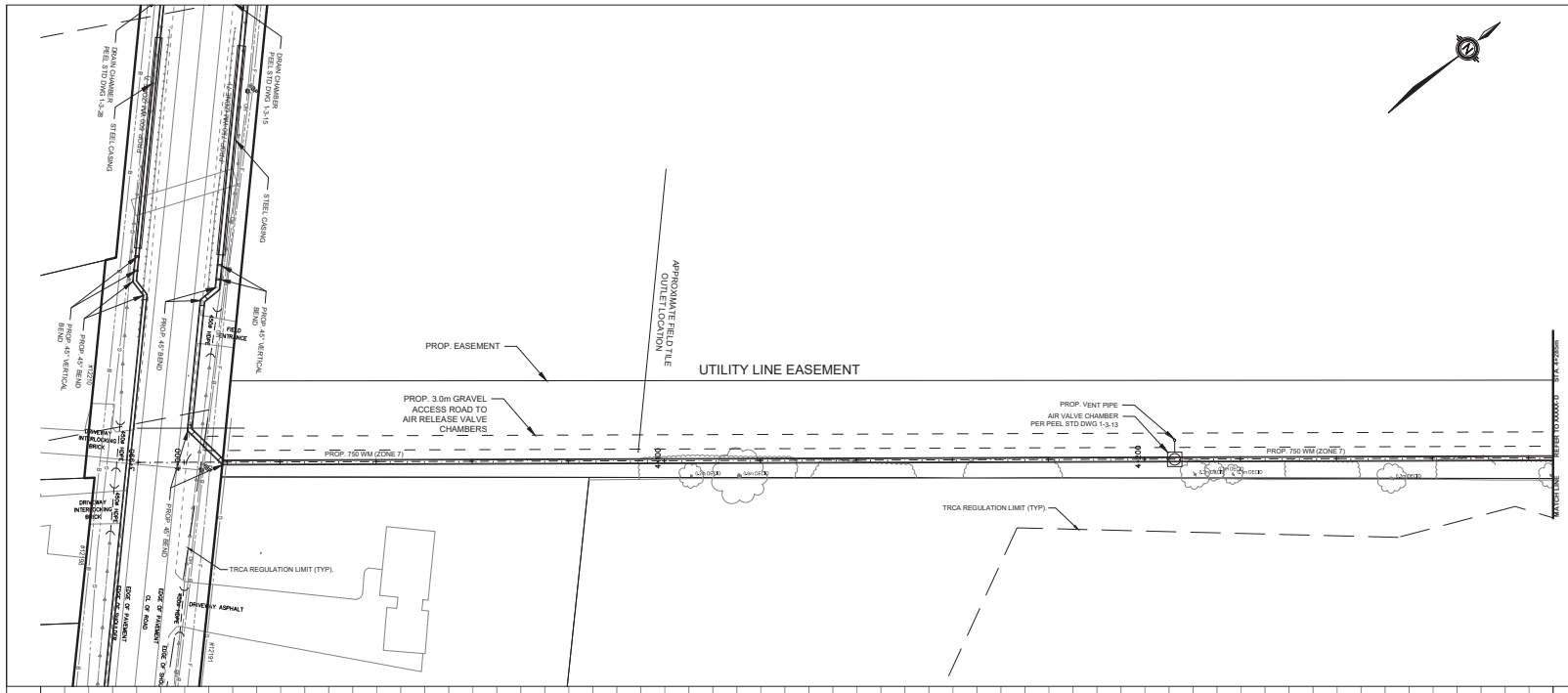
(FROM MAYFIELD ROAD TO OLD SCHOOL ROAD)

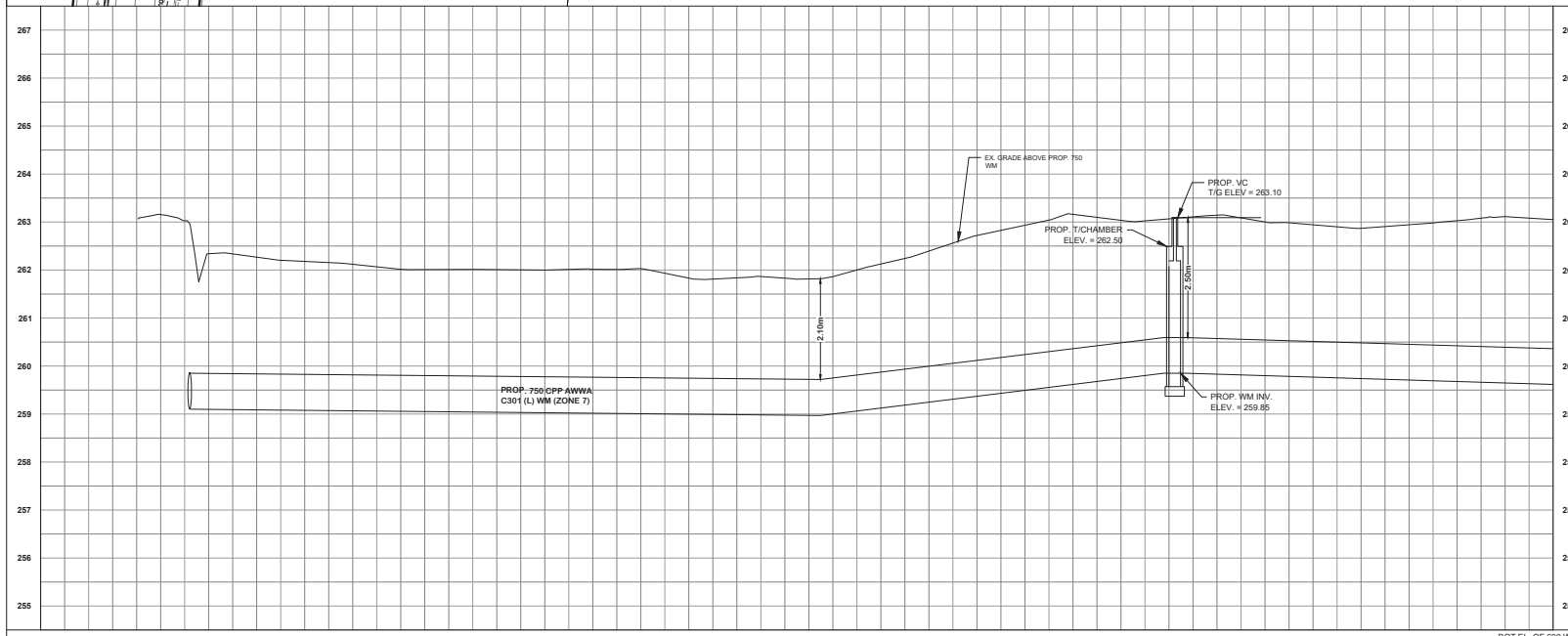
PROPOSED 600 WATERMAIN

STA. 2+510 TO STA. 2+700

CAD Area	X-XX	Area	X-XX
Checked by	B.P.	Drawn by	S.G.
Date	JUNE 2025	Sheet	10 of 16

Project No. XX-XXXX
Plan No.





		259.08	259.06	259.04	259.02	259.00	258.98	259.06	259.31	259.56	259.80	259.82	259.75	259.69	BOT.EL. OF 750 WM.
	263.03	262.20	262.07	262.01	262.01	261.93	261.87	262.00	262.56	263.04	263.03	263.09	262.90	262.98	EX. ROAD ELEV.
3+980	4+000	4+020	4+040	4+060	4+080	4+100	4+120	4+140	4+160	4+180	4+200	4+220	4+240	4+260	ROAD CHAINAGE

BOT.EL. OF 600 WM.

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

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All Pipes Size In mm
20C Existing Water Service, Size In mm
WS25 Proposed Water Service, Size In mm
B.M. No. Elev.
Description
Location
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Designed by — Chkd — Approved by

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
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CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
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ENBRIDGE INCORPORATED-GAS DISTRIBUTION
ONTARIO MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m — HORIZONTAL SCALE
1m 0 1 2 3m — VERTICAL SCALE

Region of Peel
working with you

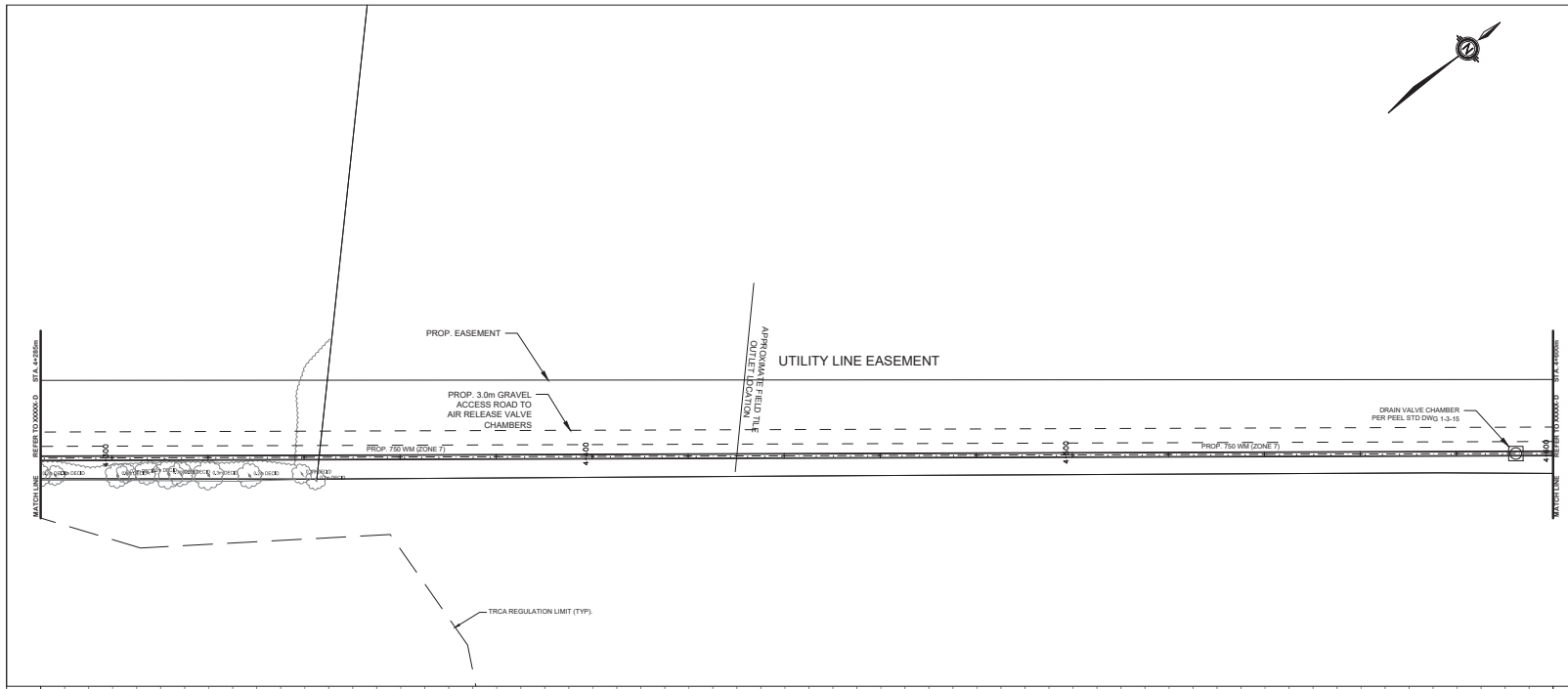
UTILITY EASEMENT

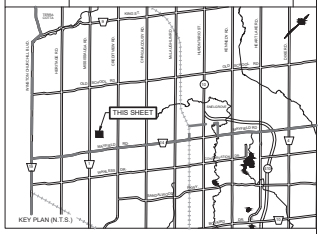
PROPOSED 750 WATERMAIN

STA. 3+990 TO STA. 4+285

CAD Area	X-XX	Area	X-XX
Checked by	B.P.	Drawn by	S.G.
Date	JUNE 2025	Sheet	11 of 16

Project No. XX-XXXX
Plan No.



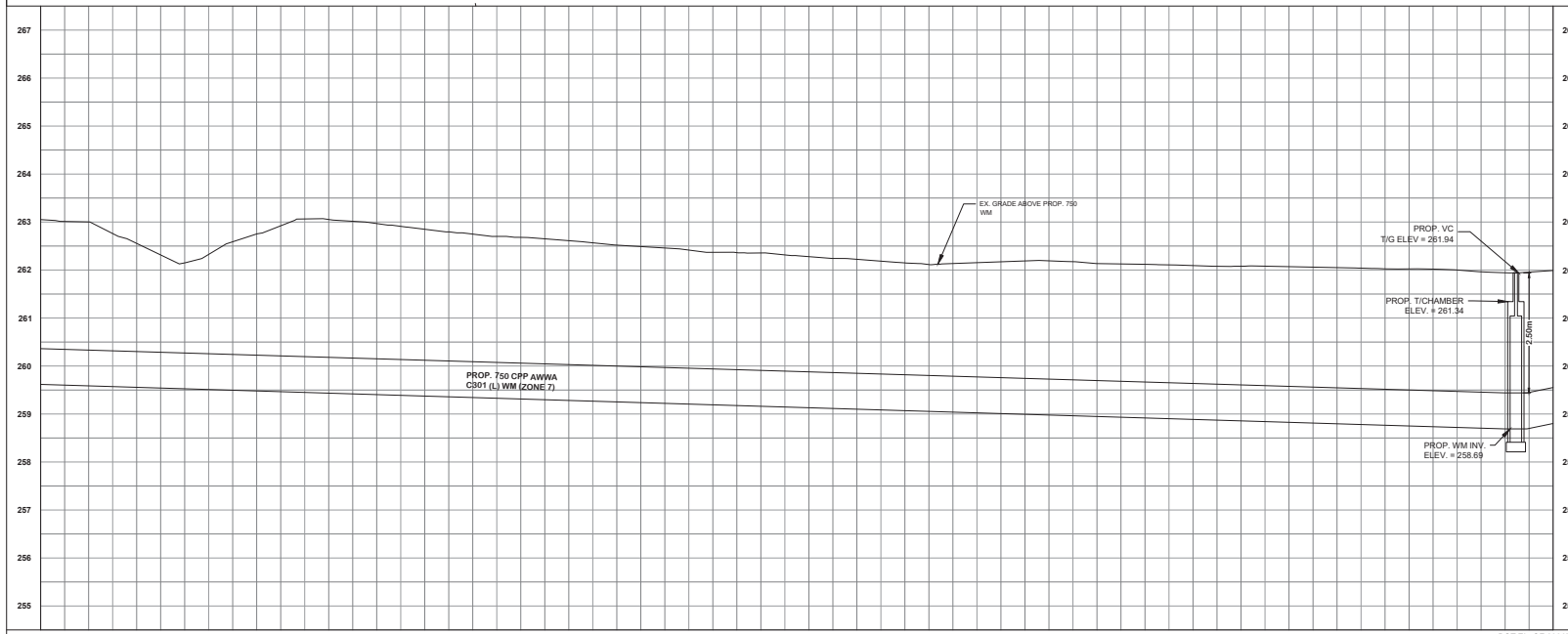


SERVICE DATA

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SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

REVISIONS

DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



															258.72	BOT.EL. OF 750 WM.
															262.00	EX. ROAD ELEV.
259.57	259.51	259.45	259.39	259.33	259.27	259.21	259.15	259.09	259.02	258.96	258.90	258.84	258.78			BOT.EL. OF 600 WM.
262.76	262.33	263.06	262.91	262.70	262.57	262.42	262.32	262.19	262.15	262.17	262.11	262.08	262.04			
4+300	4+320	4+340	4+360	4+380	4+400	4+420	4+440	4+460	4+480	4+500	4+520	4+540	4+560	4+580		ROAD CHAINAGE

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10m 0 10 20 30m — HORIZONTAL SCALE
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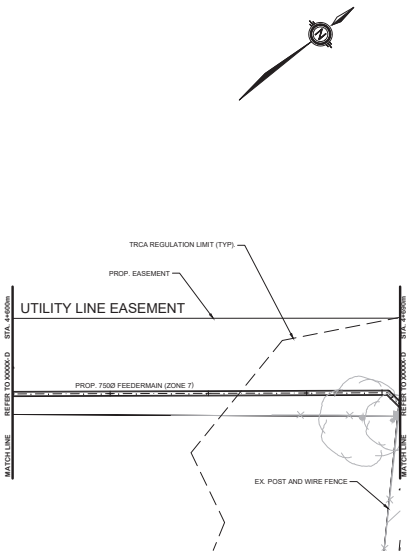
Region of Peel
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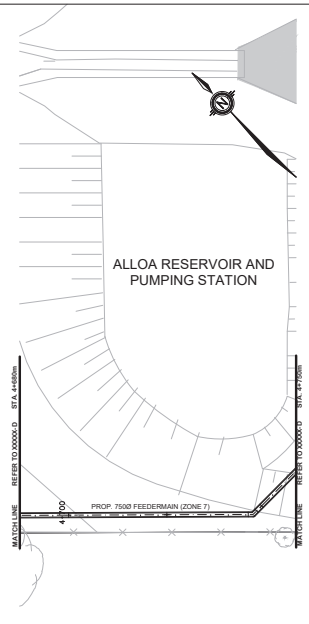
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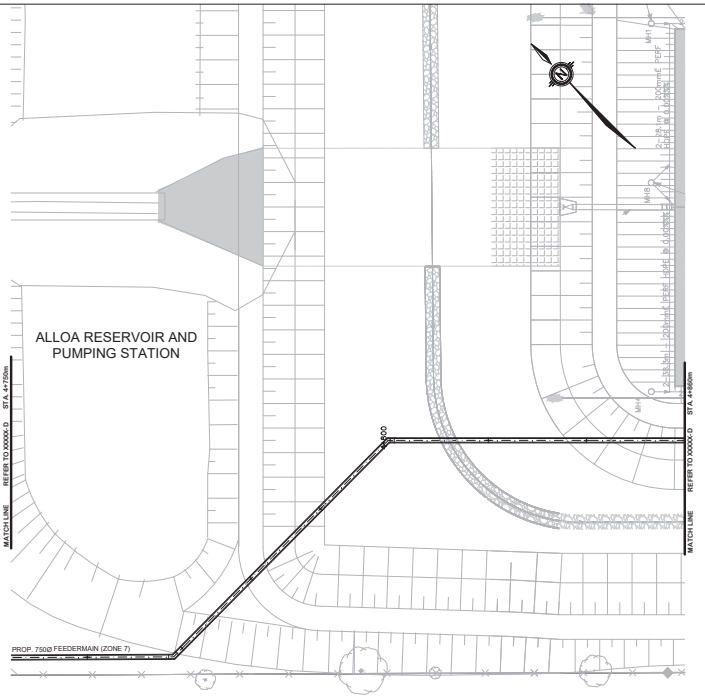
PROPOSED 750 WATERMAIN

STA. 4+285 TO STA. 4+600

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	12 of 16	Plan No.	





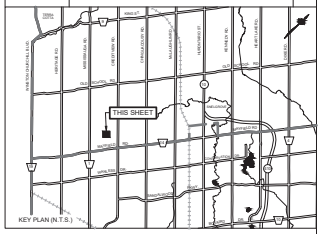


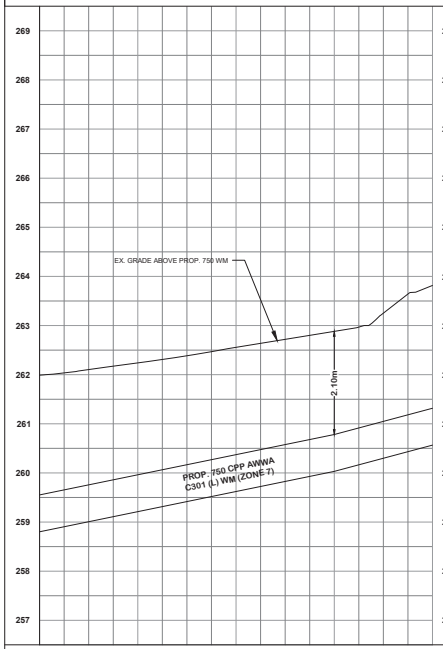
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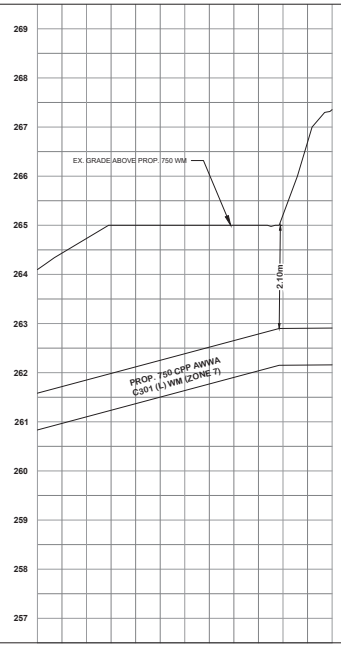
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X.	X.X.	GAS MAINS	X.X.	X.X.
STORM SEWERS	X.X.	X.X.	BELL U/G CABLE	X.X.	X.X.
WATERMAINS	X.X.	X.X.	HYDRO U/G CABLE	X.X.	X.X.
TRANSIT	X.X.	X.X.	HYDRO ONE	X.X.	X.X.
PARKS & REC.	X.X.	X.X.	CTV	X.X.	X.X.
CNT. CLEAN WATER	X.X.	X.X.	COMMUNIC. CABLES	X.X.	X.X.

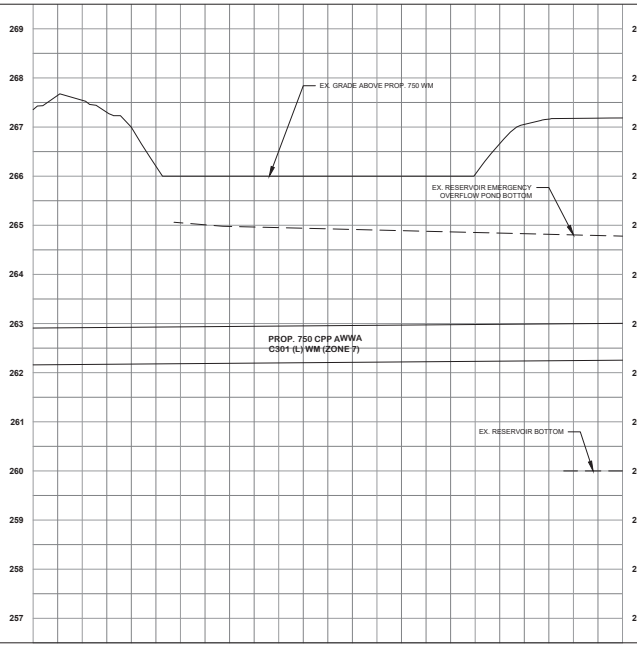
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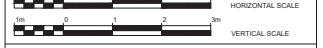
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Region of Peel
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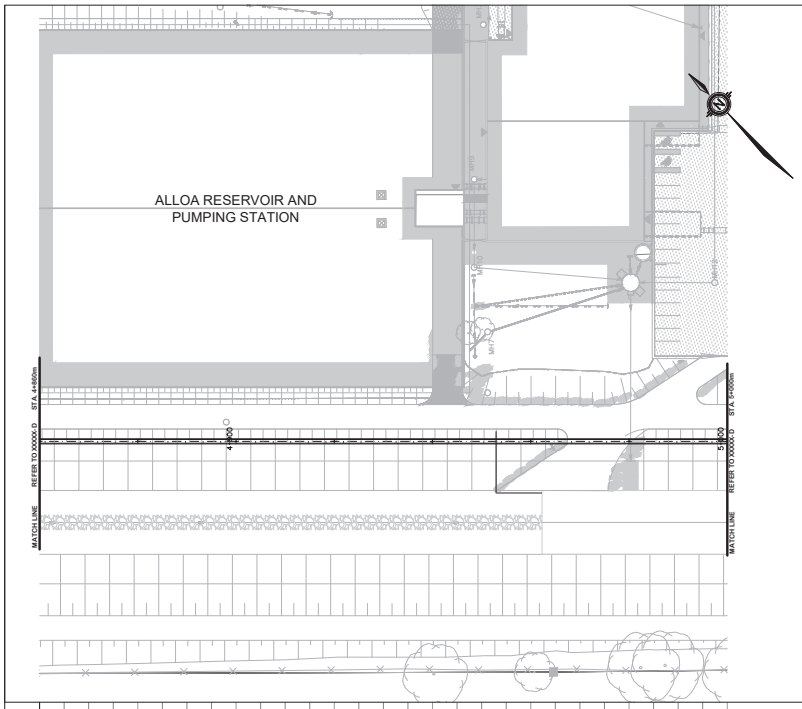
UTILITY EASEMENT & ALLOA PUMPING STATION

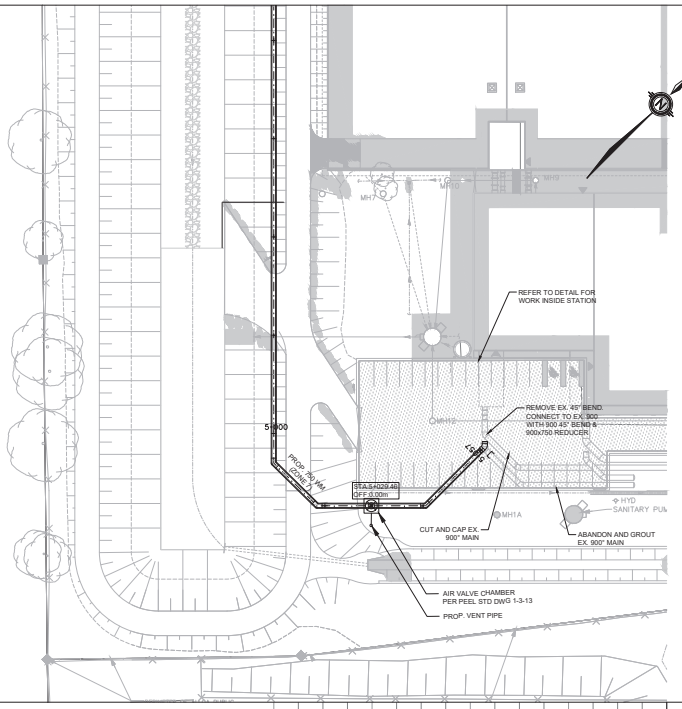
PROPOSED 750 WATERMAIN

STA. 4+600 TO STA. 4+870

																		BOT.EL. OF 600 WM.	
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262.24	262.56	262.88			264.73	265.00	265.21		267.54	266.00	266.00	266.00	266.04	267.18		EX. ROAD ELEV.	
4+620	4+640	4+660	4+680		4+700	4+720	4+740	4+750	4+760	4+780	4+800	4+820	4+840	4+860	4+870	ROAD CHAINAGE	

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	13 of 16	Plan No.	



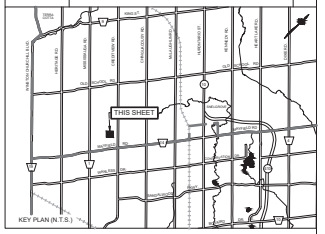


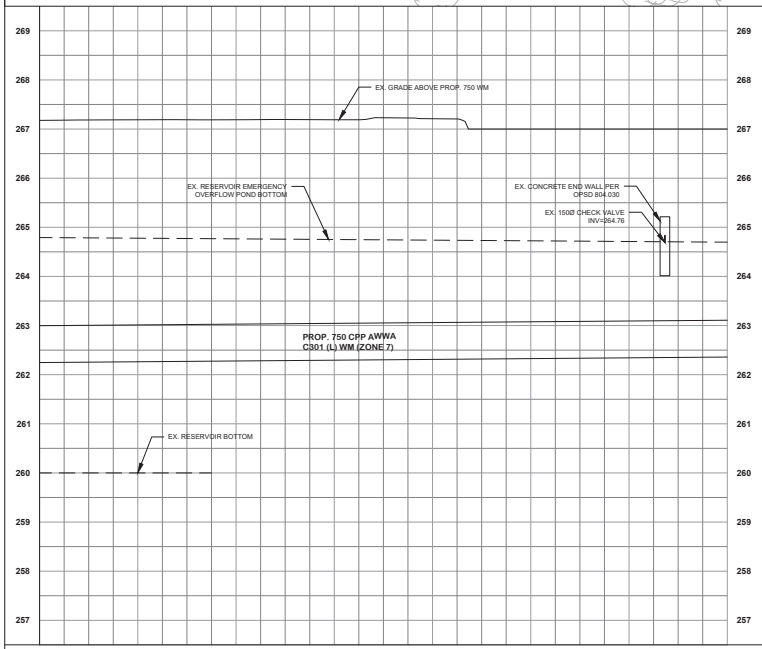
SERVICE DATA

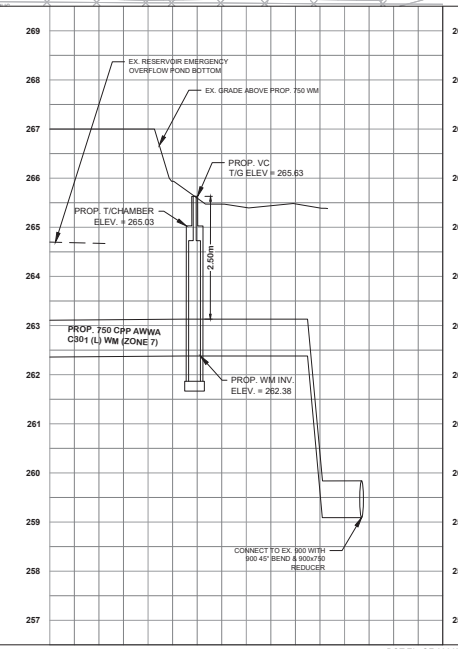
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	X.X	X.X.	GAS MAINS	X.X	X.X.
STORM SEWERS	X.X	X.X.	BELL U/G CABLE	X.X	X.X.
WATERMAINS	X.X	X.X.	HYDRO U/G CABLE	X.X	X.X.
TRANSIT	X.X	X.X.	HYDRO ONE	X.X	X.X.
PARKS & REC.	X.X	X.X.	CTV	X.X	X.X.
CNT. CLEAN WATER	X.X	X.X.	COMMUNIC. CABLES	X.X	X.X.

REVISIONS

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10m 0 10 20 30m HORIZONTAL SCALE
1m 0 1 2 3m VERTICAL SCALE

Region of Peel
working with you

UTILITY EASEMENT & ALLOA PUMPING STATION

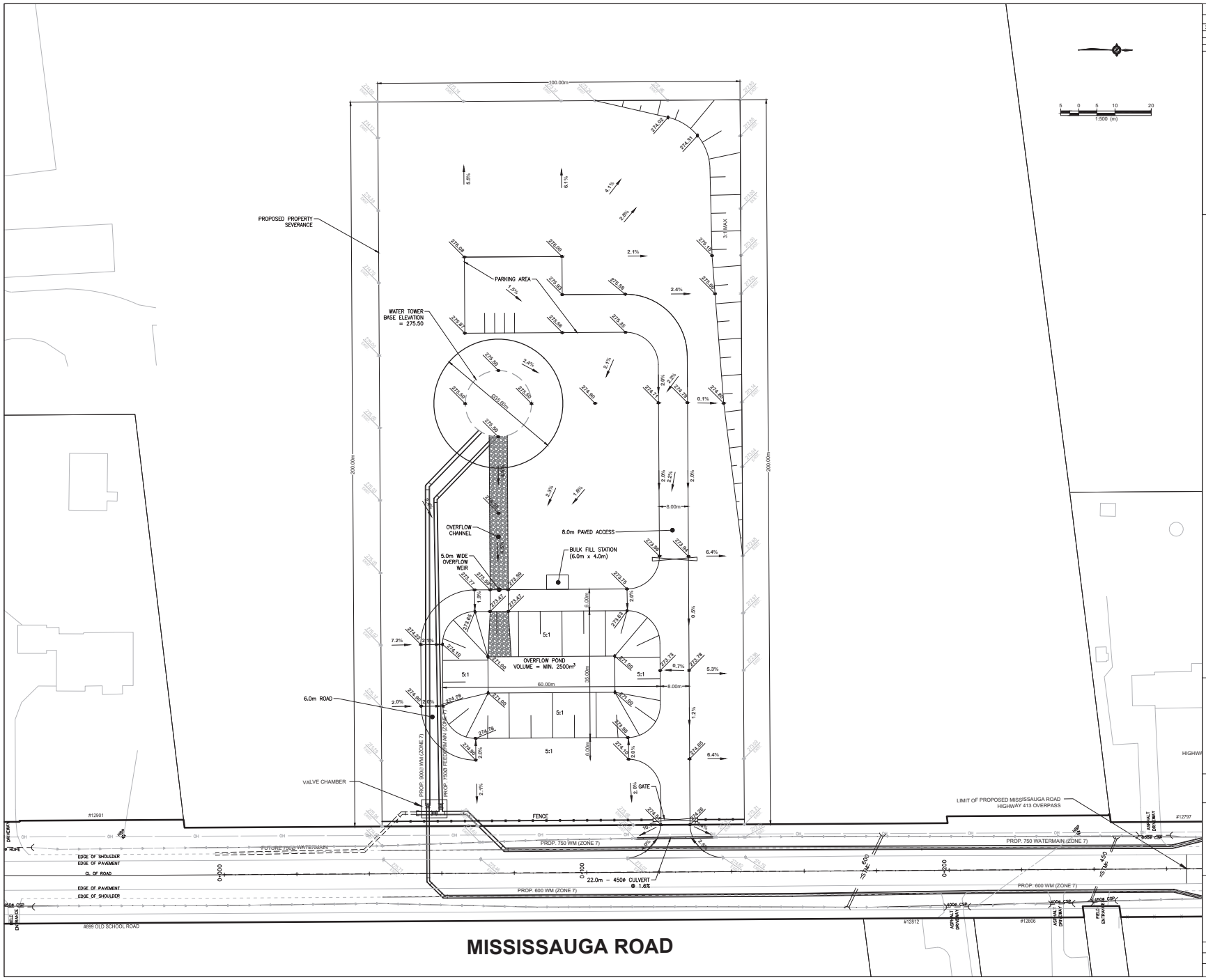
PROPOSED 750 WATERMAIN

STA. 4+870 TO STA. 5+056.56

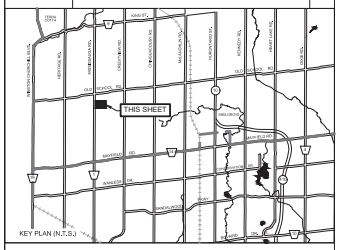
262.26	262.28	262.29	262.31	262.33	262.34		BOT.EL. OF 600 WM.
267.19	267.19	267.19	267.21	267.00	267.00		EX. ROAD ELEV.
4+880	4+900	4+920	4+940	4+960	4+980	5+000	ROAD CHAINAGE

262.37	262.38	259.09	BOT.EL. OF 750 WM.				
267.00	265.40		EX. ROAD ELEV.				
5+020	5+040	5+060	ROAD CHAINAGE				

CAD Area	X-XX	Area	X-XX	Project No.	XX-XXXX
Checked by	B.P.	Drawn by	S.G.		
Date	JUNE 2025	Sheet	14 of 16	Plan No.	



REVISIONS		
DATE	DETAILS	INIT.
2025 08 01	ISSUED FOR REVIEW	B.P.



NOTES:

1. ALL MEASUREMENTS ARE IN METERS(m) UNLESS OTHERWISE NOTED.

Designed by

Chkd.

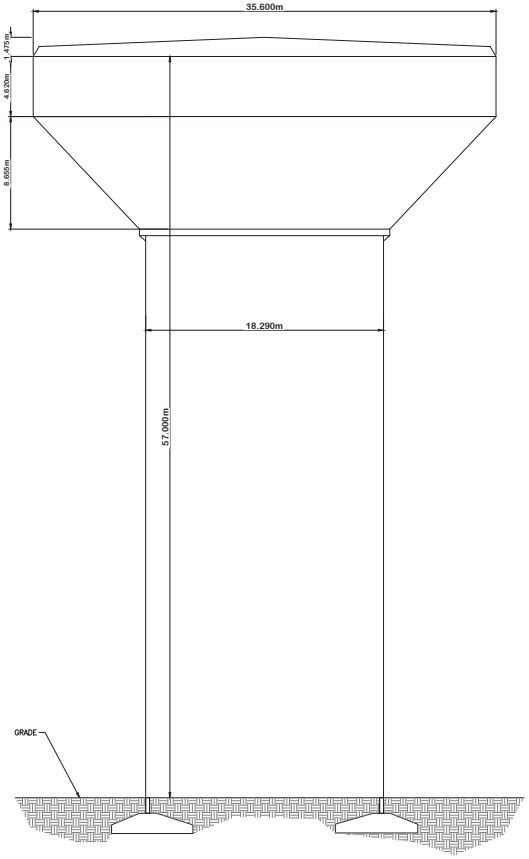
Approved by

SCALE: INSERT SCALE BAR AND RATIO, OR AS SHOWN

Region of Peel
working with you

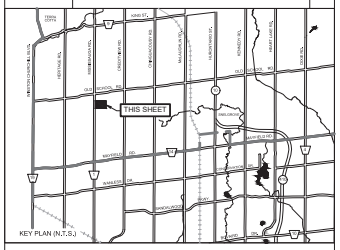
ELEVATED TOWER SITE PLAN

CAD Area	X-XX	Area	X-XX	Project No.	2402146
Checked by	RW	Drawn by	SG		
Date	AUGUST 2025	Sheet	15 OF 16	Plan No.	XXXXX-D



WATER TOWER DETAIL
N.T.S.

REVISIONS		
DATE	DETAILS	INIT.
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SCALE: INSERT SCALE BAR AND RATIO, OR AS SHOWN

Region of Peel
working with you

ELEVATED TOWER PROFILE VIEW

CAD Area	X-XX	Area	X-XX	Project No.	2402146
Checked by	RW	Drawn by	SG		
Date	AUGUST 2025	Sheet	16 OF 16	Plan No.	XXXXX-D

B

Attachment B: Context Map

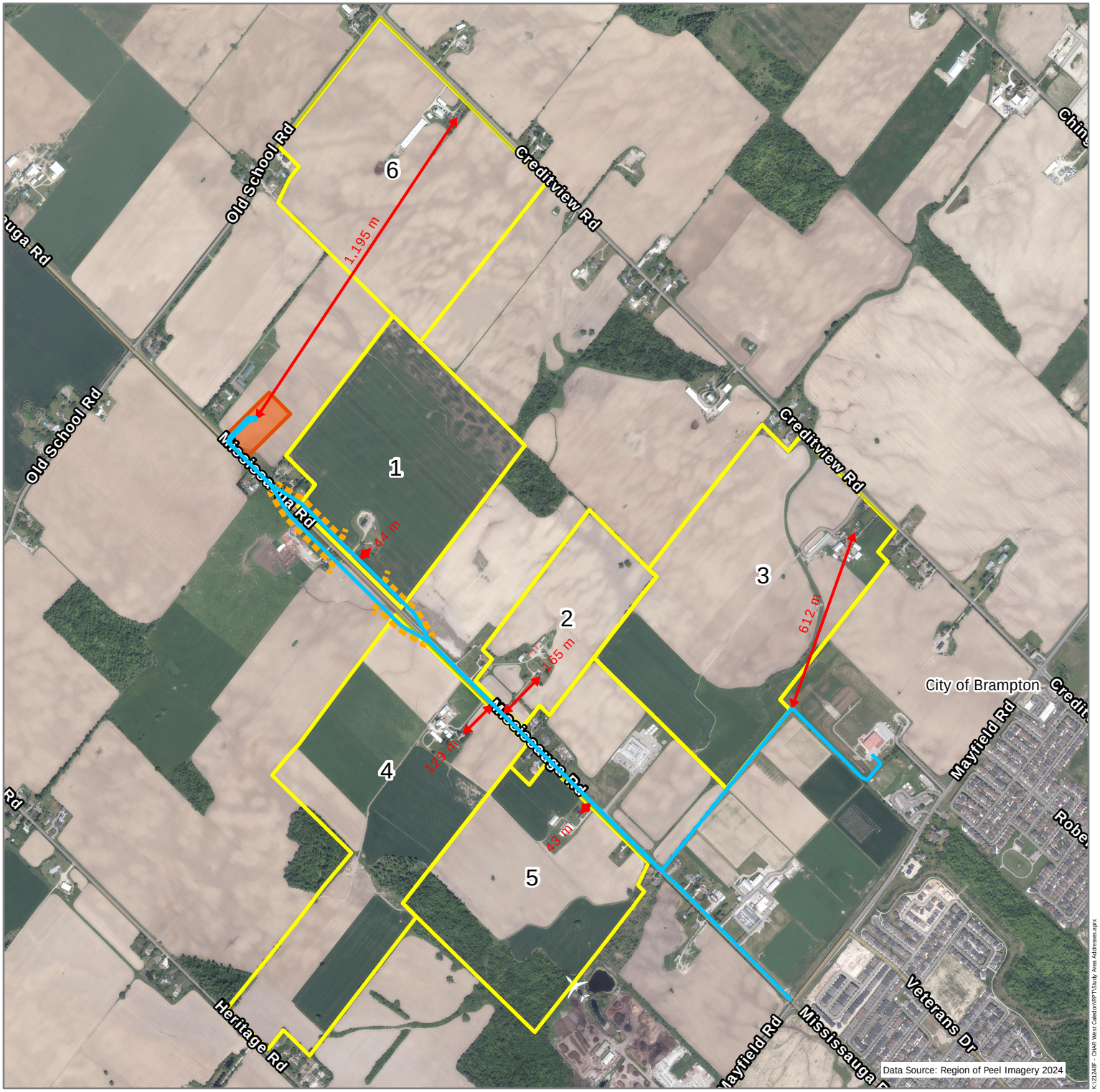


Figure 1 - Identified Cultural Heritage Resources

Preferred Elevated Tank Location

Proposed Road Widening for Highway 413 ROW

Preliminary Preferred Watermain Route

Identified Potential Built Heritage Resources

1. 12679 Mississauga Road
2. 12441 Mississauga Road
3. 12240 Creditview Road
4. 12466 Mississauga Road
5. 12300 Mississauga Road
6. 12872 Creditview Road

C

Attachment C: Documentation

Review of Properties that Contain and/or are Adjacent to Proposed Infrastructure

Location	**Heritage Status and/or Recognition**	**MHBC Site Visit Description**	**Photographs** (all photographs courtesy of MHBC, captured on September 12, 2025, unless otherwise noted)
12901 Mississauga Road	N/A.	Contains a late-20th century/early-21st century dwelling with an attached garage.	
12879 Mississauga Road	N/A.	Primarily vacant (cultivated fields) with two agricultural buildings to the rear of 12901 Mississauga Road.	
899 Old School Road	N/A.	Contains a late-20th century side-split dwelling, agricultural buildings and agricultural fields.	

12812 Mississauga Road	N/A.	Contains a late-20th century side-split dwelling with an attached garage.	
12806 Mississauga Road	N/A.	Contains a late-20th century dwelling with an attached garage.	
12797 Mississauga Road	N/A.	Contains a late-20th century dwelling with an attached garage.	

12777 Mississauga Road	N/A.	Contains a late-20th century side-split dwelling with an attached garage.	
12761 Mississauga Road	N/A.	Contains a late-20th century dwelling with an attached garage.	
12746 Mississauga Road	N/A.	Contains a late-20th century ranch-style dwelling with an attached garage, agricultural buildings, and livestock paddocks.	

12696 Mississauga Road	N/A.	Contains a late-20th century ranch-style dwelling with an attached garage.	
12679 Mississauga Road	Listed as a Neoclassical style farmhouse with a red brick exterior covered with synthetic siding, constructed 1850-1874. Identified as CHR4 in the Cultural Heritage Assessment Report for the Alloa Planning Area (WSP Canada Inc., August 2025). Preliminary heritage attributes pertain to the following: - 1.5 storey Neoclassical brick farmhouse.	Contains a Victorian farmhouse (currently vacant), agricultural buildings, and agricultural fields. The dwelling is located over 65 metres from the current Mississauga Road right-of-way and approximately 44 metres from the right-of-way included in the Preliminary Design for the infrastructure project.	
12686 Mississauga Road	N/A.	Vacant of buildings or structures, contains agricultural fields.	 (Google Street View, 2024).

12515 Mississauga Road	N/A.	Contains a late-20th century dwelling with an attached garage and agricultural fields.	
12493 Mississauga Road	N/A.	Contains a late-20th century dwelling with an attached garage.	
12466 Mississauga Road	Listed as a farmhouse in red-and-buff brick, constructed 1850-1875. A Notice of Intent to Designate (NOID) was issued in 2024 and a Designation Timeline Extension Agreement was executed. The Staff Report associated with the NOID identifies heritage attributes pertaining to the following:	Contains a Gothic Victorian dwelling, agricultural buildings (including a gambrel roof barn and silos) and agricultural fields. The dwelling is located approximately 120 metres from the right-of-way of Mississauga Road and the gambrel roof barn is located approximately 144 metres from the right-of-way.	

	- Ontario Cottage style farmhouse with Neoclassical and Gothic Revival influences… - Early 20th century barn… - Scale and massing of dwelling and barn, as well as setback from and relationship to Mississauga Road.		
12441 Mississauga Road	Listed as a Gothic Revival style farmhouse with a modern white brick exterior, constructed 1875-1899, with an early 20th century windmill. Identified as CHR2 in the Cultural Heritage Assessment Report for the Alloa Planning Area (WSP Canada Inc., August 2025). Preliminary heritage attributes pertain to the following: - 1.5 storey Gothic Revival farmhouse… - Rectangular, wood frame, gable barn with stone foundation; - Long access laneway from southwest of the residence.	Contains a Gothic dwelling, agricultural buildings (including a barn with a stone foundation), and agricultural fields. The dwelling is located approximately 155 metres from the right-of-way of Mississauga Road and the barn is located approximately 145 metres from the right-of-way.	 

12405 Mississauga Road	N/A.	Contains a late-20th century ranch-style dwelling with an attached garage.	
12391 Mississauga Road	N/A.	Contains an early-21st century bungalow.	
12392 Mississauga Road	N/A.	Contains a late-20th century ranch-style dwelling with an attached garage.	

12378 Mississauga Road	N/A.	Contains a late-20th century ranch-style dwelling with an attached garage.	
12353 Mississauga Road	N/A.	Contains a late-20th century bungalow.	
12300/12266 Mississauga Road	Listed as an outstanding High Victorian Gothic farmhouse and complementary timber-frame barn, built 1875-1899. Identified as CHR1 in the Cultural Heritage Assessment Report for the Alloa Planning Area (WSP Canada Inc., August 2025). Preliminary heritage attributes pertain to the following: - 1.5 storey red-and-buff brick Victorian Gothic Revival farmhouse…	The property contains a Gothic Victorian dwelling with agricultural buildings to the rear (12300 Mississauga Road), a late-20th century ranch style dwelling (12266 Mississauga Road), and agricultural fields. The dwelling addressed as 12300 Mississauga Road is located approximately 35 metres from the right-of-way.	

	- Large rectangular, wood-frame, gable barn; and - Access laneway running southeast of residence.		
12287 Mississauga Road	N/A.	Contains an early-21st century institutional building (Alloa Public School).	
12210 Mississauga Road	N/A.	Contains a late-20th century bungalow.	

12191 Mississauga Road	N/A.	Contains a late 20th century Cape-Cod style dwelling.	
12198 Mississauga Road	N/A.	Contains a late-20th century bungalow with an attached garage.	
12165 Mississauga Road	N/A.	Contains a late-20th century ranch-style dwelling with an attached garage.	

12153 Mississauga Road	N/A.	Contains a late-20th century contemporary dwelling with an attached garage.	
12150 Mississauga Road	N/A.	Contains a late-20th century dwelling with an attached garage.	
12139 Mississauga Road	N/A.	Contains an early-21st century dwelling (2024/2025).	

12134 Mississauga Road	N/A.	Contains a late-20th century neo-eclectic dwelling, an agricultural building, and agricultural fields.	
12111 Mississauga Road	N/A.	Contains greenhouses, industrial-type buildings (Caledon Research Centre) and agricultural fields.	
113-125 Donald Ficht Crescent (Brampton)	N/A.	Vacant (future development land as a part of residential subdivision).	
11722 Mississauga Road (Brampton)	N/A.	Vacant (agricultural fields).	

1248 Mayfield Road	N/A.	Contains a late 20th century institutional building (Malala Yousafzai Public School).	
1278 Mayfield Road	N/A.	Contains a utility building (Alloa Reservoir and Pumping Station).	
12100 Creditview Road	N/A.	Vacant development land (currently undergoing site grading).	

12240/12254 Creditview Road	12240 Creditview Road is listed as a late Italianate style farmhouse with a red brick exterior, built 1875-1899. Identified as CHR7 in the Cultural Heritage Assessment Report for the Alloa Planning Area (WSP Canada Inc., August 2025). Preliminary heritage attributes pertain to the following: - 2.5 storey red brick Queen Anne Revival residence; - Bank barn with gambrel roof; - Long access laneway lined with vegetation.	The property contains an Italianate style farmhouse (12240 Creditview Road), a late-20th century Cape-Cod style house (12254 Creditview Road), agricultural buildings, and agricultural fields.	
12872 Creditview Road	Listed as an Edwardian classical style farmhouse with a red brick exterior, built 1900-1924. Located within the Inventoried Former Farmsteads of Chinguacousy Township Cultural Heritage Landscape, identified as a character-defining element, and contains character-defining elements (a stream or river, and a lane, field, windrow, and/or yard planting).	The property contains a four-square dwelling likely constructed in the early 20th century with agricultural buildings and fields.	

	Identified as CHR17 in the Cultural Heritage Assessment Report for the Alloa Planning Area (WSP Canada Inc., August 2025). Preliminary heritage attributes pertain to the following: - 2.5 storey Edwardian Classical style farmhouse; - Wood-frame, gable roof bank barn; - Access laneway.		

D

Attachment D: MCM Checklist

Clear Form Print Form

Ontario

Ministry of Tourism,
Culture and Sport

Programs & Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
  - is a recognized heritage property
  - may be of cultural heritage value
- it 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 roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

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Project or Property Name

West Caledon Storage Facility and Transmission Main

Project or Property Location (upper and lower or single tier municipality)

12879 Mississauga Rd, part of the right-of-way, Alloa Pumping Station and easement thereto (Town of Caledon, Peel)

Proponent Name

Region of Peel

Proponent Contact Information

GEO (on behalf of Region of Peel), Sandra Anastasio

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?		✓

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found **not** to be of cultural heritage value?		✓

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value?	✓	
b. a National Historic Site (or part of)?		✓
c. designated under the *Heritage Railway Stations Protection Act*?		✓
d. designated under the *Heritage Lighthouse Protection Act*?		✓
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?		✓
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?		✓

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?		✓
b. has or is adjacent to a known burial site and/or cemetery?		✓
c. is in a Canadian Heritage River watershed?		✓
d. contains buildings or structures that are 40 or more years old?		✓

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?		✓
b. has a special association with a community, person or historical event?		✓
c. contains or is part of a cultural heritage landscape?		✓

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act*, *Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
  - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's Ontario Heritage Toolkit or Standards and Guidelines for Conservation of Provincial Heritage Properties.

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

i. designated under the *Ontario Heritage Act*

- individual designation (Part IV)
- part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note**: To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
- Ontario Heritage Trust
- local land registry office (for a title search)

ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- Ontario Heritage Trust - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
- municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
- local land registry office (for a title search)

iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
- municipal heritage planning staff
- municipal heritage committee

iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act*. **Note**: To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
- Ontario Heritage Trust

v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the National Historic Sites website.

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the Directory of Designated Heritage Railway Stations.

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the Heritage Lighthouses of Canada website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the Federal Heritage Buildings Review Office.

See a directory of all federal heritage designations.

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – World Heritage Site website.

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- municipal heritage committees or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's Heritage directory – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a list of plaques commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a list of plaques commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a database of registered cemeteries
- Ontario Genealogical Society (OGS) – to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to locate early cemeteries

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the Canadian Heritage River System.

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide Heritage Property Evaluation.

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- municipal heritage committees or local heritage organizations
- Ontario Historical Society's "Heritage Directory" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through Ontario Trails.

MHBC

PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE



PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3H: Phase One Environmental Site Assessment

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.





Phase One Environmental Site Assessment

West Caledon Storage Facility and Transmission Main Schedule 'C' Class EA, Caledon, Ontario

Submitted to:
Peel Region
c/o Sogol Bandehali
10 Peel Centre Drive,
Brampton, ON L6T 4G4

Submitted by:.
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March 2, 2026
Project No. 2402146



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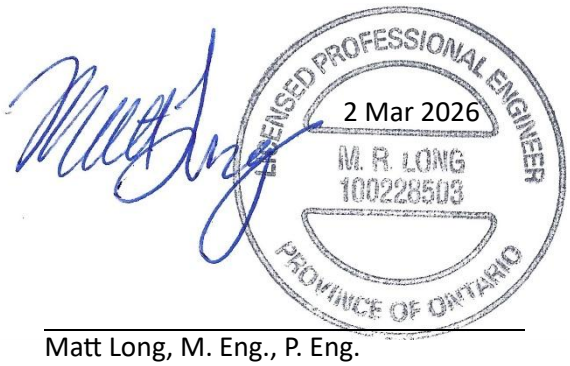
Certification

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Record of Revisions

Identification	Date	Description of Issued and/or Revision
0	January 30, 2026	Draft report for project team review
1	February 13, 2026	Draft report for Peel Region review
2	March 2, 2026	Final Phase One ESA report

Acronyms and Abbreviations

°C	degree Celsius
ANSI	Area of Natural and Scientific Interest
APEC	Area of Potential Environmental Concern
AST	Aboveground Storage Tank
APU	Assessment of Past Uses
BESR	Brownfields Environmental Site Registry
GEI	GEI Consultants Canada Ltd.
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CPU	Certificate of Property Use
EBR	Environmental Bill of Rights
EC	Electrical Conductivity
ECA	Environmental Compliance Approval
EPA	Environmental Protection Act
ERIS	Environmental Risk Information Services Ltd.
ESA	Environmental Site Assessment
EASR	Environmental Activity and Sector Registry
FIP	Fire Insurance Plan
FOI	Freedom of Information
Ha	hectare(s)
m asl	metres above sea level
m bgs	metres below ground surface
MECP	Ministry of Environment, Conservation and Parks
O.Reg. 406/19	Ontario Regulation 406/19
O.Reg. 153/04	Ontario Regulation 153/04
OCPs	Organochlorine pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PCA	Potentially Contaminating Activity
PCBs	Polychlorinated biphenyls
PHCs	Petroleum Hydrocarbons
QP_{ESA}	Qualified Person for Environmental Site Assessment
RSC	Record of Site Condition
ROW	Right-of-Way
SAR	Sodium Adsorption ratio
SCS	Site Condition Standard
SDS	Safety Data Sheet
SPLP	Synthetic Precipitation Leaching Procedure
TSSA	Technical Standards & Safety Authority
UST	Underground Storage Tank
VOC	Volatile Organic Compound(s)

Executive Summary

GEI Consultants Canada Ltd. (GEI) was retained by the Peel Region (the "Client") to conduct a Phase One Environmental Site Assessment (ESA) as part of the West Caledon Storage Facility and Transmission Main Schedule 'C' Class Environmental Assessment (Class EA). The purpose of this Class EA was to identify, develop, and recommend an implementation plan to deliver a water storage and transmission main strategy for Pressure Zone 7 West (W) to support existing servicing needs and projected growth in the West Caledon area.

This Phase One ESA was completed in general accordance with the standards set by *Canadian Standards Association Report No. Z768-01 Phase I Environmental Site Assessment* (November 2001, reaffirmed 2022) and according to the terms of reference given in Ontario Regulation 153/04 (as amended) made under the Environmental Protection Act and in accordance with generally accepted professional practices. Subject to this standard of care, GEI makes no express or implied warranties regarding its services, and no third-party beneficiaries are intended (**Appendix A**).

A Phase One ESA is a systematic qualitative process to assess the environmental condition of a site based on its historical and current uses. It is GEI's understanding that, under O.Reg. 153/04 (as amended), a Record of Site Condition (RSC) is not required to be filed with the Ministry of the Environment, Conservation and Parks (MECP) since the current uses are agricultural (portions of the private properties) and community use (road alignment) and proposed uses are community use and potentially industrial use (i.e., not more sensitive than the existing uses).

In this report, Mississauga Road is considered to be oriented in a north-south direction, while Mayfield Road and Old School Road are oriented in a west-east direction.

The Site is located approximately 430 m south of Mississauga Road and Old School Road intersection in Caledon, Ontario. The Site is irregular in shape. Collectively, the Site includes portions of three (3) private properties, and a 2.65-km stretch of the Mississauga Road right-of-way as shown in **Figures 1** and **2**.

The three (3) private properties are currently under agricultural use and are identified as follows:

- 12879 Mississauga Road – hereafter referred to as Property 1 for the purpose of this Phase One ESA report;
- Part of Lot 19, Concession 4 – hereafter referred to as Property 2; and,
- Part of Lot 19, Concession 4 – hereafter referred to as Property 3.

The properties within the Phase One Study Area are generally under agricultural and rural residential use with two (2) institutional properties located at 12287 Mississauga Road (Alloa Public School) and 1248 Mayfield Road (Malala Yousafzai Public School); an agricultural research and development facility located at 12111 Mississauga Road (Caledon Research and Development Center/Corteva Agriscience) and a residential subdivision south of Mayfield Road and Mississauga Road intersection. Neighbouring properties are shown in **Figure 2**.

In the context of O.Reg. 153/04, it is the Qualified Person's (QP) opinion that the current property use of the Site is "Agricultural Use" for Property 1, 2, and 3, and Community Use for Mississauga Road right-of-way.

Based on our review of available historical records, Properties 1, 2 and 3 have been under agricultural use historically and continue to be under agricultural use currently. Based on review of available aerial photography, it does not appear that portions of these three (3) properties to be transferred to the Region were previously developed with structures. Mississauga Road was developed as a right-of-way prior to 1954 and continues to exist as a right-of-way currently.

Please note that general environmental management and housekeeping practices were reviewed as part of this assessment insofar as they could impact the environmental condition of the Site. However, a detailed review of regulatory compliance issues is beyond the scope of our investigation. This Phase One ESA does not constitute an audit of environmental management practices, indicate geotechnical conditions or identify geologic hazards.

Based on the Phase One ESA findings, the following information is provided in support of the QP's conclusion. Potentially contaminating activities (PCA) and Areas of Potential Environmental Concern (APEC) are summarized in **Table 1-1** and shown in **Figures 6** and **7**.

Table 1-1. Areas of Potential Environmental Concern

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	COPCs	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1 a, b: Fill of unknown quality and application of de-icing salts	Mississauga Road right-of-way	#30 – Importation of Fill Material of Unknown Quality (PCA 1a) #Other – Application of De-Icing Salts (PCA 1b)	On-Site	Metals, As, Sb, Se, B-HWS, Hg, Cr(VI), CN-, PAHs, SAR, EC, Na and Cl	Soil
APEC 2 a to d: Pesticide use	Within agricultural field portions of the Site on Property 1, 2, and 3, and east and west of Mississauga Road	#40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing	On-Site	OCs, Metals, As, Sb, Se, B-HWS, Hg, Cr(VI), CN-	Soil

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	COPCs	Media Potentially Impacted (Groundwater, soil and/or sediment)
		, Processing, Bulk Storage and Large-Scale Applications (PCA 2a to 2e)			
APEC 3: Fuel Oil UST and industrial waste generation	Mississauga Road right-of-way, adjacent to 12111 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks (PCA 3a) #Other – Registered Waste Generation (PCA 3b)	Off-Site	PHCs, BTEX, VOCs	Groundwater
APEC 4: Fuel Oil UST	Mississauga Road right-of-way, adjacent to 12134 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks (PCA 4)	Off-Site	PHCs, BTEX	Groundwater

Notes:

1. Area of Potential Environmental Concern (APEC) means the area on, in or under a Phase One Site where one or more contaminants are potentially present, as determined through the Phase One ESA, including through: a) identification of past or current uses on, in or under the Phase One property, and b) identification of potentially contaminating activities.
2. Potentially contaminating activity (PCA) means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a Phase One Study Area.
3. PHCs = petroleum hydrocarbons; BTEX = benzene, toluene, ethylbenzene, xylenes; VOCs = volatile organic compounds; PAHs = polycyclic aromatic hydrocarbons; PCBs = Polychlorinated Biphenyls; EC = electrical conductivity; SAR = sodium adsorption ratio; As = arsenic; Sb = antimony; Se = selenium; B-HWS = boron hot water soluble; Hg = mercury; Cr(VI) = chromium (VI) and CN- = cyanide; Na = sodium; Cl - = chloride; OCs = organochlorine pesticides.
4. COPCs = Contaminants of Potential Concern

Based on the findings and conclusions of the Phase One ESA, a Phase Two ESA/subsurface investigation is recommended to assess the soil and groundwater conditions at the Site to address the identified APECs.

This executive summary is a brief synopsis of the report and should not be read in lieu of reading the report in its entirety.

1. Introduction

GEI Consultants Canada Ltd. (GEI) was retained by the Peel Region (the "Client") to conduct a Phase One Environmental Site Assessment (ESA) as part of the West Caledon Storage Facility and Transmission Main Schedule 'C' Class Environmental Assessment (Class EA). The purpose of the Class EA was to identify, develop, and recommend an implementation plan to deliver a water storage and transmission main strategy for Pressure Zone 7 West (W) to support existing servicing needs and projected growth in the West Caledon area.

As part of the Class EA, the preferred elevated tank location was identified as Site D at Parcel 4, located at 12879 Mississauga Road in Caledon, Ontario, approximately 430 m south of Old School Road and Mississauga Road intersection, and hereafter referred to as Property 1. The elevated tank will be connected via a transmission main to integrate with the existing Alloa Reservoir and Pumping Station at 1278 Mayfield Road in Caledon.

The transmission main will supply water from the Alloa Reservoir to the elevated tank at Site D. A feedermain will also be required to supply water from the elevated tank at Site D to the existing water distribution system along Mayfield Road. To minimize impacts to the environment and community, both the transmission main and feedermain alignments will use the same road right-of-way (ROW).

Currently, the alignment along Mississauga Road (N-S), between Mayfield Road and Old School Road, was selected to be investigated further in this Phase One ESA. Therefore, this Phase One ESA focuses on the following lands:

- A portion of private property at 12879 Mississauga Road (Property 1);
- A 2.65-km stretch of Mississauga Road extending between Property 1 and Mayfield Road; and,
- Portions of two (2) additional private properties (referred to as Property 2 and Property 3), which are located east of Mississauga Road and lie along the preferred alignment to the Alloa Reservoir and Pumping Station property.

Collectively, these lands are referred to herein as the "Site" (**Figure 2**).

The purpose of the Phase One ESA is to identify the actual or potential environmental concerns or risks associated with a property that would result from current or historical land uses on-Site and on adjacent lands. This Phase One ESA was completed in general accordance with the standards set by *Canadian Standards Association Report No. Z768-01 Phase I Environmental Site Assessment* (November 2001, reaffirmed 2022) and according to the terms of reference given in Ontario Regulation (O. Reg.) 153/04 (as amended) made under the Environmental Protection Act and in accordance with generally accepted professional practices. Subject to this standard of care, GEI makes no express or implied warranties regarding its services, and no third-party beneficiaries are intended **(Appendix A)**.

A Phase One ESA is a systematic qualitative process to assess the environmental condition of a Site based on its historical and current uses. It is GEI's understanding that, under O.Reg. 153/04 (as amended), a Record of Site Condition (RSC) is not required to be filed with the Ministry of the Environment, Conservation and Parks (MECP) since the current uses are agricultural (portions of the private properties) and community use (road alignment) and proposed uses are community use and potentially industrial use (i.e., not more sensitive than the existing uses).

1.1. Site Information

In this report, Mississauga Road is considered to be oriented in a north-south direction, while Mayfield Road and Old School Road are oriented in a west-east direction.

Collectively, the Site includes portions of three (3) private properties, and a 2.65-km stretch of the Mississauga Road right-of-way as shown in **Figures 1** and **2**.

It is noted that the Mississauga Road alignment, as shown in the figures, has been offset by 3 m from the actual alignment in order to create the Site as an area as opposed to as a line.

The three (3) private properties are currently under agricultural use and are identified as follows:

- 12879 Mississauga Road – referred to as Property 1 for the purpose of this Phase One ESA report;
- Part of Lot 19, Concession 4 – referred to as Property 2; and,
- Part of Lot 19, Concession 4 – referred to as Property 3.

Based on our review of available historical records, Properties 1, 2 and 3 have been under agricultural use historically and continue to be under agricultural use currently.

The Site is located in a rural area with mostly agricultural and rural residential properties. Two (2) institutional properties (schools) were also observed in the Study Area: one on Mississauga Road east of the Site and on Mayfield Road and the other south of the Site. An agricultural research and development facility, Caledon Research and Development Center/Corteva Agriscience, is located in the Study Area, on the east side of Mississauga Road.

The surrounding properties are shown in **Figure 2**. Site information is summarized in **Tables 1-1**, **1-2**, **1-3** and **1-4**.

Table 1-1. Site Information: Property 1 - 12879 Mississauga Road

Site Details: Property 1 (12879 Mississauga Road)	
Municipal Addresses	12879 Mississauga Road, Caledon, ON L7C 1X2
Current Owner	2669972 Ontario Limited
Owner Address	Unknown
Owner Contact Person	Unknown
Legal Description	Part of Lot 22, Concession 4, West of Hurontario Street, being Parts 1 &2 43R23419, T/W RO1105320, Town of Caledon
Property Identification Number (PIN)	14255-0289
Property Size	19.9 hectares (ha) (49.26 acres (ac)) (entire property per Town of Caledon GIS)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 589,455 m Northing: 4,840,426 m (1m, NAD83, Google Earth Pro)

Table 1-2. Site Information: Property 2

Site Details: Property 2 (No municipal address)	
Municipal Addresses	NA
Current Owner	Rudolph Peter Bratty
Owner Address	Unknown
Owner Contact Person	Unknown
Legal Description	Part of Lot 19, Concession 4, WHS, Chinguacousy as in RO749272, Firstly & Secondly, Caledon
Property Identification Number (PIN)	14255-0135
Property Size	4.1 ha (10.1 ac) (entire property per Town of Caledon GIS)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 590,835 m Northing: 4,839,063 m (1m, NAD83, Google Earth Pro)

Table 1-3. Site Information: Property 3

Site Details: Property 3 (No municipal address)	
Municipal Addresses	NA
Current Owner	Wayne Gordon McClure Denise Michelle McClure
Owner Address	Unknown
Owner Contact Person	Unknown
Legal Description	Part of Lot 19, Concession 4 W.H.S. – Chinguacousy - Caledon
Property Identification Number (PIN)	14255-0100
Property Size	60.9 ha (150.5 ac) (entire property per Town of Caledon GIS)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 591,057 m Northing: 4,839,492 m (1m, NAD83, Google Earth Pro)

Table 1-4. Site Information – Mississauga Road

Site Details: Mississauga Road (from Old School Road to Mayfield Road)	
Municipal Addresses	NA
Current Owner	Peel Region
Owner Address	10 Peel Centre Drive, Brampton, ON L6T 4G4
Owner Contact Person	Sogol Bandehali
Legal Description	N/A
Property Identification Number (PIN)	N/A
Property Size	N/A
Approximate Universal Transverse Mercator (UTM) coordinates	Northerly extent Zone: 17 Easting: 589422 m Northing: 4840423 m (1m, NAD83, Google Earth Pro) Southerly extent Zone: 17 Easting: 591229 m Northing: 4838634 m (1m, NAD83, Google Earth Pro)

2. Scope of Investigation

The scope of work for the Phase One ESA consisted of the following activities:

- Reviewing the historical occupancy of the Site through the use of available archived and relevant municipal and business directories, Fire Insurance Plans (FIPs) (as available), topographical maps, and aerial photographs;
- Obtaining an Environmental Risk Information Services Ltd. (ERIS) report for the Site and surrounding properties within a 250 metre (m) radius of the Site's boundaries;
- Reviewing available geological maps, well records and utility maps for the vicinity of the Site;
- Obtaining and reviewing a chain of title and parcel register documents (as available) for the Site;
- Reviewing available reports previously completed for the Site;
- Conducting interviews with designated Site representative(s) as a resource for current and historical Site information, as well as to provide GEI staff with unrestricted access to all areas of the Site and Site buildings as required by O.Reg.153/04, as amended;
    - It is noted that the Region does not currently own Properties 1,2, and 3, and an interview was not completed with the property Owners at the time of preparation of this report. Once authorization is provided by the Region to conduct interviews with the respective property Owners, this report will be updated accordingly.
- Conducting a Site reconnaissance in order to identify any land use practices that may have impacted the environmental condition of the Site;
- Conducting a reconnaissance of the surrounding properties from the Site and publicly accessible areas in order to identify land use practices that may have impacted the environmental condition of the Site; and,
- Preparing a report to document the findings.

The following sections summarize the information gathered by GEI during the Phase One ESA and identify Potentially Contaminating Activities (PCAs) on the Site and in the Phase One Study Area as well as Areas of Potential Environmental Concern (APECs) associated with the Site. APECs and PCAs are defined in O.Reg.153/04.

In completing the scope of work, GEI did not conduct any intrusive investigations, including sampling, analyses or monitoring of environmental media.

GEI personnel who conducted the assessment work for this project included Mr. Mark Ongarato, Ms. Joanna Olesiuk, M.A.Sc., C. Tech., P. Geo. (Limited) and Mr. Matthew Long, M. Eng., P.Eng. An outline of their qualifications is provided in **Appendix B**.

3. Records Review

3.1. General

3.1.1. Phase One Study Area Determination

The Site occupies a portion of the area between Old School Road to the north, Mayfield Road to the south, Alloa Reservoir and Pumping Station property (1278 Mayfield Road) to the east and Mississauga Road to the west (see **Figures 1** and **2**).

The Phase One Study Area consists of properties within 250 m from the Site's boundaries. The properties wholly or partly located within 250 m from the extents of the Site were included in the Phase One Study Area. Through review of aerial photographs and the Site reconnaissance, the 250 m radius is considered to be sufficient for the purpose of determining potential environmental concerns to the Phase One property.

The properties within the Phase One Study Area are generally under agricultural and rural residential use with two (2) institutional properties located at 12287 Mississauga Road (Alloa Public School) and 1248 Mayfield Road (Malala Yousafzai Public School); an agricultural research and development facility located at 12111 Mississauga Road (Caledon Research and Development Center/Corteva Agriscience) and a residential subdivision south of Mayfield Road and Mississauga Road intersection. Neighbouring properties are shown in **Figure 2**.

3.1.2. First Developed Use Determination

Based on our review of available historical records, Properties 1, 2 and 3 have been under agricultural use historically and continue to be under agricultural use currently. Based on review of available aerial photography, it does not appear that portions of these three (3) proposed to be transferred to the Region were previously developed with structures. Mississauga Road was developed as a right-of-way prior to 1954 and continues to exist as a right-of-way currently.

3.2. Chain of Title

A chain of title search was completed for the Site by Mr. Armand Simo, an independent Title Searcher. The chronological Chain of Title provided to GEI is enclosed in **Appendix C**, with a summary presented in **Table 3-1**, **3-2** and **3-3** (below) and **Table II** Current and Past Land Uses (end of document). Parcel Register documents and available legal plans are also enclosed in **Appendix C**. Review of the Chain of Title revealed the following entities associated with the ownership of the Site:

Table 3-1. Historical Title Search Information: 12879 Mississauga Road, Caledon (Property 1)

Year	Name of Owner
Part of Lot 22, Concession 4, West of Hurontario Street, being Parts 1 &2 43R23419, T/W RO1105320, Town of Caledon	
Prior to 1831	The Crown
1831 to 1836	Canada Company
1836 to 1836	Matthew McPherson
1836 to 1843	Samuel Warnock
1843 to 1877	James McKane
1877 to 1883	Thomas McKane
1883 to 1893	Robert Mothensill
1893 to 1924	Mary J. McPherson
1924 to 1947	Joseph M. Dolson
1947 to 1999	Thomas H. Lyons
1999 to 1999	Thomas H. Lyons – Estate Donald Gordon Barrett Peter Franklin Lyons
1999 to 2001	Brian Lenstra
2001 to 2012	Brian Lenstra Marvin Lenstra
2012 to 2018	Brian Lenstra Marvin Lenstra
2018 to 2018	Brian Lenstra
2018 to 2019	Brian Lenstra Marvin Lenstra
2019 to Current	2669972 Ontario Limited

Table 3-2. Historical Title Search Information: Property 2

Year	Name of Owner
Part of Lot 19, Concession 4, WHS, Chinguacousy as in RO749272, Firstly & Secondly, Caledon	
Prior to 1859	The Crown
1859 to 1866	William Scott
1866 to 1909	Joseph Mothensill
1909 to 1923	Mary A. Lyons
1923 to 1926	George Garbutt
1926 to 1930	John J. Garbutt
1930 to 1944	Mary A. Lyons
1944 to 1969	Harry Breadner
1969 to 1970	Mark Malcolm Limited York Valley Construction Ltd. Lauramar Holdings Ltd.
1970 to 1970	Rudolph Peter Bratty
1970 to 1986	Mark Malcolm Limited
1986 to Current	Rudolph Peter Bratty

Table 3-3. Historical Title Search Information: Property 3

Year	Name of Owner
Part of Lot 19, Concession 4 W.H.S., Chinguacousy, Caledon	
Prior to 1847	The Crown
1847 to 1860	Robert Ovens
1860 to 1860	James Ovens
1860 to 1885	Robert Ovens
1885 to 1890	John A. Ovens
1890 to 1928	Christina M. Ovens
1928 to 1948	William J. Breadner
1948 to 1955	Ethel H. McEwan William H. McEwan
1955 to 1984	Eileen H. Laidlaw Howard R. Laidlaw
1984 to 1990	Brian Neely Bonnie Neely
1990 to 1994	702294 Ontario Ltd. 910746 Ontario Inc.
1994 to 1999	Wayne Gordon, McClure Gordon Douglas, McClure
1999 to Current	Wayne Gordon McClure Denise Michelle McClure

Being a regional right-of-way, a title search was not completed for Mississauga Road. Based on the review of the historical title search records, no PCAs were identified for the Phase One Property.

3.3. Fire Insurance Plans

As the Site is located in an agricultural area, it is inferred that there are no FIPs available for the Site and Phase One Study Area.

3.4. Municipal City Directories

A search of the Digital Business Directory dated 2012, 2017, 2021, 2024, Cole Directory dated 2008, Polks Directory dated 2001 and Mights Directory dated 1958, 1966, 1970-71, 1975, 1981, 1985, 1991, 1996 was completed by ERIS in order to identify the occupancy history of the 12879 Mississauga Road property and properties in the vicinity of the Phase One Property. It is noted that City Directory listings are available for properties with municipal addresses. City Directory records are enclosed in **Appendix D**. The addresses included in the search were as follows:

- All of Donald Ficht Crescent;
- 705-1475 of Mayfield Road; and,
- 11720-12880 of Mississauga Road.

The 12879 Mississauga Road property does not appear within available City Directory records. Within the Study Area, the following listings were provided:

- 12111 Mississauga Road, located on the east side of Mississauga Road has been listed as occupied by Pioneer Hi-Bred Production Limited (2001–2017), Pioneer Hi-Bred Production Co. (2021), and Corteva Agriscience (2021 and 2024);
    - Based on an online search, Corteva Agriscience is listed as involved in crop protection, seed treatments, seed brands and agronomy; and,
    - Pioneer Hi-Bred Production Limited is listed as research, development and testing services establishment.
- 12287 Mississauga Road, located on the east side of Mississauga Road has been listed as occupied by Alloa Public School (2021-2024);
- 1248 Mayfield Road, located approximately 490 m south of the Site has been listed as occupied by Peel District School Board (2001-2008), Alloa Public School (2012-2017); and,
- 12679 Mississauga Road, located on east side of Mississauga Road, has been listed as occupied by EG Enterprises.

Based on the past occupancy details provided for the properties in the Study Area where listings where available, the occupants that were reported in the City Directory listings within the Phase One Study

Area are not considered to be associated with PCAs as per Table 2, Schedule D of O.Reg.153/04, as amended.

Based on reported records, the majority of the remaining properties in Site vicinity were listed as rural residential.

3.5. Environmental Reports

No previous Environmental Site Assessment reports for the Site were available to GEI for review.

3.6. Environmental Source Information

3.6.1. Federal and Provincial Database Search: ERIS Report

A search of provincial, federal and private environmental databases for records pertaining to the Site and properties within the Phase One Study Area was conducted by ERIS. GEI has confirmed neither the completeness nor the accuracy of the records that were provided.

The ERIS environmental database report provides the results of a search of records contained in numerous environmental information databases regarding the area within 250 m of the approximate centroid of the Phase One Property. Taken together, the databases provide records concerning a broad range of activities, including but not limited to manufacturing facilities, waste disposal sites, fuel storage tank installations, water well information, spill records, regulatory reporting and registration of waste and pollutant generation, environmental orders and convictions, among others.

Due to the volume of records, this section will provide a general overview with details being reserved for the records most relevant to the assessment. A copy of the ERIS Report with details on all the records located within the Study Area is enclosed in **Appendix E**. A summary of the significant findings is provided below.

Site

The following records were listed in the ERIS report pertaining to the Site:

- Eight (8) well records plot within the Site area or close to it;
    - Two (2) monitoring wells were installed within the Mississauga Road right-of-way in 2014 for Peel Region;
    - The remaining records are plotting on Site in error, which is common especially with older wells where the coordinates of the wells were taken from a topographical map, as opposed determined with a more accurate GPS unit; and,
    - The remaining records are for dug and drilled water supply wells and one (1) monitoring well on the properties in the Study Area including one (1) well decommissioning record due to insufficient supply.

Phase One Study Area

A total of 128 records were returned by the ERIS database search for the neighbouring properties within the 250 m Study Area. Due to the volume of records, this section will provide a general overview with details being reserved for the records most relevant to the assessment. Majority of the records were within the Water Well Information System database (74 records).

The environmental databases with records for the neighbouring properties in the study area include the following:

- Certificates of Approval (4 records)
- Commercial Fuel Oil Tanks (3 records)
- Environmental Activity and Sector Registry (1 record)
- Environmental Registry (1 record)
- Environmental Compliance Approval (6 records)
- ERIS Historical Searches (6 records)
- Ontario Regulation 347 Waste Generators Summary (25 records)
- Non-Compliance Reports (3 records)
- Pipeline Incidents (1 records)
- Record of Site Condition (2 records)
- Ontario Spills (2 records)
- Water Well Information System (74 records)

This section will provide a general overview with details being reserved for the records most relevant to the assessment. The following properties were identified in the ERIS databases, with the following records:

- 12287 Mississauga Road (east side of Mississauga Road), property occupied by Alloa Public School (4 records);
    - Records related to MECP approvals for a stand-by power system and private sewage works; and,
    - Non-Compliance Reports database record related to carbonaceous biochemical oxygen demand non-compliance, reported as 'Assessment Complete - Incident Resolved'.
- 12111 Mississauga Road (east side of Mississauga Road), occupied by Pioneer Hi-Bred Production LP/ Allelix Crop Technologies (25 records);
    - Records related to MECP approvals for industrial air;
    - Two (2) records in the Commercial Fuel Oil Tanks (commercial underground fuel oil tanks database) for an active registration for a fiberglass fuel oil tank with a capacity of 45,000 L installed in 1985;
    - 18 records in the Ontario Regulation 347 Waste Generators Summary for registered wastes including halogenated and non-halogenated pesticides, aliphatic and halogenated solvents, waste oils & lubricants, other inorganic acid wastes, acid waste - heavy metals, organic laboratory chemicals, oil skimmings & sludges, light fuels and others; and,

- Ontario Spills database record for a spill of refrigerant to atmosphere in 2015.

Based on the nature of the reported records, the property at 12111 Mississauga Road is associated with PCA #28 – Gasoline and Associated Products in Fixed Tanks and PCA #Other – Registered Waste Generation.

- 12134 Mississauga Road (private residence on west side of Mississauga Road);
  - One (1) record in the Commercial Fuel Oil Tanks (commercial underground fuel oil tanks database) for an active registration for a steel fuel oil tank with a capacity of 2,273 L installed in 1979; and,
  - One (1) Ontario Spills database record for a leaking furnace oil underground storage tank in 1992 with confirmed soil contamination.

Based on the nature of the reported records, the property at 12134 Mississauga Road is associated with PCA #28 – Gasoline and Associated Products in Fixed Tanks.

- Intersection of Mississauga Road and Mayfield Road;
  - Two (2) spill incident records, involving approximately 40 L of motor fluids discharged to road shoulder during a collision (2022) as well as sediment laden water released to an outfall (2021).

Based on the nature of the reported records, the intersection of Mississauga Road and Mayfield Road is associated with PCA #Other – Historic Spill.

- Paradise Homes NW Inc. – a residential subdivision located to the south of the intersection of Mayfield Road and Mississauga Road (beyond the southerly extent of the Site);
  - Two (2) Records of Site Condition (RSC) were filed for the subdivision property;
    - 2019 RSC - based on review of the Phase Two ESA Conceptual Site Model available from MECP's Access Environment website, the APECs at this neighbouring property included potential impacts from the use of pesticides as part of previous agricultural activities and fill of unknown quality. Based on reported findings of the Phase Two ESA, no soil exceedances of the applicable Table 2 potable groundwater standards for a residential/parkland/institutional property use were reported; and,
    - 2011 RSC – this RSC was filed before the 2011 amendments to O. Reg. 153/04 and the changes in how RSCs are filed and what information is publicly available, and therefore the documentation is limited. However, based on the RSC information available for this record, it appears that the contaminants of concern were metals, and no soil or groundwater remediation was reported.
- 1248 Mayfield Road, located approximately 200 m south of the Site, occupied by Peel District School Board;
  - MECP approvals for private sewage works;

- Two (2) Non-Compliance Reports database record related to total suspended solids and carbonaceous biochemical oxygen demand non-compliance, reported as 'Assessment Complete - Incident Resolved'; and,
- Five (5) records in the Ontario Regulation 347 Waste Generators Summary for registered wastes including organic and inorganic laboratory chemicals, petroleum distillates and light fuels.

Based on the nature of the reported records, the property at 1248 Mayfield Road is associated with PCA PCA #Other – Registered Waste Generation.

- 1278 Mayfield Road, Alloa Reservoir and Pumping Station;
  - One (1) record in the Ontario Regulation 347 Waste Generators Summary for waste oil and lubricants (the records is listed under Ontario Clean Water Agency).
- 74 well records in the Phase One Study Area for wells reported as observation, monitoring and domestic/irrigation/livestock/industrial water supply wells installed between 1961 and 2021. Based on the well records, the general soil stratigraphy in the Site vicinity generally consists of topsoil underlain by interbedded clay, boulders and shale.

3.6.2. Ontario Ministry of Environment, Conservation and Parks Records

3.6.2.1. Freedom of Information Request

The MECP was contacted through the Freedom of Information and Protection of Privacy Act (FOI) on October 22, 2025, for copies of records pertaining to 12879 Mississauga Road (Property 1). A FOI search request typically requires a municipal address therefore Property 2 and 3 were not included in the FOI request. Email response from the MECP dated November 24, 2025, was received and is included in **Appendix F**. Based on the search results, there were no records reported for 12879 Mississauga Road property.

3.6.3. Technical Standards and Safety Authority (TSSA)

A request was made to the TSSA by email on October 17, October 22, October 23, 2025, and January 29, 2026, for information regarding fuel storage at the Site and at the neighbouring properties along Mississauga Road, Old School Road and Mayfield Road.

Email responses from the TSSA were received on October 20, October 23, 2025, and January 30, 2026. A copy of the TSSA requests and email responses are provided in **Appendix F**. Based on the search results, the following TSSA records of fuel storage or fuel appliances were reported:

- 12111 Mississauga Road had records of two (2) active FS appliances, one (1) expired FS appliance, and two (2) active FS fuel oil tank records; and,
- 12134 Mississauga Road had a record of one (1) active FS fuel oil tank.

Based on the nature of the reported records, the properties at 12111 Mississauga Road and 12134 Mississauga are associated with PCA #28 – Gasoline and Associated Products in Fixed Tanks.

3.7. Physical Setting Sources

3.7.1. Aerial Photographs

Aerial photographs were obtained in order to review the development and land use history of the Site, as well as of the lands in the immediate vicinity of the Site. Aerial photographs dated 1954 from University of Toronto Map and Data Library as well as 1969, 1976, 1980 and 1990 were obtained from the National Air Photo Library via a request to ERIS. Aerial photographs dated 2001, 2015, 2025 were obtained from the Town of Caledon Interactive Mapping GIS.

The aerial photographs were collected based on availability from the archives at available intervals to assess the changes at the Site and surrounding lands over time.

The development and land use history of the Site and adjacent properties as depicted on the reviewed aerial photography is summarized in **Table 3-4**. Copies of the aerial photographs are included in **Appendix G**.

Table 3-4. Aerial Photograph Observations

Aerial Photograph Year	Observations
1954	The Site and the neighbouring properties appear to be under agricultural use (crops/fields). Mississauga Road, Old School Road and Mayfield Road are developed as right-of-ways (ROW).
1969	The Site and the neighbouring lands appear to be primarily used for agricultural and rural residential uses with scattered farmhouses and farm-related structures at some of the properties in the Study Area. The private properties comprising the Site do not appear to be occupied by structures or orchards. A tributary to Etobicoke Creek traverses the Site (Properties 2 and 3). In the broader Site vicinity, land use remains predominantly agricultural, with no significant development observed. The original Alloa Public School property on Mayfield Road, to the east/south of the Site appears to be developed.
1976	No significant changes at the Site and the properties in the Study Area were observed compared to the 1969 aerial photograph.
1980	No significant changes at the Site and the properties in the Study Area. Additional properties in the Study Area have been developed with private residences and farm outbuildings at some of the properties.
1990	No significant changes at the Site and the properties in the Study Area. The property located at 12111 Mississauga Road (the agricultural research and development (R&D) facility), appears to have expanded with additional buildings.
2001	No significant changes at the Site and the properties in the Study Area. The property located at 12111 Mississauga Road appears to have expanded with additional structures (greenhouses).
2015	No significant changes at the Site. The property at 12287 Mississauga Road (Alloa Public School) is under construction. The property located at 1278 Mayfield Road, the Alloa Reservoir and Pumping Station, appears to be under construction. Lands to the south of Mayfield Road appear to be in the early stages of construction into a residential subdivision.
2025	No significant changes at the Site and the properties in the Study Area. The Site appears as it appears in the present day, under agricultural use with no apparent structures at the portions of the private properties. The property located at 12111 Mississauga Road has been expanded with additional greenhouses. Lands to the south and east of the Site were developed into additional residential subdivisions.

3.7.2. Topography, Hydrology and Geology

The following physiographic, geological and soil maps were reviewed in addition to available Site drawings and reports during preparation of this report:

- Atlas of Canada – Toporama Topographic Map (Toporama);
- Ministry of Agriculture, Food and Agribusiness (OMAFRA GIS);
- Oak Ridges Moraine Groundwater Program;
- Ontario Base Map (OBM);

- Ontario Ministry of Energy, Northern Development and Mines website, Bedrock Geology of Ontario, 2011 – MRD 126; and Paleozoic Geology of Southern Ontario, 2007 – MRD 219 (KML format);
- Ontario Ministry of Energy, Northern Development and Mines website, Surficial Geology of Southern Ontario, 2010 (KML format); and,
- Ontario Ministry of Energy, Northern Development and Mines website, Physiography of Southern Ontario, 2007 (KML format).

Based on the review of the above maps, the following information was obtained:

- The Site is at an elevation of approximately 260 to 275 metres above sea level (m asl) and is generally at similar elevations as the surrounding properties;
- A tributary of the Etobicoke Creek, which is also mapped by OMAFRA GIS as the Alloa Municipal Drain, flows through Property 2 and 3 and extends towards the northeast. An unknown drainage feature traverses the Study Area east of Mississauga Road, flowing to the south towards the Etobicoke Creek tributary. A headwater drainage feature, an intermittent tributary of Etobicoke Creek is present in the easterly portion of Property 1, east of the Phase One Study Area as shown in **Figure 2**;
- Based on ORMGP mapping, groundwater is interpreted to flow to the southeast with localized variations influenced by topographic lows, drainage features, and on-site waterbodies. Regional groundwater flow is inferred to be southeasterly, towards Lake Ontario;
- The bedrock in the general area of the Site consists of shale, limestone, dolostone, and siltstone of the Queenston Formation. Based on well records in the Site vicinity, bedrock is reported to be between approximately 7.6 to 18.9 m bgs;
- The Site is within the South Slope physiographic region and the Till Plains (Drumlinized) physiographic landform (**Figure 3** and **4**);
- The surficial geology of the Site is described as Halton Till, clay to silt-textured till derived from glaciolacustrine deposits or shale and modern alluvium (**Figure 5**); and,

The Site Environmental Setting Data is summarized in **Table I** (end of document).

3.7.3. Fill Material

Fill can be used to re-grade a property and to backfill excavations. The three (3) private properties comprising the Site are under agricultural use, with no observed history of development (based on aerial photographs) therefore it is not anticipated that fill material may have been brought to these sites for construction purposes. However, as GEI personnel was limited to the right-of-way and public lands at the time of the Site visit, a fill assessment at the three (3) private properties was limited.

Mississauga Road is a paved surface which accounts for most of the Site area. Most roads are engineered surfaces and typically consist of multiple layers of fill material (granular fill, road base, asphalt).

Therefore, fill associated with the construction of Mississauga Road may be present on Site. Therefore, the Site is associated with PCA #30 – Importation of Fill Material of Unknown Quality.

3.7.4. Water Bodies and Areas of Natural Significance

A tributary of the Etobicoke Creek, which is also mapped by OMAFRA GIS as the Alloa Municipal Drain, flows through Property 2 and 3 and extends towards the northeast. An unknown drainage feature traverses the Study Area east of Mississauga Road, flowing to the south towards the Etobicoke Creek tributary. A headwater drainage feature, an intermittent tributary of Etobicoke Creek is present in the easterly portion of Property 1, east of the Phase One Study Area as shown in **Figure 2.**

Based on ORMGP mapping, groundwater is interpreted to flow to the southeast with localized variations influenced by topographic lows, drainage features, and on-site waterbodies.

Etobicoke Creek is located approximately 6 km to the east, flowing to the southeast towards Lake Ontario located approximately 30 km south of the Site. The Credit River is located approximately 4.5 km west of the Site.

Regional groundwater flow is inferred to be southeasterly, towards Lake Ontario.

Based on the review of available resources from the Ministry of Natural Resources on January 29, 2026, no Areas of Natural and Scientific Interest (ANSI) were identified at the Site or within the Phase One Study Area.

3.7.5. Well Records

3.7.5.1. Water Wells

The MECP maintains a database (published with records from 1955 to present) of water wells drilled in Ontario, in accordance with Ontario Regulation 903. The Ontario Well Record website was accessed on January 28, 2026, to identify if any wells exist on the Site or within the Phase One Study Area.

As summarized in Section 3.6.1, eight (8) well records plot within the Site area or close to it:

- Two (2) monitoring wells were installed within the Mississauga Road right-of-way in 2014 for Peel Region;
- The remaining records are plotting on Site in error, which is common especially with older wells where the coordinates of the wells were taken from a topographical map, as opposed determined with a more accurate GPS unit; and,
- The remaining records are for dug and drilled water supply wells and one (1) monitoring well on properties in the Study Area including one (1) well decommissioning record due to insufficient supply.

Based on the well records in the vicinity of the Site, the general soil stratigraphy consists of clay, clay with and, silt with clay, clay with silt, underlain by sand with gravel, sand with silt and clay, till overlying the shale bedrock. Bedrock was reported to be at a depth of between approximately 7.6 to 18.9 m bgs in the well records plotting near the Site.

3.7.5.2. Oil, Gas, and Salt Wells

The ERIS report (**Appendix E**) includes a search of the Ontario Oil and Gas Wells (OOGW) database records. No records were identified for the Site or within the Phase One Study Area in the OOGW database.

3.7.6. Record of Site Condition (RSC)

A Record of Site Condition (RSC) summarizes the environmental conditions of a property as determined by a Qualified Person (QP) by conducting a Phase One ESA, and where necessary, a Phase Two ESA, remediation, confirmatory sampling and/or a risk assessment. Upon completion of the necessary environmental Site assessments, a RSC for the assessed property can be filed with the MECP and added to the online RSC registry. This online, publicly available registry can be searched to identify what properties may have or had potential environmental concerns.

Based on the search of the MECP's RSC Registry via the ERIS report, two (2) RSC records were identified within the Study Area, as summarized in **Section 3.6.1**.

3.8. Site Operating Records

ln general, a request is usually made to the property representative for copies of any operating records pertaining to the environmental conditions at the Site. Records would include: regulatory permits; Safety Data Sheets (SDS) for all chemicals that were handled on-Site; underground utility drawings; inventories of chemicals, chemical usage, and chemical storage areas; inventory of aboveground storage tanks (ASTs) and underground storage tanks (USTs); environmental monitoring data; correspondence pertaining to an order or request by the MECP or TSSA; waste management records; process, production, and maintenance documents; records of spills and records of discharges of chemicals; emergency response and contingency plans, including spill prevention and contingency plans; environmental audit reports; and site plans of the facility showing areas of production and manufacturing.

Select drawings and documents from the project file have been referred to throughout the completion of the Phase One ESA, and pertinent information is included throughout the report, where applicable. A request for previous reports and site records for the private properties was made to the Client through the Phase One ESA questionnaire; however, a response was not received at the time of preparation of this report. As these properties are privately owned, it is not anticipated that records of environmental significance exist. Should records be provided, these will be reviewed and included in the final report.

4. Interviews

At the time of preparation of this report, the private properties were not transferred to the Region and no authorization to conduct interviews with the property Owners was provided by the Region. Should authorization be provided to conduct the interviews before the final report is prepared, that information will be incorporated into the final report, once available.

5. Site Reconnaissance

5.1. General Requirements

The Phase One ESA Site reconnaissance was conducted on November 5, 2025, between 10:00 a.m. and 1:00 p.m. by Mr. Mark Ongarato, B.Sc., of GEI. On the day of the Site reconnaissance, the weather was overcast (approximately 10°C).

The Site and the adjoining properties were observed from the Alloa Reservoir and Pumping Station property (1278 Mayfield Road), Mississauga Road, and/or publicly accessible areas. Access to 1278 Mayfield Road property was provided by the Peel Region. Select photographs documenting the Site visit are included in **Appendix H**.

5.2. Specific Observations at Phase One ESA Property

5.2.1. Site Description and Buildings

The Site consists of a narrow strip of land from the Alloa Reservoir and Pumping Station property (1278 Mayfield Road) through Property 2 and Property 3 to Mississauga Road, and along Mississauga Road (between Mayfield Road and approximately 430 m south of Old School Road and Mississauga Road intersection) and also includes a portion of Property 1 (12879 Mississauga Road), as shown in **Figures 1** and **2**. The portions of Property 1, Property 2 and Property 3 that comprise the Site appeared to be vacant agricultural lands with no structures. The Site portion of Mississauga Road right-of-way is a paved rural road.

The Site is located in a rural area with mostly agricultural and residential properties. Two (2) institutional properties (schools) were also observed in the Study Area, on Mississauga Road, east of the Site and on Mayfield Road, south of the Site. A research and development facility, Caledon Research and Development Center, is located in the Study Area, on the east side of Mississauga Road.

No buildings were observed on the Site, where visible from Mississauga Road and the Alloa Reservoir and Pumping Station property. Structures were present on the northern portion of Property 1 which is not included in the Site.

5.2.2. Heating and Cooling Systems

No heating or cooling systems were observed at the time of the Site reconnaissance

5.2.3. Site Utilities and Services

The following utilities and services were observed during Site reconnaissance:

- Overhead power lines along the east side of Mississauga Road;

- Signs for a natural gas pipeline along the west side of Mississauga Road;
- Several drilled drinking water wells in the front yards of residential properties along Mississauga Road (i.e., private drinking water supply); and,
- Fibre optic roadside enclosures on both sides of Mississauga Road (indicating the presence of buried communications cables in the Study Area).

It is noted that the precise underground location of the utilities and services cannot be determined without professional locate services.

5.2.4. Site Production and Manufacturing

No on-site production or manufacturing processes were observed at the Site during the Site reconnaissance.

5.2.5. Mechanical Equipment

No on-site mechanical equipment was observed at the Site during the Site reconnaissance.

5.2.6. Drains, Pits and Sumps

No drains, pits, or sumps were observed at the Site during the Site reconnaissance.

5.2.7. Storage Tanks

5.2.7.1. Underground Storage Tanks (UST)

No USTs were observed at the Site during the Site reconnaissance.

5.2.7.2. Aboveground Storage Tanks (AST)

No ASTs were observed at the Site during the Site reconnaissance.

One (1) diesel fuel tank was observed at 1278 Mayfield Road (Alloa Reservoir and Pumping Station); one AST (1) was observed north of a school building at 1248 Mayfield Road and appeared to be a fuel tank. AST locations are shown on **Figure 6** as PCAs.

5.2.8. Water Wells

Several drinking water wells were observed in the front yards of the residential properties along Mississauga Road.

A total of seven (7) monitoring wells were observed in the Study Area during Site Reconnaissance. Of which, two (2) are located on-Site and five (5) are located off-Site.

The two (2) on-Site monitoring wells were observed within Property 3 portion of the Site, near 1278 Mayfield Road (Alloa Reservoir and Pumping Station).

The five (5) off-Site monitoring wells were observed in the following locations:

- Two (2) monitoring wells at 1248 Mayfield Road;
- Two (2) monitoring wells at 12266 Mississauga Road; and,
- One (1) monitoring well at 12515 Mississauga Road.

5.2.9. Watercourse, Ditches or Standing Water

There are roadside drainage ditches on both sides of Mississauga Road and Mayfield Road.

According to Ontario Hydro Network (OHN) mapping, there are two (2) streams located within the Site and Study Area (shown in **Figure 2**). One (1) stream/drainage feature is to the east of Mississauga Road traversing the agricultural fields parallel to Mississauga Road. The second stream traverses the southern portion of the Site and the Study Area, perpendicular to Mississauga Road.

5.2.10. Site Housekeeping

No debris, outdoor storage, or uncontrolled waste storage were noted on Site during the Site reconnaissance.

5.2.11. Chemical Storage/Handling and Floor Condition

No bulk chemical storage was observed at the Site during the Site reconnaissance.

5.2.12. Areas of Stained Soil, Pavement or Stressed Vegetation

No signs of staining and stressed vegetation were observed at the Site during Site reconnaissance.

5.2.13. Fill and Debris

Mississauga Road is a paved surface which accounts for most of the Site area. Most roads are engineered surfaces and typically consist of multiple layers of fill material (granular fill, road base, asphalt). Therefore, the fill associated with the construction of Mississauga Road may be present on Site. Therefore, the Site is associated with PCA #30 – Importation of Fill Material of Unknown Quality.

5.2.14. Air Emissions

Regulatory control of air emissions in Ontario is the responsibility of the MECP. No sources of air emissions were observed at the Site during the Site reconnaissance.

5.2.15. Hazardous Building Materials and Designated Substances

No buildings (and therefore no hazardous building materials) were observed on the Site during Site reconnaissance. The assessment of designated substances is typically covered by a Designated Substance Survey (DSS) which is outside the scope of this Phase One ESA.

5.2.15.1. Polychlorinated Biphenyls (PCBs)

No sources of PCBs were observed at the Site during Site reconnaissance.

5.2.15.2. Asbestos Containing Materials (ACMs)

Asbestos-containing materials (ACMs) are fibrous hydrated silicates and can be found in building materials. Friable asbestos refers to materials where the asbestos fibers can be separated from the material with which it is associated. The common use of potential friable ACMs (pipe/boiler insulation and fireproofing) in construction was discontinued in the mid-1970s.

Asbestos was historically used in asphalt. Therefore, the paved surface of Mississauga Road could be a potential ACM, depending on when it was last replaced. A Designated Substance Survey (DSS) would be required to determine the presence/absence of ACMs on the Site.

5.2.15.3. Ozone Depleting Substances (ODSs)

Production of chlorofluorocarbons (CFCs) often referred to as Freons, ceased in Canada in 1993 as a result of their ozone-depleting characteristics. Importation of CFCs into Canada ceased in 1997 and a total ban on their use is proposed for 2020. The use of these materials is still permitted in existing equipment; however, equipment must be serviced by a licensed contractor to ensure that CFCs are contained and not released to the environment during servicing or operation.

No ODSs were observed at the Site during Site reconnaissance.

5.2.15.4. Lead

Lead has frequently been used in oil-based paints, roofing materials, cornices, tank linings, electrical conduits and soft solders for tinplate and plumbing. The use of lead-based paints (LBPs) was phased out circa 1976. Paint that was produced or used between 1976 and 1980 may contain small amounts of lead. Paint that was produced or used prior to 1950 may contain high levels of lead. The main concern regarding LBP is its potential to become lead dust or chips either through deterioration and/or mechanical means (i.e., sanding, abrasion, etc.). Exposure to lead dust or chips occurs by ingestion or inhalation.

No building and therefore no painted surfaces were observed at the Site during Site reconnaissance.

5.2.15.5. Urea Formaldehyde Foam Insulation (UFFI)

Urea formaldehyde foam insulation (UFFI) is an insulation material that was formerly sprayed into cavities in walls and ceilings. UFFI was developed in Europe in the 1950s as an improved means of insulating difficult-to-reach cavities in the walls. It is typically made at a construction site from a mixture of urea-formaldehyde resin, a foaming agent and compressed air. When the mixture is injected into the wall, urea and formaldehyde unite and "cure" into an insulating foam plastic.

During the 1970s, when concerns about energy efficiency led to efforts to improve building insulation in Canada, UFFI became an important insulation product for existing buildings. Most installations occurred between 1977 and the further use of UFFI was banned in Canada in the 1980s.

No UFFI was observed at the Site during Site reconnaissance.

5.2.15.6. Mercury

Mercury is a liquid metal used in some batteries, light bulbs, paints, thermostats and related equipment . Mercury compounds were eliminated from indoor latex paints in 1991 through a voluntary manufacturer withdrawal.

No mercury was observed at the Site during Site reconnaissance.

5.2.15.7. Mould

Mould is a fungus found in the natural environment and is required for the breakdown of plant debris such as leaves and wood. Mould spores are found in the air in both the indoor and outdoor environments. In order for mould to grow it requires a food source (i.e., gypsum wallboard, carpets, wallpaper, wood, etc.) and moist conditions. Mould can have an impact on human health depending on the species and concentration of the mould. Health effects can include allergies and mucous membrane irritation.

No mould was observed at the Site during Site reconnaissance.

5.2.15.8. Radon

Radon is a colourless, odourless, radioactive gas that occurs naturally in the environment. It comes from the natural breakdown of uranium in soils and rocks. Exposure to high levels of radon increases the risk of developing lung cancer. This relationship has prompted concern that radon levels in some Canadian buildings may pose a health risk. Radon gas can move through small spaces in the soil and rock and seep into a building through cracks in concrete, sumps, joints and basement drains. Concrete-block walls are particularly porous to radon and radon trapped in water from wells can be released into the air when the water is used.

Due to the potential health concerns associated with radon, Health Canada released a guideline in June 2007 for maximum acceptable level or radon gas of 200 becquerels per cubic metre (Bq/m^3). Where

radon gas is present and the annual radon concentration exceeds 200 Bq/m³ in the normal occupancy area, Health Canada recommends taking the necessary actions to reduce radon levels.

Typically, radon is not a significant environmental concern in southern Ontario. Radon Assessment is outside of the scope of work for this Phase One ESA.

5.3. Enhanced Investigation Property Observations

An Enhanced Investigation Property is "(i) a property used, or has ever been used, in whole or part, for an industrial purpose, or (ii) a commercial property used as a garage, a bulk liquid dispensing facility, including a gasoline outlet or for the operation of dry-cleaning equipment" (O. Reg. 153/04).

Therefore, in the context of O. Reg. 153/04, the Site is not considered to be an Enhanced Investigation Property.

5.4. Adjacent and Surrounding Properties

A visual inspection of the adjacent properties and properties within the Phase One Study Area was conducted from publicly accessible areas to identify the occupants and to document PCAs that may be contributing to an APEC at the Site.

Location of Adjoining Properties	Property Use
North	Residential and agricultural properties.
South	Residential and agricultural properties, residential subdivision, institutional property (school at 1248 Mayfield Road).
East	Residential and agricultural properties, an institutional property (Alloa Public School), Caledon Research and Development Center/Corteva Agriscience, Alloa Reservoir and Pumping Station property.
West	Residential and agricultural properties.

As indicated in **Section 5.2.7**, there were two (2) ASTs that were observed in the Study Area. One (1) AST is a diesel fuel tank, observed at 1278 Mayfield Road (Alloa Reservoir and Pumping Station property); the second AST was observed behind a school building at 1248 Mayfield Road, as shown in **Figure 6**. The ASTs are associated with PCA #28 Gasoline and Associated Products Storage in Fixed Tanks as per Table 2, Schedule D of O.Reg.153/04.

5.5. Written Description of Investigation

A reconnaissance of the Site was conducted by GEI to examine the Site. At this time, at the request of the Client, the portions of the private properties that comprise the Site were not specifically visited;

observations of these properties were made from public rights-of-way and the Alloa Reservoir and Pumping Station property.

Access to the Alloa Reservoir and Pumping Station was provided by the Peel Region for a better view of Property 2 and Property 3. The Site was examined from public lands for evidence of utilities and related infrastructure, water wells, Site drainage and related infrastructure, stained areas and stressed vegetation (where visually accessible), ASTs and USTs, and evidence of fill material.

The reconnaissance included an examination of the properties within the Phase One Study Area from public access ways to document and characterize PCAs, water bodies and areas of natural significance.

One (1) PCA was identified at Site for the importation of fill material of unknown quality (PCA #30) associated with the construction of Mississauga Road.

Two (2) off-site PCAs were identified as fuel ASTs on neighbouring properties, associated with PCA# 28 Gasoline and Associated Products Storage in Fixed Tanks as per Table 2, Schedule D of O.Reg.153/04. The approximate location of on-Site and off-Site PCAs is shown in **Figure 6**.

6. Review and Evaluation of Information

6.1. Current and Past Uses

Based on our review of available historical records, Properties 1, 2 and 3 have been under agricultural use historically and continue to be under agricultural use currently. Mississauga Road has been and is under a community use as a rural ROW.

At the time of the Site Reconnaissance, the Site portion of Properties 1, 2 and 3 were observed to be under agricultural use with no visible structures, with the remaining portion of the Site, Mississauga Road, observed to be under use as a rural right-of-way.

The current and past ownership and use of the Site is further summarized in **Table II** (end of document).

6.2. Potentially Contaminating Activities (PCAs)

A list of the PCAs identified at the Site and within the Phase One Study Area is summarized in **Table 6-1** (below), **Table III** (end of document) and presented in **Figure 6**. Based on the inferred groundwater flow direction to the southeast, the properties within the Phase One Study Area to the southeast of the Site are considered to be hydraulically downgradient of the Site; properties to the northwest are considered to be hydraulically upgradient of the Site; and the properties to the east and west are considered to be hydraulically trans-gradient to the Site. PCAs located downgradient or trans-gradient of the Site are not considered to be contributing to an APEC on Site.

Based on the rationale provided in **Table 6-1**, it is the opinion of the QP_{ESA} that the following PCAs (PCA 1a and 1b, PCA 2a to 2e, PCA 3a and 3b and PCA 4) may have or may be contributing to APECs at the Site.

Table 6-1. Potentially Contaminating Activities

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
1a	Mississauga Road	#30 – Importation of Fill Material of Unknown Quality	On-Site	Yes (On-site PCA)	Mississauga Road is a paved surface which accounts for most of the Site area. It is anticipated that the road base consists of multiple layers of fill material (earth/granular fill, road base, asphalt).
1b	Mississauga Road	#Other – Application of De-Icing Salts	On-Site	Yes (On-site PCA)	Application of de-icing salts on the roadway along Mississauga Road is anticipated during winter months to ensure safe conditions for vehicular and pedestrian traffic.
2a, 2b, 2c, 2d, 2e	12879 Mississauga Road (Property 1), west and east of Mississauga Road, Property 2 and Property 3	#40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On-Site	Yes (On-site PCA)	Long history of agricultural land use.
3a	12111 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks	Off-Site	Yes, east adjacent to the Site.	ERIS records of a 45,000 L fuel oil UST.
3b		#Other – Registered Waste Generation	Off-Site		ERIS records of registered wastes including halogenated and non-halogenated pesticides, aliphatic and halogenated solvents, waste oils & lubricants, other inorganic acid wastes, acid waste - heavy metals, organic laboratory chemicals, oil skimmings & sludges, light fuels and others.

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
PCA 4	12134 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks	Off-Site	Yes, west adjacent to the Site.	ERIS records of a fuel oil UST and record of a leaking UST.
PCA 5	Intersection of Mississauga Road and Mayfield Road	# – Other Historic Spill	Off-Site	No	ERIS record of a spill involving 40 L of motor fluids in 2022. Based on the nature of the reported spill, the location not being directly within the Site area and its downgradient direction, this is not considered to be a source of impact to the Site.
PCA 6a	1278 Mayfield Road (Alloa Pumping Station)	#28 – Gasoline and Associated Products in Fixed Tanks	Off-Site	No	A fuel AST and a transformer were observed during the Site visit. This is not considered to be a source of impact to the Site based on the separation distance from the Site.
PCA 6b		#55 – Transformer Manufacturing, Processing and Use	Off-Site	No	
PCA 7	1248 Mayfield Road (Public School)	#28 – Gasoline and Associated Products in Fixed Tanks PCA #Other – Registered Waste Generation.	Off-Site	No	The ERIS report contained records of registered wastes including light fuels and petroleum distillates, as well as a fuel AST was observed at the time of the Site visit. These are not considered to be a source of impact to the Site based on the separation distance from the Site and downgradient location.

6.3. Areas of Potential Environmental Concern (APECs)

Based on the rationale provided, it is the opinion of the QP that the following PCAs – PCA 1a and 1b, PCA 2a to 2e, PCA 3a and 3b and PCA 4 as summarized in **Table 6-1** above, are considered as contributing to APECs at the Site, as summarized in **Table 6-2**. The locations of the PCAs and APECs are shown in **Figures 6** and **7**.

Table 6-2. Areas of Potential Environmental Concern

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	COPCs	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1 a, b: Fill of unknown quality and application of de-icing salts	Mississauga Road right-of-way	#30 – Importation of Fill Material of Unknown Quality (PCA 1a) #Other – Application of De-Icing Salts (PCA 1b)	On-Site	Metals, As, Sb, Se, B-HWS, Hg, Cr(VI), CN-, PAHs, SAR, EC, Na and Cl	Soil
APEC 2 a to d: Pesticide use	Within agricultural field portions of the Site on Property 1, 2, and 3, and east and west of Mississauga Road	#40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications (PCA 2a to 2e)	On-Site	OCs, Metals, As, Sb, Se, B-HWS, Hg, Cr(VI), CN-	Soil
APEC 3: Fuel Oil UST and industrial waste generation	Mississauga Road right-of-way, adjacent to 12111 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks (PCA 3a) #Other – Registered Waste Generation (PCA 3b)	Off-Site	PHCs, BTEX, VOCs	Groundwater

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	COPCs	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 4: Fuel Oil UST	Mississauga Road right-of-way, adjacent to 12134 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks (PCA 4)	Off-Site	PHCs, BTEX	Groundwater

Notes:
1. Area of Potential Environmental Concern (APEC) means the area on, in or under a Phase One Site where one or more contaminants are potentially present, as determined through the Phase One ESA, including through: a) identification of past or current uses on, in or under the Phase One property, and b) identification of potentially contaminating activities.
2. Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a Phase One Study Area.
3. PHCs = petroleum hydrocarbons; BTEX = benzene, toluene, ethylbenzene, xylenes; VOCs = volatile organic compounds; PAHs = polycyclic aromatic hydrocarbons; PCBs = Polychlorinated Biphenyls; EC = electrical conductivity; SAR = sodium adsorption ratio; As = arsenic; Sb = antimony; Se = selenium; B-HWS = boron hot water soluble; Hg = mercury; Cr(VI) = chromium (VI) and CN- = cyanide; Na = sodium; Cl - = chloride; OCs = organochlorine pesticides.
4. COPCs = Contaminants of Potential Concern

6.4. Phase One ESA Conceptual Site Model

This section presents the Phase One Conceptual Site Model (CSM) providing a narrative, graphical and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, areas of potential environmental concern/potential contaminating activities, and the presence and distribution of potential contaminants of concern. These components are discussed in the following sections.

6.4.1. Surface Features

In this report, Mississauga Road is considered to be oriented in a north-south direction, while Mayfield Road and Old School Road are oriented in a west-east direction. The Site is located south of Mississauga Road and Old School Road intersection in Caledon, Ontario, as shown in **Figures 1** and **2**.

The Site is irregular in shape. Collectively, the Site includes portions of three (3) private properties, and a 2.65-km stretch of the Mississauga Road right-of-way. The three (3) private properties are currently under agricultural use and are identified as follows with locations shown in **Figure 2**:

- 12879 Mississauga Road – Property 1;
- Part of Lot 19, Concession 4 – Property 2; and,
- Part of Lot 19, Concession 4 – Property 3.

Based on our review of available historical records, Properties 1, 2 and 3 have been under agricultural use historically and continue to be under agricultural use currently.

No buildings were observed on the Phase One ESA Property, where visible from Mississauga Road and the Alloa Reservoir and Pumping Station property. No access was provided onto the private portions of Property 1, 2, and 3 at this time.

The Site information is summarized in **Table 6-3** to **6-6**.

Table 6-3. Site Information: Property 1 – 12879 Mississauga Road

Site Details: Property 1 (12879 Mississauga Road)	
Municipal Addresses	12879 Mississauga Road, Caledon, ON L7C 1X2
Current Owner	2669972 Ontario Limited
Owner Address	Unknown
Owner Contact Person	Unknown
Legal Description	Part of Lot 22, Concession 4, West of Hurontario Street, being Parts 1 &2 43R23419, T/W RO1105320, Town of Caledon
Property Identification Number (PIN)	14255-0289
Property Size	19.9 hectares (ha) (49.26 acres (ac)) (entire property per Town of Caledon GIS)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 589,455 m Northing: 4,840,426 m (1m, NAD83, Google Earth Pro)

Table 6-4. Site Information: Property 2

Site Details: Property 2 (No municipal address)	
Municipal Addresses	NA
Current Owner	Rudolph Peter Bratty
Owner Address	Unknown
Owner Contact Person	Unknown
Legal Description	Part of Lot 19, Concession 4, WHS, Chinguacousy as in RO749272, Firstly & Secondly, Caledon
Property Identification Number (PIN)	14255-0135
Property Size	4.1 ha (10.1 ac) (entire property per Town of Caledon GIS)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 590,835 m Northing: 4,839,063 m (1m, NAD83, Google Earth Pro)

Table 6-5. Site Information: Property 3

Site Details: Property 3 (No municipal address)	
Municipal Addresses	NA
Current Owner	Wayne Gordon McClure Denise Michelle McClure
Owner Address	Unknown
Owner Contact Person	Unknown
Legal Description	Part of Lot 19, Concession 4 W.H.S. – Chinguacousy - Caledon
Property Identification Number (PIN)	14255-0100
Property Size	60.9 ha (150.5 ac) (entire property per Town of Caledon GIS)

Site Details: Property 3 (No municipal address)	
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 591,057 m Northing: 4,839,492 m (1m, NAD83, Google Earth Pro)

Table 6-6. Site Information – Mississauga Road

Site Details: Mississauga Road (from Old School Road to Mayfield Road)	
Municipal Addresses	NA
Current Owner	Peel Region
Owner Address	10 Peel Centre Drive, Brampton, ON L6T 4G4
Owner Contact Person	Sogol Bandehali
Legal Description	N/A
Property Identification Number (PIN)	N/A
Property Size	N/A
Approximate Universal Transverse Mercator (UTM) coordinates	Northerly extent Zone: 17 Easting: 589422 m Northing: 4840423 m (1m, NAD83, Google Earth Pro) Southerly extent Zone: 17 Easting: 591229 m Northing: 4838634 m (1m, NAD83, Google Earth Pro)

6.4.2. Surrounding Land Use

The Site is located in a rural area with mostly agricultural and residential properties.

Two (2) institutional properties (schools) were also observed in the Study Area, on Mississauga Road, east of the Site and on Mayfield Road, south of the Site.

A research and development facility, Caledon Research and Development Center/ Corteva Agriscience, is located in the southern portion of the Study Area on the east side of Mississauga Road. The surrounding properties are shown in **Figure 2**.

6.4.3. Geological and Hydrogeological Conditions

The Site is at an elevation of approximately 260 to 275 metres above sea level (m asl) and is generally at similar elevations as the surrounding properties.

The Site is located within the South Slope physiographic region and the Till Plains (Drumlinized) physiographic landform (**Figures 3** and **4**). The surficial geology of the Site is described as Halton Till, clay to silt-textured till derived from glaciolacustrine deposits or shale and modern alluvium (**Figure 5**). The bedrock in the general area consists of shale, limestone, dolostone, and siltstone of the Queenston Formation.

A tributary of the Etobicoke Creek, which is also mapped by OMAFRA GIS as the Alloa Municipal Drain, flows through Property 2 and 3 and extends towards the northeast. An unknown drainage feature traverses the Study Area east of Mississauga Road, flowing to the south towards the Etobicoke Creek tributary. A headwater drainage feature, an intermittent tributary of Etobicoke Creek is present in the easterly portion of Property 1, east of the Phase One Study Area as shown in **Figure 2.**

Based on ORMGP mapping, groundwater is interpreted to flow to the southeast with localized variations influenced by topographic lows, drainage features, and on-site waterbodies.

Etobicoke Creek is located approximately 6 km to the east, flowing to the southeast towards Lake Ontario located approximately 30 km south of the Site. The Credit River is located approximately 4.5 km west of the Site.

Regional groundwater flow is inferred to be southeasterly, towards Lake Ontario.

Based on the review of available resources from the Ministry of Natural Resources, no Areas of Natural and Scientific Interest were identified at the Site or within the Phase One Study Area.

6.4.4. Underground Utilities

The Site utilities and services at the Site were identified based on observations of utility infrastructure in visually accessible areas during the Site reconnaissance. It is noted that the precise underground location of the utilities cannot be determined without professional locate services.

The following utilities and services were observed during Site reconnaissance:

- Overhead power lines along the east side of Mississauga Road;
- Signs for a natural gas pipeline along the west side of Mississauga Road;
- Several drilled drinking water wells in the front yards of residential properties along Mississauga Road (i.e., private drinking water supply); and,
- Fibre optic roadside enclosures on both sides of Mississauga Road (indicating the presence of buried communications cables in the Study Area).

6.4.5. Potentially Contaminating Activities (PCAs) and Areas of Potential Environmental Concern (APECs)

A list of PCAs and APECs for the Site is provided in **Table 6-7** with locations of the PCAs and APECs shown in **Figures 6** and **7**:

Table 6-7. Areas of Potential Environmental Concern

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1 a, b: Fill of unknown quality and application of de-icing salts	Mississauga Road right-of-way	#30 – Importation of Fill Material of Unknown Quality (PCA 1a) #Other – Application of De-Icing Salts (PCA 1b)	On-Site	Metals, As, Sb, Se, B-HWS, Hg, Cr(VI), CN-, PAHs, SAR, EC, Na and Cl	Soil
APEC 2 a to d: Pesticide use	Within agricultural field portions of the Site on Property 1, 2, and 3, and east and west of Mississauga Road	#40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications (PCA 2a to 2e)	On-Site	OCs, Metals, As, Sb, Se, B-HWS, Hg, Cr(VI), CN-	Soil
APEC 3: Fuel Oil UST and industrial waste generation	Mississauga Road right-of-way, adjacent to 12111 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks (PCA 3a) #Other – Registered Waste Generation (PCA 3b)	Off-Site	PHCs, BTEX, VOCs	Groundwater
APEC 4: Fuel Oil UST	Mississauga Road right-of-way, adjacent to 12134 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks (PCA 4)	Off-Site	PHCs, BTEX	Groundwater

7. Conclusions

Based on the findings and conclusions of the Phase One ESA, a Phase Two ESA/subsurface investigation is recommended to assess the soil and groundwater conditions at the Site to address the identified APECs.

7.1. Closure

This Phase One ESA was conducted in general accordance with the standards set by *Canadian Standards Association Report No. Z768-01 Phase I Environmental Site Assessment* (November 2001, reaffirmed 2022) and according to the terms of reference given in Ontario Regulation 153/04 (as amended) made under the Environmental Protection Act as well as in accordance with generally accepted professional practices. Subject to this standard of care, GEI makes no express or implied warranties regarding its services, and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in **Appendix A.**

We trust this report is sufficient for your present purposes. Should you have any questions concerning the above, or can be of any further assistance, please do not hesitate to contact GEI.

References

1. Town of Caledon. 2026. Interactive Mapping and Aerial Photography. Accessed online at: Airphoto History
2. Environmental Risk Information Services (ERIS). 2024. Custom Report – Caledon, ON. October 8, 2025.
3. Environmental Protection Act. Ontario Regulation 153/04, as amended, Records of Site Condition. 2026.
4. Ministry of Agriculture, Food and Agribusiness. 2026. Constructed Drain Interactive Mapping. Accessed online at: Constructed Drain | Ontario GeoHub
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6. Ontario Ministry of Natural Resources and Forestry. 2026. Accessed online at: Areas of Natural and Scientific Interest (ANSI) | Ontario GeoHub
7. Occupational Health and Safety Act - Ministry of Labour (MOL)
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9. Ontario Ministry of Environment, Conservation and Parks, Map: Well Records, 2018. Accessed online at: https://www.ontario.ca/environment-and-energy/map-well-records
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13. Ontario Ministry of the Environment, Conservation and Parks. 2026. Access Environment – environmental approvals and registrations. Accessed online at: Access Environment – environmental approvals and registrations | ontario.ca
14. Ontario Ministry of the Environment, Conservation and Parks. 2026. Source Protection Information Atlas. Accessed online at: Ministry of the Environment, Conservation and Parks.
15. Topographic Maps available at the Natural Resources Canada (NRC) website. Accessed online at http://atlas.gc.ca/toporama/en/

Tables

Table I. Site Environmental Setting Data

Table II. Current and Past Land Uses

Table III. Areas of Potential Environmental Concern (APECs)

TABLE I: SITE ENVIRONMENTAL SETTING DATA
West Caledon Storage Facility and Transmission Main Schedule 'C' Class EA, Caledon, Ontario

NATIVE SOIL AND BEDROCK		
Soil Type	Halton Till, clay to silt-textured till	
Hydraulic Conductivity	Unknown	
Percent Sand	Unknown	
Depth to Bedrock	Between approximately 7.6 to 18.9 m bgs	
Bedrock Type	Shale, limestone, dolostone, and siltstone of the Queenston Formation	
GROUND WATER		
Depth to Water Table	Approximately 3 m bgs (Well Record No. 4907615)	
Estimated or Measured	Estimated	
Direction of Flow	Southeast (towards Lake Ontario)	
Inferred or Measured	Inferred	
POTABLE WATER AND SEWERS		
Potable Water Source	Groundwater, water supply wells	
Municipal Water Source	Lake Ontario	
Distance to Nearest Municipal Water Well	4.3 km (Cheltenham)	
Distance to Nearest Private Water Well	On adjacent rural residential properties within the Study Area	
Sanitary Sewage System	Private	
Storm Water System	Drainage ditch	
SURFACE WATER		
Name of Nearest Water Body	Tributary Etobicoke Creek	Etobicoke Creek
Distance from Site	On-Site	6 km
Elevation Drop from Site	NA	15 m
Direct Drainage from Site	Yes	No
GEI Consultants Canada Ltd.		**2402146**

TABLE II: TABLE OF CURRENT AND PAST LAND USES OF THE SITE (Refer to clause 16(2)(b), Schedule D, O.Reg.153/04)				
PIN 14255-0289 - Property 1 - Part of Lot 22, Concession 4, West of Hurontario Street, being Parts 1 &2 43R23419, T/W RO1105320, Town of Caledon				
Year	**Name of Owner**	**Description of Property Use**	**Property Use**	**Other Observations from Aerial Photographs, Fire Insurance Plans, etc.**
Prior to 1831	The Crown	Inferred undeveloped	Agricultural or other use	Nil – pre-dates available aerial photographs, FIPs and City Directories.
1831 to 1836	Canada Company			
1836 to 1836	Matthew McPherson			
1836 to 1843	Samuel Warnock			
1843 to 1877	James McKane			
1877 to 1883	Thomas McKane			
1883 to 1893	Robert Mothensill			
1893 to 1924	Mary J. McPherson			
1924 to 1947	Joseph M. Dolson			
1947 to 1999	Thomas H. Lyons	Inferred undeveloped	Agricultural or other use	Based on review of select aerial photographs dated from 1954 to 2015, the Site was under agricultural use (Property 1) and under community use as a rural right-of-way (Mississauga Road).
1999 to 1999	Thomas H. Lyons – Estate Donald Gordon Barrett Peter Franklin Lyons			
1999 to 2001	Brian Lenstra			
2001 to 2012	Brian Lenstra			

	Marvin Lenstra			
2012 to 2018	Brian Lenstra Marvin Lenstra			
2018 to 2018	Brian Lenstra			
2018 to 2019	Brian Lenstra Marvin Lenstra			
2019 to Current	2669972 Ontario Limited	Undeveloped	Agricultural or other use	Based on review of 2025 aerial photograph, the Site remained under agricultural use (Property 1, 2, and 3) and community use (Mississauga Road). During the Site visit, the Site was observed to be under agricultural use (Property 1) with no apparent structures present and under community use as a rural right-of-way (Mississauga Road).
PIN 14255-0135 - Property 2 - Part of Lot 19, Concession 4, WHS, Chinguacousy as in RO749272, Firstly & Secondly, Caledon				
Prior to 1859	The Crown	Inferred undeveloped	Agricultural or other use	Nil – pre-dates available aerial photographs, FIPs and City Directories.
1859 to 1866	William Scott			
1866 to 1909	Joseph Mothensill			
1909 to 1923	Mary A. Lyons			
1923 to 1926	George Garbutt			
1926 to 1930	John J. Garbutt			
1930 to 1944	Mary A. Lyons			
1944 to 1969	Harry Breadner	Inferred undeveloped	Agricultural or other use	Based on review of select aerial photographs dated from 1954 to 1980, the Site was under agricultural use (Property 2) and under community use as a rural right-of-way (Mississauga Road).
1969 to 1970	Mark Malcolm Limited York Valley Construction Ltd. Lauramar Holdings Ltd.			

1970 to 1970	Rudolph Peter Bratty			
1970 to 1986	Mark Malcolm Limited (Property 2) James Squigna James Squigna (Property 3)			
1986 to Current	Rudolph Peter Bratty	Undeveloped	Agricultural or other use	Based on review of aerial photographs dated 1990, 2001, 2015 and 2025, the Site remained under agricultural use (Property 3) and community use (Mississauga Road). During the Site visit, the Site was observed to be under agricultural use (Property 2) with no apparent structures present and under community use as a rural right-of-way (Mississauga Road).
PIN 14255-0100 - Property 3 - Part of Lot 19, Concession 4 W.H.S. – Chinguacousy - Caledon				
Prior to 1847	The Crown	Inferred undeveloped	Agricultural or other use	Nil – pre-dates available aerial photographs, FIPs and City Directories.
1847 to 1860	Robert Ovens			
1860 to 1860	James Ovens			
1860 to 1885	Robert Ovens			
1885 to 1890	John A. Ovens			
1890 to 1928	Christina M. Ovens			
1928 to 1948	William J. Breadner			
1948 to 1955	Ethel H. McEwan William H. McEwan	Inferred undeveloped	Agricultural or other use	Based on review of select aerial photographs dated from 1954 to 2015, the Site was under agricultural use (Property 3) and under community use as a rural right-of-way (Mississauga Road).
1955 to 1984	Eileen H. Laidlaw Howard R. Laidlaw			

1984 to 1990	Brian Neely Bonnie Neely			
1990 to 1994	702294 Ontario Ltd. 910746 Ontario Inc.			
1994 to 1999	Wayne Gordon McClure Gordon Douglas McClure			
1999 to Current	Wayne Gordon McClure Denise Michelle McClure	Undeveloped	Agricultural or other use	During the Site visit, the Site was observed to be under agricultural use (Property 3) with no apparent structures present and under community use as a rural right-of-way (Mississauga Road).

Notes:

1. For each owner, specify one of the following types of property use (as defined in O.Reg. 153/04) that applies:
   - Agricultural or other use
   - Commercial use
   - Community use
   - Industrial use
   - Institutional use
   - Parkland use
   - Residential use
2. When submitting a Record of Site Condition for filing, a copy at this table must be attached.

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TABLE III: AREAS OF POTENTIAL ENVIRONMENTAL CONCERN (APECs)

(Refer to clause 16(2)(b), Schedule D, O.Reg.153/04)

West Caledon Storage Facility and Transmission Main Schedule 'C' Class EA, Caledon, Ontario

Area of Potential Environmental Concern (APEC)[1]	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)[2]	Location of PCA (On-Site or Off-Site)[2]	Potential Contaminants of Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1 a, b: Fill of unknown quality and application of de-icing salts	Mississauga Road right-of-way	#30 – Importation of Fill Material of Unknown Quality (PCA 1a) #Other – Application of De-Icing Salts (PCA 1b)	On-Site	Metals, As, Sb, Se, B-HWS, Hg, Cr(VI), CN-, PAHs, SAR, EC, Na and Cl	Soil
APEC 2 a to d: Pesticide use	Within agricultural field portions of the Site on Property 1, 2, and 3, and east and west of Mississauga Road	#40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications (PCA 2a to 2e)	On-Site	OCs, Metals, As, Sb, Se, B-HWS, Hg, Cr(VI), CN-	Soil
APEC 3: Fuel Oil UST and industrial waste generation	Mississauga Road right-of-way, adjacent to 12111 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks (PCA 3a) #Other – Registered Waste	Off-Site	PHCs, BTEX, VOCs	Groundwater

		Generation (PCA 3b)			
APEC 4: Fuel Oil UST	Mississauga Road right-of-way, adjacent to 12134 Mississauga Road	#28 – Gasoline and Associated Products in Fixed Tanks (PCA 4)	Off-Site	PHCs, BTEX	Groundwater
GEI Consultants Canada Ltd.					**2402146**

Figures

Figure 1. Site Location

Figure 2. Study Area Layout

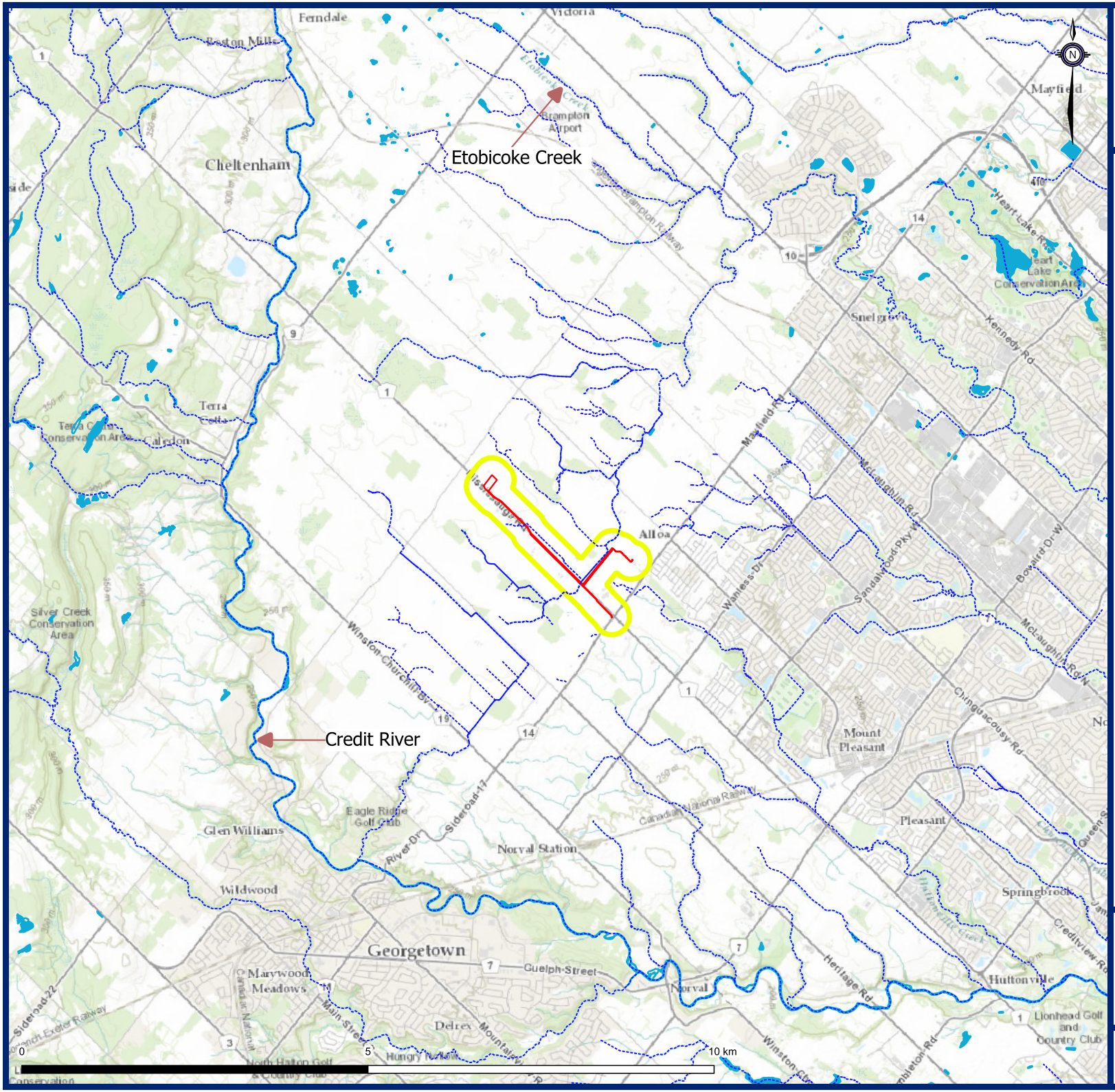
Figure 3. Physiographic Regions

Figure 4. Physiographic Landforms

Figure 5. Surficial Geology

Figure 6. Potentially Contaminating Activities (PCAs)

Figure 7. Areas of Potential Environmental Concern (APECs)



Phase One Environmental Site Assessment
Peel West Caledon Storage Facility and
Transmission Main Schedule 'C' Class EA

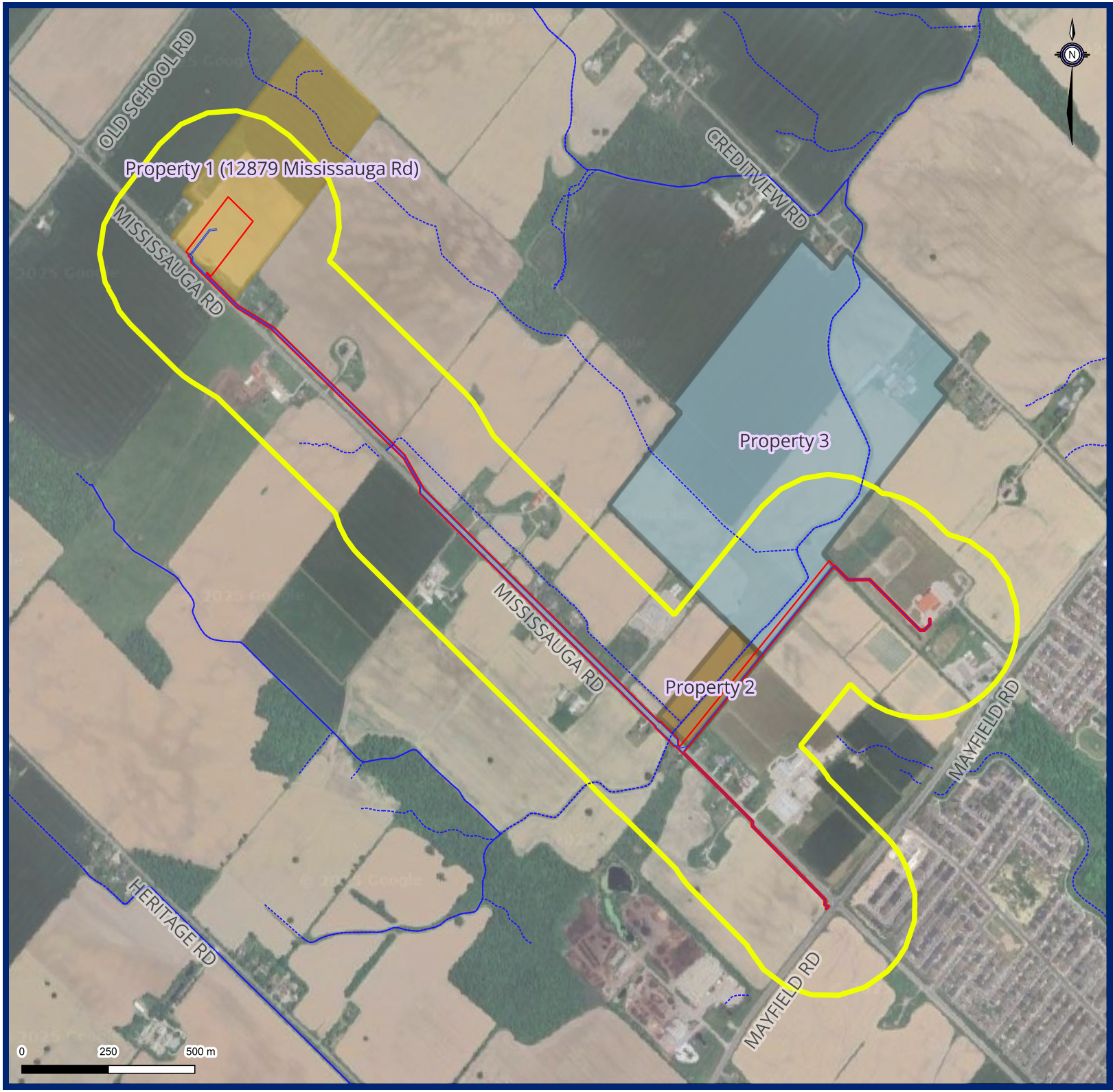
Figure 1

Site Location

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February, 2026
2402146
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Phase One Environmental Site Assessment
Peel West Caledon Storage Facility and
Transmission Main Schedule 'C' Class EA

- Site / Phase One ESA Property
- Study Area (250m)
- Property 1 (12879 Mississauga Road)
- Property 2
- Property 3
- Preferred Design Alignment
- Watercourses

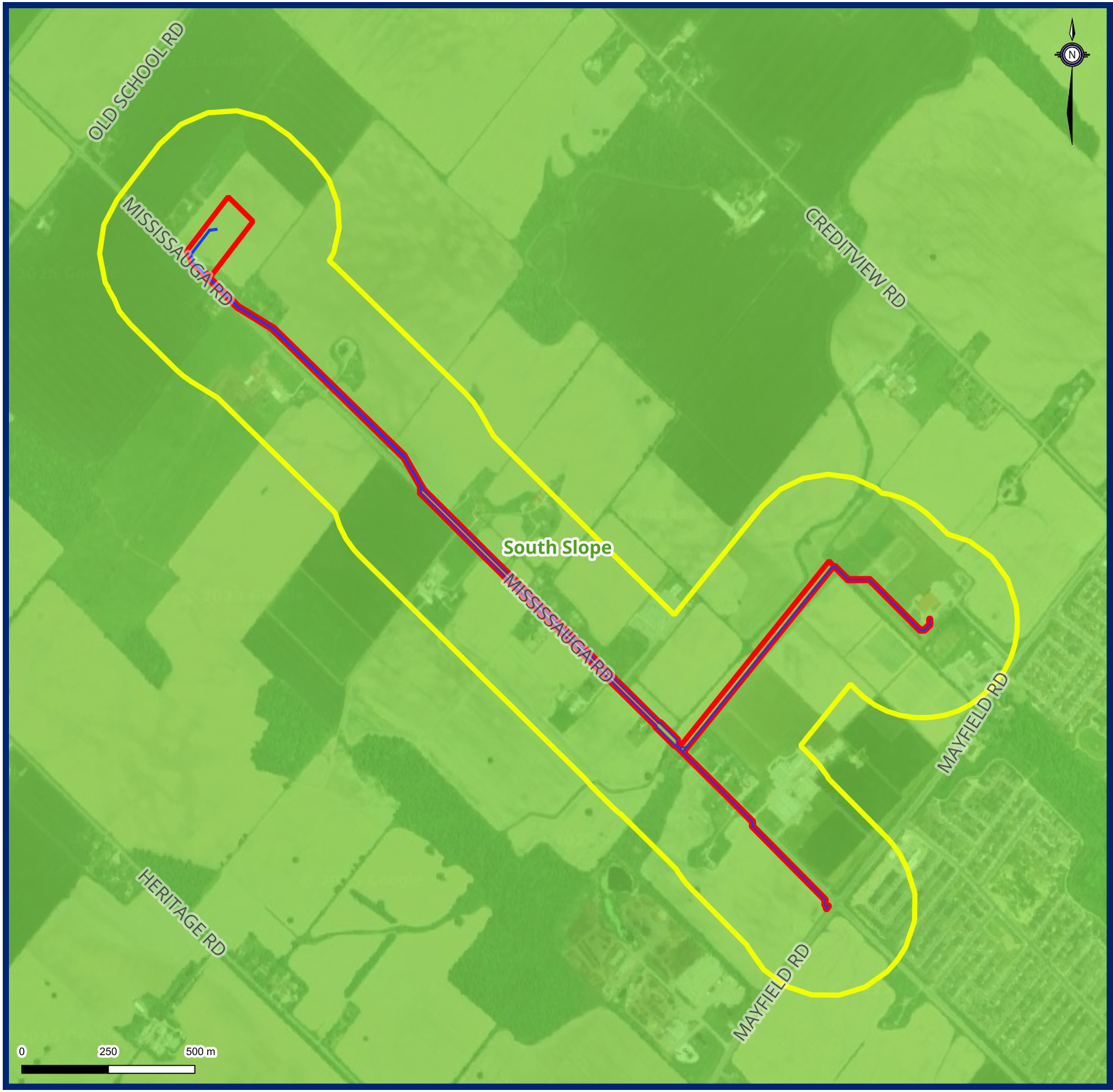
Figure 2

Study Area Layout

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Phase One Environmental Site Assessment
Peel West Caledon Storage Facility and
Transmission Main Schedule 'C' Class EA

Site / Phase One Property

Study Area (250m)

Preferred Design Alignment

Physiographic Regions

South Slope

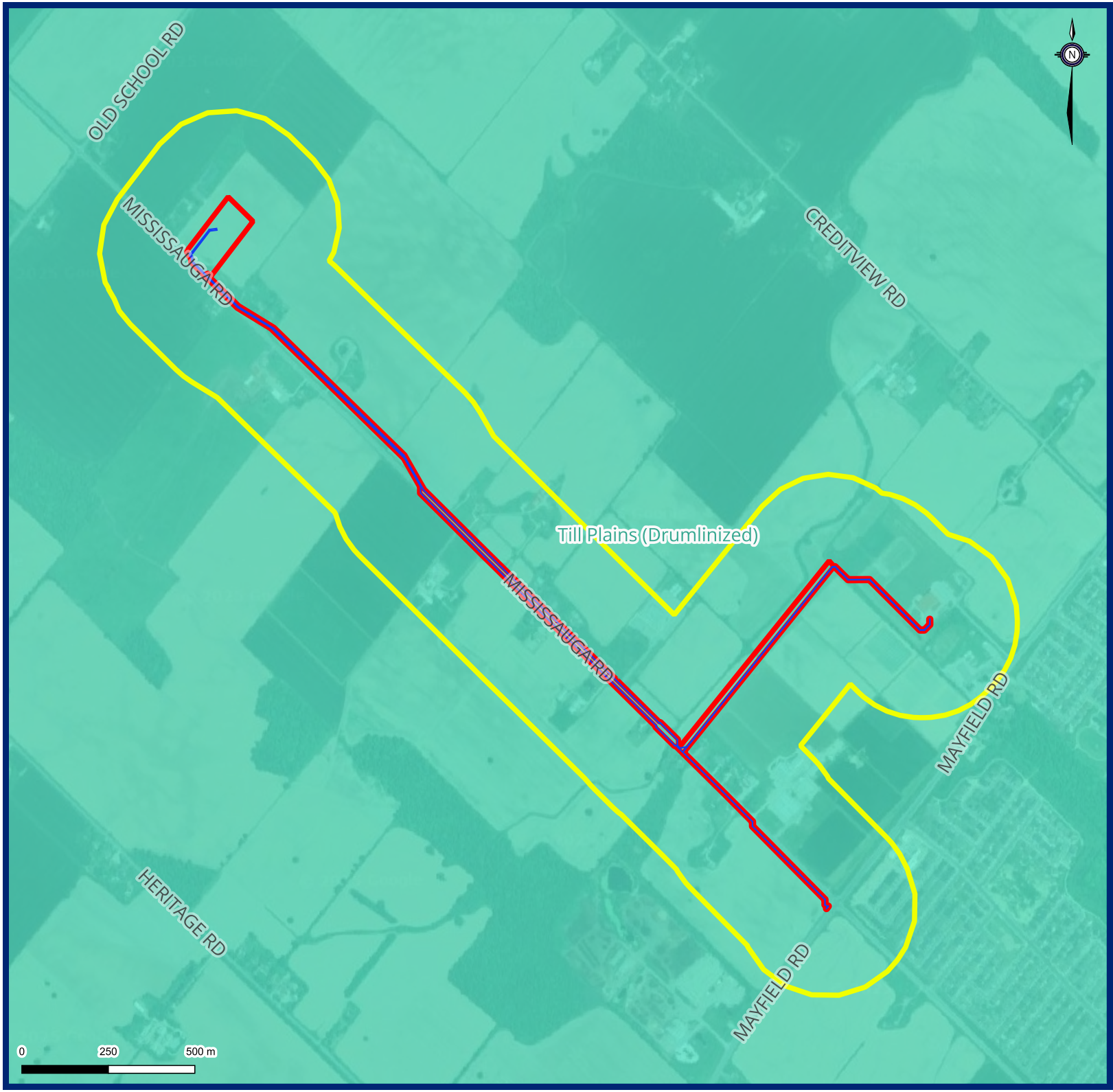
Figure 3

Physiographic Regions

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Phase One Environmental Site Assessment
Peel West Caledon Storage Facility and
Transmission Main Schedule 'C' Class EA

Site / Phase One Property

Study Area (250m)

Preferred Design Alignment

Physiography

Till Plains (Drumlinized)

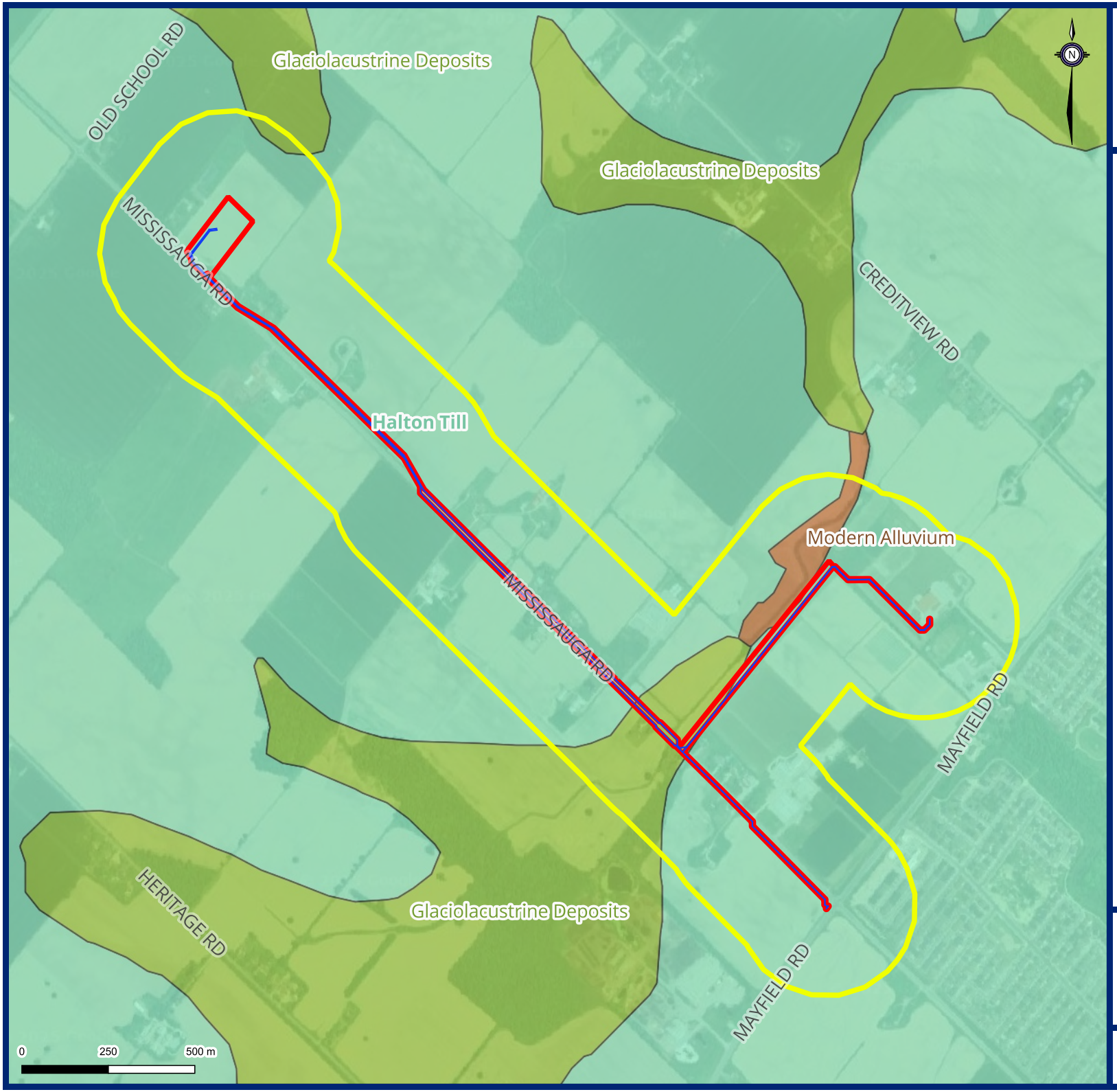
Figure 4

Physiographic Landforms

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Phase One Environmental Site Assessment
Peel West Caledon Storage Facility and
Transmission Main Schedule 'C' Class EA

Site / Phase One Property

Study Area (250m)

Preferred Design Alignment

Surficial Geology

Glaciolacustrine Deposits

Halton Till

Modern Alluvium

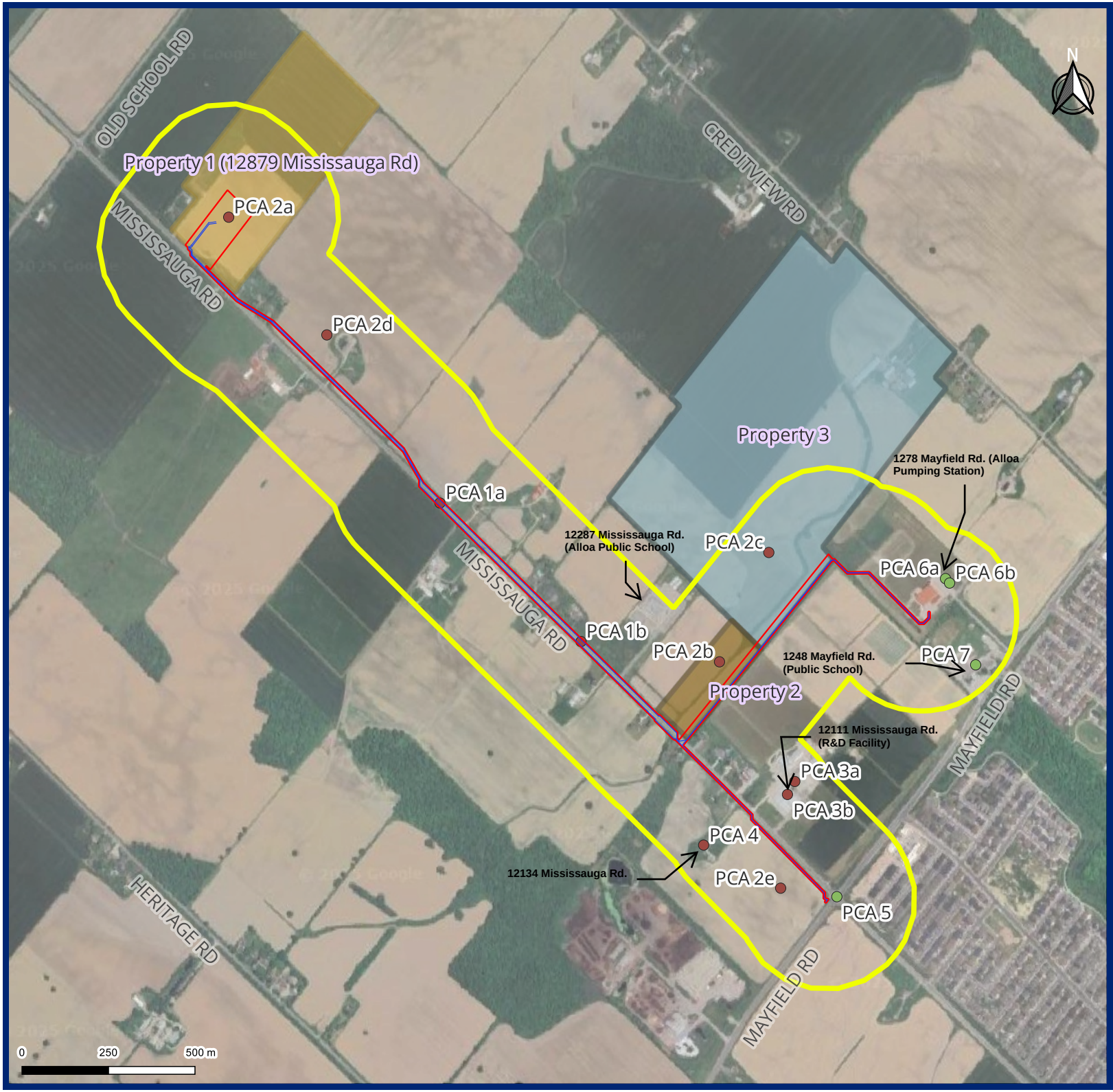
Figure 5

Surficial Geology

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Phase One Environmental Site Assessment
Peel West Caledon Storage Facility and
Transmission Main Schedule 'C' Class EA

- Site / Phase One Property
- Study Area (250m)
- Preferred Design Alignment
- Property 1 (12879 Mississauga Road)
- Property 2
- Property 3

PCAs

- PCA does not contribute to an APEC
- PCA contributes to an APEC

PCA ID	PCA
1a	#30 - Fill Material (Mississauga Rd)
1b	#Other - Application of Deicing Salt
2a	#40 - Pesticide Use
2b	#40 - Pesticide Use
2c	#40 - Pesticide Use
2d	#40 - Pesticide Use
2e	#40 - Pesticide Use
3a	#28 - Gasoline and Associated Products in Fixed Tanks
3b	#Other - Registered Waste Generation
4	#28 - Gasoline and Associated Products in Fixed Tanks
5	#Other - Historic Spill
6a	#28 - Gasoline and Associated Products in Fixed Tanks
6b	#55 - Transformer Use
7	#28 - Gasoline and Associated Products in Fixed Tanks

Figure 6

Potentially Contaminating Activities (PCAs)

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Phase One Environmental Site Assessment
Peel West Caledon Storage Facility and
Transmission Main Schedule 'C' Class EA

Site / Phase One Property

Property 1
(12879 Mississauga Road)

Property 2

Property 3

APECs

APEC 1 - Fill of Unknown Quality (PCA#30) & Application of De-icing Salt on Mississauga Rd (PCA#Other)

APEC 2 - Pesticide Use (PCA #40)

APEC 3 - Gasoline and Associated Products in Fixed Tanks (PCA #28) & Waste Generation (PCA #Other)

APEC 4 - Gasoline and Associated Products in Fixed Tanks (PCA #28)

Figure 7

Areas of Potential Environmental Concern (APECs)

GEI Consultants

January, 2026
2402146
Projection EPSG:26917

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Appendix A Limitation of Liability, Scope of Report, and Third-Party Reliance

Limitation of Liability, Scope of Report, and Third Party Reliance

This Phase One ESA was completed in general accordance with the standards set by Canadian Standards Association Report No. Z768-01 Phase I Environmental Site Assessment (November 2001, reaffirmed 2022), as well as according to the terms of reference given in Ontario Regulation 153/04 (as amended) made under the Environmental Protection Act and in accordance with generally accepted professional practices.

This report was prepared exclusively for the use of the Peel Region. The findings and conclusions, if any provided by GEI in this report, are based solely on the information reported to GEI as of the date of this report. Future investigations or additional information not provided to GEI at the time of this report may result in modification of this report. GEI's scope of work did not include verifying the completeness or accuracy of information provided by others. Accordingly, GEI shall not be liable for any damages, costs, or other consequences resulting from reliance on such information if it is later determined to be inaccurate or incomplete. GEI's professional services for this project have been performed in a manner consistent with that degree of skill and care ordinarily exercised by members of the same profession currently practicing in the same locality, performing similar services under similar conditions. GEI makes no other representations and no warranties, express or implied.

GEI's consent is required to reproduce this report in whole or in part. GEI is not responsible for any decision made or reliance by a third party makes of this report. GEI is not responsible for any damages, suffered by a third-party as result of the use of this report.

Appendix B Qualifications of Assessors

Qualifications of Assessors

Matthew Long, M. Eng., P. Eng., is a Geo-Environmental Engineer with over 17 years of experience in geo-environmental engineering investigations. Mr. Long has been involved in planning, conducting field activities, performing data analyses and preparing hydrogeological and Phased ESA reports for numerous projects to support residential and commercial/industrial development and municipal infrastructure planning and design.

Joanna Olesiuk, M. A. Sc., C. Tech., P. Geo. (Limited)., is a Senior Technical Specialist with a background in environmental science, hydrogeology, and environmental engineering application fields. Ms. Olesiuk has over 20 years of industry experience conducting field activities, data analysis and reporting for Phase One/I and Two/II ESAs for due-diligence and O. Reg. 153/04 RSC projects including site remediation, O. Reg. 406/19 excess soil management investigations, MECP Permits to Take Water, Environmental Compliance Approvals, Environmental Activity and Section Registry projects as well as wide range of hydrogeological assessments to support private sewage and water servicing, subdivision and irrigation approvals.

Mark Ongarato, B. Sc., is an Environmental Technologist with over 6 years of experience in environmental and hydrogeological investigations. Mr. Ongarato has been involved with conducting field activities, performing data analysis, and report writing for various environmental and hydrogeological investigations for residential, commercial, and industrial properties.

Appendix C Title Search Summary, Parcel Registers and Legal Plans

TABLE OF CURRENT AND PAST LAND USES OF THE SITE				
Year	**Name of Owner**	**Description of Property Use**	**Property Use**	**Other Observations from Aerial Photographs, Fire Insurance Plans, Etc.**
- PIN 14255-0289 - Site 1 - on the East Side of MISSISSAUGA ROAD – Part Lot 22, Concession 4 W.H.S. – Chinguacousy - Town of Caledon				
Prior to 1831	The Crown			
1831 to 1836	Canada Company			
1836 to 1836	Matthew McPherson			
1836 to 1843	Samuel Warnock			
1843 to 1877	James McKane			
1877 to 1883	Thomas McKane			
1883 to 1893	Robert Mothensill			
1893 to 1924	Mary J. McPherson			
1924 to 1947	Joseph M. Dolson			
1947 to 1999	Thomas H. Lyons			
1999 to 1999	Thomas H. Lyons – Estate Donald Gordon Barrett Peter Franklin Lyons			
1999 to 2001	Brian Lenstra			
2001 to 2012	Brian Lenstra, Marvin Lenstra			
2012 to 2018	Brian Lenstra, Marvin Lenstra			
2018 to 2018	Brian Lenstra			
2018 to 2019	Brian Lenstra, Marvin Lenstra			
2019 to Current	**2669972 ONTARIO LIMITED**			

I REQUIRE THIS PLAN TO BE DEPOSITED UNDER THE REGISTRY ACT

DATE: MARCH 1, 1999

B.J. STASSEN

PLAN 43R-23419

RECEIVED AND DEPOSITED

DATE: March 18, 1999

Michael Lee-Ashley

LAND REGISTRAR FOR THE REGISTRY DIVISION OF PEEL (NO. 43)

METRIC

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

SCHEDULE

PART	LOT	CONCESSION	PIN	INSTRUMENT	AREA
1	PART OF 22	4 WHS	PART OF 14255-0075	CH20468 (REMAINDER)	19.456 ha.
2			ALL OF 14255-0115	RO1105320	0.405 ha.
3					0.09 m^2
4			PART OF 14255-0075	CH20468 (REMAINDER)	98.1 m^2
5					13.6 m^2
6					0.580 ha.

PARTS 1, 4, 5 AND 6 COMPRISE ALL OF PIN 14255-0075

PLAN OF SURVEY OF

PART OF THE WEST HALF OF LOT 22 CONCESSION 4 WEST OF HURONTARIO STREET

IN THE GEOGRAPHIC TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL, NOW IN THE

TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

B.J. STASSEN, O.L.S.

SCALE 1:1250

0 25 50 75 100 125m

NOTES AND LEGEND

BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE NORTHEASTERLY LIMIT OF MISSISSAUGA ROAD AS WIDENED BY BY-LAW 5-70 (INST. VS152913) HAVING A BEARING OF N44°29'10"W.

■	denotes	FOUND MONUMENT
□	denotes	PLANTED MONUMENT
SIB	denotes	STANDARD IRON BAR
IB	denotes	IRON BAR
RIB	denotes	ROUND IRON BAR
WIT	denotes	WITNESS
WHS	denotes	WEST OF HURONTARIO STREET
N,S,E,W	denotes	NORTH, SOUTH, EAST, WEST
P&W	denotes	POST AND WIRE FENCE
MF	denotes	METAL FENCE
BGL	denotes	BELOW GROUND LEVEL
P1	denotes	PLAN 43R-4268
D1	denotes	INST. RO935139
D2	denotes	INST. VS152913
D3	denotes	INST. RO494277

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGISTRY ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON FEBRUARY 26, 1999.

DATE MARCH 1, 1999

B.J. STASSEN
Ontario Land Surveyor

B.J. Stassen Limited
ONTARIO LAND SURVEYOR
89 Mill Street North
Brampton, Ontario
L6X 1T5
telephone (905) 459-7814

19001

23419

SCHEDULE					
PART	LOT	CONCESSION	PIN	NAME OF MOST RECENT TRANSFEREE	AREA
1	PART OF 22	4 WEST OF HURONTARIO STREET	PART OF 14255-0289(LT)	2669972 ONTARIO LIMITED	20014 S.q.m.

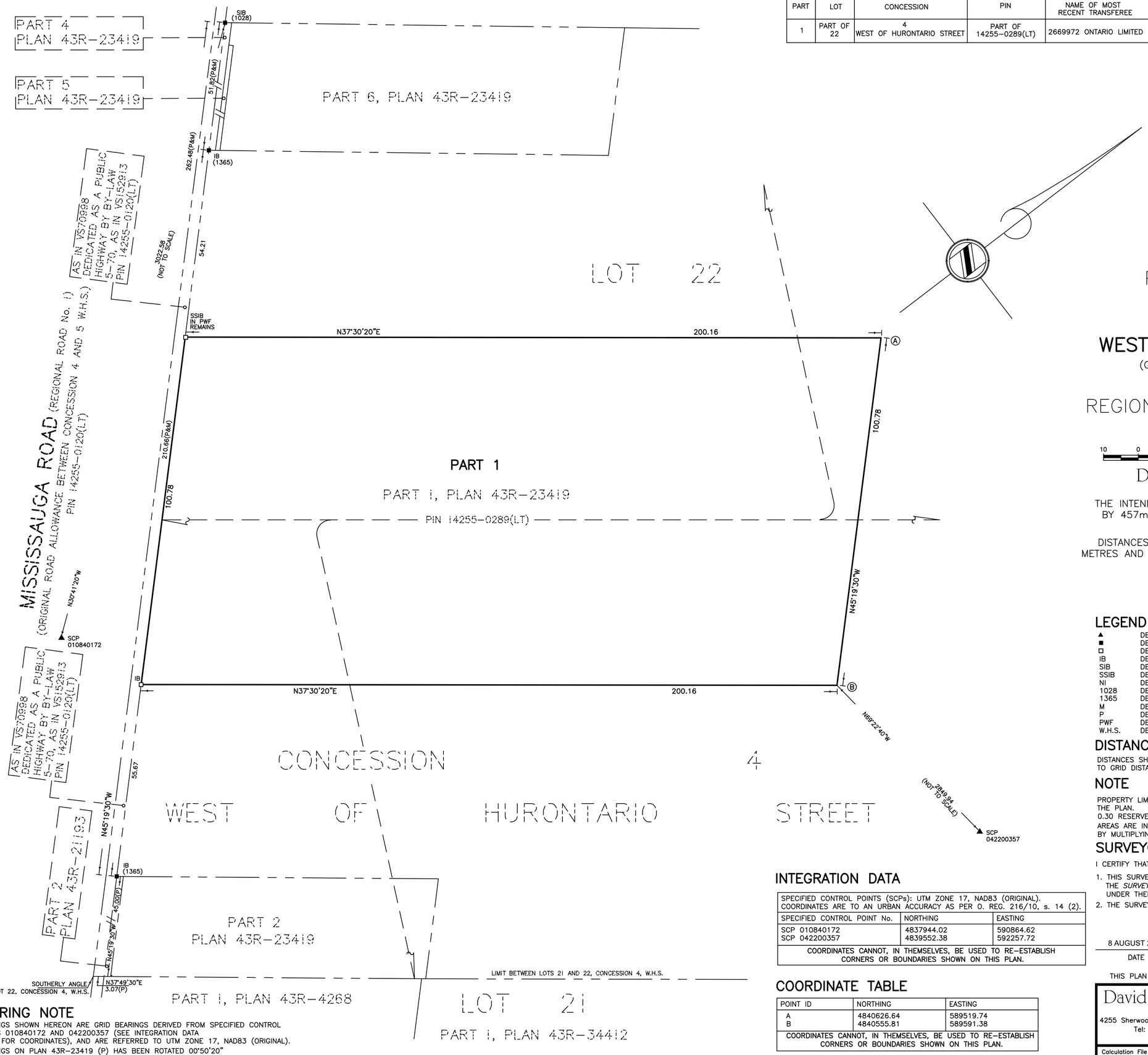
PLAN 43R-41603

Received and deposited

September 5th, 2024

Camille Ortega

Representative for the Land Registrar for the Land Titles Division of Peel (No.43)



PLAN OF SURVEY OF
PART OF LOT 22
CONCESSION 4
WEST OF HURONTARIO STREET

(GEOGRAPHIC TOWNSHIP OF CHINGUACOUSY)

TOWN OF CALEDON

REGIONAL MUNICIPALITY OF PEEL

SCALE 1: 750

10 0 10 20 30 45 60 75 metres

David B. Searles Surveying Ltd.
ONTARIO LAND SURVEYORS

THE INTENDED PLOT SIZE OF THIS PLAN IS 610mm IN WIDTH BY 457mm IN HEIGHT WHEN PLOTTED AT SCALE OF 1:750

METRIC

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

LEGEND

▲	DENOTES	SPECIFIED CONTROL POINT
■	DENOTES	MONUMENT FOUND
□	DENOTES	MONUMENT SET
IB	DENOTES	IRON BAR
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
NI	DENOTES	NOT IDENTIFIABLE
1028	DENOTES	REGINALD RAYMOND SCOTT. O.L.S.
1365	DENOTES	B.J. STASSEN LIMITED., O.L.S.
M	DENOTES	MEASURED
P	DENOTES	PLAN 43R-23419
PWF	DENOTES	POST AND WIRE FENCE
W.H.S.	DENOTES	WEST OF HURONTARIO STREET

DISTANCE NOTE

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999668.

NOTE

PROPERTY LIMITS ARE NOT FENCED UNLESS OTHERWISE NOTED ON THE FACE OF THE PLAN.
0.30 RESERVE HAS BEEN EXAGGERATED FOR PLOTTING PURPOSES.
AREAS ARE IN SQUARE METERS AND CAN BE CONVERTED TO SQUARE FEET BY MULTIPLYING BY 10.764

SURVEYOR'S CERTIFICATE

I CERTIFY THAT :

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE *SURVEYS ACT*, THE *SURVEYORS ACT*, AND THE *LAND TITLES ACT* AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 7th DAY OF JUNE, 2024.

8 AUGUST 2024
DATE

BONEY CHERIAN
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V-78209

BEARING NOTE

BEARINGS SHOWN HEREON ARE GRID BEARINGS DERIVED FROM SPECIFIED CONTROL POINTS 010840172 AND 042200357 (SEE INTEGRATION DATA TABLE FOR COORDINATES), AND ARE REFERRED TO UTM ZONE 17, NAD83 (ORIGINAL).
BEARINGS ON PLAN 43R-23419 (P) HAS BEEN ROTATED 00°50'20" COUNTERCLOCKWISE TO MAKE COMPARISONS.

INTEGRATION DATA

SPECIFIED CONTROL POINTS (SCPs): UTM ZONE 17, NAD83 (ORIGINAL). COORDINATES ARE TO AN URBAN ACCURACY AS PER O. REG. 216/10, s. 14 (2).		
SPECIFIED CONTROL POINT No.	NORTHING	EASTING
SCP 010840172	4837944.02	590864.62
SCP 042200357	4839552.38	592257.72
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.		

COORDINATE TABLE

POINT ID	NORTHING	EASTING
A	4840626.64	589519.74
B	4840555.81	589591.38
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.		

David B. Searles Surveying Ltd.
ONTARIO LAND SURVEYORS
4255 Sherwoodtowne Blvd., Suite 206, Mississauga, Ontario L4Z 1Y5
Tel: (905) 273-6840 Fax: (905) 896-4410
Email: info@dbsearles.ca

Calculator	Draftsperson
BJ	RM
Editor	**Plan Index No.**
BJ	G 21
Calculation File	**Drawing File**
32-24CALC.DWG	32-0-24.DWG
File No.	
32-0-24	

Ontario ServiceOntario

PARCEL REGISTER (ABBREVIATED) FOR PROPERTY IDENTIFIER

LAND REGISTRY OFFICE #43

14255-0289 (LT)

PREPARED FOR
ON 2025/11/04 AT 15:08:32

* CERTIFIED IN ACCORDANCE WITH THE LAND TITLES ACT * SUBJECT TO RESERVATIONS IN CROWN GRANT *

PROPERTY DESCRIPTION: PT LT 22 CONCESSION 4 WEST OF HURONTARIO ST BEING PTS 1 & 2 43R23419; T/W RO1105320; TOWN OF CALEDON

PROPERTY REMARKS:

ESTATE/QUALIFIER:
FEE SIMPLE
LT CONVERSION QUALIFIED

RECENTLY:
CONSOLIDATION FROM 14255-0261, 14255-0264

PIN CREATION DATE:
2018/05/30

OWNERS' NAMES
2669972 ONTARIO LIMITED

CAPACITY SHARE

REG. NUM.	DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO	CERT/ CHKD
** PRINTOUT INCLUDES ALL DOCUMENT TYPES AND DELETED INSTRUMENTS SINCE 2018/05/30 **						
**SUBJECT, ON FIRST REGISTRATION UNDER THE LAND TITLES ACT, TO:						
** SUBSECTION 44(1) OF THE LAND TITLES ACT, EXCEPT PARAGRAPH 11, PARAGRAPH 14, PROVINCIAL SUCCESSION DUTIES *						
** AND ESCHEATS OR FORFEITURE TO THE CROWN.						
** THE RIGHTS OF ANY PERSON WHO WOULD, BUT FOR THE LAND TITLES ACT, BE ENTITLED TO THE LAND OR ANY PART OF						
** IT THROUGH LENGTH OF ADVERSE POSSESSION, PRESCRIPTION, MISDESCRIPTION OR BOUNDARIES SETTLED BY						
** CONVENTION.						
** ANY LEASE TO WHICH THE SUBSECTION 70(2) OF THE REGISTRY ACT APPLIES.						
**DATE OF CONVERSION TO LAND TITLES: 1999/03/26 **						
43R21193	1995/09/12	PLAN REFERENCE				C
43R23419	1999/03/18	PLAN REFERENCE				C
PR3321417	2018/05/10	TRANSFER		*** DELETED AGAINST THIS PROPERTY *** LENSTRA, BRIAN	LENSTRA, BRIAN LENSTRA, MARVIN	
PR3321418	2018/05/10	APL CONSOLIDATE		LENSTRA, BRIAN LENSTRA, MARVIN		C
PR3448243	2019/02/20	TRANSFER	$15,300,000	LENSTRA, BRIAN LENSTRA, MARVIN	2669972 ONTARIO LIMITED	C
REMARKS: PLANNING ACT STATEMENTS.						
PR3448244	2019/02/20	CHARGE		*** COMPLETELY DELETED *** 2669972 ONTARIO LIMITED	LENSTRA, BRIAN LENSTRA, MARVIN	
PR3948790	2021/11/22	DISCH OF CHARGE		*** COMPLETELY DELETED ***		

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.

REG. NUM.	DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO	CERT/ CHKD
				LENSTRA, BRIAN LENSTRA, MARVIN		
	REMARKS: PR3448244.					
PR4373735	2024/09/04	APL DEPOSIT PLAN		*** COMPLETELY DELETED ***		
43R41603	2024/09/05	PLAN REFERENCE				C
	REMARKS: PR4373735.					
PR4514720	2025/10/03	CERTIFICATE		THE REGIONAL MUNICIPALITY OF PEEL		

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.

TABLE OF CURRENT AND PAST LAND USES OF THE SITE				
Year	**Name of Owner**	**Description of Property Use**	**Property Use**	**Other Observations from Aerial Photographs, Fire Insurance Plans, Etc.**
- PIN 14255-0135 - SITE 10 - on the East Side of MISSISSAUGA ROAD – Part Lot 19, Concession 4 W.H.S. – Chinguacousy - Town of Caledon				
Prior to 1859	The Crown			
1859 to 1866	William Scott			
1866 to 1909	Joseph Mothensill			
1909 to 1923	Mary A. Lyons			
1923 to 1926	George Garbutt			
1926 to 1930	John J. Garbutt			
1930 to 1944	Mary A. Lyons			
1944 to 1969	Harry Breadner			
1969 to 1970	Mark Malcolm Limited York Valley Construction Ltd. Lauramar Holdings Ltd.			
1970 to 1970	Rudolph Peter Bratty			
1970 to 1986	Mark Malcolm Limited			
1986 to Current	**RUDOLPH PETER BRATTY**			

Ontario ServiceOntario

PARCEL REGISTER (ABBREVIATED) FOR PROPERTY IDENTIFIER

LAND REGISTRY OFFICE #43

14255-0135 (LT)

PAGE 1 OF 1
PREPARED FOR
ON 2025/11/06 AT 13:36:52

* CERTIFIED IN ACCORDANCE WITH THE LAND TITLES ACT * SUBJECT TO RESERVATIONS IN CROWN GRANT *

PROPERTY DESCRIPTION: PT LT 19 CON 4 WHS CHINGUACOUSY AS IN RO749272 FIRSTLY & RO749273 SECONDLY ; CALEDON

PROPERTY REMARKS:

ESTATE/QUALIFIER:
FEE SIMPLE
LT CONVERSION QUALIFIED

RECENTLY:
RE-ENTRY FROM 14255-0259

PIN CREATION DATE:
1999/03/25

OWNERS' NAMES
BRATTY, RUDOLPH PETER

CAPACITY SHARE
BENO

REG. NUM.	DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO	CERT/ CHKD
EFFECTIVE 2000/07/29 THE NOTATION OF THE "BLOCK IMPLEMENTATION DATE" OF 1997/08/26 ON THIS PIN						
WAS REPLACED WITH THE "PIN CREATION DATE" OF 1999/03/25						
** PRINTOUT INCLUDES ALL DOCUMENT TYPES AND DELETED INSTRUMENTS SINCE 1999/03/25 **						
**SUBJECT, ON FIRST REGISTRATION UNDER THE LAND TITLES ACT, TO:						
** SUBSECTION 44(1) OF THE LAND TITLES ACT, EXCEPT PARAGRAPH 11, PARAGRAPH 14, PROVINCIAL SUCCESSION DUTIES *						
** AND ESCHEATS OR FORFEITURE TO THE CROWN.						
** THE RIGHTS OF ANY PERSON WHO WOULD, BUT FOR THE LAND TITLES ACT, BE ENTITLED TO THE LAND OR ANY PART OF						
** IT THROUGH LENGTH OF ADVERSE POSSESSION, PRESCRIPTION, MISDESCRIPTION OR BOUNDARIES SETTLED BY						
** CONVENTION.						
** ANY LEASE TO WHICH THE SUBSECTION 70(2) OF THE REGISTRY ACT APPLIES.						
**DATE OF CONVERSION TO LAND TITLES: 1999/03/26 **						
RO749272	1986/04/17	QUIT CLAIM TRNSFR			BRATTY, RUDOLPH PETER	C
RO749273	1986/04/17	QUIT CLAIM TRNSFR			BRATTY, RUDOLPH PETER	C
PR4440226	2025/03/11	APL DEPOSIT PLAN		*** COMPLETELY DELETED ***		
43R41869	2025/03/12	PLAN REFERENCE				C
REMARKS: PR4440226.						
PR4508855	2025/09/22	CERTIFICATE		THE REGIONAL MUNICIPALITY OF PEEL		C

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.

PLAN OF SURVEY OF
PART OF LOT 19
CONCESSION 4
WEST OF HURONTARIO STREET

(GEOGRAPHIC TOWNSHIP OF CHINGUACOUSY)

TOWN OF CALEDON

REGIONAL MUNICIPALITY OF PEEL

SCALE 1: 1250

25 0 25 50 75 100 125 metres

David B. Searles Surveying Ltd.
ONTARIO LAND SURVEYORS

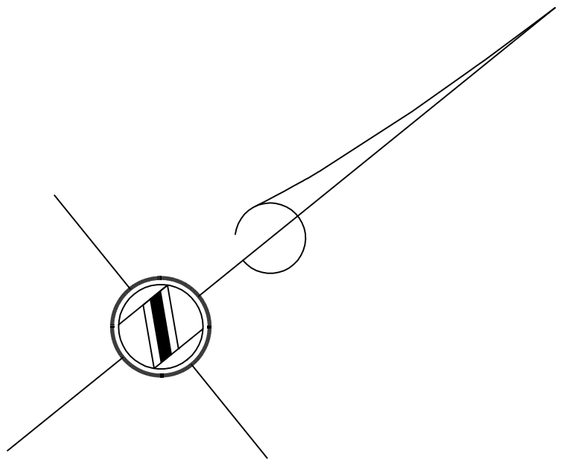
THE INTENDED PLOT SIZE OF THIS PLAN IS 457mm IN WIDTH BY 610mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1:1250

METRIC

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

SCHEDULE					
PART	LOT	CONCESSION	PIN	AREA(sq. m.)	NAME OF THE MOST RECENT TRANSFEREE
1	PART OF 19	4, WEST OF HURONTARIO STREET	PART OF 14255–0135(LT)	6709	BRATTY, RUDOLPH PETER

AREAS SUBJECT TO CHANGE UPON COMPLETION OF FINAL SURVEY.



SIB(NI) N39°05'15"E 336.24(P1&M) SIB(NI)

366.99(P1) 367.05(M)

122.33(P1&SET) 122.36(P)

PART 3 PLAN 43R–35983

122.39(M) 122.33(P1)

PART 1 PLAN 43R–35983

PART 1, EXPROPRIATION PLAN PR2213713

PART 2 PLAN 43R–35983

SSIB (923) N39°05'15"E 336.21(P1&M)

N45°24'35"W N45°23'25"W(P)

122.36(P&M)

MISSISSAUGA ROAD
(ROAD ALLOWANCE BETWEEN CONCESSIONS 4 AND 5, WEST OF HURONTARIO STREET)
PIN 14255–0120(LT)

PART 1 PLAN 43R–17493 PIN 14255–0100(LT)

LOT 19

CONCESSION 4

WEST OF HURONTARIO STREET

244.66(P1&M) 224.57

PIN 14255–0135(LT)

N45°25'10"W(P1&M)

N45°22'50"W(M) N45°20'55"W(P)

IB(NI) IN PWF

122.26(M) 122.33(P)

102.13

SSIB PWF 0.10E

N44°55'05"W (P&M)

SSIB N39°03'00"E 74.67 N38°59'00"E 141.00 N39°07'50"E 119.51

20.09 20.00 20.00 20.00 20.13

PB ANC BB NO FENCE SIB(NI) (WIT) PWF 0.53SE LIMIT BETWEEN LOTS 18 & 19 CONCESSION 4 WEST OF HURONTARIO STREET PWF IB(NI) (WIT) IN PWF SIB(NI) PWF 0.10N IB(1184) IN PWF

N39°03'00"E 76.62 (P2&SET) N38°59'00"E(M) N39°02'00"E(P2) 141.00(P2&M) N39°07'50"E(M) N39°03'50"E(P2) 117.40(P2&M) N38°38'25"E 113.98(P,P2&M)

SOUTHERLY ANGLE LOT 19, CONCESSION 4 WEST OF HURONTARIO STREET

PART 1 PLAN 43R–6798 PIN 14255–0090(LT)

PART 1

LOT 18, CONCESSION 4

PART 1, PLAN 43R–11914

PIN 14255–0293(LT)

WEST OF HURONTARIO STREET

WIDENING BY BY–LAW 5–70 AS IN VS152913

2025.26(N.T.S.)

N77°49'55"E 1225.75 (N.T.S.)

SCP 042200357

NOTE

PROPERTY LIMITS ARE NOT FENCED UNLESS OTHERWISE NOTED ON THE FACE OF THE PLAN.

AREAS ARE IN SQUARE METERS AND CAN BE CONVERTED TO SQUARE FEET BY MULTIPLYING BY 10.764.

BEARING NOTE

BEARINGS SHOWN HEREON ARE GRID BEARINGS DERIVED FROM SPECIFIED CONTROL POINTS 042910097, AND 042200357 (SEE INTEGRATION DATA TABLE FOR COORDINATES), AND ARE REFERRED TO UTM ZONE 17, NAD83 (ORIGINAL).

BEARINGS ON PLAN 43R–17493 (P) HAVE BEEN ROTATED 00°48'35" COUNTERCLOCKWISE TO MAKE COMPARISONS.

BEARINGS ON PLAN 43R–11914B (P3) HAVE BEEN ROTATED 00°51'50" COUNTERCLOCKWISE TO MAKE COMPARISONS.

N45°07'20"W

SCP 042910097

INTEGRATION DATA

SPECIFIED CONTROL POINTS (SCPs): UTM ZONE 17, NAD83 (ORIGINAL). COORDINATES ARE TO AN URBAN ACCURACY AS PER O. REG. 216/10, s. 14 (2).		
SPECIFIED CONTROL POINT No.	NORTHING	EASTING
SCP 042910097	4837605.49	592283.56
SCP 042200357	4839552.38	592257.72
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE–ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.		

LEGEND

▲	DENOTES	SPECIFIED CONTROL POINT
■	DENOTES	MONUMENT FOUND
□	DENOTES	MONUMENT SET
IB	DENOTES	IRON BAR
PB	DENOTES	PLASTIC BAR
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
NI	DENOTES	NOT IDENTIFIABLE
N.T.S.	DENOTES	NOT TO SCALE
WIT	DENOTES	WITNESS
923	DENOTES	TARASICK Mc MILLAN KUBICKI LIMITED, O.L.S.
1184	DENOTES	E. BIASON, O.L.S.
M	DENOTES	MEASURED
P	DENOTES	PLAN 43R–17493
P1	DENOTES	PLAN 43R–35983
P2	DENOTES	PLAN 43R–11914
ANC	DENOTES	ANCHOR
BB	DENOTES	BELL BOX
PWF	DENOTES	POST AND WIRE FENCE

DISTANCE NOTE

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999625.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT :

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE *SURVEYS ACT*, THE *SURVEYORS ACT*, AND THE *LAND TITLES ACT* AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 20th DAY OF DECEMBER, 2024.

PRELIMINARY

DATE

BONEY CHERIAN
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V–

David B. Searles Surveying Ltd.
ONTARIO LAND SURVEYORS
4255 Sherwoodtowne Blvd., Suite 206, Mississauga, Ontario L4Z 1Y5
Tel: (905) 273–6840 Fax: (905) 896–4410
Email: info@dbsearles.ca

Calculator	Draftsperson
BJ	IV/PG
Editor	Plan Index No.
BJ	G 21
Calculation File	Drawing File
53–24CALC.DWG	53–0–24.DWG
File No.	
53–0–24	

TABLE OF CURRENT AND PAST LAND USES OF THE SITE				
Year	**Name of Owner**	**Description of Property Use**	**Property Use**	**Other Observations from Aerial Photographs, Fire Insurance Plans, Etc.**
- PIN 14255-0100 - SITE 11 ADDENDUM - on East Side of MISSISSAUGA RD – Part Lot 19, Concession 4 W.H.S. – Chinguacousy - Caledon				
Prior to 1847	The Crown			
1847 to 1860	Robert Ovens			
1860 to 1860	James Ovens			
1860 to 1885	Robert Ovens			
1885 to 1890	John A. Ovens			
1890 to 1928	Christina M. Ovens			
1928 to 1948	William J. Breadner			
1948 to 1955	Ethel H. McEwan William H. McEwan			
1955 to 1984	Eileen H. Laidlaw Howard R. Laidlaw			
1984 to 1990	Brian Neely Bonnie Neely			
1990 to 1994	702294 Ontario Ltd. 910746 Ontario Inc.			
1994 to 1999	Wayne Gordon, McClure Gordon Douglas, McClure			
1999 to Current	**WAYNE GORDON MCCLURE, DENISE MICHELLE MCCLURE**			

PLAN OF SURVEY OF
PART OF LOT 19
CONCESSION 4
WEST OF HURONTARIO STREET

(GEOGRAPHIC TOWNSHIP OF CHINGUACOUSY)

TOWN OF CALEDON

REGIONAL MUNICIPALITY OF PEEL

SCALE 1: 1250

25 0 25 50 75 100 125 metres

David B. Searles Surveying Ltd.
ONTARIO LAND SURVEYORS

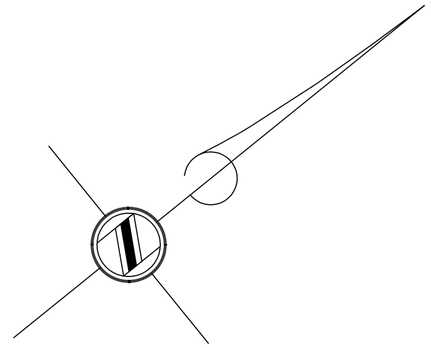
THE INTENDED PLOT SIZE OF THIS PLAN IS 610mm IN WIDTH
BY 457mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1:1250

METRIC

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN
METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

SCHEDULE					
PART	LOT	CONCESSION	PIN	AREA(sq. m.)	NAME OF THE MOST RECENT TRANSFEREE
1	PART OF 19	4, WEST OF HURONTARIO STREET	PART OF 14255–0100(LT)	6716	MCCLURE, WAYNE GORDON MCCLURE, DENISE MICHELLE

AREAS SUBJECT TO CHANGE UPON COMPLETION OF FINAL SURVEY.



LEGEND

▲	DENOTES	SPECIFIED CONTROL POINT
■	DENOTES	MONUMENT FOUND
□	DENOTES	MONUMENT SET
IB	DENOTES	IRON BAR
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
NI	DENOTES	NOT IDENTIFIABLE
N.T.S.	DENOTES	NOT TO SCALE
WIT	DENOTES	WITNESS
1184	DENOTES	E. BIASON, O.L.S.
1254	DENOTES	CLIPSHAM LIMITED, O.L.S.
1493	DENOTES	YOUNG & YOUNG SURVEYING, INC. O.L.S.
M	DENOTES	MEASURED
P	DENOTES	PLAN 43R–17493
P1	DENOTES	PLAN 43R–35983
P2	DENOTES	EXPROPRIATION PLAN PR1808650
PWF	DENOTES	POST AND WIRE FENCE

INTEGRATION DATA

SPECIFIED CONTROL POINTS (SCPs): UTM ZONE 17, NAD83 (ORIGINAL).
COORDINATES ARE TO AN URBAN ACCURACY AS PER O. REG. 216/10, s. 14 (2).

SPECIFIED CONTROL POINT No.	NORTHING	EASTING
SCP 042910097	4837605.49	592283.56
SCP 042200357	4839552.38	592257.72

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE–ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

BEARING NOTE

BEARINGS SHOWN HEREON ARE GRID BEARINGS DERIVED FROM SPECIFIED CONTROL POINTS 042910097, AND 042200357 (SEE INTEGRATION DATA TABLE FOR COORDINATES), AND ARE REFERRED TO UTM ZONE 17, NAD83 (ORIGINAL).

BEARINGS ON PLAN 43R–17493 (P) HAVE BEEN ROTATED 00°48'35" COUNTERCLOCKWISE TO MAKE COMPARISONS.

BEARINGS ON EXPROPRIATION PLAN PR1808650 (P2) HAVE BEEN ROTATED 00°49'55" COUNTERCLOCKWISE TO MAKE COMPARISONS.

DISTANCE NOTE

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999625.

NOTE

PROPERTY LIMITS ARE NOT FENCED UNLESS OTHERWISE NOTED ON THE FACE OF THE PLAN.

AREAS ARE IN SQUARE METERS AND CAN BE CONVERTED TO SQUARE FEET BY MULTIPLYING BY 10.764.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT :

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE *SURVEYS ACT*, THE *SURVEYORS ACT*, AND THE *LAND TITLES ACT* AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 20th DAY OF DECEMBER, 2024.

PRELIMINARY

DATE

BONEY CHERIAN
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V–

David B. Searles Surveying Ltd.
ONTARIO LAND SURVEYORS
4255 Sherwoodtowne Blvd., Suite 206, Mississauga, Ontario L4Z 1Y5
Tel: (905) 273–6840 Fax: (905) 896–4410
Email: info@dbsearles.ca

Calculator	Draftsperson
BJ	IV/PG
Editor	**Plan Index No.**
BJ	G 21

Calculation File	Drawing File	File No.
53–24CALC.DWG	53–1–24.DWG	**53–1–24**

Appendix D City Directory Summary

ERIS

CITY DIRECTORY

Project Property:	*Phase I ESA* *n/a* *Caledon,ON*
Project No:	
Requested By:	*GEI Consultants Canada Ltd.*
Order No:	*25090400333*
Date Completed:	*October 14, 2025*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

October 14, 2025
RE: CITY DIRECTORY RESEARCH
n/a
Caledon,ON

Thank you for contacting ERIS regarding our City Directory Search services. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. When searching a range of addresses, all civic addresses within that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on highly developed areas, while newly developed areas may be covered in the more recent years, older directories tend to cover only "central" parts of the city. To complete the search, we have either utilized the Toronto Reference Library, Library & Archives Canada and multiple digitized directories. While these do not claim to be a complete collection of all reverse listing city directories produced, ERIS has made every effort to provide accurate and complete information. ERIS shall not be held liable for missing, incomplete, or inaccurate information. If you believe there are additional addresses or streets that require searching, please contact us.

Search Criteria:

ALL of Donald Ficht Crescent

705-1475 of Mayfield Road

11720-12880 of Mississauga Road

Search Notes:

Mississauga Road is also known as 11720-12880 S Mississauga Road in Caledon.

Search Results Summary

Data from 2012 to 2017 does not include residential information

Date	Source	Comment
2024	DIGITAL BUSINESS DIRECTORY	
2021	DIGITAL BUSINESS DIRECTORY	
2017	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2008	COLE	
2001	POLKS	
1996	MIGHTS	
1991	MIGHTS	
1985	MIGHTS	
1981	MIGHTS	
1975	MIGHTS	
1970-71	MIGHTS	
1966	MIGHTS	
1958	MIGHTS	

2024 DONALD FICHT CRESCENT

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2024 MAYFIELD ROAD

SOURCE: DIGITAL BUSINESS DIRECTORY

816 **G B STONE**...*LANDSCAPE SUPPLIES*
816 **GRO-BARK LTD**...*GARDEN SUPPLIES*

2024 MISSISSAUGA ROAD

SOURCE: DIGITAL BUSINESS DIRECTORY

12111 **CORTEVA AGRISCIENCE**...*SEEDS & BULBS*
12134 **MANNONE R**...*RESIDENTIAL*
12153 **TROCHANOWSKI J**...*RESIDENTIAL*
12198 **NOWAK B**...*RESIDENTIAL*
12287 **ALLOA PUBLIC SCHOOL**...*SCHOOLS*
12392 **MCCRACKEN A S**...*RESIDENTIAL*
12466 **FRAZER WILLIAM**...*RESIDENTIAL*
12746 **BOTELHO H**...*RESIDENTIAL*

2021 DONALD FICHT CRESCENT

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2021 MAYFIELD ROAD

SOURCE: DIGITAL BUSINESS DIRECTORY

816 **G B STONE**...*LANDSCAPING EQUIPMENT & SUPPLIES*
816 **GRO-BARK LTD**...*GARDEN CENTERS*
816 **GRO-BARK LTD**...*LANDSCAPING EQUIPMENT & SUPPLIES*

2021 MISSISSAUGA ROAD

SOURCE: DIGITAL BUSINESS DIRECTORY

12111 **CORTEVA AGRISCIENCE**...*FEDERAL GOVERNMENT CONTRACTORS*
12111 **PIONEER HI-BRED PRODUCTION CO**...*FEDERAL GOVERNMENT CONTRACTORS*
12134 **R MANNONE**...*RESIDENTIAL*
12153 **J TROCHANOWSKI**...*RESIDENTIAL*
12198 **B NOWAK**...*RESIDENTIAL*
12287 **ALLOA PUBLIC SCHOOL**...*SCHOOLS*
12391 **ALOJZ VIDACKOVIC**...*RESIDENTIAL*
12392 **A S MCCRACKEN**...*RESIDENTIAL*
12405 **C PETERS**...*RESIDENTIAL*
12466 **WILLIAM FRAZER**...*RESIDENTIAL*
12493 **T LOSTRITTO**...*RESIDENTIAL*
12746 **H BOTELHO**...*RESIDENTIAL*
12777 **WAYNE BURDEN**...*RESIDENTIAL*

2017 DONALD FICHT CRESCENT

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2017 MAYFIELD ROAD

SOURCE: DIGITAL BUSINESS DIRECTORY

816 **GRO-BARK LTD**...*NURSERY, GARDEN, & FARM SUPPLY STORES*
1248 **ALLOA PUBLIC SCHOOL**...*ELEMENTARY & SECONDARY SCHOOLS*
1248 **ALLOA SCHOOL**...*ELEMENTARY & SECONDARY SCHOOLS*

2017 MISSISSAUGA ROAD

SOURCE: DIGITAL BUSINESS DIRECTORY

12111 **PIONEER HI-BRED PRODUCTION LTD**...*UNCLASSIFIED*

2012 DONALD FICHT CRESCENT

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND

2012 MAYFIELD ROAD

SOURCE: DIGITAL BUSINESS DIRECTORY

816 **GRO-BARK LTD**...*NURSERY, GARDEN, & FARM SUPPLY STORES*
1248 **ALLOA SCHOOL**...*ELEMENTARY & SECONDARY SCHOOLS*

2012 MISSISSAUGA ROAD

SOURCE: DIGITAL BUSINESS DIRECTORY

12111 **PIONEER HI-BRED PRODUCTION LTD**...*UNCLASSIFIED*

2008 DONALD FICHT CRESCENT

SOURCE: COLE

STREET NOT LISTED

2008 MAYFIELD ROAD

SOURCE: COLE

816 **DAVID WOODS**
816 **GROBARK ONTARIO LTD**
1248 **PEEL DISTRICT SCHOOL BOARD**

2008 MISSISSAUGA ROAD

SOURCE: COLE

11790	MALLTON INDUSTRIES
12111	PIONEER HIBRED PRODUCTION LTD
12150	PAUL ODONNELL
12165	JAMES SCOTT
12191	THOMAS SCOTT
12198	BOGDAN NOWAK
12210	C PABE
12216	ERIC BEARDMORE
12230	GILBERT BEARDMORE
12353	NP
12378	GEORGE FRAZER
12391	P MAHADEO
12405	DAVID TAIT
12441	GABRIELA ILLE
12466	BRIAN J WARK
12466	WM FRAZER
12493	A LOSTRITTO
12493	T LOSRITTO
12515	NP
12679	KEN MILLER
12686	WILLIAM J NUTTALL
12696	R J BERKOWSKI
12746	H BOTEHO
12761	TROY LEYBURNE
12777	WAYNE BURDEN
12806	BASDEO PERSAUD
12812	A LOPEZ

2001 DONALD FICHT CRESCENT

SOURCE: POLKS

STREET NOT LISTED

2001 MAYFIELD ROAD

SOURCE: POLKS

709	CRAWFORD LLOYD H
767	SMITH M
767	SMITH PETER B
781	CULL O
816	TOWNSEND ENTERPRISES LTD
1209	VAN TENT G W J
1209	VAN TENT JOHN W G
1235	MYSLIVEC L
1248	PEEL DISTRICT SCHOOL BOARD
1255	HUL C Y
1285	BAUER R H
1333	SUPERSKI J

2001 MISSISSAUGA ROAD

SOURCE: POLKS

11719	WARD D
11722	MALTON INDUSTRIES
12111	PIONEER HI-BRED PRODUCTION LIMITED
12134	CONFORLI ENRICO
12139	JAPP D
12150	ODONNELL PAUL
12165	SCOTT JAMES
12191	SCOTT THOMAS
12198	NOWAK BOGDAN
12210	AASMAN JOHN
12266	BEARDMORE ERIC
12300	BOARDMORE GILBERT
12353	CAREY MALCOLM J
12378	FRAZER GEORGE
12392	MC CRACKEN A S
12405	TAIT DAVID
12441	LOSRITLO A
12466	FRAZER WM
12468	CHURCHILL W
12493	LOSRITTO A
12493	LOSRITTO T
12515	MC PHERSON D
12679	EG ENTERPRISES
12686	NUTTAL WILLIAM J
12696	BERRY T S
12746	BOTELHO H
12746	BOTELHO N & R
12767	ROY DENNIS
12797	CLATTENBURG D
12806	PERSAUD BASDEO
12812	ARCHIBALD J

1996 DONALD FICHT CRESCENT

SOURCE: MIGHTS

STREET NOT LISTED

1996 MAYFIELD ROAD

SOURCE: MIGHTS

709	**CRAWFORD LLOYD H**
767	**SMITH PETER B**
781	**CULL O**
1209	**VAN TENL G W J**
1235	**VAN TENL JOHN**
1235	**W G**
1255	**HUI C Y**
1285	**MC KEOWN B G**
1333	**STIPERSKI I**
1577	**GRIX M**

1996 MISSISSAUGA ROAD

SOURCE: MIGHTS

12134	CONFORTI ENRICO
12139	WILLIAMSON C
12150	ODONNELL PAUL
12165	SCOTT JAMES
12191	SCOTT THOMAS
12198	TRIBBLE RALPH G
12210	AASMAN JOHN
12266	BEARDMORE ERIC
12300	BEARDMORE GILBERT
12353	CAREY MALCOLM
12378	FRAZER GEORGE
12392	MC CRACKEN A
12392	MC CRACKEN S
12405	TAIT DAVID
12441	LOSTRITTO A
12441	LOSTRITTO M
12466	FRAZER WM
12468	CHURCHILL W
12493	LOSTRITTO T
12679	SQUIBB DEAN
12686	NUTTALL WILLIAM J
12696	BERRY MARTIN P
12696	BERRY T S
12746	DOLSON CLAIR
12746	DOLSON DONALD B
12761	ROY DENNIS
12761	WILKINSON P
12797	BONI G
12806	HOUSTON WILLIAM
12812	SMITH W

1991 DONALD FICHT CRESCENT

SOURCE: MIGHTS

STREET NOT LISTED

1991 MAYFIELD ROAD

SOURCE: MIGHTS

1235 **BAILEY D**
1235 **BAILEY K**
1255 **WRIGHT RON**

1991 MISSISSAUGA ROAD

SOURCE: MIGHTS

RANGE NOT LISTED

1985 DONALD FICHT CRESCENT

SOURCE: MIGHTS

STREET NOT LISTED

1985 MAYFIELD ROAD

SOURCE: MIGHTS

STREET NOT LISTED

1985 MISSISSAUGA ROAD

SOURCE: MIGHTS

RANGE NOT LISTED

1981 DONALD FICHT CRESCENT

SOURCE: MIGHTS

STREET NOT LISTED

1981 MAYFIELD ROAD

SOURCE: MIGHTS

STREET NOT LISTED

1981 MISSISSAUGA ROAD

SOURCE: MIGHTS

RANGE NOT LISTED

1975 DONALD FICHT CRESCENT

SOURCE: MIGHTS

STREET NOT LISTED

1975 MAYFIELD ROAD

SOURCE: MIGHTS

STREET NOT LISTED

1975 MISSISSAUGA ROAD

SOURCE: MIGHTS

RANGE NOT LISTED

1970-71 DONALD FICHT CRESCENT

SOURCE: MIGHTS

STREET NOT LISTED

1970-71 MAYFIELD ROAD

SOURCE: MIGHTS

STREET NOT LISTED

1970-71 MISSISSAUGA ROAD

SOURCE: MIGHTS

RANGE NOT LISTED

1966 DONALD FICHT CRESCENT

SOURCE: MIGHTS

STREET NOT LISTED

1966 MAYFIELD ROAD

SOURCE: MIGHTS

STREET NOT LISTED

1966 MISSISSAUGA ROAD

SOURCE: MIGHTS

RANGE NOT LISTED

1958 DONALD FICHT CRESCENT

SOURCE: MIGHTS

STREET NOT LISTED

1958 MAYFIELD ROAD

SOURCE: MIGHTS

STREET NOT LISTED

1958 MISSISSAUGA ROAD

SOURCE: MIGHTS

RANGE NOT LISTED

Appendix E ERIS Report

DATABASE REPORT

Project Property:	*Phase I ESA* *n/a* *Caledon ON*
Project No:	
Report Type:	*Quote - Custom-Build Your Own Report*
Order No:	*25090400333*
Requested by:	*GEI Consultants Canada Ltd.*
Date Completed:	*October 8, 2025*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property:	*Phase I ESA* *n/a Caledon ON*
Project No:	

Order Information:

Order No:	*25090400333*
Date Requested:	*September 4, 2025*
Requested by:	*GEI Consultants Canada Ltd.*
Report Type:	*Quote - Custom-Build Your Own Report*

Historical/Products:

City Directory Search	*Smart CD Search*
ERIS Xplorer	*ERIS Xplorer*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Boundary to 0.25km	Total
AAGR	Abandoned Aggregate Inventory	Y	0	0	0
AGR	Aggregate Inventory	Y	0	0	0
AMIS	Abandoned Mine Information System	Y	0	0	0
ANDR	Anderson's Waste Disposal Sites	Y	0	0	0
AST	Aboveground Storage Tanks	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BORE	Borehole	Y	0	0	0
CA	Certificates of Approval	Y	0	4	4
CDRY	Dry Cleaning Facilities	Y	0	0	0
CFOT	Commercial Fuel Oil Tanks	Y	0	3	3
CHEM	Chemical Manufacturers and Distributors	Y	0	0	0
CHM	Chemical Register	Y	0	0	0
CNG	Compressed Natural Gas Stations	Y	0	0	0
COAL	Inventory of Coal Gasification Plants and Coal Tar Sites	Y	0	0	0
CONV	Compliance and Convictions	Y	0	0	0
CPU	Certificates of Property Use	Y	0	0	0
DRL	Drill Hole Database	Y	0	0	0
DTNK	Delisted Fuel Tanks	Y	0	0	0
EASR	Environmental Activity and Sector Registry	Y	0	1	1
EBR	Environmental Registry	Y	0	1	1
ECA	Environmental Compliance Approval	Y	0	6	6
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	6	6
EIIS	Environmental Issues Inventory System	Y	0	0	0
EMHE	Emergency Management Historical Event	Y	0	0	0
EPAR	Environmental Penalty Annual Report	Y	0	0	0
EXP	List of Expired Fuels Safety Facilities	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FOFT	Fisheries & Oceans Fuel Tanks	Y	0	0	0
FRST	Federal Identification Registry for Storage Tank Systems (FIRSTS)	Y	0	0	0
FST	Fuel Storage Tank	Y	0	0	0
FSTH	Fuel Storage Tank - Historic	Y	0	0	0
GEN	Ontario Regulation 347 Waste Generators Summary	Y	0	25	25
GHG	Greenhouse Gas Emissions from Large Facilities	Y	0	0	0
HINC	TSSA Historic Incidents	Y	0	0	0

Database	Name	Searched	Project Property	Boundary to 0.25km	Total
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
INC	Fuel Oil Spills and Leaks	Y	0	0	0
LIMO	Landfill Inventory Management Ontario	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MNR	Mineral Occurrences	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
NCPL	Non-Compliance Reports	Y	0	3	3
NDFT	National Defense & Canadian Forces Fuel Tanks	Y	0	0	0
NDSP	National Defense & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEBI	National Energy Board Pipeline Incidents	Y	0	0	0
NEBP	National Energy Board Wells	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	0	0
NPR2	National Pollutant Release Inventory	Y	0	0	0
NPRI	National Pollutant Release Inventory - Historic	Y	0	0	0
OGWE	Oil and Gas Wells	Y	0	0	0
OOGW	Ontario Oil and Gas Wells	Y	0	0	0
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
ORD	Orders	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PFAS	Ontario PFAS Spills	Y	0	0	0
PFCH	NPRI Reporters - PFAS Substances	Y	0	0	0
PFHA	Potential PFAS Handlers from NPRI	Y	0	0	0
PINC	Pipeline Incidents	Y	0	1	1
PPHA	Potential PFAS Handlers from EASR	Y	0	0	0
PRT	Private and Retail Fuel Storage Tanks	Y	0	0	0
PTTW	Permit to Take Water	Y	0	0	0
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0
RSC	Record of Site Condition	Y	0	2	2
RST	Retail Fuel Storage Tanks	Y	0	0	0
SCT	Scott's Manufacturing Directory	Y	0	0	0
SPL	Ontario Spills	Y	2	2	4
SRDS	Wastewater Discharger Registration Database	Y	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0
VAR	Variances for Abandonment of Underground Storage Tanks	Y	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0

Database	Name	Searched	Project Property	Boundary to 0.25km	Total
WDSH	***Waste Disposal Sites - MOE 1991 Historical Approval Inventory***	*Y*	*0*	*0*	*0*
WWIS	***Water Well Information System***	*Y*	*0*	*74*	*74*
		Total:	*2*	*128*	*130*

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
72	SPL		Mississauga Rd & Mayfield Rd. Caledon ON	SE/0.3	-2.08	36
73	SPL		Mississauga Rd & Mississauga Crst, Mississauga CALEDON;BRAMPTON ON	SE/0.3	-2.08	37

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
1	WWIS		lot 20 con 4 ON ***Well ID:*** 4905319	SW/37.1	-1.38	37
2	WWIS		lot 8 con 5 ON ***Well ID:*** 4908822	SSW/8.3	-1.84	41
3	WWIS		lot 19 con 4 ON ***Well ID:*** 4906804	SSE/53.6	-2.06	46
4	WWIS		lot 20 con 4 ON ***Well ID:*** 4905400	W/3.4	-1.03	50
5	WWIS		lot 20 con 3 ON ***Well ID:*** 4908378	SSE/24.4	-2.33	53
6	WWIS		12392 MISSISSAUGA ROAD lot 19 con 5 Caledon ON ***Well ID:*** 7248961	SW/33.4	0.17	56
7	WWIS		lot 20 con 4 ON ***Well ID:*** 4905340	WNW/40.5	-0.69	58
8	WWIS		lot 20 con 4 ON ***Well ID:*** 4901930	WNW/115.8	0.31	61
9	WWIS		lot 18 con 5 ON ***Well ID:*** 4906807	S/34.7	-0.08	64
10	WWIS		12493 MISSISSAUGA RD lot 20 con 4 Caledon ON ***Well ID:*** 7190848	WNW/90.9	-0.14	68
11	EHS		12300 Mississauga Rd Caledon ON L7C 1W1	SW/95.2	1.92	70
12	WWIS		lot 20 con 4 ON	WNW/2.1	-0.11	70

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
			Well ID: 4906781			
12	WWIS		lot 20 con 4 ON ***Well ID:*** 4906782	WNW/2.1	-0.11	75
13	EASR	WESTWAY ELECTRICAL CONTRACTORS INC	12287 Mississauga RD Mississauga ON L7C 1X1	ESE/196.0	-1.78	79
13	ECA	Peel District School Board	12287 Mississauga Rd Caledon ON L5R 1C6	ESE/196.0	-1.78	80
13	ECA	Peel District School Board	12287 Mississauga Rd Caledon ON L7C 1W1	ESE/196.0	-1.78	80
13	NCPL	Peel District School Board - Alloa Public School	12287 Mississauga Rd Caledon ON	ESE/196.0	-1.78	80
14	WWIS		lot 19 con 5 ON ***Well ID:*** 4906895	SSE/2.6	-3.21	81
15	WWIS		lot 19 con 4 ON ***Well ID:*** 4907615	WNW/6.3	0.02	85
16	WWIS		lot 18 con 4 Caledon ON ***Well ID:*** 7206084	SE/58.2	-2.97	88
17	WWIS		lot 19 con 4 ON ***Well ID:*** 7206088	SE/58.9	-2.97	90
17	WWIS		MISSISSAUGA RD & N OF MAYFIELD RD lot 19 con 4 Caledon ON ***Well ID:*** 7247332	SE/58.9	-2.97	99
18	WWIS		12392 MISSISSAUGA RD lot 19 con 5 CALEDON ON ***Well ID:*** 4910346	SSW/194.3	4.02	101
19	WWIS		lot 19 con 5 ON ***Well ID:*** 4906959	SSE/72.2	-2.33	105
20	WWIS		lot 18 con 4 ON	SE/17.3	-6.08	109

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
			Well ID: 4908610			
21	WWIS		lot 19 con 5 ON ***Well ID:*** 4904139	SE/19.2	-5.54	112
22	PINC	ENBRIDGE GAS INC	12191 MISSISSAUGA RD,,CALEDON,ON, L7C 1X1,CA ON	SE/34.8	-5.07	116
23	WWIS		lot 18 con 4 ON ***Well ID:*** 4908608	SE/9.5	-4.63	116
24	WWIS		lot 18 con 5 ON ***Well ID:*** 4902029	SSE/78.8	-4.10	119
25	WWIS		lot 18 con 4 ON ***Well ID:*** 4908607	SE/115.9	-2.01	121
26	WWIS		lot 18 con 5 ON ***Well ID:*** 4902028	SE/73.9	-3.41	126
27	WWIS		lot 18 con 4 ON ***Well ID:*** 4908612	SE/64.9	-2.16	129
28	WWIS		lot 18 con 4 ON ***Well ID:*** 4906275	SE/62.6	-1.12	132
29	WWIS		ON ***Well ID:*** 7420147	WNW/4.5	2.02	135
30	WWIS		12696 Mississauga Road lot 21 con 5 Caledon ON ***Well ID:*** 7405004	WNW/25.1	2.92	136
31	WWIS		12139 MISSISSAUGA ROAD lot 18 con 4 Caledon ON ***Well ID:*** 7340648	SE/57.3	-0.08	138
32	WWIS		lot 18 con 4 ON ***Well ID:*** 4907661	SE/141.0	-0.32	145
33	WWIS		12696 Mississauga Rd lot 21 con 5 Brampton ON	WNW/20.8	2.92	150

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
			Well ID: 7380023			
34	WWIS		ON ***Well ID:*** 7213631	SE/140.5	-0.08	158
35	WWIS		lot 18 con 4 ON ***Well ID:*** 4907660	SE/91.4	-0.08	158
36	WWIS		lot 18 con 4 ON ***Well ID:*** 4908315	SE/4.2	-0.13	164
37	WWIS		lot 18 con 4 ON ***Well ID:*** 4906277	SE/36.2	0.21	167
38	WWIS		lot 18 con 5 ON ***Well ID:*** 4905436	SE/43.9	0.65	171
39	WWIS		lot 22 con 5 ON ***Well ID:*** 4908664	WNW/168.6	2.92	175
40	WWIS		lot 18 con 4 ON ***Well ID:*** 4908606	SE/69.8	0.66	179
41	WWIS		12686 MISSISSAUGA RD lot 21 con 5 Caledon ON ***Well ID:*** 7202206	WNW/17.1	2.92	183
42	WWIS		lot 18 con 4 ON ***Well ID:*** 4908609	SE/165.2	-0.08	186
43	WWIS		ON ***Well ID:*** 7213632	SE/50.6	0.92	189
44	CA	ALLELIX CROP TECHNOLOGIES	R.R. #4, 12111 MISSISSAUGA RD. HALTON HILLS TOWN ON	SE/46.0	0.92	190
44	CA	PIONEER HI-BRED PRODUCTION LTD.	12111 MISSISSAUGA ROAD HALTON HILLS TOWN ON	SE/46.0	0.92	190
44	CFOT	PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA RD CALEDON ON	SE/46.0	0.92	190

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
44	CFOT	PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA RD CALEDON ON	SE/46.0	0.92	191
44	EBR	Pioneer Hi-Bred Production Ltd.	12111 Mississauga Road Caledon Regional Municipality of Peel L7C 1X1 TOWN OF CALEDON ON	SE/46.0	0.92	191
44	ECA	Pioneer Hi-Bred Production Company	12111 Mississauga Rd Caledon ON N0G 2W0	SE/46.0	0.92	191
44	GEN	ALLELIX CORP. TECHNOLOGIES	12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD C/O 6850 GOREWAY DR. CALEDON ON L7G 4S7	SE/46.0	0.92	192
44	GEN	ALLELIX CORP. TECHNOLOGIES	12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7	SE/46.0	0.92	193
44	GEN	ALLELIX CORP (SEE & USE ON0141101)	12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7	SE/46.0	0.92	193
44	GEN	ALLELIX CORP (SEE & USE ON0141101)02-152	12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7	SE/46.0	0.92	194
44	GEN	PIONEER HI-BRED PRODUCTION LTD.	12111 MISSISSAUGA ROAD CALEDON ON N7M 4S7	SE/46.0	0.92	194
44	GEN	PIONEER HI-BRED PRODUCTION LTD.	12111 MISSISSAUGA RD, RR 4 CALEDON ON N7M 5L1	SE/46.0	0.92	195
44	GEN	PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON	SE/46.0	0.92	196
44	GEN	PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON	SE/46.0	0.92	198
44	GEN	PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON	SE/46.0	0.92	199

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
44	GEN	PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON N7M 4S7	SE/46.0	0.92	201
44	GEN	PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON	SE/46.0	0.92	202
44	GEN	PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	SE/46.0	0.92	203
44	GEN	PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	SE/46.0	0.92	205
44	GEN	PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	SE/46.0	0.92	206
44	GEN	PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	SE/46.0	0.92	208
44	GEN	PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	SE/46.0	0.92	209
44	GEN	PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	SE/46.0	0.92	211
44	GEN	corteva agriscience	12111 MISSISSAUGA ROAD CALEDON ON	SE/46.0	0.92	213
44	SPL	DuPont Canada Inc.	12111 Mississauga Rd Caledon ON L7C 1X1	SE/46.0	0.92	222
45	WWIS		1211 MISSISSAUGA ROAD CALEDON ON ***Well ID:*** 7268115	SE/15.7	0.92	222
46	WWIS		12686 MISSISSAUGA RD lot 21 con 5 Caledon ON ***Well ID:*** 7202205	WNW/37.5	3.99	224
47	WWIS		lot 21 con 5 ON ***Well ID:*** 4902032	WNW/56.3	3.92	227

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
48	WWIS		lot 18 con 4 ON **Well ID:** 4906269	ESE/218.7	-0.91	229
49	WWIS		lot 21 con 4 ON **Well ID:** 4905205	WNW/52.9	2.92	233
49	WWIS		lot 21 con 4 ON **Well ID:** 4905206	WNW/52.9	2.92	238
50	EHS		12679 Mississauga Road Caledon ON L7C 1X2	WNW/11.3	2.92	241
51	EHS		Mayfield Rd Caledon ON	E/146.6	-5.86	242
52	CFOT	ENRICO & CATERINA CONFORTI	12134 MISSISSAUGA RD RR 4 GEORGETOWN ON	SSE/167.5	1.92	242
52	EHS		12134 Mississauga Road Caledon ON L7C 1W1	SSE/167.5	1.92	242
52	SPL	PRIVATE RESIDENCE	12134 MISSISSAUGA ROAD FURNACE OIL TANK BRAMPTON CITY ON	SSE/167.5	1.92	242
53	WWIS		lot 18 con 4 ON **Well ID:** 4906270	SE/119.2	-0.08	243
54	WWIS		. 12100 Creditview Rd lot 18 con 4 ON **Well ID:** 7415538	E/213.0	-6.08	247
55	WWIS		lot 18 con 4 ON **Well ID:** 4908611	SE/6.9	0.92	251
56	WWIS		12761 MISSISSAUGA ROAD lot 21 con 4 Caledon ON **Well ID:** 7144809	WNW/3.3	4.01	254
57	WWIS		MISSISSAUGA RD AND MAYFIELD RD BRAMPTON ON **Well ID:** 7217246	SE/15.2	0.92	263

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
58	WWIS		12761 MISSISSAUGA ROAD lot 21 con 4 ON **Well ID:** 7147073	WNW/24.9	3.92	266
59	WWIS		12761 MISSISSAUGA lot 21 con 4 ON **Well ID:** 7147077	WNW/34.9	3.92	270
60	WWIS		lot 21 con 4 ON **Well ID:** 4906993	NW/189.6	4.42	273
61	WWIS		ON **Well ID:** 7410966	E/127.5	-3.08	277
62	WWIS		ON **Well ID:** 7203004	SE/38.8	-0.08	277
63	WWIS		lot 21 con 5 ON **Well ID:** 4902031	WNW/57.9	5.92	278
64	WWIS		lot 22 con 5 ON **Well ID:** 4903723	WNW/66.3	5.92	281
65	WWIS		lot 18 con 4 ON **Well ID:** 4905047	ESE/167.5	-2.08	284
66	WWIS		1248 MAYFIELD lot 18 con 4 Caledon ON **Well ID:** 7314273	E/96.5	-2.82	287
67	WWIS		. 12100 Creditview Rd lot 18 con 4 ON **Well ID:** 7415540	E/147.4	-3.08	289
68	WWIS		lot 22 con 5 ON **Well ID:** 4903637	WNW/59.1	5.92	292
69	GEN	Peel District School Board	1248 Mayfield Road Caledon ON L7C 0Y7	ESE/166.0	-2.36	296
70	WWIS		lot 18 con 4 ON **Well ID:** 4901924	ESE/195.3	-2.08	296

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
70	WWIS		lot 18 con 4 ON ***Well ID:*** 4901925	ESE/195.3	-2.08	298
71	CA	Peel District School Board	1248 Mayfield Rd W Caledon ON	E/147.7	-3.08	301
71	CA	Peel District School Board	1248 Mayfield Road West Caledon ON	E/147.7	-3.08	301
71	ECA	Peel District School Board	1248 Mayfield Rd W Caledon ON L5C 2T9	E/147.7	-3.08	302
71	ECA	Peel District School Board	1248 Mayfield Road West Caledon ON L5C 2T9	E/147.7	-3.08	302
71	ECA	Peel District School Board	1248 Mayfield Rd W Caledon ON L5C 2T9	E/147.7	-3.08	302
71	GEN	PEEL BOARD OF EDUCATION	ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD. WEST BRAMPTON ON L6V 1A1	E/147.7	-3.08	303
71	GEN	PEEL BOARD OF EDUCATION 30-283	ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD. WEST BRAMPTON ON L6V 1A1	E/147.7	-3.08	303
71	GEN	PEEL DISTRICT SCHOOL BOARD	ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD. WEST BRAMPTON ON L6V 1A1	E/147.7	-3.08	304
71	GEN	PEEL DISTRICT SCHOOL BOARD	ALLOA PUBLIC SCHOOL 1248 MAYFIELD ROAD WEST BRAMPTON ON L6V 1A1	E/147.7	-3.08	304
71	GEN	Peel District School Board	1248 Mayfield Road Caledon ON L7C 0Y7	E/147.7	-3.08	305
71	NCPL	Peel District School Board	1248 Mayfield Rd W Caledon ON	E/147.7	-3.08	305
71	NCPL	Peel District School Board	1248 Mayfield Rd W Caledon ON	E/147.7	-3.08	306

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
74	WWIS		lot 17 con 3 ON ***Well ID:*** 4906720	ESE/243.7	-3.08	306
75	WWIS		lot 17 con 4 ON ***Well ID:*** 4901923	E/205.1	-3.08	309
76	WWIS		lot 17 con 3 ON ***Well ID:*** 4908107	ESE/230.9	-3.08	311
77	WWIS		lot 18 con 4 ON ***Well ID:*** 4909579	E/206.6	-3.08	315
78	EHS		Mayfield Rd & Chinguacousy Rd Brampton ON	SE/56.2	-2.01	318
79	GEN	Ontario Clean Water Agency	1278 Mayfield Road Caledon ON	E/240.3	-3.08	318
80	RSC	PARADISE HOMES NW INC.	No Municipal Address Brampton ON	SE/179.8	-4.08	319
81	WWIS		lot 17 con 4 ON ***Well ID:*** 4901920	SE/173.4	-5.08	319
82	EHS		899 Old School Road and 12985 Mississauga Road, Caledon, Ontario Caledon ON L7C 1W2	WNW/164.7	7.28	322
83	WWIS		11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON ***Well ID:*** 7275592	SE/232.3	-6.08	322
84	WWIS		11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON ***Well ID:*** 7275590	SE/241.1	-6.08	324
85	RSC	Paradise Homes NW Inc.	11719 MISSISSAUGA RD ON BRAMPTON ON	SE/228.6	-6.16	326
86	WWIS		11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON	SE/233.2	-6.08	327

Well ID: 7275589

Executive Summary: Summary By Data Source

CA - Certificates of Approval

A search of the CA database, dated 1985-Oct 30, 2011* has found that there are 4 CA site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
PIONEER HI-BRED PRODUCTION LTD.	12111 MISSISSAUGA ROAD HALTON HILLS TOWN ON	46.0	44
ALLELIX CROP TECHNOLOGIES	R.R. #4, 12111 MISSISSAUGA RD. HALTON HILLS TOWN ON	46.0	44
Peel District School Board	1248 Mayfield Road West Caledon ON	147.7	71
Peel District School Board	1248 Mayfield Rd W Caledon ON	147.7	71

CFOT - Commercial Fuel Oil Tanks

A search of the CFOT database, dated Oct 2023 has found that there are 3 CFOT site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA RD CALEDON ON	46.0	44
PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA RD CALEDON ON	46.0	44
ENRICO & CATERINA CONFORTI	12134 MISSISSAUGA RD RR 4 GEORGETOWN ON	167.5	52

EASR - Environmental Activity and Sector Registry

A search of the EASR database, dated Oct 2011 - Jul 31, 2025 has found that there are 1 EASR site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
WESTWAY ELECTRICAL CONTRACTORS INC	12287 Mississauga RD Mississauga ON L7C 1X1	196.0	13

EBR - Environmental Registry

A search of the EBR database, dated 1994 - Aug 31, 2025 has found that there are 1 EBR site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Pioneer Hi-Bred Production Ltd.	12111 Mississauga Road Caledon Regional Municipality of Peel L7C 1X1 TOWN OF CALEDON ON	46.0	44

ECA - Environmental Compliance Approval

A search of the ECA database, dated Oct 2011 - Jul 31, 2025 has found that there are 6 ECA site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Peel District School Board	12287 Mississauga Rd Caledon ON L7C 1W1	196.0	13
Peel District School Board	12287 Mississauga Rd Caledon ON L5R 1C6	196.0	13
Pioneer Hi-Bred Production Company	12111 Mississauga Rd Caledon ON N0G 2W0	46.0	44
Peel District School Board	1248 Mayfield Rd W Caledon ON L5C 2T9	147.7	71
Peel District School Board	1248 Mayfield Road West Caledon ON L5C 2T9	147.7	71

Site	Address	Distance (m)	Map Key
Peel District School Board	1248 Mayfield Rd W Caledon ON L5C 2T9	147.7	71

EHS - ERIS Historical Searches

A search of the EHS database, dated 1999-Apr 30, 2025 has found that there are 6 EHS site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	12300 Mississauga Rd Caledon ON L7C 1W1	95.2	11
	12679 Mississauga Road Caledon ON L7C 1X2	11.3	50
	Mayfield Rd Caledon ON	146.6	51
	12134 Mississauga Road Caledon ON L7C 1W1	167.5	52
	Mayfield Rd & Chinguacousy Rd Brampton ON	56.2	78
	899 Old School Road and 12985 Mississauga Road, Caledon, Ontario Caledon ON L7C 1W2	164.7	82

GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Mar 31, 2025 has found that there are 25 GEN site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	46.0	44

Site	Address	Distance (m)	Map Key
PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	46.0	44
PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	46.0	44
corteva agriscience	12111 MISSISSAUGA ROAD CALEDON ON	46.0	44
ALLELIX CORP (SEE & USE ON0141101)	12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7	46.0	44
ALLELIX CORP. TECHNOLOGIES	12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7	46.0	44
ALLELIX CORP. TECHNOLOGIES	12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD C/O 6850 GOREWAY DR. CALEDON ON L7G 4S7	46.0	44
PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	46.0	44
PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	46.0	44
PIONEER HI-BRED PRODUCTION COMPANY	12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	46.0	44
PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON	46.0	44
ALLELIX CORP (SEE & USE ON0141101)02-152	12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7	46.0	44

Site	Address	Distance (m)	Map Key
PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON	46.0	44
PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON N7M 4S7	46.0	44
PIONEER HI-BRED PRODUCTION LTD.	12111 MISSISSAUGA ROAD CALEDON ON N7M 4S7	46.0	44
PIONEER HI-BRED PRODUCTION LTD.	12111 MISSISSAUGA RD, RR 4 CALEDON ON N7M 5L1	46.0	44
PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON	46.0	44
PIONEER HI-BRED PRODUCTION LP	12111 MISSISSAUGA ROAD CALEDON ON	46.0	44
Peel District School Board	1248 Mayfield Road Caledon ON L7C 0Y7	166.0	69
Peel District School Board	1248 Mayfield Road Caledon ON L7C 0Y7	147.7	71
PEEL DISTRICT SCHOOL BOARD	ALLOA PUBLIC SCHOOL 1248 MAYFIELD ROAD WEST BRAMPTON ON L6V 1A1	147.7	71
PEEL DISTRICT SCHOOL BOARD	ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD. WEST BRAMPTON ON L6V 1A1	147.7	71
PEEL BOARD OF EDUCATION 30-283	ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD. WEST BRAMPTON ON L6V 1A1	147.7	71
PEEL BOARD OF EDUCATION	ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD. WEST BRAMPTON ON L6V 1A1	147.7	71

Site	Address	Distance (m)	Map Key
Ontario Clean Water Agency	1278 Mayfield Road Caledon ON	240.3	79

NCPL - Non-Compliance Reports

A search of the NCPL database, dated Dec 31, 2023 has found that there are 3 NCPL site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Peel District School Board - Alloa Public School	12287 Mississauga Rd Caledon ON	196.0	13
Peel District School Board	1248 Mayfield Rd W Caledon ON	147.7	71
Peel District School Board	1248 Mayfield Rd W Caledon ON	147.7	71

PINC - Pipeline Incidents

A search of the PINC database, dated Feb 28, 2021 has found that there are 1 PINC site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
ENBRIDGE GAS INC	12191 MISSISSAUGA RD,,CALEDON,ON, L7C 1X1,CA ON	34.8	22

RSC - Record of Site Condition

A search of the RSC database, dated 1997-Sept 2001, Oct 2004-Aug 2025 has found that there are 2 RSC site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
PARADISE HOMES NW INC.	No Municipal Address Brampton ON	179.8	80

Site	Address	Distance (m)	Map Key
Paradise Homes NW Inc.	11719 MISSISSAUGA RD ON BRAMPTON ON	228.6	85

SPL - Ontario Spills

A search of the SPL database, dated 1988-Jun 2024; Aug 2024; Oct-May 2025 has found that there are 4 SPL site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
DuPont Canada Inc.	12111 Mississauga Rd Caledon ON L7C 1X1	46.0	44
PRIVATE RESIDENCE	12134 MISSISSAUGA ROAD FURNACE OIL TANK BRAMPTON CITY ON	167.5	52
	Mississauga Rd & Mayfield Rd. Caledon ON	0.3	72
	Mississauga Rd & Mississauga Crst, Mississauga CALEDON;BRAMPTON ON	0.3	73

WWIS - Water Well Information System

A search of the WWIS database, dated Dec 31 2023 has found that there are 74 WWIS site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	lot 20 con 4 ON ***Well ID:*** 4905319	37.1	1
	lot 8 con 5 ON ***Well ID:*** 4908822	8.3	2
	lot 19 con 4 ON	53.6	3

Site	Address	Distance (m)	Map Key
	Well ID: 4906804		
	lot 20 con 4 ON	3.4	4
	Well ID: 4905400		
	lot 20 con 3 ON	24.4	5
	Well ID: 4908378		
	12392 MISSISSAUGA ROAD lot 19 con 5 Caledon ON	33.4	6
	Well ID: 7248961		
	lot 20 con 4 ON	40.5	7
	Well ID: 4905340		
	lot 20 con 4 ON	115.8	8
	Well ID: 4901930		
	lot 18 con 5 ON	34.7	9
	Well ID: 4906807		
	12493 MISSISSAUGA RD lot 20 con 4 Caledon ON	90.9	10
	Well ID: 7190848		
	lot 20 con 4 ON	2.1	12
	Well ID: 4906781		
	lot 20 con 4 ON	2.1	12
	Well ID: 4906782		
	lot 19 con 5 ON	2.6	14
	Well ID: 4906895		
	lot 19 con 4 ON	6.3	15
	Well ID: 4907615		

Site	Address	Distance (m)	Map Key
	lot 18 con 4 Caledon ON ***Well ID:*** 7206084	58.2	16
	lot 19 con 4 ON ***Well ID:*** 7206088	58.9	17
	MISSISSAUGA RD & N OF MAYFIELD RD lot 19 con 4 Caledon ON ***Well ID:*** 7247332	58.9	17
	12392 MISSISSAUGA RD lot 19 con 5 CALEDON ON ***Well ID:*** 4910346	194.3	18
	lot 19 con 5 ON ***Well ID:*** 4906959	72.2	19
	lot 18 con 4 ON ***Well ID:*** 4908610	17.3	20
	lot 19 con 5 ON ***Well ID:*** 4904139	19.2	21
	lot 18 con 4 ON ***Well ID:*** 4908608	9.5	23
	lot 18 con 5 ON ***Well ID:*** 4902029	78.8	24
	lot 18 con 4 ON ***Well ID:*** 4908607	115.9	25
	lot 18 con 5 ON ***Well ID:*** 4902028	73.9	26
	lot 18 con 4 ON	64.9	27

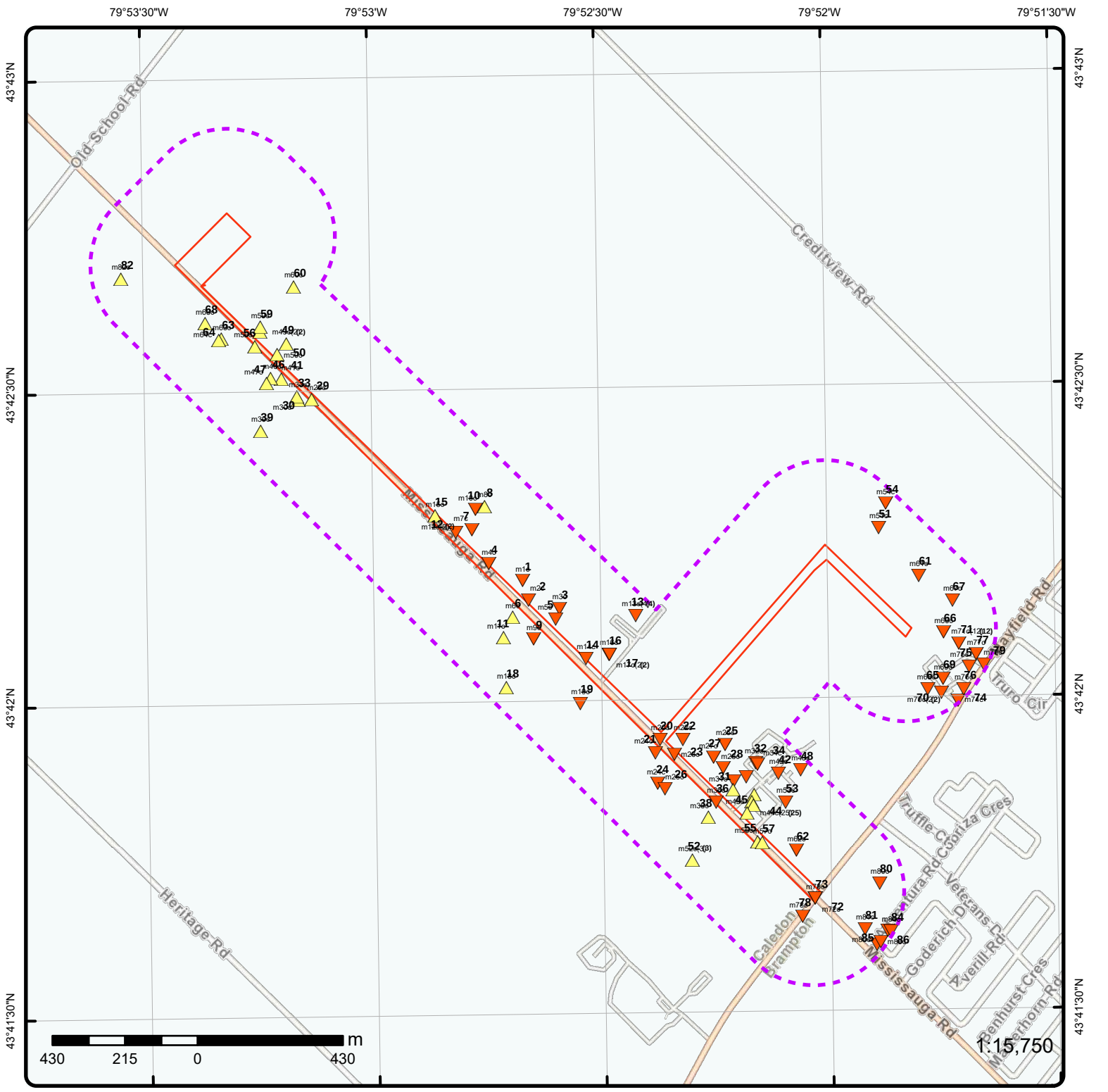
Site	Address	Distance (m)	Map Key
	Well ID: 4908612		
	lot 18 con 4 ON	62.6	28
	Well ID: 4906275		
	ON	4.5	29
	Well ID: 7420147		
	12696 Mississauga Road lot 21 con 5 Caledon ON	25.1	30
	Well ID: 7405004		
	12139 MISSISSAUGA ROAD lot 18 con 4 Caledon ON	57.3	31
	Well ID: 7340648		
	lot 18 con 4 ON	141.0	32
	Well ID: 4907661		
	12696 Mississauga Rd lot 21 con 5 Brampton ON	20.8	33
	Well ID: 7380023		
	ON	140.5	34
	Well ID: 7213631		
	lot 18 con 4 ON	91.4	35
	Well ID: 4907660		
	lot 18 con 4 ON	4.2	36
	Well ID: 4908315		
	lot 18 con 4 ON	36.2	37
	Well ID: 4906277		
	lot 18 con 5 ON	43.9	38
	Well ID: 4905436		

Site	Address	Distance (m)	Map Key
	lot 22 con 5 ON ***Well ID:*** 4908664	168.6	39
	lot 18 con 4 ON ***Well ID:*** 4908606	69.8	40
	12686 MISSISSAUGA RD lot 21 con 5 Caledon ON ***Well ID:*** 7202206	17.1	41
	lot 18 con 4 ON ***Well ID:*** 4908609	165.2	42
	ON ***Well ID:*** 7213632	50.6	43
	1211 MISSISSAUGA ROAD CALEDON ON ***Well ID:*** 7268115	15.7	45
	12686 MISSISSAUGA RD lot 21 con 5 Caledon ON ***Well ID:*** 7202205	37.5	46
	lot 21 con 5 ON ***Well ID:*** 4902032	56.3	47
	lot 18 con 4 ON ***Well ID:*** 4906269	218.7	48
	lot 21 con 4 ON ***Well ID:*** 4905205	52.9	49
	lot 21 con 4 ON ***Well ID:*** 4905206	52.9	49
	lot 18 con 4 ON	119.2	53

Site	Address	Distance (m)	Map Key
	Well ID: 4906270		
	. 12100 Creditview Rd lot 18 con 4 ON	213.0	54
	Well ID: 7415538		
	lot 18 con 4 ON	6.9	55
	Well ID: 4908611		
	12761 MISSISSAUGA ROAD lot 21 con 4 Caledon ON	3.3	56
	Well ID: 7144809		
	MISSISSAUGA RD AND MAYFIELD RD BRAMPTON ON	15.2	57
	Well ID: 7217246		
	12761 MISSISSAUGA ROAD lot 21 con 4 ON	24.9	58
	Well ID: 7147073		
	12761 MISSISSAUGA lot 21 con 4 ON	34.9	59
	Well ID: 7147077		
	lot 21 con 4 ON	189.6	60
	Well ID: 4906993		
	ON	127.5	61
	Well ID: 7410966		
	ON	38.8	62
	Well ID: 7203004		
	lot 21 con 5 ON	57.9	63
	Well ID: 4902031		
	lot 22 con 5 ON	66.3	64
	Well ID: 4903723		

Site	Address	Distance (m)	Map Key
	lot 18 con 4 ON ***Well ID:*** 4905047	167.5	65
	1248 MAYFIELD lot 18 con 4 Caledon ON ***Well ID:*** 7314273	96.5	66
	. 12100 Creditview Rd lot 18 con 4 ON ***Well ID:*** 7415540	147.4	67
	lot 22 con 5 ON ***Well ID:*** 4903637	59.1	68
	lot 18 con 4 ON ***Well ID:*** 4901924	195.3	70
	lot 18 con 4 ON ***Well ID:*** 4901925	195.3	70
	lot 17 con 3 ON ***Well ID:*** 4906720	243.7	74
	lot 17 con 4 ON ***Well ID:*** 4901923	205.1	75
	lot 17 con 3 ON ***Well ID:*** 4908107	230.9	76
	lot 18 con 4 ON ***Well ID:*** 4909579	206.6	77
	lot 17 con 4 ON ***Well ID:*** 4901920	173.4	81
	11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON	232.3	83

Site	Address	Distance (m)	Map Key
	Well ID: 7275592		
	11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON ***Well ID:*** 7275590	241.1	84
	11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON ***Well ID:*** 7275589	233.2	86



Map: 0.25 Kilometer Radius

Order Number: 25090400333

Address: n/a, Caledon, ON

ERIS

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major Arterial; Minor Arterial
- Local Road
- Service Road; Traffic Circle; Ramp
- Rail
- Beach
- Airport
- Industrial Area
- Military Base
- Aircraft Roads
- Native Reservation
- Hospital
- Shopping & Sports Area
- University/College
- Cemetery; Golf Course
- Parkt (National)
- Park (City/County)

Source: © 2021 ESRI StreetMap Premium.

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Aerial

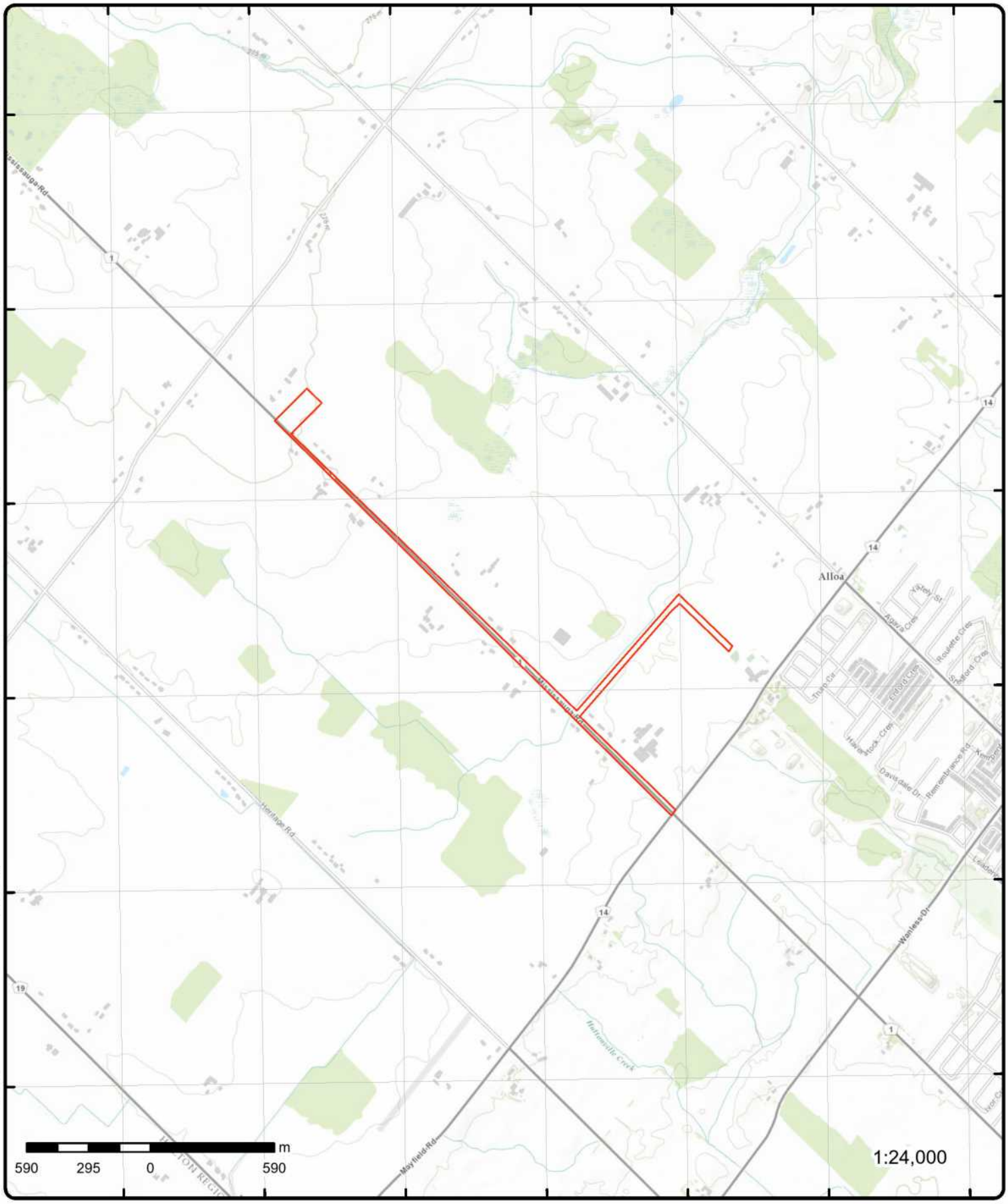
Year: 2025

Address: n/a, Caledon, ON

Source: ESRI World Imagery

Order Number: 25090400333

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Topographic Map

Address: n/a, ON

Source: ESRI World Topographic Map

Order Number: 25090400333

ERIS

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Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
72	1 of 1	SE/0.3	264.9 / -2.08	Mississauga Rd & Mayfield Rd. Caledon ON	SPL

Ref No: 1-1TU74H
Year:
Incident Dt: 6/1/2022 4:00:00 PM
Dt MOE Arvl on Scn:
MOE Reported Dt: 6/1/2022 7:22:12 PM
Dt Document Closed: 6/2/2022 8:46:37 AM
Site No:
MOE Response: Desktop Response
Site County/District:
Site Geo Ref Meth:
Site District Office: Halton-Peel District Office
Nearest Watercourse:
Site Name:
Site Address: Mississauga Rd & Mayfield Rd. Caledon
Site Region: REGIONAL MUNICIPALITY OF PEEL
Site Municipality:
Site Lot:
Site Conc:
Site Geo Ref Accu:
Site Map Datum:
Northing:
Easting:
Entity Operating Name:
Client Name:
Client Type:
Source Type:
Incident Cause:
Incident Preceding Spill: Accident/Collision
Incident Reason:
Incident Summary: RoP: MVA, 40L motor fuids to road shoulder; cleaned
Environment Impact: 1 Minor Impact
Health Env Consequence:
Nature of Impact:
Contaminant Qty: 40 litre (L)
Contaminant Qty 1:
Contaminant Unit:
Contaminant Code:
Contaminant Name: % OIL
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Receiving Medium:
Activity Preceding Spill: Transportation
Property 2nd Watershed: Lake Ontario and Niagara Peninsula
Property Tertiary Watershed:
Sector Type:
SAC Action Class:
Call Report Locatn Geodata: {"integration_ids":["PR00002458963"],"wkts":["POINT (-79.6322625000 43.5443446000)"],"creation_date":"2022-06-01"}
Time Reported:
System Facility Address:

Municipality No:
Nature of Damage:
Discharger Report:
Material Group:
Impact to Health: 0 No Impact
Agency Involved:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
73	1 of 1	SE/0.3	264.9 / -2.08	Mississauga Rd & Mississauga Crst, Mississauga CALEDON;BRAMPTON ON	SPL

Ref No: 1-1CAGOA
Year:
Incident Dt:
Dt MOE Arvl on Scn:
MOE Reported Dt: 10/19/2021 2:17:08 PM
Dt Document Closed: 11/9/2021 8:17:19 AM
Site No:
MOE Response: Desktop Response
Site County/District:
Site Geo Ref Meth:
Site District Office: Halton-Peel District Office
Nearest Watercourse: Credit River
Site Name:
Site Address: Mississauga Rd & Mississauga Crst, Mississauga
Site Region: REGIONAL MUNICIPALITY OF PEEL
Site Municipality: CALEDON;BRAMPTON
Site Lot:
Site Conc:
Site Geo Ref Accu:
Site Map Datum:
Northing:
Easting:
Entity Operating Name:
Client Name:
Client Type:
Source Type: Non-Point Source
Incident Cause:
Incident Preceding Spill:
Incident Reason: Human error (Specify)
Incident Summary: EllisDon: sediment-laden water to outfall
Environment Impact: 1 Minor Impact
Health Env Consequence:
Nature of Impact:
Contaminant Qty: 0 other - see notes
Contaminant Qty 1:
Contaminant Unit:
Contaminant Code:
Contaminant Name: SEDIMENT
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Receiving Medium: Surface Water
Activity Preceding Spill: Construction or repair
Property 2nd Watershed: Lake Ontario and Niagara Peninsula
Property Tertiary Watershed: 02HB-Credit - 16 Mile
Sector Type: OTHER HEAVY AND CIVIL ENGINEERING CONSTRUCTION
SAC Action Class:
Call Report Locatn Geodata: {"integration_ids":["PR00002466750"],"wkts":["POINT (-79.8672631000 43.6946590000)"],"creation_date":"2021-10-19"}
Time Reported:
System Facility Address:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
1	1 of 1	SW/37.1	265.6 / -1.38	lot 20 con 4 ON	WWIS

Well ID: 4905319
Construction Date:
Use 1st: Domestic
Use 2nd: 0
Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1

Final Well Status:	Water Supply	**Date Received:**	04/13/1978
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	3349
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	020
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4905319.pdf

Additional Detail(s) (Map)

Well Completed Date: 12/16/1977
Year Completed: 1977
Depth (m): 34.1376
Latitude: 43.7032220191905
Longitude: -79.877854831424
X: -79.8778546811542
Y: 43.70322201702859
Path: 490\4905319.pdf

Bore Hole Information

Bore Hole ID:	10320069	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590414.50
Code OB Desc:		**North83:**	4839523.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	12/16/1977	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5

Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932049549
Layer: 1
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2: 12
Material 2 Desc: STONES
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0

Formation End Depth:	40.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049550
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	28
Material 1 Desc:	SAND
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	40.0
Formation End Depth:	46.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049551
Layer:	3
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	46.0
Formation End Depth:	62.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049552
Layer:	4
Color:	7
General Color:	RED
Material 1:	28
Material 1 Desc:	SAND
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	62.0
Formation End Depth:	109.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049553
Layer:	5
Color:	6
General Color:	BROWN
Material 1:	11

Material 1 Desc:	GRAVEL
Material 2:	28
Material 2 Desc:	SAND
Material 3:	
Material 3 Desc:	
Formation Top Depth:	109.0
Formation End Depth:	112.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964905319
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10868639
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930528150
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	112.0
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	BAILER
Pump Test ID:	994905319
Pump Set At:	
Static Level:	1.0
Final Level After Pumping:	108.0
Recommended Pump Depth:	100.0
Pumping Rate:	7.0
Flowing Rate:	
Recommended Pump Rate:	5.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	2
Water State After Test:	CLOUDY
Pumping Test Method:	2
Pumping Duration HR:	2
Pumping Duration MIN:	0
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	934260856
Test Type:	Draw Down
Test Duration:	15
Test Level:	38.0

Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934526604
Test Type: Draw Down
Test Duration: 30
Test Level: 73.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 935045687
Test Type: Draw Down
Test Duration: 60
Test Level: 95.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934780717
Test Type: Draw Down
Test Duration: 45
Test Level: 84.0
Test Level UOM: ft

Water Details

Water ID: 933793354
Layer: 2
Kind Code: 1
Kind: FRESH
Water Found Depth: 112.0
Water Found Depth UOM: ft

Water Details

Water ID: 933793353
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 62.0
Water Found Depth UOM: ft

---

2 | ***1 of 1*** | ***SSW/8.3*** | ***265.1 / -1.84*** | ***lot 8 con 5 ON*** | ***WWIS***

Well ID: 4908822
Construction Date:
Use 1st: Domestic
Use 2nd:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 206477
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 07/30/2001
Selected Flag: TRUE
Abandonment Rec:
Contractor: 6782
Form Version: 1
Owner:
County: PEEL
Lot: 008
Concession: 05
Concession Name: HS W

Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	BRAMPTON CITY (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908822.pdf

Additional Detail(s) (Map)

Well Completed Date:	07/25/2000
Year Completed:	2000
Depth (m):	30.1752
Latitude:	43.7027067587229
Longitude:	-79.8776472519314
X:	-79.87764710216385
Y:	43.70270675735461
Path:	490\4908822.pdf

Bore Hole Information

Bore Hole ID:	10520742	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	590432.00
Code OB Desc:		***North83:***	4839466.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	2
Date Completed:	07/25/2000	***UTMRC Desc:***	margin of error : 3 - 10 m
Remarks:		***Location Method:***	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932845902
Layer:	2
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	28
Material 3 Desc:	SAND
Formation Top Depth:	18.0
Formation End Depth:	75.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932845904
Layer:	4
Color:	7

General Color:	RED
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	
Material 3 Desc:	
Formation Top Depth:	90.0
Formation End Depth:	97.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932845905
Layer:	5
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	97.0
Formation End Depth:	99.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932845901
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	18.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932845903
Layer:	3
Color:	2
General Color:	GREY
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	
Material 3 Desc:	
Formation Top Depth:	75.0
Formation End Depth:	90.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	933222724
Layer:	1
Plug From:	0.0
Plug To:	14.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964908822
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	11069312
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930533037
Layer:	1
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	
Casing Diameter:	8.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930533038
Layer:	2
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930533039
Layer:	3
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994908822
Pump Set At:
Static Level: 8.0
Final Level After Pumping: 71.0
Recommended Pump Depth: 95.0
Pumping Rate: 3.0
Flowing Rate:
Recommended Pump Rate: 4.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 2
Water State After Test: CLOUDY
Pumping Test Method: 1
Pumping Duration HR: 5
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934779778
Test Type: Draw Down
Test Duration: 45
Test Level: 66.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 935045742
Test Type: Draw Down
Test Duration: 60
Test Level: 71.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934526668
Test Type: Draw Down
Test Duration: 30
Test Level: 44.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934260363
Test Type: Draw Down
Test Duration: 15
Test Level: 29.0
Test Level UOM: ft

Water Details

Water ID: 934012962
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 99.0
Water Found Depth UOM: ft

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
3	1 of 1	SSE/53.6	264.9 / -2.06	lot 19 con 4 ON	WWIS

Well ID: 4906804
Construction Date:
Use 1st: Domestic
Use 2nd:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 07754
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 03/21/1988
Selected Flag: TRUE
Abandonment Rec:
Contractor: 4868
Form Version: 1
Owner:
County: PEEL
Lot: 019
Concession: 04
Concession Name: CON
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4906804.pdf

Additional Detail(s) (Map)

Well Completed Date: 03/08/1988
Year Completed: 1988
Depth (m): 9.144
Latitude: 43.7024614962679
Longitude: -79.8765112673817
X: -79.87651111729343
Y: 43.70246149444419
Path: 490\4906804.pdf

Bore Hole Information

Bore Hole ID: 10321365
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 03/08/1988
Remarks:
Location Method Desc: from gps
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 590523.90
North83: 4839440.00
Org CS:
UTMRC: 3
UTMRC Desc: margin of error : 10 - 30 m
Location Method: gps

Overburden and Bedrock Materials Interval

Formation ID: 932055292
Layer: 2
Color: 6
General Color: BROWN

Material 1:	05
Material 1 Desc:	CLAY
Material 2:	18
Material 2 Desc:	SANDSTONE
Material 3:	
Material 3 Desc:	
Formation Top Depth:	3.0
Formation End Depth:	14.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055293
Layer:	3
Color:	2
General Color:	GREY
Material 1:	06
Material 1 Desc:	SILT
Material 2:	28
Material 2 Desc:	SAND
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	14.0
Formation End Depth:	19.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055295
Layer:	5
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	
Material 3 Desc:	
Formation Top Depth:	25.0
Formation End Depth:	30.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055294
Layer:	4
Color:	2
General Color:	GREY
Material 1:	28
Material 1 Desc:	SAND
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	19.0
Formation End Depth:	25.0
Formation End Depth UOM:	ft

Overburden and Bedrock

Materials Interval

Formation ID:	932055291
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	28
Material 1 Desc:	SAND
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	3.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964906804
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10869935
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930530259
Layer:	3
Material:	
Open Hole or Material:	
Depth From:	
Depth To:	30.0
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930530257
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	29.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930530258
Layer:	2
Material:	2
Open Hole or Material:	GALVANIZED
Depth From:	

Depth To:	30.0
Casing Diameter:	20.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994906804
Pump Set At:	
Static Level:	15.0
Final Level After Pumping:	16.0
Recommended Pump Depth:	25.0
Pumping Rate:	4.0
Flowing Rate:	
Recommended Pump Rate:	3.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	2
Water State After Test:	CLOUDY
Pumping Test Method:	1
Pumping Duration HR:	2
Pumping Duration MIN:	0
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	934529898
Test Type:	Recovery
Test Duration:	30
Test Level:	16.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	935049478
Test Type:	Recovery
Test Duration:	60
Test Level:	15.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934783982
Test Type:	Recovery
Test Duration:	45
Test Level:	15.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934255342
Test Type:	Recovery
Test Duration:	15
Test Level:	16.0
Test Level UOM:	ft

Water Details

Water ID:	933794823
Layer:	1

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Kind Code: 1
Kind: FRESH
Water Found Depth: 14.0
Water Found Depth UOM: ft

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4 | **1 of 1** | **W/3.4** | **265.9 / -1.03** | **lot 20 con 4 ON** | **WWIS**

Well ID: 4905400
Construction Date:
Use 1st: Domestic
Use 2nd: 0
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No:
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 10/16/1978
Selected Flag: TRUE
Abandonment Rec:
Contractor: 4640
Form Version: 1
Owner:
County: PEEL
Lot: 020
Concession: 04
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4905400.pdf

Additional Detail(s) (Map)

Well Completed Date: 08/12/1977
Year Completed: 1977
Depth (m): 13.1064
Latitude: 43.7036843083361
Longitude: -79.8790873214799
X: -79.87908717108711
Y: 43.703684306276834
Path: 490\4905400.pdf

Bore Hole Information

Bore Hole ID: 10320143
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 08/12/1977
Remarks:
Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 590314.50
North83: 4839573.00
Org CS:
UTMRC: 5
UTMRC Desc: margin of error : 100 m - 300 m
Location Method: p5

Overburden and Bedrock

Materials Interval

Formation ID:	932049862
Layer:	3
Color:	2
General Color:	GREY
Material 1:	06
Material 1 Desc:	SILT
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	
Material 3 Desc:	
Formation Top Depth:	22.0
Formation End Depth:	29.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049861
Layer:	2
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	12
Material 3 Desc:	STONES
Formation Top Depth:	12.0
Formation End Depth:	22.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049863
Layer:	4
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	12
Material 3 Desc:	STONES
Formation Top Depth:	29.0
Formation End Depth:	43.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049860
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	
Material 3 Desc:	

Formation Top Depth:	0.0
Formation End Depth:	12.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964905400
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10868713
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930528272
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	23.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930528273
Layer:	2
Material:	2
Open Hole or Material:	GALVANIZED
Depth From:	
Depth To:	43.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994905400
Pump Set At:	
Static Level:	10.0
Final Level After Pumping:	10.0
Recommended Pump Depth:	39.0
Pumping Rate:	1.0
Flowing Rate:	
Recommended Pump Rate:	3.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933793438
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	30.0
Water Found Depth UOM:	ft

5 | ***1 of 1*** | ***SSE/24.4*** | ***264.6 / -2.33*** | ***lot 20 con 3 ON*** | ***WWIS***

Well ID:	4908378	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:		***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	11/02/1998
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	196928	***Contractor:***	2576
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	020
Depth to Bedrock:		***Concession:***	03
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908378.pdf

Additional Detail(s) (Map)

Well Completed Date:	10/08/1998
Year Completed:	1998
Depth (m):	29.2608
Latitude:	43.7021927583246
Longitude:	-79.8766515645319
X:	-79.87665141525565
Y:	43.70219275635339
Path:	490\4908378.pdf

Bore Hole Information

Bore Hole ID:	10322914	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	590513.00
Code OB Desc:		***North83:***	4839410.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	2
Date Completed:	10/08/1998	***UTMRC Desc:***	margin of error : 3 - 10 m
Remarks:		***Location Method:***	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			

Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID:	932063048
Layer:	1
Color:	
General Color:	
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932063049
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	28
Material 1 Desc:	SAND
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	1.0
Formation End Depth:	9.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932063050
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	9.0
Formation End Depth:	94.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932063051
Layer:	4
Color:	7
General Color:	RED

Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	94.0
Formation End Depth:	96.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	933171037
Layer:	1
Plug From:	0.0
Plug To:	40.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964908378
Method Construction Code:	4
Method Construction:	Rotary (Air)
Other Method Construction:	

Pipe Information

Pipe ID:	10871484
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930532468
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	96.0
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994908378
Pump Set At:	
Static Level:	1.0
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	25.0
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	1

Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934787902
Test Type: Recovery
Test Duration: 45
Test Level: 1.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 935044674
Test Type: Recovery
Test Duration: 60
Test Level: 5.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934525613
Test Type: Recovery
Test Duration: 30
Test Level: 1.0
Test Level UOM: ft

Water Details

Water ID: 933796459
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 94.0
Water Found Depth UOM: ft

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6 | **1 of 1** | **SW/33.4** | **267.1 / 0.17** | **12392 MISSISSAUGA ROAD lot 19 con 5 Caledon ON** | **WWIS**

Well ID: 7248961
Construction Date:
Use 1st:
Use 2nd:
Final Well Status: Abandoned-Other
Water Type:
Casing Material:
Audit No: Z218397
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 09/29/2015
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 7147
Form Version: 7
Owner:
County: PEEL
Lot: 019
Concession: 05
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Additional Detail(s) (Map)

Bore Hole ID:	1005707711	***Tag No:***	
Depth M:		***Contractor:***	7147
Year Completed:	2015	***Latitude:***	43.7022443672829
Well Completed Dt:	08/27/2015	***Longitude:***	-79.878239188704
Audit No:	Z218397	***Y:***	43.702244365188406
Path:		***X:***	-79.87823903878862

Bore Hole Information

Bore Hole ID:	1005707711	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	590385.00
Code OB Desc:		***North83:***	4839414.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	08/27/2015	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Annular Space/Abandonment Sealing Record

Plug ID:	1005738945
Layer:	2
Plug From:	2.200000047683716
Plug To:	29.600000381469727
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1005738944
Layer:	1
Plug From:	0.0
Plug To:	2.200000047683716
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1005738946
Layer:	3
Plug From:	
Plug To:	29.600000381469727
Plug Depth UOM:	m

Method of Construction & Well Use

Method Construction ID:	1005738943
Method Construction Code:	
Method Construction:	
Other Method Construction:	

Pipe Information

Pipe ID:	1005738937
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1005738941
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	0.0
Depth To:	29.600000381469727
Casing Diameter:	15.0
Casing Diameter UOM:	cm
Casing Depth UOM:	m

Construction Record - Screen

Screen ID:	1005738942
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	

Water Details

Water ID:	1005738940
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	2.4000000953674316
Water Found Depth UOM:	m

Hole Diameter

Hole ID:	1005738939
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	m
Hole Diameter UOM:	cm

7	***1 of 1***	***WNW/40.5***	***266.2 / -0.69***	***lot 20 con 4 ON***	***WWIS***

Well ID:	4905340	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:		***Data Src:***	1
Final Well Status:	Abandoned-Supply	***Date Received:***	05/10/1978
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:		***Contractor:***	3108

Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	020
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4905340.pdf

Additional Detail(s) (Map)

Well Completed Date: 03/27/1978
Year Completed: 1978
Depth (m): 21.9456
Latitude: 43.7045906169847
Longitude: -79.8796909988006
X: -79.8796908494645
Y: 43.70459061539292
Path: 490\4905340.pdf

Bore Hole Information

Bore Hole ID:	10320090	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590264.50
Code OB Desc:		**North83:**	4839673.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	03/27/1978	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5

Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932049628
Layer: 4
Color: 3
General Color: BLUE
Material 1: 05
Material 1 Desc: CLAY
Material 2: 72
Material 2 Desc: GRAVELLY
Material 3:
Material 3 Desc:
Formation Top Depth: 50.0
Formation End Depth: 63.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID:	932049626
Layer:	2
Color:	3
General Color:	BLUE
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	81
Material 2 Desc:	SANDY
Material 3:	72
Material 3 Desc:	GRAVELLY
Formation Top Depth:	12.0
Formation End Depth:	39.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049627
Layer:	3
Color:	
General Color:	
Material 1:	10
Material 1 Desc:	COARSE SAND
Material 2:	17
Material 2 Desc:	SHALE
Material 3:	
Material 3 Desc:	
Formation Top Depth:	39.0
Formation End Depth:	50.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049625
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	81
Material 2 Desc:	SANDY
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	12.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049629
Layer:	5
Color:	3
General Color:	BLUE
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	

Material 3 Desc:
Formation Top Depth: 63.0
Formation End Depth: 72.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964905340
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10868660
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930528185
Layer: 1
Material:
Open Hole or Material:
Depth From:
Depth To:
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 994905340
Pump Set At:
Static Level: 1.0
Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 2
Water State After Test: CLOUDY
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing: No

8	1 of 1	WNW/115.8	267.2 / 0.31	lot 20 con 4 ON	WWIS

Well ID: 4901930
Construction Date:
Use 1st: Livestock
Use 2nd: 0
Final Well Status: Water Supply
Water Type:
Casing Material:
Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 01/31/1961
Selected Flag: TRUE
Abandonment Rec:

Audit No:		**Contractor:**	4101
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	020
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4901930.pdf

Additional Detail(s) (Map)

Well Completed Date:	01/09/1961
Year Completed:	1961
Depth (m):	22.86
Latitude:	43.7052072708334
Longitude:	-79.8792202895264
X:	-79.8792201404349
Y:	43.70520726923012
Path:	490\4901930.pdf

Bore Hole Information

Bore Hole ID:	10316773	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590301.50
Code OB Desc:		**North83:**	4839742.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	01/09/1961	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5
Location Method Desc:	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932036132
Layer:	3
Color:	
General Color:	
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	65.0
Formation End Depth:	75.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932036131
Layer:	2
Color:	3
General Color:	BLUE
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	20.0
Formation End Depth:	65.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932036130
Layer:	1
Color:	
General Color:	
Material 1:	24
Material 1 Desc:	PREV. DRILLED
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	20.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964901930
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10865343
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930523568
Layer:	2
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	75.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930523567
Layer:	1
Material:	
Open Hole or Material:	
Depth From:	
Depth To:	20.0
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994901930
Pump Set At:	
Static Level:	0.0
Final Level After Pumping:	0.0
Recommended Pump Depth:	0.0
Pumping Rate:	10.0
Flowing Rate:	
Recommended Pump Rate:	10.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	8
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933789898
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	75.0
Water Found Depth UOM:	ft

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9 | ***1 of 1*** | ***S/34.7*** | ***266.9 / -0.08*** | ***lot 18 con 5 ON*** | ***WWIS***

Well ID:	4906807	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:		***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	03/16/1988
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	17576	***Contractor:***	3349
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	05
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		

Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4906807.pdf

Additional Detail(s) (Map)

Well Completed Date: 12/10/1987
Year Completed: 1987
Depth (m): 26.8224
Latitude: 43.7016606088618
Longitude: -79.8774744041372
X: -79.87747425387556
Y: 43.70166060713999
Path: 490\4906807.pdf

Bore Hole Information

Bore Hole ID: 10321368
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 12/10/1987
Remarks:
Location Method Desc: from gps
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 590447.50
North83: 4839350.00
Org CS:
UTMRC: 3
UTMRC Desc: margin of error : 10 - 30 m
Location Method: gps

Overburden and Bedrock Materials Interval

Formation ID: 932055310
Layer: 4
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 68.0
Formation End Depth: 88.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055307
Layer: 1
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2: 28
Material 2 Desc: SAND

Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 19.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055308
Layer: 2
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 19.0
Formation End Depth: 60.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055309
Layer: 3
Color: 7
General Color: RED
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 60.0
Formation End Depth: 68.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964906807
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10869938
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930530263
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:

Depth To: 70.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930530264
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:
Depth To: 88.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: BAILER
Pump Test ID: 994906807
Pump Set At:
Static Level: 6.0
Final Level After Pumping: 82.0
Recommended Pump Depth: 82.0
Pumping Rate: 7.0
Flowing Rate:
Recommended Pump Rate: 3.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 2
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934783985
Test Type: Draw Down
Test Duration: 45
Test Level: 82.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934255345
Test Type: Draw Down
Test Duration: 15
Test Level: 66.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934529901
Test Type: Draw Down
Test Duration: 30
Test Level: 82.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID:	935049481
Test Type:	Draw Down
Test Duration:	60
Test Level:	82.0
Test Level UOM:	ft

Water Details

Water ID:	933794826
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	85.0
Water Found Depth UOM:	ft

10 | ***1 of 1*** | ***WNW/90.9*** | ***266.8 / -0.14*** | ***12493 MISSISSAUGA RD lot 20 con 4 Caledon ON*** | ***WWIS***

Well ID:	7190848	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:		***Data Src:***	
Final Well Status:	Abandoned-Other	***Date Received:***	11/05/2012
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	Yes
Audit No:	Z142283	***Contractor:***	7147
Tag:		***Form Version:***	7
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	020
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	1004193046	***Tag No:***	
Depth M:		***Contractor:***	7147
Year Completed:	2012	***Latitude:***	43.7051294748455
Well Completed Dt:	10/26/2012	***Longitude:***	-79.8795506422568
Audit No:	Z142283	***Y:***	43.70512947352387
Path:		***X:***	-79.87955049218925

Bore Hole Information

Bore Hole ID:	1004193046	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	590275.00
Code OB Desc:		***North83:***	4839733.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	10/26/2012	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Location Method Desc:	on Water Well Record		

Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Annular Space/Abandonment Sealing Record

Plug ID: 1004481493
Layer: 3
Plug From: 2.5999999046325684
Plug To: 24.0
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1004481494
Layer: 4
Plug From:
Plug To: 24.0
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1004481492
Layer: 2
Plug From: 2.200000047683716
Plug To: 2.5999999046325684
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1004481491
Layer: 1
Plug From: 0.0
Plug To: 2.200000047683716
Plug Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 1004481490
Method Construction Code:
Method Construction:
Other Method Construction:

Pipe Information

Pipe ID: 1004481484
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID:	1004481488
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	0.0
Depth To:	24.0
Casing Diameter:	15.0
Casing Diameter UOM:	cm
Casing Depth UOM:	m

Construction Record - Screen

Screen ID:	1004481489
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	

Water Details

Water ID:	1004481487
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	1.7999999523162842
Water Found Depth UOM:	m

Hole Diameter

Hole ID:	1004481486
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	m
Hole Diameter UOM:	cm

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11 | ***1 of 1*** | ***SW/95.2*** | ***268.9 / 1.92*** | ***12300 Mississauga Rd Caledon ON L7C 1W1*** | ***EHS***

Order No:	23022300176	**Nearest Intersection:**	
Status:	C	**Municipality:**	
Report Type:	RSC Report - Quote	**Client Prov/State:**	ON
Report Date:	24-FEB-23	**Search Radius (km):**	.3
Date Received:	23-FEB-23	**X:**	-79.8785875
Previous Site Name:		**Y:**	43.70170704
Lot/Building Size:			

Additional Info Ordered: Fire Insur. Maps and/or Site Plans; City Directory; Aerial Photos

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12 | ***1 of 2*** | ***WNW/2.1*** | ***266.8 / -0.11*** | ***lot 20 con 4 ON*** | ***WWIS***

Well ID:	4906781	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	01/26/1988
Water Type:		**Selected Flag:**	TRUE

Casing Material:		**Abandonment Rec:**	
Audit No:	NA	**Contractor:**	1663
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	020
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4906781.pdf

Additional Detail(s) (Map)

Well Completed Date:	10/02/1987
Year Completed:	1987
Depth (m):	24.384
Latitude:	43.7045334381851
Longitude:	-79.8802878069334
X:	-79.88028765671686
Y:	43.704533436152836
Path:	490\4906781.pdf

Bore Hole Information

Bore Hole ID:	10321342	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590216.50
Code OB Desc:		**North83:**	4839666.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	10/02/1987	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932055169
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	11.0
Formation End Depth:	17.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055174
Layer:	8
Color:	2
General Color:	GREY
Material 1:	08
Material 1 Desc:	FINE SAND
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	58.0
Formation End Depth:	62.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055175
Layer:	9
Color:	3
General Color:	BLUE
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	62.0
Formation End Depth:	70.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055168
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	13
Material 3 Desc:	BOULDERS
Formation Top Depth:	1.0
Formation End Depth:	11.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055167
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	

Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 1.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055172
Layer: 6
Color: 2
General Color: GREY
Material 1: 11
Material 1 Desc: GRAVEL
Material 2: 17
Material 2 Desc: SHALE
Material 3:
Material 3 Desc:
Formation Top Depth: 28.0
Formation End Depth: 33.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055177
Layer: 11
Color: 2
General Color: GREY
Material 1: 11
Material 1 Desc: GRAVEL
Material 2: 05
Material 2 Desc: CLAY
Material 3:
Material 3 Desc:
Formation Top Depth: 74.0
Formation End Depth: 80.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055173
Layer: 7
Color: 3
General Color: BLUE
Material 1: 05
Material 1 Desc: CLAY
Material 2: 11
Material 2 Desc: GRAVEL
Material 3:
Material 3 Desc:
Formation Top Depth: 33.0
Formation End Depth: 58.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055171

Layer:	5
Color:	3
General Color:	BLUE
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	24.0
Formation End Depth:	28.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055170
Layer:	4
Color:	2
General Color:	GREY
Material 1:	08
Material 1 Desc:	FINE SAND
Material 2:	06
Material 2 Desc:	SILT
Material 3:	05
Material 3 Desc:	CLAY
Formation Top Depth:	17.0
Formation End Depth:	24.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055176
Layer:	10
Color:	2
General Color:	GREY
Material 1:	09
Material 1 Desc:	MEDIUM SAND
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	70.0
Formation End Depth:	74.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964906781
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	10869912
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930530226
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	BAILER
Pump Test ID:	994906781
Pump Set At:	
Static Level:	0.0
Final Level After Pumping:	70.0
Recommended Pump Depth:	70.0
Pumping Rate:	2.0
Flowing Rate:	
Recommended Pump Rate:	2.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	2
Water State After Test:	CLOUDY
Pumping Test Method:	2
Pumping Duration HR:	1
Pumping Duration MIN:	30
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	934255326
Test Type:	Draw Down
Test Duration:	15
Test Level:	70.0
Test Level UOM:	ft

Water Details

Water ID:	933794799
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	
Water Found Depth UOM:	ft

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12 | ***2 of 2*** | ***WNW/2.1*** | ***266.8 / -0.11*** | ***lot 20 con 4 ON*** | ***WWIS***

Well ID:	4906782	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:	0	***Data Src:***	1
Final Well Status:	Abandoned-Quality	***Date Received:***	01/26/1988
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	NA	***Contractor:***	1663
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	

Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	020
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4906782.pdf

Additional Detail(s) (Map)

Well Completed Date:	09/30/1987
Year Completed:	1987
Depth (m):	38.1
Latitude:	43.7045334381851
Longitude:	-79.8802878069334
X:	-79.88028765671686
Y:	43.704533436152836
Path:	490\4906782.pdf

Bore Hole Information

Bore Hole ID:	10321343	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590216.50
Code OB Desc:		**North83:**	4839666.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	09/30/1987	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932055184
Layer:	7
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	43.0
Formation End Depth:	76.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID: 932055180
Layer: 3
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2: 11
Material 2 Desc: GRAVEL
Material 3:
Material 3 Desc:
Formation Top Depth: 2.0
Formation End Depth: 9.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055181
Layer: 4
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 11
Material 2 Desc: GRAVEL
Material 3:
Material 3 Desc:
Formation Top Depth: 9.0
Formation End Depth: 28.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055178
Layer: 1
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3: 01
Material 3 Desc: FILL
Formation Top Depth: 0.0
Formation End Depth: 1.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055183
Layer: 6
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 11
Material 2 Desc: GRAVEL
Material 3:
Material 3 Desc:
Formation Top Depth: 34.0

Formation End Depth: 43.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055186
Layer: 9
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 93.0
Formation End Depth: 125.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055182
Layer: 5
Color: 7
General Color: RED
Material 1: 05
Material 1 Desc: CLAY
Material 2: 11
Material 2 Desc: GRAVEL
Material 3:
Material 3 Desc:
Formation Top Depth: 28.0
Formation End Depth: 34.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055185
Layer: 8
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 11
Material 2 Desc: GRAVEL
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 76.0
Formation End Depth: 93.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055179
Layer: 2
Color: 6
General Color: BROWN
Material 1: 02

Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	1.0
Formation End Depth:	2.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964906782
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	10869913
Casing No:	1
Comment:	
Alt Name:	

Results of Well Yield Testing

Pumping Test Method Desc:	
Pump Test ID:	994906782
Pump Set At:	
Static Level:	0.0
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	No

Water Details

Water ID:	933794800
Layer:	1
Kind Code:	2
Kind:	SALTY
Water Found Depth:	120.0
Water Found Depth UOM:	ft

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
13	1 of 4	ESE/196.0	265.2 / -1.78	***WESTWAY ELECTRICAL CONTRACTORS INC*** ***12287 Mississauga RD*** ***Mississauga ON L7C 1X1***	EASR

Approval No:	R-002-9455755813	***MOE District:***	Halton-Peel
Status:	REGISTERED	***Municipality:***	Mississauga
Date:	2014-10-17	***Latitude:***	43.70305556
Record Type:	EASR	***Longitude:***	-79.87472222
Link Source:	MOFA	***Geometry X:***	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Project Type: Standby Power System
Geometry Y:
Full Address:
Approval Type: EASR-Standby Power System
SWP Area Name: Toronto
PDF NAICS Code:
PDF URL:
PDF Site Location:

---

13 **2 of 4** **ESE/196.0** **265.2 / -1.78** **Peel District School Board**
12287 Mississauga Rd
Caledon ON L5R 1C6
ECA

Approval No: 3605-9LVNPA
Approval Date: 2014-11-25
Status: Revoked and/or Replaced
Record Type: ECA
Link Source: IDS
SWP Area Name:
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: Peel District School Board
Address: 12287 Mississauga Rd
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/9321-9HHPDS-14.pdf
PDF Site Location:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:

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13 **3 of 4** **ESE/196.0** **265.2 / -1.78** **Peel District School Board**
12287 Mississauga Rd
Caledon ON L7C 1W1
ECA

Approval No: 5539-B2MPNJ
Approval Date: 2018-07-24
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name: Toronto
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: Peel District School Board
Address: 12287 Mississauga Rd
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/2882-AZPJR8-14.pdf
PDF Site Location:
MOE District: Halton-Peel
City:
Longitude: -79.87255
Latitude: 43.69865
Geometry X:
Geometry Y:

---

13 **4 of 4** **ESE/196.0** **265.2 / -1.78** **Peel District School Board - Alloa Public School**
12287 Mississauga Rd
Caledon ON
NCPL

Year: 2016
Type of Concern: Approval/Permit Non-Compliance
Contaminant: CARBONACEOUS BIOCHEMICAL OXYGEN DEMAND
Discharge Type: Municipal Private Sewage
Status Report:
Sector: Miscellaneous Communal
Site Address: 12287 Mississauga Rd
District Area: Halton Peel
Facility Owner: Peel District School Board - Alloa Public School
Site Name:

Details

Incident Date:	
Exceedance Start Date:	1/1/2016
Exceedance End Date:	1/31/2016
Limit/Unit/Freq:	10mg/L / /mon
Quantity Min/Max:	12/12
Facility Action:	Other
Ministry Action:	Assessment Complete - Incident Resolved

14 | **1 of 1** | **SSE/2.6** | **263.7 / -3.21** | **lot 19 con 5 ON** | **WWIS**

Well ID:	4906895	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	09/15/1988
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	41599	**Contractor:**	4868
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	019
Depth to Bedrock:		**Concession:**	05
Well Depth:		**Concession Name:**	HS E
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CALEDON TWP)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4906895.pdf

Additional Detail(s) (Map)

Well Completed Date:	08/18/1988
Year Completed:	1988
Depth (m):	14.9352
Latitude:	43.7011285748182
Longitude:	-79.8755606868209
X:	-79.87556053665138
Y:	43.701128573220416
Path:	490\4906895.pdf

Bore Hole Information

Bore Hole ID:	10321456	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590602.50
Code OB Desc:		**North83:**	4839293.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	08/18/1988	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			

Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID:	932055746
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	06
Material 3 Desc:	SILT
Formation Top Depth:	13.0
Formation End Depth:	25.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055745
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	
Material 3 Desc:	
Formation Top Depth:	1.0
Formation End Depth:	13.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055747
Layer:	4
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	25.0
Formation End Depth:	35.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932055748
Layer:	5
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY

Material 2: 12
Material 2 Desc: STONES
Material 3:
Material 3 Desc:
Formation Top Depth: 35.0
Formation End Depth: 38.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055749
Layer: 6
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 28
Material 2 Desc: SAND
Material 3:
Material 3 Desc:
Formation Top Depth: 38.0
Formation End Depth: 49.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932055744
Layer: 1
Color: 6
General Color: BROWN
Material 1: 02
Material 1 Desc: TOPSOIL
Material 2: 85
Material 2 Desc: SOFT
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 1.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 933170108
Layer: 1
Plug From: 0.0
Plug To: 10.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964906895
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10870026

Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930530421
Layer: 2
Material: 2
Open Hole or Material: GALVANIZED
Depth From:
Depth To: 33.0
Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930530420
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 13.0
Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930530422
Layer: 3
Material: 2
Open Hole or Material: GALVANIZED
Depth From:
Depth To: 49.0
Casing Diameter: 24.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994906895
Pump Set At:
Static Level: 9.0
Final Level After Pumping: 16.0
Recommended Pump Depth: 35.0
Pumping Rate: 5.0
Flowing Rate:
Recommended Pump Rate: 5.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID:	935049543
Test Type:	Recovery
Test Duration:	60
Test Level:	15.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934529965
Test Type:	Recovery
Test Duration:	30
Test Level:	15.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934784048
Test Type:	Recovery
Test Duration:	45
Test Level:	15.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934255408
Test Type:	Recovery
Test Duration:	15
Test Level:	16.0
Test Level UOM:	ft

Water Details

Water ID:	933794926
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	46.0
Water Found Depth UOM:	ft

Water Details

Water ID:	933794925
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	40.0
Water Found Depth UOM:	ft

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15 | ***1 of 1*** | ***WNW/6.3*** | ***266.9 / 0.02*** | ***lot 19 con 4 ON*** | ***WWIS***

Well ID:	4907615	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	02/14/1992
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	77292	**Contractor:**	4919
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	

Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	019
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4907615.pdf

Additional Detail(s) (Map)

Well Completed Date:	09/10/1991
Year Completed:	1991
Depth (m):	15.8496
Latitude:	43.7049730205873
Longitude:	-79.8810429254702
X:	-79.88104277487516
Y:	43.704973019446726
Path:	490\4907615.pdf

Bore Hole Information

Bore Hole ID:	10322174	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590155.00
Code OB Desc:		**North83:**	4839714.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	4
Date Completed:	09/10/1991	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932059577
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	79
Material 3 Desc:	PACKED
Formation Top Depth:	1.0
Formation End Depth:	30.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059578
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	30.0
Formation End Depth:	52.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059576
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964907615
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10870744
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930531505
Layer:	1
Material:	2
Open Hole or Material:	GALVANIZED
Depth From:	
Depth To:	52.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	BAILER

Pump Test ID:	994907615
Pump Set At:	
Static Level:	10.0
Final Level After Pumping:	48.0
Recommended Pump Depth:	40.0
Pumping Rate:	10.0
Flowing Rate:	
Recommended Pump Rate:	3.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	2
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	934532138
Test Type:	Recovery
Test Duration:	30
Test Level:	44.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934257608
Test Type:	Recovery
Test Duration:	15
Test Level:	46.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934786216
Test Type:	Recovery
Test Duration:	45
Test Level:	42.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	935042965
Test Type:	Recovery
Test Duration:	60
Test Level:	40.0
Test Level UOM:	ft

Water Details

Water ID:	933795723
Layer:	1
Kind Code:	5
Kind:	Not stated
Water Found Depth:	20.0
Water Found Depth UOM:	ft

16	***1 of 1***	***SE/58.2***	***264.0 / -2.97***	***lot 18 con 4 Caledon ON***	***WWIS***

Well ID:	7206084	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	
Use 2nd:		**Data Src:**	
Final Well Status:	Abandoned-Other	**Date Received:**	08/01/2013
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	Z170308	**Contractor:**	4645
Tag:		**Form Version:**	7
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/720\7206084.pdf

Additional Detail(s) (Map)

Well Completed Date: 07/09/2013
Year Completed: 2013
Depth (m):
Latitude: 43.7012283584752
Longitude: -79.8747211039766
X: -79.87472095437698
Y: 43.70122835630746
Path: 720\7206084.pdf

Bore Hole Information

Bore Hole ID:	1004499827	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590670.00
Code OB Desc:		**North83:**	4839305.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	07/09/2013	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr

Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Annular Space/Abandonment Sealing Record

Plug ID: 1004976378
Layer: 1
Plug From: -9.0
Plug To: 28.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1004976377
Method Construction Code:
Method Construction:
Other Method Construction:

Pipe Information

Pipe ID: 1004976371
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1004976375
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From: -9.0
Depth To: 28.0
Casing Diameter: 36.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1004976376
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter:

Water Details

Water ID: 1004976374
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1004976373
Diameter:
Depth From:
Depth To:
Hole Depth UOM: ft
Hole Diameter UOM: inch

17	1 of 2	SE/58.9	264.0 / -2.97	lot 19 con 4 ON	WWIS

Well ID: 7206088 ***Flowing (Y/N):***

Construction Date:		**Flow Rate:**	
Use 1st:	Public	**Data Entry Status:**	
Use 2nd:	Other	**Data Src:**	
Final Well Status:	Water Supply	**Date Received:**	08/12/2013
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	Z170312	**Contractor:**	4645
Tag:	A147071	**Form Version:**	7
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	019
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/720\7206088.pdf

Additional Detail(s) (Map)

Well Completed Date: 07/08/2013
Year Completed: 2013
Depth (m): 31.0896
Latitude: 43.7012191118934
Longitude: -79.874696455677
X: -79.8746963064109
Y: 43.70121911024363
Path: 720\7206088.pdf

Bore Hole Information

Bore Hole ID:	1004500055	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590672.00
Code OB Desc:		**North83:**	4839304.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	07/08/2013	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr

Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 1004976608
Layer: 6
Color: 7
General Color: RED
Material 1: 05
Material 1 Desc: CLAY
Material 2: 12
Material 2 Desc: STONES

Material 3: 73
Material 3 Desc: HARD
Formation Top Depth: 35.0
Formation End Depth: 40.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1004976605
Layer: 3
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 11.0
Formation End Depth: 20.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1004976607
Layer: 5
Color: 2
General Color: GREY
Material 1: 11
Material 1 Desc: GRAVEL
Material 2:
Material 2 Desc:
Material 3: 77
Material 3 Desc: LOOSE
Formation Top Depth: 32.0
Formation End Depth: 35.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1004976610
Layer: 8
Color: 2
General Color: GREY
Material 1: 28
Material 1 Desc: SAND
Material 2: 11
Material 2 Desc: GRAVEL
Material 3: 77
Material 3 Desc: LOOSE
Formation Top Depth: 77.0
Formation End Depth: 98.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1004976603
Layer: 1

Color:	8
General Color:	BLACK
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1004976611
Layer:	9
Color:	2
General Color:	GREY
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	98.0
Formation End Depth:	102.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1004976606
Layer:	4
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	20.0
Formation End Depth:	32.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1004976604
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	06
Material 1 Desc:	SILT
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	28
Material 3 Desc:	SAND
Formation Top Depth:	1.0
Formation End Depth:	11.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1004976609
Layer:	7
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	74
Material 3 Desc:	LAYERED
Formation Top Depth:	40.0
Formation End Depth:	77.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1004976647
Layer:	1
Plug From:	0.0
Plug To:	50.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1004976646
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	1004976601
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1004976616
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	-3.0
Depth To:	85.0
Casing Diameter:	6.25
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1004976617
Layer:	1
Slot:	16
Screen Top Depth:	86.0
Screen End Depth:	102.0
Screen Material:	1

Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 5.5

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 1004976602
Pump Set At: 91.0
Static Level: 1.399999976158142
Final Level After Pumping:
Recommended Pump Depth: 91.0
Pumping Rate:
Flowing Rate:
Recommended Pump Rate: 2.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 0
Pumping Duration HR: 24
Pumping Duration MIN:
Flowing:

Draw Down & Recovery

Pump Test Detail ID: 1004976621
Test Type: Recovery
Test Duration: 2
Test Level: 23.700000762939453
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976641
Test Type: Recovery
Test Duration: 50
Test Level: 9.100000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976622
Test Type: Draw Down
Test Duration: 3
Test Level: 4.699999809265137
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976631
Test Type: Recovery
Test Duration: 15
Test Level: 17.100000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976639
Test Type: Recovery
Test Duration: 40

Test Level: 10.5
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976642
Test Type: Draw Down
Test Duration: 60
Test Level: 12.5
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976643
Test Type: Recovery
Test Duration: 60
Test Level: 8.100000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976623
Test Type: Recovery
Test Duration: 3
Test Level: 23.100000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976640
Test Type: Draw Down
Test Duration: 50
Test Level: 11.100000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976633
Test Type: Recovery
Test Duration: 20
Test Level: 15.300000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976635
Test Type: Recovery
Test Duration: 25
Test Level: 14.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976634
Test Type: Draw Down
Test Duration: 25
Test Level: 8.699999809265137
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976638
Test Type: Draw Down
Test Duration: 40
Test Level: 10.199999809265137
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976627
Test Type: Recovery
Test Duration: 5
Test Level: 21.899999618530273
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976632
Test Type: Draw Down
Test Duration: 20
Test Level: 8.300000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976637
Test Type: Recovery
Test Duration: 30
Test Level: 12.5
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976619
Test Type: Recovery
Test Duration: 1
Test Level: 24.299999237060547
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976620
Test Type: Draw Down
Test Duration: 2
Test Level: 4.300000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976625
Test Type: Recovery
Test Duration: 4
Test Level: 22.399999618530273
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976626
Test Type: Draw Down

Test Duration: 5
Test Level: 5.300000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976630
Test Type: Draw Down
Test Duration: 15
Test Level: 7.599999904632568
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976636
Test Type: Draw Down
Test Duration: 30
Test Level: 9.300000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976618
Test Type: Draw Down
Test Duration: 1
Test Level: 3.5999999046325684
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976624
Test Type: Draw Down
Test Duration: 4
Test Level: 5.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976628
Test Type: Draw Down
Test Duration: 10
Test Level: 5.599999904632568
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1004976629
Test Type: Recovery
Test Duration: 10
Test Level: 19.299999237060547
Test Level UOM: ft

Water Details

Water ID: 1004976615
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 102.0
Water Found Depth UOM: ft

Hole Diameter

Hole ID:	1004976612
Diameter:	10.0
Depth From:	0.0
Depth To:	20.0
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

Hole Diameter

Hole ID:	1004976614
Diameter:	6.125
Depth From:	85.0
Depth To:	102.0
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

Hole Diameter

Hole ID:	1004976613
Diameter:	8.75
Depth From:	20.0
Depth To:	85.0
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

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17 ***2 of 2*** ***SE/58.9*** ***264.0 / -2.97*** ***MISSISSAUGA RD & N OF MAYFIELD RD lot 19 con 4 Caledon ON*** ***WWIS***

Well ID:	7247332	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:		***Data Src:***	
Final Well Status:	0	***Date Received:***	08/26/2015
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	Z163544	***Contractor:***	7421
Tag:	A147071	***Form Version:***	7
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	019
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/724\7247332.pdf

Additional Detail(s) (Map)

Well Completed Date:	07/02/2015
Year Completed:	2015
Depth (m):	31.0896
Latitude:	43.7012191118934
Longitude:	-79.874696455677

X:	-79.8746963064109
Y:	43.70121911024363
Path:	724\7247332.pdf

Bore Hole Information

Bore Hole ID:	1005645991	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	590672.00
Code OB Desc:		***North83:***	4839304.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	07/02/2015	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1005702323
Layer:	1
Color:	2
General Color:	GREY
Material 1:	
Material 1 Desc:	
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	102.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1005702329
Layer:	1
Plug From:	0.0
Plug To:	102.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1005702328
Method Construction Code:	
Method Construction:	
Other Method Construction:	

Pipe Information

Pipe ID:	1005702322
Casing No:	0
Comment:	

Alt Name:

Construction Record - Casing

Casing ID: 1005702326
Layer:
Material:
Open Hole or Material:
Depth From:
Depth To:
Casing Diameter:
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1005702327
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter:

Water Details

Water ID: 1005702325
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1005702324
Diameter:
Depth From:
Depth To:
Hole Depth UOM: ft
Hole Diameter UOM: inch

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18 | **1 of 1** | **SSW/194.3** | **271.0 / 4.02** | **12392 MISSISSAUGA RD lot 19 con 5 CALEDON ON** | **WWIS**

Well ID: 4910346
Construction Date:
Use 1st: Domestic
Use 2nd:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: Z54616
Tag: A042815
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 10/27/2006
Selected Flag: TRUE
Abandonment Rec:
Contractor: 3030
Form Version: 3
Owner:
County: PEEL
Lot: 019
Concession: 05
Concession Name:
Easting NAD83:

Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/491\4910346.pdf

Additional Detail(s) (Map)

Well Completed Date: 08/24/2006
Year Completed: 2006
Depth (m): 22.55
Latitude: 43.7003742121402
Longitude: -79.8785098598615
X: -79.87850971024847
Y: 43.70037421027615
Path: 491\4910346.pdf

Bore Hole Information

Bore Hole ID: 11694227
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 08/24/2006
Remarks:
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:
Elevation:
Elevrc:
Zone: 17
East83: 590366.00
North83: 4839206.00
Org CS: UTM83
UTMRC: 3
UTMRC Desc: margin of error : 10 - 30 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 933077734
Layer: 1
Color: 6
General Color: BROWN
Material 1: 02
Material 1 Desc: TOPSOIL
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 0.30000001192092896
Formation End Depth UOM: m

Overburden and Bedrock Materials Interval

Formation ID: 933077735
Layer: 2
Color: 6
General Color: BROWN

Material 1: 05
Material 1 Desc: CLAY
Material 2: 81
Material 2 Desc: SANDY
Material 3:
Material 3 Desc:
Formation Top Depth: 0.30000001192092896
Formation End Depth: 4.570000171661377
Formation End Depth UOM: m

Overburden and Bedrock Materials Interval

Formation ID: 933077738
Layer: 5
Color: 6
General Color: BROWN
Material 1: 28
Material 1 Desc: SAND
Material 2: 11
Material 2 Desc: GRAVEL
Material 3:
Material 3 Desc:
Formation Top Depth: 20.719999313354492
Formation End Depth: 22.549999237060547
Formation End Depth UOM: m

Overburden and Bedrock Materials Interval

Formation ID: 933077737
Layer: 4
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 06
Material 2 Desc: SILT
Material 3:
Material 3 Desc:
Formation Top Depth: 5.480000019073486
Formation End Depth: 20.719999313354492
Formation End Depth UOM: m

Overburden and Bedrock Materials Interval

Formation ID: 933077736
Layer: 3
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 28
Material 2 Desc: SAND
Material 3:
Material 3 Desc:
Formation Top Depth: 4.570000171661377
Formation End Depth: 5.480000019073486
Formation End Depth UOM: m

Annular Space/Abandonment

Sealing Record

Plug ID:	933305523
Layer:	1
Plug From:	0.0
Plug To:	2.450000047683716
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	933305524
Layer:	2
Plug From:	2.450000047683716
Plug To:	22.549999237060547
Plug Depth UOM:	m

Method of Construction & Well Use

Method Construction ID:	964910346
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	11699093
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930890083
Layer:	3
Material:	2
Open Hole or Material:	GALVANIZED
Depth From:	15.239999771118164
Depth To:	22.549999237060547
Casing Diameter:	60.959999084472656
Casing Diameter UOM:	cm
Casing Depth UOM:	m

Construction Record - Casing

Casing ID:	930890082
Layer:	2
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	14.630000114440918
Depth To:	15.239999771118164
Casing Diameter:	60.959999084472656
Casing Diameter UOM:	cm
Casing Depth UOM:	m

Construction Record - Casing

Casing ID:	930890081
Layer:	1
Material:	

Open Hole or Material:
Depth From: 0.0
Depth To: 16.0
Casing Diameter: 91.44000244140625
Casing Diameter UOM: cm
Casing Depth UOM: m

Water Details

Water ID: 934080975
Layer: 1
Kind Code:
Kind:
Water Found Depth: 5.480000019073486
Water Found Depth UOM: m

Water Details

Water ID: 934080977
Layer: 3
Kind Code:
Kind:
Water Found Depth: 20.0
Water Found Depth UOM: m

Water Details

Water ID: 934080976
Layer: 2
Kind Code:
Kind:
Water Found Depth: 13.970000267028809
Water Found Depth UOM: m

Hole Diameter

Hole ID: 11758249
Diameter: 81.27999877929688
Depth From: 16.0
Depth To: 22.549999237060547
Hole Depth UOM: m
Hole Diameter UOM: cm

Hole Diameter

Hole ID: 11758250
Diameter: 121.91999816894531
Depth From: 0.0
Depth To: 16.0
Hole Depth UOM: m
Hole Diameter UOM: cm

19	*1 of 1*	*SSE/72.2*	*264.6 / -2.33*	*lot 19 con 5 ON*	*WWIS*

Well ID: 4906959
Construction Date:
Use 1st: Livestock
Use 2nd:
Final Well Status: Water Supply
Water Type:
Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 12/19/1988
Selected Flag: TRUE

Casing Material:		**Abandonment Rec:**	
Audit No:	41600	**Contractor:**	4868
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	019
Depth to Bedrock:		**Concession:**	05
Well Depth:		**Concession Name:**	CON
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4906959.pdf

Additional Detail(s) (Map)

Well Completed Date:	10/06/1988
Year Completed:	1988
Depth (m):	9.7536
Latitude:	43.6999333510644
Longitude:	-79.8757940029224
X:	-79.8757938534181
Y:	43.699933349466
Path:	490\4906959.pdf

Bore Hole Information

Bore Hole ID:	10321520	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590585.50
Code OB Desc:		**North83:**	4839160.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	10/06/1988	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932056056
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932056059
Layer:	4
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	13.0
Formation End Depth:	26.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932056057
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	1.0
Formation End Depth:	10.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932056058
Layer:	3
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	
Material 3 Desc:	
Formation Top Depth:	10.0
Formation End Depth:	13.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932056060
Layer:	5
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28

Material 2 Desc: SAND
Material 3:
Material 3 Desc:
Formation Top Depth: 26.0
Formation End Depth: 32.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964906959
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10870090
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930530529
Layer: 2
Material: 2
Open Hole or Material: GALVANIZED
Depth From:
Depth To: 30.0
Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930530530
Layer: 3
Material:
Open Hole or Material:
Depth From:
Depth To: 32.0
Casing Diameter:
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930530528
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 10.0
Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP

Pump Test ID:	994906959
Pump Set At:	
Static Level:	17.0
Final Level After Pumping:	18.0
Recommended Pump Depth:	25.0
Pumping Rate:	3.0
Flowing Rate:	
Recommended Pump Rate:	3.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	934530014
Test Type:	Recovery
Test Duration:	30
Test Level:	18.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934255871
Test Type:	Recovery
Test Duration:	15
Test Level:	18.0
Test Level UOM:	ft

Water Details

Water ID:	933794994
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	32.0
Water Found Depth UOM:	ft

Water Details

Water ID:	933794993
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	28.0
Water Found Depth UOM:	ft

20 ***1 of 1*** ***SE/17.3*** ***260.9 / -6.08*** ***lot 18 con 4 ON*** ***WWIS***

Well ID:	4908610	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:		***Data Src:***	1
Final Well Status:	Abandoned-Supply	***Date Received:***	08/04/2000
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	213855	***Contractor:***	1737

Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908610.pdf

Additional Detail(s) (Map)

Well Completed Date:	02/16/2000
Year Completed:	2000
Depth (m):	15.24
Latitude:	43.6989412091733
Longitude:	-79.8728775394217
X:	-79.8728773894233
Y:	43.69894120756381
Path:	490\4908610.pdf

Bore Hole Information

Bore Hole ID:	10323145	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590822.00
Code OB Desc:		**North83:**	4839053.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	4
Date Completed:	02/16/2000	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932064159
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	0.0
Formation End Depth:	11.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064162
Layer:	4
Color:	2
General Color:	GREY
Material 1:	34
Material 1 Desc:	TILL
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	21.0
Formation End Depth:	27.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064161
Layer:	3
Color:	2
General Color:	GREY
Material 1:	28
Material 1 Desc:	SAND
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	18.0
Formation End Depth:	21.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064164
Layer:	6
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	45.0
Formation End Depth:	50.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064160
Layer:	2
Color:	2
General Color:	GREY
Material 1:	34
Material 1 Desc:	TILL
Material 2:	73
Material 2 Desc:	HARD
Material 3:	

Material 3 Desc:
Formation Top Depth: 11.0
Formation End Depth: 18.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064163
Layer: 5
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 85
Material 2 Desc: SOFT
Material 3:
Material 3 Desc:
Formation Top Depth: 27.0
Formation End Depth: 45.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964908610
Method Construction Code: 2
Method Construction: Rotary (Convent.)
Other Method Construction:

Pipe Information

Pipe ID: 10871715
Casing No: 1
Comment:
Alt Name:

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21 | ***1 of 1*** | ***SE/19.2*** | ***261.4 / -5.54*** | ***lot 19 con 5 ON*** | ***WWIS***

Well ID:	4904139	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:	0	***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	08/24/1973
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:		***Contractor:***	3349
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	019
Depth to Bedrock:		***Concession:***	05
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4904139.pdf

Additional Detail(s) (Map)

Well Completed Date:	07/06/1973
Year Completed:	1973
Depth (m):	18.8976
Latitude:	43.6985918958816
Longitude:	-79.873064029932
X:	-79.87306387964826
Y:	43.698591894452704
Path:	490\4904139.pdf

Bore Hole Information

Bore Hole ID:	10318927	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	590807.50
Code OB Desc:		***North83:***	4839014.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	6
Date Completed:	07/06/1973	***UTMRC Desc:***	margin of error : 300 m - 1 km
Remarks:		***Location Method:***	p6

Location Method Desc:	Original Pre1985 UTM Rel Code 6: margin of error : 300 m - 1 km
Elevrc Desc:	
Location Source Date:	
Improvement Location Source:	
Improvement Location Method:	
Source Revision Comment:	
Supplier Comment:	

Overburden and Bedrock Materials Interval

Formation ID:	932044426
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	28
Material 3 Desc:	SAND
Formation Top Depth:	2.0
Formation End Depth:	24.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932044427
Layer:	3
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	
Material 3 Desc:	
Formation Top Depth:	24.0

Formation End Depth:	60.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932044425
Layer:	1
Color:	8
General Color:	BLACK
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	12
Material 2 Desc:	STONES
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	2.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932044428
Layer:	4
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	60.0
Formation End Depth:	62.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964904139
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10867497
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930526650
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	62.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch

Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: BAILER
Pump Test ID: 994904139
Pump Set At:
Static Level: 6.0
Final Level After Pumping: 60.0
Recommended Pump Depth: 58.0
Pumping Rate: 10.0
Flowing Rate:
Recommended Pump Rate: 5.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 2
Water State After Test: CLOUDY
Pumping Test Method: 2
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934258030
Test Type: Recovery
Test Duration: 15
Test Level: 6.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 935042857
Test Type: Recovery
Test Duration: 60
Test Level: 6.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934532562
Test Type: Recovery
Test Duration: 30
Test Level: 6.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934786696
Test Type: Recovery
Test Duration: 45
Test Level: 6.0
Test Level UOM: ft

Water Details

Water ID: 933792170
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 62.0

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Water Found Depth UOM: ft

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22 | **1 of 1** | **SE/34.8** | **261.9 / -5.07** | **ENBRIDGE GAS INC**
12191 MISSISSAUGA RD,,CALEDON,ON,L7C 1X1,CA
ON | **PINC**

Incident Id:		**Pipe Material:**	
Incident No:	2891758	**Fuel Category:**	
Incident Reported Dt:	7/21/2020	**Health Impact:**	
Type:	FS-Pipeline Incident	**Environment Impact:**	
Status Code:		**Property Damage:**	
Tank Status:	Pipeline Damage Reason Est	**Service Interrupt:**	
Task No:		**Enforce Policy:**	
Spills Action Centre:		**Public Relation:**	
Fuel Type:		**Pipeline System:**	
Fuel Occurrence Tp:		**PSIG:**	
Date of Occurrence:		**Attribute Category:**	
Occurrence Start Dt:		**Regulator Location:**	
Depth:		**Method Details:**	

Customer Acct Name: ENBRIDGE GAS INC
Incident Address: 12191 MISSISSAUGA RD,,CALEDON,ON,L7C 1X1,CA
Operation Type:
Pipeline Type:
Regulator Type:
Summary:
Reported By:
Affiliation:
Occurrence Desc:
Damage Reason:
Notes:

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23 | **1 of 1** | **SE/9.5** | **262.3 / -4.63** | **lot 18 con 4**
ON | **WWIS**

Well ID:	4908608	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Abandoned-Supply	**Date Received:**	08/04/2000
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	213884	**Contractor:**	1737
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908608.pdf

Additional Detail(s) (Map)

Well Completed Date: 02/17/2000
Year Completed: 2000

Depth (m): 15.24
Latitude: 43.6985399701953
Longitude: -79.8723638331747
X: -79.87236368263756
Y: 43.698539968172966
Path: 490\4908608.pdf

Bore Hole Information

Bore Hole ID: 10323143
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 02/17/2000
Remarks:
Location Method Desc: from gps
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 590864.00
North83: 4839009.00
Org CS:
UTMRC: 3
UTMRC Desc: margin of error : 10 - 30 m
Location Method: gps

Overburden and Bedrock Materials Interval

Formation ID: 932064145
Layer: 1
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2: 85
Material 2 Desc: SOFT
Material 3: 06
Material 3 Desc: SILT
Formation Top Depth: 0.0
Formation End Depth: 9.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064150
Layer: 6
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 85
Material 2 Desc: SOFT
Material 3:
Material 3 Desc:
Formation Top Depth: 38.0
Formation End Depth: 50.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064146
Layer: 2
Color: 2
General Color: GREY
Material 1: 28
Material 1 Desc: SAND
Material 2: 85
Material 2 Desc: SOFT
Material 3: 06
Material 3 Desc: SILT
Formation Top Depth: 9.0
Formation End Depth: 24.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064149
Layer: 5
Color: 2
General Color: GREY
Material 1: 34
Material 1 Desc: TILL
Material 2: 73
Material 2 Desc: HARD
Material 3:
Material 3 Desc:
Formation Top Depth: 34.0
Formation End Depth: 38.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064148
Layer: 4
Color: 2
General Color: GREY
Material 1: 28
Material 1 Desc: SAND
Material 2: 11
Material 2 Desc: GRAVEL
Material 3: 05
Material 3 Desc: CLAY
Formation Top Depth: 30.0
Formation End Depth: 34.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064147
Layer: 3
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 85
Material 2 Desc: SOFT
Material 3: 06
Material 3 Desc: SILT
Formation Top Depth: 24.0

Formation End Depth: 30.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964908608
Method Construction Code: 2
Method Construction: Rotary (Convent.)
Other Method Construction:

Pipe Information

Pipe ID: 10871713
Casing No: 1
Comment:
Alt Name:

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24 | **1 of 1** | **SSE/78.8** | **262.8 / -4.10** | **lot 18 con 5 ON** | **WWIS**

Well ID: 4902029
Construction Date:
Use 1st: Domestic
Use 2nd: 0
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No:
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 08/03/1965
Selected Flag: TRUE
Abandonment Rec:
Contractor: 1307
Form Version: 1
Owner:
County: PEEL
Lot: 018
Concession: 05
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4902029.pdf

Additional Detail(s) (Map)

Well Completed Date: 07/21/1965
Year Completed: 1965
Depth (m): 16.764
Latitude: 43.6977718354146
Longitude: -79.8729925210395
X: -79.87299237115295
Y: 43.69777183352806
Path: 490\4902029.pdf

Bore Hole Information

Bore Hole ID: 10316872
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:

Elevation:
Elevrc:
Zone: 17
East83: 590814.50
North83: 4838923.00

Open Hole: ***Org CS:***
Cluster Kind: ***UTMRC:*** 5
Date Completed: 07/21/1965 ***UTMRC Desc:*** margin of error : 100 m - 300 m
Remarks: ***Location Method:*** p5
Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932036478
Layer: 1
Color: 6
General Color: BROWN
Material 1: 02
Material 1 Desc: TOPSOIL
Material 2: 05
Material 2 Desc: CLAY
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932036480
Layer: 3
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 32.0
Formation End Depth: 55.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932036479
Layer: 2
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 09
Material 2 Desc: MEDIUM SAND
Material 3:
Material 3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 32.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964902029
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10865442
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930523711
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 55.0
Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994902029
Pump Set At:
Static Level: 7.0
Final Level After Pumping:
Recommended Pump Depth: 50.0
Pumping Rate: 50.0
Flowing Rate:
Recommended Pump Rate: 50.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR:
Pumping Duration MIN:
Flowing: No

Water Details

Water ID: 933790000
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 55.0
Water Found Depth UOM: ft

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
25	1 of 1	SE/115.9	264.9 / -2.01	lot 18 con 4 ON	WWIS

Well ID: 4908607
Construction Date:
Flowing (Y/N):
Flow Rate:

Use 1st:	Industrial	**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	08/04/2000
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	213886	**Contractor:**	1737
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908607.pdf

Additional Detail(s) (Map)

Well Completed Date:	02/18/2000
Year Completed:	2000
Depth (m):	24.384
Latitude:	43.6987826570992
Longitude:	-79.8704977653239
X:	-79.87049761466638
Y:	43.69878265496787
Path:	490\4908607.pdf

Bore Hole Information

Bore Hole ID:	10323142	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591014.00
Code OB Desc:		**North83:**	4839038.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	02/18/2000	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps

Location Method Desc: from gps
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID:	932064138
Layer:	3
Color:	2
General Color:	GREY
Material 1:	28
Material 1 Desc:	SAND
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	05

Material 3 Desc: CLAY
Formation Top Depth: 29.0
Formation End Depth: 33.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064143
Layer: 8
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 85
Material 2 Desc: SOFT
Material 3:
Material 3 Desc:
Formation Top Depth: 56.0
Formation End Depth: 62.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064136
Layer: 1
Color: 6
General Color: BROWN
Material 1: 06
Material 1 Desc: SILT
Material 2: 05
Material 2 Desc: CLAY
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 0.0
Formation End Depth: 15.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064141
Layer: 6
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 11
Material 2 Desc: GRAVEL
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 48.0
Formation End Depth: 53.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064140
Layer: 5
Color: 2

General Color:	GREY
Material 1:	28
Material 1 Desc:	SAND
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	45.0
Formation End Depth:	48.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064137
Layer:	2
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	28
Material 3 Desc:	SAND
Formation Top Depth:	15.0
Formation End Depth:	29.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064139
Layer:	4
Color:	2
General Color:	GREY
Material 1:	34
Material 1 Desc:	TILL
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	33.0
Formation End Depth:	45.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064142
Layer:	7
Color:	2
General Color:	GREY
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	53.0
Formation End Depth:	56.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064144
Layer:	9
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	62.0
Formation End Depth:	80.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964908607
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	10871712
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930532814
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	933360670
Layer:	1
Slot:	014
Screen Top Depth:	63.0
Screen End Depth:	72.0
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	6.0

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994908607
Pump Set At:	
Static Level:	17.0

Final Level After Pumping:	69.0
Recommended Pump Depth:	78.0
Pumping Rate:	1.0
Flowing Rate:	
Recommended Pump Rate:	1.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	4
Pumping Duration MIN:	15
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	934259854
Test Type:	Recovery
Test Duration:	15
Test Level:	61.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934779685
Test Type:	Recovery
Test Duration:	45
Test Level:	39.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	935045230
Test Type:	Recovery
Test Duration:	60
Test Level:	34.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934526161
Test Type:	Recovery
Test Duration:	30
Test Level:	50.0
Test Level UOM:	ft

Water Details

Water ID:	933796712
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	62.0
Water Found Depth UOM:	ft

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
26	1 of 1	SE/73.9	263.5 / -3.41	lot 18 con 5 ON	WWIS

Well ID:	4902028	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	

Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	08/03/1965
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	1307
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	05
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4902028.pdf

Additional Detail(s) (Map)

Well Completed Date: 07/17/1965
Year Completed: 1965
Depth (m): 13.4112
Latitude: 43.697634109796
Longitude: -79.872722083311
X: -79.87272193343503
Y: 43.69763410799688
Path: 490\4902028.pdf

Bore Hole Information

Bore Hole ID:	10316871	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590836.50
Code OB Desc:		**North83:**	4838908.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	07/17/1965	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5

Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932036475
Layer: 1
Color: 6
General Color: BROWN
Material 1: 02
Material 1 Desc: TOPSOIL
Material 2: 05
Material 2 Desc: CLAY
Material 3:
Material 3 Desc:

Formation Top Depth: 0.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932036476
Layer: 2
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 09
Material 2 Desc: MEDIUM SAND
Material 3:
Material 3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 34.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932036477
Layer: 3
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 34.0
Formation End Depth: 44.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964902028
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10865441
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930523710
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 44.0
Casing Diameter: 30.0

Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994902028
Pump Set At:	
Static Level:	20.0
Final Level After Pumping:	
Recommended Pump Depth:	42.0
Pumping Rate:	2.0
Flowing Rate:	
Recommended Pump Rate:	2.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	No

Water Details

Water ID:	933789999
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	44.0
Water Found Depth UOM:	ft

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27 | **1 of 1** | **SE/64.9** | **264.8 / -2.16** | **lot 18 con 4 ON** | **WWIS**

Well ID:	4908612	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Abandoned-Supply	**Date Received:**	08/04/2000
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	213882	**Contractor:**	1737
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908612.pdf

Additional Detail(s) (Map)

Well Completed Date:	02/14/2000
Year Completed:	2000

Depth (m): 23.1648
Latitude: 43.6984447405101
Longitude: -79.8709260513381
X: -79.87092590074516
Y: 43.69844473912782
Path: 490\4908612.pdf

Bore Hole Information

Bore Hole ID: 10323147
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 02/14/2000
Remarks:
Location Method Desc: from gps
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 590980.00
North83: 4839000.00
Org CS:
UTMRC: 3
UTMRC Desc: margin of error : 10 - 30 m
Location Method: gps

Overburden and Bedrock Materials Interval

Formation ID: 932064178
Layer: 6
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 85
Material 2 Desc: SOFT
Material 3:
Material 3 Desc:
Formation Top Depth: 56.0
Formation End Depth: 60.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064177
Layer: 5
Color: 2
General Color: GREY
Material 1: 34
Material 1 Desc: TILL
Material 2: 73
Material 2 Desc: HARD
Material 3:
Material 3 Desc:
Formation Top Depth: 39.0
Formation End Depth: 56.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID:	932064173
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	0.0
Formation End Depth:	16.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064174
Layer:	2
Color:	2
General Color:	GREY
Material 1:	28
Material 1 Desc:	SAND
Material 2:	06
Material 2 Desc:	SILT
Material 3:	28
Material 3 Desc:	SAND
Formation Top Depth:	16.0
Formation End Depth:	19.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064179
Layer:	7
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	60.0
Formation End Depth:	76.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064175
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	19.0

Formation End Depth:	24.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064176
Layer:	4
Color:	2
General Color:	GREY
Material 1:	34
Material 1 Desc:	TILL
Material 2:	06
Material 2 Desc:	SILT
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	24.0
Formation End Depth:	39.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964908612
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	10871717
Casing No:	1
Comment:	
Alt Name:	

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28 ***1 of 1*** ***SE/62.6*** ***265.8 / -1.12*** ***lot 18 con 4 ON*** ***WWIS***

Well ID:	4906275	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:		***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	04/01/1985
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:		***Contractor:***	3317
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	10320841	***Tag No:***	

Depth M:	15.24	**Contractor:**	3317
Year Completed:	1984	**Latitude:**	43.6981621773335
Well Completed Dt:	08/14/1984	**Longitude:**	-79.870577669131
Audit No:		**Y:**	43.698162175233165
Path:		**X:**	-79.87057751894277

Bore Hole Information

Bore Hole ID:	10320841	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591008.50
Code OB Desc:		**North83:**	4838969.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	08/14/1984	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	topo
Location Method Desc:	from Topo. Map		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932052969
Layer:	1
Color:	
General Color:	
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	28.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052970
Layer:	2
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	28.0
Formation End Depth:	50.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID: 964906275
Method Construction Code: 2
Method Construction: Rotary (Convent.)
Other Method Construction:

Pipe Information

Pipe ID: 10869411
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930529414
Layer: 2
Material:
Open Hole or Material:
Depth From:
Depth To: 50.0
Casing Diameter:
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930529413
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 30.0
Casing Diameter: 5.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994906275
Pump Set At:
Static Level: 5.0
Final Level After Pumping: 27.0
Recommended Pump Depth: 45.0
Pumping Rate: 5.0
Flowing Rate:
Recommended Pump Rate: 5.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 2
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 935047862
Test Type: Draw Down
Test Duration: 60
Test Level: 27.0

Test Level UOM: ft

Water Details

Water ID: 933794212
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 34.0
Water Found Depth UOM: ft

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29 | ***1 of 1*** | ***WNW/4.5*** | ***268.9 / 2.02*** | ***ON*** | ***WWIS***

Well ID: 7420147
Construction Date:
Use 1st:
Use 2nd:
Final Well Status:
Water Type:
Casing Material:
Audit No: Z354589
Tag: A312535
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status: Yes
Data Src:
Date Received: 06/15/2022
Selected Flag: TRUE
Abandonment Rec:
Contractor: 7742
Form Version: 7
Owner:
County: PEEL
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Additional Detail(s) (Map)

Bore Hole ID: 1009072585
Depth M:
Year Completed: 2022
Well Completed Dt: 05/12/2022
Audit No: Z354589
Path:

Tag No: A312535
Contractor: 7742
Latitude: 43.7081230571109
Longitude: -79.8855147219633
Y: 43.708123055340515
X: -79.8855145722813

Bore Hole Information

Bore Hole ID: 1009072585
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 05/12/2022
Remarks:
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 589790.00
North83: 4840059.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
30	1 of 1	WNW/25.1	269.9 / 2.92	12696 Mississauga Road lot 21 con 5 Caledon ON	WWIS

Well ID: 7405004
Construction Date:
Use 1st:
Use 2nd:
Final Well Status: Abandoned-Other
Water Type:
Casing Material:
Audit No: 3HHCB5GR
Tag: _NO_TAG
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 11/29/2021
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 7732
Form Version: 9
Owner:
County: PEEL
Lot: 021
Concession: 05
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Additional Detail(s) (Map)

Bore Hole ID: 1008871887
Depth M:
Year Completed: 2021
Well Completed Dt: 11/10/2021
Audit No: 3HHCB5GR
Path:

Tag No: _NO_TAG
Contractor: 7732
Latitude: 43.7081098919656
Longitude: -79.8860114481391
Y: 43.70810989015201
X: -79.88601129825577

Bore Hole Information

Bore Hole ID: 1008871887
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 11/10/2021
Remarks:
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 589750.00
North83: 4840057.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1008872038
Layer: 1
Color:
General Color:
Material 1:
Material 1 Desc:
Material 2:

Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth:
Formation End Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1008872186
Layer: 5
Plug From: 4.489999771118164
Plug To: 5.489999771118164
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1008872162
Layer: 1
Plug From:
Plug To:
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1008872183
Layer: 2
Plug From: 2.200000047683716
Plug To: 2.5999999046325684
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1008872185
Layer: 4
Plug From: 3.990000009536743
Plug To: 4.489999771118164
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1008872184
Layer: 3
Plug From: 2.5999999046325684
Plug To: 3.990000009536743
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1008872182
Layer: 1
Plug From: 0.0
Plug To: 2.200000047683716
Plug Depth UOM: m

Pipe Information

Pipe ID:	1008871947
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1008872091
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	0.0
Depth To:	5.489999771118164
Casing Diameter:	76.0
Casing Diameter UOM:	cm
Casing Depth UOM:	m

Results of Well Yield Testing

Pumping Test Method Desc:	
Pump Test ID:	1008871948
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	LPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	

Water Details

Water ID:	1008872018
Layer:	1
Kind Code:	8
Kind:	Untested
Water Found Depth:	0.9100000262260437
Water Found Depth UOM:	m

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
31	1 of 1	SE/57.3	266.9 / -0.08	12139 MISSISSAUGA ROAD lot 18 con 4 Caledon ON	WWIS

Well ID:	7340648	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:		***Data Src:***	
Final Well Status:	Water Supply	***Date Received:***	09/04/2019
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	Z291528	***Contractor:***	7556
Tag:	A251106	***Form Version:***	7
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL

Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/734\7340648.pdf

Additional Detail(s) (Map)

Well Completed Date:	07/24/2019
Year Completed:	2019
Depth (m):	14.3256
Latitude:	43.6978162295271
Longitude:	-79.8701932506252
X:	-79.87019310123989
Y:	43.69781622833656
Path:	734\7340648.pdf

Bore Hole Information

Bore Hole ID:	1007624104	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591040.00
Code OB Desc:		**North83:**	4838931.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	07/24/2019	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1008046557
Layer:	3
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	30.0
Formation End Depth:	36.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008046558
Layer:	4
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	74
Material 2 Desc:	LAYERED
Material 3:	
Material 3 Desc:	
Formation Top Depth:	36.0
Formation End Depth:	47.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008046555
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	15.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008046556
Layer:	2
Color:	4
General Color:	GREEN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	15.0
Formation End Depth:	30.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1008046889
Layer:	1
Plug From:	0.0
Plug To:	20.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1008047257
Method Construction Code:	B

Method Construction: Other Method
Other Method Construction: dom

Pipe Information

Pipe ID: 1008046260
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1008047399
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From: 37.0
Depth To: 47.0
Casing Diameter: 6.0
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 1008047398
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From: -2.0
Depth To: 37.0
Casing Diameter: 6.125
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 1008047720
Pump Set At: 45.0
Static Level: 7.0
Final Level After Pumping: 40.0
Recommended Pump Depth: 45.0
Pumping Rate: 4.0
Flowing Rate:
Recommended Pump Rate: 2.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 0
Pumping Duration HR: 1
Pumping Duration MIN:
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 1008048237
Test Type: Draw Down
Test Duration: 30
Test Level: 38.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048247
Test Type: Recovery
Test Duration: 15
Test Level: 20.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048239
Test Type: Draw Down
Test Duration: 50
Test Level: 39.5
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048241
Test Type: Recovery
Test Duration: 1
Test Level: 38.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048245
Test Type: Recovery
Test Duration: 5
Test Level: 30.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048246
Test Type: Recovery
Test Duration: 10
Test Level: 25.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048228
Test Type: Draw Down
Test Duration: 1
Test Level: 15.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048235
Test Type: Draw Down
Test Duration: 20
Test Level: 34.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048238

Test Type: Draw Down
Test Duration: 40
Test Level: 39.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048242
Test Type: Recovery
Test Duration: 2
Test Level: 37.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048243
Test Type: Recovery
Test Duration: 3
Test Level: 36.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048253
Test Type: Recovery
Test Duration: 60
Test Level: 8.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048229
Test Type: Draw Down
Test Duration: 2
Test Level: 17.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048231
Test Type: Draw Down
Test Duration: 4
Test Level: 19.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048234
Test Type: Draw Down
Test Duration: 15
Test Level: 30.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048249
Test Type: Recovery
Test Duration: 25
Test Level: 13.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048250
Test Type: Recovery
Test Duration: 30
Test Level: 12.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048233
Test Type: Draw Down
Test Duration: 10
Test Level: 26.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048236
Test Type: Draw Down
Test Duration: 25
Test Level: 36.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048244
Test Type: Recovery
Test Duration: 4
Test Level: 34.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048248
Test Type: Recovery
Test Duration: 20
Test Level: 15.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048251
Test Type: Recovery
Test Duration: 40
Test Level: 10.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048230
Test Type: Draw Down
Test Duration: 3
Test Level: 18.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048232
Test Type: Draw Down
Test Duration: 5
Test Level: 20.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048240
Test Type: Draw Down
Test Duration: 60
Test Level: 40.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1008048252
Test Type: Recovery
Test Duration: 50
Test Level: 9.0
Test Level UOM: ft

Water Details

Water ID: 1008047594
Layer: 1
Kind Code: 8
Kind: Untested
Water Found Depth: 47.0
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1008047059
Diameter: 10.0
Depth From: 0.0
Depth To: 20.0
Hole Depth UOM: ft
Hole Diameter UOM: Inch

Hole Diameter

Hole ID: 1008047061
Diameter: 6.0
Depth From: 37.0
Depth To: 47.0
Hole Depth UOM: ft
Hole Diameter UOM: Inch

Hole Diameter

Hole ID: 1008047060
Diameter: 6.625
Depth From: 20.0
Depth To: 37.0
Hole Depth UOM: ft
Hole Diameter UOM: Inch

32	*1 of 1*	*SE/141.0*	*266.6 / -0.32*	*lot 18 con 4 ON*	*WWIS*

Well ID:	4907661	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Irrigation	**Data Entry Status:**	
Use 2nd:	Industrial	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	08/14/1992
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	115388	**Contractor:**	1413
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4907661.pdf

Additional Detail(s) (Map)

Well Completed Date:	07/09/1992
Year Completed:	1992
Depth (m):	23.1648
Latitude:	43.6982944361471
Longitude:	-79.8693838237486
X:	-79.8693836744678
Y:	43.69829443418661
Path:	490\4907661.pdf

Bore Hole Information

Bore Hole ID:	10322220	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591104.50
Code OB Desc:		**North83:**	4838985.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	07/09/1992	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932059856
Layer:	10
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE

Material 2:
Material 2 Desc:
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 54.0
Formation End Depth: 76.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059849
Layer: 3
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 12
Material 2 Desc: STONES
Material 3: 73
Material 3 Desc: HARD
Formation Top Depth: 17.0
Formation End Depth: 24.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059851
Layer: 5
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 12
Material 2 Desc: STONES
Material 3: 73
Material 3 Desc: HARD
Formation Top Depth: 32.0
Formation End Depth: 35.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059853
Layer: 7
Color: 2
General Color: GREY
Material 1: 11
Material 1 Desc: GRAVEL
Material 2:
Material 2 Desc:
Material 3: 60
Material 3 Desc: CEMENTED
Formation Top Depth: 37.0
Formation End Depth: 46.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID:	932059854
Layer:	8
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	46.0
Formation End Depth:	48.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059848
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	74
Material 3 Desc:	LAYERED
Formation Top Depth:	12.0
Formation End Depth:	17.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059850
Layer:	4
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	24.0
Formation End Depth:	32.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059847
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	66
Material 3 Desc:	DENSE
Formation Top Depth:	0.0
Formation End Depth:	12.0

Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059855
Layer: 9
Color: 2
General Color: GREY
Material 1: 11
Material 1 Desc: GRAVEL
Material 2: 05
Material 2 Desc: CLAY
Material 3: 60
Material 3 Desc: CEMENTED
Formation Top Depth: 48.0
Formation End Depth: 54.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059852
Layer: 6
Color: 2
General Color: GREY
Material 1: 12
Material 1 Desc: STONES
Material 2:
Material 2 Desc:
Material 3: 60
Material 3 Desc: CEMENTED
Formation Top Depth: 35.0
Formation End Depth: 37.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964907661
Method Construction Code: 4
Method Construction: Rotary (Air)
Other Method Construction:

Pipe Information

Pipe ID: 10870790
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930531573
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 54.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994907661
Pump Set At:	
Static Level:	7.0
Final Level After Pumping:	49.0
Recommended Pump Depth:	73.0
Pumping Rate:	5.0
Flowing Rate:	
Recommended Pump Rate:	5.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	2
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933795778
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	76.0
Water Found Depth UOM:	ft

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33 ***1 of 1*** ***WNW/20.8*** ***269.9 / 2.92*** ***12696 Mississauga Rd lot 21 con 5 Brampton ON*** ***WWIS***

Well ID:	7380023	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:		***Data Src:***	
Final Well Status:	Replacement Well	***Date Received:***	02/09/2021
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	Z356806	***Contractor:***	2576
Tag:	A276813	***Form Version:***	7
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	021
Depth to Bedrock:		***Concession:***	05
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	1008631193	***Tag No:***	A276813
Depth M:		***Contractor:***	2576
Year Completed:	2021	***Latitude:***	43.7082003984522
Well Completed Dt:	01/09/2021	***Longitude:***	-79.8860594200432
Audit No:	Z356806	***Y:***	43.70820039654483
Path:		***X:***	-79.88605927006519

Bore Hole Information

Bore Hole ID:	1008631193	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	589746.00
Code OB Desc:		***North83:***	4840067.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	01/09/2021	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1009783688
Layer:	1
Color:	
General Color:	
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	2.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1009783692
Layer:	5
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	35.0
Formation End Depth:	117.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1009783691
Layer:	4
Color:	6
General Color:	BROWN
Material 1:	05

Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	28.0
Formation End Depth:	35.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1009783689
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	84
Material 3 Desc:	SILTY
Formation Top Depth:	2.0
Formation End Depth:	12.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1009783690
Layer:	3
Color:	6
General Color:	BROWN
Material 1:	28
Material 1 Desc:	SAND
Material 2:	
Material 2 Desc:	
Material 3:	84
Material 3 Desc:	SILTY
Formation Top Depth:	12.0
Formation End Depth:	28.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1009784618
Layer:	1
Plug From:	0.0
Plug To:	20.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1009785577
Method Construction Code:	B
Method Construction:	Other Method
Other Method Construction:	DR

Pipe Information

Pipe ID: 1009676167
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1009785939
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From: -2.0
Depth To: 36.0
Casing Diameter: 6.0
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 1009785940
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From: 36.0
Depth To: 117.0
Casing Diameter: 6.0
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 1009785941
Layer: 3
Material: 5
Open Hole or Material: PLASTIC
Depth From: 38.0
Depth To: 117.0
Casing Diameter: 5.0
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 1009786857
Pump Set At: 110.0
Static Level: 75.0
Final Level After Pumping: 27.899999618530273
Recommended Pump Depth: 110.0
Pumping Rate: 2.0
Flowing Rate:
Recommended Pump Rate: 2.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 3
Water State After Test: OTHER
Pumping Test Method: 0
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 1009789387
Test Type: Draw Down
Test Duration: 4
Test Level: 9.300000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789407
Test Type: Recovery
Test Duration: 40
Test Level: 14.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789388
Test Type: Draw Down
Test Duration: 5
Test Level: 10.449999809265137
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789385
Test Type: Draw Down
Test Duration: 2
Test Level: 8.600000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789386
Test Type: Draw Down
Test Duration: 3
Test Level: 9.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789400
Test Type: Recovery
Test Duration: 4
Test Level: 23.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789405
Test Type: Recovery
Test Duration: 25
Test Level: 16.100000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789398
Test Type: Recovery
Test Duration: 2

Test Level: 24.799999237060547
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789395
Test Type: Draw Down
Test Duration: 50
Test Level: 25.299999237060547
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789396
Test Type: Draw Down
Test Duration: 60
Test Level: 27.899999618530273
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789399
Test Type: Recovery
Test Duration: 3
Test Level: 23.899999618530273
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789401
Test Type: Recovery
Test Duration: 5
Test Level: 22.600000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789390
Test Type: Draw Down
Test Duration: 15
Test Level: 12.100000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789397
Test Type: Recovery
Test Duration: 1
Test Level: 27.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789402
Test Type: Recovery
Test Duration: 10
Test Level: 21.899999618530273
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789389
Test Type: Draw Down
Test Duration: 10
Test Level: 11.100000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789391
Test Type: Draw Down
Test Duration: 20
Test Level: 14.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789392
Test Type: Draw Down
Test Duration: 25
Test Level: 15.899999618530273
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789393
Test Type: Draw Down
Test Duration: 30
Test Level: 18.5
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789406
Test Type: Recovery
Test Duration: 30
Test Level: 15.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789408
Test Type: Recovery
Test Duration: 50
Test Level: 12.600000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789409
Test Type: Recovery
Test Duration: 60
Test Level: 11.550000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789384
Test Type: Draw Down

Test Duration: 1
Test Level: 7.800000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789394
Test Type: Draw Down
Test Duration: 40
Test Level: 22.299999237060547
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789403
Test Type: Recovery
Test Duration: 15
Test Level: 19.5
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1009789404
Test Type: Recovery
Test Duration: 20
Test Level: 17.399999618530273
Test Level UOM: ft

Water Details

Water ID: 1009786477
Layer: 1
Kind Code: 8
Kind: Untested
Water Found Depth: 38.0
Water Found Depth UOM: ft

Water Details

Water ID: 1009786478
Layer: 2
Kind Code: 8
Kind: Untested
Water Found Depth: 111.0
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1009785096
Diameter: 6.0
Depth From: 20.0
Depth To: 117.0
Hole Depth UOM: ft
Hole Diameter UOM: Inch

Hole Diameter

Hole ID: 1009785095
Diameter: 10.0
Depth From: 0.0

Depth To: 20.0
Hole Depth UOM: ft
Hole Diameter UOM: Inch

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34 | **1 of 1** | **SE/140.5** | **266.9 / -0.08** | **ON** | **WWIS**

Well ID: 7213631
Construction Date:
Use 1st:
Use 2nd:
Final Well Status:
Water Type:
Casing Material:
Audit No: C21705
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status: Yes
Data Src:
Date Received: 12/20/2013
Selected Flag: TRUE
Abandonment Rec:
Contractor: 6926
Form Version: 8
Owner:
County: PEEL
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Additional Detail(s) (Map)

Bore Hole ID: 1004671813
Depth M:
Year Completed: 2013
Well Completed Dt: 11/14/2013
Audit No: C21705
Path:

Tag No:
Contractor: 6926
Latitude: 43.6982397476667
Longitude: -79.8693165963901
Y: 43.69823974612723
X: -79.86931644637482

Bore Hole Information

Bore Hole ID: 1004671813
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 11/14/2013
Remarks:
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 591110.00
North83: 4838979.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

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35 | **1 of 1** | **SE/91.4** | **266.9 / -0.08** | **lot 18 con 4 ON** | **WWIS**

Well ID: 4907660
Construction Date:
Use 1st: Irrigation
Use 2nd: Industrial

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1

Final Well Status:	Water Supply	***Date Received:***	08/14/1992
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	115389	***Contractor:***	1413
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4907660.pdf

Additional Detail(s) (Map)

Well Completed Date:	07/09/1992
Year Completed:	1992
Depth (m):	23.1648
Latitude:	43.6979197786171
Longitude:	-79.8697383429635
X:	-79.86973819271884
Y:	43.69791977741339
Path:	490\4907660.pdf

Bore Hole Information

Bore Hole ID:	10322219	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	591076.50
Code OB Desc:		***North83:***	4838943.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	3
Date Completed:	07/09/1992	***UTMRC Desc:***	margin of error : 10 - 30 m
Remarks:		***Location Method:***	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932059834
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	74
Material 3 Desc:	LAYERED
Formation Top Depth:	8.0

Formation End Depth: 13.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059838
Layer: 6
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3: 66
Material 3 Desc: DENSE
Formation Top Depth: 26.0
Formation End Depth: 27.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059837
Layer: 5
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 23.0
Formation End Depth: 26.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059846
Layer: 14
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 57.0
Formation End Depth: 76.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932059844
Layer: 12
Color: 7
General Color: RED
Material 1: 11

Material 1 Desc:	GRAVEL
Material 2:	28
Material 2 Desc:	SAND
Material 3:	60
Material 3 Desc:	CEMENTED
Formation Top Depth:	47.0
Formation End Depth:	52.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059836
Layer:	4
Color:	2
General Color:	GREY
Material 1:	06
Material 1 Desc:	SILT
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	17.0
Formation End Depth:	23.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059840
Layer:	8
Color:	2
General Color:	GREY
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	60
Material 3 Desc:	CEMENTED
Formation Top Depth:	34.0
Formation End Depth:	38.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059833
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	66
Material 3 Desc:	DENSE
Formation Top Depth:	0.0
Formation End Depth:	8.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059839
Layer:	7
Color:	2
General Color:	GREY
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	60
Material 3 Desc:	CEMENTED
Formation Top Depth:	27.0
Formation End Depth:	34.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059841
Layer:	9
Color:	7
General Color:	RED
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	
Material 2 Desc:	
Material 3:	60
Material 3 Desc:	CEMENTED
Formation Top Depth:	38.0
Formation End Depth:	39.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059843
Layer:	11
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	43.0
Formation End Depth:	47.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059845
Layer:	13
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	52.0

Formation End Depth:	57.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059835
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	13.0
Formation End Depth:	17.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932059842
Layer:	10
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	39.0
Formation End Depth:	43.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964907660
Method Construction Code:	4
Method Construction:	Rotary (Air)
Other Method Construction:	

Pipe Information

Pipe ID:	10870789
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930531572
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	57.0
Casing Diameter:	6.0
Casing Diameter UOM:	inch

Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994907660
Pump Set At:
Static Level: 6.0
Final Level After Pumping: 50.0
Recommended Pump Depth: 73.0
Pumping Rate: 4.0
Flowing Rate:
Recommended Pump Rate: 4.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 1
Pumping Duration MIN: 30
Flowing: No

Water Details

Water ID: 933795777
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 76.0
Water Found Depth UOM: ft

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36 | ***1 of 1*** | ***SE/4.2*** | ***266.8 / -0.13*** | ***lot 18 con 4 ON*** | ***WWIS***

Well ID: 4908315
Construction Date:
Use 1st: Domestic
Use 2nd:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 188752
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 03/13/1998
Selected Flag: TRUE
Abandonment Rec:
Contractor: 1413
Form Version: 1
Owner:
County: PEEL
Lot: 018
Concession: 04
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908315.pdf

Additional Detail(s) (Map)

Well Completed Date: 02/23/1998
Year Completed: 1998
Depth (m): 23.4696

Latitude:	43.6972555260064
Longitude:	-79.8708552948506
X:	-79.87085514507089
Y:	43.69725552412207
Path:	490\4908315.pdf

Bore Hole Information

Bore Hole ID:	10322851	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	590987.50
Code OB Desc:		**North83:**	4838868.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	02/23/1998	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932062737
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	17.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932062739
Layer:	3
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	34.0
Formation End Depth:	77.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932062738
Layer:	2
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	17.0
Formation End Depth:	34.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	933170976
Layer:	3
Plug From:	0.0
Plug To:	10.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964908315
Method Construction Code:	4
Method Construction:	Rotary (Air)
Other Method Construction:	

Pipe Information

Pipe ID:	10871421
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930532390
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	77.0
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994908315
Pump Set At:	
Static Level:	6.0
Final Level After Pumping:	70.0
Recommended Pump Depth:	70.0
Pumping Rate:	2.0
Flowing Rate:	
Recommended Pump Rate:	2.0
Levels UOM:	ft

Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	935044631
Test Type:	Draw Down
Test Duration:	60
Test Level:	70.0
Test Level UOM:	ft

Water Details

Water ID:	933796405
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	77.0
Water Found Depth UOM:	ft

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37 | ***1 of 1*** | ***SE/36.2*** | ***267.1 / 0.21*** | ***lot 18 con 4 ON*** | ***WWIS***

Well ID:	4906277	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	04/01/1985
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	3317
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	10320843	**Tag No:**	
Depth M:	18.8976	**Contractor:**	3317
Year Completed:	1984	**Latitude:**	43.6975734758247
Well Completed Dt:	06/16/1984	**Longitude:**	-79.8702288338669
Audit No:		**Y:**	43.697573474544264
Path:		**X:**	-79.87022868441706

Bore Hole Information

Bore Hole ID:	10320843	**Elevation:**	
DP2BR:		**Elevrc:**	

Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591037.50
Code OB Desc:		**North83:**	4838904.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	06/16/1984	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	topo
Location Method Desc:	from Topo. Map		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932052978
Layer:	3
Color:	
General Color:	
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	12.0
Formation End Depth:	36.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052976
Layer:	1
Color:	
General Color:	
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	9.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052977
Layer:	2
Color:	
General Color:	
Material 1:	28
Material 1 Desc:	SAND
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	9.0

Formation End Depth:	12.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052979
Layer:	4
Color:	
General Color:	
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	74
Material 2 Desc:	LAYERED
Material 3:	
Material 3 Desc:	
Formation Top Depth:	36.0
Formation End Depth:	41.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052980
Layer:	5
Color:	
General Color:	
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	41.0
Formation End Depth:	62.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964906277
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	10869413
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930529418
Layer:	3
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	62.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch

Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930529416
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 38.0
Casing Diameter: 5.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930529417
Layer: 2
Material:
Open Hole or Material:
Depth From:
Depth To: 41.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 933359921
Layer: 1
Slot: 035
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 5.0

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 994906277
Pump Set At:
Static Level: 5.0
Final Level After Pumping: 30.0
Recommended Pump Depth: 50.0
Pumping Rate:
Flowing Rate:
Recommended Pump Rate: 5.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 935047864
Test Type:

Test Duration: 60
Test Level: 30.0
Test Level UOM: ft

Water Details

Water ID: 933794214
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 38.0
Water Found Depth UOM: ft

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38 | **1 of 1** | **SE/43.9** | **267.6 / 0.65** | **lot 18 con 5 ON** | **WWIS**

Well ID: 4905436
Construction Date:
Use 1st: Domestic
Use 2nd: 0
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No:
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 12/21/1978
Selected Flag: TRUE
Abandonment Rec:
Contractor: 4919
Form Version: 1
Owner:
County: PEEL
Lot: 018
Concession: 05
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4905436.pdf

Additional Detail(s) (Map)

Well Completed Date: 08/07/1978
Year Completed: 1978
Depth (m): 10.668
Latitude: 43.6968532442475
Longitude: -79.8711482682631
X: -79.87114811796725
Y: 43.696853242104744
Path: 490\4905436.pdf

Bore Hole Information

Bore Hole ID: 10320169
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 08/07/1978
Remarks:
Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m

Elevation:
Elevrc:
Zone: 17
East83: 590964.50
North83: 4838823.00
Org CS:
UTMRC: 5
UTMRC Desc: margin of error : 100 m - 300 m
Location Method: p5

Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932049970
Layer: 2
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2: 73
Material 2 Desc: HARD
Material 3:
Material 3 Desc:
Formation Top Depth: 1.0
Formation End Depth: 20.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049971
Layer: 3
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 73
Material 2 Desc: HARD
Material 3:
Material 3 Desc:
Formation Top Depth: 20.0
Formation End Depth: 22.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049972
Layer: 4
Color: 6
General Color: BROWN
Material 1: 28
Material 1 Desc: SAND
Material 2: 77
Material 2 Desc: LOOSE
Material 3:
Material 3 Desc:
Formation Top Depth: 22.0
Formation End Depth: 24.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049969

Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049973
Layer:	5
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	24.0
Formation End Depth:	35.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964905436
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10868739
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930528309
Layer:	2
Material:	2
Open Hole or Material:	GALVANIZED
Depth From:	
Depth To:	35.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930528308
Layer:	1
Material:	3

Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	15.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	BAILER
Pump Test ID:	994905436
Pump Set At:	
Static Level:	8.0
Final Level After Pumping:	34.0
Recommended Pump Depth:	30.0
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	2.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	2
Water State After Test:	CLOUDY
Pumping Test Method:	2
Pumping Duration HR:	0
Pumping Duration MIN:	30
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	934781179
Test Type:	Recovery
Test Duration:	45
Test Level:	32.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934526650
Test Type:	Recovery
Test Duration:	30
Test Level:	33.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	935046153
Test Type:	Recovery
Test Duration:	60
Test Level:	30.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934261320
Test Type:	Recovery
Test Duration:	15
Test Level:	34.0
Test Level UOM:	ft

Water Details

Water ID:	933793466
Layer:	1
Kind Code:	5
Kind:	Not stated
Water Found Depth:	22.0
Water Found Depth UOM:	ft

39 **1 of 1** **WNW/168.6** **269.9 / 2.92** **lot 22 con 5 ON** **WWIS**

Well ID:	4908664	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	12/11/2000
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	226259	**Contractor:**	6782
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	022
Depth to Bedrock:		**Concession:**	05
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908664.pdf

Additional Detail(s) (Map)

Well Completed Date:	11/17/2000
Year Completed:	2000
Depth (m):	28.6512
Latitude:	43.7072951009959
Longitude:	-79.8874042591342
X:	-79.88740410878437
Y:	43.707295099272685
Path:	490\4908664.pdf

Bore Hole Information

Bore Hole ID:	10323199	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	589639.00
Code OB Desc:		**North83:**	4839965.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	11/17/2000	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932064412
Layer:	4
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	43.0
Formation End Depth:	94.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064409
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	8.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064410
Layer:	2
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	74
Material 3 Desc:	LAYERED
Formation Top Depth:	8.0
Formation End Depth:	16.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064411
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	74
Material 2 Desc:	LAYERED

Material 3:
Material 3 Desc:
Formation Top Depth: 16.0
Formation End Depth: 43.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 933171264
Layer: 1
Plug From: 0.0
Plug To: 14.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964908664
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10871769
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930532891
Layer: 1
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:
Depth To:
Casing Diameter: 8.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930532892
Layer: 2
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To:
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930532893
Layer: 3
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:

Depth To:
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994908664
Pump Set At:
Static Level: 18.0
Final Level After Pumping: 85.0
Recommended Pump Depth: 91.0
Pumping Rate: 4.0
Flowing Rate:
Recommended Pump Rate: 4.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method: 1
Pumping Duration HR: 6
Pumping Duration MIN:
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934259882
Test Type: Draw Down
Test Duration: 15
Test Level: 38.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 935045259
Test Type: Draw Down
Test Duration: 60
Test Level: 62.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934779714
Test Type: Draw Down
Test Duration: 45
Test Level: 54.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934526188
Test Type: Draw Down
Test Duration: 30
Test Level: 41.0
Test Level UOM: ft

Water Details

Water ID: 933796767
Layer: 1

Kind Code:	1
Kind:	FRESH
Water Found Depth:	90.0
Water Found Depth UOM:	ft

40 **1 of 1** **SE/69.8** **267.6 / 0.66** **lot 18 con 4 ON** **WWIS**

Well ID:	4908606	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Industrial	**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	08/04/2000
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	213887	**Contractor:**	1737
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908606.pdf

Additional Detail(s) (Map)

Well Completed Date:	03/07/2000
Year Completed:	2000
Depth (m):	19.812
Latitude:	43.6974397764567
Longitude:	-79.8694557288058
X:	-79.86945557927011
Y:	43.69743977401072
Path:	490\4908606.pdf

Bore Hole Information

Bore Hole ID:	10323141	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591100.00
Code OB Desc:		**North83:**	4838890.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	03/07/2000	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock

Materials Interval

Formation ID:	932064133
Layer:	6
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	47.0
Formation End Depth:	55.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064129
Layer:	2
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	14.0
Formation End Depth:	32.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064134
Layer:	7
Color:	2
General Color:	GREY
Material 1:	12
Material 1 Desc:	STONES
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	55.0
Formation End Depth:	58.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064131
Layer:	4
Color:	2
General Color:	GREY
Material 1:	06
Material 1 Desc:	SILT
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	11
Material 3 Desc:	GRAVEL

Formation Top Depth: 34.0
Formation End Depth: 39.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064135
Layer: 8
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 73
Material 2 Desc: HARD
Material 3:
Material 3 Desc:
Formation Top Depth: 58.0
Formation End Depth: 65.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064130
Layer: 3
Color: 2
General Color: GREY
Material 1: 28
Material 1 Desc: SAND
Material 2: 11
Material 2 Desc: GRAVEL
Material 3: 06
Material 3 Desc: SILT
Formation Top Depth: 32.0
Formation End Depth: 34.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064132
Layer: 5
Color: 2
General Color: GREY
Material 1: 06
Material 1 Desc: SILT
Material 2: 05
Material 2 Desc: CLAY
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 39.0
Formation End Depth: 47.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064128
Layer: 1
Color: 6
General Color: BROWN

Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	0.0
Formation End Depth:	14.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964908606
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	10871711
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930532813
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	933360669
Layer:	1
Slot:	016
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	75.0

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994908606
Pump Set At:	
Static Level:	19.0
Final Level After Pumping:	56.0
Recommended Pump Depth:	64.0
Pumping Rate:	1.0
Flowing Rate:	
Recommended Pump Rate:	1.0
Levels UOM:	ft
Rate UOM:	GPM

Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	6
Pumping Duration MIN:	0
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	935045229
Test Type:	Recovery
Test Duration:	60
Test Level:	41.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934259853
Test Type:	Recovery
Test Duration:	15
Test Level:	30.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934779684
Test Type:	Recovery
Test Duration:	45
Test Level:	38.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934526160
Test Type:	Recovery
Test Duration:	30
Test Level:	34.0
Test Level UOM:	ft

Water Details

Water ID:	933796711
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	58.0
Water Found Depth UOM:	ft

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
41	1 of 1	WNW/17.1	269.9 / 2.92	12686 MISSISSAUGA RD lot 21 con 5 Caledon ON	WWIS

Well ID:	7202206	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	
Use 2nd:		**Data Src:**	
Final Well Status:	Abandoned-Other	**Date Received:**	05/29/2013
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	Z171518	**Contractor:**	7147
Tag:		**Form Version:**	7
Constructn Method:		**Owner:**	

Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	021
Depth to Bedrock:		**Concession:**	05
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	1004317106	**Tag No:**	
Depth M:		**Contractor:**	7147
Year Completed:	2013	**Latitude:**	43.7086650765154
Well Completed Dt:	05/17/2013	**Longitude:**	-79.8866217732027
Audit No:	Z171518	**Y:**	43.70866507532093
Path:		**X:**	-79.8866216232973

Bore Hole Information

Bore Hole ID:	1004317106	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	589700.00
Code OB Desc:		**North83:**	4840118.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	05/17/2013	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Annular Space/Abandonment Sealing Record

Plug ID:	1004930362
Layer:	2
Plug From:	2.200000047683716
Plug To:	2.799999952316284
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1004930361
Layer:	1
Plug From:	0.0
Plug To:	2.200000047683716
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1004930364
Layer:	4

Plug From: 7.0
Plug To: 7.599999904632568
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1004930363
Layer: 3
Plug From: 2.799999952316284
Plug To: 7.0
Plug Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 1004930360
Method Construction Code:
Method Construction:
Other Method Construction:

Pipe Information

Pipe ID: 1004930354
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1004930358
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From: 0.0
Depth To: 7.599999904632568
Casing Diameter: 90.0
Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Screen

Screen ID: 1004930359
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter:

Water Details

Water ID: 1004930357
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth:
Water Found Depth UOM: m

Hole Diameter

Hole ID:	1004930356
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	m
Hole Diameter UOM:	cm

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Well ID:	4908609	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:		***Data Src:***	1
Final Well Status:	Abandoned-Supply	***Date Received:***	08/04/2000
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	213885	***Contractor:***	1737
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908609.pdf

Additional Detail(s) (Map)

Well Completed Date:	02/17/2000
Year Completed:	2000
Depth (m):	19.812
Latitude:	43.6979980767442
Longitude:	-79.8685517203492
X:	-79.86855156980296
Y:	43.69799807538589
Path:	490\4908609.pdf

Bore Hole Information

Bore Hole ID:	10323144	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	591172.00
Code OB Desc:		***North83:***	4838953.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	3
Date Completed:	02/17/2000	***UTMRC Desc:***	margin of error : 10 - 30 m
Remarks:		***Location Method:***	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			

Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932064152
Layer: 2
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 06
Material 2 Desc: SILT
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 14.0
Formation End Depth: 32.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064157
Layer: 7
Color: 2
General Color: GREY
Material 1: 26
Material 1 Desc: ROCK
Material 2: 71
Material 2 Desc: FRACTURED
Material 3:
Material 3 Desc:
Formation Top Depth: 53.0
Formation End Depth: 56.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064156
Layer: 6
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 85
Material 2 Desc: SOFT
Material 3:
Material 3 Desc:
Formation Top Depth: 48.0
Formation End Depth: 53.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064155
Layer: 5
Color: 2
General Color: GREY
Material 1: 34

Material 1 Desc: TILL
Material 2: 73
Material 2 Desc: HARD
Material 3:
Material 3 Desc:
Formation Top Depth: 39.0
Formation End Depth: 48.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064158
Layer: 8
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 73
Material 2 Desc: HARD
Material 3:
Material 3 Desc:
Formation Top Depth: 56.0
Formation End Depth: 65.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064153
Layer: 3
Color: 2
General Color: GREY
Material 1: 28
Material 1 Desc: SAND
Material 2: 11
Material 2 Desc: GRAVEL
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 32.0
Formation End Depth: 35.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064151
Layer: 1
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2: 06
Material 2 Desc: SILT
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 0.0
Formation End Depth: 14.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID:	932064154
Layer:	4
Color:	2
General Color:	GREY
Material 1:	34
Material 1 Desc:	TILL
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	35.0
Formation End Depth:	39.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964908609
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	10871714
Casing No:	1
Comment:	
Alt Name:	

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43 ***1 of 1*** ***SE/50.6*** ***267.9 / 0.92*** ***ON*** ***WWIS***

Well ID:	7213632	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	Yes
Use 2nd:		**Data Src:**	
Final Well Status:		**Date Received:**	12/20/2013
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	C21706	**Contractor:**	6926
Tag:		**Form Version:**	8
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	
Depth to Bedrock:		**Concession:**	
Well Depth:		**Concession Name:**	
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	1004671816	**Tag No:**	
Depth M:		**Contractor:**	6926
Year Completed:	2013	**Latitude:**	43.6972605908871
Well Completed Dt:	11/14/2013	**Longitude:**	-79.86954596449
Audit No:	C21706	**Y:**	43.697260589369854
Path:		**X:**	-79.86954581412944

Bore Hole Information

Bore Hole ID:	1004671816	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	591093.00
Code OB Desc:		***North83:***	4838870.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	11/14/2013	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

44	***1 of 25***	***SE/46.0***	***267.9 / 0.92***	***ALLELIX CROP TECHNOLOGIES*** ***R.R. #4, 12111 MISSISSAUGA RD.*** ***HALTON HILLS TOWN ON***	***CA***

Certificate #:	8-3078-91-
Application Year:	91
Issue Date:	8/8/1991
Approval Type:	Industrial air
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	ADDITION OF 48" FUMEHOOD-SOLVENT EXTRACT
Contaminants:	Hexane, Pyridine, Methyl Alcohol
Emission Control:	No Controls

44	***2 of 25***	***SE/46.0***	***267.9 / 0.92***	***PIONEER HI-BRED PRODUCTION LTD.*** ***12111 MISSISSAUGA ROAD*** ***HALTON HILLS TOWN ON***	***CA***

Certificate #:	8-3420-92-
Application Year:	92
Issue Date:	12/22/1992
Approval Type:	Industrial air
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	INST. 48" FUMEHOOD IN GEN. LABORATORY
Contaminants:	Phenol, Chloroform, Toluene(Pentyl Methane)(Methyl Benzene), Ethyl Ether, Hydrogen Chloride, Acetic Acid, Sulphuric Acid
Emission Control:	

44	***3 of 25***	***SE/46.0***	***267.9 / 0.92***	***PIONEER HI-BRED PRODUCTION COMPANY*** ***12111 MISSISSAUGA RD*** ***CALEDON ON***	***CFOT***

Inventory No:	35492516	**Tank Material:**	Fiberglass (FRP)
Inventory Status:	Active	**Corrosion Protect:**	Fiberglass
Installation Year:	1985	**Overfill Protection:**	
Capacity:	45000	**Inventory Context:**	FS Fuel Oil Tank
Capacity Unit:		**Inventory Item:**	FS FUEL OIL TANK
Tank Type:			
Manufacturer:			
Model:			
Description:	Fuel Oil Tank		

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44 | ***4 of 25*** | ***SE/46.0*** | ***267.9 / 0.92*** | ***PIONEER HI-BRED PRODUCTION COMPANY***
12111 MISSISSAUGA RD
CALEDON ON | ***CFOT***

Inventory No:	35492519	**Tank Material:**	Fiberglass (FRP)
Inventory Status:	Active	**Corrosion Protect:**	Fiberglass
Installation Year:	1985	**Overfill Protection:**	
Capacity:	45000	**Inventory Context:**	FS Fuel Oil Tank
Capacity Unit:		**Inventory Item:**	FS FUEL OIL TANK
Tank Type:			
Manufacturer:			
Model:			
Description:	Fuel Oil Tank		

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44 | ***5 of 25*** | ***SE/46.0*** | ***267.9 / 0.92*** | ***Pioneer Hi-Bred Production Ltd.***
12111 Mississauga Road Caledon Regional Municipality of Peel L7C 1X1 TOWN OF CALEDON
ON | ***EBR***

EBR Registry No:	012-8007	**Decision Posted:**	
Ministry Ref No:	2678-AAJLBD	**Exception Posted:**	
Notice Type:	Instrument Decision	**Section:**	
Notice Stage:		**Act 1:**	
Notice Date:	February 15, 2017	**Act 2:**	
Proposal Date:	June 28, 2016	**Site Location Map:**	
Year:	2016		
Instrument Type:	(EPA Part II.1-air) - Environmental Compliance Approval (project type: air)		
Off Instrument Name:			
Posted By:			
Company Name:	Pioneer Hi-Bred Production Ltd.		
Site Address:			
Location Other:			
Proponent Name:			
Proponent Address:	Mississauga Road, Post Office Box Delivery 730, North Huron Ontario, Canada N0G 2W0		
Comment Period:			
URL:			
Summary:			

Site Location Details:

12111 Mississauga Road Caledon Regional Municipality of Peel L7C 1X1 TOWN OF CALEDON

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44 | ***6 of 25*** | ***SE/46.0*** | ***267.9 / 0.92*** | ***Pioneer Hi-Bred Production Company***
12111 Mississauga Rd
Caledon ON N0G 2W0 | ***ECA***

Approval No:	3414-AEPM76	**MOE District:**	
Approval Date:	2017-02-10	**City:**	

Status:	Approved	**Longitude:**	
Record Type:	ECA	**Latitude:**	
Link Source:	IDS	**Geometry X:**	
SWP Area Name:		**Geometry Y:**	
Approval Type:	ECA-AIR		
Project Type:	AIR		
Business Name:	Pioneer Hi-Bred Production Company		
Address:	12111 Mississauga Rd		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/2678-AAJLBD-14.pdf		
PDF Site Location:			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
44	7 of 25	SE/46.0	267.9 / 0.92	ALLELIX CORP. TECHNOLOGIES 12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD C/O 6850 GOREWAY DR. CALEDON ON L7G 4S7	GEN

Generator Info

Generator No:	ON0024601	**Choice of Contact:**	
Approval Years:	88	**Contaminated Fac:**	
Status:		**MHSW Facility:**	
PO Box No:		**SIC Code:**	8689
Country:			
Co Admin:			
Phone No Admin:			
SIC Description:	OTHER HEALTH LAB.		

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 269
Waste Class Name: NON-HALOGENATED PESTICIDES

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
44	8 of 25	SE/46.0	267.9 / 0.92	ALLELIX CORP. TECHNOLOGIES 12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7	GEN

Generator Info

Generator No:	ON0024601	***Choice of Contact:***	
Approval Years:	89	***Contaminated Fac:***	
Status:		***MHSW Facility:***	
PO Box No:		***SIC Code:***	8681
Country:			
Co Admin:			
Phone No Admin:			
SIC Description:	MEDICAL LABORATORIES		

Waste Detail(s)

Waste Class:	252
Waste Class Name:	WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class:	212
Waste Class Name:	ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class:	242
Waste Class Name:	HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class:	263
Waste Class Name:	ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class:	269
Waste Class Name:	NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class:	114
Waste Class Name:	OTHER INORGANIC ACID WASTES

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
44	9 of 25	SE/46.0	267.9 / 0.92	ALLELIX CORP (SEE & USE ON0141101) 12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7	GEN

Generator Info

Generator No:	ON0024601	***Choice of Contact:***	
Approval Years:	90,98	***Contaminated Fac:***	
Status:		***MHSW Facility:***	

PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: MEDICAL LABORATORIES

SIC Code: 8681

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

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44 | ***10 of 25*** | ***SE/46.0*** | ***267.9 / 0.92*** | ***ALLELIX CORP (SEE & USE ON0141101)02-152 12111 MISSISSAUGA & 17 SIDE RD-MAYFIELD CALEDON ON L7G 4S7*** | ***GEN***

Generator Info

Generator No: ON0024601
Approval Years: 92,93,94,95,96,97
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: MEDICAL LABORATORIES

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 8681

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44 | ***11 of 25*** | ***SE/46.0*** | ***267.9 / 0.92*** | ***PIONEER HI-BRED PRODUCTION LTD. 12111 MISSISSAUGA ROAD CALEDON ON N7M 4S7*** | ***GEN***

Generator Info

Generator No: ON0141101
Approval Years: 92,93,97,98,99,00,01,02,03,04,05,06,07,08
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: MEDICAL LABORATORIES

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 8681

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 269
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

44	***12 of 25***	***SE/46.0***	***267.9 / 0.92***	***PIONEER HI-BRED PRODUCTION LTD.***	***GEN***

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
				12111 MISSISSAUGA RD, RR 4 CALEDON ON N7M 5L1	

Generator Info

Generator No:	ON0141101	***Choice of Contact:***	
Approval Years:	96	***Contaminated Fac:***	
Status:		***MHSW Facility:***	
PO Box No:		***SIC Code:***	8681
Country:			
Co Admin:			
Phone No Admin:			
SIC Description:	MEDICAL LABORATORIES		

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 269
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

44	*13 of 25*	*SE/46.0*	*267.9 / 0.92*	*PIONEER HI-BRED PRODUCTION LP* *12111 MISSISSAUGA ROAD*	*GEN*

CALEDON ON

Generator Info

Generator No:	ON0141101	***Choice of Contact:***	
Approval Years:	2009	***Contaminated Fac:***	
Status:		***MHSW Facility:***	
PO Box No:		***SIC Code:***	541710, 411120, 111120
Country:			
Co Admin:			
Phone No Admin:			

SIC Description: Research and Development in the Physical Engineering and Life Sciences, Oilseed and Grain Wholesaler-Distributors, Oilseed (except Soybean) Farming

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

Waste Detail(s)

Waste Class: 269
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
44	14 of 25	SE/46.0	267.9 / 0.92	PIONEER HI-BRED PRODUCTION LP 12111 MISSISSAUGA ROAD CALEDON ON	GEN

Generator Info

Generator No: ON0141101
Approval Years: 2010
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: Research and Development in the Physical Engineering and Life Sciences, Oilseed and Grain Wholesaler-Distributors, Oilseed (except Soybean) Farming

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 541710, 411120, 111120

Waste Detail(s)

Waste Class: 269
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

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44 | **15 of 25** | **SE/46.0** | **267.9 / 0.92** | **PIONEER HI-BRED PRODUCTION LP**
12111 MISSISSAUGA ROAD
CALEDON ON | **GEN**

Generator Info

Generator No: ON0141101
Approval Years: 2011
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: Research and Development in the Physical Engineering and Life Sciences, Oilseed and Grain Wholesaler-Distributors, Oilseed (except Soybean) Farming

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 541710, 411120, 111120

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 269

Waste Class Name: NON-HALOGENATED PESTICIDES

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44 | **16 of 25** | **SE/46.0** | **267.9 / 0.92** | **PIONEER HI-BRED PRODUCTION LP**
12111 MISSISSAUGA ROAD
CALEDON ON N7M 4S7 | **GEN**

Generator Info

Generator No: ON0141101
Approval Years: 2012
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: Research and Development in the Physical Engineering and Life Sciences, Oilseed and Grain Wholesaler-Distributors, Oilseed (except Soybean) Farming

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 541710, 411120, 111120

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 269

Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

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44 | **17 of 25** | **SE/46.0** | **267.9 / 0.92** | **PIONEER HI-BRED PRODUCTION LP**
12111 MISSISSAUGA ROAD
CALEDON ON | **GEN**

Generator Info

Generator No: ON0141101
Approval Years: 2013
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: RESEARCH AND DEVELOPMENT IN THE PHYSICAL, ENGINEERING AND LIFE SCIENCES, OILSEED AND GRAIN WHOLESALER-DISTRIBUTORS

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 541710, 411120, 111120

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 269

Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
44	18 of 25	SE/46.0	267.9 / 0.92	PIONEER HI-BRED PRODUCTION COMPANY 12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	GEN

Generator Info

Generator No:	ON0141101	**Choice of Contact:**	CO_ADMIN
Approval Years:	2016	**Contaminated Fac:**	No
Status:		**MHSW Facility:**	No
PO Box No:		**SIC Code:**	541710, 411120, 111120
Country:	Canada		
Co Admin:	Peter Atherley		
Phone No Admin:	905-843-9166 Ext.145		
SIC Description:	RESEARCH AND DEVELOPMENT IN THE PHYSICAL, ENGINEERING AND LIFE SCIENCES, OILSEED AND		

GRAIN WHOLESALER-DISTRIBUTORS, 111120

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 269
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 213
Waste Class Name: PETROLEUM DISTILLATES

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 145
Waste Class Name: PAINT/PIGMENT/COATING RESIDUES

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

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44 | ***19 of 25*** | ***SE/46.0*** | ***267.9 / 0.92*** | ***PIONEER HI-BRED PRODUCTION LP***
12111 MISSISSAUGA ROAD
CALEDON ON L7C1X1 | ***GEN***

Generator Info

Generator No:	ON0141101	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2015	***Contaminated Fac:***	No
Status:		***MHSW Facility:***	No
PO Box No:		***SIC Code:***	541710, 411120, 111120
Country:	Canada		
Co Admin:	Peter Atherley		
Phone No Admin:	905-843-9166 Ext.145		
SIC Description:	RESEARCH AND DEVELOPMENT IN THE PHYSICAL, ENGINEERING AND LIFE SCIENCES, OILSEED AND GRAIN WHOLESALER-DISTRIBUTORS, 111120		

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 145
Waste Class Name: PAINT/PIGMENT/COATING RESIDUES

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 269
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 213
Waste Class Name: PETROLEUM DISTILLATES

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

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44 | ***20 of 25*** | ***SE/46.0*** | ***267.9 / 0.92*** | ***PIONEER HI-BRED PRODUCTION LP***
12111 MISSISSAUGA ROAD
CALEDON ON L7C1X1 | ***GEN***

Generator Info

Generator No:	ON0141101	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2014	***Contaminated Fac:***	No
Status:		***MHSW Facility:***	No
PO Box No:		***SIC Code:***	541710, 411120, 111120
Country:	Canada		

Co Admin: Peter Atherley
Phone No Admin: 905-843-9166 Ext.145
SIC Description: RESEARCH AND DEVELOPMENT IN THE PHYSICAL, ENGINEERING AND LIFE SCIENCES, OILSEED AND GRAIN WHOLESALER-DISTRIBUTORS, 111120

Waste Detail(s)

Waste Class: 241
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 251
Waste Class Name: OIL SKIMMINGS & SLUDGES

Waste Detail(s)

Waste Class: 146
Waste Class Name: OTHER SPECIFIED INORGANICS

Waste Detail(s)

Waste Class: 212
Waste Class Name: ALIPHATIC SOLVENTS

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 269
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 145
Waste Class Name: PAINT/PIGMENT/COATING RESIDUES

Waste Detail(s)

Waste Class: 213
Waste Class Name: PETROLEUM DISTILLATES

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 114
Waste Class Name: OTHER INORGANIC ACID WASTES

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 112
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 221
Waste Class Name: LIGHT FUELS

Waste Detail(s)

Waste Class: 242
Waste Class Name: HALOGENATED PESTICIDES

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44 | **21 of 25** | **SE/46.0** | **267.9 / 0.92** | **PIONEER HI-BRED PRODUCTION COMPANY**
12111 MISSISSAUGA ROAD
CALEDON ON L7C1X1 | **GEN**

Generator Info

Generator No: ON0141101
Approval Years: As of Dec 2018
Status: Registered
PO Box No:
Country: Canada
Co Admin:
Phone No Admin:
SIC Description:

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code:

Waste Detail(s)

Waste Class: 269 T
Waste Class Name: Organic non-halogenated pesticide and herbicide wastes

Waste Detail(s)

Waste Class: 242 A
Waste Class Name: Halogenated pesticides and herbicides

Waste Detail(s)

Waste Class: 251 L
Waste Class Name: Waste oils/sludges (petroleum based)

Waste Detail(s)

Waste Class: 269 L
Waste Class Name: Organic non-halogenated pesticide and herbicide wastes

Waste Detail(s)

Waste Class: 263 I

Waste Class Name: Misc. waste organic chemicals

Waste Detail(s)

Waste Class: 263 L
Waste Class Name: Misc. waste organic chemicals

Waste Detail(s)

Waste Class: 241 L
Waste Class Name: Halogenated solvents and residues

Waste Detail(s)

Waste Class: 331 I
Waste Class Name: Waste compressed gases including cylinders

Waste Detail(s)

Waste Class: 241 I
Waste Class Name: Halogenated solvents and residues

Waste Detail(s)

Waste Class: 252 L
Waste Class Name: Waste crankcase oils and lubricants

Waste Detail(s)

Waste Class: 112 C
Waste Class Name: Acid solutions - containing heavy metals

Waste Detail(s)

Waste Class: 145 L
Waste Class Name: Wastes from the use of pigments, coatings and paints

Waste Detail(s)

Waste Class: 148 C
Waste Class Name: Misc. wastes and inorganic chemicals

Waste Detail(s)

Waste Class: 148 I
Waste Class Name: Misc. wastes and inorganic chemicals

Waste Detail(s)

Waste Class: 241 T
Waste Class Name: Halogenated solvents and residues

44	22 of 25	SE/46.0	267.9 / 0.92	PIONEER HI-BRED PRODUCTION COMPANY 12111 MISSISSAUGA ROAD CALEDON ON L7C1X1	GEN

Generator Info

Generator No:	ON0141101	***Choice of Contact:***	
Approval Years:	As of Jul 2020	***Contaminated Fac:***	
Status:	Registered	***MHSW Facility:***	
PO Box No:		***SIC Code:***	
Country:	Canada		
Co Admin:			
Phone No Admin:			
SIC Description:			

Waste Detail(s)

Waste Class:	241 T
Waste Class Name:	Halogenated solvents and residues

Waste Detail(s)

Waste Class:	263 I
Waste Class Name:	Misc. waste organic chemicals

Waste Detail(s)

Waste Class:	269 L
Waste Class Name:	Organic non-halogenated pesticide and herbicide wastes

Waste Detail(s)

Waste Class:	252 L
Waste Class Name:	Waste crankcase oils and lubricants

Waste Detail(s)

Waste Class:	241 I
Waste Class Name:	Halogenated solvents and residues

Waste Detail(s)

Waste Class:	251 L
Waste Class Name:	Waste oils/sludges (petroleum based)

Waste Detail(s)

Waste Class:	148 C
Waste Class Name:	Misc. wastes and inorganic chemicals

Waste Detail(s)

Waste Class:	269 T
Waste Class Name:	Organic non-halogenated pesticide and herbicide wastes

Waste Detail(s)

Waste Class:	241 L
Waste Class Name:	Halogenated solvents and residues

Waste Detail(s)

Waste Class: 242 A
Waste Class Name: Halogenated pesticides and herbicides

Waste Detail(s)

Waste Class: 145 L
Waste Class Name: Wastes from the use of pigments, coatings and paints

Waste Detail(s)

Waste Class: 148 I
Waste Class Name: Misc. wastes and inorganic chemicals

Waste Detail(s)

Waste Class: 263 L
Waste Class Name: Misc. waste organic chemicals

Waste Detail(s)

Waste Class: 331 I
Waste Class Name: Waste compressed gases including cylinders

Waste Detail(s)

Waste Class: 112 C
Waste Class Name: Acid solutions - containing heavy metals

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44 | ***23 of 25*** | ***SE/46.0*** | ***267.9 / 0.92*** | ***PIONEER HI-BRED PRODUCTION COMPANY***
12111 MISSISSAUGA ROAD
CALEDON ON L7C1X1 | ***GEN***

Generator Info

Generator No: ON0141101
Approval Years: As of Nov 2021
Status: Registered
PO Box No:
Country: Canada
Co Admin:
Phone No Admin:
SIC Description:

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code:

Waste Detail(s)

Waste Class: 269 T
Waste Class Name: Organic non-halogenated pesticide and herbicide wastes

Waste Detail(s)

Waste Class: 251 L
Waste Class Name: Waste oils/sludges (petroleum based)

Waste Detail(s)

Waste Class: 241 I
Waste Class Name: Halogenated solvents and residues

Waste Detail(s)

Waste Class: 148 C
Waste Class Name: Misc. wastes and inorganic chemicals

Waste Detail(s)

Waste Class: 269 L
Waste Class Name: Organic non-halogenated pesticide and herbicide wastes

Waste Detail(s)

Waste Class: 241 L
Waste Class Name: Halogenated solvents and residues

Waste Detail(s)

Waste Class: 112 C
Waste Class Name: Acid solutions - containing heavy metals

Waste Detail(s)

Waste Class: 252 L
Waste Class Name: Waste crankcase oils and lubricants

Waste Detail(s)

Waste Class: 242 A
Waste Class Name: Halogenated pesticides and herbicides

Waste Detail(s)

Waste Class: 241 T
Waste Class Name: Halogenated solvents and residues

Waste Detail(s)

Waste Class: 263 L
Waste Class Name: Misc. waste organic chemicals

Waste Detail(s)

Waste Class: 145 L
Waste Class Name: Wastes from the use of pigments, coatings and paints

Waste Detail(s)

Waste Class: 148 I
Waste Class Name: Misc. wastes and inorganic chemicals

Waste Detail(s)

Waste Class: 263 I
Waste Class Name: Misc. waste organic chemicals

Waste Detail(s)

Waste Class: 331 I
Waste Class Name: Waste compressed gases including cylinders

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44 | **24 of 25** | **SE/46.0** | **267.9 / 0.92** | **corteva agriscience**
12111 MISSISSAUGA ROAD
CALEDON ON | **GEN**

Generator Info

Generator No: ON0141101
Approval Years: As of Oct 2022
Status: Registered
PO Box No:
Country: Canada
Co Admin:
Phone No Admin:
SIC Description:

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code:

Waste Detail(s)

Waste Class: 148 I
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 331 I
Waste Class Name: WASTE COMPRESSED GASES

Waste Detail(s)

Waste Class: 145 L
Waste Class Name: PAINT/PIGMENT/COATING RESIDUES

Waste Detail(s)

Waste Class: 112 C
Waste Class Name: ACID WASTE - HEAVY METALS

Waste Detail(s)

Waste Class: 241 I
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 269 T
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 251 L

Waste Class Name: OIL SKIMMINGS & SLUDGES

Waste Detail(s)

Waste Class: 252 L
Waste Class Name: WASTE OILS & LUBRICANTS

Waste Detail(s)

Waste Class: 263 I
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 241 T
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 263 L
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 241 L
Waste Class Name: HALOGENATED SOLVENTS

Waste Detail(s)

Waste Class: 269 L
Waste Class Name: NON-HALOGENATED PESTICIDES

Waste Detail(s)

Waste Class: 148 C
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 242 A
Waste Class Name: HALOGENATED PESTICIDES

Generator Info (as of Dec 2024)

Generator No: ON0141101
Generator Company Name: corteva agriscience
Street: 12111 MISSISSAUGA ROAD
City: CALEDON
Province State: Ontario
Country: Canada
Postal Code: L7C1X1
Waste Class: 112 C, 241 T, 241 L, 242 A, 251 L, 252 L, 263 L, 263 I, 148 I, 269 L, 269 T, 148 C, 241 I, 145 L, 331 I

Waste Class Decoded:

112 - ACID WASTE - HEAVY METALS; 241 - HALOGENATED SOLVENTS; 241 - HALOGENATED SOLVENTS; 242 - HALOGENATED PESTICIDES; 251 - OIL SKIMMINGS & SLUDGES; 252 - WASTE OILS & LUBRICANTS; 263 - ORGANIC LABORATORY CHEMICALS; 263 - ORGANIC LABORATORY CHEMICALS; 148 - INORGANIC LABORATORY CHEMICALS; 269 - NON-HALOGENATED PESTICIDES; 269 - NON-

HALOGENATED PESTICIDES; 148 - INORGANIC LABORATORY CHEMICALS; 241 - HALOGENATED SOLVENTS; 145 - PAINT/PIGMENT/COATING RESIDUES; 331 - WASTE COMPRESSED GASES

Generator Info (as of Dec 2024)

Generator No:	ON0141101
Generator Company Name:	corteva agriscience
Street:	12111 MISSISSAUGA ROAD
City:	CALEDON
Province State:	Ontario
Country:	Canada
Postal Code:	L7C1X1
Waste Class:	148 I,112 C,241 T,241 L,242 A,251 L,252 L,263 L,263 I,269 L,269 T,148 C,241 I,145 L,331 I

Waste Class Decoded:

148 - INORGANIC LABORATORY CHEMICALS; 112 - ACID WASTE - HEAVY METALS; 241 - HALOGENATED SOLVENTS; 241 - HALOGENATED SOLVENTS; 242 - HALOGENATED PESTICIDES; 251 - OIL SKIMMINGS & SLUDGES; 252 - WASTE OILS & LUBRICANTS; 263 - ORGANIC LABORATORY CHEMICALS; 263 - ORGANIC LABORATORY CHEMICALS; 269 - NON-HALOGENATED PESTICIDES; 269 - NON-HALOGENATED PESTICIDES; 148 - INORGANIC LABORATORY CHEMICALS; 241 - HALOGENATED SOLVENTS; 145 - PAINT/PIGMENT/COATING RESIDUES; 331 - WASTE COMPRESSED GASES

Generator Info (as of Apr 2025)

Generator Company Name:	corteva agriscience
Generator Site Address:	12111 MISSISSAUGA ROAD
City:	CALEDON
Province State:	Ontario
Country:	Canada
Postal Code:	L7C1X1
Waste Class:	112 C, 241 T, 241 L, 242 A, 251 L, 252 L, 263 L, 263 I, 148 I, 269 L, 269 T, 148 C, 241 I, 145 L, 331 I

Waste Class Decoded:

112 - ACID WASTE - HEAVY METALS; 241 - HALOGENATED SOLVENTS; 241 - HALOGENATED SOLVENTS; 242 - HALOGENATED PESTICIDES; 251 - OIL SKIMMINGS & SLUDGES; 252 - WASTE OILS & LUBRICANTS; 263 - ORGANIC LABORATORY CHEMICALS; 263 - ORGANIC LABORATORY CHEMICALS; 148 - INORGANIC LABORATORY CHEMICALS; 269 - NON-HALOGENATED PESTICIDES; 269 - NON-HALOGENATED PESTICIDES; 148 - INORGANIC LABORATORY CHEMICALS; 241 - HALOGENATED SOLVENTS; 145 - PAINT/PIGMENT/COATING RESIDUES; 331 - WASTE COMPRESSED GASES

Waste Characteristic Decoded:

C - Corrosive; T - Leachate Toxic; L - Liquid Industrial Waste; A - Acutely Hazardous Waste Chem.; L - Liquid Industrial Waste; L - Liquid Industrial Waste; L - Liquid Industrial Waste; I - Ignitable; I - Ignitable; L - Liquid Industrial Waste; T - Leachate Toxic; C - Corrosive; I - Ignitable; L - Liquid Industrial Waste; I - Ignitable

2017 Generator Info

Gen No:	ON0141101	***Choice of Contact:***	CO_ADMIN
ID:	1638	***Phone No Official:***	905-843-9166 Ext.145
Contaminated Fac:	N	***Phone No Admin:***	905-843-9166 Ext.145
MHSW Facility:	N	***County Ont:***	PEEL (R. M.)
NAICS Code1:	541710	***County Out:***	
NAICS Code2:	411120	***District:***	305
NAICS Code3:	111120		
Gen Name:	PIONEER HI-BRED PRODUCTION COMPANY		
Gen Div:			
Gen Op Name:	PIONEER HI-BRED PRODUCTION COMPANY		
Gen Op Div:			
Site Adrs1:	12111 MISSISSAUGA ROAD		

Site Bldg:
Site Pobox:
Province In: ONTARIO
Site Adrs2:
Site City: CALEDON
Province Out:
Site Postal Code: L7C1X1
Site Country: Canada
Co Official: Peter Atherley
Co Admin: Peter Atherley

2017 Generator Manifest

ID: 7673
Generator No: ON0141101
Receiver Type: 035
Waste Char: C
Waste Code: 112
Sum Received Qty: 60.0
Waste Class Name: ACID WASTE - HEAVY METALS
Count Manifests: 1
District: 305

2017 Generator Manifest

ID: 7678
Generator No: ON0141101
Receiver Type: 035
Waste Char: L
Waste Code: 263
Sum Received Qty: 200.0
Waste Class Name: ORGANIC LABORATORY CHEMICALS
Count Manifests: 1
District: 305

2017 Generator Manifest

ID: 7679
Generator No: ON0141101
Receiver Type: 035
Waste Char: T
Waste Code: 269
Sum Received Qty: 220.0
Waste Class Name: NON-HALOGENATED PESTICIDES
Count Manifests: 2
District: 305

2017 Generator Manifest

ID: 7676
Generator No: ON0141101
Receiver Type: 035
Waste Char: A
Waste Code: 242
Sum Received Qty: 3.0
Waste Class Name: HALOGENATED PESTICIDES
Count Manifests: 1
District: 305

2017 Generator Manifest

ID: 7677
Generator No: ON0141101
Receiver Type: 035
Waste Char: I
Waste Code: 263
Sum Received Qty: 11.0
Waste Class Name: ORGANIC LABORATORY CHEMICALS
Count Manifests: 2
District: 305

2017 Generator Manifest

ID: 7674
Generator No: ON0141101
Receiver Type: 035
Waste Char: C
Waste Code: 148
Sum Received Qty: 62.0
Waste Class Name: INORGANIC LABORATORY CHEMICALS
Count Manifests: 3
District: 305

2017 Generator Manifest

ID:	7675	**Sum Received Qty:**	20.0
Generator No:	ON0141101	**Waste Class Name:**	INORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	I	**District:**	305
Waste Code:	148		

2018 Generator Info

Gen No:	ON0141101	**Choice of Contact:**	CO_ADMIN
ID:	1598	**Phone No Official:**	905-843-9166 Ext.145
Contaminated Fac:	N	**Phone No Admin:**	905-843-9166 Ext.145
MHSW Facility:	N	**County Ont:**	PEEL (R. M.)
NAICS Code1:	541710	**County Out:**	
NAICS Code2:	411120	**District:**	305
NAICS Code3:	111120		
Gen Name:	PIONEER HI-BRED PRODUCTION COMPANY		
Gen Div:			
Gen Op Name:	PIONEER HI-BRED PRODUCTION COMPANY		
Gen Op Div:			
Site Adrs1:	12111 MISSISSAUGA ROAD		
Site Bldg:			
Site Pobox:			
Province In:	ONTARIO		
Site Adrs2:			
Site City:	CALEDON		
Province Out:			
Site Postal Code:	L7C1X1		
Site Country:	Canada		
Co Official:	Peter Atherley		
Co Admin:	Peter Atherley		

2018 Generator Manifest

ID:	7374	**Sum Received Qty:**	200.0
Generator No:	ON0141101	**Waste Class Name:**	WASTE OILS & LUBRICANTS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	L	**District:**	305
Waste Code:	252		

2018 Generator Manifest

ID:	7375	**Sum Received Qty:**	100.0
Generator No:	ON0141101	**Waste Class Name:**	ORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	2
Waste Char:	I	**District:**	305
Waste Code:	263		

2018 Generator Manifest

ID:	7376	**Sum Received Qty:**	200.0
Generator No:	ON0141101	**Waste Class Name:**	NON-HALOGENATED PESTICIDES
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	T	**District:**	305
Waste Code:	269		

2018 Generator Manifest

ID:	7372	**Sum Received Qty:**	50.0
Generator No:	ON0141101	**Waste Class Name:**	INORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	I	**District:**	305

Waste Code: 148

2018 Generator Manifest

ID: 7373
Generator No: ON0141101
Receiver Type: 035
Waste Char: A
Waste Code: 242
Sum Received Qty: 60.0
Waste Class Name: HALOGENATED PESTICIDES
Count Manifests: 2
District: 305

2018 Generator Manifest

ID: 7377
Generator No: ON0141101
Receiver Type: 035
Waste Char: I
Waste Code: 331
Sum Received Qty: 5.0
Waste Class Name: WASTE COMPRESSED GASES
Count Manifests: 1
District: 305

2018 Generator Manifest

ID: 7370
Generator No: ON0141101
Receiver Type: 035
Waste Char: C
Waste Code: 112
Sum Received Qty: 40.0
Waste Class Name: ACID WASTE - HEAVY METALS
Count Manifests: 1
District: 305

2018 Generator Manifest

ID: 7371
Generator No: ON0141101
Receiver Type: 035
Waste Char: C
Waste Code: 148
Sum Received Qty: 105.0
Waste Class Name: INORGANIC LABORATORY CHEMICALS
Count Manifests: 3
District: 305

2019 Generator Info

Gen No: ON0141101
ID: 1555
Contaminated Fac: N
MHSW Facility: N
NAICS Code1: 541710
NAICS Code2: 411120
NAICS Code3: 111120
Choice of Contact: CO_ADMIN
Phone No Official: 905-843-9166 Ext.332
Phone No Admin: 905-843-9166 Ext.332
County Ont: PEEL (R. M.)
County Out:
District: 305

Gen Name: PIONEER HI-BRED PRODUCTION COMPANY
Gen Div:
Gen Op Name: PIONEER HI-BRED PRODUCTION COMPANY
Gen Op Div:
Site Adrs1: 12111 MISSISSAUGA ROAD
Site Bldg:
Site Pobox:
Province In: ONTARIO
Site Adrs2:
Site City: CALEDON
Province Out:
Site Postal Code: L7C1X1
Site Country: Canada
Co Official: Peter Atherley
Co Admin: Peter Atherley

2019 Generator Manifest

ID:	7270	**Sum Received Qty:**	55.0
Generator No:	ON0141101	**Waste Class Name:**	ORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	I	**District:**	305
Waste Code:	263		

2019 Generator Manifest

ID:	7271	**Sum Received Qty:**	205.0
Generator No:	ON0141101	**Waste Class Name:**	ORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	L	**District:**	305
Waste Code:	263		

2019 Generator Manifest

ID:	7273	**Sum Received Qty:**	205.0
Generator No:	ON0141101	**Waste Class Name:**	NON-HALOGENATED PESTICIDES
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	T	**District:**	305
Waste Code:	269		

2019 Generator Manifest

ID:	7269	**Sum Received Qty:**	410.0
Generator No:	ON0141101	**Waste Class Name:**	WASTE OILS & LUBRICANTS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	L	**District:**	305
Waste Code:	252		

2019 Generator Manifest

ID:	7272	**Sum Received Qty:**	40.0
Generator No:	ON0141101	**Waste Class Name:**	NON-HALOGENATED PESTICIDES
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	L	**District:**	305
Waste Code:	269		

2019 Generator Manifest

ID:	7268	**Sum Received Qty:**	65.0
Generator No:	ON0141101	**Waste Class Name:**	INORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	3
Waste Char:	C	**District:**	305
Waste Code:	148		

2020 Generator Info

Gen No:	ON0141101	**Choice of Contact:**	CO_ADMIN
ID:	1486	**Phone No Official:**	905-843-9166 Ext.332
Contaminated Fac:	N	**Phone No Admin:**	905-843-9166 Ext.332
MHSW Facility:	N	**County Ont:**	PEEL (R. M.)
NAICS Code1:	541710	**County Out:**	
NAICS Code2:	411120	**District:**	305
NAICS Code3:	111120		
Gen Name:	PIONEER HI-BRED PRODUCTION COMPANY		
Gen Div:			
Gen Op Name:	PIONEER HI-BRED PRODUCTION COMPANY		
Gen Op Div:			
Site Adrs1:	12111 MISSISSAUGA ROAD		
Site Bldg:			

Site Pobox:
Province In: ONTARIO
Site Adrs2:
Site City: CALEDON
Province Out:
Site Postal Code: L7C1X1
Site Country: Canada
Co Official: Peter Atherley
Co Admin: Peter Atherley

2020 Generator Manifest

ID: 6559
Generator No: ON0141101
Receiver Type: 035
Waste Char: T
Waste Code: 269
Sum Received Qty: 230.0
Waste Class Name: NON-HALOGENATED PESTICIDES
Count Manifests: 2
District: 305

2020 Generator Manifest

ID: 6556
Generator No: ON0141101
Receiver Type: 035
Waste Char: I
Waste Code: 148
Sum Received Qty: 30.0
Waste Class Name: INORGANIC LABORATORY CHEMICALS
Count Manifests: 1
District: 305

2020 Generator Manifest

ID: 6558
Generator No: ON0141101
Receiver Type: 035
Waste Char: L
Waste Code: 263
Sum Received Qty: 40.0
Waste Class Name: ORGANIC LABORATORY CHEMICALS
Count Manifests: 1
District: 305

2020 Generator Manifest

ID: 6557
Generator No: ON0141101
Receiver Type: 035
Waste Char: L
Waste Code: 252
Sum Received Qty: 200.0
Waste Class Name: WASTE OILS & LUBRICANTS
Count Manifests: 1
District: 305

2020 Generator Manifest

ID: 6555
Generator No: ON0141101
Receiver Type: 035
Waste Char: C
Waste Code: 148
Sum Received Qty: 45.0
Waste Class Name: INORGANIC LABORATORY CHEMICALS
Count Manifests: 2
District: 305

2021 Generator Info

Gen No: ON0141101
ID: 1468
Contaminated Fac: N
MHSW Facility: N
NAICS Code1: 541710
NAICS Code2: 411120
NAICS Code3: 111120
Gen Name: PIONEER HI-BRED PRODUCTION COMPANY
Gen Div:
Choice of Contact: CO_ADMIN
Phone No Official: 905-843-9166 Ext.332
Phone No Admin: 905-843-9166 Ext.332
County Ont: PEEL (R. M.)
County Out:
District: 305

Gen Op Name:	PIONEER HI-BRED PRODUCTION COMPANY
Gen Op Div:	
Site Adrs1:	12111 MISSISSAUGA ROAD
Site Bldg:	
Site Pobox:	
Province In:	ONTARIO
Site Adrs2:	
Site City:	CALEDON
Province Out:	
Site Postal Code:	L7C1X1
Site Country:	Canada
Co Official:	Peter Atherley
Co Admin:	Peter Atherley

2021 Generator Manifest

ID:	6525	**Sum Received Qty:**	1.0
Generator No:	ON0141101	**Waste Class Name:**	INORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	L	**District:**	305
Waste Code:	148		

2021 Generator Manifest

ID:	6524	**Sum Received Qty:**	15.0
Generator No:	ON0141101	**Waste Class Name:**	INORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	I	**District:**	305
Waste Code:	148		

2021 Generator Manifest

ID:	6528	**Sum Received Qty:**	140.0
Generator No:	ON0141101	**Waste Class Name:**	NON-HALOGENATED PESTICIDES
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	L	**District:**	305
Waste Code:	269		

2021 Generator Manifest

ID:	6527	**Sum Received Qty:**	150.0
Generator No:	ON0141101	**Waste Class Name:**	ORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	L	**District:**	305
Waste Code:	263		

2021 Generator Manifest

ID:	6523	**Sum Received Qty:**	79.0
Generator No:	ON0141101	**Waste Class Name:**	INORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	3
Waste Char:	C	**District:**	305
Waste Code:	148		

2021 Generator Manifest

ID:	6526	**Sum Received Qty:**	1.0
Generator No:	ON0141101	**Waste Class Name:**	ORGANIC LABORATORY CHEMICALS
Receiver Type:	035	**Count Manifests:**	1
Waste Char:	I	**District:**	305
Waste Code:	263		

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
44	25 of 25	SE/46.0	267.9 / 0.92	DuPont Canada Inc. 12111 Mississauga Rd Caledon ON L7C 1X1	SPL

Ref No:	6335-9Z44UU	**Municipality No:**	
Year:		**Nature of Damage:**	
Incident Dt:	8/4/2015	**Discharger Report:**	
Dt MOE Arvl on Scn:		**Material Group:**	
MOE Reported Dt:	8/4/2015	**Impact to Health:**	
Dt Document Closed:	8/7/2015	**Agency Involved:**	

Site No:	2603-7HQS32
MOE Response:	No
Site County/District:	
Site Geo Ref Meth:	NA
Site District Office:	
Nearest Watercourse:	
Site Name:	Pioneer Hi-Bred Productions
Site Address:	12111 Mississauga Rd
Site Region:	
Site Municipality:	Caledon
Site Lot:	
Site Conc:	
Site Geo Ref Accu:	NA
Site Map Datum:	NA
Northing:	NA
Easting:	NA
Entity Operating Name:	
Client Name:	DuPont Canada Inc.
Client Type:	
Source Type:	
Incident Cause:	
Incident Preceding Spill:	
Incident Reason:	Unknown / N/A
Incident Summary:	DuPont- Refrigerant release to atmos.
Environment Impact:	
Health Env Consequence:	
Nature of Impact:	
Contaminant Qty:	70 lb
Contaminant Qty 1:	70
Contaminant Unit:	lb
Contaminant Code:	38
Contaminant Name:	REFRIGERANT GAS, N.O.S.
Contaminant Limit 1:	
Contam Limit Freq 1:	
Contaminant UN No 1:	
Receiving Medium:	
Activity Preceding Spill:	
Property 2nd Watershed:	
Property Tertiary Watershed:	
Sector Type:	Unknown / N/A
SAC Action Class:	Air Spills - Gases and Vapours
Call Report Locatn Geodata:	
Time Reported:	
System Facility Address:	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
45	1 of 1	SE/15.7	267.9 / 0.92	1211 MISSISSAUGA ROAD CALEDON ON	WWIS

Well ID:	7268115	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	
Use 2nd:		**Data Src:**	

Final Well Status:	0	**Date Received:**	08/02/2016
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	Yes
Audit No:	Z216906	**Contractor:**	7407
Tag:		**Form Version:**	7
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	
Depth to Bedrock:		**Concession:**	
Well Depth:		**Concession Name:**	
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	1006182829	**Tag No:**	
Depth M:		**Contractor:**	7407
Year Completed:	2016	**Latitude:**	43.6969472306703
Well Completed Dt:	07/20/2016	**Longitude:**	-79.8697255886472
Audit No:	Z216906	**Y:**	43.696947229128696
Path:		**X:**	-79.86972543942795

Bore Hole Information

Bore Hole ID:	1006182829	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591079.00
Code OB Desc:		**North83:**	4838835.00
Open Hole:		**Org CS:**	dms83
Cluster Kind:		**UTMRC:**	5
Date Completed:	07/20/2016	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1006190650
Layer:	1
Color:	
General Color:	
Material 1:	
Material 1 Desc:	
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID: 1006190655
Method Construction Code:
Method Construction:
Other Method Construction:

Pipe Information

Pipe ID: 1006190649
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006190653
Layer:
Material:
Open Hole or Material:
Depth From:
Depth To:
Casing Diameter:
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1006190654
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter:

Water Details

Water ID: 1006190652
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1006190651
Diameter:
Depth From:
Depth To:
Hole Depth UOM: ft
Hole Diameter UOM: inch

46	1 of 1	WNW/37.5	270.9 / 3.99	12686 MISSISSAUGA RD lot 21 con 5 Caledon ON	WWIS

Well ID: 7202205 ***Flowing (Y/N):***

Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:		***Data Src:***	
Final Well Status:	Abandoned-Other	***Date Received:***	05/29/2013
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	Z171519	***Contractor:***	7147
Tag:		***Form Version:***	7
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	021
Depth to Bedrock:		***Concession:***	05
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	1004317103	***Tag No:***	
Depth M:		***Contractor:***	7147
Year Completed:	2013	***Latitude:***	43.7086959511962
Well Completed Dt:	05/17/2013	***Longitude:***	-79.8870183912868
Audit No:	Z171519	***Y:***	43.70869594907507
Path:		***X:***	-79.88701824104439

Bore Hole Information

Bore Hole ID:	1004317103	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	589668.00
Code OB Desc:		***North83:***	4840121.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	05/17/2013	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Annular Space/Abandonment Sealing Record

Plug ID:	1004930350
Layer:	1
Plug From:	0.0
Plug To:	2.200000047683716
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1004930353
Layer:	4

Plug From: 4.0
Plug To: 4.599999904632568
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1004930352
Layer: 3
Plug From: 2.799999952316284
Plug To: 4.0
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1004930351
Layer: 2
Plug From: 2.200000047683716
Plug To: 2.799999952316284
Plug Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 1004930349
Method Construction Code:
Method Construction:
Other Method Construction:

Pipe Information

Pipe ID: 1004930343
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1004930347
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From: 0.0
Depth To: 4.599999904632568
Casing Diameter: 90.0
Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Screen

Screen ID: 1004930348
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter:

Water Details

Water ID:	1004930346
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	6.0
Water Found Depth UOM:	m

Hole Diameter

Hole ID:	1004930345
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	m
Hole Diameter UOM:	cm

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Well ID:	4902032	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:	0	***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	07/04/1967
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:		***Contractor:***	1307
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	021
Depth to Bedrock:		***Concession:***	05
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4902032.pdf

Additional Detail(s) (Map)

Well Completed Date:	06/21/1967
Year Completed:	1967
Depth (m):	9.144
Latitude:	43.7085623068388
Longitude:	-79.8871636042072
X:	-79.88716345367588
Y:	43.708562305206485
Path:	490\4902032.pdf

Bore Hole Information

Bore Hole ID:	10316875	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	589656.50
Code OB Desc:		***North83:***	4840106.00

Open Hole: ***Org CS:***
Cluster Kind: ***UTMRC:*** 5
Date Completed: 06/21/1967 ***UTMRC Desc:*** margin of error : 100 m - 300 m
Remarks: ***Location Method:*** p5
Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932036487
Layer: 1
Color: 6
General Color: BROWN
Material 1: 02
Material 1 Desc: TOPSOIL
Material 2: 05
Material 2 Desc: CLAY
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 12.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932036488
Layer: 2
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 09
Material 2 Desc: MEDIUM SAND
Material 3:
Material 3 Desc:
Formation Top Depth: 12.0
Formation End Depth: 28.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932036489
Layer: 3
Color:
General Color:
Material 1: 09
Material 1 Desc: MEDIUM SAND
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 28.0
Formation End Depth: 30.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964902032
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10865445
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930523714
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 30.0
Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994902032
Pump Set At:
Static Level: 10.0
Final Level After Pumping:
Recommended Pump Depth: 28.0
Pumping Rate: 4.0
Flowing Rate:
Recommended Pump Rate: 4.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR:
Pumping Duration MIN:
Flowing: No

Water Details

Water ID: 933790003
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 30.0
Water Found Depth UOM: ft

48	1 of 1	ESE/218.7	266.0 / -0.91	lot 18 con 4 ON	WWIS

Well ID: 4906269
Construction Date:
Flowing (Y/N):
Flow Rate:

Use 1st:	Irrigation	**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	04/25/1985
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	3637
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	10320835	**Tag No:**	
Depth M:	12.4968	**Contractor:**	3637
Year Completed:	1984	**Latitude:**	43.6980890529281
Well Completed Dt:	11/19/1984	**Longitude:**	-79.8677371555035
Audit No:		**Y:**	43.69808905098656
Path:		**X:**	-79.86773700650038

Bore Hole Information

Bore Hole ID:	10320835	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591237.50
Code OB Desc:		**North83:**	4838964.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	11/19/1984	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	topo
Location Method Desc:	from Topo. Map		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932052940
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052943
Layer:	4
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	12
Material 3 Desc:	STONES
Formation Top Depth:	25.0
Formation End Depth:	32.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052942
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	17.0
Formation End Depth:	25.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052941
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	79
Material 3 Desc:	PACKED
Formation Top Depth:	1.0
Formation End Depth:	17.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052944
Layer:	5
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	85

Material 2 Desc: SOFT
Material 3: 73
Material 3 Desc: HARD
Formation Top Depth: 32.0
Formation End Depth: 41.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964906269
Method Construction Code: B
Method Construction: Other Method
Other Method Construction:

Pipe Information

Pipe ID: 10869405
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930529399
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 36.0
Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930529400
Layer: 2
Material: 2
Open Hole or Material: GALVANIZED
Depth From:
Depth To: 41.0
Casing Diameter: 32.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: BAILER
Pump Test ID: 994906269
Pump Set At:
Static Level: 17.0
Final Level After Pumping:
Recommended Pump Depth: 32.0
Pumping Rate: 10.0
Flowing Rate:
Recommended Pump Rate: 3.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method: 2

Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934528285
Test Type:
Test Duration: 30
Test Level: 22.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934782380
Test Type:
Test Duration: 45
Test Level: 24.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934253674
Test Type:
Test Duration: 15
Test Level: 19.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 935047857
Test Type:
Test Duration: 60
Test Level: 27.0
Test Level UOM: ft

Water Details

Water ID: 933794200
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 25.0
Water Found Depth UOM: ft

Water Details

Water ID: 933794201
Layer: 2
Kind Code: 1
Kind: FRESH
Water Found Depth: 34.0
Water Found Depth UOM: ft

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
49	1 of 2	WNW/52.9	269.9 / 2.92	lot 21 con 4 ON	WWIS

Well ID: 4905205
Construction Date:
Use 1st: Domestic
Flowing (Y/N):
Flow Rate:
Data Entry Status:

Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	10/04/1977
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	4602
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	021
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4905205.pdf

Additional Detail(s) (Map)

Well Completed Date: 08/10/1977
Year Completed: 1977
Depth (m): 30.1752
Latitude: 43.7096085613872
Longitude: -79.8864243272071
X: -79.88642417716926
Y: 43.709608559612775
Path: 490\4905205.pdf

Bore Hole Information

Bore Hole ID:	10319960	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	589714.50
Code OB Desc:		**North83:**	4840223.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	08/10/1977	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5

Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932049041
Layer: 3
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2: 84
Material 2 Desc: SILTY
Material 3:
Material 3 Desc:

Formation Top Depth: 30.0
Formation End Depth: 40.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049039
Layer: 1
Color:
General Color:
Material 1: 23
Material 1 Desc: PREVIOUSLY DUG
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 14.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049040
Layer: 2
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 11
Material 2 Desc: GRAVEL
Material 3: 12
Material 3 Desc: STONES
Formation Top Depth: 14.0
Formation End Depth: 30.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049043
Layer: 5
Color: 7
General Color: RED
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 47.0
Formation End Depth: 53.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049042
Layer: 4
Color: 3
General Color: BLUE

Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	40.0
Formation End Depth:	47.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049044
Layer:	6
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	53.0
Formation End Depth:	99.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964905205
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10868530
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930528003
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	53.0
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930528004
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	99.0

Casing Diameter:
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: BAILER
Pump Test ID: 994905205
Pump Set At:
Static Level: 12.0
Final Level After Pumping: 87.0
Recommended Pump Depth: 80.0
Pumping Rate: 7.0
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 2
Water State After Test: CLOUDY
Pumping Test Method: 2
Pumping Duration HR: 2
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934526537
Test Type: Draw Down
Test Duration: 30
Test Level: 87.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 935045616
Test Type: Draw Down
Test Duration: 60
Test Level: 87.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934260789
Test Type: Draw Down
Test Duration: 15
Test Level: 87.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934780652
Test Type: Draw Down
Test Duration: 45
Test Level: 87.0
Test Level UOM: ft

Water Details

Water ID: 933793248
Layer: 1
Kind Code: 1

Kind: FRESH
Water Found Depth: 93.0
Water Found Depth UOM: ft

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49 | **2 of 2** | **WNW/52.9** | **269.9 / 2.92** | **lot 21 con 4 ON** | **WWIS**

Well ID: 4905206
Construction Date:
Use 1st: Domestic
Use 2nd: 0
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No:
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 10/04/1977
Selected Flag: TRUE
Abandonment Rec:
Contractor: 4602
Form Version: 1
Owner:
County: PEEL
Lot: 021
Concession: 04
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4905206.pdf

Additional Detail(s) (Map)

Well Completed Date: 08/15/1977
Year Completed: 1977
Depth (m): 29.8704
Latitude: 43.7096085613872
Longitude: -79.8864243272071
X: -79.88642417716926
Y: 43.709608559612775
Path: 490\4905206.pdf

Bore Hole Information

Bore Hole ID: 10319961
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 08/15/1977
Remarks:
Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 589714.50
North83: 4840223.00
Org CS:
UTMRC: 5
UTMRC Desc: margin of error : 100 m - 300 m
Location Method: p5

Overburden and Bedrock Materials Interval

Formation ID: 932049045
Layer: 1
Color:
General Color:
Material 1: 23
Material 1 Desc: PREVIOUSLY DUG
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 14.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049046
Layer: 2
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2: 12
Material 2 Desc: STONES
Material 3:
Material 3 Desc:
Formation Top Depth: 14.0
Formation End Depth: 33.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049049
Layer: 5
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 53.0
Formation End Depth: 98.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932049048
Layer: 4
Color: 3
General Color: BLUE
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 43.0

Formation End Depth:	53.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932049047
Layer:	3
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	84
Material 2 Desc:	SILTY
Material 3:	
Material 3 Desc:	
Formation Top Depth:	33.0
Formation End Depth:	43.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964905206
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10868531
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930528005
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	53.0
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930528006
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	98.0
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	BAILER
Pump Test ID:	994905206
Pump Set At:	
Static Level:	10.0
Final Level After Pumping:	83.0
Recommended Pump Depth:	90.0
Pumping Rate:	7.0
Flowing Rate:	
Recommended Pump Rate:	7.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	2
Water State After Test:	CLOUDY
Pumping Test Method:	2
Pumping Duration HR:	1
Pumping Duration MIN:	30
Flowing:	No

Draw Down & Recovery

Pump Test Detail ID:	935045617
Test Type:	Draw Down
Test Duration:	60
Test Level:	83.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934526538
Test Type:	Draw Down
Test Duration:	30
Test Level:	83.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934260790
Test Type:	Draw Down
Test Duration:	15
Test Level:	83.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934780653
Test Type:	Draw Down
Test Duration:	45
Test Level:	83.0
Test Level UOM:	ft

Water Details

Water ID:	933793249
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	92.0
Water Found Depth UOM:	ft

50	*1 of 1*	*WNW/11.3*	*269.9 / 2.92*	***12679 Mississauga Road Caledon ON L7C 1X2***	***EHS***

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Order No: 20120208026
Status: C
Report Type: Standard Report
Report Date: 2/17/2012 12:49:16 PM
Date Received: 2/8/2012 12:47:01 PM
Previous Site Name:
Lot/Building Size:
Additional Info Ordered:
Nearest Intersection:
Municipality:
Client Prov/State: ON
Search Radius (km): 0.25
X: -79.88676
Y: 43.709322

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51 | **1 of 1** | **E/146.6** | **261.1 / -5.86** | **Mayfield Rd Caledon ON** | **EHS**

Order No: 20101005037
Status: C
Report Type: Custom Report
Report Date: 10/15/2010
Date Received: 10/5/2010 4:24:15 PM
Previous Site Name:
Lot/Building Size:
Additional Info Ordered: Fire Insur. Maps and/or Site Plans; Title Searches
Nearest Intersection: Mayfield Rd and Creditview Rd
Municipality:
Client Prov/State: ON
Search Radius (km): 0.25
X: -79.864752
Y: 43.704505

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52 | **1 of 3** | **SSE/167.5** | **268.9 / 1.92** | **ENRICO & CATERINA CONFORTI 12134 MISSISSAUGA RD RR 4 GEORGETOWN ON** | **CFOT**

Inventory No: 41629563
Inventory Status: Active
Installation Year: 1979
Capacity: 2273
Capacity Unit:
Tank Type:
Manufacturer:
Model:
Description:
Tank Material: Steel
Corrosion Protect:
Overfill Protection:
Inventory Context: FS Fuel Oil Tank
Inventory Item: FS FUEL OIL TANK

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52 | **2 of 3** | **SSE/167.5** | **268.9 / 1.92** | **12134 Mississauga Road Caledon ON L7C 1W1** | **EHS**

Order No: 23080300913
Status: C
Report Type: Standard Report
Report Date: 09-AUG-23
Date Received: 03-AUG-23
Previous Site Name:
Lot/Building Size:
Additional Info Ordered:
Nearest Intersection:
Municipality:
Client Prov/State: ON
Search Radius (km): .25
X: -79.8717621
Y: 43.6957175

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52 | **3 of 3** | **SSE/167.5** | **268.9 / 1.92** | **PRIVATE RESIDENCE 12134 MISSISSAUGA ROAD FURNACE OIL TANK BRAMPTON CITY ON** | **SPL**

Ref No: 69499
Year:
Incident Dt: 4/21/1992
Dt MOE Arvl on Scn:
MOE Reported Dt: 4/21/1992
Dt Document Closed:
Municipality No: 21101
Nature of Damage:
Discharger Report:
Material Group:
Impact to Health:
Agency Involved:

Site No:	
MOE Response:	
Site County/District:	
Site Geo Ref Meth:	
Site District Office:	
Nearest Watercourse:	
Site Name:	
Site Address:	
Site Region:	
Site Municipality:	BRAMPTON CITY
Site Lot:	
Site Conc:	
Site Geo Ref Accu:	
Site Map Datum:	
Northing:	
Easting:	
Entity Operating Name:	
Client Name:	
Client Type:	
Source Type:	
Incident Cause:	UNDERGROUND TANK LEAK
Incident Preceding Spill:	
Incident Reason:	UNKNOWN
Incident Summary:	PRIVATE: FURNACE OIL TANKFOUND TO BE LEAKING
Environment Impact:	CONFIRMED
Health Env Consequence:	
Nature of Impact:	Soil contamination
Contaminant Qty:	
Contaminant Qty 1:	
Contaminant Unit:	
Contaminant Code:	
Contaminant Name:	
Contaminant Limit 1:	
Contam Limit Freq 1:	
Contaminant UN No 1:	
Receiving Medium:	LAND
Activity Preceding Spill:	
Property 2nd Watershed:	
Property Tertiary Watershed:	
Sector Type:	
SAC Action Class:	
Call Report Locatn Geodata:	
Time Reported:	
System Facility Address:	

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53 | **1 of 1** | **SE/119.2** | **266.9 / -0.08** | **lot 18 con 4 ON** | **WWIS**

Well ID:	4906270	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	04/25/1985
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	3637
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	

Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	10320836	**Tag No:**	
Depth M:	11.5824	**Contractor:**	3637
Year Completed:	1984	**Latitude:**	43.697230246148
Well Completed Dt:	11/09/1984	**Longitude:**	-79.8682993490518
Audit No:		**Y:**	43.697230244209884
Path:		**X:**	-79.86829919905276

Bore Hole Information

Bore Hole ID:	10320836	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591193.50
Code OB Desc:		**North83:**	4838868.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	11/09/1984	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	topo
Location Method Desc:	from Topo. Map		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932052947
Layer:	3
Color:	3
General Color:	BLUE
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	14.0
Formation End Depth:	17.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052949
Layer:	5
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	73

Material 3 Desc:	HARD
Formation Top Depth:	23.0
Formation End Depth:	38.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052945
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052948
Layer:	4
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	12
Material 2 Desc:	STONES
Material 3:	79
Material 3 Desc:	PACKED
Formation Top Depth:	17.0
Formation End Depth:	23.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932052946
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	79
Material 2 Desc:	PACKED
Material 3:	
Material 3 Desc:	
Formation Top Depth:	1.0
Formation End Depth:	14.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964906270
Method Construction Code:	6
Method Construction:	Boring

Other Method Construction:

Pipe Information

Pipe ID: 10869406
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930529401
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 33.0
Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930529402
Layer: 2
Material: 2
Open Hole or Material: GALVANIZED
Depth From:
Depth To: 38.0
Casing Diameter: 32.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: BAILER
Pump Test ID: 994906270
Pump Set At:
Static Level: 14.0
Final Level After Pumping: 22.0
Recommended Pump Depth: 34.0
Pumping Rate: 10.0
Flowing Rate:
Recommended Pump Rate: 5.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 2
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934253675
Test Type: Draw Down
Test Duration: 15
Test Level: 16.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID:	934528286
Test Type:	Draw Down
Test Duration:	30
Test Level:	18.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	934782381
Test Type:	Draw Down
Test Duration:	45
Test Level:	20.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	935047858
Test Type:	Draw Down
Test Duration:	60
Test Level:	22.0
Test Level UOM:	ft

Water Details

Water ID:	933794203
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	38.0
Water Found Depth UOM:	ft

Water Details

Water ID:	933794202
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	24.0
Water Found Depth UOM:	ft

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54 ***1 of 1*** ***E/213.0*** ***260.9 / -6.08*** ***. 12100 Creditview Rd lot 18 con 4 ON*** ***WWIS***

Well ID:	7415538	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Monitoring	***Data Entry Status:***	
Use 2nd:		***Data Src:***	
Final Well Status:	Observation Wells	***Date Received:***	04/12/2022
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	JX4DH8LG	***Contractor:***	7360
Tag:	A302047	***Form Version:***	9
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	

Clear/Cloudy: ***UTM Reliability:***
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/741\7415538.pdf

Additional Detail(s) (Map)

Well Completed Date: 01/31/2022
Year Completed: 2022
Depth (m): 6.096
Latitude: 43.7051518380276
Longitude: -79.8644827349293
X: -79.86448258490152
Y: 43.705151836081626
Path: 741\7415538.pdf

Bore Hole Information

Bore Hole ID: 1008999910 ***Elevation:***
DP2BR: ***Elevrc:***
Spatial Status: ***Zone:*** 17
Code OB: ***East83:*** 591489.00
Code OB Desc: ***North83:*** 4839752.00
Open Hole: ***Org CS:*** UTM83
Cluster Kind: ***UTMRC:*** 4
Date Completed: 01/31/2022 ***UTMRC Desc:*** margin of error : 30 m - 100 m
Remarks: ***Location Method:*** wwr
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 1009000063
Layer: 1
Color:
General Color:
Material 1: 28
Material 1 Desc: SAND
Material 2: 11
Material 2 Desc: GRAVEL
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 1.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1009000066
Layer: 4
Color:
General Color:
Material 1: 34
Material 1 Desc: TILL

Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 18.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1009000067
Layer: 5
Color:
General Color:
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 18.0
Formation End Depth: 20.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1009000064
Layer: 2
Color:
General Color:
Material 1: 05
Material 1 Desc: CLAY
Material 2: 84
Material 2 Desc: SILTY
Material 3:
Material 3 Desc:
Formation Top Depth: 1.0
Formation End Depth: 4.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1009000065
Layer: 3
Color:
General Color:
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 4.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1009000206
Layer: 1
Plug From: 1.0
Plug To: 8.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1009000186
Layer: 1
Plug From:
Plug To:
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1009000010
Method Construction Code: E
Method Construction: Auger
Other Method Construction:

Pipe Information

Pipe ID: 1008999970
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1009000126
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 10.0
Casing Diameter: 2.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1009000146
Layer: 1
Slot: 0.1
Screen Top Depth: 10.0
Screen End Depth: 20.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.25

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 1008999971
Pump Set At:
Static Level:
Final Level After Pumping:

Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing:

Water Details

Water ID: 1009000050
Layer: 1
Kind Code: 8
Kind: Untested
Water Found Depth: 2.0
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1009000166
Diameter: 6.0
Depth From: 0.0
Depth To: 20.0
Hole Depth UOM: ft
Hole Diameter UOM: inch

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55 | ***1 of 1*** | ***SE/6.9*** | ***267.9 / 0.92*** | ***lot 18 con 4 ON*** | ***WWIS***

Well ID:	4908611	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:		***Data Src:***	1
Final Well Status:	Abandoned-Supply	***Date Received:***	08/04/2000
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	213883	***Contractor:***	1737
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908611.pdf

Additional Detail(s) (Map)

Well Completed Date: 02/15/2000
Year Completed: 2000
Depth (m): 18.288

Latitude:	43.6961782364481
Longitude:	-79.86935533725
X:	-79.86935518729221
Y:	43.69617823423752
Path:	490\4908611.pdf

Bore Hole Information

Bore Hole ID:	10323146	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591110.00
Code OB Desc:		**North83:**	4838750.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	02/15/2000	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932064170
Layer:	6
Color:	2
General Color:	GREY
Material 1:	34
Material 1 Desc:	TILL
Material 2:	06
Material 2 Desc:	SILT
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	32.0
Formation End Depth:	40.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064171
Layer:	7
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	40.0
Formation End Depth:	46.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064165
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	85
Material 2 Desc:	SOFT
Material 3:	06
Material 3 Desc:	SILT
Formation Top Depth:	0.0
Formation End Depth:	14.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064167
Layer:	3
Color:	2
General Color:	GREY
Material 1:	28
Material 1 Desc:	SAND
Material 2:	06
Material 2 Desc:	SILT
Material 3:	05
Material 3 Desc:	CLAY
Formation Top Depth:	21.0
Formation End Depth:	28.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064168
Layer:	4
Color:	2
General Color:	GREY
Material 1:	28
Material 1 Desc:	SAND
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	28.0
Formation End Depth:	30.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932064166
Layer:	2
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	85
Material 3 Desc:	SOFT
Formation Top Depth:	14.0
Formation End Depth:	21.0

Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064169
Layer: 5
Color: 2
General Color: GREY
Material 1: 28
Material 1 Desc: SAND
Material 2: 06
Material 2 Desc: SILT
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 30.0
Formation End Depth: 32.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932064172
Layer: 8
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2: 73
Material 2 Desc: HARD
Material 3:
Material 3 Desc:
Formation Top Depth: 46.0
Formation End Depth: 60.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964908611
Method Construction Code: 2
Method Construction: Rotary (Convent.)
Other Method Construction:

Pipe Information

Pipe ID: 10871716
Casing No: 1
Comment:
Alt Name:

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56 | **1 of 1** | **WNW/3.3** | **270.9 / 4.01** | **12761 MISSISSAUGA ROAD lot 21 con 4 Caledon ON** | **WWIS**

Well ID: 7144809
Construction Date:
Use 1st:
Use 2nd:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: Z107669
Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 05/13/2010
Selected Flag: TRUE
Abandonment Rec:
Contractor: 2663

Tag:	A093338	**Form Version:**	7
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	021
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/714\7144809.pdf

Additional Detail(s) (Map)

Well Completed Date:	04/28/2010
Year Completed:	2010
Depth (m):	31.0896
Latitude:	43.7095477222141
Longitude:	-79.8875735963366
X:	-79.88757344634931
Y:	43.709547720260794
Path:	714\7144809.pdf

Bore Hole Information

Bore Hole ID:	1002979255	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	589622.00
Code OB Desc:		**North83:**	4840215.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	5
Date Completed:	04/28/2010	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1003162398
Layer:	6
Color:	8
General Color:	BLACK
Material 1:	13
Material 1 Desc:	BOULDERS
Material 2:	
Material 2 Desc:	
Material 3:	21
Material 3 Desc:	GRANITE
Formation Top Depth:	40.0
Formation End Depth:	43.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1003162399
Layer:	7
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	43.0
Formation End Depth:	62.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1003162400
Layer:	8
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	62.0
Formation End Depth:	102.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1003162397
Layer:	5
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	73
Material 3 Desc:	HARD
Formation Top Depth:	25.0
Formation End Depth:	40.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1003162393
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	

Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 2.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1003162395
Layer: 3
Color: 6
General Color: BROWN
Material 1: 28
Material 1 Desc: SAND
Material 2: 05
Material 2 Desc: CLAY
Material 3: 85
Material 3 Desc: SOFT
Formation Top Depth: 10.0
Formation End Depth: 21.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1003162396
Layer: 4
Color: 8
General Color: BLACK
Material 1: 13
Material 1 Desc: BOULDERS
Material 2:
Material 2 Desc:
Material 3: 21
Material 3 Desc: GRANITE
Formation Top Depth: 21.0
Formation End Depth: 25.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1003162394
Layer: 2
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3: 73
Material 3 Desc: HARD
Formation Top Depth: 2.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1003162403
Layer: 1
Plug From: 0.0

Plug To: 20.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1003162435
Method Construction Code: 2
Method Construction: Rotary (Convent.)
Other Method Construction:

Pipe Information

Pipe ID: 1003162391
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1003162405
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From: -2.0
Depth To: 62.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 1003162407
Layer: 3
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To:
Casing Diameter: 5.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 1003162408
Layer: 4
Material:
Open Hole or Material:
Depth From: 50.0
Depth To: 102.0
Casing Diameter:
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 1003162406
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From: 62.0

Depth To:	102.0
Casing Diameter:	6.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1003162409
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	

Results of Well Yield Testing

Pumping Test Method Desc:	
Pump Test ID:	1003162392
Pump Set At:	90.0
Static Level:	
Final Level After Pumping:	83.75
Recommended Pump Depth:	90.0
Pumping Rate:	4.0
Flowing Rate:	
Recommended Pump Rate:	4.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	0
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	

Draw Down & Recovery

Pump Test Detail ID:	1003162422
Test Type:	Draw Down
Test Duration:	15
Test Level:	33.70000076293945
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	1003162428
Test Type:	Draw Down
Test Duration:	30
Test Level:	48.0
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID:	1003162434
Test Type:	Recovery
Test Duration:	60
Test Level:	44.20000076293945
Test Level UOM:	ft

Draw Down & Recovery

Pump Test Detail ID: 1003162417
Test Type: Recovery
Test Duration: 4
Test Level: 79.5999984741211
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162427
Test Type: Recovery
Test Duration: 25
Test Level: 57.599998474121094
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162413
Test Type: Recovery
Test Duration: 2
Test Level: 82.19999694824219
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162416
Test Type: Draw Down
Test Duration: 4
Test Level: 18.5
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162426
Test Type: Draw Down
Test Duration: 25
Test Level: 44.400001525878906
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162423
Test Type: Recovery
Test Duration: 15
Test Level: 66.30000305175781
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162424
Test Type: Draw Down
Test Duration: 20
Test Level: 44.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162431
Test Type: Recovery

Test Duration: 45
Test Level: 48.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162410
Test Type: Draw Down
Test Duration: 1
Test Level: 14.800000190734863
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162421
Test Type: Recovery
Test Duration: 10
Test Level: 72.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162430
Test Type: Draw Down
Test Duration: 40
Test Level: 59.20000076293945
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162411
Test Type: Recovery
Test Duration: 1
Test Level: 83.5
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162419
Test Type: Recovery
Test Duration: 5
Test Level: 78.4000015258789
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162425
Test Type: Recovery
Test Duration: 20
Test Level: 62.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162432
Test Type: Draw Down
Test Duration: 50
Test Level: 69.30000305175781
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162429
Test Type: Recovery
Test Duration: 30
Test Level: 53.79999923706055
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162433
Test Type: Draw Down
Test Duration: 60
Test Level: 83.9000015258789
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162412
Test Type: Draw Down
Test Duration: 2
Test Level: 17.700000762939453
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162414
Test Type: Draw Down
Test Duration: 3
Test Level: 18.200000762939453
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162415
Test Type: Recovery
Test Duration: 3
Test Level: 80.5999984741211
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162418
Test Type: Draw Down
Test Duration: 5
Test Level: 20.600000381469727
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 1003162420
Test Type: Draw Down
Test Duration: 10
Test Level: 27.399999618530273
Test Level UOM: ft

Water Details

Water ID: 1003162404

Layer: 1
Kind Code: 8
Kind: Untested
Water Found Depth: 102.0
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1003162401
Diameter: 10.0
Depth From: 0.0
Depth To: 20.0
Hole Depth UOM: ft
Hole Diameter UOM: inch

Hole Diameter

Hole ID: 1003162402
Diameter: 6.0
Depth From: 20.0
Depth To: 102.0
Hole Depth UOM: ft
Hole Diameter UOM: inch

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57 | **1 of 1** | **SE/15.2** | **267.9 / 0.92** | **MISSISSAUGA RD AND MAYFIELD RD BRAMPTON ON** | **WWIS**

Well ID: 7217246
Construction Date:
Use 1st: Monitoring
Use 2nd:
Final Well Status: Observation Wells
Water Type:
Casing Material:
Audit No: Z183389
Tag: A159495
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 03/05/2014
Selected Flag: TRUE
Abandonment Rec:
Contractor: 7320
Form Version: 7
Owner:
County: PEEL
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/721\7217246.pdf

Additional Detail(s) (Map)

Well Completed Date: 02/19/2014
Year Completed: 2014
Depth (m): 6.1
Latitude: 43.6961585134961
Longitude: -79.8691819736719
X: -79.86918182417737
Y: 43.69615851105311
Path: 721\7217246.pdf

Bore Hole Information

Bore Hole ID:	1004717698	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591124.00
Code OB Desc:		**North83:**	4838748.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	02/19/2014	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1005082040
Layer:	4
Color:	2
General Color:	GREY
Material 1:	06
Material 1 Desc:	SILT
Material 2:	12
Material 2 Desc:	STONES
Material 3:	
Material 3 Desc:	
Formation Top Depth:	4.900000095367432
Formation End Depth:	6.099999904632568
Formation End Depth UOM:	m

Overburden and Bedrock Materials Interval

Formation ID:	1005082038
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	06
Material 1 Desc:	SILT
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.8999999761581421
Formation End Depth:	1.7999999523162842
Formation End Depth UOM:	m

Overburden and Bedrock Materials Interval

Formation ID:	1005082039
Layer:	3
Color:	2
General Color:	GREY
Material 1:	06
Material 1 Desc:	SILT
Material 2:	05
Material 2 Desc:	CLAY

Material 3:	12
Material 3 Desc:	STONES
Formation Top Depth:	1.7999999523162842
Formation End Depth:	4.900000095367432
Formation End Depth UOM:	m

Overburden and Bedrock Materials Interval

Formation ID:	1005082037
Layer:	1
Color:	2
General Color:	GREY
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	01
Material 2 Desc:	FILL
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	0.8999999761581421
Formation End Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1005082047
Layer:	1
Plug From:	0.0
Plug To:	4.300000190734863
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1005082048
Layer:	2
Plug From:	4.300000190734863
Plug To:	6.099999904632568
Plug Depth UOM:	m

Method of Construction & Well Use

Method Construction ID:	1005082046
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	SSA

Pipe Information

Pipe ID:	1005082036
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1005082043
Layer:	1
Material:	5

Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 4.599999904632568
Casing Diameter: 5.099999904632568
Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Screen

Screen ID: 1005082044
Layer: 1
Slot: 10
Screen Top Depth: 4.599999904632568
Screen End Depth: 6.099999904632568
Screen Material: 5
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter: 6.099999904632568

Water Details

Water ID: 1005082042
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: m

Hole Diameter

Hole ID: 1005082041
Diameter: 16.0
Depth From: 0.0
Depth To: 6.099999904632568
Hole Depth UOM: m
Hole Diameter UOM: cm

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58 | **1 of 1** | **WNW/24.9** | **270.9 / 3.92** | **12761 MISSISSAUGA ROAD lot 21 con 4 ON** | **WWIS**

Well ID: 7147073
Construction Date:
Use 1st:
Use 2nd:
Final Well Status: Abandoned-Quality
Water Type:
Casing Material:
Audit No: Z117388
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 06/18/2010
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 4011
Form Version: 7
Owner:
County: PEEL
Lot: 021
Concession: 04
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/714\7147073.pdf

Additional Detail(s) (Map)

Well Completed Date: 05/18/2010
Year Completed: 2010
Depth (m):
Latitude: 43.709942009995
Longitude: -79.8873801165098
X: -79.8873799672296
Y: 43.70994200809181
Path: 714\7147073.pdf

Bore Hole Information

Bore Hole ID: 1003046679
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 05/18/2010
Remarks:
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 589637.00
North83: 4840259.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1003194990
Layer: 1
Color:
General Color:
Material 1:
Material 1 Desc:
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth:
Formation End Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003194992
Layer: 1
Plug From: 13.729999542236328
Plug To: 13.350000381469727
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003195000
Layer: 9

Plug From: 2.4000000953674316
Plug To: 1.75
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003194999
Layer: 8
Plug From: 3.700000047683716
Plug To: 2.4000000953674316
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003194998
Layer: 7
Plug From: 4.099999904632568
Plug To: 3.700000047683716
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003194993
Layer: 2
Plug From: 13.350000381469727
Plug To: 11.140000343322754
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003194997
Layer: 6
Plug From: 4.760000228881836
Plug To: 4.099999904632568
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003194994
Layer: 3
Plug From: 11.140000343322754
Plug To: 10.619999885559082
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003194996
Layer: 5
Plug From: 5.5
Plug To: 4.760000228881836
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003194995
Layer: 4
Plug From: 10.619999885559082
Plug To: 5.5
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003195001
Layer: 10
Plug From: 1.75
Plug To: 0.0
Plug Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 1003195005
Method Construction Code: B
Method Construction: Other Method
Other Method Construction: ABANDON

Pipe Information

Pipe ID: 1003194988
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1003195003
Layer:
Material:
Open Hole or Material:
Depth From:
Depth To:
Casing Diameter:
Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Screen

Screen ID: 1003195004
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter:

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 1003194989
Pump Set At:
Static Level: 1.7999999523162842

Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:
Levels UOM: m
Rate UOM: LPM
Water State After Test Code: 0
Water State After Test:
Pumping Test Method: 0
Pumping Duration HR:
Pumping Duration MIN:
Flowing:

Water Details

Water ID: 1003195002
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: m

Hole Diameter

Hole ID: 1003194991
Diameter: 80.0
Depth From: 13.729999542236328
Depth To: 0.0
Hole Depth UOM: m
Hole Diameter UOM: cm

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59 ***1 of 1*** ***WNW/34.9*** ***270.9 / 3.92*** ***12761 MISSISSAUGA lot 21 con 4 ON*** ***WWIS***

Well ID: 7147077
Construction Date:
Use 1st:
Use 2nd:
Final Well Status: Abandoned-Other
Water Type:
Casing Material:
Audit No: Z117387
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 06/18/2010
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 4011
Form Version: 7
Owner:
County: PEEL
Lot: 021
Concession: 04
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/714\7147077.pdf

Additional Detail(s) (Map)

Well Completed Date: 05/18/2010
Year Completed: 2010

Depth (m):
Latitude: 43.7100589186619
Longitude: -79.8873655411494
X: -79.88736539115993
Y: 43.71005891726478
Path: 714\7147077.pdf

Bore Hole Information

Bore Hole ID: 1003046800
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 05/18/2010
Remarks:
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 589638.00
North83: 4840272.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Annular Space/Abandonment Sealing Record

Plug ID: 1003195247
Layer: 7
Plug From: 0.4000000059604645
Plug To: 0.0
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003195245
Layer: 5
Plug From: 2.049999952316284
Plug To: 1.5499999523162842
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003195243
Layer: 3
Plug From: 3.0999999046325684
Plug To: 2.8499999046325684
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1003195241
Layer: 1
Plug From: 4.309999942779541
Plug To: 4.0
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID:	1003195246
Layer:	6
Plug From:	1.5499999523162842
Plug To:	0.4000000059604645
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1003195242
Layer:	2
Plug From:	4.0
Plug To:	3.0999999046325684
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1003195244
Layer:	4
Plug From:	2.8499999046325684
Plug To:	2.049999952316284
Plug Depth UOM:	m

Method of Construction & Well Use

Method Construction ID:	1003195251
Method Construction Code:	B
Method Construction:	Other Method
Other Method Construction:	ABANDON

Pipe Information

Pipe ID:	1003195237
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1003195249
Layer:	
Material:	
Open Hole or Material:	
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	cm
Casing Depth UOM:	m

Construction Record - Screen

Screen ID:	1003195250
Layer:	
Slot:	
Screen Top Depth:	

Screen End Depth:
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter:

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 1003195238
Pump Set At:
Static Level: 2.0999999046325684
Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:
Levels UOM: m
Rate UOM: LPM
Water State After Test Code: 0
Water State After Test:
Pumping Test Method: 0
Pumping Duration HR:
Pumping Duration MIN:
Flowing:

Water Details

Water ID: 1003195248
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: m

Hole Diameter

Hole ID: 1003195240
Diameter: 75.0
Depth From: 4.309999942779541
Depth To: 0.0
Hole Depth UOM: m
Hole Diameter UOM: cm

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60 ***1 of 1*** ***NW/189.6*** ***271.3 / 4.42*** ***lot 21 con 4 ON*** ***WWIS***

Well ID: 4906993
Construction Date:
Use 1st: Domestic
Use 2nd:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 35165
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 02/28/1989
Selected Flag: TRUE
Abandonment Rec:
Contractor: 4919
Form Version: 1
Owner:
County: PEEL
Lot: 021
Concession: 04
Concession Name: HS W
Easting NAD83:

Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4906993.pdf

Additional Detail(s) (Map)

Well Completed Date:	11/20/1988
Year Completed:	1988
Depth (m):	13.4112
Latitude:	43.7111272834213
Longitude:	-79.8861231258956
X:	-79.8861229756073
Y:	43.711127281244046
Path:	490\4906993.pdf

Bore Hole Information

Bore Hole ID:	10321554	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	589736.50
Code OB Desc:		**North83:**	4840392.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	11/20/1988	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932056197
Layer:	3
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	28
Material 2 Desc:	SAND
Material 3:	79
Material 3 Desc:	PACKED
Formation Top Depth:	20.0
Formation End Depth:	44.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932056196
Layer:	2
Color:	6
General Color:	BROWN

Material 1:	05
Material 1 Desc:	CLAY
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	1.0
Formation End Depth:	20.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932056195
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	73
Material 2 Desc:	HARD
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964906993
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10870124
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930530578
Layer:	1
Material:	2
Open Hole or Material:	GALVANIZED
Depth From:	
Depth To:	44.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	BAILER
Pump Test ID:	994906993
Pump Set At:	
Static Level:	10.0
Final Level After Pumping:	30.0
Recommended Pump Depth:	40.0

Pumping Rate: 10.0
Flowing Rate:
Recommended Pump Rate: 2.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 2
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 934255902
Test Type: Recovery
Test Duration: 15
Test Level: 28.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934784540
Test Type: Recovery
Test Duration: 45
Test Level: 25.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934530459
Test Type: Recovery
Test Duration: 30
Test Level: 26.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 935050034
Test Type: Recovery
Test Duration: 60
Test Level: 24.0
Test Level UOM: ft

Water Details

Water ID: 933795037
Layer: 1
Kind Code: 5
Kind: Not stated
Water Found Depth: 20.0
Water Found Depth UOM: ft

Water Details

Water ID: 933795038
Layer: 2
Kind Code: 5
Kind: Not stated
Water Found Depth: 30.0
Water Found Depth UOM: ft

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

61 **1 of 1** **E/127.5** **263.9 / -3.08** **ON** **WWIS**

Well ID:	7410966	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	Yes
Use 2nd:		**Data Src:**	
Final Well Status:		**Date Received:**	02/16/2022
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	Z372654	**Contractor:**	7464
Tag:	A328747	**Form Version:**	7
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	
Depth to Bedrock:		**Concession:**	
Well Depth:		**Concession Name:**	
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Additional Detail(s) (Map)

Bore Hole ID:	1008951150	**Tag No:**	A328747
Depth M:		**Contractor:**	7464
Year Completed:	2021	**Latitude:**	43.7032222801603
Well Completed Dt:	11/16/2021	**Longitude:**	-79.8633028779328
Audit No:	Z372654	**Y:**	43.703222278057126
Path:		**X:**	-79.86330272827425

Bore Hole Information

Bore Hole ID:	1008951150	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591587.00
Code OB Desc:		**North83:**	4839539.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	11/16/2021	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

62 **1 of 1** **SE/38.8** **266.9 / -0.08** **ON** **WWIS**

Well ID:	7203004	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	Yes
Use 2nd:		**Data Src:**	
Final Well Status:		**Date Received:**	06/10/2013
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Audit No:	C17135	**Contractor:**	7421
Tag:	A117088	**Form Version:**	8
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	
Depth to Bedrock:		**Concession:**	
Well Depth:		**Concession Name:**	
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/720\7203004.pdf

Additional Detail(s) (Map)

Well Completed Date:	05/15/2013
Year Completed:	2013
Depth (m):	
Latitude:	43.6959390567568
Longitude:	-79.8679327346137
X:	-79.86793258513954
Y:	43.69593905506737
Path:	720\7203004.pdf

Bore Hole Information

Bore Hole ID:	1004335971	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591225.00
Code OB Desc:		**North83:**	4838725.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	05/15/2013	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	gis
Location Method Desc:	from gis		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

63	1 of 1	WNW/57.9	272.9 / 5.92	lot 21 con 5 ON	WWIS

Well ID:	4902031	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Livestock	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	01/02/1963
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	1325
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	021
Depth to Bedrock:		**Concession:**	05
Well Depth:		**Concession Name:**	HS W

Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4902031.pdf

Additional Detail(s) (Map)

Well Completed Date:	07/03/1962
Year Completed:	1962
Depth (m):	9.7536
Latitude:	43.7097577842715
Longitude:	-79.8888047441577
X:	-79.88880459422222
Y:	43.70975778233971
Path:	490\4902031.pdf

Bore Hole Information

Bore Hole ID:	10316874	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	589522.50
Code OB Desc:		**North83:**	4840237.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	07/03/1962	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5
Location Method Desc:	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932036486
Layer:	3
Color:	
General Color:	
Material 1:	11
Material 1 Desc:	GRAVEL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	26.0
Formation End Depth:	32.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932036485
Layer:	2
Color:	3

General Color:	BLUE
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	13
Material 2 Desc:	BOULDERS
Material 3:	
Material 3 Desc:	
Formation Top Depth:	11.0
Formation End Depth:	26.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932036484
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	13
Material 2 Desc:	BOULDERS
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	11.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964902031
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10865444
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930523713
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	32.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994902031
Pump Set At:	
Static Level:	20.0
Final Level After Pumping:	

Recommended Pump Depth:	30.0
Pumping Rate:	2.0
Flowing Rate:	
Recommended Pump Rate:	2.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933790002
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	26.0
Water Found Depth UOM:	ft

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64 | ***1 of 1*** | ***WNW/66.3*** | ***272.9 / 5.92*** | ***lot 22 con 5 ON*** | ***WWIS***

Well ID:	4903723	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	12/21/1971
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	1307
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	022
Depth to Bedrock:		**Concession:**	05
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4903723.pdf

Additional Detail(s) (Map)

Well Completed Date:	12/16/1971
Year Completed:	1971
Depth (m):	34.1376
Latitude:	43.7097227404011
Longitude:	-79.8889046907719
X:	-79.8889045407521
Y:	43.70972273840094
Path:	490\4903723.pdf

Bore Hole Information

Bore Hole ID:	10318556	**Elevation:**	

DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	589514.50
Code OB Desc:		**North83:**	4840233.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	4
Date Completed:	12/16/1971	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	p4

Location Method Desc: Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932042817
Layer: 1
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2: 09
Material 2 Desc: MEDIUM SAND
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 15.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932042819
Layer: 3
Color:
General Color:
Material 1: 10
Material 1 Desc: COARSE SAND
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 37.0
Formation End Depth: 38.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932042820
Layer: 4
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:

Formation Top Depth:	38.0
Formation End Depth:	112.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932042818
Layer:	2
Color:	2
General Color:	GREY
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	15.0
Formation End Depth:	37.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964903723
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10867126
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930526139
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	42.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	BAILER
Pump Test ID:	994903723
Pump Set At:	
Static Level:	10.0
Final Level After Pumping:	40.0
Recommended Pump Depth:	40.0
Pumping Rate:	1.0
Flowing Rate:	
Recommended Pump Rate:	1.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1

Water State After Test:	CLEAR
Pumping Test Method:	2
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933791767
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	38.0
Water Found Depth UOM:	ft

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65 | ***1 of 1*** | ***ESE/167.5*** | ***264.9 / -2.08*** | ***lot 18 con 4 ON*** | ***WWIS***

Well ID:	4905047	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Public	***Data Entry Status:***	
Use 2nd:	0	***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	02/04/1977
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:		***Contractor:***	2651
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4905047.pdf

Additional Detail(s) (Map)

Well Completed Date:	09/17/1976
Year Completed:	1976
Depth (m):	55.1688
Latitude:	43.700194144763
Longitude:	-79.8630188088708
X:	-79.8630186588853
Y:	43.70019414327323
Path:	490\4905047.pdf

Bore Hole Information

Bore Hole ID:	10319806	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	591614.50
Code OB Desc:		***North83:***	4839203.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	4
Date Completed:	09/17/1976	***UTMRC Desc:***	margin of error : 30 m - 100 m

Remarks: ***Location Method:*** p4
Location Method Desc: Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932048331
Layer: 3
Color: 7
General Color: RED
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 4.0
Formation End Depth: 16.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932048332
Layer: 4
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 16.0
Formation End Depth: 181.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932048329
Layer: 1
Color:
General Color:
Material 1: 02
Material 1 Desc: TOPSOIL
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 1.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932048330
Layer: 2
Color: 6
General Color: BROWN
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 1.0
Formation End Depth: 4.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964905047
Method Construction Code: 3
Method Construction: Rotary (Reverse)
Other Method Construction:

Pipe Information

Pipe ID: 10868376
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930527791
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 26.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994905047
Pump Set At:
Static Level:
Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate: 3.0
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 4
Pumping Duration MIN: 0
Flowing: No

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Water Details

Water ID:	933793080
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	
Water Found Depth UOM:	ft

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66 | ***1 of 1*** | ***E/96.5*** | ***264.1 / -2.82*** | ***1248 MAYFIELD lot 18 con 4 Caledon ON*** | ***WWIS***

Well ID:	7314273	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:		***Data Entry Status:***	
Use 2nd:		***Data Src:***	
Final Well Status:	Abandoned-Other	***Date Received:***	07/06/2018
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	Yes
Audit No:	Z283652	***Contractor:***	7238
Tag:		***Form Version:***	7
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/731\7314273.pdf

Additional Detail(s) (Map)

Well Completed Date:	06/08/2018
Year Completed:	2018
Depth (m):	
Latitude:	43.7017007739556
Longitude:	-79.8624132344344
X:	-79.86241308394865
Y:	43.70170077197555
Path:	731\7314273.pdf

Bore Hole Information

Bore Hole ID:	1007145999	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	591661.00
Code OB Desc:		***North83:***	4839371.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	06/08/2018	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			

Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID:	1007406363
Layer:	
Color:	
General Color:	
Material 1:	
Material 1 Desc:	
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	
Formation End Depth:	
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1007406369
Layer:	1
Plug From:	0.0
Plug To:	8.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1007406368
Method Construction Code:	
Method Construction:	
Other Method Construction:	

Pipe Information

Pipe ID:	1007406362
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1007406366
Layer:	
Material:	
Open Hole or Material:	
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1007406367
Layer:	
Slot:	
Screen Top Depth:	

Screen End Depth:
Screen Material:
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter:

Water Details

Water ID: 1007406365
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1007406364
Diameter:
Depth From:
Depth To:
Hole Depth UOM: ft
Hole Diameter UOM: inch

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67 | **1 of 1** | **E/147.4** | **263.9 / -3.08** | **. 12100 Creditview Rd lot 18 con 4 ON** | **WWIS**

Well ID: 7415540
Construction Date:
Use 1st: Monitoring
Use 2nd:
Final Well Status: Observation Wells
Water Type:
Casing Material:
Audit No: QD5D8BYD
Tag: A306583
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 04/12/2022
Selected Flag: TRUE
Abandonment Rec:
Contractor: 7360
Form Version: 9
Owner:
County: PEEL
Lot: 018
Concession: 04
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/741\7415540.pdf

Additional Detail(s) (Map)

Well Completed Date: 02/02/2022
Year Completed: 2022
Depth (m): 6.096
Latitude: 43.7025527715531
Longitude: -79.8620744388598
X: -79.86207428886226
Y: 43.70255277045702
Path: 741\7415540.pdf

Bore Hole Information

Bore Hole ID: 1008999916
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 02/02/2022
Remarks:
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 591687.00
North83: 4839466.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1009000072
Layer: 1
Color:
General Color:
Material 1: 28
Material 1 Desc: SAND
Material 2: 11
Material 2 Desc: GRAVEL
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 4.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1009000074
Layer: 3
Color:
General Color:
Material 1: 34
Material 1 Desc: TILL
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 18.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1009000075
Layer: 4
Color:
General Color:
Material 1: 28
Material 1 Desc: SAND
Material 2:
Material 2 Desc:

Material 3:
Material 3 Desc:
Formation Top Depth: 18.0
Formation End Depth: 20.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1009000073
Layer: 2
Color:
General Color:
Material 1: 05
Material 1 Desc: CLAY
Material 2: 84
Material 2 Desc: SILTY
Material 3:
Material 3 Desc:
Formation Top Depth: 4.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1009000188
Layer: 1
Plug From:
Plug To:
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1009000208
Layer: 1
Plug From: 1.0
Plug To: 8.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1009000012
Method Construction Code: E
Method Construction: Auger
Other Method Construction:

Pipe Information

Pipe ID: 1008999974
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1009000128
Layer: 1
Material: 5

Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	10.0
Casing Diameter:	2.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1009000148
Layer:	1
Slot:	0.1
Screen Top Depth:	10.0
Screen End Depth:	20.0
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.25

Results of Well Yield Testing

Pumping Test Method Desc:	
Pump Test ID:	1008999975
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	

Water Details

Water ID:	1009000052
Layer:	1
Kind Code:	8
Kind:	Untested
Water Found Depth:	2.0
Water Found Depth UOM:	ft

Hole Diameter

Hole ID:	1009000168
Diameter:	6.0
Depth From:	0.0
Depth To:	20.0
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

68	***1 of 1***	***WNW/59.1***	***272.9 / 5.92***	***lot 22 con 5 ON***	***WWIS***

Well ID:	4903637	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	

Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	07/27/1971
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	1307
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	022
Depth to Bedrock:		**Concession:**	05
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4903637.pdf

Additional Detail(s) (Map)

Well Completed Date:	06/16/1971
Year Completed:	1971
Depth (m):	12.192
Latitude:	43.7101776789078
Longitude:	-79.8893927848988
X:	-79.88939263477573
Y:	43.710177677580056
Path:	490\4903637.pdf

Bore Hole Information

Bore Hole ID:	10318471	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	589474.50
Code OB Desc:		**North83:**	4840283.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	4
Date Completed:	06/16/1971	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	p4

Location Method Desc: Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID:	932042455
Layer:	3
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	

Material 3 Desc:
Formation Top Depth: 38.0
Formation End Depth: 40.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932042453
Layer: 1
Color: 6
General Color: BROWN
Material 1: 02
Material 1 Desc: TOPSOIL
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932042454
Layer: 2
Color: 2
General Color: GREY
Material 1: 05
Material 1 Desc: CLAY
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 38.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964903637
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10867041
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930526011
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 40.0

Casing Diameter: 30.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: BAILER
Pump Test ID: 994903637
Pump Set At:
Static Level: 15.0
Final Level After Pumping: 38.0
Recommended Pump Depth: 38.0
Pumping Rate: 4.0
Flowing Rate:
Recommended Pump Rate: 4.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 2
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: No

Draw Down & Recovery

Pump Test Detail ID: 935050437
Test Type: Recovery
Test Duration: 60
Test Level: 30.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934256845
Test Type: Recovery
Test Duration: 15
Test Level: 36.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934530961
Test Type: Recovery
Test Duration: 30
Test Level: 34.0
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934785520
Test Type: Recovery
Test Duration: 45
Test Level: 32.0
Test Level UOM: ft

Water Details

Water ID: 933791674
Layer: 1
Kind Code: 1

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Kind: FRESH
Water Found Depth: 40.0
Water Found Depth UOM: ft

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69 | **1 of 1** | **ESE/166.0** | **264.6 / -2.36** | **Peel District School Board**
1248 Mayfield Road
Caledon ON L7C 0Y7 | **GEN**

Generator Info

Generator No: ON5213030
Approval Years: As of Jan 2021
Status: Registered
PO Box No:
Country: Canada
Co Admin:
Phone No Admin:
SIC Description:

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code:

Waste Detail(s)

Waste Class: 221 L
Waste Class Name: Light fuels

2020 Generator Info

Gen No: ON5213030
ID: 20581
Contaminated Fac: N
MHSW Facility: N
NAICS Code1: 611110
NAICS Code2:
NAICS Code3:
Gen Name: Peel District School Board
Gen Div:
Gen Op Name: Peel District School Board
Gen Op Div:
Site Adrs1: 1248 Mayfield Road
Site Bldg: Former Alloa PS
Site Pobox:
Province In: ONTARIO
Site Adrs2:
Site City: Caledon
Province Out:
Site Postal Code: L7C 0Y7
Site Country: Canada
Co Official: Steve Hanna
Co Admin:

Choice of Contact: CO_OFFICIAL
Phone No Official: 905-279-4310 Ext.1783
Phone No Admin:
County Ont: PEEL (R. M.)
County Out:
District: 305

2020 Generator Manifest

ID: 41132
Generator No: ON5213030
Receiver Type: 035
Waste Char: L
Waste Code: 221

Sum Received Qty: 8500.0
Waste Class Name: LIGHT FUELS
Count Manifests: 1
District: 202

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70 | **1 of 2** | **ESE/195.3** | **264.9 / -2.08** | **lot 18 con 4**
ON | **WWIS**

Well ID:	4901924	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Abandoned-Supply	**Date Received:**	12/27/1960
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	1307
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4901924.pdf

Additional Detail(s) (Map)

Well Completed Date:	12/13/1960
Year Completed:	1960
Depth (m):	10.9728
Latitude:	43.7000991841707
Longitude:	-79.8625241876688
X:	-79.86252403767257
Y:	43.7000991825254
Path:	490\4901924.pdf

Bore Hole Information

Bore Hole ID:	10316767	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591654.50
Code OB Desc:		**North83:**	4839193.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	12/13/1960	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5
Location Method Desc:	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932036115
Layer:	2
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	

Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	28.0
Formation End Depth:	36.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932036114
Layer:	1
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	28.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964901924
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10865337
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930523559
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	36.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

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70 **2 of 2** **ESE/195.3** **264.9 / -2.08** **lot 18 con 4 ON** **WWIS**

Well ID:	4901925	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Public	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	01/31/1961
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	4813

Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4901925.pdf

Additional Detail(s) (Map)

Well Completed Date:	12/15/1960
Year Completed:	1960
Depth (m):	48.1584
Latitude:	43.7000991841707
Longitude:	-79.8625241876688
X:	-79.86252403767257
Y:	43.7000991825254
Path:	490\4901925.pdf

Bore Hole Information

Bore Hole ID:	10316768	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591654.50
Code OB Desc:		**North83:**	4839193.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	12/15/1960	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5
Location Method Desc:	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932036117
Layer:	2
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	36.0
Formation End Depth:	158.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932036116
Layer:	1
Color:	
General Color:	
Material 1:	23
Material 1 Desc:	PREVIOUSLY DUG
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	36.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964901925
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10865338
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930523560
Layer:	1
Material:	
Open Hole or Material:	
Depth From:	
Depth To:	36.0
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930523562
Layer:	3
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	158.0
Casing Diameter:	7.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930523561
Layer:	2
Material:	1
Open Hole or Material:	STEEL

Depth From:	
Depth To:	40.0
Casing Diameter:	7.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994901925
Pump Set At:	
Static Level:	18.0
Final Level After Pumping:	150.0
Recommended Pump Depth:	
Pumping Rate:	4.0
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	6
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933789893
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	88.0
Water Found Depth UOM:	ft

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71 | ***1 of 12*** | ***E/147.7*** | ***263.9 / -3.08*** | ***Peel District School Board***
1248 Mayfield Rd W
Caledon ON | ***CA***

Certificate #:	1424-6QKJSF
Application Year:	2008
Issue Date:	12/15/2008
Approval Type:	Municipal and Private Sewage Works
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	
Contaminants:	
Emission Control:	

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71 | ***2 of 12*** | ***E/147.7*** | ***263.9 / -3.08*** | ***Peel District School Board***
1248 Mayfield Road West
Caledon ON | ***CA***

Certificate #:	1424-6QKJSF
Application Year:	2006
Issue Date:	7/19/2006
Approval Type:	Municipal and Private Sewage Works
Status:	Amended

Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

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71 ***3 of 12*** ***E/147.7*** ***263.9 / -3.08*** ***Peel District School Board*** ***ECA***
1248 Mayfield Rd W
Caledon ON L5C 2T9

Approval No:	1424-6QKJSF	***MOE District:***	Halton-Peel
Approval Date:	2008-12-15	***City:***	
Status:	Approved	***Longitude:***	-79.86263
Record Type:	ECA	***Latitude:***	43.70105
Link Source:	IDS	***Geometry X:***	
SWP Area Name:	Credit Valley	***Geometry Y:***	
Approval Type:	ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS		
Project Type:	MUNICIPAL AND PRIVATE SEWAGE WORKS		
Business Name:	Peel District School Board		
Address:	1248 Mayfield Rd W		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/6860-7KUQR2-14.pdf		
PDF Site Location:			

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71 ***4 of 12*** ***E/147.7*** ***263.9 / -3.08*** ***Peel District School Board*** ***ECA***
1248 Mayfield Road West
Caledon ON L5C 2T9

Approval No:	1424-6QKJSF	***MOE District:***	Halton-Peel
Approval Date:	2006-07-19	***City:***	
Status:	Amended	***Longitude:***	-79.86263
Record Type:	ECA	***Latitude:***	43.70105
Link Source:	IDS	***Geometry X:***	
SWP Area Name:	Credit Valley	***Geometry Y:***	
Approval Type:	ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS		
Project Type:	MUNICIPAL AND PRIVATE SEWAGE WORKS		
Business Name:	Peel District School Board		
Address:	1248 Mayfield Road West		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/7183-6PESXJ-14.pdf		
PDF Site Location:			

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71 ***5 of 12*** ***E/147.7*** ***263.9 / -3.08*** ***Peel District School Board*** ***ECA***
1248 Mayfield Rd W
Caledon ON L5C 2T9

Approval No:	6427-CSRHZX	***MOE District:***	Halton-Peel
Approval Date:	July 20, 2023	***City:***	
Status:	Approved	***Longitude:***	-79.86263
Record Type:	ECA	***Latitude:***	43.70105
Link Source:	IDS	***Geometry X:***	-8890267.3049999997
SWP Area Name:	Credit Valley	***Geometry Y:***	5419294.9352999991
Approval Type:	ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS		
Project Type:	MUNICIPAL AND PRIVATE SEWAGE WORKS		
Business Name:	Peel District School Board		
Address:	1248 Mayfield Rd W		
Full Address:			

Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/1880-CPXQ9E-14.pdf
PDF Site Location: Old Alloa (Malala Yousafzai) Public School
1248 Mayfield Rd W
Town of Caledon, Regional Municipality of Peel
Ontario, L6V 1A1

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71 | ***6 of 12*** | ***E/147.7*** | ***263.9 / -3.08*** | ***PEEL BOARD OF EDUCATION***
ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD.
WEST
BRAMPTON ON L6V 1A1 | ***GEN***

Generator Info

Generator No: ON0359859
Approval Years: 86,87,88,89,90,92,93
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: ELEMT./SECON. EDUC.

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 8511

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 213
Waste Class Name: PETROLEUM DISTILLATES

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71 | ***7 of 12*** | ***E/147.7*** | ***263.9 / -3.08*** | ***PEEL BOARD OF EDUCATION 30-283***
ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD.
WEST
BRAMPTON ON L6V 1A1 | ***GEN***

Generator Info

Generator No: ON0359859
Approval Years: 94,95,96
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: ELEMT./SECON. EDUC.

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 8511

Waste Detail(s)

Waste Class: 213

Waste Class Name: PETROLEUM DISTILLATES

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

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71 | **8 of 12** | **E/147.7** | **263.9 / -3.08** | **PEEL DISTRICT SCHOOL BOARD**
ALLOA PUBLIC SCHOOL 1248 MAYFIELD RD.
WEST
BRAMPTON ON L6V 1A1 | **GEN**

Generator Info

Generator No: ON0359859
Approval Years: 97
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: ELEMT./SECON. EDUC.

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 8511

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 213
Waste Class Name: PETROLEUM DISTILLATES

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

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71 | **9 of 12** | **E/147.7** | **263.9 / -3.08** | **PEEL DISTRICT SCHOOL BOARD**
ALLOA PUBLIC SCHOOL 1248 MAYFIELD ROAD
WEST
BRAMPTON ON L6V 1A1 | **GEN**

Generator Info

Generator No: ON0359859
Approval Years: 98,99,00,01
Status:
PO Box No:
Country:
Co Admin:

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 8511

Phone No Admin:
SIC Description: ELEMT./SECON. EDUC.

Waste Detail(s)

Waste Class: 148
Waste Class Name: INORGANIC LABORATORY CHEMICALS

Waste Detail(s)

Waste Class: 213
Waste Class Name: PETROLEUM DISTILLATES

Waste Detail(s)

Waste Class: 263
Waste Class Name: ORGANIC LABORATORY CHEMICALS

71	*10 of 12*	*E/147.7*	*263.9 / -3.08*	***Peel District School Board*** ***1248 Mayfield Road*** ***Caledon ON L7C 0Y7***	***GEN***

Generator Info

Generator No: ON5213030
Approval Years: As of Jul 2020
Status: Registered
PO Box No:
Country: Canada
Co Admin:
Phone No Admin:
SIC Description:

Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code:

Waste Detail(s)

Waste Class: 221 L
Waste Class Name: Light fuels

71	*11 of 12*	*E/147.7*	*263.9 / -3.08*	***Peel District School Board*** ***1248 Mayfield Rd W*** ***Caledon ON***	***NCPL***

Year: 0020
Type of Concern: Approval / Permit Non-Compliance
Contaminant: SUSPENDED SOLIDS, TOTAL
Discharge Type: Municipal Private Sewage
Status Report:
Sector: Miscellaneous Communal
Site Address: 1248 Mayfield Rd W
District Area: Halton-Peel
Facility Owner: Peel District School Board
Site Name: Alloa Public School

Details

Incident Date:
Exceedance Start Date: 2020-08-01
Exceedance End Date: 2020-08-31

Limit/Unit/Freq:	10mg/L / mon avg
Quantity Min/Max:	22/22
Facility Action:	Equipment Modified - Repaired - Replaced or Re-calibrated
Ministry Action:	Assessment Complete - Incident Resolved

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71 | **12 of 12** | **E/147.7** | **263.9 / -3.08** | **Peel District School Board**
1248 Mayfield Rd W
Caledon ON | **NCPL**

Year:	0020
Type of Concern:	Approval / Permit Non-Compliance
Contaminant:	BIOCHEMICAL OXYGEN DEMAND
Discharge Type:	Municipal Private Sewage
Status Report:	
Sector:	Miscellaneous Communal
Site Address:	1248 Mayfield Rd W
District Area:	Halton-Peel
Facility Owner:	Peel District School Board
Site Name:	Alloa Public School

Details

Incident Date:	
Exceedance Start Date:	2020-08-01
Exceedance End Date:	2020-08-31
Limit/Unit/Freq:	10mg/L / mon avg
Quantity Min/Max:	13/13
Facility Action:	Equipment Modified - Repaired - Replaced or Re-calibrated
Ministry Action:	Assessment Complete - Incident Resolved

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74 | **1 of 1** | **ESE/243.7** | **263.9 / -3.08** | **lot 17 con 3**
ON | **WWIS**

Well ID:	4906720	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	11/12/1987
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	NA	**Contractor:**	3637
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	017
Depth to Bedrock:		**Concession:**	03
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	BRAMPTON CITY (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4906720.pdf

Additional Detail(s) (Map)

Well Completed Date:	09/18/1986
Year Completed:	1986
Depth (m):	14.9352
Latitude:	43.6998770786404
Longitude:	-79.8619202799034

X:	-79.86192013016348
Y:	43.69987707693401
Path:	490\4906720.pdf

Bore Hole Information

Bore Hole ID:	10321282	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	591703.50
Code OB Desc:		***North83:***	4839169.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	3
Date Completed:	09/18/1986	***UTMRC Desc:***	margin of error : 10 - 30 m
Remarks:		***Location Method:***	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932054859
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932054860
Layer:	2
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	
Material 3 Desc:	
Formation Top Depth:	1.0
Formation End Depth:	30.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932054861
Layer:	3

Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	17
Material 2 Desc:	SHALE
Material 3:	
Material 3 Desc:	
Formation Top Depth:	30.0
Formation End Depth:	49.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964906720
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10869852
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930530131
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	44.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930530132
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	49.0
Casing Diameter:	24.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	
Pump Test ID:	994906720
Pump Set At:	
Static Level:	36.0
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	

Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing: No

Water Details

Water ID: 933794732
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 40.0
Water Found Depth UOM: ft

Water Details

Water ID: 933794733
Layer: 2
Kind Code: 1
Kind: FRESH
Water Found Depth: 45.0
Water Found Depth UOM: ft

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75 | ***1 of 1*** | ***E/205.1*** | ***263.9 / -3.08*** | ***lot 17 con 4 ON*** | ***WWIS***

Well ID:	4901923	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:	0	***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	05/02/1962
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:		***Contractor:***	1307
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	017
Depth to Bedrock:		***Concession:***	04
Well Depth:		***Concession Name:***	HS W
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	BRAMPTON CITY (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4901923.pdf

Additional Detail(s) (Map)

Well Completed Date: 04/21/1962
Year Completed: 1962
Depth (m): 13.4112
Latitude: 43.7007822231069
Longitude: -79.8614936086583
X: -79.86149345920427
Y: 43.70078222130463

Path: 490\4901923.pdf

Bore Hole Information

Bore Hole ID:	10316766	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	591736.50
Code OB Desc:		***North83:***	4839270.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	5
Date Completed:	04/21/1962	***UTMRC Desc:***	margin of error : 100 m - 300 m
Remarks:		***Location Method:***	p5

Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932036113
Layer: 2
Color: 7
General Color: RED
Material 1: 17
Material 1 Desc: SHALE
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth: 28.0
Formation End Depth: 44.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 932036112
Layer: 1
Color: 6
General Color: BROWN
Material 1: 02
Material 1 Desc: TOPSOIL
Material 2: 05
Material 2 Desc: CLAY
Material 3:
Material 3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 28.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964901923
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID:	10865336
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930523558
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	44.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994901923
Pump Set At:	
Static Level:	24.0
Final Level After Pumping:	
Recommended Pump Depth:	40.0
Pumping Rate:	1.0
Flowing Rate:	
Recommended Pump Rate:	1.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	No

Water Details

Water ID:	933789892
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	44.0
Water Found Depth UOM:	ft

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
76	1 of 1	ESE/230.9	263.9 / -3.08	lot 17 con 3 ON	WWIS

Well ID:	4908107	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:		***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	04/17/1996
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:	158661	***Contractor:***	3349
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	

Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	017
Depth to Bedrock:		**Concession:**	03
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	BRAMPTON CITY (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4908107.pdf

Additional Detail(s) (Map)

Well Completed Date:	07/27/1995
Year Completed:	1995
Depth (m):	29.2608
Latitude:	43.7001810529559
Longitude:	-79.8617035523783
X:	-79.86170340176146
Y:	43.70018105094468
Path:	490\4908107.pdf

Bore Hole Information

Bore Hole ID:	10322666	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591720.50
Code OB Desc:		**North83:**	4839203.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	3
Date Completed:	07/27/1995	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	gps
Location Method Desc:	from gps		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	932061912
Layer:	4
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	50.0
Formation End Depth:	96.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932061909
Layer:	1
Color:	8
General Color:	BLACK
Material 1:	02
Material 1 Desc:	TOPSOIL
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932061911
Layer:	3
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	18.0
Formation End Depth:	50.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932061910
Layer:	2
Color:	2
General Color:	GREY
Material 1:	28
Material 1 Desc:	SAND
Material 2:	11
Material 2 Desc:	GRAVEL
Material 3:	05
Material 3 Desc:	CLAY
Formation Top Depth:	1.0
Formation End Depth:	18.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	933170813
Layer:	1
Plug From:	0.0
Plug To:	20.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964908107

Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10871236
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930532143
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 55.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930532144
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:
Depth To: 96.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc: PUMP
Pump Test ID: 994908107
Pump Set At:
Static Level: 18.0
Final Level After Pumping: 90.0
Recommended Pump Depth: 90.0
Pumping Rate: 2.0
Flowing Rate:
Recommended Pump Rate: 7.0
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 6
Pumping Duration MIN: 0
Flowing: No

Water Details

Water ID: 933796228
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 70.0

Water Found Depth UOM: ft

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77 | **1 of 1** | **E/206.6** | **263.9 / -3.08** | **lot 18 con 4 ON** | **WWIS**

Well ID:	4909579	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	
Use 2nd:		**Data Src:**	1
Final Well Status:	Observation Wells	**Date Received:**	11/16/2004
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:	Z02690	**Contractor:**	6809
Tag:	A002589	**Form Version:**	3
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	018
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: CALEDON TOWN (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4909579.pdf

Additional Detail(s) (Map)

Well Completed Date: 04/23/2004
Year Completed: 2004
Depth (m): 7.5
Latitude: 43.7011037682047
Longitude: -79.8612331059069
X: -79.86123295591078
Y: 43.701103766528924
Path: 490\4909579.pdf

Bore Hole Information

Bore Hole ID:	11177207	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591757.00
Code OB Desc:		**North83:**	4839306.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	3
Date Completed:	04/23/2004	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	wwr

Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 932982046

Layer:	3
Color:	6
General Color:	BROWN
Material 1:	06
Material 1 Desc:	SILT
Material 2:	05
Material 2 Desc:	CLAY
Material 3:	
Material 3 Desc:	
Formation Top Depth:	4.0
Formation End Depth:	6.5
Formation End Depth UOM:	m

Overburden and Bedrock Materials Interval

Formation ID:	932982045
Layer:	2
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	1.5
Formation End Depth:	4.0
Formation End Depth UOM:	m

Overburden and Bedrock Materials Interval

Formation ID:	932982044
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	
Material 3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	1.5
Formation End Depth UOM:	m

Overburden and Bedrock Materials Interval

Formation ID:	932982047
Layer:	4
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	15
Material 2 Desc:	LIMESTONE
Material 3:	
Material 3 Desc:	
Formation Top Depth:	6.5
Formation End Depth:	7.5
Formation End Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	933259300
Layer:	2
Plug From:	5.5
Plug To:	0.0
Plug Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	933259299
Layer:	1
Plug From:	7.5
Plug To:	5.5
Plug Depth UOM:	m

Method of Construction & Well Use

Method Construction ID:	964909579
Method Construction Code:	B
Method Construction:	Other Method
Other Method Construction:	

Pipe Information

Pipe ID:	11185726
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930849507
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	6.0
Depth To:	0.0
Casing Diameter:	2.0
Casing Diameter UOM:	inch
Casing Depth UOM:	m

Construction Record - Screen

Screen ID:	933410219
Layer:	1
Slot:	.10
Screen Top Depth:	6.0
Screen End Depth:	7.5
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	inch
Screen Diameter:	2.0

Hole Diameter

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Hole ID: 11311242
Diameter: 8.25
Depth From: 0.0
Depth To: 7.5
Hole Depth UOM: m
Hole Diameter UOM: inch

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78 | **1 of 1** | **SE/56.2** | **264.9 / -2.01** | **Mayfield Rd & Chinguacousy Rd Brampton ON** | **EHS**

Order No: 20130910003
Status: C
Report Type: Custom Report
Report Date: 18-SEP-13
Date Received: 10-SEP-13
Previous Site Name:
Lot/Building Size:
Additional Info Ordered: Aerial Photos

Nearest Intersection:
Municipality:
Client Prov/State: ON
Search Radius (km): .25
X: -79.867731
Y: 43.694175

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79 | **1 of 1** | **E/240.3** | **263.9 / -3.08** | **Ontario Clean Water Agency 1278 Mayfield Road Caledon ON** | **GEN**

Generator Info (as of Dec 2024)

Generator No: ON001063564
Generator Company Name: Ontario Clean Water Agency
Street: 1278 Mayfield Road
City: Caledon
Province State: Ontario
Country: Canada
Postal Code: L7C 0Y7
Waste Class: 252 L

Waste Class Decoded:

252 - WASTE OILS & LUBRICANTS

Generator Info (as of Apr 2025)

Generator Company Name: Ontario Clean Water Agency
Generator Site Address: 1278 Mayfield Road
City: Caledon
Province State: Ontario
Country: Canada
Postal Code: L7C 0Y7
Waste Class: 252 L

Waste Class Decoded:

252 - WASTE OILS & LUBRICANTS

Waste Characteristic Decoded:

L - Liquid Industrial Waste

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
80	1 of 1	SE/179.8	262.9 / -4.08	PARADISE HOMES NW INC. No Municipal Address Brampton ON	RSC

RSC No:	225327	**X:**	-79.86488445505184
RA No:		**Y:**	43.69504444674597
Status:	FILED	**Latitude:**	43.69504445
Filing Date:		**Longitude:**	-79.86488446
Date Ack:		**UTM Coordinates:**	
Date Returned:		**Latitude Longitude:**	
Approval Date:	January 22, 2019	**Accuracy Estimate:**	
Cert Date:		**Measurement Method:**	
Cert Prop Use No:		**Mailing Address:**	
Curr Property Use:		**Telephone:**	
Intended Prop Use:		**Fax:**	
Restoration Type:		**Email:**	
Soil Type:		**Postal Code:**	
Criteria:		**Ministry District:**	
Stratified (Y/N):		**MOE District:**	Halton-Peel
Audit (Y/N):		**SWP Area Name:**	Credit Valley
Entire Leg Prop. (Y/N):		**Qual Person Name:**	ELENI GIRMA BEYENE
CPU Issu Sect 1686:		**Consultant:**	

Business Name: PARADISE HOMES NW INC.
Address: No Municipal Address
Legal Desc:
Site Pin: 14365-3617 (LT), 14365-3618 (LT)
Asmt Roll No:
Project Type: POST2011
Approval Type: RSC based on Phase One and Two ESAs
Applicable Standards:
PDF Link: https://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/ViewDocument.action?documentRefID=225327

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
81	1 of 1	SE/173.4	261.9 / -5.08	lot 17 con 4 ON	WWIS

Well ID:	4901920	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Livestock	**Data Entry Status:**	
Use 2nd:	Domestic	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	12/17/1962
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	1325
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	017
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	

Municipality: BRAMPTON CITY (CHINGUACOUSY)
Site Info:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/490\4901920.pdf

Additional Detail(s) (Map)

Well Completed Date: 09/15/1962
Year Completed: 1962
Depth (m): 16.1544

Latitude:	43.693825504124
Longitude:	-79.8654472461655
X:	-79.86544709595046
Y:	43.6938255024548
Path:	490\4901920.pdf

Bore Hole Information

Bore Hole ID:	10316763	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591428.50
Code OB Desc:		**North83:**	4838493.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	09/15/1962	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5

Location Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID:	932036106
Layer:	3
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	21.0
Formation End Depth:	53.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932036104
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	09
Material 2 Desc:	MEDIUM SAND
Material 3:	13
Material 3 Desc:	BOULDERS
Formation Top Depth:	0.0
Formation End Depth:	11.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	932036105
Layer:	2
Color:	7
General Color:	RED
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	13
Material 2 Desc:	BOULDERS
Material 3:	
Material 3 Desc:	
Formation Top Depth:	11.0
Formation End Depth:	21.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964901920
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	10865333
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930523552
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	53.0
Casing Diameter:	30.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994901920
Pump Set At:	
Static Level:	41.0
Final Level After Pumping:	
Recommended Pump Depth:	52.0
Pumping Rate:	1.0
Flowing Rate:	
Recommended Pump Rate:	1.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Water Details

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Water ID: 933789889
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 43.0
Water Found Depth UOM: ft

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82 | **1 of 1** | **WNW/164.7** | **274.2 / 7.28** | **899 Old School Road and 12985 Mississauga Road, Caledon, Ontario Caledon ON L7C 1W2** | **EHS**

Order No: 20312400077
Status: C
Report Type: Custom Report
Report Date: 02-DEC-20
Date Received: 24-NOV-20
Previous Site Name:
Lot/Building Size:
Additional Info Ordered: Aerial Photos

Nearest Intersection:
Municipality:
Client Prov/State: ON
Search Radius (km): .15
X: -79.89246298
Y: 43.71139407

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83 | **1 of 1** | **SE/232.3** | **260.9 / -6.08** | **11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON** | **WWIS**

Well ID: 7275592
Construction Date:
Use 1st:
Use 2nd:
Final Well Status: Abandoned-Other
Water Type:
Casing Material:
Audit No: Z236441
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: BRAMPTON CITY (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 11/24/2016
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 7523
Form Version: 7
Owner:
County: PEEL
Lot: 017
Concession: 04
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/727\7275592.pdf

Additional Detail(s) (Map)

Well Completed Date: 09/21/2016
Year Completed: 2016
Depth (m):
Latitude: 43.6937811789696
Longitude: -79.8646104680317
X: -79.8646103182284
Y: 43.69378117726638
Path: 727\7275592.pdf

Bore Hole Information

Bore Hole ID: 1006296026
DP2BR:

Elevation:
Elevrc:

Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591496.00
Code OB Desc:		**North83:**	4838489.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	09/21/2016	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Location Method Desc:	on Water Well Record		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1006444300
Layer:	
Color:	
General Color:	
Material 1:	
Material 1 Desc:	
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	
Formation End Depth:	
Formation End Depth UOM:	m

Method of Construction & Well Use

Method Construction ID:	1006444305
Method Construction Code:	
Method Construction:	
Other Method Construction:	

Pipe Information

Pipe ID:	1006444299
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1006444303
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	0.0
Depth To:	16.0
Casing Diameter:	12.239999771118164
Casing Diameter UOM:	cm
Casing Depth UOM:	m

Construction Record - Screen

Screen ID:	1006444304

Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter:

Water Details

Water ID: 1006444302
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: m

Hole Diameter

Hole ID: 1006444301
Diameter:
Depth From:
Depth To:
Hole Depth UOM: m
Hole Diameter UOM: cm

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84 **1 of 1** **SE/241.1** **260.9 / -6.08** **11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON** **WWIS**

Well ID:	7275590	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:		**Data Entry Status:**	
Use 2nd:		**Data Src:**	
Final Well Status:	Abandoned-Supply	**Date Received:**	11/24/2016
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	Yes
Audit No:	Z236440	**Contractor:**	7523
Tag:		**Form Version:**	7
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	PEEL
Elevatn Reliabilty:		**Lot:**	017
Depth to Bedrock:		**Concession:**	04
Well Depth:		**Concession Name:**	HS W
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	BRAMPTON CITY (CHINGUACOUSY)		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/727\7275590.pdf

Additional Detail(s) (Map)

Well Completed Date: 09/21/2016
Year Completed: 2016
Depth (m):
Latitude: 43.693762065227
Longitude: -79.8644991468699
X: -79.8644989972389
Y: 43.69376206319562

Path: 727\7275590.pdf

Bore Hole Information

Bore Hole ID:	1006295636	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	591505.00
Code OB Desc:		**North83:**	4838487.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	09/21/2016	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr

Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 1006444286
Layer:
Color:
General Color:
Material 1:
Material 1 Desc:
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth:
Formation End Depth:
Formation End Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 1006444291
Method Construction Code:
Method Construction:
Other Method Construction:

Pipe Information

Pipe ID: 1006444285
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006444289
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From: 0.0
Depth To: 7.199999809265137
Casing Diameter: 90.44000244140625

Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Screen

Screen ID: 1006444290
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter:

Water Details

Water ID: 1006444288
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: m

Hole Diameter

Hole ID: 1006444287
Diameter:
Depth From:
Depth To:
Hole Depth UOM: m
Hole Diameter UOM: cm

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85 | ***1 of 1*** | ***SE/228.6*** | ***260.8 / -6.16*** | ***Paradise Homes NW Inc.***
11719 MISSISSAUGA RD ON
BRAMPTON ON | ***RSC***

RSC No: 98115
RA No:
Status: FILED
Filing Date:
Date Ack:
Date Returned:
Approval Date: April 5, 2011
Cert Date:
Cert Prop Use No:
Curr Property Use:
Intended Prop Use:
Restoration Type:
Soil Type:
Criteria:
Stratified (Y/N):
Audit (Y/N):
Entire Leg Prop. (Y/N):
CPU Issu Sect 1686:
Business Name: Paradise Homes NW Inc.
Address: 11719 MISSISSAUGA RD ON
Legal Desc:
Site Pin: 14365-0050 (LT)
Asmt Roll No:
Project Type: PRE2011

X: -79.86250264753447
Y: 43.6950027588311
Latitude: 43.69500276
Longitude: -79.86250265
UTM Coordinates:
Latitude Longitude:
Accuracy Estimate:
Measurement Method:
Mailing Address:
Telephone:
Fax:
Email:
Postal Code: L7A 0B7
Ministry District:
MOE District: Halton-Peel
SWP Area Name: Credit Valley
Qual Person Name: Ian S Chiu

Consultant:

Approval Type: RSC based on Phase One and Two ESAs
Applicable Standards:
PDF Link: https://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/ViewDocument.action?documentRefID=98115

86 | **1 of 1** | **SE/233.2** | **260.9 / -6.08** | **11793 MISSISSAUGA RD lot 17 con 4 CHINGUACOUSY ON** | **WWIS**

Well ID: 7275589
Construction Date:
Use 1st:
Use 2nd:
Final Well Status: Abandoned-Other
Water Type:
Casing Material:
Audit No: Z236442
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: BRAMPTON CITY (CHINGUACOUSY)
Site Info:

Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src:
Date Received: 11/24/2016
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 7523
Form Version: 7
Owner:
County: PEEL
Lot: 017
Concession: 04
Concession Name: HS W
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/727\7275589.pdf

Additional Detail(s) (Map)

Well Completed Date: 09/21/2016
Year Completed: 2016
Depth (m):
Latitude: 43.6934776912837
Longitude: -79.8648767840886
X: -79.86487663451663
Y: 43.693477689132365
Path: 727\7275589.pdf

Bore Hole Information

Bore Hole ID: 1006295633
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 09/21/2016
Remarks:
Location Method Desc: on Water Well Record
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 591475.00
North83: 4838455.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1006444279
Layer:
Color:
General Color:
Material 1:
Material 1 Desc:
Material 2:
Material 2 Desc:
Material 3:
Material 3 Desc:
Formation Top Depth:
Formation End Depth:
Formation End Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 1006444284
Method Construction Code:
Method Construction:
Other Method Construction:

Pipe Information

Pipe ID: 1006444278
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006444282
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From: 0.0
Depth To:
Casing Diameter: 15.880000114440918
Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Screen

Screen ID: 1006444283
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter:

Water Details

Water ID: 1006444281
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: m

Hole Diameter

Hole ID:	1006444280
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	m
Hole Diameter UOM:	cm

Unplottable Summary

Total: 38 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
AAGR		Lot 18 Con 5	Caledon ON	
AAGR		Lot 19 Con 4	Caledon ON	
AAGR		Lot 18 Con 4	Caledon ON	
CA		Mayfield Road	Caledon ON	
CA	R.M. OF PEEL	RESERVOIR SITE/MISSISSAUGA RD.	CALEDON TOWN ON	
CA	The Regional Municipality of Peel	Mayfield Road	Brampton ON	
CA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	
CA	The Regional Municipality of Peel	Mayfield Road	Brampton ON	
CA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	
CA	The Regional Municipality of Peel	Mayfield Road	Brampton ON	
CA	Mono Mills Well No. 5	Lot 20, Concession 5	Caledon ON	
CA	R.M. OF PEEL	MISSISSAUGA RD. SLOPE STAB.	CALEDON TOWN ON	
ECA	Paradise Homes NW Inc.		Brampton ON	L3R 9R9
ECA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L6T 3Y3
ECA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L6T 3Y3
ECA	Mayfield Road Portfolio Inc.	Mayfield Rd	Caledon ON	M3K 1N4
ECA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L6T 4B9
ECA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L6T 4B9

ECA	The Regional Municipality of Peel	Mississauga Road	Brampton ON	L6T 4B9
ECA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L6T 3Y3
ECA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L6T 4B9
ECA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L6T 3Y5
ECA	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L6T 4B9
EHS		Mississauga Rd	Brampton ON	
GEN	The Regional Municipality of Peel	Mayfield Rd	Brampton ON	L7A 0C4
GEN	JAMES DICK CONSTRUCTION LIMITED	EAST-WEST HALF OF LOT 20, CONCESSION 5	CALEDON TOWNSHIP ON	L0N 1E0
GEN	JAMES DICK CONSTRUCTION LIMITED 22-356	EW 1/2 LOT 20, CONC 5, TOWN OF CALEDON C/O P.O. BOX 470	BOLTON ON	L7E 5T4
GEN	JAMES DICK CONSTRUCTION LIMITED	EAST-WEST HALF OF LOT 20, CONCESSION 5	CALEDON TOWNSHIP ON	L0N 1E0
GEN	JAMES DICK CONSTRUCTION LIMITED	EW 1/2 LOT 20, CONC 5, TOWN OF CALEDON C/O P.O. BOX 470	BOLTON ON	L7E 5T4
GEN	JAMES DICK CONSTRUCTION LIMITED	EAST-WEST HALF OF LOT 20, CONCESSION 5	CALEDON TOWNSHIP ON	L0N 1E0
GEN	JAMES DICK CONSTRUCTION LIMITED	EW 1/2 LOT 20, CONC 5,	TWP. OF CALEDON ON	L0N 1E0
LIMO	Albion Sanitary Landfill	Lot 18, Concession 4	Caledon ON	
PTTW	Ducks Unlimited	East 1/2 Lot 20, Concession 5	ON	
SPL	PRIVATE OWNER	LOT 21, CONC.4 WEST CALEDON TRANSFORMER	CALEDON TOWN ON	
SPL	ONTARIO HYDRO	LOT 20, CONC 4 MOTOR VEHICLE (OPERATING FLUID)	CALEDON TOWN ON	
SPL		WEST 1/2 LOT 22, CONCESSION V \	CALEDON TOWN ON	
SPL		West of Mississauga Rd, west bound	Brampton ON	
WWIS		lot 18 con 5	ON	

Unplottable Report

Site:
Lot 18 Con 5 Caledon ON

Database: ***AAGR***

Type:	Pit
Region/County:	Peel
Township:	Caledon
Concession:	5
Lot:	18
Size (ha):	
Landuse:	
Comments:	Oak Ridges Moraine, rehabilitated

Site:
Lot 19 Con 4 Caledon ON

Database: ***AAGR***

Type:	Pit
Region/County:	Peel
Township:	Caledon
Concession:	4
Lot:	19
Size (ha):	0.2
Landuse:	
Comments:	Oak Ridges Moraine

Site:
Lot 18 Con 4 Caledon ON

Database: ***AAGR***

Type:	Pit
Region/County:	Peel
Township:	Caledon
Concession:	4
Lot:	18
Size (ha):	
Landuse:	landfill
Comments:	Oak Ridges Moraine, Albion landfill site

Site:
Mayfield Road Caledon ON

Database: ***CA***

Certificate #:	3357-56AJB5
Application Year:	02
Issue Date:	1/17/02
Approval Type:	Municipal & Private water
Status:	Approved
Application Type:	New Certificate of Approval
Client Name:	The Corporation of the Regional Municipality of Peel
Client Address:	10 Peel Centre Drive, Fourth Floor
Client City:	Brampton
Client Postal Code:	L6T 4B9
Project Description:	This application is for approval to install a watermain on Mayfield Road
Contaminants:	
Emission Control:	

Site: ***R.M. OF PEEL***
RESERVOIR SITE/MISSISSAUGA RD. CALEDON TOWN ON

Database: ***CA***

Certificate #: 7-0670-95-
Application Year: 95
Issue Date: 7/17/1995
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***The Regional Municipality of Peel***
Mayfield Road Brampton ON

Database: ***CA***

Certificate #: 0496-5SQMXP
Application Year: 2003
Issue Date: 10/28/2003
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON

Database: ***CA***

Certificate #: 0859-7E8RF4
Application Year: 2008
Issue Date: 5/2/2008
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***The Regional Municipality of Peel***
Mayfield Road Brampton ON

Database: ***CA***

Certificate #: 2749-5URJLL
Application Year: 2004
Issue Date: 4/8/2004
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:

Project Description:
Contaminants:
Emission Control:

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON

Database: ***CA***

Certificate #: 5805-776MMT
Application Year: 2007
Issue Date: 9/19/2007
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***The Regional Municipality of Peel***
Mayfield Road Brampton ON

Database: ***CA***

Certificate #: 1649-6PLNAN
Application Year: 2006
Issue Date: 6/13/2006
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***Mono Mills Well No. 5***
Lot 20, Concession 5 Caledon ON

Database: ***CA***

Certificate #: 8730-5BXQ5L
Application Year: 02
Issue Date: 8/26/02
Approval Type: Municipal & Private water
Status: Approved
Application Type: Amended CofA
Client Name: The Regional Municipality of Peel
Client Address: 10 Peel Centre Drive
Client City: Brampton
Client Postal Code: L6T 4B9
Project Description: This application is to amend the CofA to complete upgrades for Well No. 5 as described in Condition 5 of the CofA. The work to be completed under this project is to isolate Well No. 5 and abandon. Remove existing chlorination set up that includes injection into the Well No. 5 discharge header. Re-chlorinate the water entering this facility from the Caledon Village Booster Pumping Station via. the 100mm Dia. pipe. The chlorinated water is then conveyed to the Mono Mills standpipe.
Contaminants:
Emission Control:

Site: ***R.M. OF PEEL***
MISSISSAUGA RD. SLOPE STAB. CALEDON TOWN ON

Database: ***CA***

Certificate #: 3-0807-93-

Application Year: 93
Issue Date: 7/26/1993
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***Paradise Homes NW Inc.***
Brampton ON L3R 9R9

Database: ***ECA***

Approval No: 2128-ALDHE4
Approval Date: 2017-04-21
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: Paradise Homes NW Inc.
Address:
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/6468-AL4Q2D-14.pdf
PDF Site Location:

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON L6T 3Y3

Database: ***ECA***

Approval No: 1649-6PLNAN
Approval Date: 2006-06-13
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: The Regional Municipality of Peel
Address: Mayfield Rd
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/2054-6LRVLW-14.pdf
PDF Site Location:

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON L6T 3Y3

Database: ***ECA***

Approval No: 7236-6LRLZD
Approval Date: 2006-02-07
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-Municipal Drinking Water Systems
Project Type: Municipal Drinking Water Systems
Business Name: The Regional Municipality of Peel
Address: Mayfield Rd
Full Address:
Full PDF Link:
PDF Site Location:

Site: ***Mayfield Road Portfolio Inc.***
Mayfield Rd Caledon ON M3K 1N4

Database: ***ECA***

Approval No:	5859-96UQU5	***MOE District:***	
Approval Date:	2013-04-30	***City:***	
Status:	Revoked and/or Replaced	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	
Approval Type:	ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS		
Project Type:	MUNICIPAL AND PRIVATE SEWAGE WORKS		
Business Name:	Mayfield Road Portfolio Inc.		
Address:	Mayfield Rd		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/5271-96TLGJ-14.pdf		
PDF Site Location:			

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON L6T 4B9

Database: ***ECA***

Approval No:	0496-5SQMXP	***MOE District:***	
Approval Date:	2003-10-28	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	
Approval Type:	ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS		
Project Type:	MUNICIPAL AND PRIVATE SEWAGE WORKS		
Business Name:	The Regional Municipality of Peel		
Address:	Mayfield Rd		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/9149-5RXP2L-14.pdf		
PDF Site Location:			

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON L6T 4B9

Database: ***ECA***

Approval No:	2387-63TNAQ	***MOE District:***	
Approval Date:	2004-08-16	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	
Approval Type:	ECA-Municipal Drinking Water Systems		
Project Type:	Municipal Drinking Water Systems		
Business Name:	The Regional Municipality of Peel		
Address:	Mayfield Rd		
Full Address:			
Full PDF Link:			
PDF Site Location:			

Site: ***The Regional Municipality of Peel***
Mississauga Road Brampton ON L6T 4B9

Database: ***ECA***

Approval No:	9134-6HKH79	***MOE District:***	
Approval Date:	2005-10-31	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	
Approval Type:	ECA-Municipal Drinking Water Systems		
Project Type:	Municipal Drinking Water Systems		

Business Name: The Regional Municipality of Peel
Address: Mississauga Road
Full Address:
Full PDF Link:
PDF Site Location:

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON L6T 3Y3

Database: ***ECA***

Approval No: 6843-75WN48
Approval Date: 2007-08-10
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-Municipal Drinking Water Systems
Project Type: Municipal Drinking Water Systems
Business Name: The Regional Municipality of Peel
Address: Mayfield Rd
Full Address:
Full PDF Link:
PDF Site Location:

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON L6T 4B9

Database: ***ECA***

Approval No: 2749-5URJLL
Approval Date: 2004-04-08
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: The Regional Municipality of Peel
Address: Mayfield Rd
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/6795-5SSMKA-14.pdf
PDF Site Location:

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON L6T 3Y5

Database: ***ECA***

Approval No: 5805-776MMT
Approval Date: 2007-09-19
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: The Regional Municipality of Peel
Address: Mayfield Rd
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/2880-76HKZU-14.pdf
PDF Site Location:

Site: ***The Regional Municipality of Peel***
Mayfield Rd Brampton ON L6T 4B9

Database: ***ECA***

Approval No: 6524-AZRR3X
Approval Date: 2018-07-10
MOE District:
City:

Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	

Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: The Regional Municipality of Peel
Address: Mayfield Rd
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/7493-AYMR4T-14.pdf
PDF Site Location:

Site: ***Database:*** ***EHS***

Mississauga Rd Brampton ON

Order No:	20021129007	***Nearest Intersection:***	
Status:	C	***Municipality:***	
Report Type:	Complete Report	***Client Prov/State:***	ON
Report Date:	12/10/02	***Search Radius (km):***	0.65
Date Received:	11/29/02	***X:***	-79.794901
Previous Site Name:		***Y:***	43.63714
Lot/Building Size:			

Additional Info Ordered: Fire Insur. Maps and/or Site Plans and/or Inspection Reports; Aerials Photos and/or Topographical Maps

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Site: ***The Regional Municipality of Peel*** ***Database:*** ***GEN***
Mayfield Rd Brampton ON L7A 0C4

Generator Info

Generator No:	ON9207702	***Choice of Contact:***	
Approval Years:	As of Jun 2018	***Contaminated Fac:***	
Status:	Registered	***MHSW Facility:***	
PO Box No:		***SIC Code:***	
Country:	Canada		
Co Admin:			
Phone No Admin:			
SIC Description:			

Waste Detail(s)

Waste Class: 251 L
Waste Class Name: Waste oils/sludges (petroleum based)

Waste Detail(s)

Waste Class: 252 L
Waste Class Name: Waste crankcase oils and lubricants

2017 Generator Info

Gen No:	ON9207702	***Choice of Contact:***	CO_OFFICIAL
ID:	35954	***Phone No Official:***	905-791-7800 Ext.
Contaminated Fac:	N	***Phone No Admin:***	905-791-7800 Ext.3
MHSW Facility:	N	***County Ont:***	PEEL (R. M.)
NAICS Code1:	237310	***County Out:***	
NAICS Code2:		***District:***	305
NAICS Code3:			

Gen Name: The Regional Municipality of Peel
Gen Div: waste water
Gen Op Name: Region of Peel
Gen Op Div: waste water

Site Adrs1: Mayfield Rd
Site Bldg:
Site Pobox:
Province In: ONTARIO
Site Adrs2:
Site City: Brampton
Province Out:
Site Postal Code: L7A 0C4
Site Country: Canada
Co Official: Elaine Gilliland
Co Admin: Alyssa Accardo

2017 Generator Manifest

ID: 64264
Generator No: ON9207702
Receiver Type: 035
Waste Char: L
Waste Code: 251
Sum Received Qty: 18000.0
Waste Class Name: OIL SKIMMINGS & SLUDGES
Count Manifests: 2
District: 305

2018 Generator Info

Gen No: ON9207702
ID: 36651
Contaminated Fac: N
MHSW Facility: N
NAICS Code1: 237310
NAICS Code2:
NAICS Code3:
Choice of Contact: CO_OFFICIAL
Phone No Official: 905-791-7800 Ext.
Phone No Admin: 905-791-7800 Ext.3
County Ont: PEEL (R. M.)
County Out:
District: 305
Gen Name: The Regional Municipality of Peel
Gen Div: waste water
Gen Op Name: Region of Peel
Gen Op Div: waste water
Site Adrs1: Mayfield Rd
Site Bldg:
Site Pobox:
Province In: ONTARIO
Site Adrs2:
Site City: Brampton
Province Out:
Site Postal Code: L7A 0C4
Site Country: Canada
Co Official: Elaine Gilliland
Co Admin: Alyssa Accardo

Site: ***JAMES DICK CONSTRUCTION LIMITED***
EAST-WEST HALF OF LOT 20, CONCESSION 5 CALEDON TOWNSHIP ON L0N 1E0

Database: ***GEN***

Generator Info

Generator No: ON0662810
Approval Years: 99,00,01,03
Status:
PO Box No:
Country:
Co Admin:
Phone No Admin:
SIC Description: SAND & GRAVEL PITS
Choice of Contact:
Contaminated Fac:
MHSW Facility:
SIC Code: 0821

Waste Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Site: ***JAMES DICK CONSTRUCTION LIMITED 22-356***
EW 1/2 LOT 20, CONC 5, TOWN OF CALEDON C/O P.O. BOX 470 BOLTON ON L7E 5T4

Database: ***GEN***

Generator Info

Generator No:	ON0662810	***Choice of Contact:***	
Approval Years:	94,95,96	***Contaminated Fac:***	
Status:		***MHSW Facility:***	
PO Box No:		***SIC Code:***	0821
Country:			
Co Admin:			
Phone No Admin:			
SIC Description:	SAND & GRAVEL PITS		

Waste Detail(s)

Waste Class:	252
Waste Class Name:	WASTE OILS & LUBRICANTS

Site: ***JAMES DICK CONSTRUCTION LIMITED***
EAST-WEST HALF OF LOT 20, CONCESSION 5 CALEDON TOWNSHIP ON L0N 1E0

Database: ***GEN***

Generator Info

Generator No:	ON0662810	***Choice of Contact:***	
Approval Years:	02	***Contaminated Fac:***	
Status:		***MHSW Facility:***	
PO Box No:		***SIC Code:***	
Country:			
Co Admin:			
Phone No Admin:			
SIC Description:			

Waste Detail(s)

Waste Class:	252
Waste Class Name:	WASTE OILS & LUBRICANTS

Site: ***JAMES DICK CONSTRUCTION LIMITED***
EW 1/2 LOT 20, CONC 5, TOWN OF CALEDON C/O P.O. BOX 470 BOLTON ON L7E 5T4

Database: ***GEN***

Generator Info

Generator No:	ON0662810	***Choice of Contact:***	
Approval Years:	89,90	***Contaminated Fac:***	
Status:		***MHSW Facility:***	
PO Box No:		***SIC Code:***	0821
Country:			
Co Admin:			
Phone No Admin:			
SIC Description:	SAND & GRAVEL PITS		

Waste Detail(s)

Waste Class:	252
Waste Class Name:	WASTE OILS & LUBRICANTS

Site: ***JAMES DICK CONSTRUCTION LIMITED***

Database: ***GEN***

EAST-WEST HALF OF LOT 20, CONCESSION 5 CALEDON TOWNSHIP ON L0N 1E0

Generator Info

Generator No:	ON0662810	***Choice of Contact:***	
Approval Years:	04	***Contaminated Fac:***	
Status:		***MHSW Facility:***	
PO Box No:		***SIC Code:***	
Country:			
Co Admin:			
Phone No Admin:			
SIC Description:			

Waste Detail(s)

Waste Class:	252
Waste Class Name:	WASTE OILS & LUBRICANTS

Site: ***JAMES DICK CONSTRUCTION LIMITED***
EW 1/2 LOT 20, CONC 5, TWP. OF CALEDON ON L0N 1E0

Database: ***GEN***

Generator Info

Generator No:	ON0662810	***Choice of Contact:***	
Approval Years:	92,93,97,98	***Contaminated Fac:***	
Status:		***MHSW Facility:***	
PO Box No:		***SIC Code:***	0821
Country:			
Co Admin:			
Phone No Admin:			
SIC Description:	SAND & GRAVEL PITS		

Waste Detail(s)

Waste Class:	252
Waste Class Name:	WASTE OILS & LUBRICANTS

Site: ***Albion Sanitary Landfill***
Lot 18, Concession 4 Caledon ON

Database: ***LIMO***

ECA/Instrument No:	A220303	***Natural Attenuation:***	
Operation Status:	Closed	***Liners:***	
C of A Issue Date:		***Cover Material:***	
C of A Issued to:		***Leachate Off-Site:***	
Lndfl Gas Mgmt (P):		***Leachate On Site:***	
Lndfl Gas Mgmt (F):		***Req Coll Lndfll Gas:***	
Lndfl Gas Mgmt (E):		***Lndfll Gas Coll:***	
Lndfl Gas Mgmt Sys:		***Total Waste Rec:***	
Landfill Gas Mntr:		***TWR Methodology:***	
Leachate Coll Sys:		***TWR Unit:***	
ERC Est Vol (m3):		***Tot Aprv Cap Unit:***	
ERC Volume Unit:		***Financial Assurance:***	
ERC Dt Last Det:		***Last Report Year:***	
Landfill Type:		***Region:***	Central
Source File Type:		***District Office:***	Halton-Peel
Fill Rate:		***Site County:***	
Fill Rate Unit:		***Lot:***	
Tot Fill Area (ha):		***Concession:***	
Tot Site Area (ha):		***Latitude:***	
Footprint:		***Longitude:***	
Tot Apprv Cap (m3):		***Easting:***	
Contam Atten Zone:		***Northing:***	

Grndwtr Mntr:
Surf Wtr Mntr:
Air Emis Monitor:
Approved Waste Type:
Client Site Name:
ERC Methodology:
Site Name: Albion Sanitary Landfill
Site Location Details:
Service Area:
Page URL:
UTM Zone:
Data Source:

Site: ***Ducks Unlimited***
East 1/2 Lot 20, Concession 5 ON

Database: ***PTTW***

EBR Registry No: IA8E1267
Ministry Ref No: 86P3024
Notice Type: Instrument Decision
Notice Stage:
Notice Date: August 30, 2001
Proposal Date: September 08, 1998
Year: 1998
Instrument Type: (OWRA s. 34) - Permit to Take Water
Off Instrument Name:
Posted By:
Company Name: Ducks Unlimited
Site Address:
Location Other:
Proponent Name:
Proponent Address: Barrie Division, 566 Welham Road, Barrie Ontario, L4M 6E7
Comment Period:
URL:
Summary:
Decision Posted:
Exception Posted:
Section:
Act 1:
Act 2:
Site Location Map:

Site Location Details:

East 1/2 Lot 20, Concession 5

Site: ***PRIVATE OWNER***
LOT 21, CONC.4 WEST CALEDON TRANSFORMER CALEDON TOWN ON

Database: ***SPL***

Ref No: 43184
Year:
Incident Dt: 11/5/1990
Dt MOE Arvl on Scn:
MOE Reported Dt: 11/7/1990
Dt Document Closed:
Site No:
MOE Response:
Site County/District:
Site Geo Ref Meth:
Site District Office:
Nearest Watercourse:
Site Name:
Site Address:
Site Region:
Site Municipality: CALEDON TOWN
Site Lot:
Site Conc:
Site Geo Ref Accu:
Site Map Datum:
Northing:
Easting:
Entity Operating Name:
Client Name:
Client Type:
Municipality No: 21401
Nature of Damage:
Discharger Report:
Material Group:
Impact to Health:
Agency Involved: ONTARIO HYDRO

Source Type:
Incident Cause: OTHER CONTAINER LEAK
Incident Preceding Spill:
Incident Reason: ICE/FROST DAMAGE
Incident Summary: LOT 21, CONC.4 TRANSFOR-MER LEAKED 23 L TRANSFOR-MER OIL TO SOIL.
Environment Impact: POSSIBLE
Health Env Consequence:
Nature of Impact: Soil contamination
Contaminant Qty:
Contaminant Qty 1:
Contaminant Unit:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Receiving Medium: LAND
Activity Preceding Spill:
Property 2nd Watershed:
Property Tertiary Watershed:
Sector Type:
SAC Action Class:
Call Report Locatn Geodata:
Time Reported:
System Facility Address:

Site: ***ONTARIO HYDRO***
LOT 20, CONC 4 MOTOR VEHICLE (OPERATING FLUID) CALEDON TOWN ON

Database: ***SPL***

Ref No: 128138
Year:
Incident Dt: 6/20/1996
Dt MOE Arvl on Scn:
MOE Reported Dt: 6/20/1996
Dt Document Closed:
Site No:
MOE Response:
Site County/District:
Site Geo Ref Meth:
Site District Office:
Nearest Watercourse:
Site Name:
Site Address:
Site Region:
Site Municipality: CALEDON TOWN
Site Lot:
Site Conc:
Site Geo Ref Accu:
Site Map Datum:
Northing:
Easting:
Entity Operating Name:
Client Name:
Client Type:
Source Type:
Municipality No: 21401
Nature of Damage:
Discharger Report:
Material Group:
Impact to Health:
Agency Involved:
Incident Cause: CONTAINER OVERFLOW
Incident Preceding Spill:
Incident Reason: ERROR
Incident Summary: ONTARIO HYDRO:8L DIESEL SPILLED TO GRAVEL. CLEANED UP.
Environment Impact: POSSIBLE
Health Env Consequence:
Nature of Impact: Soil contamination
Contaminant Qty:
Contaminant Qty 1:
Contaminant Unit:
Contaminant Code:
Contaminant Name:

Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Receiving Medium: LAND
Activity Preceding Spill:
Property 2nd Watershed:
Property Tertiary Watershed:
Sector Type:
SAC Action Class:
Call Report Locatn Geodata:
Time Reported:
System Facility Address:

Site: ***Database:*** ***SPL***

WEST 1/2 LOT 22, CONCESSION V \ CALEDON TOWN ON

Ref No: 130656
Year:
Incident Dt: 8/18/1996
Dt MOE Arvl on Scn:
MOE Reported Dt: 8/18/1996
Dt Document Closed:
Site No:
MOE Response:
Site County/District:
Site Geo Ref Meth:
Site District Office:
Nearest Watercourse:
Site Name:
Site Address:
Site Region:
Site Municipality: CALEDON TOWN
Site Lot:
Site Conc:
Site Geo Ref Accu:
Site Map Datum:
Northing:
Easting:
Entity Operating Name:
Client Name:
Client Type:
Source Type:
Incident Cause:
Incident Preceding Spill:
Incident Reason:
Incident Summary:
Environment Impact:
Health Env Consequence:
Nature of Impact:
Contaminant Qty:
Contaminant Qty 1:
Contaminant Unit:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Receiving Medium: LAND
Activity Preceding Spill:
Property 2nd Watershed:
Property Tertiary Watershed:
Sector Type:
SAC Action Class:
Call Report Locatn Geodata:
Time Reported:
System Facility Address:

Municipality No: 21401
Nature of Damage:
Discharger Report:
Material Group:
Impact to Health:
Agency Involved:

Site:

West of Mississauga Rd, west bound Brampton ON

Database: ***SPL***

Ref No:	3346-6JFJ8L	***Municipality No:***	
Year:		***Nature of Damage:***	
Incident Dt:	11/24/2005	***Discharger Report:***	0
Dt MOE Arvl on Scn:		***Material Group:***	Oil
MOE Reported Dt:	11/24/2005	***Impact to Health:***	
Dt Document Closed:		***Agency Involved:***	
Site No:			
MOE Response:			
Site County/District:			
Site Geo Ref Meth:			
Site District Office:	Halton-Peel		
Nearest Watercourse:			
Site Name:	Highway 407<UNOFFICIAL>		
Site Address:			
Site Region:			
Site Municipality:	Brampton		
Site Lot:			
Site Conc:			
Site Geo Ref Accu:			
Site Map Datum:			
Northing:			
Easting:			
Entity Operating Name:			
Client Name:			
Client Type:			
Source Type:			
Incident Cause:			
Incident Preceding Spill:			
Incident Reason:			
Incident Summary:	United Ind Operators: diesel to 407 west bound		
Environment Impact:	Possible		
Health Env Consequence:			
Nature of Impact:			
Contaminant Qty:			
Contaminant Qty 1:			
Contaminant Unit:	L		
Contaminant Code:			
Contaminant Name:	DIESEL FUEL		
Contaminant Limit 1:			
Contam Limit Freq 1:			
Contaminant UN No 1:			
Receiving Medium:	Land		
Activity Preceding Spill:			
Property 2nd Watershed:			
Property Tertiary Watershed:			
Sector Type:			
SAC Action Class:	Highway Spills (usually highway accidents)		
Call Report Locatn Geodata:			
Time Reported:			
System Facility Address:			

Site:

lot 18 con 5 ON

Database: ***WWIS***

Well ID:	7040459	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Not Used	***Data Entry Status:***	
Use 2nd:		***Data Src:***	
Final Well Status:	Abandoned-Quality	***Date Received:***	01/25/2007
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	Yes
Audit No:	Z34697	***Contractor:***	3406
Tag:		***Form Version:***	3

Constructn Method:		***Owner:***	
Elevation (m):		***County:***	PEEL
Elevatn Reliabilty:		***Lot:***	018
Depth to Bedrock:		***Concession:***	05
Well Depth:		***Concession Name:***	
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	CALEDON TOWN (CHINGUACOUSY)		
Site Info:			

Bore Hole Information

Bore Hole ID:	11762953	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	
Code OB:		***East83:***	
Code OB Desc:		***North83:***	
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	
Date Completed:	02/28/2006	***UTMRC Desc:***	
Remarks:		***Location Method:***	
Location Method Desc:			
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	933090925
Layer:	2
Color:	7
General Color:	RED
Material 1:	17
Material 1 Desc:	SHALE
Material 2:	
Material 2 Desc:	
Material 3:	
Material 3 Desc:	
Formation Top Depth:	34.099998474121094
Formation End Depth:	35.900001525878906
Formation End Depth UOM:	m

Overburden and Bedrock Materials Interval

Formation ID:	933090924
Layer:	1
Color:	6
General Color:	BROWN
Material 1:	05
Material 1 Desc:	CLAY
Material 2:	06
Material 2 Desc:	SILT
Material 3:	74
Material 3 Desc:	LAYERED
Formation Top Depth:	0.0
Formation End Depth:	34.099998474121094
Formation End Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID: 933313418
Layer: 2
Plug From: 0.0
Plug To: 34.099998474121094
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 933313417
Layer: 1
Plug From: 0.0
Plug To: 6.0
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 933313419
Layer: 3
Plug From: 34.099998474121094
Plug To: 35.900001525878906
Plug Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 967040459
Method Construction Code: 4
Method Construction: Rotary (Air)
Other Method Construction:

Pipe Information

Pipe ID: 11770643
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930895442
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From: -0.8999999761581421
Depth To: 34.099998474121094
Casing Diameter: 15.199999809265137
Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Casing

Casing ID: 930895443
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From: 34.099998474121094
Depth To: 35.900001525878906
Casing Diameter:
Casing Diameter UOM: cm

Casing Depth UOM: m

Water Details

Water ID: 934083876
Layer: 1
Kind Code: 2
Kind: SALTY
Water Found Depth: 35.0
Water Found Depth UOM: m

Hole Diameter

Hole ID: 11849001
Diameter: 167.0
Depth From: 6.0
Depth To: 35.900001525878906
Hole Depth UOM: m
Hole Diameter UOM: cm

Hole Diameter

Hole ID: 11849000
Diameter: 25.200000762939453
Depth From: 0.0
Depth To: 6.0
Hole Depth UOM: m
Hole Diameter UOM: cm

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ***Note:*** *Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.*

Abandoned Aggregate Inventory: Provincial AAGR

The MAAP Program maintains a database of abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

Government Publication Date: Sept 2002*

Aggregate Inventory: Provincial AGR

This database of licensed and permitted pits and quarries is maintained by the Ontario Ministry of Natural Resources and Forestry (MNRF), as regulated under the Aggregate Resources Act, R.S.O. 1990. Aggregate site data has been divided into active and inactive sites. Active sites may be further subdivided into partial surrenders. In partial surrenders, defined areas of a site are inactive while the rest of the site remains active.

Government Publication Date: Up to Nov 2024

Abandoned Mine Information System: Provincial AMIS

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Government Publication Date: 1800-May 2025

Anderson's Waste Disposal Sites: Private ANDR

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1860s-Present

Aboveground Storage Tanks: Provincial AST

Historical listing of aboveground storage tanks made available by the Department of Natural Resources and Forestry. Includes tanks used to hold water or petroleum. This dataset has been retired as of September 25, 2014 and will no longer be updated.

Government Publication Date: May 31, 2014

Automobile Wrecking & Supplies: Private AUWR

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999-Apr 30, 2025

Borehole: Provincial BORE

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Government Publication Date: 1875-Jul 2018

Certificates of Approval: Provincial CA

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that 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 a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

Government Publication Date: 1985-Oct 30, 2011*

Dry Cleaning Facilities: Federal CDRY

List of dry cleaning facilities made available by Environment and Climate Change Canada. Environment and Climate Change Canada's Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations (SOR/2003-79) are intended to reduce releases of tetrachloroethylene to the environment from dry cleaning facilities.

Government Publication Date: Jan 2004-Dec 2023

Commercial Fuel Oil Tanks: Provincial CFOT

Locations of commercial underground fuel oil tanks. This is not a comprehensive or complete inventory of commercial fuel tanks in the province; this listing is a copy of records of registered commercial underground fuel oil tanks obtained under Access to Public Information.
Note that the following types of tanks do not require registration: waste oil tanks in apartments, office buildings, residences, etc.; aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Oct 2023

Chemical Manufacturers and Distributors: Private CHEM

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

Government Publication Date: 1999-Jan 31, 2020

Chemical Register: Private CHM

This database includes a listing of locations of facilities within the Province or Territory that either manufacture and/or distributes chemicals.

Government Publication Date: 1999-Apr 30, 2025

Compressed Natural Gas Stations: Private CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 2012 -Jul 2025

Inventory of Coal Gasification Plants and Coal Tar Sites: Provincial COAL

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

Government Publication Date: Apr 1987 and Nov 1988*

Compliance and Convictions: Provincial CONV

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

Government Publication Date: 1989-Jul 2025

Certificates of Property Use: Provincial CPU

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

Government Publication Date: 1994 - Aug 31, 2025

Drill Hole Database: Provincial DRL

The Ontario Drill Hole Database (ODHD) is offered by the Province of Ontario's Ministry of Mines. The dataset contains information for over 164,000 percussion, overburden, sonic and diamond-drill holes. The presence of assay results with cutoff values for gold, silver, copper, zinc, lead, nickel and platinum group elements is noted. Drill hole data are compiled from assessment files that have been submitted to the ministry in accordance with the Ontario Mining Act (OMA). Source assessment file numbers are captured for cross reference with the Ontario Assessment File Database (OAFD). Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

Government Publication Date: 1886 - Jul 2025

Delisted Fuel Tanks: Provincial DTNK

List of fuel storage tank sites that were once found in - and have since been removed from - the list of fuel storage tanks made available by the regulatory agency under Access to Public Information.

Government Publication Date: Oct 2023

Environmental Activity and Sector Registry: Provincial EASR

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

Government Publication Date: Oct 2011 - Jul 31, 2025

Environmental Registry: Provincial EBR

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

Government Publication Date: 1994 - Aug 31, 2025

Environmental Compliance Approval: Provincial ECA

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

Government Publication Date: Oct 2011 - Jul 31, 2025

Environmental Effects Monitoring: Federal EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Government Publication Date: 1992-2007*

ERIS Historical Searches: Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Apr 30, 2025

Environmental Issues Inventory System: Federal EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001*

Emergency Management Historical Event: Provincial EMHE

List of locations of historical occurrences of emergency events, including those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under the Emergency Management and Civil Protection Act, as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance. EMHE record details are reproduced by ERIS under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2017.

Government Publication Date: Apr 30, 2022

Environmental Penalty Annual Report: Provincial EPAR

This database contains data from Ontario's annual environmental penalty report published by the Ministry of the Environment, Conservation and Parks (MECP). These reports provide information on environmental penalties for land or water violations issued to companies in one of the nine industrial sectors covered by the Municipal Industrial Strategy for Abatement (MISA) regulations.

Government Publication Date: Jan 1, 2011 - Dec 31, 2024

List of Expired Fuels Safety Facilities: Provincial EXP

List of facilities and tanks for which there was once a fuel registration. This is not a comprehensive or complete inventory of expired tanks/tank facilities in the province; this listing is a copy of previously registered tanks and facilities obtained under Access to Public Information. Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc; includes tanks which have been removed from the ground.
Notes: registration was not required for private fuel underground/aboveground storage tanks prior to January 1990, nor for furnace oil tanks prior to May 1, 2002; registration is not required for waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Oct 2023

Federal Convictions: Federal FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land: Federal FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government. Includes fire training sites and sites at which Per- and Polyfluoroalkyl Substances (PFAS) are a concern.

Government Publication Date: Jun 2000-Mar 2025

Fisheries & Oceans Fuel Tanks: Federal FOFT

Fisheries & Oceans Canada maintains an inventory of aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sep 2019

Federal Identification Registry for Storage Tank Systems (FIRSTS): Federal FRST

A list of federally regulated Storage tanks from the Federal Identification Registry for Storage Tank Systems (FIRSTS). FIRSTS is Environment and Climate Change Canada's database of storage tank systems subject to the Storage Tank for Petroleum Products and Allied Petroleum Products Regulations. The main objective of the Regulations is to prevent soil and groundwater contamination from storage tank systems located on federal and aboriginal lands. Storage tank systems that do not have a valid identification number displayed in a readily visible location on or near the storage tank system may be refused product delivery.

Government Publication Date: Oct 31, 2021

Fuel Storage Tank: Provincial FST

List of registered private and retail fuel storage tanks. This is not a comprehensive or complete inventory of private and retail fuel storage tanks in the province; this listing is a copy of registered private and retail fuel storage tanks, obtained under Access to Public Information.
Notes: registration was not required for private fuel underground/aboveground storage tanks prior to January 1990, nor for furnace oil tanks prior to May 1, 2002; registration is not required for waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Oct 2023

Fuel Storage Tank - Historic: Provincial FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

Government Publication Date: Pre-Jan 2010*

Ontario Regulation 347 Waste Generators Summary: Provincial GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. As of January 1, 2023, businesses and institutions subject to the amended Reg. 347: General – Waste Management are required to report their activities and pay fees through Resource Productivity & Recovery Authority (RPRA) online Hazardous Waste Program Registry (HWPR) rather than the Hazardous Waste Information Network (HWIN) system previously operated by the Ministry of the Environment, Conservation and Parks (MECP). Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

Government Publication Date: 1986-Mar 31, 2025

Greenhouse Gas Emissions from Large Facilities: Federal GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

Government Publication Date: 2013-Feb 2025

TSSA Historic Incidents: Provincial HINC

List of historic incidences of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen recorded by the TSSA in their previous incident tracking system. The TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of historical fuel spills and leaks in the province. This listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

Government Publication Date: 2006-June 2009*

Indian & Northern Affairs Fuel Tanks: Federal IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

Fuel Oil Spills and Leaks: Provincial INC

Listing of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen reported to the Spills Action Centre (SAC). This is not a comprehensive or complete inventory of fuel-related leaks, spills, and incidents in the province; this listing in a copy of incidents reported to the SAC, obtained under Access to Public Information. Includes incidents from fuel-related hazards such as spills, fires, and explosions. Records are not verified for accuracy or completeness.

Government Publication Date: 31 Oct, 2023

Landfill Inventory Management Ontario: Provincial LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the Ministry of the Environment, Conservation and Parks compiles new and updated information. Includes small and large landfills currently operating as well as those which are closed and historic. Operators of larger landfills provide landfill information for the previous operating year to the ministry for LIMO including: estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: Mar 31, 2022

Canadian Mine Locations: Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Mineral Occurrences: Provincial MNR

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

Government Publication Date: 1846-Feb 2025

National Analysis of Trends in Emergencies System (NATES): Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

Non-Compliance Reports: Provincial NCPL

The Ministry of the Environment Conservation and Parks (MECP) provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act. MECP publicly releases the Environmental Compliance Report (ECR) on the Ontario Data Catalogue. In Ontario, all facilities with regulated wastewater discharges or air emissions under the Ontario Water Resources Act and the Environmental Protection Act must monitor and report any cases where approved operating limits have been exceeded.

Government Publication Date: Dec 31, 2023

National Defense & Canadian Forces Fuel Tanks: Federal NDFT

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills: Federal NDSP

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Nov 2023

National Defence & Canadian Forces Waste Disposal Sites: Federal NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Pipeline Incidents: Federal NEBI

Locations of pipeline incidents from 2008 to present, made available by the Canada Energy Regulator (CER) - previously the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008-Jul 31, 2025

National Energy Board Wells: Federal NEBP

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES): Federal NEES

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory: Federal NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory: Federal NPR2

The National Pollutant Release Inventory (NPRI) is Canada's public inventory of pollutant releases (to air, water and land), disposals, and transfers for recycling. The inventory, managed by Environment and Climate Change Canada, tracks over 300 substances. Under the authority of the Canadian Environmental Protection Act (CEPA), owners or operators of facilities that meet published reporting requirements are required to report to the NPRI.

Government Publication Date: Feb 2024

National Pollutant Release Inventory - Historic: Federal NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances. This data holds historic records; current records are found in NPR2.

Government Publication Date: 1993-May 2017

Oil and Gas Wells: Private OGWE

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Jun 30, 2025

Ontario Oil and Gas Wells: Provincial OOGW

In 1998, the Ministry of Natural Resources (MNR) handed over to the Ontario Oil, Gas and Salt Resources (OGSR) Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database includes well owner/operator, location, permit issue date, and well cap date, license number, status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provided for each well record.

Government Publication Date: 1800-Aug 2024

Inventory of PCB Storage Sites: Provincial OPCB

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Government Publication Date: 1987-Oct 2004; 2012-Dec 2013

Orders: Provincial ORD

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994 - Aug 31, 2025

Canadian Pulp and Paper: Private PAP

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009-2014

Parks Canada Fuel Storage Tanks: Federal PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register: Provincial PES

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

Government Publication Date: Oct 2011 - Jul 31, 2025

Ontario PFAS Spills: Provincial PFAS

This specific list of spills includes those incidents where one or more of the listed contaminants are identified in the PFAS Structure List and/or PFAS Chemicals Without Explicit Structure List made available by the United States Environmental Protection Agency (US EPA), is originally sourced from the Ministry of the Environment, Conservation and Parks spills related data. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Government Publication Date: 1988-Jun 2024; Aug 2024; Oct-Nov 2024

NPRI Reporters - PFAS Substances: Federal PFCH

The National Pollutant Release Inventory (NPRI) is Canada's public inventory of releases, disposals, and transfers, tracking over 320 pollutants. Per - and polyfluoroalkyl substances (PFAS) are a group of over 4,700 human-made substances for which adverse environmental and health effects have been observed. This listing of PFAS substance reporters includes those NPRI facilities that reported substances that are found in either: a) the Comprehensive Global Database of PFASs compiled by the Organisation for Economic Co-operation and Development (OECD), b) the US Environmental Protection Agency (US EPA) Master List of PFAS Substances, c) the US EPA list of PFAS chemicals without explicit structures, or d) the US EPA list of PFAS structures (encompassing the largest set of structures having sufficient levels of fluorination to potentially impart PFAS-type properties).

Government Publication Date: Feb 2024

Potential PFAS Handlers from NPRI: Federal PFHA

The National Pollutant Release Inventory (NPRI) is Canada's public inventory of releases, disposals, and transfers, tracking over 320 pollutants. Per - and polyfluoroalkyl substances (PFAS) are a group of over 4,700 human-made substances for which adverse environmental and health effects have been observed. This list of potential PFAS handlers includes those NPRI facilities that reported business activity (NAICS code) included in the US Environmental Protection Agency (US EPA) list of Potential PFAS-Handling Industry Sectors, further described as operating in industry sectors where literature reviews indicate that PFAS may be handled and/or released. Inclusion of a facility in this listing does not indicate that PFAS are being manufactured, processed, used, or released by the facility - these are facilities that potentially handle PFAS based on their industrial profile.

Government Publication Date: Feb 2024

Pipeline Incidents: Provincial PINC

List of pipeline incidents (strikes, leaks, spills). This is not a comprehensive or complete inventory of pipeline incidents in the province; this listing in an historical copy of records previously obtained under Access to Public Information. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2021

Potential PFAS Handlers from EASR: Provincial PPHA

The Ontario Environmental Activity and Sector Registry (EASR), described in Ontario Regulation 245/11, allows businesses with less complex operations - and hence not requiring an Environmental Compliance Approval - to register their activities with the Ontario Ministry of the Environment, Conservation and Parks (MECP). This list of potential PFAS handlers includes those EASR facilities that reported business activity (NAICS code) included in the US Environmental Protection Agency (US EPA) list of Potential PFAS-Handling Industry Sectors, further described as operating in industry sectors where literature reviews indicate that PFAS may be handled and/or released. Inclusion of a facility in this listing does not indicate that PFAS are being manufactured, processed, used.

Government Publication Date: Jun 30, 2024

Private and Retail Fuel Storage Tanks: Provincial PRT

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

Government Publication Date: 1989-1996*

Permit to Take Water: Provincial PTTW

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include PTTW's on the registry such as OWRA s. 34 - Permit to take water.

Government Publication Date: 1994 - Aug 31, 2025

Ontario Regulation 347 Waste Receivers Summary: Provincial REC

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Government Publication Date: 1986-1990, 1992-2021

Record of Site Condition: Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up. RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09). The Government of Ontario states that it is not responsible for the accuracy of the information in this Registry.

Government Publication Date: 1997-Sept 2001, Oct 2004-Aug 2025

Retail Fuel Storage Tanks: Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-Apr 30, 2025

Scott's Manufacturing Directory: Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Ontario Spills: Provincial SPL

List of spills and incidents made available by the Ministry of the Environment, Conservation and Parks. This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Government Publication Date: 1988-Jun 2024; Aug 2024; Oct-May 2025

Wastewater Discharger Registration Database: Provincial SRDS

Facilities that report either municipal treated wastewater effluent or industrial wastewater discharges under the Effluent Monitoring and Effluent Limits (EMEL) and Municipal/Industrial Strategy for Abatement Regulations. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment keeps record of direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation, Mining, Petroleum Refining, Organic Chemicals, Inorganic Chemicals, Pulp & Paper, Metal Casting, Iron & Steel, and Quarries.

Government Publication Date: 1990-Dec 31, 2021

Anderson's Storage Tanks: Private TANK

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1915-1953*

Transport Canada Fuel Storage Tanks: Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970 - Apr 2024

Variances for Abandonment of Underground Storage Tanks: Provincial VAR

Listing of variances granted for storage tank abandonment. This is not a comprehensive or complete inventory of tank abandonment variances in the province; this listing is a copy of tank abandonment variance records previously obtained under Access to Public Information. In Ontario, registered underground storage tanks must be removed within two years of disuse; if removal of a tank is not feasible, an application may be sought for a variance from this code requirement.
Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Waste Disposal Sites - MOE CA Inventory: Provincial WDS

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Government Publication Date: Oct 2011 - Jul 31, 2025

Waste Disposal Sites - MOE 1991 Historical Approval Inventory: Provincial WDSH

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

Government Publication Date: Up to Oct 1990*

Water Well Information System: Provincial WWIS

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Government Publication Date: Dec 31 2023

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

Appendix F Other Government Records

Olesiuk, Joanna

From: FOI (MECP) <foi.mecp@ontario.ca>
Sent: Thursday, October 23, 2025 11:50 AM
To: Olesiuk, Joanna
Subject: [EXT] MECP FOI A-2025-07242 / Your Reference 2402146 – Acknowledgement

EXTERNAL EMAIL

Dear Joanna Olesiuk,

The Ministry is in receipt of your request made pursuant to the Freedom of Information and Protection of Privacy Act along with your payment of $5.00 (non-refundable application fee). **The search will be conducted on the following:**

12879 Mississauga Road, Caledon

Timeframe: January 1, 1980 to October 22, 2025

If there is any discrepancy, please contact us immediately.

Please note the file number that has been assigned to your request. This number should be referred to in all future communications with our office.

Your request is being processed and our office will be in touch.

Yours truly,
Access and Privacy Office
Ministry of the Environment, Conservation and Parks

Ontario

From: Public Secure - Please Do Not Reply (MPBSDP) <noreply@ontario.ca>
Sent: October 22, 2025 5:05 PM
To: FOI (MECP) <foi.mecp@ontario.ca>
Subject: FOI eRequest – Olesiuk - 20251022170352667

The submission ID of this application is: 20251022170352667

Date Submitted: October 22, 2025 at 05:03 PM

A copy of the FOI eRequest is attached.

Ministry of the Environment, Conservation and Parks

Corporate Services Branch
40 St. Clair Avenue West
Toronto ON M4V 1M2

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des services généraux
40, avenue St. Clair Ouest
Toronto ON M4V 1M2

Ontario

November 24, 2025

Joanna Olesiuk
GEI Consultants Canada Ltd.
650 Woodlawn Road West, Block C, Unit 2
Guelph, Ontario N1K 1B8
jolesiuk@geiconsultants.com

Dear Joanna Olesiuk:

RE: **MECP FOI A-2025-07242, Your Reference 2402146 – Decision Letter**

This letter is in response to your request made pursuant to the Freedom of Information and Protection of Privacy Act (the Act) relating to:

12879 Mississauga Road, Caledon

Timeframe: January 1, 1980 to October 22, 2025

After a thorough search through the ministry files, no records were located responsive to your request. The official responsible for making the access decision on your request is the undersigned. This file is now closed.

You may request a review of my decision within 30 days from the date of this letter by contacting the Information and Privacy Commissioner/Ontario at http://www.ipc.on.ca. Please note there may be a fee associated with submitting the appeal.

If you have any questions, please contact Christian Brodersen at christian.brodersen@ontario.ca.

Yours truly,

Christian Brodersen

for
Josephine DeSouza
Manager, Access and Privacy Office

Olesiuk, Joanna

From: Public Information Services <publicinformationservices@tssa.org>
Sent: Monday, October 20, 2025 8:26 AM
To: Olesiuk, Joanna
Subject: [EXT] RE: 2402146 TSSA Records check - Caledon, Ontario

EXTERNAL EMAIL

Hello ,

NO RECORD FOUND IN CURRENT DATABASE:

- We confirm that there are NO **fuels records** in our database at the subject address(es).

For a further search in our archives, please go to the **TSSA Client Portal** to complete an Application for Release of Public Information. Please refer to Training (tssa.org) for instructions on how to use the portal. Please refer to How to Submit a Public Information Request (tssa.org) for instructions.

The associated fee must be paid via credit card (Visa or MasterCard).

Once all steps have been successfully completed you will receive your payment receipt via email.

TSSA does not make any representations or warranties with respect to the accuracy or completeness of any records released. The requestor assumes all risk in using or relying on the information provided.

If you have any questions or concerns, please do not hesitate to contact our Public Information Release team at publicinformationservices@tssa.org.

Kind regards,

Cassandra Cecilia | Public Information & Records Agent
Public Information
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: +1 416-734-3222 | Fax: +1 416-231-4898 | E-Mail: CCecilia@tssa.org
www.tssa.org

Winner of 2025 5-Star Safety Cultures Award

From: Olesiuk, Joanna <JOlesiuk@geiconsultants.com>
Sent: Friday, October 17, 2025 4:04 PM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: 2402146 TSSA Records check - Caledon, Ontario

[CAUTION]: THIS EMAIL ORIGINATED OUTSIDE THE ORGANISATION.
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Good Afternoon,

We are looking for any information the TSSA has on file regarding aboveground or underground fuel (gasoline, diesel, oil, waste oil etc.) storage tanks/fuel appliances at the following properties in Caledon, Ontario:

- 1015 OLD SCHOOL ROAD
- 899 OLD SCHOOL ROAD
- 12901 MISSISSAUGA ROAD
- 12797 MISSISSAUGA ROAD
- 12879 MISSISSAUGA ROAD
- 12777 MISSISSAUGA ROAD
- 12812 MISSISSAUGA ROAD
- 12761 MISSISSAUGA ROAD
- 12806 MISSISSAUGA ROAD
- 12746 MISSISSAUGA ROAD

Thank you.

GEI
Canada

JOANNA OLESIUK, M.A.Sc., C. Tech., P. Geo. (Limited) (she/her)
Project Geoscientist
519.824.8150...1253 cell: 519.239.3160
650 Woodlawn Road West Block C | Unit 2 | Guelph, Ontario N1K 1B8 | Canada

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Olesiuk, Joanna

From: Public Information Services <publicinformationservices@tssa.org>
Sent: Thursday, October 23, 2025 10:12 AM
To: Olesiuk, Joanna
Subject: [EXT] RE: 2402146 TSSA Records check 2 - Caledon, Ontario

EXTERNAL EMAIL

Hello ,

NO RECORDS FOUND IN CURRENT DATABASE:

We confirm that there are NO **fuels records** in our database at the subject address(es).

This is not a confirmation that there are no records in the archives. For a further search in our archives, please go to the **TSSA Client Portal** to complete an Application for Release of Public Information.

Please refer to Training (tssa.org) for instructions on how to use the portal. Please refer to How to Submit a Public Information Request (tssa.org) for instructions.

The associated fee must be paid via credit card (Visa or MasterCard).

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If you have any questions or concerns, please do not hesitate to contact our Public Information Release team at publicinformationservices@tssa.org.

Kind regards,

Slavka Zahrebelny | Public Information & Records Agent
Public Information
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: +1 416-734-3585 | Fax: +1 416-734-6242 | E-Mail: szahrebelny@tssa.org
www.tssa.org

Winner of 2025 5-Star Safety Cultures Award

From: Olesiuk, Joanna <JOlesiuk@geiconsultants.com>
Sent: October 22, 2025 4:48 PM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: 2402146 TSSA Records check 2 - Caledon, Ontario

[CAUTION]: THIS EMAIL ORIGINATED OUTSIDE THE ORGANISATION.
PLEASE DO NOT CLICK LINKS OR OPEN ATTACHMENTS UNLESS YOU RECOGNISE THE SOURCE OF THIS EMAIL AND KNOW THE CONTENT IS SAFE.

Good Afternoon,

We are looking for any information the TSSA has on file regarding aboveground or underground fuel (gasoline, diesel, oil, waste oil etc.) storage tanks/fuel appliances at the following properties in Caledon, Ontario:

- 12679 MISSISSAUGA ROAD
- 12746 MISSISSAUGA ROAD
- 12696 MISSISSAUGA ROAD
- 12686 MISSISSAUGA ROAD
- 12515 MISSISSAUGA ROAD
- 12493 MISSISSAUGA ROAD
- 12441 MISSISSAUGA ROAD
- 12405 MISSISSAUGA ROAD
- 12466 MISSISSAUGA ROAD
- 12391 MISSISSAUGA ROAD

Thank you, and take care.

GEI
Canada

JOANNA OLESIUK, M.A.Sc., C. Tech., P. Geo. (Limited) (she/her)
Project Geoscientist
519.824.8150...1253 cell: 519.239.3160
650 Woodlawn Road West Block C | Unit 2 | Guelph, Ontario N1K 1B8 | Canada

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Olesiuk, Joanna

From: Public Information Services <publicinformationservices@tssa.org>
Sent: Thursday, October 23, 2025 12:11 PM
To: Olesiuk, Joanna
Subject: [EXT] RE: 2402146 TSSA Records check 3 - Caledon, Ontario

EXTERNAL EMAIL

Hello ,

RECORD FOUND IN CURRENT DATABASE:

- We confirm that there are **fuels records** in our database at the subject address(es).

Inventory Number	Address	City	Province	Postal Code	Reason Code	Asset Class / Inventor
35492516	12111 MISSISSAUGA RD	CALEDON	ON	L7C 1X1	Active	FS Fuel Oil Tank
35492519	12111 MISSISSAUGA RD	CALEDON	ON	L7C 1X1	Active	FS Fuel Oil Tank
64490943	12111 MISSISSAUGA RD	CALEDON	ON	L7C 1X1	EXPIRED	FS Appliance
64531790	12111 MISSISSAUGA RD	CALEDON	ON	L7C 1X1	Active	FS Appliance
64890322	12111 MISSISSAUGA RD	CALEDON	ON	L7C 1X1	Active	FS Appliance

***NO OTHER RECORDS FOUND IN CURRENT DATABASE FOR THIS REQUEST**

For a further search in our archives, please go to the **TSSA Client Portal** to complete an Application for Release of Public Information. Please refer to Training (tssa.org) for instructions on how to use the portal. Please refer to How to Submit a Public Information Request (tssa.org) for instructions.

The associated fee must be paid via credit card (Visa or MasterCard).

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If you have any questions or concerns, please do not hesitate to contact our Public Information Release team at publicinformationservices@tssa.org.

Kind regards,

Slavka Zahrebelny | Public Information & Records Agent
Public Information
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: +1 416-734-3585 | Fax: +1 416-734-6242 | E-Mail: szahrebelny@tssa.org
www.tssa.org



Winner of 2025 5-Star Safety Cultures Award

From: Olesiuk, Joanna <JOlesiuk@geiconsultants.com>
Sent: October 23, 2025 11:34 AM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: 2402146 TSSA Records check 3 - Caledon, Ontario

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PLEASE DO NOT CLICK LINKS OR OPEN ATTACHMENTS UNLESS YOU RECOGNISE THE SOURCE OF THIS EMAIL AND KNOW THE CONTENT IS SAFE.

Good Morning,

We are looking for any information the TSSA has on file regarding aboveground or underground fuel (gasoline, diesel, oil, waste oil etc.) storage tanks/fuel appliances at the following properties in Caledon, Ontario:

- 12353 MISSISSAUGA ROAD
- 12300 MISSISSAUGA ROAD
- 12287 MISSISSAUGA ROAD
- 12266 MISSISSAUGA ROAD
- 12210 MISSISSAUGA ROAD
- 12198 MISSISSAUGA ROAD
- 12191 MISSISSAUGA ROAD
- 12111 MISSISSAUGA ROAD
- 12165 MISSISSAUGA ROAD
- 1278 MAYFIELD ROAD

Thank you, and take care.

GEI
Canada

JOANNA OLESIUK, M.A.Sc., C. Tech., P. Geo. (Limited) (she/her)
Project Geoscientist
519.824.8150...1253 cell: 519.239.3160
650 Woodlawn Road West Block C | Unit 2 | Guelph, Ontario N1K 1B8 | Canada

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forwarded or distributed without authorization. If you have received this message in error, please notify the sender immediately and delete the original message.

Olesiuk, Joanna

From: Public Information Services <publicinformationservices@tssa.org>
Sent: Friday, January 30, 2026 9:12 AM
To: Olesiuk, Joanna
Subject: [EXT] RE: 2402146 TSSA Records check 4 - Caledon, Ontario

EXTERNAL EMAIL

Hello ,

RECORD FOUND IN CURRENT DATABASE:

- We confirm that there are **fuels records** in our database at the subject address(es).

Inventory Number	Address	City	Province	Postal Code	Reason Code	Asset Class / Inventory
41629563	12134 MISSISSAUGA RD RR 4	GEORGETOWN	ON	L7G 4S7	Active	FS Fuel Oil Tank

***NO OTHER RECORDS FOUND IN CURRENT DATABASE FOR THIS REQUEST**

For a further search in our archives, please go to the **TSSA Client Portal** to complete an Application for Release of Public Information. Please refer to Training (tssa.org) for instructions on how to use the portal. Please refer to How to Submit a Public Information Request (tssa.org) for instructions.

The associated fee must be paid via credit card (Visa or MasterCard).

Once all steps have been successfully completed you will receive your payment receipt via email.

TSSA does not make any representations or warranties with respect to the accuracy or completeness of any records released. The requestor assumes all risk in using or relying on the information provided.

If you have any questions or concerns, please do not hesitate to contact our Public Information Release team at publicinformationservices@tssa.org.

Kind regards,

Slavka Zahrebelny | Public Information & Records Agent
Public Information
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: +1 416-734-3585 | Fax: +1 416-734-6242 | E-Mail: szahrebelny@tssa.org
www.tssa.org

Winner of 2025 5-Star Safety Cultures Award

From: Olesiuk, Joanna <JOlesiuk@geiconsultants.com>
Sent: January 29, 2026 7:22 PM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: 2402146 TSSA Records check 4 - Caledon, Ontario

⚠ External Email >

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Hello,

We are looking for any information the TSSA has on file regarding aboveground or underground fuel (gasoline, diesel, oil, waste oil etc.) storage tanks/fuel appliances at the following properties in Caledon, Ontario:

- 12134 Mississauga Road
- 1248 Mayfield Road

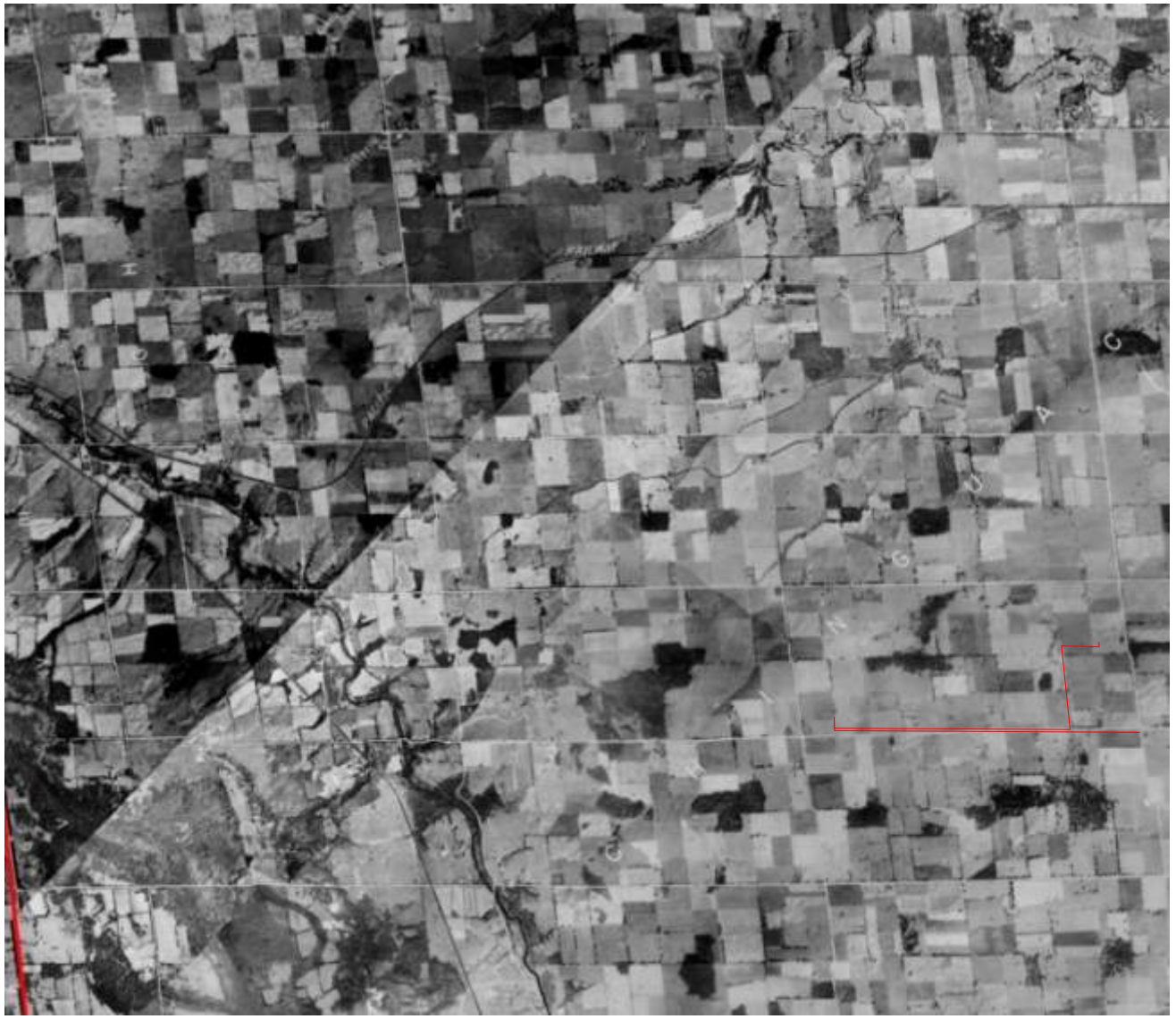
Thank you.

GEI
Canada

JOANNA OLESIUK, M.A.Sc., C. Tech., P. Geo. (Limited) (she/her)
Project Geoscientist
519.824.8150...1253 cell: 519.239.3160
650 Woodlawn Road West Block C | Unit 2 | Guelph, Ontario N1K 1B8 | Canada

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Appendix G Aerial Photographs



Site Location

N

Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Airphoto source: Unknown

0 50 100
Metres

Phase One Environmental Site Assessment
Peel West Caledon Storage Facility, Ontario

Client: Region of Peel

GEI Consultants

Project 2402146

1954 AERIAL PHOTOGRAPH

Fig. G1

\\bos-pzcc-1\data_storage\Working\NIAGARA FALLS ON, CITY OF\2503898 Queen St Parking Geotechnical\05_GIS\MXD\2025 07 APU\2503898_rpt_figF_aerials.mxd



Site Location

N

Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Airphoto source: National Air Photo Library

0 50 100
Metres

Phase One Environmental Site Assessment
Peel West Caledon Storage Facility, Ontario

Client: Region of Peel

GEI Consultants

Project 2402146

1969 AERIAL PHOTOGRAPH

Fig. G2

\\bos-pzcc-1\data_storage\Working\NIAGARA FALLS ON, CITY OF\2503898 Queen St Parking Geotechnical\05_GIS\MXD\2025 07 APU\2503898_rpt_figF_aerials.mxd



Site Location

N

Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Airphoto source: Air Photo Library

0 50 100
Metres

Phase One Environmental Site Assessment
Peel West Caledon Storage Facility, Ontario

Client: Region of Peel

GEI Consultants

1976 AERIAL PHOTOGRAPH

Project 2402146

Fig. G3

\\bos-pzcc-1\data_storage\Working\NIAGARA FALLS ON, CITY OF\2503898 Queen St Parking Geotechnical\05_GIS\MXD\2025 07 APU\2503898_rpt_figF_aerials.mxd



Site Location

N

Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Airphoto source: National Air Photo Library

0 50 100
Metres

Phase One Environmental Site Assessment
Peel West Caledon Storage Facility, Ontario

Client: Region of Peel

GEI Consultants

Project 2402146

1980 AERIAL PHOTOGRAPH

Fig. G4

\\bos-pzcc-1\data_storage\Working\NIAGARA FALLS ON, CITY OF\2503898 Queen St Parking Geotechnical\05_GIS\MXD\2025 07 APU\2503898_rpt_figF_aerials.mxd



Site Location

N

Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Airphoto source: National Air Photo Library

0 50 100
Metres

Phase One Environmental Site Assessment
Peel West Caledon Storage Facility, Ontario

Client: Region of Peel

GEI Consultants

Project 2402146

1990 AERIAL PHOTOGRAPH

Fig. G5

\\bos-pzcc-1\data_storage\Working\NIAGARA FALLS ON, CITY OF\2503898 Queen St Parking Geotechnical\05_GIS\MXD\2025 07 APU\2503898_rpt_figF_aerials.mxd



Site Location

N

Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Airphoto source: Town of Caledon

0 50 100
Metres

Phase One Environmental Site Assessment
Peel West Caledon Storage Facility, Ontario

Client: Region of Peel

GEI Consultants

2001 AERIAL PHOTOGRAPH

Project 2402146

Fig. G6

\\bos-pzcc-1\data_storage\Working\NIAGARA FALLS ON, CITY OF\2503898 Queen St Parking Geotechnical\05_GIS\MXD\2025 07 APU\2503898_rpt_figF_aerials.mxd



Site Location

N

Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Airphoto source: Town of Caledon

0 50 100
Metres

Phase One Environmental Site Assessment
Peel West Caledon Storage Facility, Ontario

Client: Region of Peel

GEI Consultants

Project 2402146

2015 AERIAL PHOTOGRAPH

Fig. G7

\\bos-pzcc-1\data_storage\Working\NIAGARA FALLS ON, CITY OF\2503898 Queen St Parking Geotechnical\05_GIS\MXD\2025 07 APU\2503898_rpt_figF_aerials.mxd



Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Airphoto source: Town of Caledon

Phase One Environmental Site Assessment Peel West Caledon Storage Facility, Ontario	GEI Consultants	2025 AERIAL PHOTOGRAPH
Client: Region of Peel	Project 2402146	Fig. G8

\\bos-pzcc-1\data_storage\Working\NIAGARA FALLS ON, CITY OF\2503898 Queen St Parking Geotechnical\05_GIS\MXD\2025 07 APU\2503898_rpt_figF_aerials.mxd

Appendix H Select Site Photographs

On-Site Photographs



PHOTOGRAPH 1

(GEI, 2025)

Description:

View of the Site within Property 3. Showing two monitoring wells (orange stickup casings).

Picture taken at the southwest corner of 1278 Mayfield Road property (Alloa Reservoir and Pumping Station), facing southwest.



PHOTOGRAPH 2

(GEI, 2025)

Description:

View of the Site within Property 2.

Picture taken from Mississauga Road, facing northeast.



PHOTOGRAPH 3

(GEI, 2025)

Description:

View of the north side of Mississauga Road.

Picture taken where Property 2 meets Mississauga Road, facing northwest.



PHOTOGRAPH 4

(GEI, 2025)

Description:

View of the north side of Mississauga Road.

Picture taken in front of civic address 12797 Mississauga Road, facing southeast.



PHOTOGRAPH 5

(GEI, 2025)

Description:

View of the south side of Mississauga Road.

Picture taken in front of civic address 12150 Mississauga Road, facing southeast.



PHOTOGRAPH 6

(GEI, 2025)

Description:

View of Property 1 (12879 Mississauga Road).

Picture taken from the north side of Mississauga Road, facing north.

Off-Site Photographs



PHOTOGRAPH 7

(GEI, 2025)

Description:

Diesel fuel AST and two electrical transformers at 1278 Mayfield Road property (Alloa Reservoir and Pumping Station).

Picture taken from the northeast side of the building, facing northeast.



PHOTOGRAPH 8

(GEI, 2025)

Description:

AST on the northeast side of the school building at 1248 Mayfield Road.

Zoomed-in picture taken, from the driveway of 1278 Mayfield Road (Alloa Reservoir and Pumping Station), facings southwest.



PHOTOGRAPH 9

(GEI, 2025)

Description:

Two monitoring wells at 1248 Mayfield (school property).

Zoomed-in picture taken from Mayfield Road, facing north.



PHOTOGRAPH 10

(GEI, 2025)

Description:

One monitoring well (orange stickup casing, left of the driveway at the edge of the farm field) observed at 12515 Mississauga Road.

Picture taken from Mississauga Road, facing north.



PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3I: Traffic Assessment Report

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.

Traffic Assessment

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN CLASS ENVIRONMENTAL ASSESSMENT, PEEL REGION

Paradigm Transportation Solutions Limited

2026-02
250577

ptsl.com

Great Place To Work. Certified NOV 2023 - NOV 2024 CANADA

Project Summary

Project Number:

250577

Date and Version:

2026-02
1.0.0

Client:

GEI Consultants
3300 Highway No. 7, Suite 402
Vaughan ON L4K 4M3

Sandra Anastasio, M.Env.Sc., RPP, MCIP, EP
Senior Project Manager, Infrastructure Planning

Consultant Project Team

Joshua de Boer, Senior Project Manager, Associate
Prateek Jain, Transportation Consultant

Paradigm Transportation Solutions Limited

5A-150 Pinebush Road
Cambridge ON N1R 8J8
p: 519.896.3163
905.381.2229
416.479.9684
www.ptsl.com

Traffic Assessment

West Caledon Storage Facility and Transmission Main Class Environmental Assessment, Peel Region

<< Original Signed By >>

Joshua de Boer, P.Eng.

Disclaimer

This document has been prepared for the titled project or named part thereof (the "project") and except for approval and commenting municipalities and agencies in their review and approval of this project, should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authorization of Paradigm Transportation Solutions Limited being obtained. Paradigm Transportation Solutions Limited accepts no responsibility or liability for the consequence of this document being used for a purpose other than the project for which it was commissioned. Any person using or relying on the document for such other purpose agrees and will by such use or reliance be taken to confirm their agreement to indemnify Paradigm Transportation Solutions Limited for all loss or damage resulting there from. Paradigm Transportation Solutions Limited accepts no responsibility or liability for this document to any party other than the person by whom it was commissioned and the approval and commenting municipalities and agencies for the project.

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Executive Summary

Content

Peel Region (the Region) intends to complete a Class Environmental Assessment (EA) for the West Caledon Storage Facility and Transmission Main. GEI Consultants (GEI), on behalf of the Region, retained Paradigm Transportation Solutions Limited (Paradigm) to prepare this Traffic Assessment.

The construction of a planned transmission main, feedermain, and elevated tank may have impacts to the existing transportation network. The purpose of this report is to identify and assess potential transportation impacts, if any, resulting from these works, and provide recommendations on how to best mitigate these impacts.

Study Area

The study area is situated along the boundary of the Town of Caledon and City of Brampton in the Region of Peel. The majority of the works will occur on Mississauga Road, through a series of construction stages. The southern limit of the construction works will be south of Mayfield Road and the northern limit of the works will be south of Old School Road.

This area is currently undergoing residential and commercial expansion and is surrounded mainly by farmland, greenspace and low-density residential land use. Planned works include the installation of transmission main and feedermain infrastructure, as well as an elevated tank, along the northeast side of the Mississauga Road and Mayfield Road intersection.

Methodology

The study establishes existing baseline conditions by reviewing technical studies, assessing field observations, and analyzing traffic data. This provides a clear understanding of the existing transportation network, including road configurations and traffic volumes. Future conditions are then projected based on anticipated growth, expected construction vehicles and planned infrastructure development. The study assesses the impacts of construction on the transportation network and provides potential remedial measures to offset impacts. if any, from the planned construction activities.

Conclusions

Based on the investigations carried out, it is concluded that:

Existing Conditions:

- The study intersections generally operate with acceptable levels of service (LOS) and within capacity during the AM, PM and off-peak hours. Exceptions include the turn movements at the intersection at Creditview Road and Mayfield Road, which experience critical LOS. In the AM peak hour, the westbound movements at the intersection of Heritage Road and Mayfield Road also operate at a critical LOS.
- There are two transit routes operating in the study area that provide local and inter-regional travel opportunities.
- There are currently no major active transportation facilities in the study area. The elevated tank site is located far from any major employment, retail, cultural and recreational opportunities. Most of the prospective construction workers are expected to drive to the site.

Future Conditions:

- Mayfield Road is planned to be widened from two to five lanes (three eastbound and two westbound lanes) between Chinguacousy Road and Mississauga Road and from two to four lanes between Mississauga Road and Winston Churchill Boulevard.
- A maximum of 146 passenger car equivalent (PCE) vehicles are anticipated on the elevated tank site on any given construction day.
- No lane closures are planned for the proposed construction works.
- The planned construction works related to this study are not expected to impact future transportation conditions to any significant extent. The study intersections are forecast to operate at very similar levels of service as under background traffic conditions.

Remedial Measures:

- With implementation of optimized signal timings, intersection operations are forecast to improve, but still operate over capacity. The intersections will continue to operate at critical LOS with or without the construction activity.

- Due to phasing and the distribution of traffic across the entire study area, the temporary traffic disruptions are not expected to be significant, relative to typical construction works.

Recommendations

Based on the study results, it is recommended that:

- Construction be carried out according to the proposed phasing plan.

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1 Introduction

1.1 Overview

Peel Region (the Region) intends to complete a Class Environmental Assessment (EA) for the West Caledon Storage Facility and Transmission Main. GEI Consultants (GEI), on behalf of the Region, retained Paradigm Transportation Solutions Limited (Paradigm) to prepare this Traffic Assessment.

The construction of a planned transmission main, feedermain, and elevated tank may have impacts to the existing transportation network. The purpose of this report is to identify and assess potential transportation impacts and provide recommendation on how to best mitigate them.

The study area is situated along the boundary of the Town of Caledon and City of Brampton, in the Region of Peel, with the majority of the works planned on Mississauga Road. Due to the growth of the community, water mains and storage infrastructure requirements need to be addressed by the Region.

Planned works include the installation of transmission main and feedermain infrastructure, as well as an elevated tank, along the northeast side of Mississauga Road and Mayfield Road intersection. The southern limit of the construction works will be south of Mayfield Road and the northern limit of the works will be south of Old School Road. This area is currently undergoing residential and commercial expansion and is surrounded mainly by farmland, greenspace and low-density residential land use.

Figure 1.1 illustrates the location of the study area.

1.2 Purpose and Scope

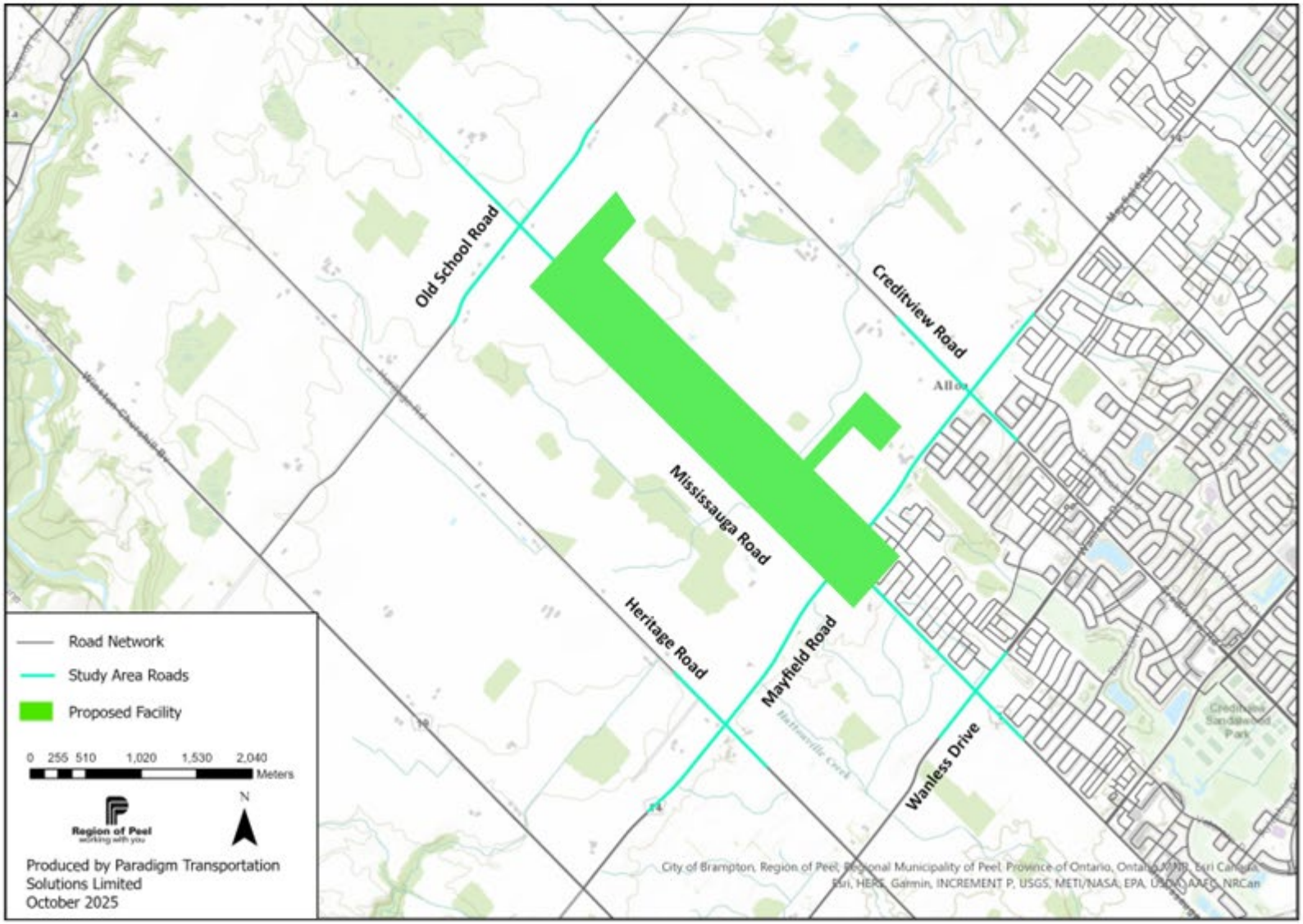
The purpose of this study is to identify and assess potential transportation impacts, if any, resulting from the construction of the planned transmission main, feedermain, and elevated tank infrastructure, and provide recommendations on how to best mitigate these potential impacts. Construction is scheduled to commence in 2027 and continue through 2030.

The scope of this study has been developed in consultation with Peel Region. The scope of this study includes:

- An analysis of existing transportation conditions;

- An analysis of future transportation conditions;
- An analysis of impacts by construction activities within the following study area:
  - Mississauga Road (Regional Road 1) and Mayfield Road (Regional Road 14) (signalized);
  - Mississauga Road (Regional Road 1) and Old School Road (unsignalized);
  - Mississauga Road (Regional Road 1) and Wanless Drive (signalized);
  - Mayfield Road (Region Road 14) and Creditview Road (signalized); and
  - Mayfield Road (Regional Road 14) and Heritage Road (signalized).

Appendix A contains the pre-study consultation material.



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Study Area Location

West Caledon EA Traffic Assessment
250577

Figure 1.1

2 Existing Conditions

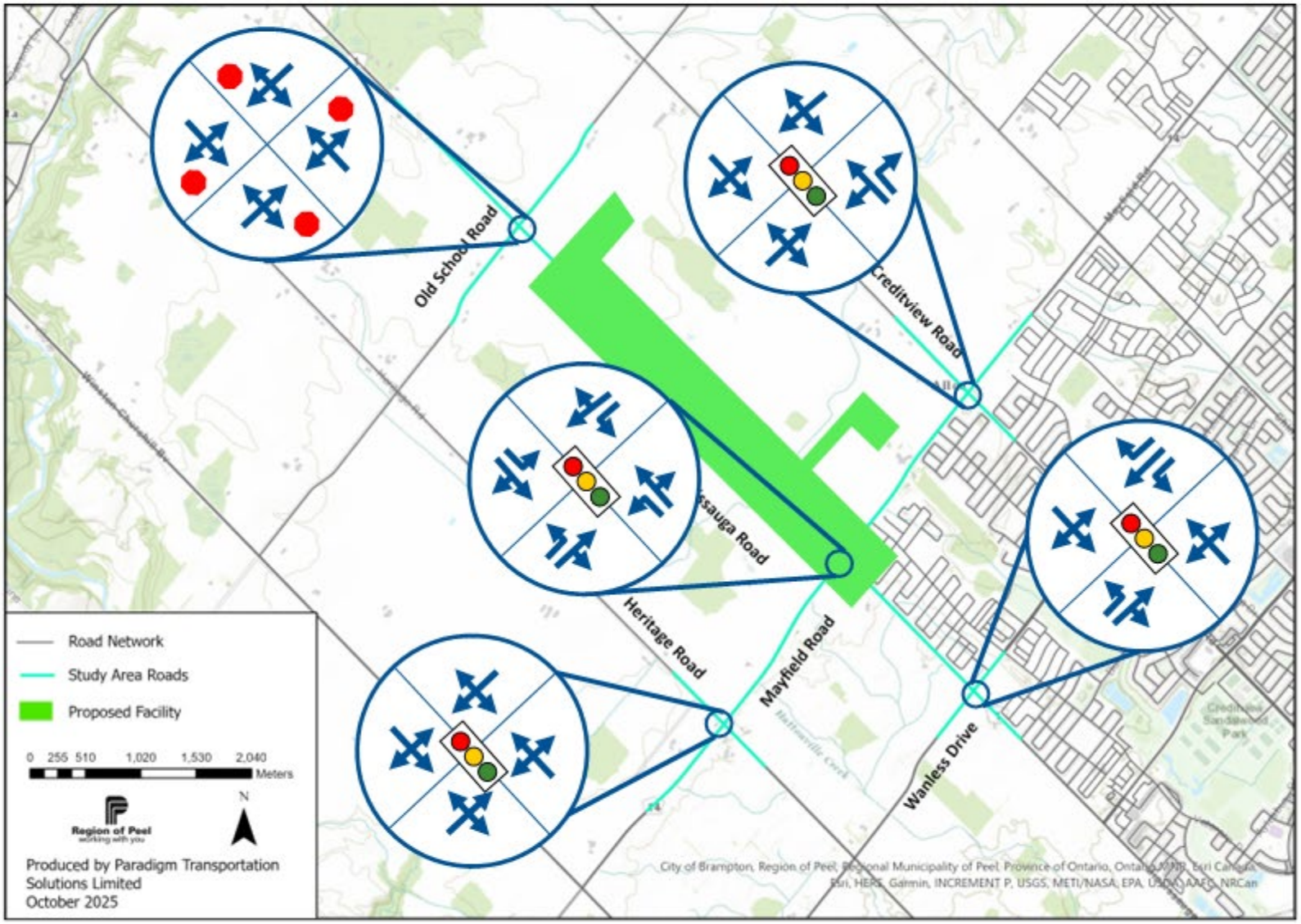
2.1 Roadways

- **Mississauga Road (Regional Road 1)** is a north-south, two-lane major arterial road with one travel lane per direction.[1] The posted speed limit within the study area is 80 km/h north of Mayfield Road and 70 km/h south of Mayfield Road. This road operates under the jurisdiction of Peel Region;
- **Mayfield Road (Regional Road 14)** is an east-west, two-lane major arterial road with one travel lane per direction in the study area.[1] The posted speed limit within the study area is 80 km/h west of Veterans Drive and 60 km/h east of Veterans Drive. The road operates under the jurisdiction of Peel Region;
- **Heritage Road** is a north-south, two-lane minor arterial road with one travel lane per direction in the study area.[1] The posted speed limit within the study area is 70 km/h north of Mayfield Road and 60 km/h south of Mayfield Road. The road is under the jurisdiction of Town of Caledon north of Mayfield Road and City of Brampton south of Mayfield Road;
- **Creditview Road** is a north-south, two-lane minor arterial road with one travel lane per direction in the study area.[1] The posted speed limit within the study area is 70 km/h north of Mayfield Road and 60 km/h south of Mayfield Road. The road is under the jurisdiction of Town of Caledon north of Mayfield Road and City of Brampton south of Mayfield Road;
- **Old School Road** is an east west two-lane collector road with one travel lane per direction in the study area.[2] The posted speed limit is 70 km/h in the study area. The road is under the jurisdiction of the Town of Caledon; and
- **Wanless Drive** is a two-lane minor arterial road with one travel lane per direction in the study area.[1] East of Mississauga Road, there are two travel lanes per direction. The posted speed limit within the study area is 60 km/h. The road is under the jurisdiction of the City of Brampton.

Figure 2.1 illustrates the existing lane configuration and traffic control at the study intersections. Detailed discussion regarding active transportation infrastructure is provided in **Section 2.3**.

1 City of Brampton, *Schedule B City Road Hierarchy*, 2023.
2 Town of Caledon, *Multi-Modal Transportation Master Plan*, 2024.





Existing Lane Configurations and Traffic Control

2.2 Transit Network

Brampton Transit operate a couple of bus routes within the study area.

- Route 26 operates between Mount Pleasant Village and Clockwork Drive (between Edenbrook Hill Drive and Chinguacousy Road). This service operates predominantly in the north-south direction along Veterans Drive. The route operates everyday with a headway of approximately 30 minutes.[3]
- Route 27 operates between Mount Pleasant Village and the intersection of Remembrance Road West and Creditview Road. This service operates predominantly in the north-south direction along Creditview Road and Robert Parkinson Drive. The route operates from Monday to Saturday with a headway of approximately 35 minutes.[3] There is no evening service provided on this route.

Figure 2.2 illustrates the transit network within the study area.

There is no direct transit service from the planned infrastructure, located along the northeast side of Mississauga Road and Mayfield Road intersection. Within the study area, the nearest bus stop is located on Veterans Drive, between Mississauga Road and Creditview Road, approximately 700 metres walking distance southeast of the Mississauga Road (Regional Road 1) and Mayfield Road (Regional Road 14) intersection. These bus stops contribute to the accessibility and connectivity of the study area, providing transit options.

[3] Brampton Transit, *Route Frequency Guide*, 2025.

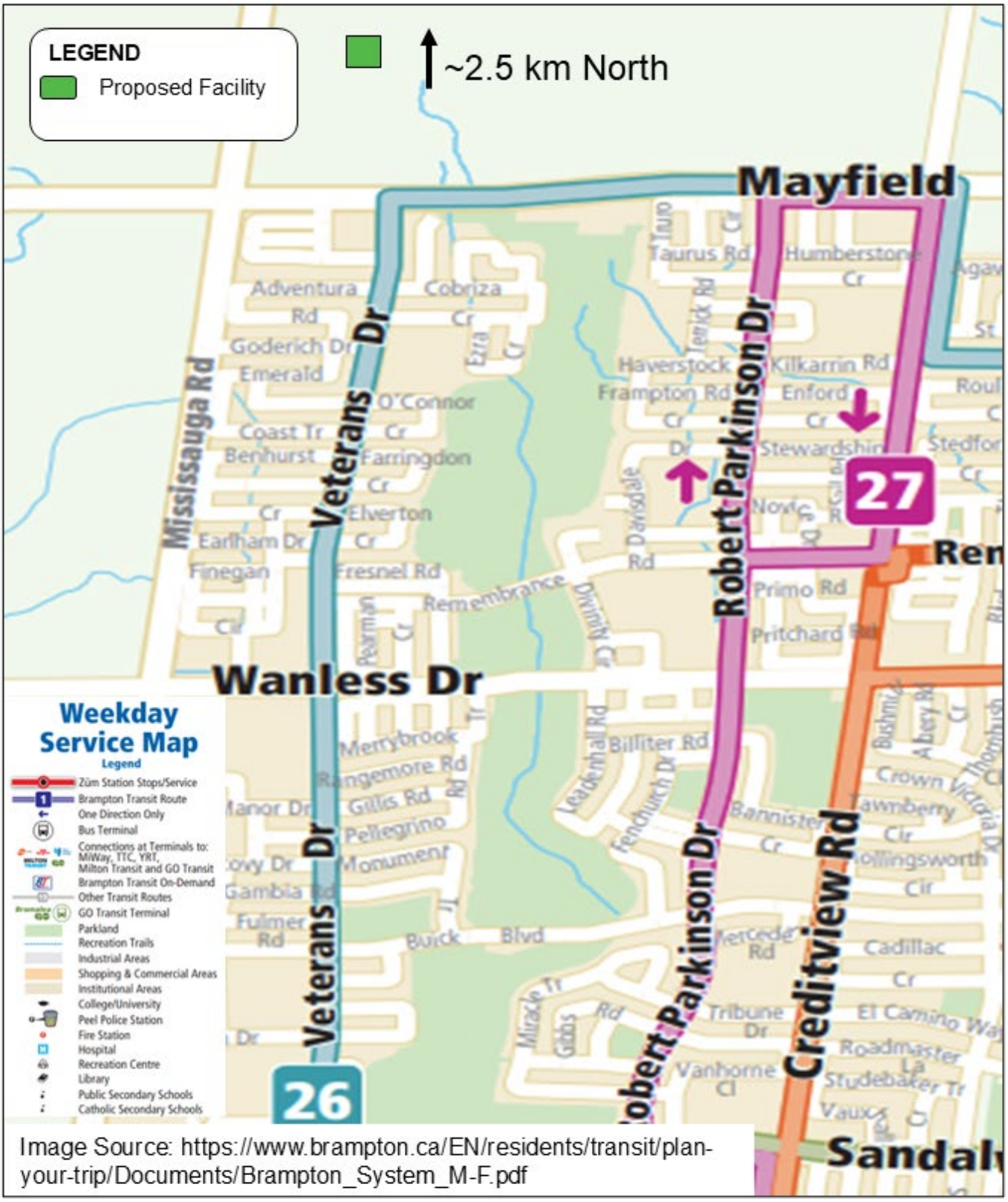


Image Source: https://www.brampton.ca/EN/residents/transit/plan-your-trip/Documents/Brampton_System_M-F.pdf

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Study Area Transit Routes

2.3 Active Transportation

2.3.1 Walking

There are currently no sidewalks along Mississauga Road or Mayfield Road within the study area. Mississauga Road and Mayfield Road have narrow unpaved shoulders on both sides of the road, thereby making them less feasible for walking. The shoulders can provide some refuge for pedestrians, but this is not a desirable space to walk.

The elevated tank site is located at a fair distance from any major employment, retail, cultural and recreational destinations, thus reducing the demand for walking trips.

2.3.2 Cycling

Dedicated cycling lanes are not currently provided on any study area roads, requiring cyclists and other road users to share the road space. Mississauga Road and Mayfield Road have narrow unpaved shoulders on both sides of the road, thereby making them less feasible for cycling. The shoulders can provide some refuge for cyclists, but this is not a desirable space to cycle.

The elevated tank site is located far from any major employment, retail, cultural and recreational opportunities, thus reducing the demand for commuter cycling trips. Some recreational cycling trips may occur, but demand is not observed to be significant.

2.4 Traffic Data

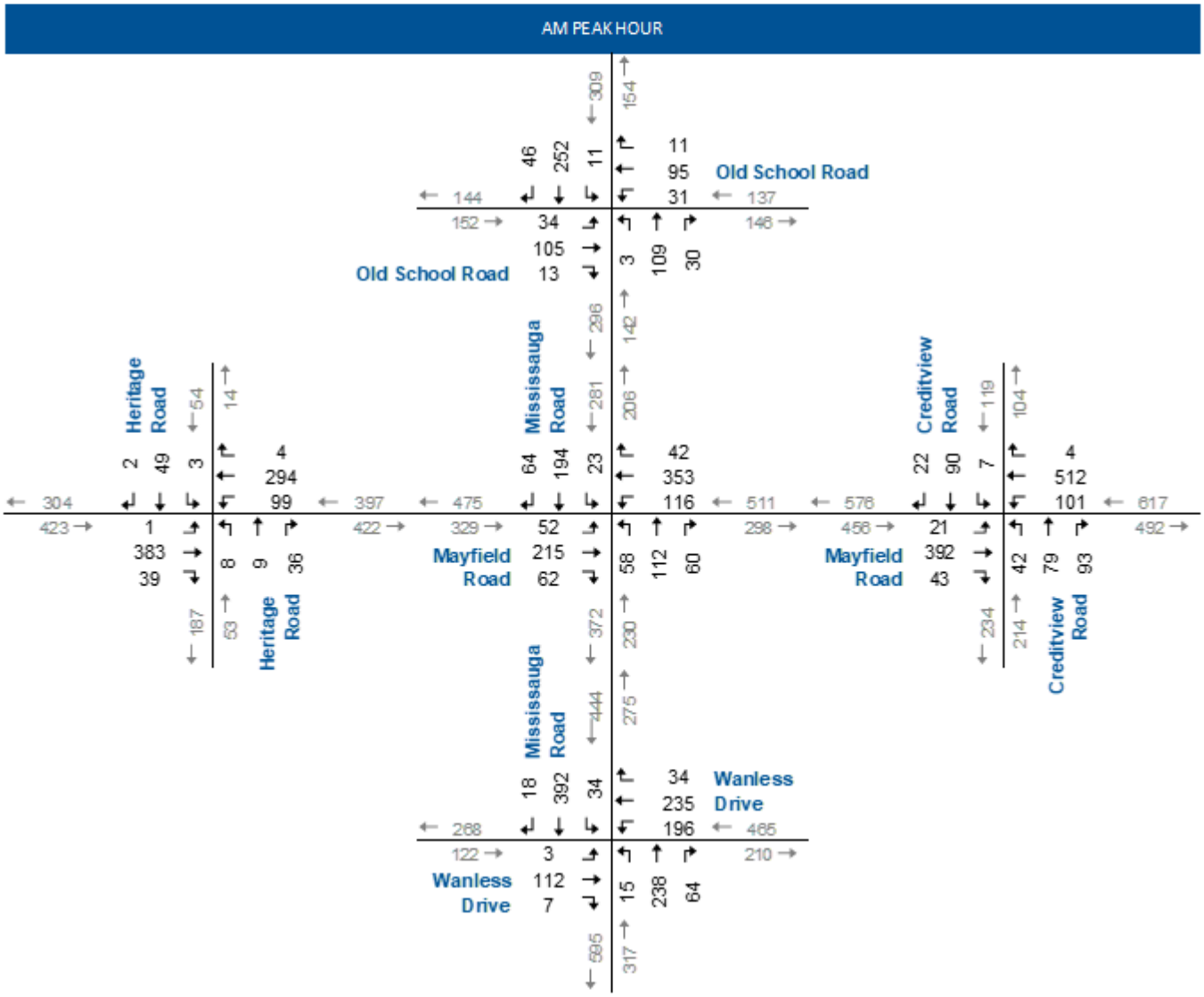
The analysis of existing vehicle conditions focuses on intersection traffic operations. Turning Movement Counts (TMCs) are used to quantify the movement of vehicles, pedestrians, trucks, buses, and cyclists through an intersection for analysis purposes. TMCs collected during the weekday AM, PM and off-peak periods ensure that the level of service (LOS) analysis represents worst-case operating conditions.

Paradigm conducted analysis based on the TMCs received from the Region of Peel for the following study area intersections:

- Mississauga Road and Mayfield Road (signalized)
- Mississauga Road and Old School Road (unsignalized)
- Mississauga Road and Wanless Drive (signalized)
- Mayfield Road and Creditview Road (signalized)
- Mayfield Road and Heritage Road (signalized)

Figure 2.3, **Figure 2.4** and **Figure 2.5** illustrate the existing traffic volumes in the AM, PM and off-peak hours, respectively.

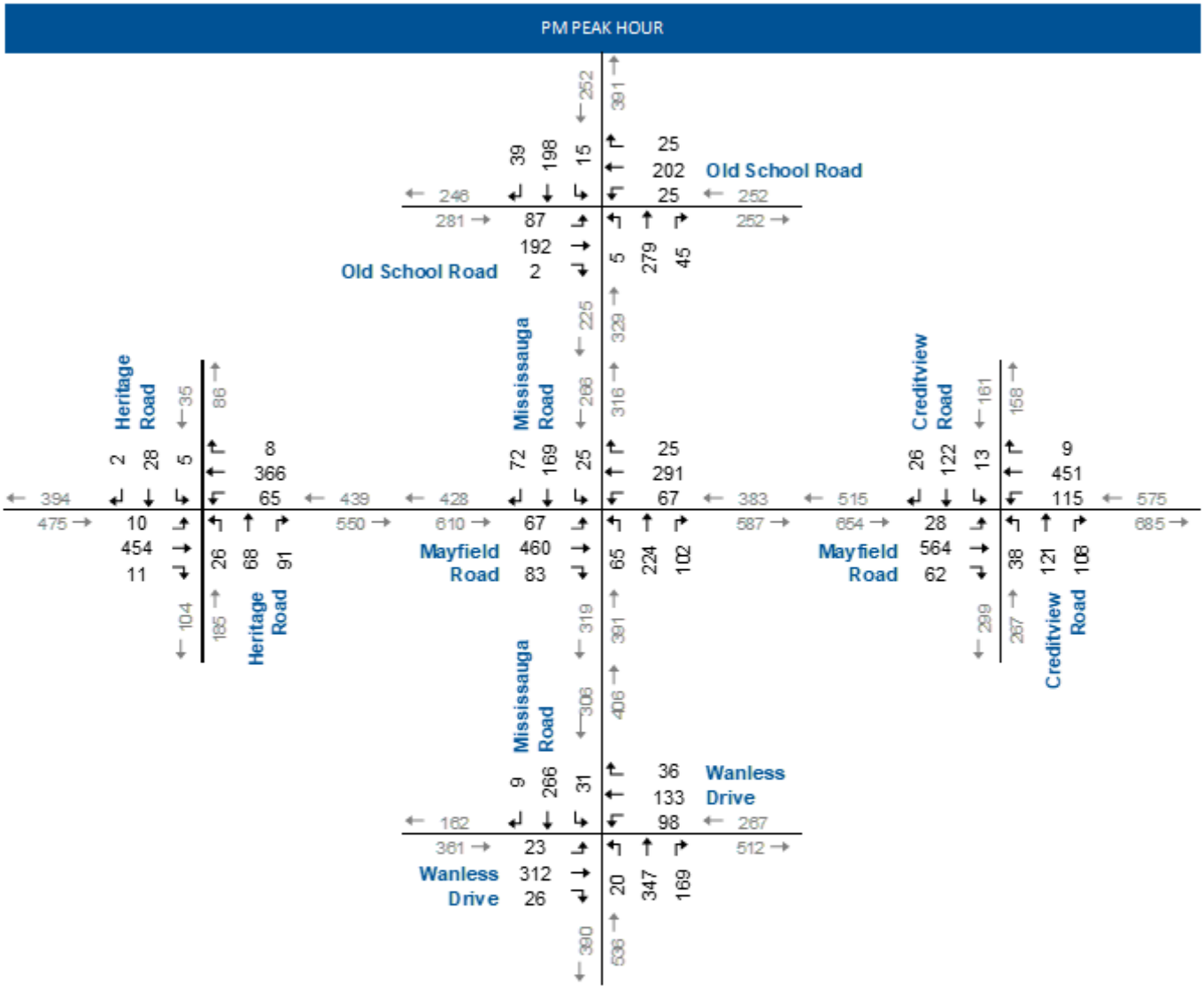
Appendix B contains the raw TMC data.



Existing Traffic Volumes AM Peak Hour

West Caledon EA Traffic Assessment
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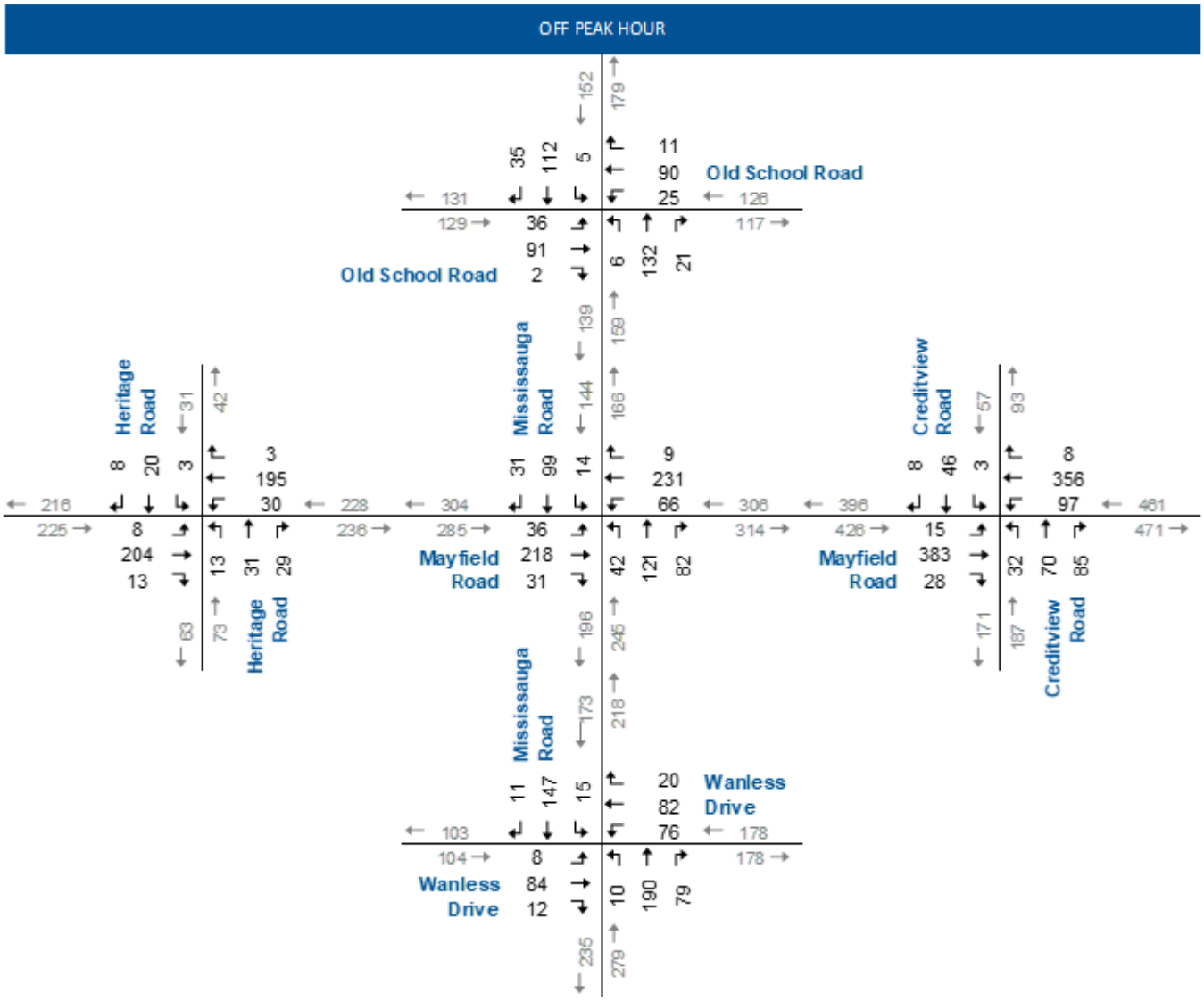
Figure 2.3



Existing Traffic Volumes PM Peak Hour

West Caledon EA Traffic Assessment
250577

Figure 2.4



Existing Traffic Volumes
Off Peak Hour

West Caledon EA Traffic Assessment
250577

Figure 2.5

2.5 Traffic Operations

Intersection level of service (LOS) is a recognized method of quantifying the average delay experienced by drivers at intersections. It is based on the delay experienced by individual vehicles executing the various movements. The delay is related to the number of vehicles intending to make a particular movement, compared to the estimated capacity for that movement. The capacity is based on several criteria related to opposing traffic flows, intersection geometry, and at signalized intersections, signal timing.

The highest possible rating is LOS A, under which the average total delay is equal or less than 10 seconds per vehicle. When the average delay exceeds 80 seconds for signalized intersections, 50 seconds for unsignalized intersections or when the volume to capacity ratio is greater than 1.00, the movement is classed as LOS F, and remedial measures are usually implemented if they are feasible.

Traffic operations at the study intersections have been analyzed in Synchro 12, which implements the methodologies of the Highway Capacity Manual (HCM). The analysis has also been completed in accordance with the Region of Peel *Guidelines for the Preparation of Traffic Impact Studies*.[4]

Existing lane configurations, traffic control, and existing traffic volumes are reflected in the analyses. The analyses consider three separate measures of effectiveness:

- The Level of Service (LOS) for each turning movement;
- The volume-to-capacity (v/c) ratio for each movement; and
- The 95th percentile queue lengths, estimated using Synchro.

Appendix B contains the signal timing plans.

The Region of Peel Guidelines for the Preparation of Traffic Impact Studies identify critical movements at signalized intersections as those where:

- The volume-to-capacity (v/c) ratio for overall intersection operations exceeds 0.90;
- The v/c ratio exceeds 1.00 for exclusive movements; and

[4] Region of Peel, *Guidelines for the Preparation of Traffic Impact Studies, 2025.* Available at: https://peelregion.ca/transportation-roads/road-safety-traffic-flow/traffic-impact-study.

- The 95th percentile queue lengths exceed the available storage space.

Table 2.1, **Table 2.2** and **Table 2.3** summarize the existing traffic operations in the AM, PM and off-peak hours.

The following critical movements are noted:

- In the AM peak hour:
  - The westbound turn movement at the intersection of Creditview Road and Mayfield Road operates at LOS F, with a v/c ratio of 1.25; and
  - The westbound turn movement at the intersection of Heritage Road and Mayfield Road operates at LOS E, with a v/c ratio of 0.98.
- In the PM peak hour:
  - The westbound turn movement at the intersection of Creditview Road and Mayfield Road operates at LOS F, with a v/c ratio of 1.28; and
  - The eastbound turn movement at the intersection of Creditview Road and Mayfield Road operates with a v/c ratio of 0.99.
- In the off-peak hour:
  - The eastbound turn movement at the intersection of Creditview Road and Mayfield Road operates with a v/c ratio of 0.91.

There are some existing traffic movements operating at critical LOS. The turn movements at the intersection at Creditview Road and Mayfield Road in particular are operating at a critical LOS. This is partially due to the traffic generated by the residential neighbourhood south of the intersection.

Mayfield Road is a major east-west arterial road connecting through the majority of north Brampton. It is a two-lane road with travel lane per direction. The road generates high volumes of vehicle traffic.

To address the impacts, the Region has plans to widen Mayfield Road from two lanes to five lanes between Chinguacousy Road and Mississauga Road. This upgrade is expected to provide additional vehicle capacity at the intersection of Creditview Road and Mayfield Road.

Appendix C contains the detailed Synchro reports.

TABLE 2.1: EXISTING TRAFFIC OPERATIONS IN AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	B	B	>	**B**	B	C	>	**C**	B	B	>	**B**	B	B	>	**B**	**B**
			Delay	18	20	>	**20**	20	24	>	**23**	13	13	>	**13**	12	15	>	**15**	**19**
			V/C	0.25	0.45	>		0.37	0.66	>		0.14	0.21	>		0.05	0.35	>		
			Q	14	50	>		26	78	>		12	23	>		6	39	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	56	-	>		46	-	>		46	-	>		44	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	B	>	**B**	<	B	>	**B**	<	A	>	**A**	<	B	>	**B**	**B**
			Delay	<	10	>	**10**	<	10	>	**10**	<	10	>	**10**	<	13	>	**13**	**11**
			V/C	<	0.26	>		<	0.23	>		<	0.23	>		<	0.47	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	C	>	**C**	D	C	C	**C**	<	B	>	**B**	<	B	>	**B**	**C**
			Delay	27	30	>	**30**	38	34	28	**35**	<	16	>	**16**	<	18	>	**18**	**24**
			V/C	0.01	0.21	>		0.53	0.42	0.02		<	0.38	>		<	0.51	>		
			Q	3	37	>		66	72	7		<	61	>		<	95	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	28	-	>		32	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	C	>	**C**	<	F	>	**F**	<	B	B	**B**	<	B	>	**B**	**E**
			Delay	<	23	>	**23**	<	146	>	**146**	<	13	12	**12**	<	13	>	**13**	**74**
			V/C	<	0.74	>		<	1.25	>		<	0.22	0.07		<	0.17	>		
			Q	<	90	>		<	159	>		<	20	7		<	17	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	15		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	C	>	**C**	<	E	>	**E**	<	B	>	**B**	<	B	>	**B**	**D**
			Delay	<	28	>	**28**	<	64	>	**64**	<	14	>	**14**	<	14	>	**14**	**42**
			V/C	<	0.68	>		<	0.98	>		<	0.05	>		<	0.07	>		
			Q	<	100	>		<	136	>		<	8	>		<	12	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 2.2: EXISTING TRAFFIC OPERATIONS IN PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	B	C	>	C	C	B	>	C	B	B	>	B	B	B	>	B	C
			Delay	18	33	>	31	31	20	>	22	13	16	>	15	12	14	>	14	22
			V/C	0.24	0.84	>		0.52	0.47	>		0.14	0.42	>		0.07	0.30	>		
			Q	16	124	>		24	55	>		13	48	>		6	34	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	54	-	>		48	-	>		45	-	>		44	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	C	>	C	<	C	>	C	<	C	>	C	<	C	>	C	C
			Delay	<	18	>	18	<	16	>	16	<	20	>	20	<	16	>	16	18
			V/C	<	0.56	>		<	0.49	>		<	0.62	>		<	0.50	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	D	>	D	D	C	C	C	<	B	>	B	<	B	>	B	C
			Delay	28	38	>	37	41	30	28	34	<	19	>	19	<	15	>	15	25
			V/C	0.06	0.59	>		0.50	0.23	0.03		<	0.57	>		<	0.34	>		
			Q	10	104	>		40	41	8		<	115	>		<	59	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	21	-	>		58	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	D	>	D	<	F	>	F	<	B	B	B	<	B	>	B	E
			Delay	<	52	>	52	<	161	>	161	<	13	12	13	<	13	>	13	80
			V/C	<	0.99	>		<	1.28	>		<	0.25	0.07		<	0.22	>		
			Q	<	141	>		<	147	>		<	24	8		<	22	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	14		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	B	>	B	<	B	>	B	<	C	>	C	<	B	>	B	B
			Delay	<	17	>	17	<	18	>	18	<	21	>	21	<	19	>	19	18
			V/C	<	0.56	>		<	0.58	>		<	0.27	>		<	0.06	>		
			Q	<	83	>		<	80	>		<	32	>		<	10	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 2.3: EXISTING TRAFFIC OPERATIONS IN OFF PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
Off Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	A	A	>	**A**	A	A	>	**A**	B	B	>	**B**	B	B	>	**B**	**B**
			Delay	7	9	>	**8**	8	8	>	**8**	17	18	>	**18**	16	17	>	**17**	**12**
			V/C	0.08	0.31	>		0.13	0.29	>		0.16	0.44	>		0.05	0.30	>		
			Q	6	30	>		10	29	>		10	29	>		5	21	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	64	-	>		62	-	>		48	-	>		45	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	9	>	**9**	<	9	>	**9**	<	9	>	**9**	<	9	>	**9**	**9**
			V/C	<	0.19	>		<	0.19	>		<	0.23	>		<	0.22	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	C	>	**C**	C	C	C	**C**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	27	29	>	**29**	30	29	27	**29**	<	15	>	**15**	<	13	>	**13**	**20**
			V/C	0.02	0.16	>		0.20	0.15	0.01		<	0.32	>		<	0.20	>		
			Q	5	30	>		27	27	5		<	51	>		<	33	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	26	-	>		71	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	C	>	**C**	<	D	>	**D**	<	B	B	**B**	<	B	>	**B**	**C**
			Delay	<	21	>	**21**	<	39	>	**39**	<	12	12	**12**	<	12	>	**12**	**26**
			V/C	<	0.69	>		<	0.91	>		<	0.17	0.06		<	0.08	>		
			Q	<	71	>		<	107	>		<	17	7		<	10	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	15		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	C	>	**C**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**C**
			Delay	<	27	>	**27**	<	27	>	**27**	<	9	>	**9**	<	9	>	**9**	**24**
			V/C	<	0.52	>		<	0.52	>		<	0.08	>		<	0.03	>		
			Q	<	52	>		<	53	>		<	9	>		<	6	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

3 Future Conditions

3.1 Roads

Construction of the planned infrastructure is scheduled to commence in 2027 and continue through 2030. Based on a conservative approach, the year 2030 has been selected as the horizon year for the future conditions analysis because it includes the highest background traffic volumes (due to growth) within the construction window. For the 2030 scenarios, the following road improvements are considered:

- Mayfield Road widening from two to five lanes between Chinguacousy Road and Mississauga Road; and
- Mayfield Road widening from two to four lanes between Mississauga Road and Winston Churchill Boulevard.

The Mayfield Road widenings within the study area are expected to be completed by a 2029 horizon, based on the latest available construction timelines for Mayfield Road.[5]

There are also plans to widen Mississauga Road to four/five lanes (two lans in each direction). As the construction of the subject storage facility and transmission main will occur at the same time, it is conservatively assumed that the peak construction activities for this study will occur along a two-lane Mississauga Road cross-section, not four/five lanes.

3.2 Transit Network

It is likely that transit use will increase at a modest rate as trips within the community grow. No upgrades to public transit service or infrastructure are planned for the study area. The planned works in the study area are not expected to add or remove any public transit trips to the network. As such, no changes to transit service or infrastructure are required to accommodate the works.

As outlined in **Section 2.2**, there are currently two bus routes operating in the study area. There is no bus route currently operating on Mississauga Road within the study area, where the transmission main, feedermain, and elevated tank is planned to be constructed. It is not anticipated that a significant number of construction workers will commute to the elevated tank construction site via public transit.

[5] Region of Peel, *Working with You to deliver Mayfield Road – Construction Timelines*, 2024. Available at: https://peelregion.ca/sites/default/files/2024-09/mayfield-road-timeline.pdf.

Therefore, construction activities are unlikely to impact public transit services.

3.3 Active Transportation

3.3.1 Walking

Pedestrian trips are expected to increase at a modest rate as overall travel within the community grows. As discussed in **Section 2.3.1**, the elevated tank site is unlikely to generate a significant number of walking trips due to its location. Therefore, construction activities are not anticipated to result in noticeable changes in pedestrian activity.

3.3.2 Cycling

Cycling trips are expected to increase at a modest rate as overall travel within the community grows. As discussed in **Section 2.3.2**, the study area lacks dedicated cycling infrastructure and is located at a considerable distance from major employment, retail, and recreational destinations. Therefore, the elevated tank site is not expected to generate a significant number of cycling trips. Construction-related activities are anticipated to have minimal influence on cycling patterns, and no measurable changes in cycling activity within the study area are expected as a result of the proposed construction.

3.4 Construction Traffic Volumes

The construction activity for the project will generate vehicle traffic to and from the elevated tank site. These vehicles will be transporting construction materials and personnel necessary to complete the project activities.

During construction, a fair number of vehicles are expected to arrive or leave the study area. Based on information provided by GEI, a maximum of 146 passenger car equivalent (PCE) vehicles are anticipated on any given construction day, inclusive of both passenger vehicles and trucks. These vehicles will be at various locations, and either be headed to or from the elevated tank site, thus using opposite sides of the roads. These trips will therefore be dispersed spatially and directionally.

In accordance with the *Highway Capacity Manual (HCM) (7th Edition)*, each truck trip has been conservatively converted to three PCEs.[6] The analysis applies conservative assumptions to confirm maximum impacts on the study area road network under projected conditions. An

[6] Transportation Research Board, *HCM 2022: Highway Capacity Manual 7th Edition*, (Washington, DC: TRB, 2022),

extreme scenario has been considered where all construction vehicle trips occur within a single weekday AM or PM peak hour. Under this scenario, 146 PCE vehicles were assumed during both the AM and PM peak hours. This represents an equivalent of approximately two additional vehicle trips per minute at locations within the study area road network.

Appendix D details the estimated construction vehicle trips.

The construction trips are not anticipated to generate significant disruption to existing traffic conditions because they are spread over the entire study area network and bi-directional. It is not anticipated that any significant number of construction workers will commute to the elevated tank construction site via public transit or active transportation.

3.4.1 Trip Distribution and Assignment

Trip distribution and assignment are based on a review of existing traffic patterns. The elevated tank site trips are assigned to the study area roads based on the most logical route choice.

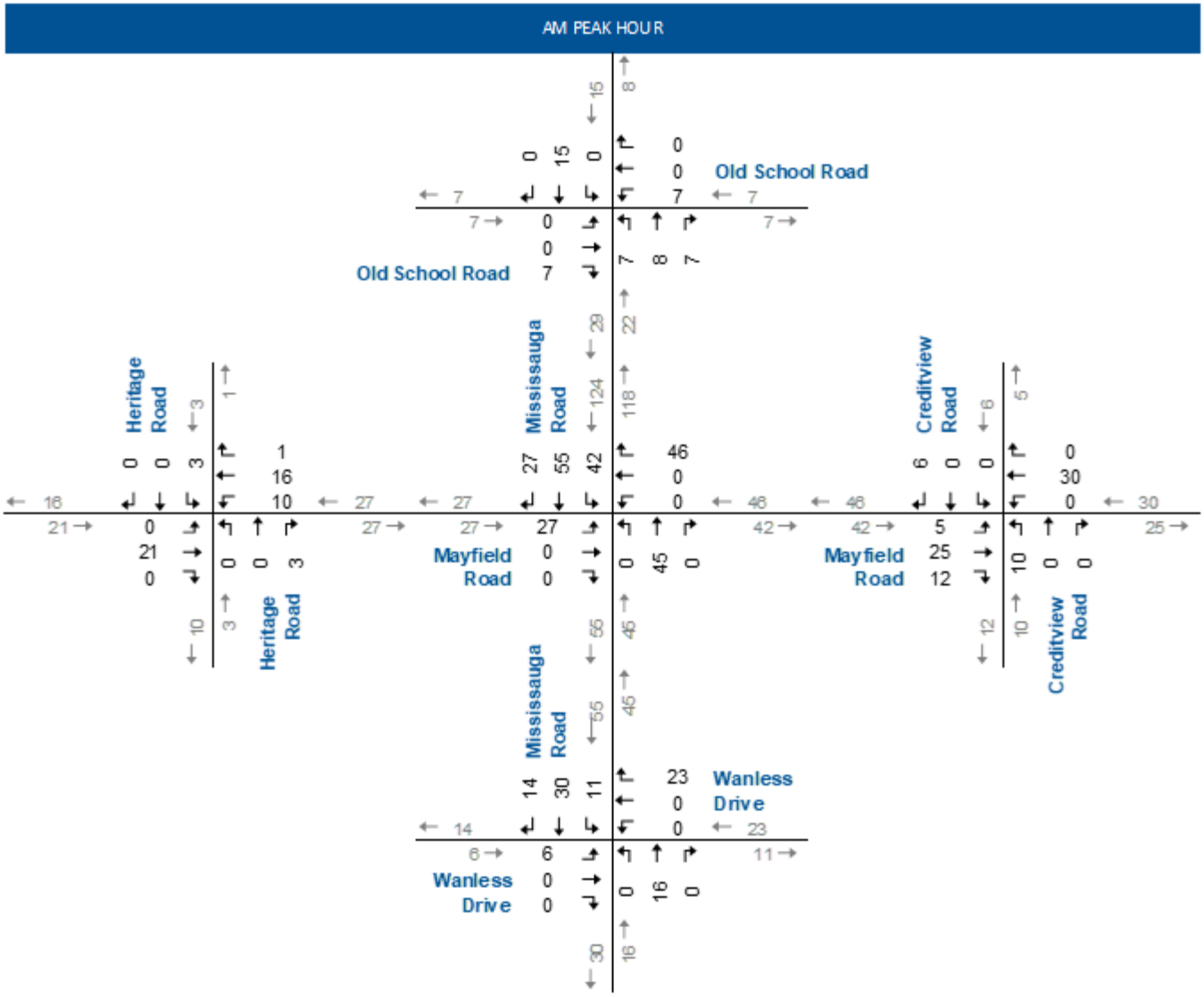
Table 3.1 summarizes the estimated trip distribution.

Figure 3.1, Figure 3.2 and **Figure 3.3** illustrate the trip assignment for the weekday AM, PM and off-peak hours, respectively, based on the expected 146 PCE construction vehicles.

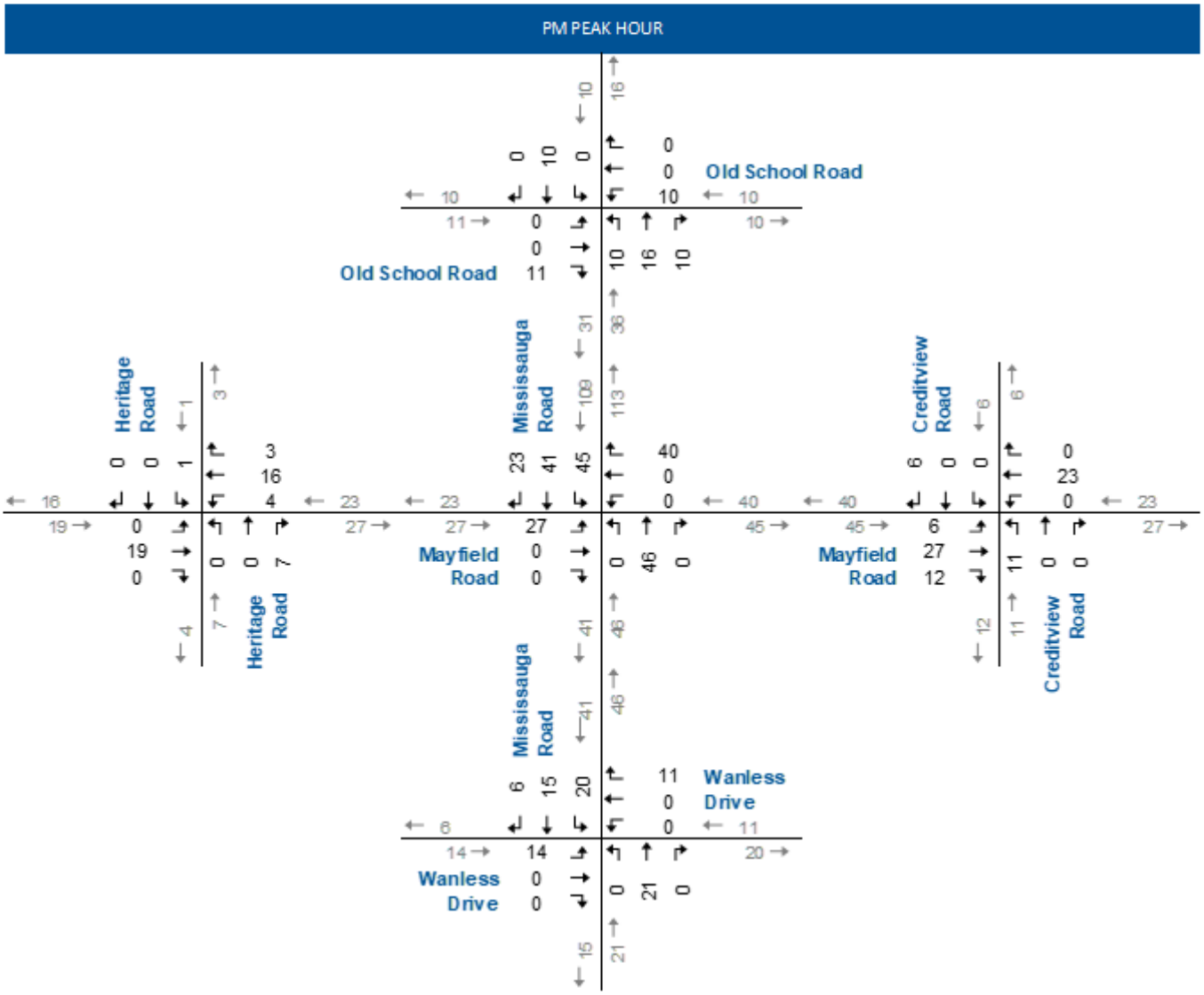
TABLE 3.1: ESTIMATED TRIP DISTRIBUTION

Origin/Destination	AM Peak Hour		PM Peak Hour		Off Peak Hour	
	In	Out	In	Out	In	Out
East via Mayfield Road	21%	17%	16%	19%	23%	24%
West via Mayfield Road	14%	11%	13%	11%	11%	11%
North via Mississauga Road	10%	5%	7%	11%	8%	9%
South via Mississauga Road	11%	21%	15%	10%	14%	12%
North via Heritage Road	2%	1%	1%	2%	2%	2%
South via Heritage Road	2%	7%	5%	3%	4%	3%
North via Creditview Road	4%	4%	4%	4%	3%	5%
South via Creditview Road	7%	8%	7%	8%	9%	8%
East via Old School Road	5%	5%	7%	7%	6%	6%

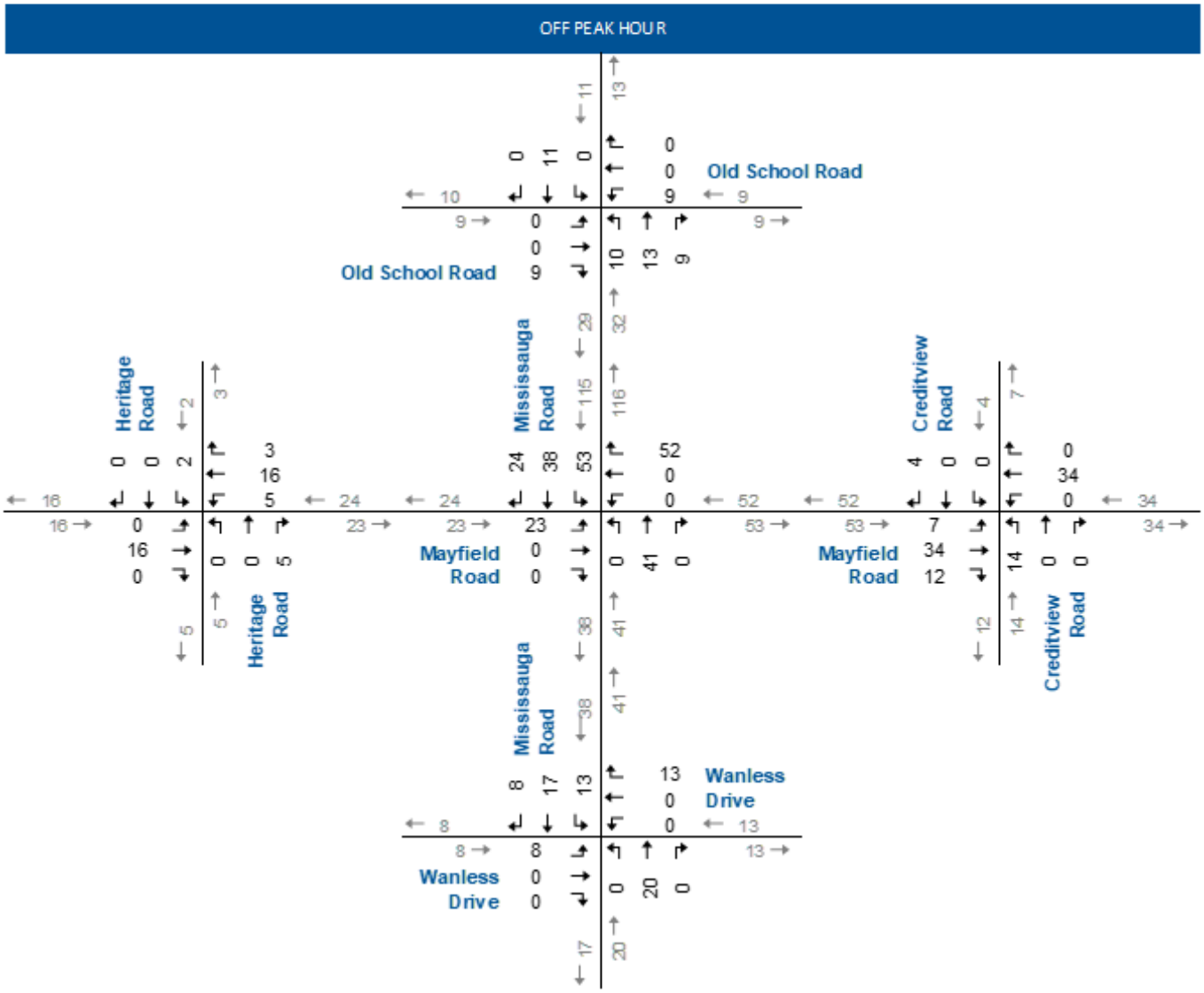
West via Old School Road	5%	5%	8%	7%	6%	6%
East via Wanless Drive	15%	7%	7%	14%	9%	9%
West via Wanless Drive	4%	9%	10%	4%	5%	5%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**



Construction Vehicles Traffic AM Peak Hour



Construction Vehicles Traffic PM Peak Hour



Construction Vehicles Traffic Off Peak Hour

3.5 Background Traffic Forecasts

The future background traffic volumes in the study area are expected to comprise general background growth and traffic generated by approved or in-stream developments near the subject elevated tank site.

3.5.1 General Background Growth

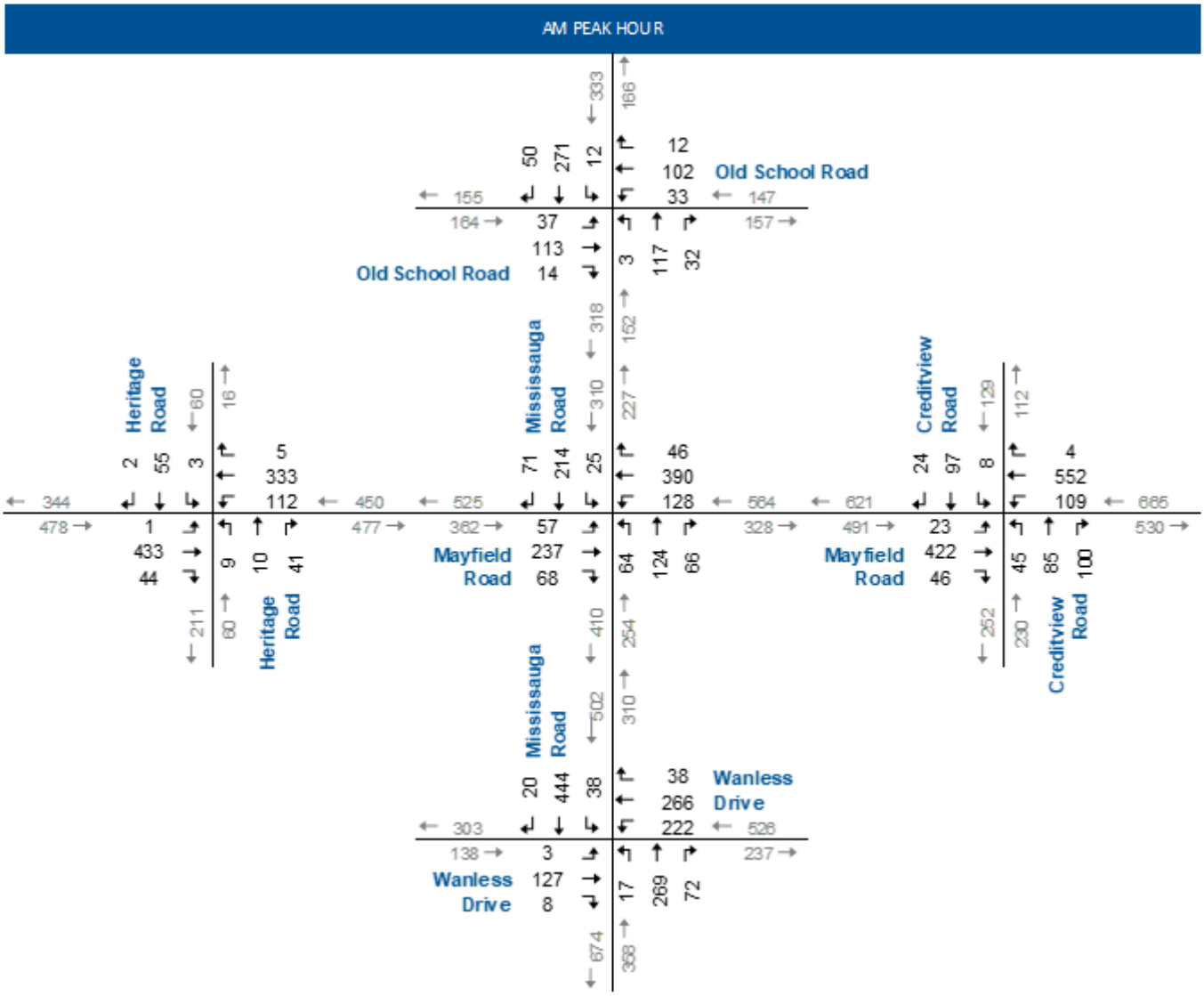
General background traffic reflects increases in traffic unrelated to any updates at the subject elevated tank site. This background traffic growth has been estimated using a compounded per annum growth rate, as provided by the Peel Region staff. The following growth rates have been used:

- Mississauga Road and Mayfield Road – 2.0%
- Mississauga Road and Old School Road – 1.5%
- Mississauga Road and Wanless Drive – 2.5%
- Mayfield Road and Creditview Road – 1.5%
- Mayfield Road and Heritage Road – 2.5%

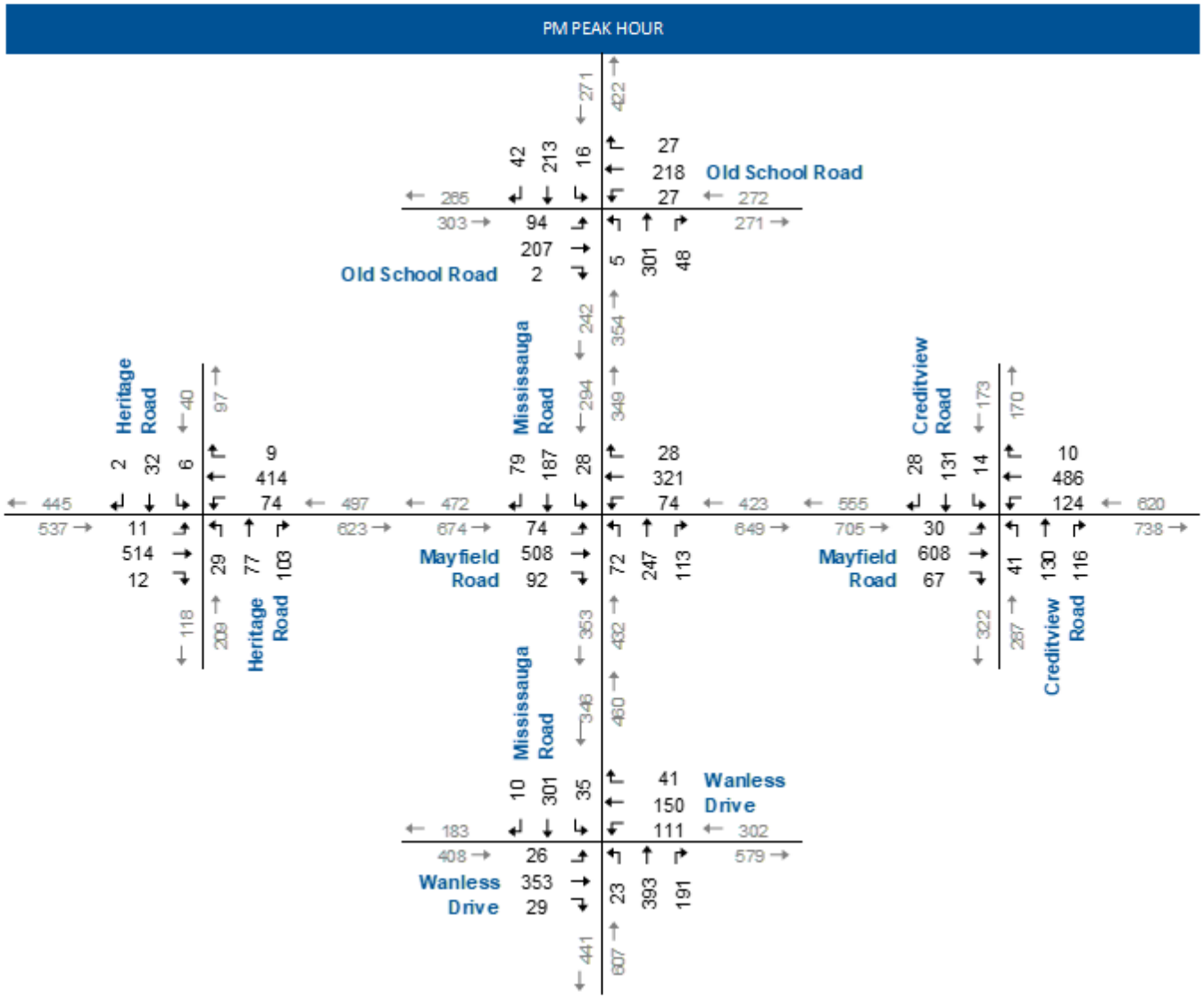
3.5.2 Background Developments

As per the direction received from the Peel Region staff, there are no background developments in the vicinity of the study area that would impact the analysis. It is assumed traffic generated by any unspecified background developments will be captured by the general background growth rate (see **Section 3.5.1**).

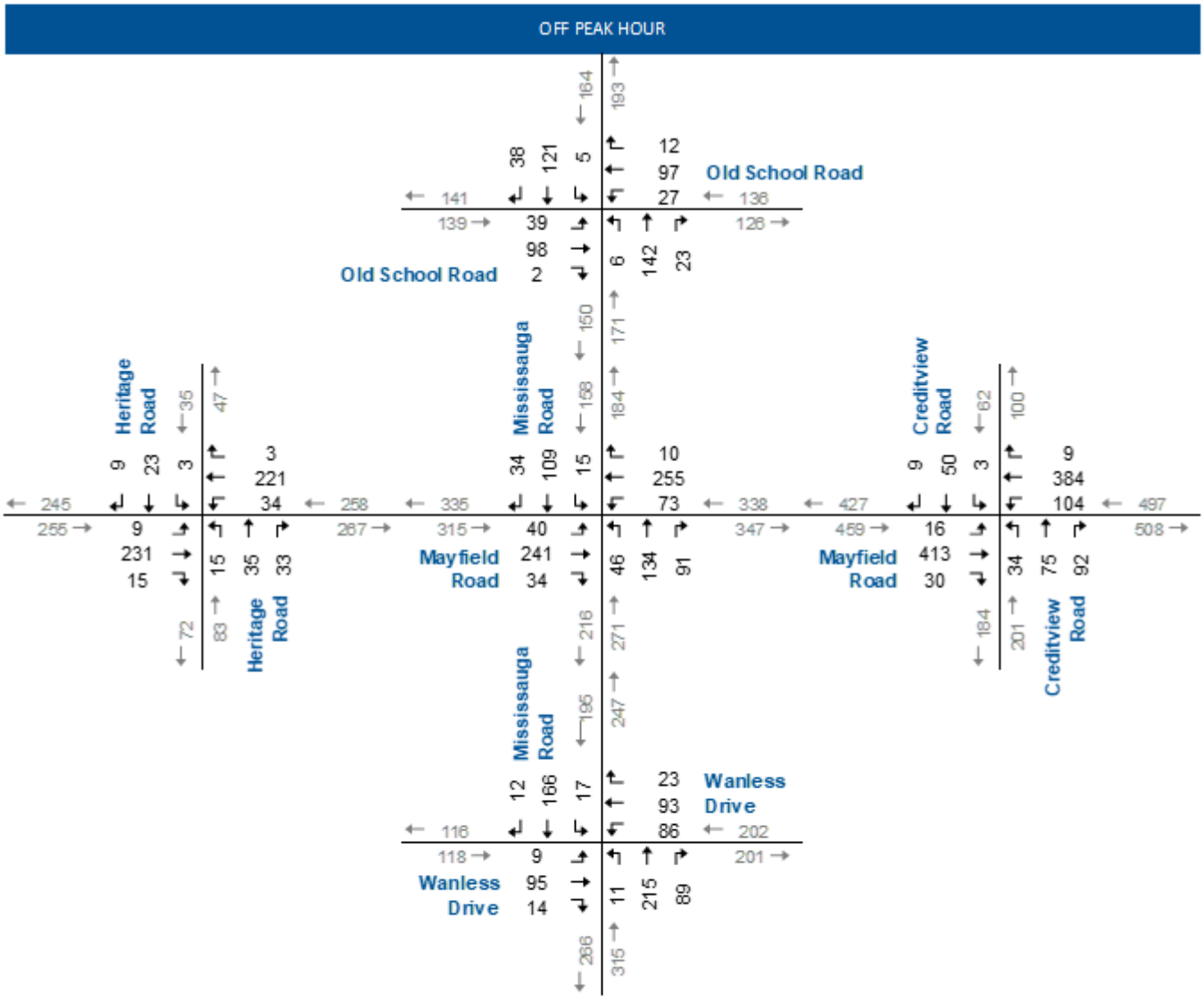
Figure 3.4, **Figure 3.5** and **Figure 3.6** illustrate the 2030 forecast background traffic volumes in the AM, PM and off-peak hours, respectively.



2030 Background Traffic AM Peak Hour



2030 Background Traffic PM Peak Hour



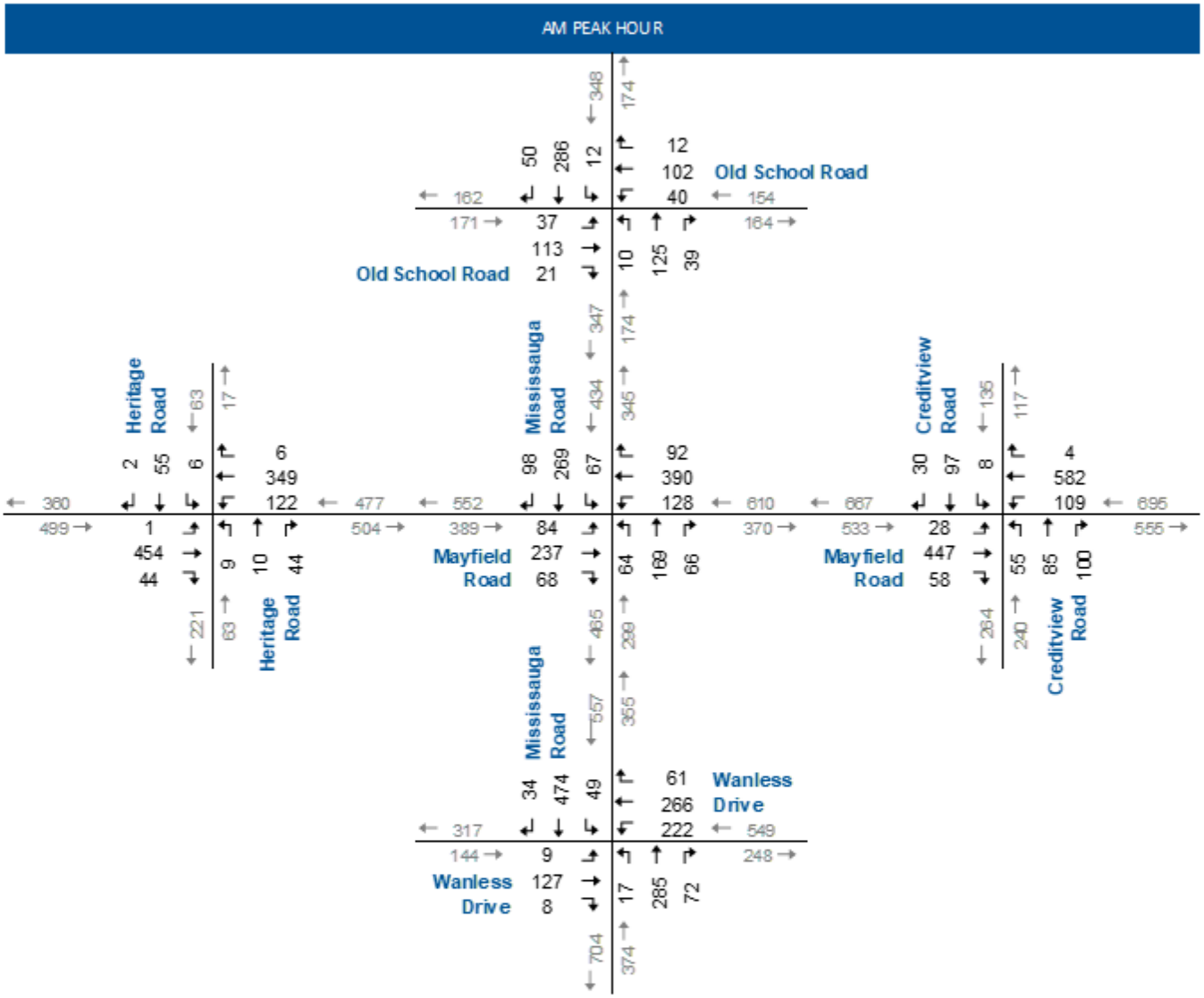
2030 Background Traffic Off Peak Hour

Figure 3.6

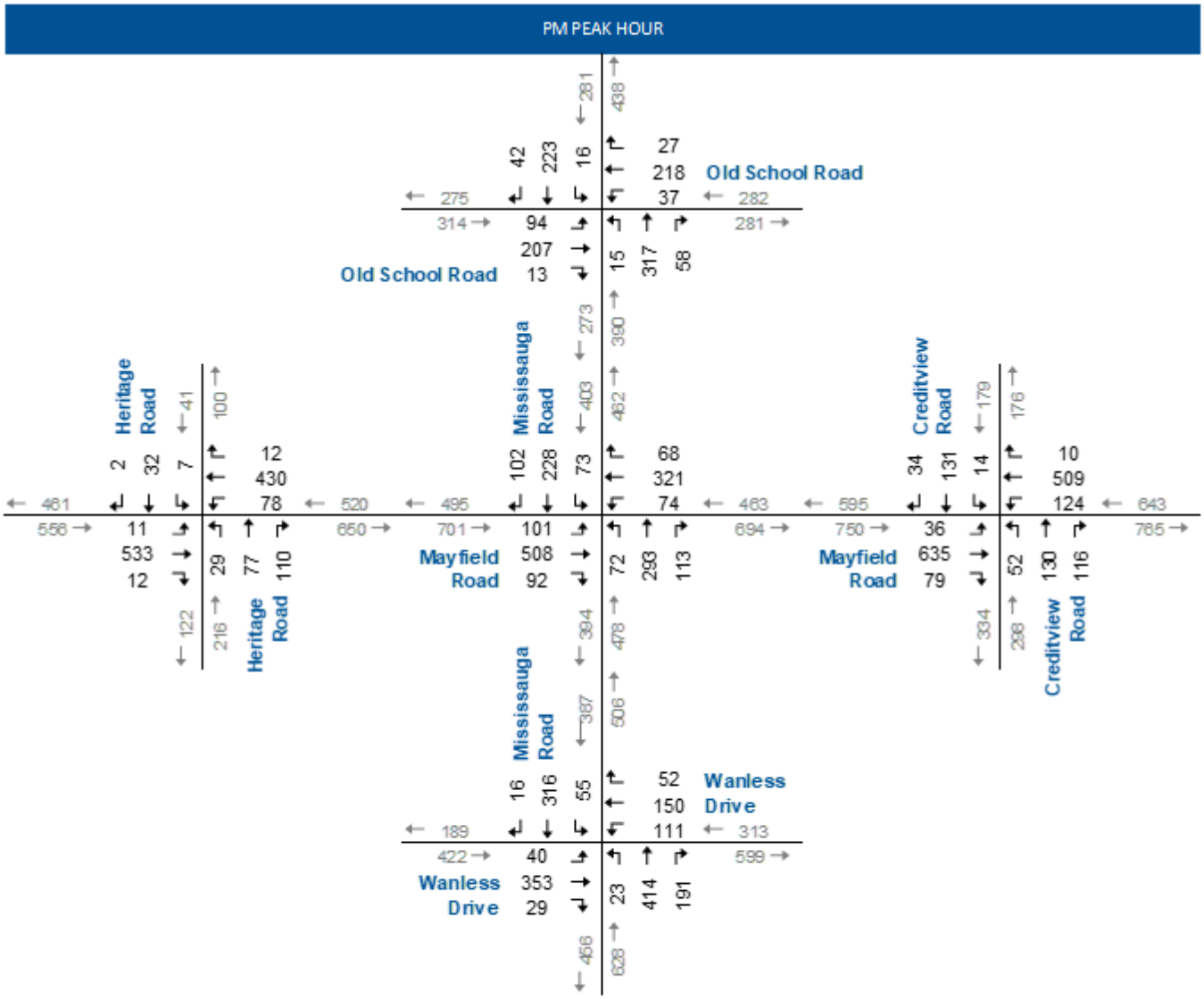
3.6 Forecast Total Traffic

The forecast total traffic volumes are estimated as the summation of the forecast construction traffic volumes to the forecast background traffic volumes.

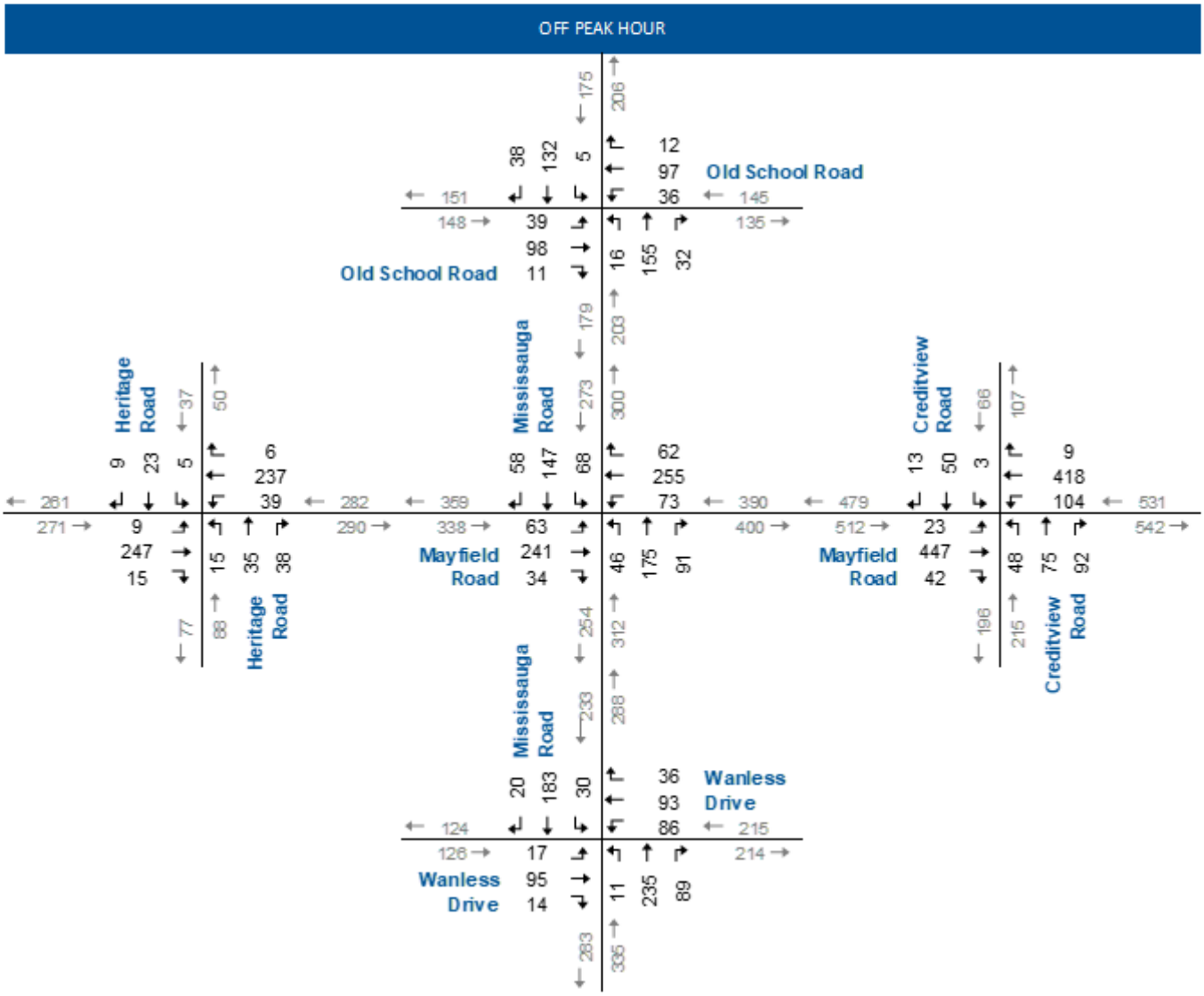
Figure 3.7, **Figure 3.8** and **Figure 3.9** illustrate the 2030 forecast total traffic volumes in the AM, PM and off-peak hours, respectively.



2030 Total Traffic AM Peak Hour



2030 Total Traffic PM Peak Hour



2030 Total Traffic Off Peak Hour

3.7 Future Background Traffic Operations

The 2030 background traffic volumes have been analyzed using the same methodologies as existing traffic conditions. For future background scenarios, the following planned road improvements were included:

- Mayfield Road widened from two to five lanes between Chinguacousy Road and Mississauga Road; and
- Mayfield Road widened from two to four lanes between Mississauga Road and Winston Churchill Boulevard.

These planned improvements were incorporated into the analysis to reflect anticipated network capacity in 2030.

Table 3.2, Table 3.3 and **Table 3.4** summarize the 2030 level of service conditions for AM, PM and off-peak hours, respectively.

The following is noted for 2030 horizon year:

- In the AM peak hour:
  - All study area intersections are forecast to operate at acceptable levels of service (LOS D or better) and within capacity.
- In the PM peak hour:
  - All study area intersections are forecast to operate at acceptable levels of service (LOS D or better) and within capacity. The only exception is the westbound left turn movement at the intersection of Mississauga Road and Wanless Drive, which is forecast to operate at LOS E and a v/c ratio of 0.70.
- In the off-peak hour:
  - All study area intersections are forecast to operate at acceptable levels of service (LOS D or better) and within capacity.

For the 2030 horizon year, the analysis forecasts acceptable levels of service (LOS D or better) at all study area intersections. The only exception is the westbound left turn movement at the intersection of Mississauga Road and Wanless Drive, which is forecast to operate at LOS E in the PM peak hour. Under future background conditions, most movements are expected to generally operate better than existing conditions, with the majority of movements operating at acceptable levels of service when considering the addition of future background traffic. This improvement is largely attributable to the planned widening

of Mayfield Road, which is expected to provide additional capacity and reduce traffic congestion in the study area for the 2030 study horizon.

Appendix E contains the detailed Synchro reports.

TABLE 3.2: 2030 BACKGROUND TRAFFIC OPERATIONS IN AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																	
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	B	B	>	**B**	B	B	>	**B**	B	B	>	**B**	B	B	>	**B**	**B**
			Delay	17	16	>	**17**	20	18	>	**18**	13	14	>	**14**	12	16	>	**15**	**16**
			V/C	0.22	0.24	>		0.38	0.38	>		0.16	0.24	>		0.05	0.39	>		
			Q	14	22	>		28	36	>		13	26	>		6	44	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	56	-	>		44	-	>		45	-	>		44	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	11	>	**11**	<	11	>	**11**	<	10	>	**10**	<	14	>	**14**	**12**
			V/C	<	0.28	>		<	0.26	>		<	0.25	>		<	0.52	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	C	>	**C**	D	C	C	**D**	<	B	>	**B**	<	B	>	**B**	**C**
			Delay	27	30	>	**30**	41	35	28	**37**	<	16	>	**16**	<	20	>	**20**	**26**
			V/C	0.01	0.24	>		0.62	0.47	0.03		<	0.43	>		<	0.58	>		
			Q	3	42	>		77	81	8		<	72	>		<	114	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	28	-	>		21	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	B	>	**B**	<	C	>	**C**	<	B	B	**B**	<	B	>	**B**	**B**
			Delay	<	13	>	**13**	<	21	>	**21**	<	13	12	**13**	<	13	>	**13**	**16**
			V/C	<	0.31	>		<	0.74	>		<	0.24	0.08		<	0.19	>		
			Q	<	21	>		<	54	>		<	21	8		<	19	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	14		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	C	>	**C**	<	C	>	**C**	<	B	>	**B**	<	B	>	**B**	**C**
			Delay	<	22	>	**22**	<	25	>	**25**	<	14	>	**14**	<	14	>	**14**	**22**
			V/C	<	0.42	>		<	0.57	>		<	0.06	>		<	0.08	>		
			Q	<	48	>		<	52	>		<	8	>		<	13	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 3.3: 2030 BACKGROUND TRAFFIC OPERATIONS IN PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	B	B	>	**B**	C	B	>	**B**	B	B	>	**B**	B	B	>	**B**	**B**
			Delay	18	19	>	**19**	20	17	>	**17**	13	17	>	**16**	12	15	>	**14**	**17**
			V/C	0.23	0.48	>		0.33	0.27	>		0.17	0.47	>		0.08	0.34	>		
			Q	17	47	>		19	27	>		14	54	>		7	38	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	53	-	>		53	-	>		44	-	>		43	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	C	>	**C**	<	C	>	**C**	<	D	>	**D**	<	C	>	**C**	**C**
			Delay	<	22	>	**22**	<	20	>	**20**	<	26	>	**26**	<	20	>	**20**	**22**
			V/C	<	0.64	>		<	0.57	>		<	0.72	>		<	0.58	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	D	>	**D**	E	C	C	**D**	<	C	>	**C**	<	B	>	**B**	**C**
			Delay	28	40	>	**40**	56	31	28	**40**	<	21	>	**21**	<	16	>	**16**	**28**
			V/C	0.07	0.67	>		0.70	0.26	0.03		<	0.65	>		<	0.39	>		
			Q	12	120	>		55	46	8		<	140	>		<	69	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	19	-	>		43	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	B	**B**	<	B	>	**B**	**B**
			Delay	<	14	>	**14**	<	20	>	**20**	<	14	12	**13**	<	13	>	**13**	**16**
			V/C	<	0.42	>		<	0.69	>		<	0.27	0.08		<	0.24	>		
			Q	<	29	>		<	48	>		<	26	8		<	24	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	14		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	C	>	**C**	<	B	>	**B**	**B**
			Delay	<	13	>	**13**	<	14	>	**14**	<	22	>	**22**	<	19	>	**19**	**15**
			V/C	<	0.35	>		<	0.39	>		<	0.31	>		<	0.07	>		
			Q	<	39	>		<	38	>		<	37	>		<	11	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 3.4: 2030 BACKGROUND TRAFFIC OPERATIONS IN OFF PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
Off Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	A	A	>	**A**	A	A	>	**A**	B	B	>	**B**	B	B	>	**B**	**B**
			Delay	7	8	>	**8**	8	8	>	**8**	17	19	>	**18**	16	17	>	**17**	**12**
			V/C	0.09	0.18	>		0.15	0.17	>		0.17	0.49	>		0.06	0.32	>		
			Q	7	15	>		12	15	>		11	32	>		5	22	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	63	-	>		60	-	>		47	-	>		45	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	10	>	**10**	<	9	>	**9**	<	10	>	**10**	<	10	>	**10**	**10**
			V/C	<	0.21	>		<	0.20	>		<	0.25	>		<	0.24	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	C	>	**C**	C	C	C	**C**	<	B	>	**B**	<	B	>	**B**	**C**
			Delay	28	30	>	**29**	31	29	27	**30**	<	15	>	**15**	<	14	>	**14**	**20**
			V/C	0.02	0.19	>		0.23	0.17	0.02		<	0.37	>		<	0.23	>		
			Q	6	33	>		30	30	6		<	59	>		<	37	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	25	-	>		68	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	B	**B**	<	B	>	**B**	**B**
			Delay	<	13	>	**13**	<	16	>	**16**	<	13	12	**12**	<	12	>	**12**	**14**
			V/C	<	0.29	>		<	0.54	>		<	0.18	0.06		<	0.08	>		
			Q	<	20	>		<	37	>		<	18	7		<	10	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	15		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	C	>	**C**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**C**
			Delay	<	23	>	**23**	<	23	>	**23**	<	10	>	**10**	<	9	>	**9**	**20**
			V/C	<	0.32	>		<	0.33	>		<	0.09	>		<	0.04	>		
			Q	<	27	>		<	28	>		<	10	>		<	6	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

3.8 Future Total Traffic Operations

The 2030 total traffic volumes have been analyzed using the same methodologies as the existing traffic conditions. It includes the summation of the forecast 146 PCE construction vehicles to the forecast background traffic volumes.

Table 3.5, **Table 3.6** and **Table 3.7** summarize the 2030 level of service conditions for AM, PM and off-peak hours, respectively.

The following is noted for 2030 horizon year:

- In the AM peak hour:
  - All study area intersections are forecast to operate at acceptable levels of service (LOS D or better) and within capacity.
- In the PM peak hour:
  - The northbound movements at the intersection of Mississauga Road and Old School Road are forecast to operate at LOS E, with a v/c ratio of 0.85.
  - The westbound left turn movement at the intersection of Mississauga Road and Wanless Drive is forecast to operate at LOS E, with a v/c ratio of 0.70.
  - All other study area intersections and movements are forecast to operate at acceptable levels of service (LOS D or better) and within capacity.
- In the off-peak hour:
  - All study area intersections are forecast to operate at acceptable levels of service (LOS D or better) and within capacity.

For the 2030 horizon year, the traffic operations remain relatively similar to background traffic conditions, indicating minimal impacts from construction traffic. The analyses forecast poor levels of service (e.g., LOS E or worse) for the northbound movements at the intersection of Mississauga Road and Old School Road, most notably during the PM peak hour. No additional movements are anticipated to operate at critical LOS with the addition of construction vehicles. The westbound left turn movement at the intersection of Mississauga Road and Wanless Drive will continue to operate at LOS E in the PM peak hour, similar to background conditions.

The proposed construction is not expected to have any major impacts on the v/c ratios or delay times at the identified study area

intersections. The planned widening of Mayfield Road is expected to provide additional capacity, decreasing traffic congestion in the study area for the 2030 horizon.

Overall, no temporary changes are recommended to the intersection configurations as substantial impacts are not anticipated due to construction traffic. Traffic operations are expected to remain largely consistent with existing and projected future background conditions.

Appendix F contains the detailed Synchro reports.

TABLE 3.5: 2030 TOTAL TRAFFIC OPERATIONS IN AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	B	B	>	**B**	B	B	>	**B**	B	B	>	**B**	B	B	>	**B**	**B**
			Delay	20	16	>	**17**	20	18	>	**19**	14	14	>	**14**	13	17	>	**17**	**17**
			V/C	0.34	0.24	>		0.38	0.42	>		0.19	0.31	>		0.15	0.51	>		
			Q	21	22	>		28	38	>		14	35	>		14	60	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	49	-	>		44	-	>		44	-	>		36	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	12	>	**12**	<	11	>	**11**	<	11	>	**11**	<	15	>	**15**	**13**
			V/C	<	0.30	>		<	0.28	>		<	0.30	>		<	0.56	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	C	>	**C**	D	C	C	**D**	<	B	>	**B**	<	C	>	**C**	**C**
			Delay	28	30	>	**30**	41	35	28	**37**	<	17	>	**17**	<	22	>	**22**	**26**
			V/C	0.04	0.24	>		0.62	0.47	0.04		<	0.45	>		<	0.66	>		
			Q	6	42	>		77	81	10		<	76	>		<	135	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	25	-	>		21	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	B	>	**B**	<	C	>	**C**	<	B	B	**B**	<	B	>	**B**	**B**
			Delay	<	14	>	**14**	<	22	>	**22**	<	14	12	**13**	<	13	>	**13**	**17**
			V/C	<	0.34	>		<	0.78	>		<	0.26	0.08		<	0.19	>		
			Q	<	22	>		<	59	>		<	23	8		<	19	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	14		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	C	>	**C**	<	C	>	**C**	<	B	>	**B**	<	B	>	**B**	**C**
			Delay	<	22	>	**22**	<	26	>	**26**	<	14	>	**14**	<	14	>	**14**	**23**
			V/C	<	0.44	>		<	0.62	>		<	0.06	>		<	0.08	>		
			Q	<	50	>		<	56	>		<	9	>		<	14	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 3.6: 2030 TOTAL TRAFFIC OPERATIONS IN PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	B	B	>	**B**	C	B	>	**B**	B	B	>	**B**	B	B	>	**B**	**B**
			Delay	19	19	>	**19**	20	17	>	**18**	14	18	>	**17**	14	16	>	**16**	**18**
			V/C	0.33	0.48	>		0.33	0.30	>		0.19	0.53	>		0.23	0.43	>		
			Q	23	47	>		19	29	>		14	64	>		15	48	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	47	-	>		53	-	>		44	-	>		35	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	D	>	**D**	<	C	>	**C**	<	E	>	**E**	<	C	>	**C**	**D**
			Delay	<	28	>	**28**	<	24	>	**24**	<	39	>	**39**	<	24	>	**24**	**30**
			V/C	<	0.72	>		<	0.64	>		<	0.85	>		<	0.65	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	D	>	**D**	E	C	C	**D**	<	C	>	**C**	<	B	>	**B**	**C**
			Delay	29	40	>	**39**	56	31	28	**39**	<	22	>	**22**	<	17	>	**17**	**28**
			V/C	0.11	0.67	>		0.70	0.26	0.04		<	0.68	>		<	0.47	>		
			Q	16	120	>		55	46	9		<	148	>		<	81	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	15	-	>		43	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	B	>	**B**	<	C	>	**C**	<	B	B	**B**	<	B	>	**B**	**B**
			Delay	<	14	>	**14**	<	21	>	**21**	<	14	12	**13**	<	13	>	**13**	**16**
			V/C	<	0.45	>		<	0.72	>		<	0.29	0.08		<	0.24	>		
			Q	<	31	>		<	51	>		<	27	8		<	24	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	14		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	C	>	**C**	<	B	>	**B**	**B**
			Delay	<	13	>	**13**	<	14	>	**14**	<	22	>	**22**	<	19	>	**19**	**15**
			V/C	<	0.36	>		<	0.41	>		<	0.32	>		<	0.07	>		
			Q	<	41	>		<	40	>		<	38	>		<	12	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 3.7: 2030 TOTAL TRAFFIC OPERATIONS IN OFF PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
Off Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	A	A	>	A	A	A	>	A	B	B	>	B	B	B	>	B	B
			Delay	9	8	>	8	9	8	>	9	16	19	>	19	17	18	>	18	13
			V/C	0.15	0.18	>		0.16	0.21	>		0.17	0.56	>		0.26	0.44	>		
			Q	12	17	>		13	19	>		10	40	>		14	31	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	58	-	>		59	-	>		48	-	>		36	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	A	>	A	<	A	>	A	<	B	>	B	<	A	>	A	A
			Delay	<	10	>	10	<	10	>	10	<	10	>	10	<	10	>	10	10
			V/C	<	0.23	>		<	0.23	>		<	0.31	>		<	0.26	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	C	>	C	C	C	C	C	<	B	>	B	<	B	>	B	C
			Delay	28	30	>	29	31	29	28	30	<	16	>	16	<	14	>	14	20
			V/C	0.04	0.19	>		0.23	0.17	0.02		<	0.39	>		<	0.29	>		
			Q	9	33	>		30	30	8		<	64	>		<	45	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	22	-	>		68	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	B	>	B	<	B	>	B	<	B	B	B	<	B	>	B	B
			Delay	<	13	>	13	<	17	>	17	<	13	12	12	<	12	>	12	15
			V/C	<	0.32	>		<	0.59	>		<	0.21	0.06		<	0.08	>		
			Q	<	22	>		<	40	>		<	20	7		<	10	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	15		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	C	>	C	<	C	>	C	<	A	>	A	<	A	>	A	C
			Delay	<	23	>	23	<	23	>	23	<	10	>	10	<	9	>	9	21
			V/C	<	0.34	>		<	0.37	>		<	0.09	>		<	0.04	>		
			Q	<	28	>		<	30	>		<	10	>		<	6	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

4 Remedial Measures

The results presented in **Section 3** forecast select study intersections or movements to operate near or beyond critical thresholds at the 2030 horizon, most notably during the PM peak hour. These operations are forecast primarily with or without the proposed construction of the subject elevated tank site.

Under 2030 background traffic conditions (without construction at the subject site) and total traffic conditions (with construction at the subject site), the westbound left turn movement at the intersection of Mississauga Road and Wanless is reported to either be approaching or exceeding capacity (LOS E or worse) under the PM peak hour. During the 2030 total traffic conditions, the northbound movements at the intersection of Mississauga Road and Old School Road are forecast to operate at LOS E during the PM peak hour.

As the operational analysis maintained the existing signal timings, the intersection operations have been assessed with optimized signal timings to ensure the best operations for all movements during the PM peak hour. The optimized timings maintain the existing cycle lengths and phases to maintain signal coordination, but optimize the timing splits.

Table 4.1 summarizes the operational results with optimized signal timings for the 2030 background and total traffic conditions under the PM peak hour.

With implementation of optimized signal timings, the previously identified over-capacity movements exhibit slight improvements, operating closer to adequate levels of service. However, critical movements at the subject intersections are still expected to persist, even after signal optimization.

No lane closures are planned for the proposed construction works. Construction-related activities will be temporary and are not anticipated to result in any significant or long-term impacts on the surrounding road network. The construction activities will be carried out in phases and may not necessarily occur during peak hours. Any minor disruptions during construction are anticipated to be managed through standard traffic control and staging measures.

TABLE 4.1: 2030 BACKGROUND AND TOTAL TRAFFIC OPERATIONS IN PM PEAK HOUR – MITIGATION

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
2030 Background PM Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	B	B	>	B	B	B	>	B	B	C	>	C	B	B	>	B	B
			Delay	13	14	>	14	15	13	>	13	17	22	>	21	16	19	>	18	16
			V/C	0.20	0.40	>		0.26	0.23	>		0.21	0.56	>		0.10	0.41	>		
			Q	14	40	>		16	23	>		16	62	>		8	43	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	56	-	>		56	-	>		42	-	>		42	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	C	>	C	<	C	>	C	<	D	>	D	<	C	>	C	C
			Delay	<	22	>	22	<	20	>	20	<	26	>	26	<	20	>	20	22
			V/C	<	0.64	>		<	0.57	>		<	0.72	>		<	0.58	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	D	>	D	E	C	C	D	<	C	>	C	<	B	>	B	C
			Delay	28	40	>	40	56	31	28	40	<	21	>	21	<	16	>	16	28
			V/C	0.07	0.67	>		0.70	0.26	0.03		<	0.65	>		<	0.39	>		
			Q	12	120	>		55	46	8		<	140	>		<	69	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	19	-	>		43	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	B	>	B	<	B	>	B	<	B	B	B	<	B	>	B	B
			Delay	<	14	>	14	<	20	>	20	<	14	12	13	<	13	>	13	16
			V/C	<	0.42	>		<	0.69	>		<	0.27	0.08		<	0.24	>		
			Q	<	29	>		<	48	>		<	26	8		<	24	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	14		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	B	>	B	<	B	>	B	<	C	>	C	<	B	>	B	B
			Delay	<	14	>	14	<	15	>	15	<	20	>	20	<	18	>	18	16
			V/C	<	0.37	>		<	0.40	>		<	0.29	>		<	0.07	>		
			Q	<	41	>		<	40	>		<	35	>		<	11	>		
2030 Total PM Peak Hour	Mississauga Road & Mayfield Road	TCS	LOS	B	B	>	B	B	B	>	B	B	C	>	C	B	B	>	B	B
			Delay	16	15	>	15	16	14	>	14	17	22	>	21	18	20	>	19	17
			V/C	0.29	0.42	>		0.28	0.26	>		0.23	0.61	>		0.29	0.49	>		
			Q	20	41	>		16	25	>		16	71	>		17	54	>		
			Stor.	70	-	>		72	-	>		58	-	>		50	-	>		
			Avail.	50	-	>		56	-	>		42	-	>		33	-	>		
	Mississauga Road & Old School Road	AWSC	LOS	<	D	>	D	<	C	>	C	<	E	>	E	<	C	>	C	D
			Delay	<	28	>	28	<	24	>	24	<	39	>	39	<	24	>	24	30
			V/C	<	0.72	>		<	0.64	>		<	0.85	>		<	0.65	>		
			Q	<		>		<		>		<		>		<		>		
	Mississauga Road & Wanless Drive	TCS	LOS	C	D	>	D	E	C	C	D	<	C	>	C	<	B	>	B	C
			Delay	29	40	>	39	56	31	28	39	<	22	>	22	<	17	>	17	28
			V/C	0.11	0.67	>		0.70	0.26	0.04		<	0.68	>		<	0.47	>		
			Q	16	120	>		55	46	9		<	148	>		<	81	>		
			Stor.	31	-	>		98	-	-		<	-	>		<	-	>		
			Avail.	15	-	>		43	-	-		<	-	>		<	-	>		
	Creditview Road & Mayfield Road	TCS	LOS	<	B	>	B	<	C	>	C	<	B	B	B	<	B	>	B	B
			Delay	<	14	>	14	<	21	>	21	<	14	12	13	<	13	>	13	16
			V/C	<	0.45	>		<	0.73	>		<	0.29	0.08		<	0.24	>		
			Q	<	31	>		<	51	>		<	27	8		<	24	>		
			Stor.	<	-	>		<	-	>		<	-	22		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	14		<	-	>		
	Heritage Road & Mayfield Road	TCS	LOS	<	B	>	B	<	B	>	B	<	C	>	C	<	B	>	B	B
			Delay	<	15	>	15	<	15	>	15	<	20	>	20	<	18	>	18	16
			V/C	<	0.38	>		<	0.42	>		<	0.30	>		<	0.07	>		
			Q	<	43	>		<	42	>		<	36	>		<	11	>		

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Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

5 Conclusions and Recommendations

5.1 Conclusions

Based on the investigations carried out, it is concluded that:

Existing Conditions:

- The study intersections generally operate with acceptable levels of service (LOS) and within capacity during the AM, PM and off-peak hours. Exceptions include the turn movements at the intersection at Creditview Road and Mayfield Road, which experience critical LOS. In the AM peak hour, the westbound movements at the intersection of Heritage Road and Mayfield Road also operate at a critical LOS.
- There are two transit routes operating in the study area that provide local and inter-regional travel opportunities.
- There are currently no major active transportation facilities in the study area. The elevated tank site is located far from any major employment, retail, cultural and recreational opportunities. Most of the prospective construction workers are expected to drive to the site.

Future Conditions:

- Mayfield Road is planned to be widened from two to five lanes (three eastbound and two westbound lanes) between Chinguacousy Road and Mississauga Road and from two to four lanes between Mississauga Road and Winston Churchill Boulevard.
- A maximum of 146 passenger car equivalent (PCE) vehicles are anticipated on the elevated tank site on any given construction day.
- No lane closures are planned for the proposed construction works.
- The planned construction works related to this study are not expected to impact future transportation conditions to any significant extent. The study intersections are forecast to operate at very similar levels of service as under background traffic conditions.

Remedial Measures:

- With implementation of optimized signal timings, intersection operations are forecast to improve, but still operate over

capacity. The intersections will continue to operate at critical LOS with or without the construction activity.

- Due to phasing and the distribution of traffic across the entire study area, the temporary traffic disruptions are not expected to be significant, relative to typical construction works.

5.2 Recommendations

Based on the study results, it is recommended that:

- Construction be carried out according to the proposed phasing plan.

Appendix A

Pre-Study Consultation Notes

From: Anastasio, Sandra < SAnastasio@geiconsultants.com >
Sent: October 3, 2025 2:58 PM
To: Josh de Boer < jdeboer@ptsl.com >
Cc: An, Ashley < AAn@geiconsultants.com > ; Prateek Jain < pjain@ptsl.com > ; Campbell, Chris < ChCampbell@geiconsultants.com >
Subject: RE: West Caledon - Traffic Impacts

Hi Josh,

Please use 2027 as the beginning of construction. Construction will likely last from 2027 to 2029/2030 for the full alignment and elevated tank. Other than that, the Terms of Reference look good.

We will follow up with the Region next week on remaining RFI items, however, do you have everything you need to begin the assessment?

I will be starting my maternity leave on Monday, October 6 th therefore if you have any questions, please reach out to Chris and Ashley for West Caledon.

Have a great weekend!

Thank you,
Sandra

GEI
Canada

SANDRA ANASTASIO, M.Env.Sc., RPP, MCIP, EP
Senior Project Manager, Infrastructure Planning
416.703.0667 cell: 416.428.2836
3300 Highway No. 7 | Suite 402 | Vaughan, Ontario L4K 4M3 |
Canada

From: Anastasio, Sandra
Sent: Thursday, October 2, 2025 3:22 PM
To: Josh de Boer < jdeboer@ptsl.com >
Cc: An, Ashley < AAn@geiconsultants.com > ; Prateek Jain < pjain@ptsl.com >
Subject: RE: West Caledon - Traffic Impacts

Hi Josh,

Thanks – Terms of Reference looks good. I will just confirm the construction year to be used.

I received some information from the Region to support your assessment. We are still waiting on the other items. See link below:

20251002 West Caledon Traffic Info

Thanks,
Sandra

GEI
Canada

SANDRA ANASTASIO, M.Env.Sc., RPP, MCIP, EP
Senior Project Manager, Infrastructure Planning
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3300 Highway No. 7 | Suite 402 | Vaughan, Ontario L4K 4M3 |
Canada

From: Josh de Boer < jdeboer@ptsl.com >
Sent: Wednesday, October 1, 2025 10:06 PM
To: Anastasio, Sandra < SAnastasio@geiconsultants.com >
Cc: An, Ashley < AAn@geiconsultants.com > ; Prateek Jain < pjain@ptsl.com >
Subject: [EXT] RE: West Caledon - Traffic Impacts

EXTERNAL EMAIL

Hi Sandra,

Below is our Terms of Reference (ToR) for the traffic study. Could you please pass it along to the traffic staff at Peel, Caledon and Brampton for their review and comments?

Paradigm Transportation Solutions Limited (Paradigm) has been retained by GEI Consultants Inc. to prepare a Traffic Impact Study (TIS) for the West Caledon Transmission Main and Storage Facility Class Environmental Assessment in the Region of Peel. The TIS will follow the Region of Peel *Guidelines for the Preparation of Traffic Impact Studies (2022)* .

The purpose of this email is to establish a Terms of Reference (ToR) for the TIS. We are seeking agreement and/or direction on our proposed scope of work that is discussed below.

Background
The subject site is located along Mississauga Road, generally between Mayfield Road and Old School Road in the Town of Caledon, City of Brampton, and Region of Peel. The Region of Peel is conducting the West Caledon Transmission Main and Storage Facility Class Environmental Assessment (EA). It is understood that the majority of the works will occur on Mississauga Road. The southern limit of the construction works will be south of Mayfield Road, and the northern limit of the works will be south of Old School Road. The TIS will evaluate the effects of the proposed construction works on the transportation system and recommend mitigation measures, if necessary, to address potential impacts.

Analysis
- The study area intersection traffic operations will be analyzed using standard Highway Capacity Manual (HCM) methodologies and Synchro software.
- The analysis will determine if there are any operational deficiencies during the AM, PM and Off-peak hours and subsequent mitigation measures required.
- The trip generation from construction activities will be estimated using project specifications and calculated based on first-principles analysis.
- Trip distribution will be based on current travel patterns.
- The construction year is estimated to be 2026.
- Lane closures on Mississauga Road are not expected during construction. One lane of traffic in each direction will be maintained throughout construction.

Scenarios
- Pre-Construction Scenario with existing traffic conditions (2025).
- Construction Year (2026) with no construction traffic and background traffic growth only.
- Construction Year (2026) with construction traffic (worker and haulage trips added).

Study Area Intersections
- Mississauga Road (Regional Road 1) and Mayfield Road (Regional Road 14) (signalized)
- Mississauga Road (Regional Road 1) and Old School Road (unsignalized)
- Mississauga Road (Regional Road 1) and Wanless Drive (signalized)
- Mayfield Road (Region Road 14) and Creditview Road (signalized)

- Mayfield Road (Regional Road 14) and Heritage Road (signalized)

Requested Information

1. **Trip volume data.** Any data that may be pertinent to the analysis, including TMCs, AADTs, ATRs, pedestrian studies and/or cycling counts.
2. **Growth rate.** A growth rate of 2% will be applied to through movement volumes on all study roadways. If an alternate rate is required, please advise.
3. **Background developments.** Information on planned background developments that will impact the identified road network.
4. **Future road improvements.** Information on future roads and/or network improvements that will impact the identified road network.
5. **Traffic signal timing plans.** The traffic signal timing plans for the following signalized intersections:
   a. Mississauga Road (Regional Road 1) and Mayfield Road (Regional Road 14)
   b. Mississauga Road (Regional Road 1) and Wanless Drive
   c. Mayfield Road (Region Road 14) and Creditview Road
   d. Mayfield Road (Regional Road 14) and Heritage Road

Thank you for reviewing project details and providing information where available. If there are any questions, please do not hesitate to contact me. We look forward to your response.

Regards,

Joshua de Boer, M.Eng., P.Eng., PTOE
Senior Project Manager, Associate
(He/Him)

paradigm TRANSPORTATION SOLUTIONS LIMITED

Great Place To Work. Certified NOV 2023 - NOV 2024 CANADA

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e: jdeboer@ptsl.com
w: www.ptsl.com

Paradigm operates on a four-day workweek (M-T 7:30 AM – 5:30 PM). Our offices are closed on Fridays .

From: Anastasio, Sandra < SAnastasio@geiconsultants.com >
Sent: September 22, 2025 9:45 AM
To: Josh de Boer < jdeboer@ptsl.com >
Cc: An, Ashley < AAn@geiconsultants.com >
Subject: FW: West Caledon - Traffic Impacts

Hi Josh,

Apologies on the delay in response. Our design team has provided some details on the phasing of the West Caledon design. See below.

Please confirm that now you have all info required to begin the traffic impact assessment.

I will follow up with the Region today of the traffic count data request.

Thanks,
Sandra

GEI Canada

SANDRA ANASTASIO, M.Env.Sc., RPP, MCIP, EP
Senior Project Manager, Infrastructure Planning
416.703.0667 cell: 416.428.2836
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Canada

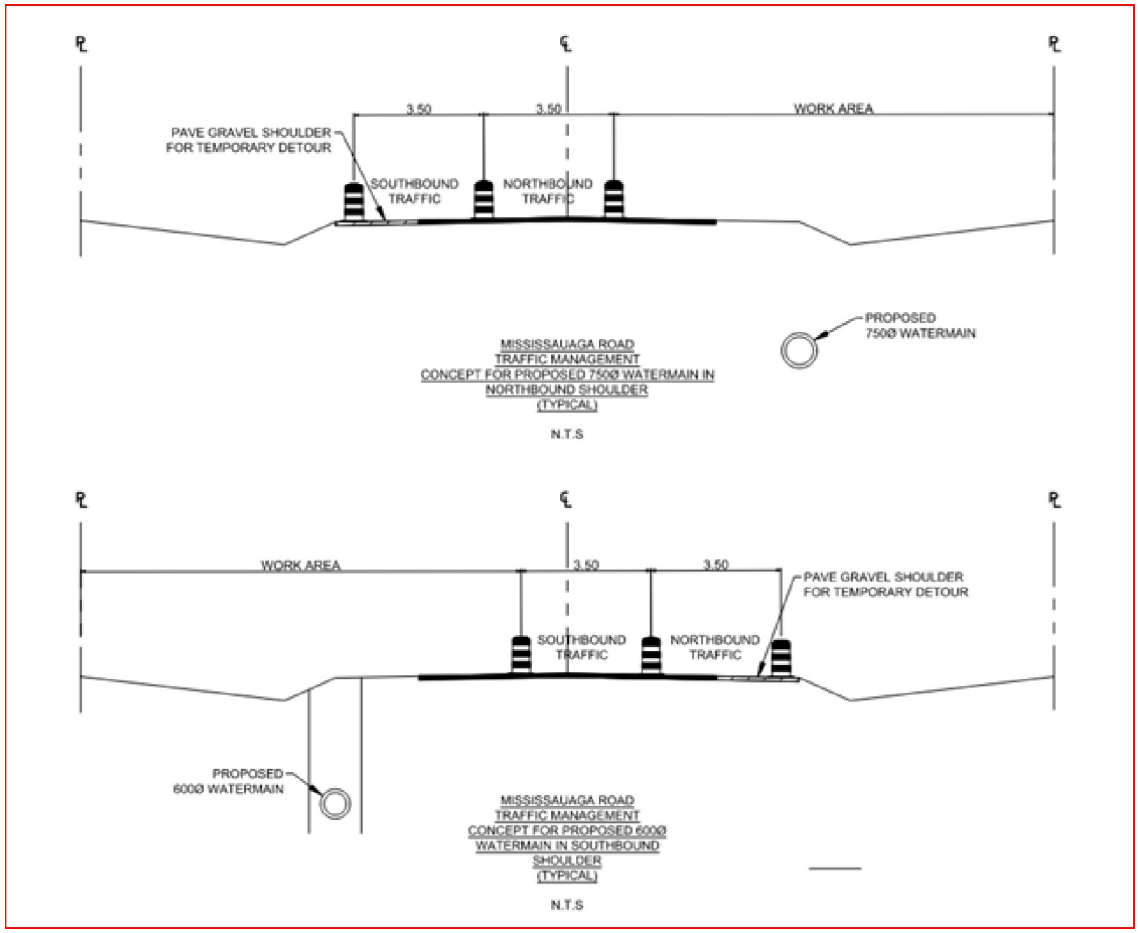
From: Percy, Benjamin < BPercy@geiconsultants.com >
Sent: Friday, September 19, 2025 3:48 PM
To: Anastasio, Sandra < SAnastasio@geiconsultants.com >
Cc: Zamojc, Mark < MZamojc@geiconsultants.com > ; An, Ashley < AAn@geiconsultants.com > ; Campbell, Chris < ChCampbell@geiconsultants.com > ; Bouteiller, Brent < BBouteiller@geiconsultants.com > ; Wiersma, Rob < RWiersma@geiconsultants.com >
Subject: RE: West Caledon - Traffic Impacts

Sandra

See responses below.

- How will the construction be phased – Elevated tank site, Mississauga road alignments, easement alignment, Alloa PS alignment?
    - Elevated tank and feedermain contracts would be separate contracts – they could proceed simultaneously, although feedermains should be in service before the tank is complete to allow for commissioning of the elevated tank
    - For the linear works from Alloa to the tank site and back to Mayfield Road, constraints would be:
        - Construction of watermain on one side of Mississauga Road at a time
        - Only one trenchless crossing of the Alloa Drain at a time, and must be on same side as the open cut watermain works if open cut works within ~500m
        - Trenchless crossing of future 413 – both watermain at same time using shared shafts
        - Trenchless works can happen at the same as open cut work (different contractors)
        - Final connections at Alloa PS and Mayfield Road need to happen close to same time to avoid prolonged flushing etc.
    - A possible sequence could be:
        - Stage 1
            - Start laying 750 pipe from Alloa Connection point working north and west through easement
            - Simultaneously start on 750 trenchless crossing of Alloa Drain
            - Simultaneously start sinking shafts and tunnelling at the 413
        - Stage 2
            - Open cut work on Mississauga Road from Alloa Drain north to elevated tank, skipping over the tunnelled sections at 413
            - Continue tunnelling works at 413
        - Stage 3
            - Open cut work on Mississauga Road from elevated tank, skipping over the tunnelled sections at 413, south towards Alloa Drain
            - Simultaneous 600 trenchless crossing of Alloa Drain
        - Stage 4
            - Open cut work on Mississauga Road from Alloa Drain south towards Mayfield
        - Stage 5
            - Closures at all tunnelled sections
        - Stage 6
            - Testing, commissioning and final connections at Alloa and Mayfield

- Are we anticipating any temporary/staged lane reductions or temporary/staged road closures for Mississauga Rd during construction of the transmission main and feedermain alignments?
    - We anticipate that all work can be completed within the following type of lane shift (per detail in drawing set). Temp pave shoulder on opposite side of the road from work, shift lanes, and one lane of traffic each direction can be maintained.



GEI
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BEN PERCY, P.Eng. (He/Him)
Senior Project Manager
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Appendix B

Turning Movement Count Data and Signal Timings

Turning Movement Count (137 . MAYFIELD RD & CREDITVIEW RD) CustID: 01420659 MioID: 1318563

Start Time	Southbound CREDITVIEW RD						Westbound MAYFIELD RD						Northbound CREDITVIEW RD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 07:00:00	2	23	3	0	0	28	7	103	1	0	0	111	9	12	18	0	0	39	7	101	8	0	0	116	294
2025-05-15 07:15:00	3	20	1	0	0	24	20	121	0	0	0	141	4	18	11	0	0	33	6	96	10	0	1	112	310
2025-05-15 07:30:00	1	28	1	0	0	30	26	131	4	0	0	161	13	28	11	0	0	52	4	102	8	0	0	114	357
2025-05-15 07:45:00	0	41	3	0	0	44	29	103	0	0	0	132	14	18	16	0	0	48	6	111	13	0	0	130	354
Hourly	6	112	8	0	0	126	82	458	5	0	0	545	40	76	56	0	0	172	23	410	39	0	1	472	1315
2025-05-15 08:00:00	2	34	5	0	0	41	19	116	0	0	0	135	10	25	16	0	0	51	6	92	14	0	0	112	339
2025-05-15 08:15:00	2	17	1	0	0	20	26	120	2	0	0	148	5	14	13	0	0	32	6	100	14	0	0	120	320
2025-05-15 08:30:00	2	23	5	0	0	30	28	141	0	0	0	169	13	24	38	0	0	75	8	104	8	0	0	120	394
2025-05-15 08:45:00	1	16	11	0	0	28	28	135	2	0	1	165	14	16	26	0	0	56	1	96	7	0	1	104	353
Hourly	7	90	22	0	0	119	101	512	4	0	1	617	42	79	93	0	0	214	21	392	43	0	1	456	1406
BREAK																									
2025-05-15 11:00:00	2	10	1	0	0	13	21	73	1	0	0	95	7	7	10	0	1	24	3	76	6	0	0	85	217
2025-05-15 11:15:00	2	12	0	0	0	14	21	69	2	0	0	92	8	8	20	0	0	36	2	68	4	0	0	74	216
2025-05-15 11:30:00	0	8	3	0	0	11	20	81	0	0	0	101	11	11	11	0	0	33	7	83	5	0	0	95	240
2025-05-15 11:45:00	3	10	3	0	0	16	26	79	2	0	0	107	15	16	14	0	0	45	1	82	2	0	0	85	253
Hourly	7	40	7	0	0	54	88	302	5	0	0	395	41	42	55	0	1	138	13	309	17	0	0	339	926
2025-05-15 12:00:00	1	6	4	0	0	11	18	73	1	0	1	92	7	7	23	0	0	37	2	77	8	0	1	87	227
2025-05-15 12:15:00	1	9	6	0	0	16	18	87	0	0	0	105	6	12	22	0	0	40	6	90	10	0	0	106	267
2025-05-15 12:30:00	2	9	3	0	0	14	27	73	1	0	0	101	12	13	29	0	0	54	0	93	3	0	0	96	265
2025-05-15 12:45:00	3	14	2	0	0	19	31	75	3	0	0	109	11	18	27	0	0	56	3	95	9	0	1	107	291
Hourly	7	38	15	0	0	60	94	308	5	0	1	407	36	50	101	0	0	187	11	355	30	0	2	396	1050
2025-05-15 13:00:00	0	14	0	0	0	14	26	92	3	0	0	121	5	9	22	0	0	36	3	90	5	0	1	98	269
2025-05-15 13:15:00	0	17	2	0	0	19	24	90	1	0	0	115	8	19	17	0	0	44	3	90	8	0	0	101	279
2025-05-15 13:30:00	1	7	3	0	0	11	30	83	2	0	0	115	12	22	22	0	0	56	3	113	9	0	0	125	307
2025-05-15 13:45:00	2	8	3	0	0	13	17	91	2	0	0	110	7	20	24	0	0	51	6	90	6	0	0	102	276
Hourly	3	46	8	0	0	57	97	356	8	0	0	461	32	70	85	0	0	187	15	383	28	0	1	426	1131
BREAK																									
2025-05-15 15:00:00	3	13	1	0	0	17	23	114	0	0	0	137	10	31	30	0	0	71	4	135	9	0	0	148	373
2025-05-15 15:15:00	0	24	2	0	0	26	31	107	1	0	0	139	24	36	26	0	0	86	9	119	14	0	0	142	393
2025-05-15 15:30:00	2	22	5	0	0	29	32	91	0	0	1	123	15	30	32	0	0	77	5	166	14	0	0	185	414
2025-05-15 15:45:00	0	28	7	0	0	35	24	112	6	0	0	142	9	25	19	0	0	53	5	129	13	0	0	147	377
Hourly	5	87	15	0	0	107	110	424	7	0	1	541	58	122	107	0	0	287	23	549	50	0	0	622	1557
2025-05-15 16:00:00	2	24	7	0	0	33	29	89	1	0	0	119	14	29	26	0	0	69	11	131	13	0	0	155	376
2025-05-15 16:15:00	4	22	5	0	0	31	30	125	2	0	0	157	13	14	28	0	0	55	12	122	16	0	0	150	393
2025-05-15 16:30:00	1	37	6	0	0	44	32	121	3	0	0	156	16	32	27	0	0	75	8	153	5	0	0	166	441
2025-05-15 16:45:00	1	29	7	0	0	37	23	106	2	0	0	131	11	21	24	0	1	56	7	162	10	0	0	179	403
Hourly	8	112	25	0	0	145	114	441	8	0	0	563	54	96	105	0	1	255	38	568	44	0	0	650	1613
2025-05-15 17:00:00	6	22	6	0	0	34	27	128	0	0	1	155	5	27	28	0	0	60	6	141	15	0	0	162	411
2025-05-15 17:15:00	2	30	9	0	0	41	32	109	3	0	0	144	11	38	28	0	1	77	9	139	18	0	0	166	428
2025-05-15 17:30:00	3	32	8	0	0	43	26	98	1	0	0	125	9	25	26	0	1	60	4	133	17	0	0	154	382
2025-05-15 17:45:00	2	38	3	0	0	43	30	116	5	0	0	151	13	31	26	0	0	70	9	151	12	0	0	172	436
Hourly	13	122	26	0	0	161	115	451	9	0	1	575	38	121	108	0	2	267	28	564	62	0	0	654	1657
Grand Total	56	647	126	0	0	829	801	3252	51	0	4	4104	341	656	710	0	4	1707	172	3530	313	0	5	4015	**10655**
Approach%	6.8%	78%	15.2%	0%		-	19.5%	79.2%	1.2%	0%		-	20%	38.4%	41.6%	0%		-	4.3%	87.9%	7.8%	0%		-	-

Totals %	0.5%	6.1%	1.2%	0%	7.8%	7.5%	30.5%	0.5%	0%	38.5%	3.2%	6.2%	6.7%	0%	16%	1.6%	33.1%	2.9%	0%	37.7%	-
Heavy	3	18	6	0	-	32	241	2	0	-	34	12	21	0	-	13	277	43	0	-	-
Heavy %	5.4%	2.8%	4.8%	0%	-	4%	7.4%	3.9%	0%	-	10%	1.8%	3%	0%	-	7.6%	7.8%	13.7%	0%	-	-
Bicycles	0	6	2	0	-	0	0	0	0	-	0	6	1	0	-	0	0	2	0	-	-
Bicycle %	0%	0.9%	1.6%	0%	-	0%	0%	0%	0%	-	0%	0.9%	0.1%	0%	-	0%	0%	0.6%	0%	-	-

Peak Hour: 08:00 AM - 09:00 AM **Weather: Mostly Cloudy (16 °C)**

Start Time	Southbound CREDITVIEW RD						Westbound MAYFIELD RD						Northbound CREDITVIEW RD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 08:00:00	2	34	5	0	0	41	19	116	0	0	0	135	10	25	16	0	0	51	6	92	14	0	0	112	339
2025-05-15 08:15:00	2	17	1	0	0	20	26	120	2	0	0	148	5	14	13	0	0	32	6	100	14	0	0	120	320
2025-05-15 08:30:00	2	23	5	0	0	30	28	141	0	0	0	169	13	24	38	0	0	75	8	104	8	0	0	120	394
2025-05-15 08:45:00	1	16	11	0	0	28	28	135	2	0	1	165	14	16	26	0	0	56	1	96	7	0	1	104	353
Grand Total	7	90	22	0	0	119	101	512	4	0	1	617	42	79	93	0	0	214	21	392	43	0	1	456	**1406**
Approach%	5.9%	75.6%	18.5%	0%		-	16.4%	83%	0.6%	0%		-	19.6%	36.9%	43.5%	0%		-	4.6%	86%	9.4%	0%		-	**-**
Totals %	0.5%	6.4%	1.6%	0%		8.5%	7.2%	36.4%	0.3%	0%		43.9%	3%	5.6%	6.6%	0%		15.2%	1.5%	27.9%	3.1%	0%		32.4%	**-**
PHF	0.88	0.66	0.5	0		0.73	0.9	0.91	0.5	0		0.91	0.75	0.79	0.61	0		0.71	0.66	0.94	0.77	0		0.95	0.89
Heavy	0	3	3	0		6	3	46	0	0		49	7	1	8	0		16	0	28	5	0		33	104
Heavy %	0%	3.3%	13.6%	0%		5%	3%	9%	0%	0%		7.9%	16.7%	1.3%	8.6%	0%		7.5%	0%	7.1%	11.6%	0%		7.2%	7.4%
Lights	7	87	19	0		113	98	466	4	0		568	35	78	85	0		198	21	364	38	0		423	1302
Lights %	100%	96.7%	86.4%	0%		95%	97%	91%	100%	0%		92.1%	83.3%	98.7%	91.4%	0%		92.5%	100%	92.9%	88.4%	0%		92.8%	92.6%
Single-Unit Trucks	0	0	2	0		2	1	21	0	0		22	0	0	2	0		2	0	14	0	0		14	40
Single-Unit Trucks %	0%	0%	9.1%	0%		1.7%	1%	4.1%	0%	0%		3.6%	0%	0%	2.2%	0%		0.9%	0%	3.6%	0%	0%		3.1%	2.8%
Buses	0	3	1	0		4	2	17	0	0		19	7	1	6	0		14	0	9	5	0		14	51
Buses %	0%	3.3%	4.5%	0%		3.4%	2%	3.3%	0%	0%		3.1%	16.7%	1.3%	6.5%	0%		6.5%	0%	2.3%	11.6%	0%		3.1%	3.6%
Articulated Trucks	0	0	0	0		0	0	8	0	0		8	0	0	0	0		0	0	5	0	0		5	13
Articulated Trucks %	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	1.3%	0%	0%		1.1%	0.9%
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	50%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	50%		**-**
Bicycles on Road	0	0	1	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	100%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

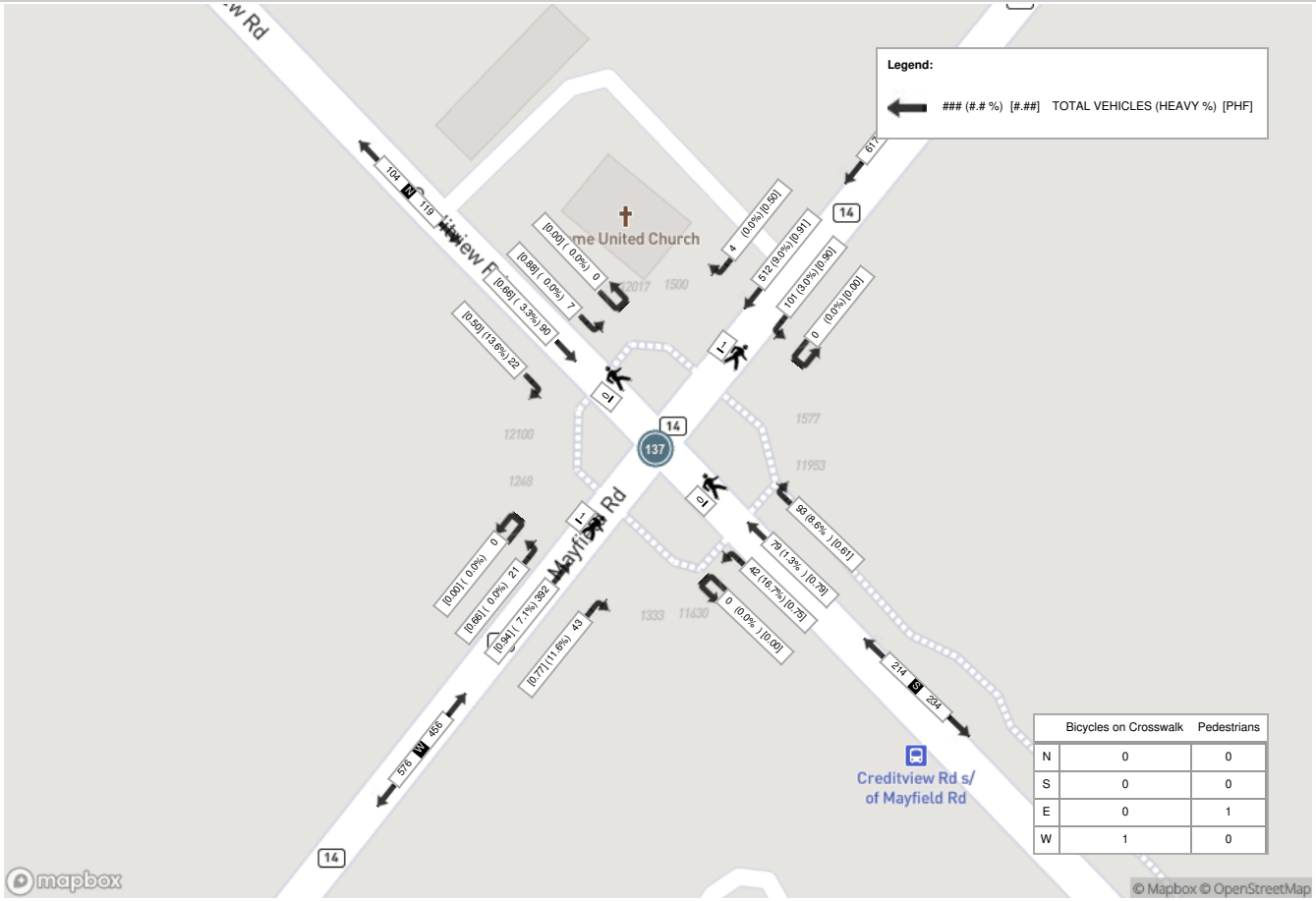
Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (21 °C)

Start Time	Southbound CREDITVIEW RD						Westbound MAYFIELD RD						Northbound CREDITVIEW RD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 13:00:00	0	14	0	0	0	14	26	92	3	0	0	121	5	9	22	0	0	36	3	90	5	0	1	98	269
2025-05-15 13:15:00	0	17	2	0	0	19	24	90	1	0	0	115	8	19	17	0	0	44	3	90	8	0	0	101	279
2025-05-15 13:30:00	1	7	3	0	0	11	30	83	2	0	0	115	12	22	22	0	0	56	3	113	9	0	0	125	307
2025-05-15 13:45:00	2	8	3	0	0	13	17	91	2	0	0	110	7	20	24	0	0	51	6	90	6	0	0	102	276
Grand Total	3	46	8	0	0	57	97	356	8	0	0	461	32	70	85	0	0	187	15	383	28	0	1	426	**1131**
Approach%	5.3%	80.7%	14%	0%		-	21%	77.2%	1.7%	0%		-	17.1%	37.4%	45.5%	0%		-	3.5%	89.9%	6.6%	0%		-	**-**
Totals %	0.3%	4.1%	0.7%	0%		5%	8.6%	31.5%	0.7%	0%		40.8%	2.8%	6.2%	7.5%	0%		16.5%	1.3%	33.9%	2.5%	0%		37.7%	**-**
PHF	0.38	0.68	0.67	0		0.75	0.81	0.97	0.67	0		0.95	0.67	0.8	0.89	0		0.83	0.63	0.85	0.78	0		0.85	0.92
Heavy	0	0	0	0		0	7	30	0	0		37	4	1	2	0		7	1	48	3	0		52	96
Heavy %	0%	0%	0%	0%		0%	7.2%	8.4%	0%	0%		8%	12.5%	1.4%	2.4%	0%		3.7%	6.7%	12.5%	10.7%	0%		12.2%	8.5%
Lights	3	46	8	0		57	90	326	8	0		424	28	69	83	0		180	14	335	25	0		374	1035
Lights %	100%	100%	100%	0%		100%	92.8%	91.6%	100%	0%		92%	87.5%	98.6%	97.6%	0%		96.3%	93.3%	87.5%	89.3%	0%		87.8%	91.5%
Single-Unit Trucks	0	0	0	0		0	5	17	0	0		22	1	0	1	0		2	1	36	0	0		37	61
Single-Unit Trucks %	0%	0%	0%	0%		0%	5.2%	4.8%	0%	0%		4.8%	3.1%	0%	1.2%	0%		1.1%	6.7%	9.4%	0%	0%		8.7%	5.4%
Buses	0	0	0	0		0	2	0	0	0		2	3	1	1	0		5	0	3	3	0		6	13
Buses %	0%	0%	0%	0%		0%	2.1%	0%	0%	0%		0.4%	9.4%	1.4%	1.2%	0%		2.7%	0%	0.8%	10.7%	0%		1.4%	1.1%
Articulated Trucks	0	0	0	0		0	0	13	0	0		13	0	0	0	0		0	0	9	0	0		9	22
Articulated Trucks %	0%	0%	0%	0%		0%	0%	3.7%	0%	0%		2.8%	0%	0%	0%	0%		0%	0%	2.3%	0%	0%		2.1%	1.9%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	100%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (23 °C)

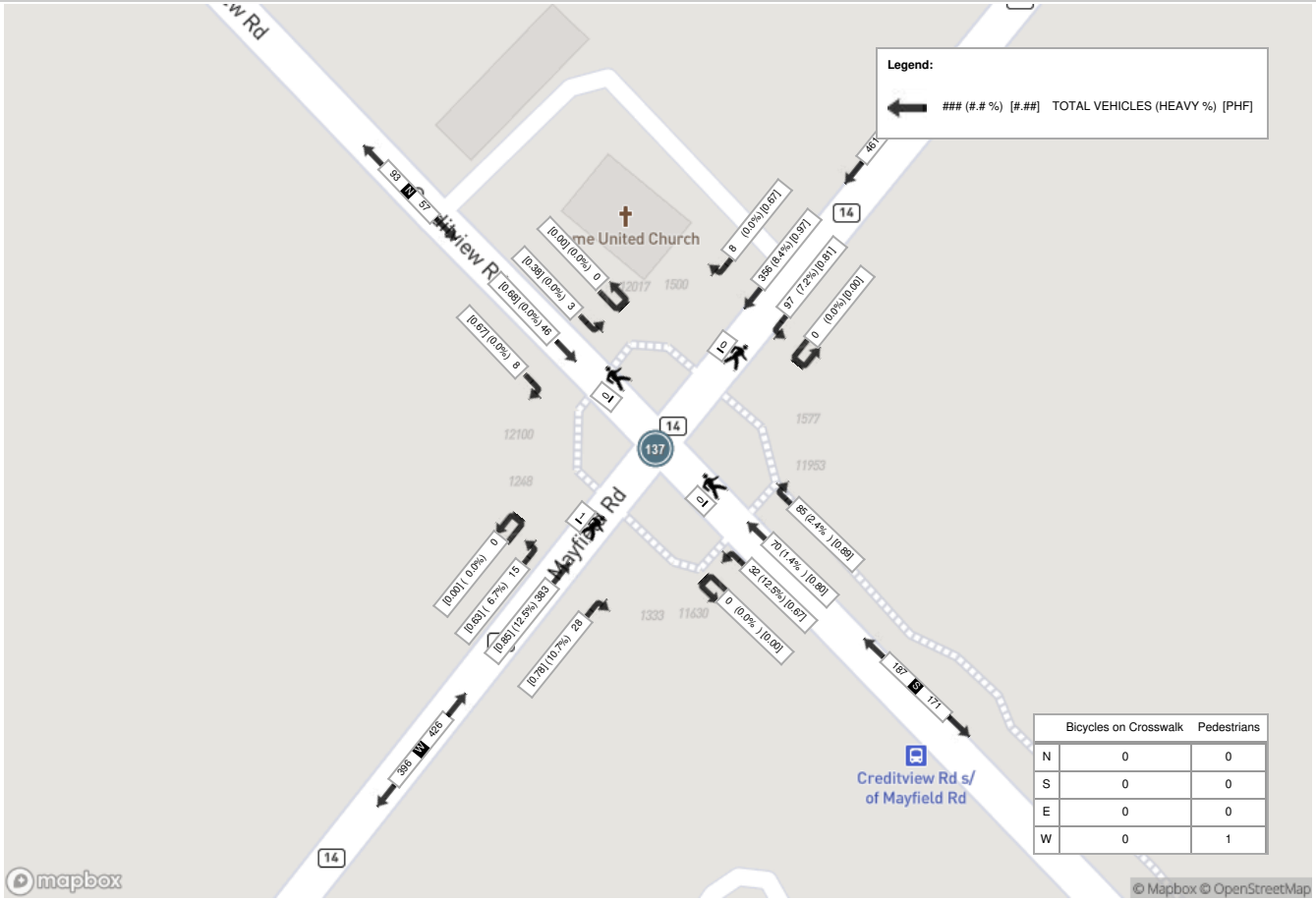
Start Time	Southbound CREDITVIEW RD						Westbound MAYFIELD RD						Northbound CREDITVIEW RD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 17:00:00	6	22	6	0	0	34	27	128	0	0	1	155	5	27	28	0	0	60	6	141	15	0	0	162	411
2025-05-15 17:15:00	2	30	9	0	0	41	32	109	3	0	0	144	11	38	28	0	1	77	9	139	18	0	0	166	428
2025-05-15 17:30:00	3	32	8	0	0	43	26	98	1	0	0	125	9	25	26	0	1	60	4	133	17	0	0	154	382
2025-05-15 17:45:00	2	38	3	0	0	43	30	116	5	0	0	151	13	31	26	0	0	70	9	151	12	0	0	172	436
Grand Total	13	122	26	0	0	161	115	451	9	0	1	575	38	121	108	0	2	267	28	564	62	0	0	654	**1657**
Approach%	8.1%	75.8%	16.1%	0%		-	20%	78.4%	1.6%	0%		-	14.2%	45.3%	40.4%	0%		-	4.3%	86.2%	9.5%	0%		-	**-**
Totals %	0.8%	7.4%	1.6%	0%		9.7%	6.9%	27.2%	0.5%	0%		34.7%	2.3%	7.3%	6.5%	0%		16.1%	1.7%	34%	3.7%	0%		39.5%	**-**
PHF	0.54	0.8	0.72	0		0.94	0.9	0.88	0.45	0		0.93	0.73	0.8	0.96	0		0.87	0.78	0.93	0.86	0		0.95	0.95
Heavy	0	1	0	0		1	0	12	1	0		13	2	1	1	0		4	3	33	7	0		43	61
Heavy %	0%	0.8%	0%	0%		0.6%	0%	2.7%	11.1%	0%		2.3%	5.3%	0.8%	0.9%	0%		1.5%	10.7%	5.9%	11.3%	0%		6.6%	3.7%
Lights	13	121	26	0		160	115	439	8	0		562	36	120	107	0		263	25	531	55	0		611	1596
Lights %	100%	99.2%	100%	0%		99.4%	100%	97.3%	88.9%	0%		97.7%	94.7%	99.2%	99.1%	0%		98.5%	89.3%	94.1%	88.7%	0%		93.4%	96.3%
Single-Unit Trucks	0	1	0	0		1	0	6	1	0		7	0	1	1	0		2	3	22	3	0		28	38
Single-Unit Trucks %	0%	0.8%	0%	0%		0.6%	0%	1.3%	11.1%	0%		1.2%	0%	0.8%	0.9%	0%		0.7%	10.7%	3.9%	4.8%	0%		4.3%	2.3%
Buses	0	0	0	0		0	0	1	0	0		1	2	0	0	0		2	0	0	4	0		4	7
Buses %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	5.3%	0%	0%	0%		0.7%	0%	0%	6.5%	0%		0.6%	0.4%
Articulated Trucks	0	0	0	0		0	0	5	0	0		5	0	0	0	0		0	0	11	0	0		11	16
Articulated Trucks %	0%	0%	0%	0%		0%	0%	1.1%	0%	0%		0.9%	0%	0%	0%	0%		0%	0%	2%	0%	0%		1.7%	1%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	66.7%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	33.3%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	3	0	0		-	0	0	0	0		-	0	3	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	100%	0%	0%			0%	0%	0%	0%			0%	100%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather: Mostly Cloudy (16 °C)**



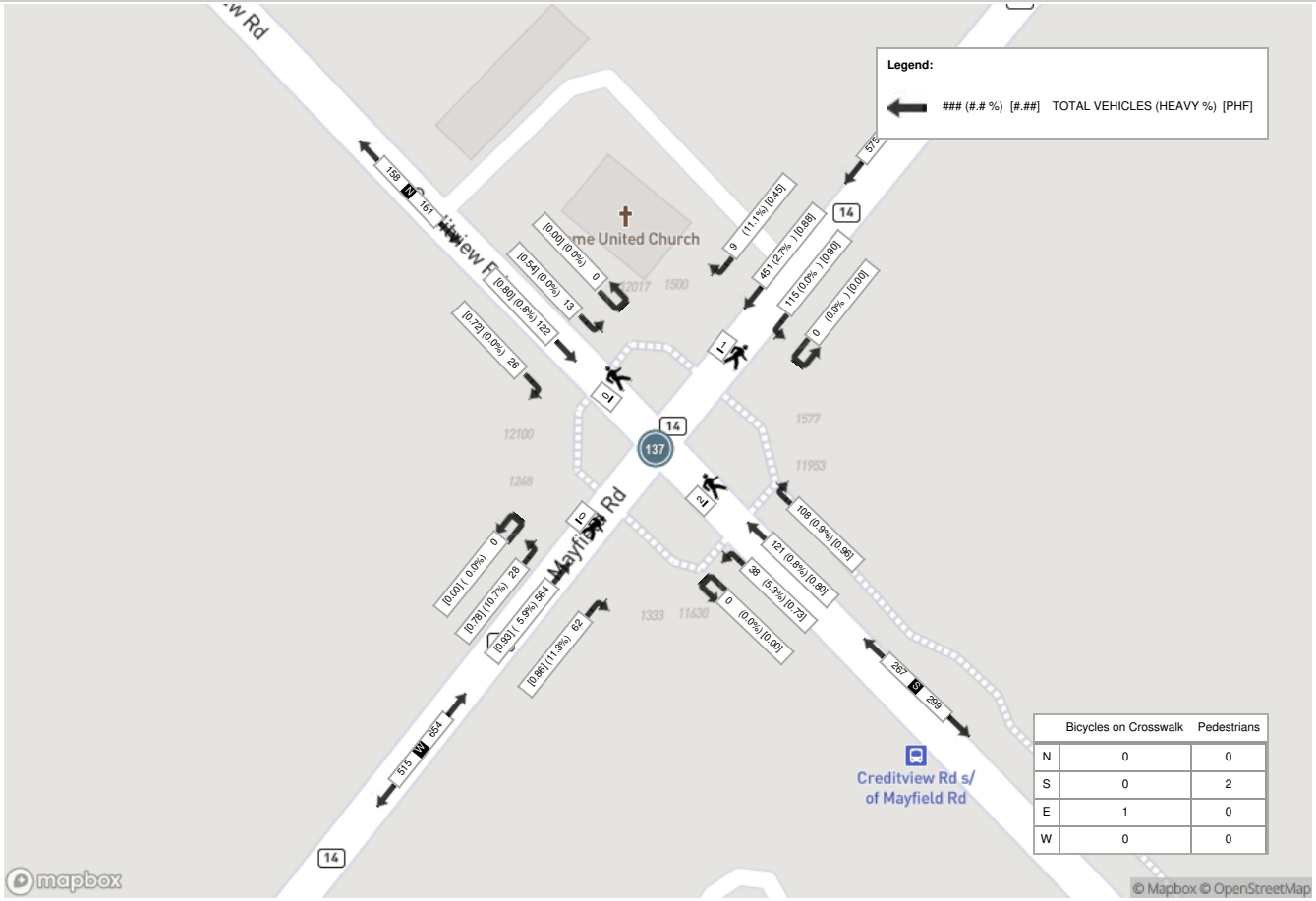
	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	1
W	1	0

Peak Hour: 01:00 PM - 02:00 PM **Weather: Broken Clouds (21 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	0
W	0	1

Peak Hour: 05:00 PM - 06:00 PM **Weather: Broken Clouds (23 °C)**



Turning Movement Count (123 . MAYFIELD RD & HERITAGE RD) CustID: 01423401

Start Time	Southbound HERITAGE RD						Northbound HERITAGE RD						Westbound MAYFIELD ROAD						Eastbound MAYFIELD ROAD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2023-05-17 07:00:00	0	8	0	0	0	8	4	1	7	0	0	12	27	63	0	0	0	90	0	78	5	0	0	83	193
2023-05-17 07:15:00	0	11	0	0	0	11	0	1	6	0	0	7	25	75	0	0	0	100	0	78	11	0	0	89	207
2023-05-17 07:30:00	3	14	2	0	0	19	3	4	9	0	0	16	19	70	3	0	0	92	1	119	12	0	0	132	259
2023-05-17 07:45:00	0	16	0	0	0	16	1	3	14	0	0	18	28	86	1	0	0	115	0	108	11	0	0	119	268
Hourly	3	49	2	0	0	54	8	9	36	0	0	53	99	294	4	0	0	397	1	383	39	0	0	423	927
2023-05-17 08:00:00	2	15	0	0	0	17	1	9	6	0	0	16	18	86	2	0	0	106	1	70	18	0	0	89	228
2023-05-17 08:15:00	4	19	0	0	0	23	4	7	6	0	0	17	20	91	1	0	0	112	1	67	7	0	0	75	227
2023-05-17 08:30:00	1	14	0	0	0	15	2	3	12	0	0	17	25	77	0	0	0	102	1	91	6	0	0	98	232
2023-05-17 08:45:00	1	19	3	0	0	23	3	9	7	0	0	19	21	89	1	0	0	111	1	58	4	0	0	63	216
Hourly	8	67	3	0	0	78	10	28	31	0	0	69	84	343	4	0	0	431	4	286	35	0	0	325	903
BREAK																									
2023-05-17 11:00:00	0	3	0	0	1	3	3	4	3	0	1	10	15	35	0	0	1	50	3	36	2	0	1	41	104
2023-05-17 11:15:00	0	4	0	0	0	4	2	1	6	0	0	9	3	34	2	0	0	39	1	37	2	0	0	40	92
2023-05-17 11:30:00	2	7	3	0	0	12	5	6	5	0	0	16	7	56	3	0	0	66	1	40	4	0	0	45	139
2023-05-17 11:45:00	6	6	1	0	0	13	6	1	2	0	0	9	5	62	2	0	0	69	1	47	3	0	0	51	142
Hourly	8	20	4	0	1	32	16	12	16	0	1	44	30	187	7	0	1	224	6	160	11	0	1	177	477
2023-05-17 12:00:00	3	4	1	0	0	8	1	3	7	0	0	11	11	47	1	0	0	59	1	51	4	0	0	56	134
2023-05-17 12:15:00	3	9	2	0	0	14	0	2	3	0	0	5	9	54	0	0	0	63	2	45	3	0	0	50	132
2023-05-17 12:30:00	2	8	1	0	0	11	1	5	12	0	0	18	6	46	1	0	0	53	1	50	2	0	0	53	135
2023-05-17 12:45:00	0	3	0	0	0	3	3	3	10	0	0	16	4	40	3	0	0	47	1	47	1	0	0	49	115
Hourly	8	24	4	0	0	36	5	13	32	0	0	50	30	187	5	0	0	222	5	193	10	0	0	208	516
2023-05-17 13:00:00	0	5	0	0	0	5	4	7	3	0	0	14	3	39	0	0	0	42	2	56	2	0	0	60	121
2023-05-17 13:15:00	1	7	3	0	1	11	3	9	8	0	0	20	8	41	2	0	1	51	1	53	4	0	0	58	140
2023-05-17 13:30:00	0	5	0	0	0	5	1	5	7	0	0	13	13	46	0	0	0	59	3	49	2	0	0	54	131
2023-05-17 13:45:00	2	3	5	0	0	10	5	10	11	0	0	26	6	69	1	0	0	76	2	46	5	0	0	53	165
Hourly	3	20	8	0	1	31	13	31	29	0	0	73	30	195	3	0	1	228	8	204	13	0	0	225	557
BREAK																									
2023-05-17 15:00:00	1	5	0	0	0	6	4	9	10	0	0	23	8	83	3	0	0	94	1	67	2	0	0	70	193
2023-05-17 15:15:00	1	8	2	0	0	11	5	23	23	0	0	51	12	78	3	0	0	93	0	84	1	0	0	85	240
2023-05-17 15:30:00	1	8	1	0	0	10	4	21	17	0	0	42	7	71	4	0	0	82	1	79	2	0	0	82	216
2023-05-17 15:45:00	2	12	1	0	0	15	6	15	19	0	0	40	15	81	3	0	0	99	3	74	6	0	0	83	237
Hourly	5	33	4	0	0	42	19	68	69	0	0	156	42	313	13	0	0	368	5	304	11	0	0	320	886
2023-05-17 16:00:00	4	3	0	0	0	7	5	17	20	0	0	42	15	90	1	0	0	106	2	100	3	0	0	105	260
2023-05-17 16:15:00	1	6	3	0	0	10	8	18	16	0	0	42	5	95	0	0	0	100	4	103	5	0	0	112	264
2023-05-17 16:30:00	0	5	0	0	0	5	6	24	13	0	0	43	9	67	2	0	0	78	1	86	6	0	0	93	219
2023-05-17 16:45:00	0	14	5	0	0	19	5	25	15	0	0	45	8	88	2	0	0	98	0	111	7	0	0	118	280
Hourly	5	28	8	0	0	41	24	84	64	0	0	172	37	340	5	0	0	382	7	400	21	0	0	428	1023
2023-05-17 17:00:00	2	6	0	0	0	8	8	12	15	0	0	35	20	122	2	0	0	144	2	112	5	0	0	119	306
2023-05-17 17:15:00	0	9	1	0	0	10	6	19	23	0	0	48	14	84	4	0	0	102	0	124	2	0	0	126	286
2023-05-17 17:30:00	0	6	0	0	0	6	6	27	27	0	0	60	11	74	1	0	0	86	4	104	3	0	0	111	263
2023-05-17 17:45:00	3	7	1	0	0	11	6	10	26	0	0	42	20	86	1	0	0	107	4	114	1	0	0	119	279
Hourly	5	28	2	0	0	35	26	68	91	0	0	185	65	366	8	0	0	439	10	454	11	0	0	475	1134
Grand Total	45	269	35	0	2	349	121	313	368	0	1	802	417	2225	49	0	2	2691	46	2384	151	0	1	2581	**6423**
Approach%	12.9%	77.1%	10%	0%		-	15.1%	39%	45.9%	0%		-	15.5%	82.7%	1.8%	0%		-	1.8%	92.4%	5.9%	0%		-	-

Totals %	0.7%	4.2%	0.5%	0%	5.4%	1.9%	4.9%	5.7%	0%	12.5%	6.5%	34.6%	0.8%	0%	41.9%	0.7%	37.1%	2.4%	0%	40.2%	-
Heavy	3	7	0	0	-	1	12	11	0	-	10	154	3	0	-	1	218	5	0	-	-
Heavy %	6.7%	2.6%	0%	0%	-	0.8%	3.8%	3%	0%	-	2.4%	6.9%	6.1%	0%	-	2.2%	9.1%	3.3%	0%	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & HERITAGE RD
Date: Wed, May 17, 2023 Deployment Lead: Walter Fugaj

Peel Region
SUITE B 10 PEEL CENTRE DR
BRAMPTON ONTARIO, L6T 4B9
CANADA

Peak Hour: 07:00 AM - 08:00 AM Weather: Few Clouds (1.59 °C)

Start Time	Southbound HERITAGE RD						Northbound HERITAGE RD						Westbound MAYFIELD ROAD						Eastbound MAYFIELD ROAD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2023-05-17 07:00:00	0	8	0	0	0	8	4	1	7	0	0	12	27	63	0	0	0	90	0	78	5	0	0	83	193
2023-05-17 07:15:00	0	11	0	0	0	11	0	1	6	0	0	7	25	75	0	0	0	100	0	78	11	0	0	89	207
2023-05-17 07:30:00	3	14	2	0	0	19	3	4	9	0	0	16	19	70	3	0	0	92	1	119	12	0	0	132	259
2023-05-17 07:45:00	0	16	0	0	0	16	1	3	14	0	0	18	28	86	1	0	0	115	0	108	11	0	0	119	268
Grand Total	3	49	2	0	0	54	8	9	36	0	0	53	99	294	4	0	0	397	1	383	39	0	0	423	**927**
Approach%	5.6%	90.7%	3.7%	0%		-	15.1%	17%	67.9%	0%		-	24.9%	74.1%	1%	0%		-	0.2%	90.5%	9.2%	0%		-	**-**
Totals %	0.3%	5.3%	0.2%	0%		5.8%	0.9%	1%	3.9%	0%		5.7%	10.7%	31.7%	0.4%	0%		42.8%	0.1%	41.3%	4.2%	0%		45.6%	**-**
PHF	0.25	0.77	0.25	0		0.71	0.5	0.56	0.64	0		0.74	0.88	0.85	0.33	0		0.86	0.25	0.8	0.81	0		0.8	0.86
Heavy	1	0	0	0		1	0	0	1	0		1	2	17	0	0		19	0	22	2	0		24	45
Heavy %	33.3%	0%	0%	0%		1.9%	0%	0%	2.8%	0%		1.9%	2%	5.8%	0%	0%		4.8%	0%	5.7%	5.1%	0%		5.7%	4.9%
Lights	2	49	2	0		53	8	9	35	0		52	97	277	4	0		378	1	361	37	0		399	882
Lights %	66.7%	100%	100%	0%		98.1%	100%	100%	97.2%	0%		98.1%	98%	94.2%	100%	0%		95.2%	100%	94.3%	94.9%	0%		94.3%	95.1%
Single-Unit Trucks	1	0	0	0		1	0	0	0	0		0	0	11	0	0		11	0	6	0	0		6	18
Single-Unit Trucks %	33.3%	0%	0%	0%		1.9%	0%	0%	0%	0%		0%	0%	3.7%	0%	0%		2.8%	0%	1.6%	0%	0%		1.4%	1.9%
Buses	0	0	0	0		0	0	0	0	0		0	2	1	0	0		3	0	0	2	0		2	5
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	2%	0.3%	0%	0%		0.8%	0%	0%	5.1%	0%		0.5%	0.5%
Articulated Trucks	0	0	0	0		0	0	0	1	0		1	0	5	0	0		5	0	16	0	0		16	22
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	2.8%	0%		1.9%	0%	1.7%	0%	0%		1.3%	0%	4.2%	0%	0%		3.8%	2.4%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

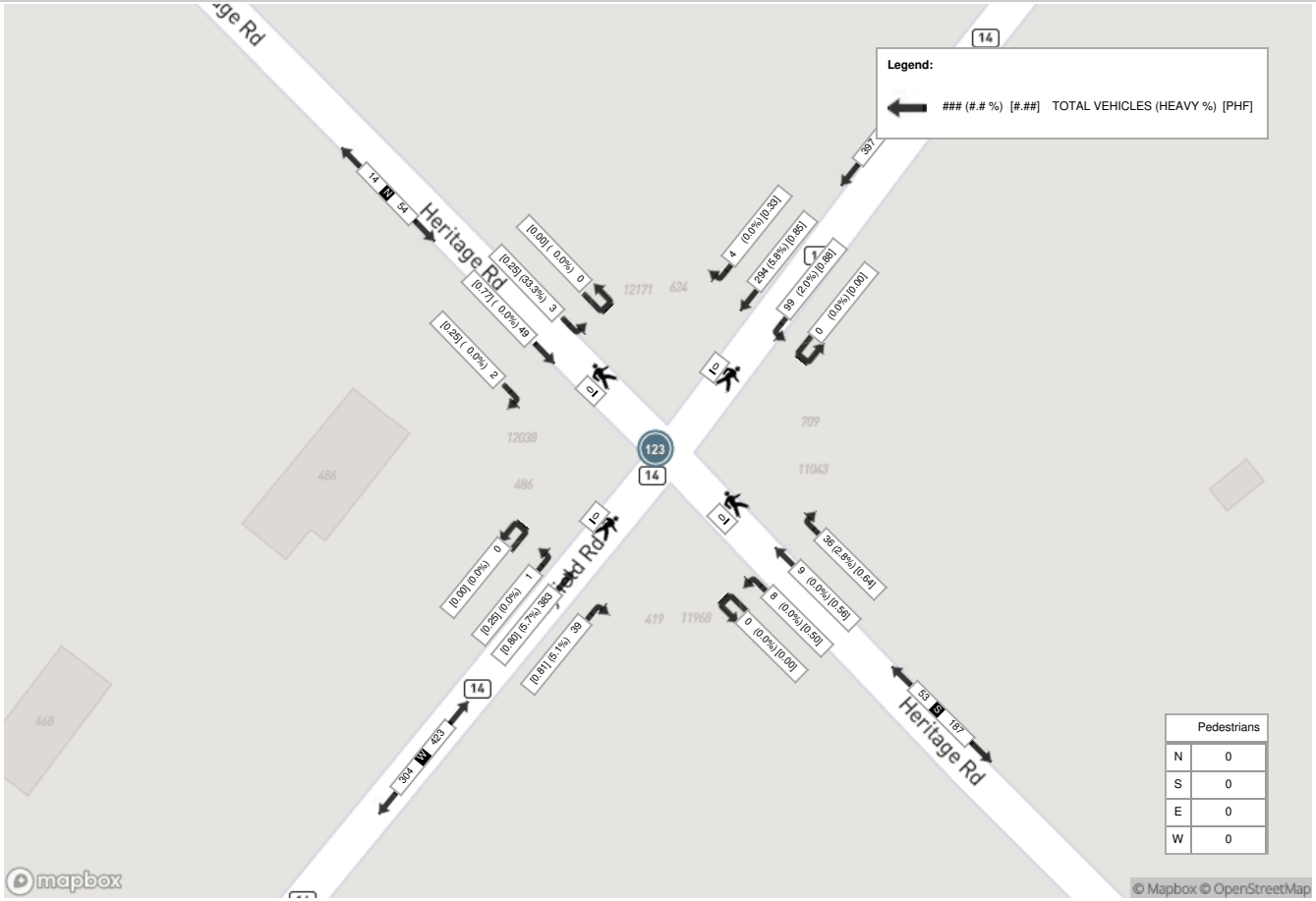
Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (6.39 °C)

Start Time	Southbound HERITAGE RD						Northbound HERITAGE RD						Westbound MAYFIELD ROAD						Eastbound MAYFIELD ROAD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2023-05-17 13:00:00	0	5	0	0	0	5	4	7	3	0	0	14	3	39	0	0	0	42	2	56	2	0	0	60	121
2023-05-17 13:15:00	1	7	3	0	1	11	3	9	8	0	0	20	8	41	2	0	1	51	1	53	4	0	0	58	140
2023-05-17 13:30:00	0	5	0	0	0	5	1	5	7	0	0	13	13	46	0	0	0	59	3	49	2	0	0	54	131
2023-05-17 13:45:00	2	3	5	0	0	10	5	10	11	0	0	26	6	69	1	0	0	76	2	46	5	0	0	53	165
Grand Total	3	20	8	0	1	31	13	31	29	0	0	73	30	195	3	0	1	228	8	204	13	0	0	225	**557**
Approach%	9.7%	64.5%	25.8%	0%		-	17.8%	42.5%	39.7%	0%		-	13.2%	85.5%	1.3%	0%		-	3.6%	90.7%	5.8%	0%		-	**-**
Totals %	0.5%	3.6%	1.4%	0%		5.6%	2.3%	5.6%	5.2%	0%		13.1%	5.4%	35%	0.5%	0%		40.9%	1.4%	36.6%	2.3%	0%		40.4%	**-**
PHF	0.38	0.71	0.4	0		0.7	0.65	0.78	0.66	0		0.7	0.58	0.71	0.38	0		0.75	0.67	0.91	0.65	0		0.94	0.84
Heavy	0	0	0	0		0	0	0	2	0		2	0	14	1	0		15	1	31	0	0		32	49
Heavy %	0%	0%	0%	0%		0%	0%	0%	6.9%	0%		2.7%	0%	7.2%	33.3%	0%		6.6%	12.5%	15.2%	0%	0%		14.2%	8.8%
Lights	3	20	8	0		31	13	31	27	0		71	30	181	2	0		213	7	173	13	0		193	508
Lights %	100%	100%	100%	0%		100%	100%	100%	93.1%	0%		97.3%	100%	92.8%	66.7%	0%		93.4%	87.5%	84.8%	100%	0%		85.8%	91.2%
Single-Unit Trucks	0	0	0	0		0	0	0	2	0		2	0	7	1	0		8	1	18	0	0		19	29
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	6.9%	0%		2.7%	0%	3.6%	33.3%	0%		3.5%	12.5%	8.8%	0%	0%		8.4%	5.2%
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	7	0	0		7	0	13	0	0		13	20
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	3.6%	0%	0%		3.1%	0%	6.4%	0%	0%		5.8%	3.6%
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	50%		-	-	-	-	0%		-	-	-	-	50%		-	-	-	-	0%		**-**

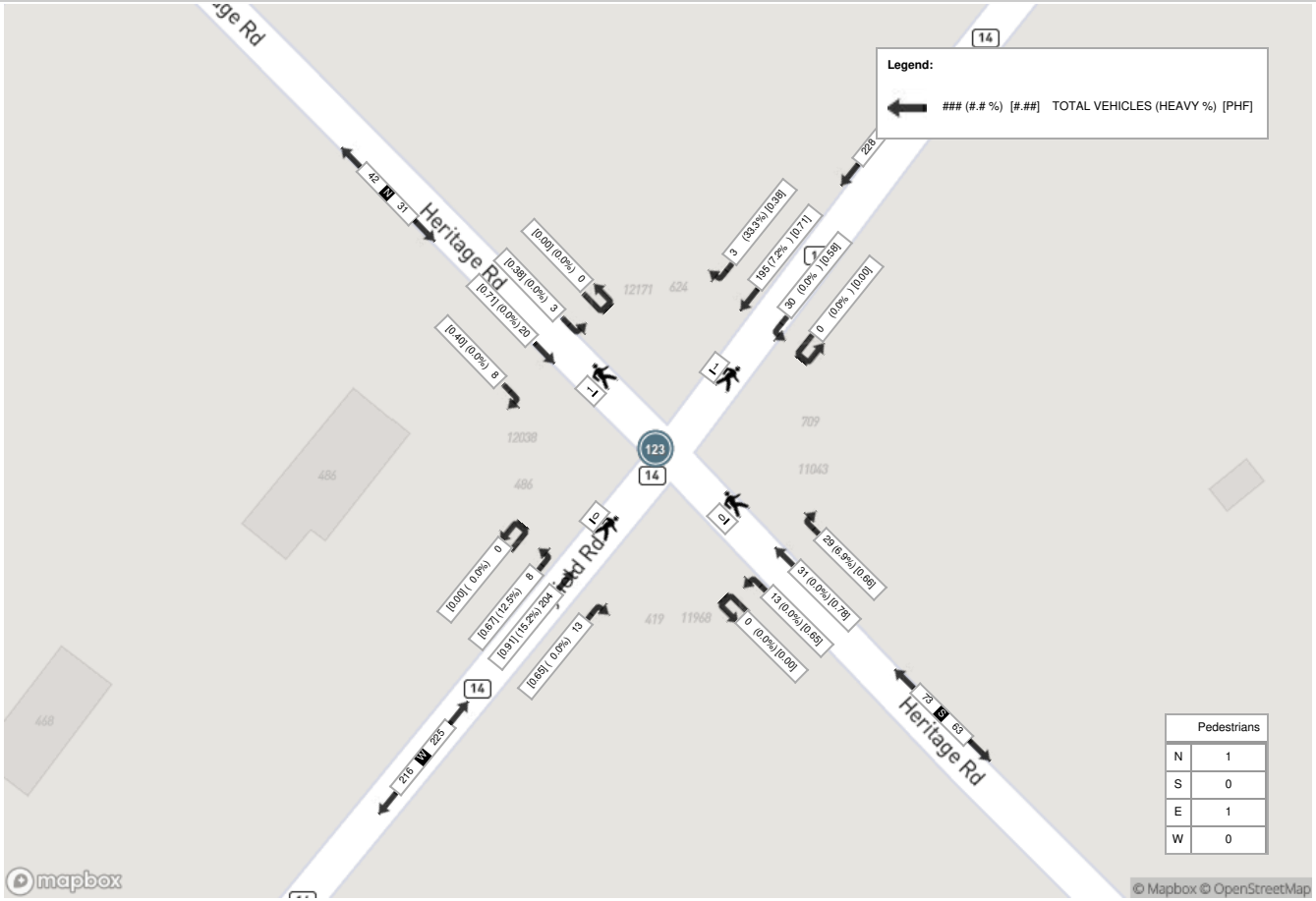
Peak Hour: 05:00 PM - 06:00 PM Weather: Scattered Clouds (10.07 °C)

Start Time	Southbound HERITAGE RD						Northbound HERITAGE RD						Westbound MAYFIELD ROAD						Eastbound MAYFIELD ROAD						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2023-05-17 17:00:00	2	6	0	0	0	8	8	12	15	0	0	35	20	122	2	0	0	144	2	112	5	0	0	119	306
2023-05-17 17:15:00	0	9	1	0	0	10	6	19	23	0	0	48	14	84	4	0	0	102	0	124	2	0	0	126	286
2023-05-17 17:30:00	0	6	0	0	0	6	6	27	27	0	0	60	11	74	1	0	0	86	4	104	3	0	0	111	263
2023-05-17 17:45:00	3	7	1	0	0	11	6	10	26	0	0	42	20	86	1	0	0	107	4	114	1	0	0	119	279
Grand Total	5	28	2	0	0	35	26	68	91	0	0	185	65	366	8	0	0	439	10	454	11	0	0	475	**1134**
Approach%	14.3%	80%	5.7%	0%		-	14.1%	36.8%	49.2%	0%		-	14.8%	83.4%	1.8%	0%		-	2.1%	95.6%	2.3%	0%		-	**-**
Totals %	0.4%	2.5%	0.2%	0%		3.1%	2.3%	6%	8%	0%		16.3%	5.7%	32.3%	0.7%	0%		38.7%	0.9%	40%	1%	0%		41.9%	**-**
PHF	0.42	0.78	0.5	0		0.8	0.81	0.63	0.84	0		0.77	0.81	0.75	0.5	0		0.76	0.63	0.92	0.55	0		0.94	0.93
Heavy	0	3	0	0		3	0	1	0	0		1	2	15	0	0		17	0	27	0	0		27	48
Heavy %	0%	10.7%	0%	0%		8.6%	0%	1.5%	0%	0%		0.5%	3.1%	4.1%	0%	0%		3.9%	0%	5.9%	0%	0%		5.7%	4.2%
Lights	5	25	2	0		32	26	67	91	0		184	63	351	8	0		422	10	427	11	0		448	1086
Lights %	100%	89.3%	100%	0%		91.4%	100%	98.5%	100%	0%		99.5%	96.9%	95.9%	100%	0%		96.1%	100%	94.1%	100%	0%		94.3%	95.8%
Single-Unit Trucks	0	2	0	0		2	0	1	0	0		1	2	8	0	0		10	0	16	0	0		16	29
Single-Unit Trucks %	0%	7.1%	0%	0%		5.7%	0%	1.5%	0%	0%		0.5%	3.1%	2.2%	0%	0%		2.3%	0%	3.5%	0%	0%		3.4%	2.6%
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	7	0	0		7	0	11	0	0		11	19
Articulated Trucks %	0%	3.6%	0%	0%		2.9%	0%	0%	0%	0%		0%	0%	1.9%	0%	0%		1.6%	0%	2.4%	0%	0%		2.3%	1.7%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

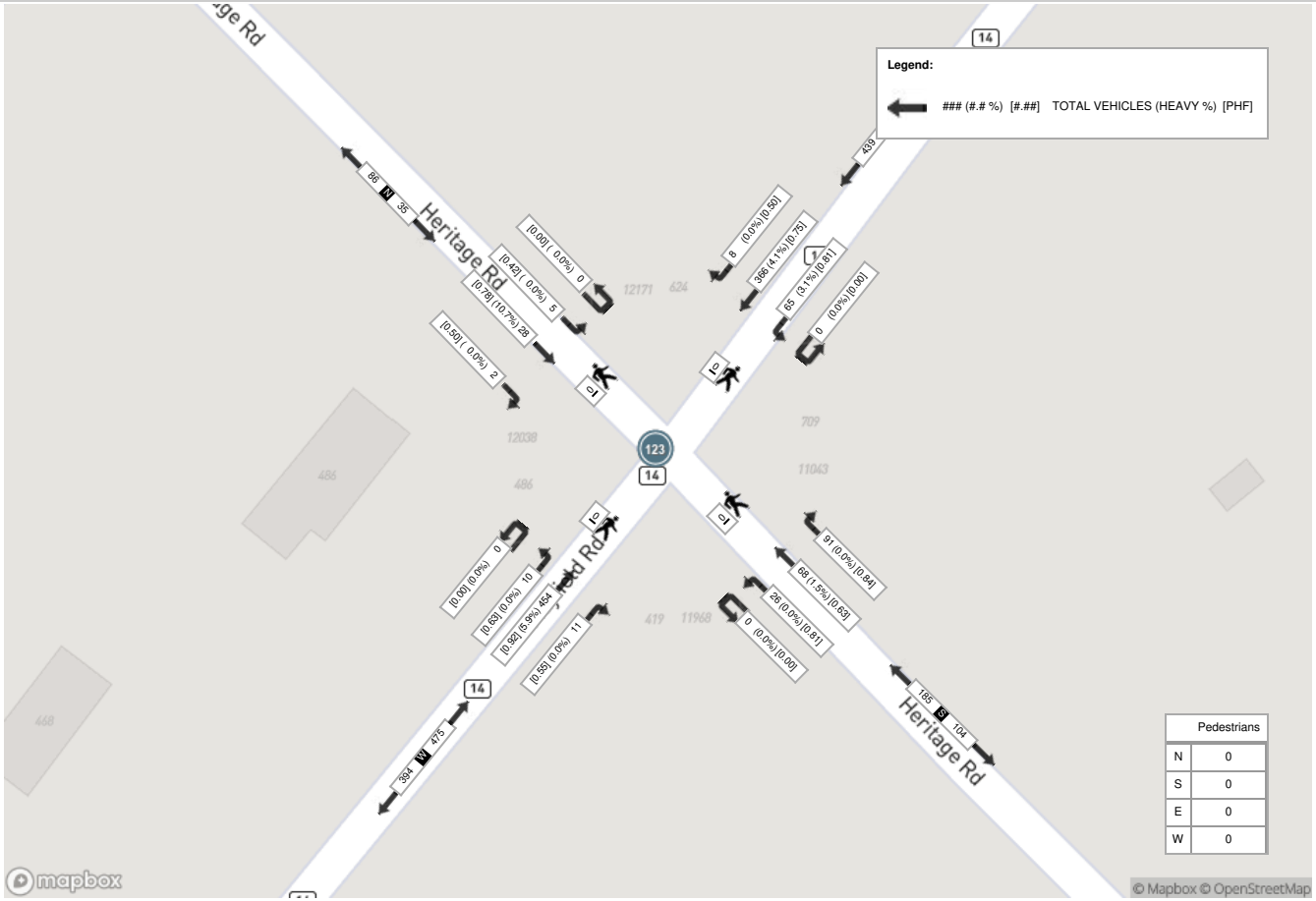
Peak Hour: 07:00 AM - 08:00 AM **Weather: Few Clouds (1.59 °C)**



Peak Hour: 01:00 PM - 02:00 PM **Weather: Broken Clouds (6.39 °C)**



Peak Hour: 05:00 PM - 06:00 PM **Weather: Scattered Clouds (10.07 °C)**



Spectrum

Turning Movement Count
Location Name: MISSISSAUGA RD & MAYFIELD RD
Date: Thu, May 15, 2025 Deployment Lead: Constantinos Kotassidis

Peel Region
SUITE B 10 PEEL CENTRE DR
BRAMPTON ONTARIO, L6T 4B9
CANADA

Turning Movement Count (17 . MISSISSAUGA RD & MAYFIELD RD) CustID: 00125337 MioID: 1318123

Start Time	Southbound MISSISSAUGA RD						Westbound MAYFIELD RD						Northbound MISSISSAUGA RD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 07:00:00	1	40	14	0	0	55	14	72	7	0	0	93	7	26	12	0	0	45	6	53	14	0	1	73	266
2025-05-15 07:15:00	1	63	19	0	0	83	24	99	5	0	0	128	12	24	4	0	0	40	9	60	18	0	0	87	338
2025-05-15 07:30:00	3	61	15	0	0	79	27	98	4	0	0	129	20	22	16	0	0	58	10	57	16	0	0	83	349
2025-05-15 07:45:00	5	59	16	0	0	80	19	84	6	0	0	109	22	25	12	0	0	59	19	75	24	0	0	118	366
Hourly	10	223	64	0	0	297	84	353	22	0	0	459	61	97	44	0	0	202	44	245	72	0	1	361	1319
2025-05-15 08:00:00	5	48	10	0	0	63	27	87	9	0	0	123	10	22	8	0	0	40	14	62	25	0	0	101	327
2025-05-15 08:15:00	3	51	13	0	0	67	33	73	7	0	0	113	14	27	11	0	0	52	8	58	17	0	0	83	315
2025-05-15 08:30:00	6	52	23	0	0	81	32	102	6	0	0	140	17	31	20	0	0	68	18	53	12	0	0	83	372
2025-05-15 08:45:00	9	43	18	0	0	70	24	91	20	0	0	135	17	32	21	0	0	70	12	42	8	0	0	62	337
Hourly	23	194	64	0	0	281	116	353	42	0	0	511	58	112	60	0	0	230	52	215	62	0	0	329	1351
BREAK																									
2025-05-15 11:00:00	4	16	11	0	0	31	8	38	5	0	0	51	7	22	13	0	0	42	2	46	7	0	0	55	179
2025-05-15 11:15:00	5	14	6	0	0	25	15	46	3	0	0	64	12	27	20	0	0	59	6	36	7	0	0	49	197
2025-05-15 11:30:00	10	26	8	0	0	44	23	53	6	0	0	82	8	20	16	0	0	44	6	50	7	0	0	63	233
2025-05-15 11:45:00	4	16	9	0	0	29	13	61	2	0	0	76	11	27	22	0	0	60	7	30	2	0	0	39	204
Hourly	23	72	34	0	0	129	59	198	16	0	0	273	38	96	71	0	0	205	21	162	23	0	0	206	813
2025-05-15 12:00:00	5	25	8	0	0	38	23	46	1	0	0	70	2	19	13	0	0	34	10	46	8	0	0	64	206
2025-05-15 12:15:00	3	21	10	0	0	34	15	64	4	0	0	83	13	17	14	0	0	44	9	65	5	0	0	79	240
2025-05-15 12:30:00	3	18	6	0	0	27	21	45	4	0	0	70	11	31	19	0	0	61	13	50	5	0	0	68	226
2025-05-15 12:45:00	4	20	11	0	0	35	14	48	4	0	0	66	10	19	9	0	0	38	9	54	7	0	0	70	209
Hourly	15	84	35	0	0	134	73	203	13	0	0	289	36	86	55	0	0	177	41	215	25	0	0	281	881
2025-05-15 13:00:00	4	24	7	0	0	35	15	60	1	0	0	76	9	31	14	0	0	54	8	41	4	0	0	53	218
2025-05-15 13:15:00	3	21	8	0	0	32	10	47	3	0	0	60	12	35	19	0	0	66	10	68	9	0	0	87	245
2025-05-15 13:30:00	4	24	10	0	0	38	23	68	2	0	0	93	12	24	27	0	0	63	9	52	10	0	0	71	265
2025-05-15 13:45:00	3	30	6	0	0	39	18	56	3	0	0	77	9	31	22	0	0	62	9	57	8	0	0	74	252
Hourly	14	99	31	0	0	144	66	231	9	0	0	306	42	121	82	0	0	245	36	218	31	0	0	285	980
BREAK																									
2025-05-15 15:00:00	4	17	17	0	0	38	14	69	14	0	0	97	32	63	27	0	0	122	11	81	19	0	0	111	368
2025-05-15 15:15:00	10	21	13	0	0	44	15	66	20	0	0	101	18	66	31	0	0	115	20	95	15	0	0	130	390
2025-05-15 15:30:00	25	31	13	0	0	69	18	75	7	0	0	100	16	79	30	0	0	125	19	98	20	0	0	137	431
2025-05-15 15:45:00	7	40	19	0	0	66	13	80	3	0	0	96	19	61	25	0	0	105	12	92	17	0	0	121	388
Hourly	46	109	62	0	0	217	60	290	44	0	0	394	85	269	113	0	0	467	62	366	71	0	0	499	1577
2025-05-15 16:00:00	7	36	18	0	0	61	14	59	5	0	0	78	27	68	26	0	0	121	20	100	19	0	0	139	399
2025-05-15 16:15:00	2	54	16	0	0	72	13	91	8	0	0	112	14	53	27	0	0	94	12	98	29	0	0	139	417
2025-05-15 16:30:00	9	42	23	0	0	74	20	79	5	0	0	104	12	61	31	0	0	104	15	119	19	0	0	153	435
2025-05-15 16:45:00	7	37	15	0	0	59	20	62	7	0	0	89	12	42	18	0	0	72	20	143	16	0	0	179	399
Hourly	25	169	72	0	0	266	67	291	25	0	0	383	65	224	102	0	0	391	67	460	83	0	0	610	1650
2025-05-15 17:00:00	8	41	16	0	0	65	21	80	3	0	0	104	9	66	25	0	0	100	15	126	22	0	0	163	432
2025-05-15 17:15:00	4	45	13	0	0	62	19	63	6	0	0	88	15	70	20	0	0	105	12	112	23	0	0	147	402
2025-05-15 17:30:00	7	36	9	0	0	52	25	53	3	0	0	81	13	47	16	0	0	76	14	127	24	0	0	165	374
2025-05-15 17:45:00	9	44	12	0	0	65	12	85	8	0	0	105	12	41	28	0	0	81	22	113	21	0	0	156	407
Hourly	28	166	50	0	0	244	77	281	20	0	0	378	49	224	89	0	0	362	63	478	90	0	0	631	1615
Grand Total	184	1116	412	0	0	1712	602	2200	191	0	0	2993	434	1229	616	0	0	2279	386	2359	457	0	1	3202	**10186**
Approach%	10.7%	65.2%	24.1%	0%		-	20.1%	73.5%	6.4%	0%		-	19%	53.9%	27%	0%		-	12.1%	73.7%	14.3%	0%		-	**-**

Totals %	1.8%	11%	4%	0%	16.8%	5.9%	21.6%	1.9%	0%	29.4%	4.3%	12.1%	6%	0%	22.4%	3.8%	23.2%	4.5%	0%	31.4%	-
Heavy	19	66	47	0	-	54	138	27	0	-	30	71	75	0	-	52	166	25	0	-	-
Heavy %	10.3%	5.9%	11.4%	0%	-	9%	6.3%	14.1%	0%	-	6.9%	5.8%	12.2%	0%	-	13.5%	7%	5.5%	0%	-	-
Bicycles	0	2	0	0	-	0	0	0	0	-	0	0	0	0	-	0	1	0	0	-	-
Bicycle %	0%	0.2%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	-

Spectrum

Turning Movement Count
Location Name: MISSISSAUGA RD & MAYFIELD RD
Date: Thu, May 15, 2025 Deployment Lead: Constantinos Kotassidis

Peel Region
SUITE B 10 PEEL CENTRE DR
BRAMPTON ONTARIO, L6T 4B9
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	Southbound MISSISSAUGA RD						Westbound MAYFIELD RD						Northbound MISSISSAUGA RD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 08:00:00	5	48	10	0	0	63	27	87	9	0	0	123	10	22	8	0	0	40	14	62	25	0	0	101	327
2025-05-15 08:15:00	3	51	13	0	0	67	33	73	7	0	0	113	14	27	11	0	0	52	8	58	17	0	0	83	315
2025-05-15 08:30:00	6	52	23	0	0	81	32	102	6	0	0	140	17	31	20	0	0	68	18	53	12	0	0	83	372
2025-05-15 08:45:00	9	43	18	0	0	70	24	91	20	0	0	135	17	32	21	0	0	70	12	42	8	0	0	62	337
Grand Total	23	194	64	0	0	281	116	353	42	0	0	511	58	112	60	0	0	230	52	215	62	0	0	329	**1351**
Approach%	8.2%	69%	22.8%	0%		-	22.7%	69.1%	8.2%	0%		-	25.2%	48.7%	26.1%	0%		-	15.8%	65.3%	18.8%	0%		-	**-**
Totals %	1.7%	14.4%	4.7%	0%		20.8%	8.6%	26.1%	3.1%	0%		37.8%	4.3%	8.3%	4.4%	0%		17%	3.8%	15.9%	4.6%	0%		24.4%	**-**
PHF	0.64	0.93	0.7	0		0.87	0.88	0.87	0.53	0		0.91	0.85	0.88	0.71	0		0.82	0.72	0.87	0.62	0		0.81	0.91
Heavy	1	15	6	0		22	9	24	11	0		44	2	5	4	0		11	7	19	4	0		30	107
Heavy %	4.3%	7.7%	9.4%	0%		7.8%	7.8%	6.8%	26.2%	0%		8.6%	3.4%	4.5%	6.7%	0%		4.8%	13.5%	8.8%	6.5%	0%		9.1%	7.9%
Lights	22	179	58	0		259	107	329	31	0		467	56	107	56	0		219	45	196	58	0		299	1244
Lights %	95.7%	92.3%	90.6%	0%		92.2%	92.2%	93.2%	73.8%	0%		91.4%	96.6%	95.5%	93.3%	0%		95.2%	86.5%	91.2%	93.5%	0%		90.9%	92.1%
Single-Unit Trucks	0	11	5	0		16	7	13	1	0		21	0	3	1	0		4	4	12	0	0		16	57
Single-Unit Trucks %	0%	5.7%	7.8%	0%		5.7%	6%	3.7%	2.4%	0%		4.1%	0%	2.7%	1.7%	0%		1.7%	7.7%	5.6%	0%	0%		4.9%	4.2%
Buses	1	2	0	0		3	1	5	10	0		16	0	1	3	0		4	0	0	1	0		1	24
Buses %	4.3%	1%	0%	0%		1.1%	0.9%	1.4%	23.8%	0%		3.1%	0%	0.9%	5%	0%		1.7%	0%	0%	1.6%	0%		0.3%	1.8%
Articulated Trucks	0	2	1	0		3	1	6	0	0		7	2	1	0	0		3	3	7	3	0		13	26
Articulated Trucks %	0%	1%	1.6%	0%		1.1%	0.9%	1.7%	0%	0%		1.4%	3.4%	0.9%	0%	0%		1.3%	5.8%	3.3%	4.8%	0%		4%	1.9%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	100%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

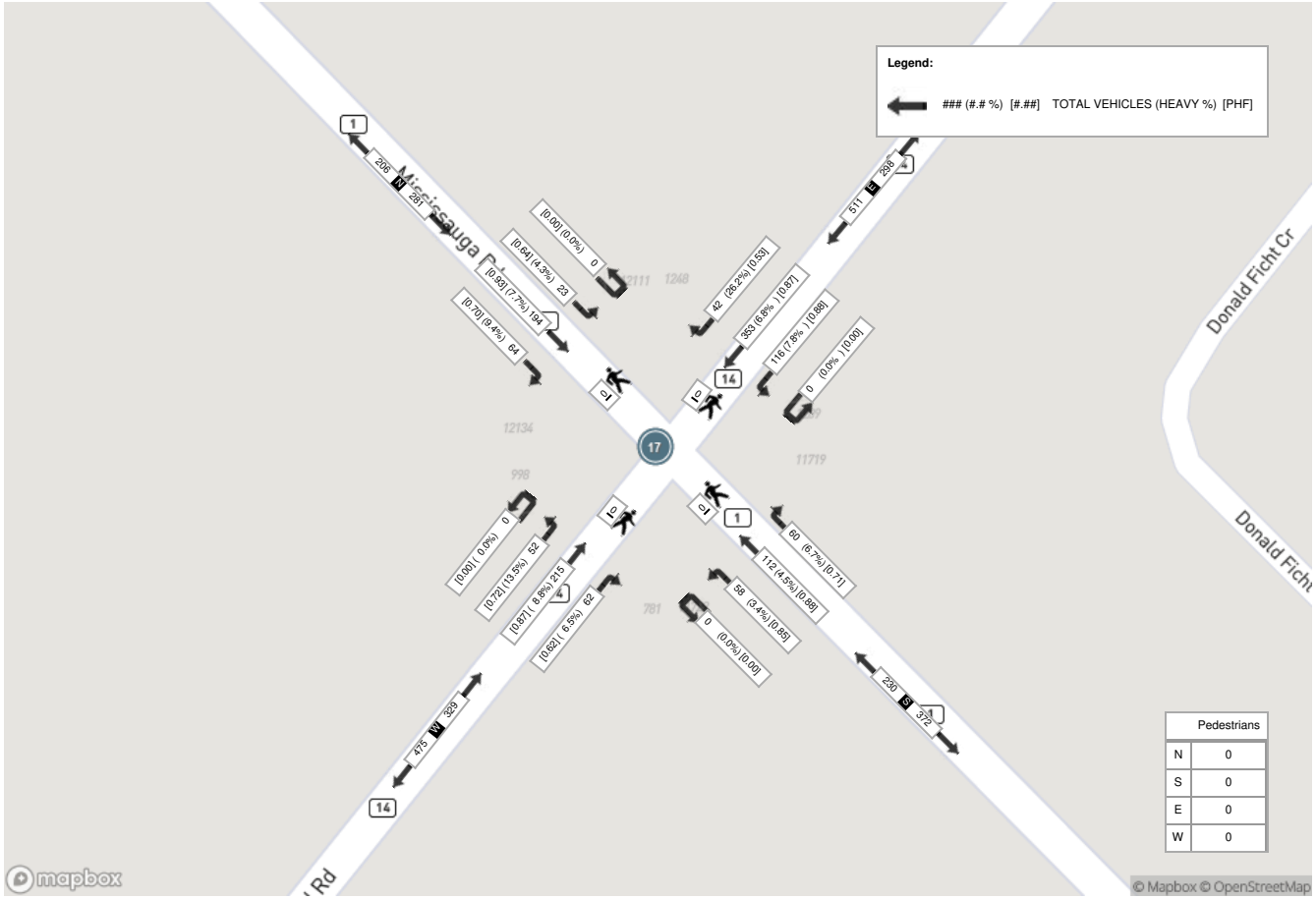
Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (21 °C)

Start Time	Southbound MISSISSAUGA RD						Westbound MAYFIELD RD						Northbound MISSISSAUGA RD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 13:00:00	4	24	7	0	0	35	15	60	1	0	0	76	9	31	14	0	0	54	8	41	4	0	0	53	218
2025-05-15 13:15:00	3	21	8	0	0	32	10	47	3	0	0	60	12	35	19	0	0	66	10	68	9	0	0	87	245
2025-05-15 13:30:00	4	24	10	0	0	38	23	68	2	0	0	93	12	24	27	0	0	63	9	52	10	0	0	71	265
2025-05-15 13:45:00	3	30	6	0	0	39	18	56	3	0	0	77	9	31	22	0	0	62	9	57	8	0	0	74	252
Grand Total	14	99	31	0	0	144	66	231	9	0	0	306	42	121	82	0	0	245	36	218	31	0	0	285	**980**
Approach%	9.7%	68.8%	21.5%	0%		-	21.6%	75.5%	2.9%	0%		-	17.1%	49.4%	33.5%	0%		-	12.6%	76.5%	10.9%	0%		-	**-**
Totals %	1.4%	10.1%	3.2%	0%		14.7%	6.7%	23.6%	0.9%	0%		31.2%	4.3%	12.3%	8.4%	0%		25%	3.7%	22.2%	3.2%	0%		29.1%	**-**
PHF	0.88	0.83	0.78	0		0.92	0.72	0.85	0.75	0		0.82	0.88	0.86	0.76	0		0.93	0.9	0.8	0.78	0		0.82	0.92
Heavy	0	11	4	0		15	5	23	2	0		30	4	9	12	0		25	5	25	4	0		34	104
Heavy %	0%	11.1%	12.9%	0%		10.4%	7.6%	10%	22.2%	0%		9.8%	9.5%	7.4%	14.6%	0%		10.2%	13.9%	11.5%	12.9%	0%		11.9%	10.6%
Lights	14	88	27	0		129	61	208	7	0		276	38	112	70	0		220	31	193	27	0		251	876
Lights %	100%	88.9%	87.1%	0%		89.6%	92.4%	90%	77.8%	0%		90.2%	90.5%	92.6%	85.4%	0%		89.8%	86.1%	88.5%	87.1%	0%		88.1%	89.4%
Single-Unit Trucks	0	6	3	0		9	4	12	2	0		18	1	3	10	0		14	4	17	1	0		22	63
Single-Unit Trucks %	0%	6.1%	9.7%	0%		6.3%	6.1%	5.2%	22.2%	0%		5.9%	2.4%	2.5%	12.2%	0%		5.7%	11.1%	7.8%	3.2%	0%		7.7%	6.4%
Buses	0	4	0	0		4	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	5
Buses %	0%	4%	0%	0%		2.8%	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.4%	0%	0%	0%	0%		0%	0.5%
Articulated Trucks	0	1	1	0		2	1	11	0	0		12	3	5	2	0		10	1	8	3	0		12	36
Articulated Trucks %	0%	1%	3.2%	0%		1.4%	1.5%	4.8%	0%	0%		3.9%	7.1%	4.1%	2.4%	0%		4.1%	2.8%	3.7%	9.7%	0%		4.2%	3.7%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 04:00 PM - 05:00 PM Weather: Broken Clouds (23 °C)

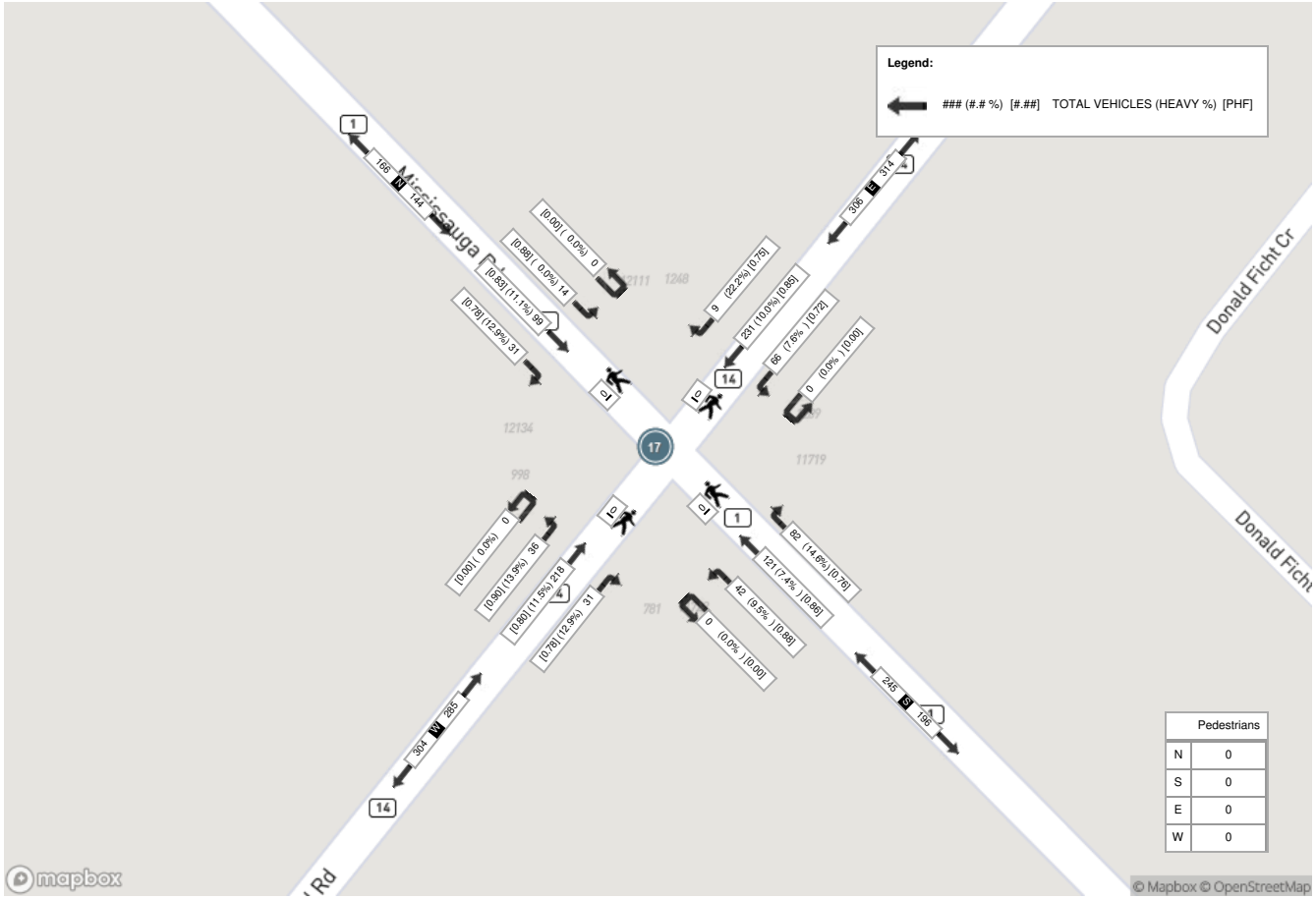
Start Time	Southbound MISSISSAUGA RD						Westbound MAYFIELD RD						Northbound MISSISSAUGA RD						Eastbound MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 16:00:00	7	36	18	0	0	61	14	59	5	0	0	78	27	68	26	0	0	121	20	100	19	0	0	139	399
2025-05-15 16:15:00	2	54	16	0	0	72	13	91	8	0	0	112	14	53	27	0	0	94	12	98	29	0	0	139	417
2025-05-15 16:30:00	9	42	23	0	0	74	20	79	5	0	0	104	12	61	31	0	0	104	15	119	19	0	0	153	435
2025-05-15 16:45:00	7	37	15	0	0	59	20	62	7	0	0	89	12	42	18	0	0	72	20	143	16	0	0	179	399
Grand Total	25	169	72	0	0	266	67	291	25	0	0	383	65	224	102	0	0	391	67	460	83	0	0	610	**1650**
Approach%	9.4%	63.5%	27.1%	0%		-	17.5%	76%	6.5%	0%		-	16.6%	57.3%	26.1%	0%		-	11%	75.4%	13.6%	0%		-	**-**
Totals %	1.5%	10.2%	4.4%	0%		16.1%	4.1%	17.6%	1.5%	0%		23.2%	3.9%	13.6%	6.2%	0%		23.7%	4.1%	27.9%	5%	0%		37%	**-**
PHF	0.69	0.78	0.78	0		0.9	0.84	0.8	0.78	0		0.85	0.6	0.82	0.82	0		0.81	0.84	0.8	0.72	0		0.85	0.95
Heavy	2	8	7	0		17	6	6	3	0		15	6	9	14	0		29	10	22	3	0		35	96
Heavy %	8%	4.7%	9.7%	0%		6.4%	9%	2.1%	12%	0%		3.9%	9.2%	4%	13.7%	0%		7.4%	14.9%	4.8%	3.6%	0%		5.7%	5.8%
Lights	23	161	65	0		249	61	285	22	0		368	59	215	88	0		362	57	438	80	0		575	1554
Lights %	92%	95.3%	90.3%	0%		93.6%	91%	97.9%	88%	0%		96.1%	90.8%	96%	86.3%	0%		92.6%	85.1%	95.2%	96.4%	0%		94.3%	94.2%
Single-Unit Trucks	0	4	4	0		8	4	5	3	0		12	3	7	3	0		13	9	11	1	0		21	54
Single-Unit Trucks %	0%	2.4%	5.6%	0%		3%	6%	1.7%	12%	0%		3.1%	4.6%	3.1%	2.9%	0%		3.3%	13.4%	2.4%	1.2%	0%		3.4%	3.3%
Buses	1	1	0	0		2	0	0	0	0		0	0	0	4	0		4	0	3	0	0		3	9
Buses %	4%	0.6%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	0%	3.9%	0%		1%	0%	0.7%	0%	0%		0.5%	0.5%
Articulated Trucks	1	3	3	0		7	2	1	0	0		3	3	2	7	0		12	1	8	2	0		11	33
Articulated Trucks %	4%	1.8%	4.2%	0%		2.6%	3%	0.3%	0%	0%		0.8%	4.6%	0.9%	6.9%	0%		3.1%	1.5%	1.7%	2.4%	0%		1.8%	2%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather:**

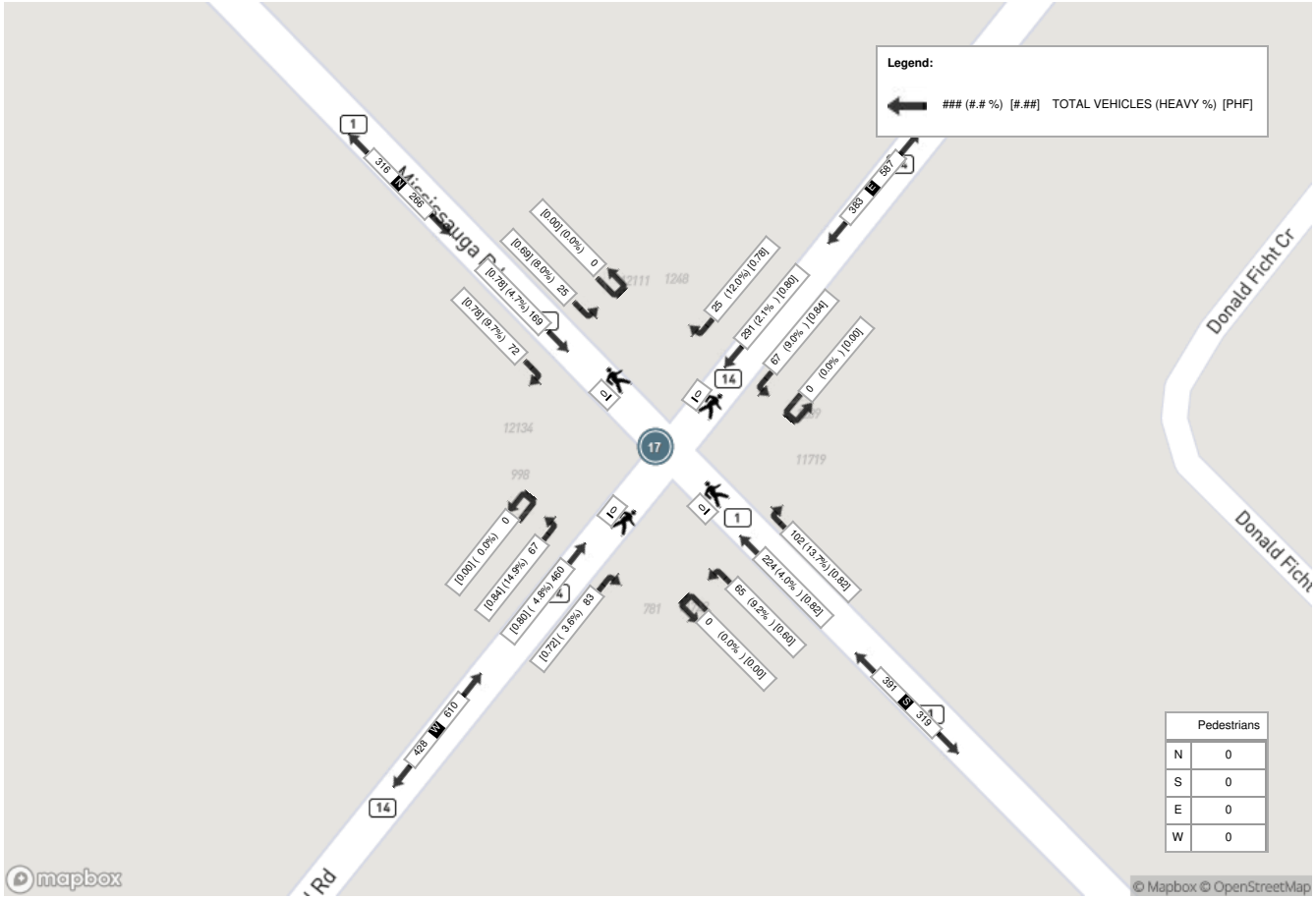


Peel Region
SUITE B 10 PEEL CENTRE DR
BRAMPTON ONTARIO, L6T 4B9
CANADA

Peak Hour: 01:00 PM - 02:00 PM **Weather: Broken Clouds (21 °C)**



Peak Hour: 04:00 PM - 05:00 PM **Weather: Broken Clouds (23 °C)**



Spectrum

Turning Movement Count
Location Name: MISSISSAUGA RD & OLD SCHOOL RD
Date: Thu, May 15, 2025 Deployment Lead: Constantinos Kotassidis

Peel Region
SUITE B 10 PEEL CENTRE DR
BRAMPTON ONTARIO, L6T 4B9
CANADA

Turning Movement Count (18 . MISSISSAUGA RD & OLD SCHOOL RD) CustID: 00128419 MioID: 1318126

Start Time	Southbound MISSISSAUGA RD						Westbound OLD SCHOOL RD						Northbound MISSISSAUGA RD						Eastbound OLD SCHOOL RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 07:00:00	4	46	8	0	0	58	1	12	3	0	0	16	1	27	4	0	0	32	4	25	2	0	0	31	137
2025-05-15 07:15:00	6	70	14	0	0	90	8	23	0	0	0	31	2	28	6	0	0	36	13	35	1	0	0	49	206
2025-05-15 07:30:00	4	63	16	0	0	83	11	23	5	0	0	39	0	25	9	0	0	34	19	29	2	0	0	50	206
2025-05-15 07:45:00	3	73	10	0	0	86	4	19	2	0	0	25	0	23	5	0	0	28	7	33	1	0	0	41	180
Hourly	17	252	48	0	0	317	24	77	10	0	0	111	3	103	24	0	0	130	43	122	6	0	0	171	729
2025-05-15 08:00:00	4	55	9	0	0	68	10	21	3	0	0	34	0	24	8	0	0	32	5	34	4	0	0	43	177
2025-05-15 08:15:00	0	65	18	0	0	83	6	25	2	0	0	33	2	22	5	0	0	29	8	25	1	0	0	34	179
2025-05-15 08:30:00	4	73	14	0	0	91	6	25	3	0	0	34	0	33	7	0	0	40	11	23	2	0	0	36	201
2025-05-15 08:45:00	3	59	5	0	0	67	9	24	3	0	0	36	1	30	10	0	0	41	10	23	6	0	0	39	183
Hourly	11	252	46	0	0	309	31	95	11	0	0	137	3	109	30	0	0	142	34	105	13	0	0	152	740
BREAK																									
2025-05-15 11:00:00	1	27	8	0	0	36	5	16	1	0	0	22	1	20	3	0	0	24	9	10	0	0	0	19	101
2025-05-15 11:15:00	4	23	7	0	0	34	2	13	1	0	0	16	1	29	5	0	0	35	16	11	1	0	0	28	113
2025-05-15 11:30:00	3	34	8	0	0	45	0	12	4	0	0	16	0	30	3	0	0	33	6	13	1	0	0	20	114
2025-05-15 11:45:00	3	29	8	0	0	40	1	19	3	0	0	23	0	31	1	0	0	32	4	8	0	0	0	12	107
Hourly	11	113	31	0	0	155	8	60	9	0	0	77	2	110	12	0	0	124	35	42	2	0	0	79	435
2025-05-15 12:00:00	4	28	6	0	0	38	1	13	2	0	0	16	0	22	8	0	0	30	6	11	1	0	0	18	102
2025-05-15 12:15:00	0	27	2	0	0	29	2	14	2	0	0	18	0	21	3	0	0	24	8	14	0	0	0	22	93
2025-05-15 12:30:00	2	22	10	0	0	34	3	21	2	0	0	26	1	31	5	0	0	37	8	17	1	0	0	26	123
2025-05-15 12:45:00	1	32	14	0	0	47	4	14	2	0	0	20	0	35	3	0	0	38	12	18	0	0	0	30	135
Hourly	7	109	32	0	0	148	10	62	8	0	0	80	1	109	19	0	0	129	34	60	2	0	0	96	453
2025-05-15 13:00:00	1	24	9	0	0	34	6	22	1	0	0	29	0	37	5	0	0	42	8	14	0	0	0	22	127
2025-05-15 13:15:00	0	29	10	0	0	39	10	25	4	0	0	39	3	32	6	0	0	41	8	22	1	0	0	31	150
2025-05-15 13:30:00	3	33	6	0	0	42	6	25	4	0	0	35	2	32	6	0	0	40	7	25	0	0	0	32	149
2025-05-15 13:45:00	1	26	10	0	0	37	3	18	2	0	0	23	1	31	4	0	0	36	13	30	1	0	0	44	140
Hourly	5	112	35	0	0	152	25	90	11	0	0	126	6	132	21	0	0	159	36	91	2	0	0	129	566
BREAK																									
2025-05-15 15:00:00	3	28	2	0	0	33	2	52	4	0	0	58	5	58	6	0	0	69	18	40	0	0	0	58	218
2025-05-15 15:15:00	2	29	6	0	0	37	4	55	7	0	0	66	1	67	18	0	0	86	22	44	6	0	0	72	261
2025-05-15 15:30:00	2	32	14	0	0	48	5	57	9	0	0	71	4	87	19	0	0	110	23	40	1	0	0	64	293
2025-05-15 15:45:00	1	37	8	0	0	46	4	35	10	0	0	49	5	83	11	0	0	99	25	47	3	0	0	75	269
Hourly	8	126	30	0	0	164	15	199	30	0	0	244	15	295	54	0	0	364	88	171	10	0	0	269	1041
2025-05-15 16:00:00	7	38	5	0	0	50	5	50	3	0	0	58	1	75	20	0	0	96	16	52	1	0	0	69	273
2025-05-15 16:15:00	2	51	5	0	0	58	4	51	8	0	0	63	3	70	14	0	0	87	23	57	0	0	0	80	288
2025-05-15 16:30:00	4	59	11	0	0	74	6	47	7	0	0	60	1	74	7	0	0	82	28	48	0	0	0	76	292
2025-05-15 16:45:00	2	50	18	0	0	70	10	54	7	0	0	71	0	60	4	0	0	64	20	35	1	0	0	56	261
Hourly	15	198	39	0	0	252	25	202	25	0	0	252	5	279	45	0	0	329	87	192	2	0	0	281	1114
2025-05-15 17:00:00	2	51	17	0	0	70	13	47	5	0	0	65	2	63	17	0	0	82	26	41	0	0	0	67	284
2025-05-15 17:15:00	3	48	10	0	0	61	8	45	3	0	0	56	1	69	12	0	0	82	22	56	0	0	0	78	277
2025-05-15 17:30:00	0	29	15	0	0	44	16	52	7	0	0	75	1	58	10	0	0	69	27	71	0	0	0	98	286
2025-05-15 17:45:00	6	58	10	0	0	74	5	50	2	0	0	57	2	55	7	0	0	64	21	49	0	0	0	70	265
Hourly	11	186	52	0	0	249	42	194	17	0	0	253	6	245	46	0	0	297	96	217	0	0	0	313	1112
Grand Total	85	1348	313	0	0	1746	180	979	121	0	0	1280	41	1382	251	0	0	1674	453	1000	37	0	0	1490	**6190**
Approach%	4.9%	77.2%	17.9%	0%		-	14.1%	76.5%	9.5%	0%		-	2.4%	82.6%	15%	0%		-	30.4%	67.1%	2.5%	0%		-	**-**

Totals %	1.4%	21.8%	5.1%	0%	28.2%	2.9%	15.8%	2%	0%	20.7%	0.7%	22.3%	4.1%	0%	27%	7.3%	16.2%	0.6%	0%	24.1%	-
Heavy	5	103	14	0	-	15	21	7	0	-	5	102	14	0	-	16	36	7	0	-	-
Heavy %	5.9%	7.6%	4.5%	0%	-	8.3%	2.1%	5.8%	0%	-	12.2%	7.4%	5.6%	0%	-	3.5%	3.6%	18.9%	0%	-	-
Bicycles	1	4	0	0	-	0	16	1	0	-	0	1	0	0	-	0	7	0	0	-	-
Bicycle %	1.2%	0.3%	0%	0%	-	0%	1.6%	0.8%	0%	-	0%	0.1%	0%	0%	-	0%	0.7%	0%	0%	-	-

Peak Hour: 08:00 AM - 09:00 AM **Weather:**

Start Time	Southbound MISSISSAUGA RD						Westbound OLD SCHOOL RD						Northbound MISSISSAUGA RD						Eastbound OLD SCHOOL RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 08:00:00	4	55	9	0	0	68	10	21	3	0	0	34	0	24	8	0	0	32	5	34	4	0	0	43	177
2025-05-15 08:15:00	0	65	18	0	0	83	6	25	2	0	0	33	2	22	5	0	0	29	8	25	1	0	0	34	179
2025-05-15 08:30:00	4	73	14	0	0	91	6	25	3	0	0	34	0	33	7	0	0	40	11	23	2	0	0	36	201
2025-05-15 08:45:00	3	59	5	0	0	67	9	24	3	0	0	36	1	30	10	0	0	41	10	23	6	0	0	39	183
Grand Total	11	252	46	0	0	309	31	95	11	0	0	137	3	109	30	0	0	142	34	105	13	0	0	152	**740**
Approach%	3.6%	81.6%	14.9%	0%		-	22.6%	69.3%	8%	0%		-	2.1%	76.8%	21.1%	0%		-	22.4%	69.1%	8.6%	0%		-	**-**
Totals %	1.5%	34.1%	6.2%	0%		41.8%	4.2%	12.8%	1.5%	0%		18.5%	0.4%	14.7%	4.1%	0%		19.2%	4.6%	14.2%	1.8%	0%		20.5%	**-**
PHF	0.69	0.86	0.64	0		0.85	0.78	0.95	0.92	0		0.95	0.38	0.83	0.75	0		0.87	0.77	0.77	0.54	0		0.88	0.92
Heavy	1	18	1	0		20	4	2	2	0		8	2	7	4	0		13	1	6	2	0		9	50
Heavy %	9.1%	7.1%	2.2%	0%		6.5%	12.9%	2.1%	18.2%	0%		5.8%	66.7%	6.4%	13.3%	0%		9.2%	2.9%	5.7%	15.4%	0%		5.9%	6.8%
Lights	10	234	45	0		289	27	93	9	0		129	1	102	26	0		129	33	99	11	0		143	690
Lights %	90.9%	92.9%	97.8%	0%		93.5%	87.1%	97.9%	81.8%	0%		94.2%	33.3%	93.6%	86.7%	0%		90.8%	97.1%	94.3%	84.6%	0%		94.1%	93.2%
Single-Unit Trucks	0	14	1	0		15	4	2	2	0		8	1	3	4	0		8	0	3	1	0		4	35
Single-Unit Trucks %	0%	5.6%	2.2%	0%		4.9%	12.9%	2.1%	18.2%	0%		5.8%	33.3%	2.8%	13.3%	0%		5.6%	0%	2.9%	7.7%	0%		2.6%	4.7%
Buses	1	1	0	0		2	0	0	0	0		0	1	0	0	0		1	1	2	1	0		4	7
Buses %	9.1%	0.4%	0%	0%		0.6%	0%	0%	0%	0%		0%	33.3%	0%	0%	0%		0.7%	2.9%	1.9%	7.7%	0%		2.6%	0.9%
Articulated Trucks	0	3	0	0		3	0	0	0	0		0	0	4	0	0		4	0	1	0	0		1	8
Articulated Trucks %	0%	1.2%	0%	0%		1%	0%	0%	0%	0%		0%	0%	3.7%	0%	0%		2.8%	0%	1%	0%	0%		0.7%	1.1%
Bicycles on Road	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	1	0	0		-	**-**
Bicycles on Road%	0%	100%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	100%	0%	0%			**-**

Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (21 °C)

Start Time	Southbound MISSISSAUGA RD						Westbound OLD SCHOOL RD						Northbound MISSISSAUGA RD						Eastbound OLD SCHOOL RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 13:00:00	1	24	9	0	0	34	6	22	1	0	0	29	0	37	5	0	0	42	8	14	0	0	0	22	127
2025-05-15 13:15:00	0	29	10	0	0	39	10	25	4	0	0	39	3	32	6	0	0	41	8	22	1	0	0	31	150
2025-05-15 13:30:00	3	33	6	0	0	42	6	25	4	0	0	35	2	32	6	0	0	40	7	25	0	0	0	32	149
2025-05-15 13:45:00	1	26	10	0	0	37	3	18	2	0	0	23	1	31	4	0	0	36	13	30	1	0	0	44	140
Grand Total	5	112	35	0	0	152	25	90	11	0	0	126	6	132	21	0	0	159	36	91	2	0	0	129	**566**
Approach%	3.3%	73.7%	23%	0%		-	19.8%	71.4%	8.7%	0%		-	3.8%	83%	13.2%	0%		-	27.9%	70.5%	1.6%	0%		-	**-**
Totals %	0.9%	19.8%	6.2%	0%		26.9%	4.4%	15.9%	1.9%	0%		22.3%	1.1%	23.3%	3.7%	0%		28.1%	6.4%	16.1%	0.4%	0%		22.8%	**-**
PHF	0.42	0.85	0.88	0		0.9	0.63	0.9	0.69	0		0.81	0.5	0.89	0.88	0		0.95	0.69	0.76	0.5	0		0.73	0.94
Heavy	0	12	3	0		15	3	2	0	0		5	0	14	1	0		15	3	5	0	0		8	43
Heavy %	0%	10.7%	8.6%	0%		9.9%	12%	2.2%	0%	0%		4%	0%	10.6%	4.8%	0%		9.4%	8.3%	5.5%	0%	0%		6.2%	7.6%
Lights	5	100	32	0		137	22	88	11	0		121	6	118	20	0		144	33	86	2	0		121	523
Lights %	100%	89.3%	91.4%	0%		90.1%	88%	97.8%	100%	0%		96%	100%	89.4%	95.2%	0%		90.6%	91.7%	94.5%	100%	0%		93.8%	92.4%
Single-Unit Trucks	0	6	3	0		9	3	2	0	0		5	0	10	0	0		10	2	3	0	0		5	29
Single-Unit Trucks %	0%	5.4%	8.6%	0%		5.9%	12%	2.2%	0%	0%		4%	0%	7.6%	0%	0%		6.3%	5.6%	3.3%	0%	0%		3.9%	5.1%
Buses	0	4	0	0		4	0	0	0	0		0	0	0	1	0		1	1	2	0	0		3	8
Buses %	0%	3.6%	0%	0%		2.6%	0%	0%	0%	0%		0%	0%	0%	4.8%	0%		0.6%	2.8%	2.2%	0%	0%		2.3%	1.4%
Articulated Trucks	0	2	0	0		2	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	6
Articulated Trucks %	0%	1.8%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	3%	0%	0%		2.5%	0%	0%	0%	0%		0%	1.1%
Bicycles on Road	0	0	0	0		-	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	100%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 04:00 PM - 05:00 PM Weather: Broken Clouds (23 °C)

Start Time	Southbound MISSISSAUGA RD						Westbound OLD SCHOOL RD						Northbound MISSISSAUGA RD						Eastbound OLD SCHOOL RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
2025-05-15 16:00:00	7	38	5	0	0	50	5	50	3	0	0	58	1	75	20	0	0	96	16	52	1	0	0	69	273
2025-05-15 16:15:00	2	51	5	0	0	58	4	51	8	0	0	63	3	70	14	0	0	87	23	57	0	0	0	80	288
2025-05-15 16:30:00	4	59	11	0	0	74	6	47	7	0	0	60	1	74	7	0	0	82	28	48	0	0	0	76	292
2025-05-15 16:45:00	2	50	18	0	0	70	10	54	7	0	0	71	0	60	4	0	0	64	20	35	1	0	0	56	261
Grand Total	15	198	39	0	0	252	25	202	25	0	0	252	5	279	45	0	0	329	87	192	2	0	0	281	**1114**
Approach%	6%	78.6%	15.5%	0%		-	9.9%	80.2%	9.9%	0%		-	1.5%	84.8%	13.7%	0%		-	31%	68.3%	0.7%	0%		-	**-**
Totals %	1.3%	17.8%	3.5%	0%		22.6%	2.2%	18.1%	2.2%	0%		22.6%	0.4%	25%	4%	0%		29.5%	7.8%	17.2%	0.2%	0%		25.2%	**-**
PHF	0.54	0.84	0.54	0		0.85	0.63	0.94	0.78	0		0.89	0.42	0.93	0.56	0		0.86	0.78	0.84	0.5	0		0.88	0.95
Heavy	2	19	2	0		23	0	2	0	0		2	0	15	2	0		17	3	5	0	0		8	50
Heavy %	13.3%	9.6%	5.1%	0%		9.1%	0%	1%	0%	0%		0.8%	0%	5.4%	4.4%	0%		5.2%	3.4%	2.6%	0%	0%		2.8%	4.5%
Lights	13	179	37	0		229	25	200	25	0		250	5	264	43	0		312	84	187	2	0		273	1064
Lights %	86.7%	90.4%	94.9%	0%		90.9%	100%	99%	100%	0%		99.2%	100%	94.6%	95.6%	0%		94.8%	96.6%	97.4%	100%	0%		97.2%	95.5%
Single-Unit Trucks	0	10	2	0		12	0	2	0	0		2	0	12	2	0		14	1	5	0	0		6	34
Single-Unit Trucks %	0%	5.1%	5.1%	0%		4.8%	0%	1%	0%	0%		0.8%	0%	4.3%	4.4%	0%		4.3%	1.1%	2.6%	0%	0%		2.1%	3.1%
Buses	2	2	0	0		4	0	0	0	0		0	0	0	0	0		0	2	0	0	0		2	6
Buses %	13.3%	1%	0%	0%		1.6%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	2.3%	0%	0%	0%		0.7%	0.5%
Articulated Trucks	0	7	0	0		7	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	10
Articulated Trucks %	0%	3.5%	0%	0%		2.8%	0%	0%	0%	0%		0%	0%	1.1%	0%	0%		0.9%	0%	0%	0%	0%		0%	0.9%
Bicycles on Road	0	2	0	0		-	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	100%	0%	0%			0%	100%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather:**



Peak Hour: 01:00 PM - 02:00 PM **Weather: Broken Clouds (21 °C)**



Peak Hour: 04:00 PM - 05:00 PM **Weather: Broken Clouds (23 °C)**



Turning Movement Count (5 . MISSISSAUGA RD & WANLESS DR) CustID: 00124093

Start Time	Southbound MISSISSAUGA RD						Westbound WANLESS DR						Northbound MISSISSAUGA RD						Eastbound WANLESS DR						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2024-04-23 07:00:00	5	70	5	0	0	80	30	63	4	0	0	97	3	21	11	0	0	35	1	14	5	0	0	20	232
2024-04-23 07:15:00	6	92	9	0	0	107	41	61	4	0	0	106	2	39	12	0	0	53	4	24	9	0	0	37	303
2024-04-23 07:30:00	18	93	7	0	0	118	45	74	5	0	0	124	5	39	13	0	0	57	2	32	3	0	0	37	336
2024-04-23 07:45:00	21	115	7	0	0	143	41	63	8	0	0	112	4	40	20	0	0	64	0	37	9	0	0	46	365
Hourly	50	370	28	0	0	448	157	261	21	0	0	439	14	139	56	0	0	209	7	107	26	0	0	140	1236
2024-04-23 08:00:00	12	111	6	0	0	129	45	74	10	0	0	129	5	62	20	0	0	87	2	31	2	0	0	35	380
2024-04-23 08:15:00	4	114	3	0	0	121	49	56	7	0	0	112	4	60	16	0	0	80	1	36	2	0	0	39	352
2024-04-23 08:30:00	8	78	7	0	0	93	53	72	9	0	0	134	3	71	11	0	0	85	0	20	1	0	0	21	333
2024-04-23 08:45:00	10	89	2	0	0	101	49	33	8	0	0	90	3	45	17	0	0	65	0	25	2	0	0	27	283
Hourly	34	392	18	0	0	444	196	235	34	0	0	465	15	238	64	0	0	317	3	112	7	0	0	122	1348
BREAK																									
2024-04-23 11:00:00	1	38	4	0	0	43	14	24	2	0	0	40	2	27	15	0	0	44	3	2	0	0	0	5	132
2024-04-23 11:15:00	0	29	3	0	0	32	13	21	2	0	0	36	0	36	13	0	0	49	0	20	2	0	0	22	139
2024-04-23 11:30:00	5	34	1	0	0	40	27	28	3	0	1	58	2	42	17	0	0	61	0	15	2	0	0	17	176
2024-04-23 11:45:00	2	37	1	0	0	40	18	20	4	0	0	42	2	50	17	0	0	69	2	15	3	0	0	20	171
Hourly	8	138	9	0	0	155	72	93	11	0	1	176	6	155	62	0	0	223	5	52	7	0	0	64	618
2024-04-23 12:00:00	8	50	2	0	0	60	23	19	6	0	0	48	2	33	8	0	0	43	1	18	3	0	0	22	173
2024-04-23 12:15:00	0	28	1	0	0	29	21	28	5	0	0	54	2	44	18	0	0	64	2	11	0	0	0	13	160
2024-04-23 12:30:00	1	33	2	0	0	36	18	22	1	0	0	41	5	46	18	0	0	69	1	18	2	0	0	21	167
2024-04-23 12:45:00	8	40	1	0	0	49	17	13	3	0	0	33	1	39	12	0	0	52	0	14	2	0	0	16	150
Hourly	17	151	6	0	0	174	79	82	15	0	0	176	10	162	56	0	0	228	4	61	7	0	0	72	650
2024-04-23 13:00:00	2	39	5	0	0	46	15	16	8	0	0	39	3	46	20	0	0	69	1	19	2	0	0	22	176
2024-04-23 13:15:00	5	30	2	0	0	37	22	23	5	0	0	50	4	42	21	0	0	67	3	23	2	0	0	28	182
2024-04-23 13:30:00	7	37	2	0	0	46	15	20	3	0	0	38	2	41	19	0	0	62	2	23	4	0	0	29	175
2024-04-23 13:45:00	1	41	2	0	0	44	24	23	4	0	0	51	1	61	19	0	0	81	2	19	4	0	0	25	201
Hourly	15	147	11	0	0	173	76	82	20	0	0	178	10	190	79	0	0	279	8	84	12	0	0	104	734
BREAK																									
2024-04-23 15:00:00	5	39	2	0	0	46	32	36	17	0	0	85	8	85	28	0	0	121	3	44	3	0	0	50	302
2024-04-23 15:15:00	6	53	2	0	0	61	21	45	19	0	0	85	9	86	35	0	0	130	2	41	7	0	1	50	326
2024-04-23 15:30:00	14	72	4	0	0	90	19	35	14	0	0	68	13	95	19	0	0	127	5	63	3	0	0	71	356
2024-04-23 15:45:00	10	51	0	0	0	61	21	35	6	0	1	62	4	89	34	0	0	127	4	70	3	0	0	77	327
Hourly	35	215	8	0	0	258	93	151	56	0	1	300	34	355	116	0	0	505	14	218	16	0	1	248	1311
2024-04-23 16:00:00	5	65	1	0	0	71	19	55	11	0	0	85	7	102	46	0	0	155	5	70	9	0	0	84	395
2024-04-23 16:15:00	5	72	2	0	0	79	26	33	7	0	0	66	6	71	20	0	0	97	2	46	6	0	0	54	296
2024-04-23 16:30:00	10	73	0	0	0	83	22	40	11	0	0	73	7	105	43	0	0	155	4	74	8	0	0	86	397
2024-04-23 16:45:00	5	75	4	0	0	84	21	27	7	0	0	55	3	85	44	0	0	132	2	68	10	0	0	80	351
Hourly	25	285	7	0	0	317	88	155	36	0	0	279	23	363	153	0	0	539	13	258	33	0	0	304	1439
2024-04-23 17:00:00	1	66	4	0	0	71	25	30	11	0	0	66	7	89	38	0	0	134	4	72	4	0	0	80	351
2024-04-23 17:15:00	8	66	2	0	0	76	23	36	8	0	0	67	3	83	41	0	0	127	6	73	4	0	0	83	353
2024-04-23 17:30:00	12	73	1	0	0	86	27	37	13	0	0	77	3	90	43	0	0	136	10	81	12	0	0	103	402
2024-04-23 17:45:00	10	61	2	0	0	73	23	30	4	0	0	57	7	85	47	0	0	139	3	86	6	0	0	95	364
Hourly	31	266	9	0	0	306	98	133	36	0	0	267	20	347	169	0	0	536	23	312	26	0	0	361	1470
Grand Total	215	1964	96	0	0	2275	859	1192	229	0	2	2280	132	1949	755	0	0	2836	77	1204	134	0	1	1415	**8806**
Approach%	9.5%	86.3%	4.2%	0%		-	37.7%	52.3%	10%	0%		-	4.7%	68.7%	26.6%	0%		-	5.4%	85.1%	9.5%	0%		-	**-**

Totals %	2.4%	22.3%	1.1%	0%	25.8%	9.8%	13.5%	2.6%	0%	25.9%	1.5%	22.1%	8.6%	0%	32.2%	0.9%	13.7%	1.5%	0%	16.1%	-
Heavy	8	155	2	0	-	14	6	3	0	-	2	190	14	0	-	1	4	0	0	-	-
Heavy %	3.7%	7.9%	2.1%	0%	-	1.6%	0.5%	1.3%	0%	-	1.5%	9.7%	1.9%	0%	-	1.3%	0.3%	0%	0%	-	-
Bicycles	0	0	0	0	-	1	1	0	0	-	0	0	1	0	-	0	0	0	0	-	-
Bicycle %	0%	0%	0%	0%	-	0.1%	0.1%	0%	0%	-	0%	0%	0.1%	0%	-	0%	0%	0%	0%	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (8.97 °C)

Start Time	Southbound MISSISSAUGA RD						Westbound WANLESS DR						Northbound MISSISSAUGA RD						Eastbound WANLESS DR						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2024-04-23 08:00:00	12	111	6	0	0	129	45	74	10	0	0	129	5	62	20	0	0	87	2	31	2	0	0	35	380
2024-04-23 08:15:00	4	114	3	0	0	121	49	56	7	0	0	112	4	60	16	0	0	80	1	36	2	0	0	39	352
2024-04-23 08:30:00	8	78	7	0	0	93	53	72	9	0	0	134	3	71	11	0	0	85	0	20	1	0	0	21	333
2024-04-23 08:45:00	10	89	2	0	0	101	49	33	8	0	0	90	3	45	17	0	0	65	0	25	2	0	0	27	283
Grand Total	34	392	18	0	0	444	196	235	34	0	0	465	15	238	64	0	0	317	3	112	7	0	0	122	**1348**
Approach%	7.7%	88.3%	4.1%	0%		-	42.2%	50.5%	7.3%	0%		-	4.7%	75.1%	20.2%	0%		-	2.5%	91.8%	5.7%	0%		-	**-**
Totals %	2.5%	29.1%	1.3%	0%		32.9%	14.5%	17.4%	2.5%	0%		34.5%	1.1%	17.7%	4.7%	0%		23.5%	0.2%	8.3%	0.5%	0%		9.1%	**-**
PHF	0.71	0.86	0.64	0		0.86	0.92	0.79	0.85	0		0.87	0.75	0.84	0.8	0		0.91	0.38	0.78	0.88	0		0.78	0.89
Heavy	0	26	0	0		26	1	0	1	0		2	0	31	3	0		34	0	0	0	0		0	62
Heavy %	0%	6.6%	0%	0%		5.9%	0.5%	0%	2.9%	0%		0.4%	0%	13%	4.7%	0%		10.7%	0%	0%	0%	0%		0%	4.6%
Lights	34	366	18	0		418	195	235	33	0		463	15	207	61	0		283	3	112	7	0		122	1286
Lights %	100%	93.4%	100%	0%		94.1%	99.5%	100%	97.1%	0%		99.6%	100%	87%	95.3%	0%		89.3%	100%	100%	100%	0%		100%	95.4%
Single-Unit Trucks	0	16	0	0		16	0	0	1	0		1	0	12	0	0		12	0	0	0	0		0	29
Single-Unit Trucks %	0%	4.1%	0%	0%		3.6%	0%	0%	2.9%	0%		0.2%	0%	5%	0%	0%		3.8%	0%	0%	0%	0%		0%	2.2%
Buses	0	3	0	0		3	1	0	0	0		1	0	5	3	0		8	0	0	0	0		0	12
Buses %	0%	0.8%	0%	0%		0.7%	0.5%	0%	0%	0%		0.2%	0%	2.1%	4.7%	0%		2.5%	0%	0%	0%	0%		0%	0.9%
Articulated Trucks	0	7	0	0		7	0	0	0	0		0	0	14	0	0		14	0	0	0	0		0	21
Articulated Trucks %	0%	1.8%	0%	0%		1.6%	0%	0%	0%	0%		0%	0%	5.9%	0%	0%		4.4%	0%	0%	0%	0%		0%	1.6%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

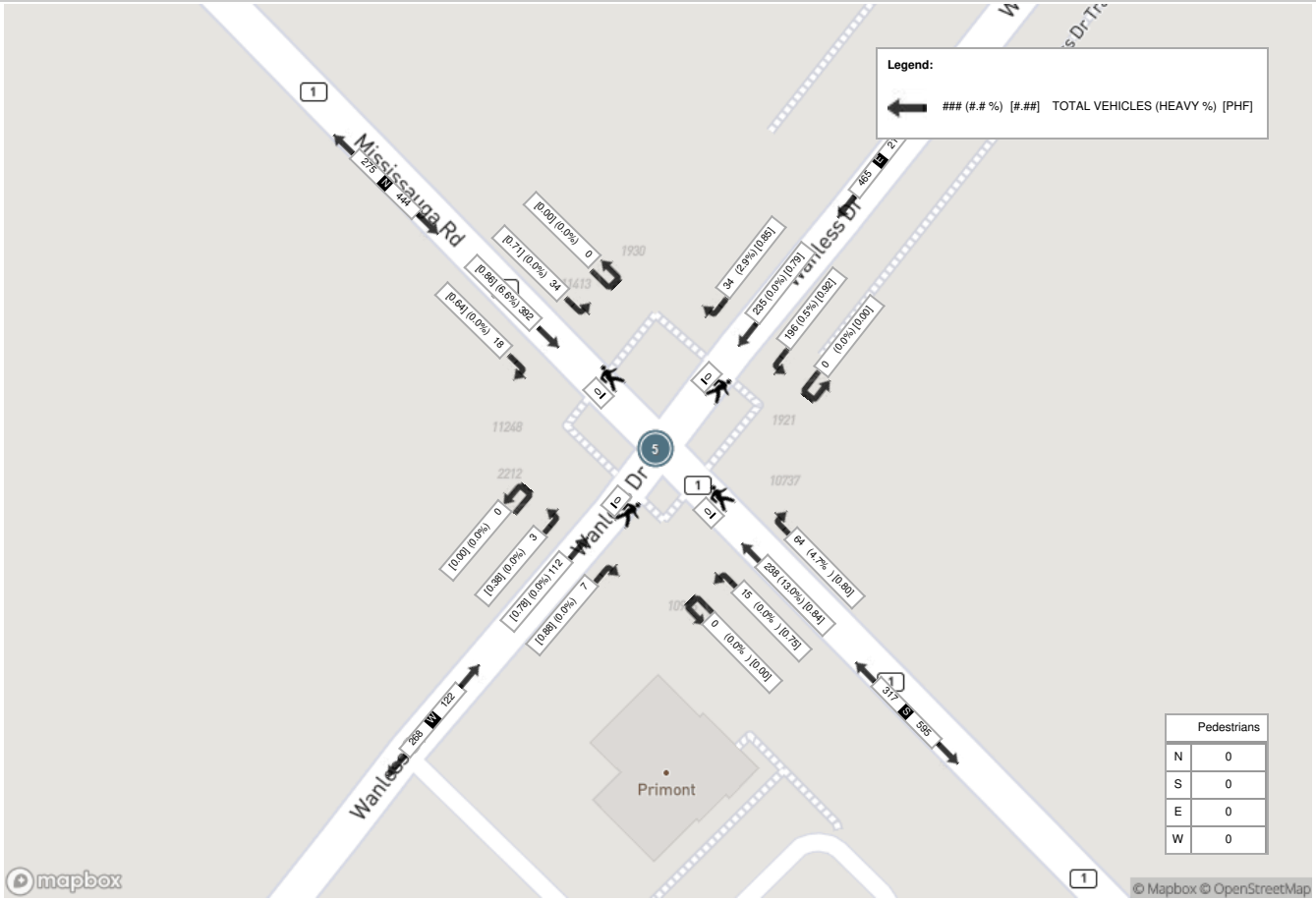
Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (13.71 °C)

Start Time	Southbound MISSISSAUGA RD						Westbound WANLESS DR						Northbound MISSISSAUGA RD						Eastbound WANLESS DR						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2024-04-23 13:00:00	2	39	5	0	0	46	15	16	8	0	0	39	3	46	20	0	0	69	1	19	2	0	0	22	176
2024-04-23 13:15:00	5	30	2	0	0	37	22	23	5	0	0	50	4	42	21	0	0	67	3	23	2	0	0	28	182
2024-04-23 13:30:00	7	37	2	0	0	46	15	20	3	0	0	38	2	41	19	0	0	62	2	23	4	0	0	29	175
2024-04-23 13:45:00	1	41	2	0	0	44	24	23	4	0	0	51	1	61	19	0	0	81	2	19	4	0	0	25	201
Grand Total	15	147	11	0	0	173	76	82	20	0	0	178	10	190	79	0	0	279	8	84	12	0	0	104	**734**
Approach%	8.7%	85%	6.4%	0%		-	42.7%	46.1%	11.2%	0%		-	3.6%	68.1%	28.3%	0%		-	7.7%	80.8%	11.5%	0%		-	**-**
Totals %	2%	20%	1.5%	0%		23.6%	10.4%	11.2%	2.7%	0%		24.3%	1.4%	25.9%	10.8%	0%		38%	1.1%	11.4%	1.6%	0%		14.2%	**-**
PHF	0.54	0.9	0.55	0		0.94	0.79	0.89	0.63	0		0.87	0.63	0.78	0.94	0		0.86	0.67	0.91	0.75	0		0.9	0.91
Heavy	2	20	0	0		22	2	3	0	0		5	1	37	0	0		38	0	1	0	0		1	66
Heavy %	13.3%	13.6%	0%	0%		12.7%	2.6%	3.7%	0%	0%		2.8%	10%	19.5%	0%	0%		13.6%	0%	1.2%	0%	0%		1%	9%
Lights	13	127	11	0		151	74	79	20	0		173	9	153	79	0		241	8	83	12	0		103	668
Lights %	86.7%	86.4%	100%	0%		87.3%	97.4%	96.3%	100%	0%		97.2%	90%	80.5%	100%	0%		86.4%	100%	98.8%	100%	0%		99%	91%
Single-Unit Trucks	2	15	0	0		17	1	3	0	0		4	1	22	0	0		23	0	1	0	0		1	45
Single-Unit Trucks %	13.3%	10.2%	0%	0%		9.8%	1.3%	3.7%	0%	0%		2.2%	10%	11.6%	0%	0%		8.2%	0%	1.2%	0%	0%		1%	6.1%
Buses	0	2	0	0		2	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	2
Buses %	0%	1.4%	0%	0%		1.2%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.3%
Articulated Trucks	0	3	0	0		3	1	0	0	0		1	0	15	0	0		15	0	0	0	0		0	19
Articulated Trucks %	0%	2%	0%	0%		1.7%	1.3%	0%	0%	0%		0.6%	0%	7.9%	0%	0%		5.4%	0%	0%	0%	0%		0%	2.6%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0		-	1	0	0	0		-	0	0	1	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			100%	0%	0%	0%			0%	0%	100%	0%			0%	0%	0%	0%			**-**

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (14.72 °C)

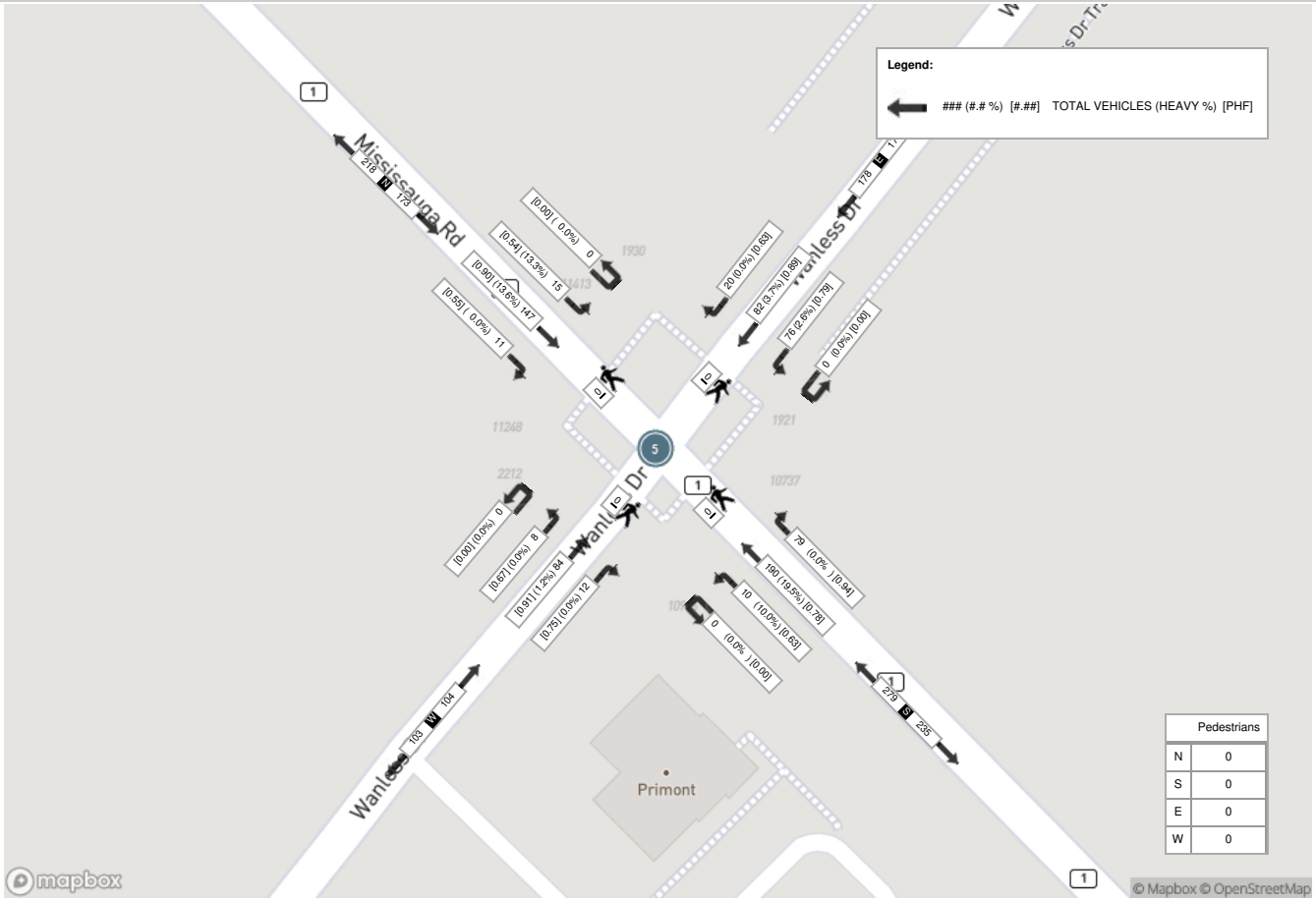
Start Time	Southbound MISSISSAUGA RD						Westbound WANLESS DR						Northbound MISSISSAUGA RD						Eastbound WANLESS DR						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2024-04-23 17:00:00	1	66	4	0	0	71	25	30	11	0	0	66	7	89	38	0	0	134	4	72	4	0	0	80	351
2024-04-23 17:15:00	8	66	2	0	0	76	23	36	8	0	0	67	3	83	41	0	0	127	6	73	4	0	0	83	353
2024-04-23 17:30:00	12	73	1	0	0	86	27	37	13	0	0	77	3	90	43	0	0	136	10	81	12	0	0	103	402
2024-04-23 17:45:00	10	61	2	0	0	73	23	30	4	0	0	57	7	85	47	0	0	139	3	86	6	0	0	95	364
Grand Total	31	266	9	0	0	306	98	133	36	0	0	267	20	347	169	0	0	536	23	312	26	0	0	361	**1470**
Approach%	10.1%	86.9%	2.9%	0%		-	36.7%	49.8%	13.5%	0%		-	3.7%	64.7%	31.5%	0%		-	6.4%	86.4%	7.2%	0%		-	**-**
Totals %	2.1%	18.1%	0.6%	0%		20.8%	6.7%	9%	2.4%	0%		18.2%	1.4%	23.6%	11.5%	0%		36.5%	1.6%	21.2%	1.8%	0%		24.6%	**-**
PHF	0.65	0.91	0.56	0		0.89	0.91	0.9	0.69	0		0.87	0.71	0.96	0.9	0		0.96	0.58	0.91	0.54	0		0.88	0.91
Heavy	1	1	0	0		2	0	0	1	0		1	0	9	0	0		9	0	0	0	0		0	12
Heavy %	3.2%	0.4%	0%	0%		0.7%	0%	0%	2.8%	0%		0.4%	0%	2.6%	0%	0%		1.7%	0%	0%	0%	0%		0%	0.8%
Lights	30	265	9	0		304	98	133	35	0		266	20	338	169	0		527	23	312	26	0		361	1458
Lights %	96.8%	99.6%	100%	0%		99.3%	100%	100%	97.2%	0%		99.6%	100%	97.4%	100%	0%		98.3%	100%	100%	100%	0%		100%	99.2%
Single-Unit Trucks	1	1	0	0		2	0	0	1	0		1	0	4	0	0		4	0	0	0	0		0	7
Single-Unit Trucks %	3.2%	0.4%	0%	0%		0.7%	0%	0%	2.8%	0%		0.4%	0%	1.2%	0%	0%		0.7%	0%	0%	0%	0%		0%	0.5%
Buses	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	1
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	0.1%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	4
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		0.7%	0%	0%	0%	0%		0%	0.3%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather: Broken Clouds (8.97 °C)**

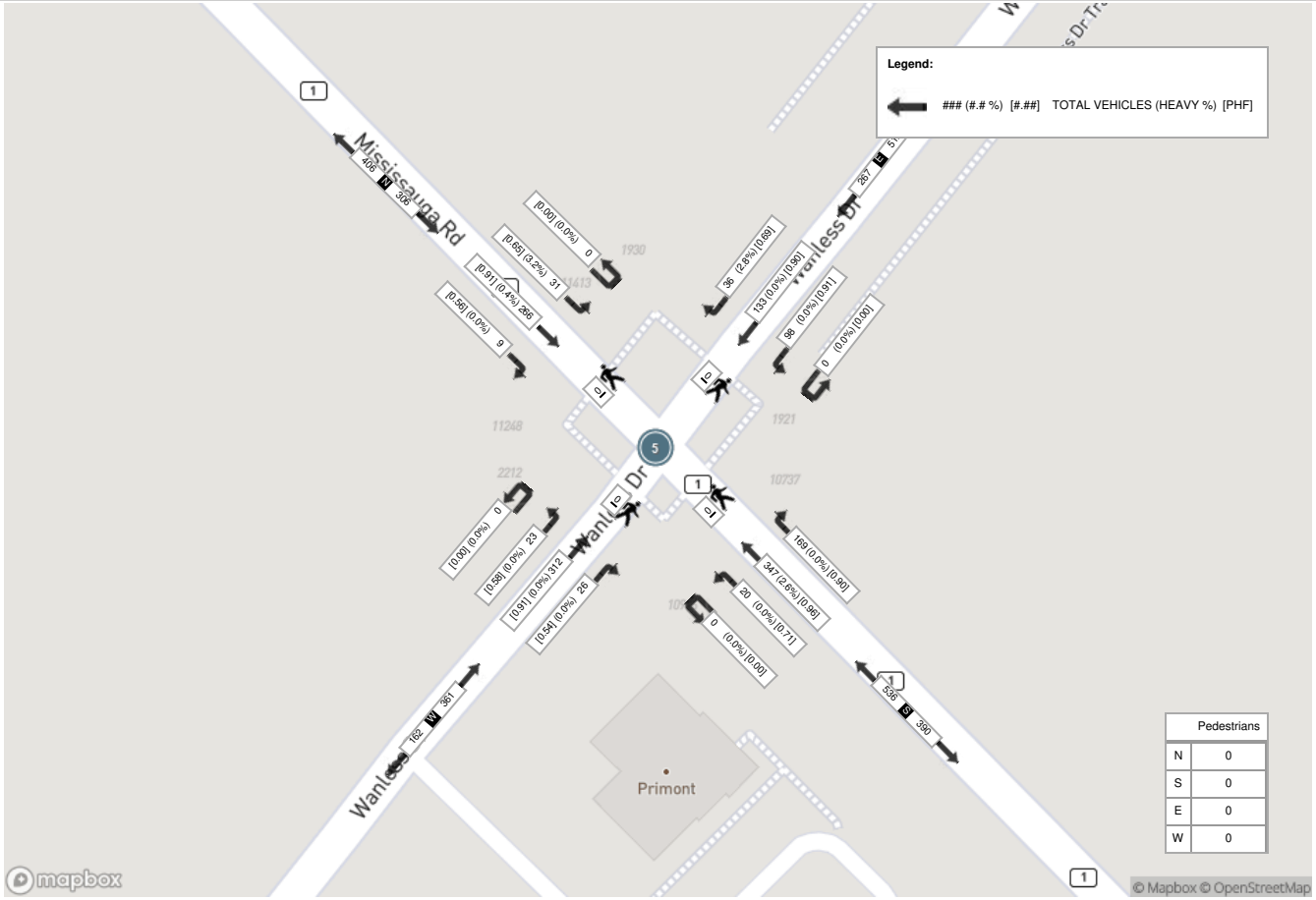


Peel Region
SUITE B 10 PEEL CENTRE DR
BRAMPTON ONTARIO, L6T 4B9
CANADA

Peak Hour: 01:00 PM - 02:00 PM **Weather: Broken Clouds (13.71 °C)**



Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (14.72 °C)



REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**25-10-2024**		**Prepared Date**	**22-10-2025**
Database Rev	**Maxview**		**Completed By**	**HA**
Timing Card / Field rev	**1**		**Checked By**	**JL**

Location — **Mayfield Road at Creditview Road**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX
1	Not in Use	-	-	-	-	-	-	-	-
2	Mayfield Road - EB	12.0	12.0	13.0	4.2	2.0	31.2	31.2	31.2
3	Not in Use	-	-	-	-	-	-	-	-
4	Creditview Road - NB	12.0	12.0	13.0	4.2	2.0	18.2 (min) 26.2 (max)	18.2 (min) 26.2 (max)	18.2 (min) 26.2 (max)
5	Not in Use	-	-	-	-	-	-	-	-
6	Mayfield Road - WB	12.0	12.0	13.0	4.2	2.0	31.2	31.2	31.2
7	Not in Use	-	-	-	-	-	-	-	-
8	Creditview Road - SB	12.0	12.0	13.0	4.2	2.0	18.2 (min) 26.2 (max)	18.2 (min) 26.2 (max)	18.2 (min) 26.2 (max)

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
FREE	AM	0	0
FREE	OFF	0	0
FREE	PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**7-10-2025**		**Prepared Date**	**21-10-2025**
Database Rev	**Maxview**		**Completed By**	**HA**
Timing Card / Field rev	**3**		**Checked By**	**NM**

Location — **Mayfield Road at Heritage Road**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s)		
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX
1	Not in Use	-	-	-	-	-	-	-	-
2	Mayfield Road - EB	8.0	12.0	14.0	4.2	2.0	45.0	30.0	50.0
3	Not in Use	-	-	-	-	-	-	-	-
4	Heritage Road - NB	8.0	12.0	11.0	4.2	2.0	51.2	51.2	36.2
5	Not in Use	-	-	-	-	-	-	-	-
6	Mayfield Road - WB	8.0	12.0	14.0	4.2	2.0	45.0	30.0	50.0
7	Not in Use	-	-	-	-	-	-	-	-
8	Heritage Road - SB	8.0	12.0	11.0	4.2	2.0	51.2	51.2	36.2

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
6:00 - 9:30	AM	0	0
9:30 - 15:30	OFF	0	0
15:30 - 19:00	PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Rev	**7-10-2025**		**Prepared Date**	**21-10-2025**
Database Rev	**Maxview**		**Completed By**	**HA**
Timing Card / Field rev	**4**		**Checked By**	**NM**

Location	**Mayfield Road at Mississauga Road**

Phase #	**Street Name - Direction**	**Vehicle Minimum (s)**	**Pedestrian Minimum (s)**		**Amber (s)**	**All Red (s)**	**TIME PERIOD (s) (Green+Amber+All Red)**		
			WALK	**FDWALK**			**AM MAX**	**OFF MAX**	**PM MAX**
1	Not in Use	-	-	-	-	-	-	-	-
2	Mayfield Road - E/W	16.0	12.0	16.0	4.2	2.3	33.0	33.0	33.0
3	Not in Use	-	-	-	-	-	-	-	-
4	Mississuga Road - N/S	12.0	12.0	12.0	4.6	2.3	39.9	39.9	39.9
5	Not in Use	-	-	-	-	-	-	-	-
6	Not in Use	-	-	-	-	-	-	-	-
7	Not in Use	-	-	-	-	-	-	-	-
8	Not in Use	-	-	-	-	-	-	-	-

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	**PEAK**	**CYCLE LENGTH (s)**	**OFFSET (s)**
FREE	AM	0	0
FREE	OFF	0	0
FREE	PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**13-12-2021**		**Prepared Date**	**07-10-2025**
Database Rev	**Maxview**		**Completed By**	**HA**
Timing Card / Field rev	**2**		**Checked By**	**JL**

Location	**Mississauga Road & Wanless Drive**

Phase #	**Street Name - Direction**	**Vehicle Minimum (s)**	**Pedestrian Minimum (s)**		**Amber (s)**	**All Red (s)**	**TIME PERIOD (s) (Green+Amber+All Red)**		
			WALK	**FDWALK**			**AM MAX**	**OFF MAX**	**PM MAX**
1	Not in Use	-	-	-	-	-	-	-	-
2	Mississauga Road - SB	10.0	8.0	11.0	4.2	2.0	75.0	75.0	75.0
3	Not in Use	-	-	-	-	-	-	-	-
4	Wanless Drive - WB	10.0	8.0	13.0	4.0	2.1	16.1(min) 46.1 (max)	16.1(min) 46.1 (max)	16.1(min) 46.1 (max)
5	Not in Use	-	-	-	-	-	-	-	-
6	Mississauga Road - NB	10.0	8.0	11.0	4.2	2.0	75.0	75.0	75.0
7	Not in Use	-	-	-	-	-	-	-	-
8	Wanless Drive - EB	10.0	8.0	13.0	4.0	2.1	16.1(min) 46.1 (max)	16.1(min) 46.1 (max)	16.1(min) 46.1 (max)

System Control
Yes

Semi-Actuated Mode
No

TIME (M-F)	**PEAK**	**CYCLE LENGTH (s)**	**OFFSET (s)**
FREE	AM	0	0
FREE	OFF	0	0
FREE	PM	0	0

Appendix C

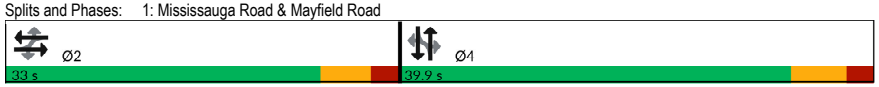
Existing Traffic Operations Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	215	62	116	353	42	58	112	60	23	194	64
Future Volume (vph)	52	215	62	116	353	42	58	112	60	23	194	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966			0.984			0.948			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1615	1713	0	1690	1734	0	1772	1734	0	1755	1709	0
Flt Permitted	0.360			0.515			0.571			0.639		
Satd. Flow (perm)	612	1713	0	916	1734	0	1065	1734	0	1180	1709	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			9			48			30	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	13%	9%	6%	8%	7%	26%	3%	4%	7%	4%	8%	9%
Adj. Flow (vph)	57	236	68	127	388	46	64	123	66	25	213	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	304	0	127	434	0	64	189	0	25	283	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
v/c Ratio	0.25	0.46		0.37	0.66		0.14	0.24		0.05	0.37	
Control Delay (s/veh)	19.6	19.0		20.7	24.7		13.3	10.4		12.2	13.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	19.6	19.0		20.7	24.7		13.3	10.4		12.2	13.9	
LOS	B	B		C	C		B	B		B	B	
Approach Delay (s/veh)		19.1			23.8			11.1			13.7	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 74.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 18.4		Intersection LOS: B	
Intersection Capacity Utilization 80.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	304	127	434	64	189	25	283
v/c Ratio	0.25	0.46	0.37	0.66	0.14	0.24	0.05	0.37
Control Delay (s/veh)	19.6	19.0	20.7	24.7	13.3	10.4	12.2	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.6	19.0	20.7	24.7	13.3	10.4	12.2	13.9
Queue Length 50th (m)	5.4	28.9	12.6	48.2	5.1	11.5	1.9	22.2
Queue Length 95th (m)	13.9	49.8	26.2	77.9	12.1	23.2	5.9	39.2
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	230	658	344	658	472	795	523	774
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.46	0.37	0.66	0.14	0.24	0.05	0.37

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	215	62	116	353	42	58	112	60	23	194	64
Future Volume (vph)	52	215	62	116	353	42	58	112	60	23	194	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1615	1714		1690	1734		1772	1733		1755	1709	
Flt Permitted	0.36	1.00		0.51	1.00		0.57	1.00		0.64	1.00	
Satd. Flow (perm)	612	1714		916	1734		1066	1733		1180	1709	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	57	236	68	127	388	46	64	123	66	25	213	70
RTOR Reduction (vph)	0	14	0	0	6	0	0	27	0	0	17	0
Lane Group Flow (vph)	57	290	0	127	428	0	64	162	0	25	266	0
Heavy Vehicles (%)	13%	9%	6%	8%	7%	26%	3%	4%	7%	4%	8%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	645		344	652		472	768		523	758	
v/s Ratio Prot		0.17			c0.25			0.09			c0.16	
v/s Ratio Perm	0.09			0.14			0.06			0.02		
v/c Ratio	0.25	0.45		0.37	0.66		0.14	0.21		0.05	0.35	
Uniform Delay, d1	16.0	17.4		16.8	19.2		12.3	12.7		11.8	13.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	2.3		3.0	5.1		0.6	0.6		0.2	1.3	
Delay (s)	18.5	19.7		19.8	24.3		12.9	13.3		11.9	14.9	
Level of Service	B	B		B	C		B	B		B	B	
Approach Delay (s/veh)		19.5			23.3			13.2			14.7	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	18.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	80.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	105	13	31	95	11	3	109	30	11	252	46
Future Volume (vph)	34	105	13	31	95	11	3	109	30	11	252	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.989			0.971			0.980	
Flt Protected		0.989			0.989			0.999			0.998	
Satd. Flow (prot)	0	1771	0	0	1776	0	0	1715	0	0	1767	0
Flt Permitted		0.989			0.989			0.999			0.998	
Satd. Flow (perm)	0	1771	0	0	1776	0	0	1715	0	0	1767	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	6%	15%	13%	2%	18%	67%	6%	13%	9%	7%	2%
Adj. Flow (vph)	37	114	14	34	103	12	3	118	33	12	274	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	165	0	0	149	0	0	154	0	0	336	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	34	105	13	31	95	11	3	109	30	11	252	46
Future Volume (vph)	34	105	13	31	95	11	3	109	30	11	252	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	114	14	34	103	12	3	118	33	12	274	50

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	165	149	154	336
Volume Left (vph)	37	34	3	12
Volume Right (vph)	14	12	33	50
Hadj (s)	0.10	0.10	0.02	0.03
Departure Headway (s)	5.6	5.6	5.3	5.1
Degree Utilization, x	0.26	0.23	0.23	0.47
Capacity (veh/h)	588	582	620	675
Control Delay (s/veh)	10.5	10.3	9.9	12.6
Approach Delay (s/veh)	10.5	10.3	9.9	12.6
Approach LOS	B	B	A	B

Intersection Summary					
Delay		11.2			
Level of Service		B			
Intersection Capacity Utilization		39.3%	ICU Level of Service		A
Analysis Period (min)		15			

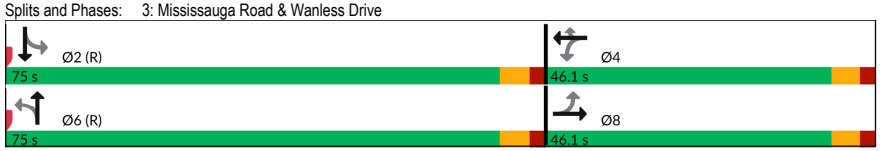
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	112	7	196	235	34	15	238	64	34	392	18
Future Volume (vph)	3	112	7	196	235	34	15	238	64	34	392	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850		0.973			0.995	
Flt Protected	0.950			0.950				0.998			0.996	
Satd. Flow (prot)	1825	1904	0	1807	1921	1585	0	1684	0	0	1793	0
Flt Permitted	0.479			0.664				0.968			0.949	
Satd. Flow (perm)	920	1904	0	1263	1921	1585	0	1634	0	0	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				38		17			3	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	13%	5%	0%	7%	0%
Adj. Flow (vph)	3	126	8	220	264	38	17	267	72	38	440	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	134	0	220	264	38	0	356	0	0	498	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.01	0.21		0.53	0.42	0.07		0.38			0.51	
Control Delay (s/veh)	27.7	29.7		38.5	34.0	8.9		15.1			18.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	27.7	29.7		38.5	34.0	8.9		15.1			18.2	
LOS	C	C		D	C	A		B			B	
Approach Delay (s/veh)		29.6			34.1			15.1			18.2	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 121.1
Actuated Cycle Length: 121.1
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 0.53
Intersection Signal Delay (s/veh): 24.0 Intersection LOS: C
Intersection Capacity Utilization 61.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	3	134	220	264	38	356	498
v/c Ratio	0.01	0.21	0.53	0.42	0.07	0.38	0.51
Control Delay (s/veh)	27.7	29.7	38.5	34.0	8.9	15.1	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.7	29.7	38.5	34.0	8.9	15.1	18.2
Queue Length 50th (m)	0.5	22.4	42.3	48.6	0.0	42.1	68.2
Queue Length 95th (m)	2.8	37.3	66.3	71.5	7.4	61.3	94.9
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	303	630	417	634	548	935	971
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.21	0.53	0.42	0.07	0.38	0.51

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	112	7	196	235	34	15	238	64	34	392	18
Future Volume (vph)	3	112	7	196	235	34	15	238	64	34	392	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.97			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)	1825	1904		1807	1921	1585		1683			1793	
Flt Permitted	0.48	1.00		0.66	1.00	1.00		0.97			0.95	
Satd. Flow (perm)	921	1904		1263	1921	1585		1634			1708	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	3	126	8	220	264	38	17	267	72	38	440	20
RTOR Reduction (vph)	0	2	0	0	0	25	0	7	0	0	1	0
Lane Group Flow (vph)	3	132	0	220	264	13	0	349	0	0	497	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	13%	5%	0%	7%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	304	628		417	634	523		928			970	
v/s Ratio Prot		0.07			0.14							
v/s Ratio Perm	0.00			c0.17		0.01		0.21			c0.29	
v/c Ratio	0.01	0.21		0.53	0.42	0.02		0.38			0.51	
Uniform Delay, d1	27.2	29.2		32.9	31.5	27.4		14.4			15.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.1	0.8		4.7	2.0	0.1		1.2			1.9	
Delay (s)	27.3	29.9		37.6	33.5	27.5		15.5			17.9	
Level of Service	C	C		D	C	C		B			B	
Approach Delay (s/veh)		29.9			34.8			15.5			17.9	
Approach LOS		C			C			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	24.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	61.7%	ICU Level of Service	B	
Analysis Period (min)	15			

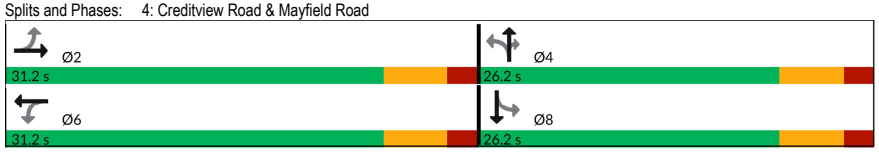
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	392	43	101	512	4	42	79	93	7	90	22
Future Volume (vph)	21	392	43	101	512	4	42	79	93	7	90	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00	0.98		1.00	
Frt		0.987			0.999				0.850		0.975	
Flt Protected		0.998			0.992			0.983			0.997	
Satd. Flow (prot)	0	1766	0	0	1763	0	0	1773	1498	0	1774	0
Flt Permitted		0.957			0.777			0.869			0.984	
Satd. Flow (perm)	0	1694	0	0	1381	0	0	1567	1466	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			1				104		22	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	7%	12%	3%	9%	0%	17%	1%	9%	0%	3%	14%
Adj. Flow (vph)	24	440	48	113	575	4	47	89	104	8	101	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	512	0	0	692	0	0	136	104	0	134	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.75			1.25			0.22	0.16		0.19	
Control Delay (s/veh)		24.3			149.9			13.5	3.7		10.9	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		24.3			149.9			13.5	3.7		10.9	
LOS		C			F			B	A		B	
Approach Delay (s/veh)		24.3			149.9			9.3			10.9	
Approach LOS		C			F			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.25			
Intersection Signal Delay (s/veh): 76.0		Intersection LOS: E	
Intersection Capacity Utilization 93.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	512	692	136	104	134
v/c Ratio	0.75	1.25	0.22	0.16	0.19
Control Delay (s/veh)	24.3	149.9	13.5	3.7	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.3	149.9	13.5	3.7	10.9
Queue Length 50th (m)	47.4	~103.5	9.9	0.0	7.9
Queue Length 95th (m)	#89.5	#158.9	19.9	7.3	17.2
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	685	553	627	649	714
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	1.25	0.22	0.16	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	392	43	101	512	4	42	79	93	7	90	22
Future Volume (vph)	21	392	43	101	512	4	42	79	93	7	90	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.98		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.99			1.00			1.00	0.85		0.97	
Flt Protected		1.00			0.99			0.98	1.00		1.00	
Satd. Flow (prot)		1766			1764			1772	1466		1773	
Flt Permitted		0.96			0.78			0.87	1.00		0.98	
Satd. Flow (perm)		1695			1382			1567	1466		1750	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	24	440	48	113	575	4	47	89	104	8	101	25
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	62	0	13	0
Lane Group Flow (vph)	0	505	0	0	691	0	0	136	42	0	121	0
Confl. Peds. (#/hr)							1		1	1		1
Heavy Vehicles (%)	0%	7%	12%	3%	9%	0%	17%	1%	9%	0%	3%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		679			553			627	587		701	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.50			c0.09	0.03		0.07	
v/c Ratio		0.74			1.25			0.22	0.07		0.17	
Uniform Delay, d1		16.0			18.7			12.3	11.5		12.0	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		7.3			127.0			0.8	0.2		0.5	
Delay (s)		23.2			145.7			13.1	11.8		12.6	
Level of Service		C			F			B	B		B	
Approach Delay (s/veh)		23.2			145.7			12.5			12.6	
Approach LOS		C			F			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	74.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

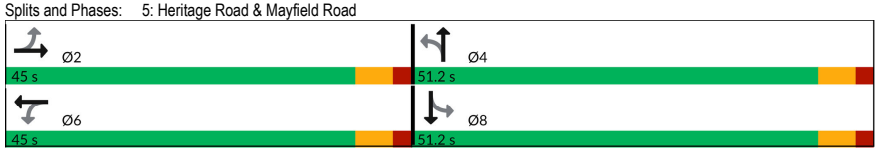
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	383	39	99	294	4	8	9	36	3	49	2
Future Volume (vph)	1	383	39	99	294	4	8	9	36	3	49	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.999			0.907			0.996	
Flt Protected					0.988			0.993			0.998	
Satd. Flow (prot)	0	1792	0	0	1807	0	0	1695	0	0	1880	0
Flt Permitted		0.999			0.642			0.972			0.993	
Satd. Flow (perm)	0	1791	0	0	1174	0	0	1659	0	0	1870	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			1			42			2	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	6%	5%	2%	6%	0%	0%	0%	3%	33%	0%	0%
Adj. Flow (vph)	1	445	45	115	342	5	9	10	42	3	57	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	491	0	0	462	0	0	61	0	0	62	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	45.0	45.0		45.0	45.0		51.2	51.2		51.2	51.2	
Total Split (%)	46.8%	46.8%		46.8%	46.8%		53.2%	53.2%		53.2%	53.2%	
Maximum Green (s)	38.8	38.8		38.8	38.8		45.0	45.0		45.0	45.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		38.8			38.8			45.0			45.0	
Actuated g/C Ratio		0.40			0.40			0.47			0.47	
v/c Ratio		0.68			0.97			0.08			0.07	
Control Delay (s/veh)		29.0			65.7			6.8			14.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		29.0			65.7			6.8			14.1	
LOS		C			E			A			B	
Approach Delay (s/veh)		29.0			65.7			6.8			14.1	
Approach LOS		C			E			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 96.2			
Actuated Cycle Length: 96.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay (s/veh): 42.6		Intersection LOS: D	
Intersection Capacity Utilization 65.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	491	462	61	62
v/c Ratio	0.68	0.97	0.08	0.07
Control Delay (s/veh)	29.0	65.7	6.8	14.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.0	65.7	6.8	14.1
Queue Length 50th (m)	72.4	82.4	1.9	5.9
Queue Length 95th (m)	100.3	#135.5	7.8	12.1
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	725	474	798	875
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.68	0.97	0.08	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	383	39	99	294	4	8	9	36	3	49	2
Future Volume (vph)	1	383	39	99	294	4	8	9	36	3	49	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.91			1.00	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		1792			1806			1695			1878	
Flt Permitted		1.00			0.64			0.97			0.99	
Satd. Flow (perm)		1791			1173			1659			1870	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	445	45	115	342	5	9	10	42	3	57	2
RTOR Reduction (vph)	0	4	0	0	1	0	0	22	0	0	1	0
Lane Group Flow (vph)	0	487	0	0	461	0	0	39	0	0	61	0
Heavy Vehicles (%)	0%	6%	5%	2%	6%	0%	0%	0%	3%	33%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		38.8			38.8			45.0			45.0	
Effective Green, g (s)		38.8			38.8			45.0			45.0	
Actuated g/C Ratio		0.40			0.40			0.47			0.47	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		722			473			776			874	
v/s Ratio Prot												
v/s Ratio Perm		0.27			c0.39			0.02			c0.03	
v/c Ratio		0.68			0.98			0.05			0.07	
Uniform Delay, d1		23.5			28.2			13.9			14.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		5.0			35.7			0.1			0.2	
Delay (s)		28.5			64.0			14.1			14.2	
Level of Service		C			E			B			B	
Approach Delay (s/veh)		28.5			64.0			14.1			14.2	
Approach LOS		C			E			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	42.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	12.4
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

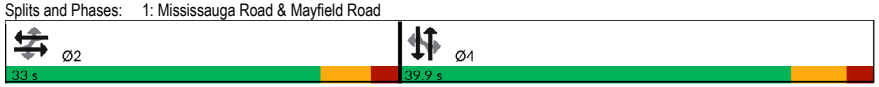
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	460	83	67	291	25	65	224	102	25	169	72
Future Volume (vph)	67	460	83	67	291	25	65	224	102	25	169	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.988			0.953			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1587	1790	0	1674	1847	0	1674	1709	0	1690	1723	0
Flt Permitted	0.480			0.208			0.602			0.507		
Satd. Flow (perm)	802	1790	0	367	1847	0	1061	1709	0	902	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			7			41			39	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	15%	5%	4%	9%	2%	12%	9%	4%	14%	8%	5%	10%
Adj. Flow (vph)	71	484	87	71	306	26	68	236	107	26	178	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	571	0	71	332	0	68	343	0	26	254	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
v/c Ratio	0.24	0.84		0.51	0.47		0.14	0.44		0.07	0.32	
Control Delay (s/veh)	18.6	33.9		34.3	20.0		13.4	14.6		12.5	12.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.6	33.9		34.3	20.0		13.4	14.6		12.5	12.6	
LOS	B	C		C	C		B	B		B	B	
Approach Delay (s/veh)		32.2			22.5			14.4			12.6	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 74.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay (s/veh): 22.6		Intersection LOS: C	
Intersection Capacity Utilization 92.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	71	571	71	332	68	343	26	254
v/c Ratio	0.24	0.84	0.51	0.47	0.14	0.44	0.07	0.32
Control Delay (s/veh)	18.6	33.9	34.3	20.0	13.4	14.6	12.5	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.6	33.9	34.3	20.0	13.4	14.6	12.5	12.6
Queue Length 50th (m)	6.7	69.6	7.5	33.7	5.4	27.6	2.0	18.4
Queue Length 95th (m)	15.7	#123.9	#24.1	55.4	12.7	47.8	6.2	33.6
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	301	682	138	699	470	780	400	785
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.84	0.51	0.47	0.14	0.44	0.07	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	460	83	67	291	25	65	224	102	25	169	72
Future Volume (vph)	67	460	83	67	291	25	65	224	102	25	169	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1587	1790		1674	1847		1674	1710		1690	1723	
Flt Permitted	0.48	1.00		0.21	1.00		0.60	1.00		0.51	1.00	
Satd. Flow (perm)	803	1790		366	1847		1061	1710		902	1723	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	71	484	87	71	306	26	68	236	107	26	178	76
RTOR Reduction (vph)	0	9	0	0	4	0	0	23	0	0	22	0
Lane Group Flow (vph)	71	562	0	71	328	0	68	320	0	26	232	0
Heavy Vehicles (%)	15%	5%	4%	9%	2%	12%	9%	4%	14%	8%	5%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	302	673		137	695		470	758		400	764	
v/s Ratio Prot		c0.31			0.18			c0.19			0.13	
v/s Ratio Perm	0.09			0.19			0.06			0.03		
v/c Ratio	0.24	0.84		0.52	0.47		0.14	0.42		0.07	0.30	
Uniform Delay, d1	15.9	21.1		18.0	17.6		12.3	14.2		11.9	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	11.7		13.3	2.3		0.6	1.7		0.3	1.0	
Delay (s)	17.7	32.8		31.3	19.9		13.0	15.9		12.2	14.3	
Level of Service	B	C		C	B		B	B		B	B	
Approach Delay (s/veh)		31.2			21.9			15.4			14.1	
Approach LOS		C			C			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	22.5	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.61				
Actuated Cycle Length (s)	74.4	Sum of lost time (s)		13.4	
Intersection Capacity Utilization	92.9%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	192	2	25	202	25	5	279	45	15	198	39
Future Volume (vph)	87	192	2	25	202	25	5	279	45	15	198	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.987			0.982			0.979	
Flt Protected		0.985			0.995			0.999			0.997	
Satd. Flow (prot)	0	1836	0	0	1872	0	0	1798	0	0	1714	0
Flt Permitted		0.985			0.995			0.999			0.997	
Satd. Flow (perm)	0	1836	0	0	1872	0	0	1798	0	0	1714	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	0%	1%	0%	0%	5%	4%	13%	10%	5%
Adj. Flow (vph)	92	202	2	26	213	26	5	294	47	16	208	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	296	0	0	265	0	0	346	0	0	265	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.1%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	87	192	2	25	202	25	5	279	45	15	198	39
Future Volume (vph)	87	192	2	25	202	25	5	279	45	15	198	39
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	92	202	2	26	213	26	5	294	47	16	208	41

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	296	265	346	265
Volume Left (vph)	92	26	5	16
Volume Right (vph)	2	26	47	41
Hadj (s)	0.11	-0.03	0.00	0.08
Departure Headway (s)	6.8	6.7	6.5	6.8
Degree Utilization, x	0.56	0.49	0.62	0.50
Capacity (veh/h)	481	475	515	473
Control Delay (s/veh)	17.9	16.1	19.7	16.3
Approach Delay (s/veh)	17.9	16.1	19.7	16.3
Approach LOS	C	C	C	C

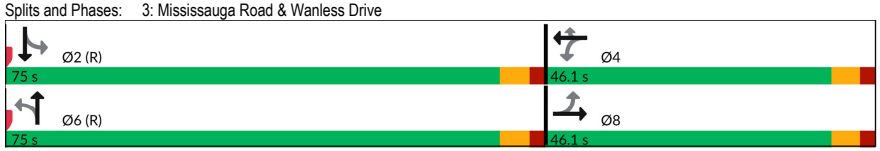
Intersection Summary				
Delay		17.7		
Level of Service		C		
Intersection Capacity Utilization		60.1%	ICU Level of Service	B
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	312	26	98	133	36	20	347	169	31	266	9
Future Volume (vph)	23	312	26	98	133	36	20	347	169	31	266	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988				0.850		0.957			0.996	
Flt Protected	0.950			0.950				0.998			0.995	
Satd. Flow (prot)	1825	1898	0	1825	1921	1585	0	1800	0	0	1898	0
Flt Permitted	0.646			0.337				0.979			0.908	
Satd. Flow (perm)	1241	1898	0	647	1921	1585	0	1766	0	0	1732	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				40		32			2	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	3%	0%	3%	0%	0%
Adj. Flow (vph)	25	343	29	108	146	40	22	381	186	34	292	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	372	0	108	146	40	0	589	0	0	336	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.06	0.59		0.51	0.23	0.07		0.58			0.34	
Control Delay (s/veh)	28.4	38.0		42.7	30.6	8.7		18.6			15.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	28.4	38.0		42.7	30.6	8.7		18.6			15.1	
LOS	C	D		D	C	A		B			B	
Approach Delay (s/veh)		37.4			32.1			18.6			15.1	
Approach LOS		D			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 121.1			
Actuated Cycle Length: 121.1			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 25.0		Intersection LOS: C	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	25	372	108	146	40	589	336
v/c Ratio	0.06	0.59	0.51	0.23	0.07	0.58	0.34
Control Delay (s/veh)	28.4	38.0	42.7	30.6	8.7	18.6	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.4	38.0	42.7	30.6	8.7	18.6	15.1
Queue Length 50th (m)	4.0	72.6	20.6	25.0	0.0	81.1	40.6
Queue Length 95th (m)	10.5	104.1	39.9	41.2	7.7	114.7	59.1
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	409	629	213	634	550	1017	984
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.59	0.51	0.23	0.07	0.58	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	312	26	98	133	36	20	347	169	31	266	9
Future Volume (vph)	23	312	26	98	133	36	20	347	169	31	266	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1825	1899		1825	1921	1585		1801			1898	
Flt Permitted	0.65	1.00		0.34	1.00	1.00		0.98			0.91	
Satd. Flow (perm)	1242	1899		648	1921	1585		1767			1731	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	25	343	29	108	146	40	22	381	186	34	292	10
RTOR Reduction (vph)	0	3	0	0	0	27	0	14	0	0	1	0
Lane Group Flow (vph)	25	369	0	108	146	13	0	575	0	0	335	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	3%	0%	3%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	410	627		214	634	523		1003			983	
v/s Ratio Prot		c0.19			0.08							
v/s Ratio Perm	0.02			0.17		0.01		c0.33			0.19	
v/c Ratio	0.06	0.59		0.50	0.23	0.03		0.57			0.34	
Uniform Delay, d1	27.7	33.7		32.6	29.4	27.4		16.8			14.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.3	4.0		8.3	0.8	0.1		2.4			0.9	
Delay (s)	28.0	37.7		40.9	30.2	27.5		19.1			15.0	
Level of Service	C	D		D	C	C		B			B	
Approach Delay (s/veh)		37.1			33.8			19.1			15.0	
Approach LOS		D			C			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	25.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	74.5%	ICU Level of Service	D	
Analysis Period (min)	15			

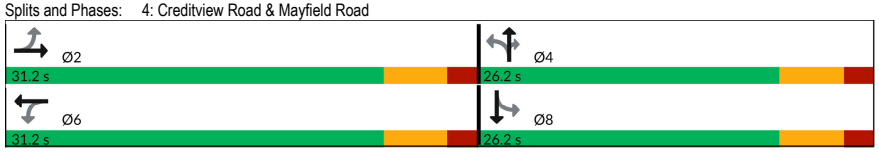
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	564	62	115	451	9	38	121	108	13	122	26
Future Volume (vph)	28	564	62	115	451	9	38	121	108	13	122	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00				0.98		1.00	
Frt		0.987			0.998				0.850		0.978	
Flt Protected		0.998			0.990			0.988			0.996	
Satd. Flow (prot)	0	1770	0	0	1851	0	0	1862	1617	0	1857	0
Flt Permitted		0.964			0.629			0.901			0.972	
Satd. Flow (perm)	0	1710	0	0	1176	0	0	1698	1583	0	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			2				114		18	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	11%	6%	11%	0%	3%	11%	5%	1%	1%	0%	1%	0%
Adj. Flow (vph)	29	594	65	121	475	9	40	127	114	14	128	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	688	0	0	605	0	0	167	114	0	169	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.99			1.28			0.25	0.16		0.23	
Control Delay (s/veh)		54.6			164.8			13.7	3.6		12.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		54.6			164.8			13.7	3.6		12.0	
LOS		D			F			B	A		B	
Approach Delay (s/veh)		54.6			164.8			9.6			12.0	
Approach LOS		D			F			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.28			
Intersection Signal Delay (s/veh): 81.5		Intersection LOS: F	
Intersection Capacity Utilization 102.0%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	688	605	167	114	169
v/c Ratio	0.99	1.28	0.25	0.16	0.23
Control Delay (s/veh)	54.6	164.8	13.7	3.6	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.6	164.8	13.7	3.6	12.0
Queue Length 50th (m)	74.8	~92.0	12.3	0.0	10.9
Queue Length 95th (m)	#141.0	#147.1	23.7	7.7	22.0
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	692	472	680	702	736
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.99	1.28	0.25	0.16	0.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	564	62	115	451	9	38	121	108	13	122	26
Future Volume (vph)	28	564	62	115	451	9	38	121	108	13	122	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.98		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.99			1.00			1.00	0.85		0.98	
Flt Protected		1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)		1770			1851			1862	1582		1858	
Flt Permitted		0.96			0.63			0.90	1.00		0.97	
Satd. Flow (perm)		1710			1176			1697	1582		1814	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	594	65	121	475	9	40	127	114	14	128	27
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	68	0	11	0
Lane Group Flow (vph)	0	681	0	0	604	0	0	167	46	0	158	0
Confl. Peds. (#/hr)			2	2					1	1		
Heavy Vehicles (%)	11%	6%	11%	0%	3%	11%	5%	1%	1%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		685			471			679	633		726	
v/s Ratio Prot												
v/s Ratio Perm		0.40			c0.51			c0.10	0.03		0.09	
v/c Ratio		0.99			1.28			0.25	0.07		0.22	
Uniform Delay, d1		18.6			18.7			12.4	11.5		12.3	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		32.9			142.4			0.9	0.2		0.7	
Delay (s)		51.6			161.1			13.3	11.8		13.0	
Level of Service		D			F			B	B		B	
Approach Delay (s/veh)		51.6			161.1			12.7			13.0	
Approach LOS		D			F			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	79.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

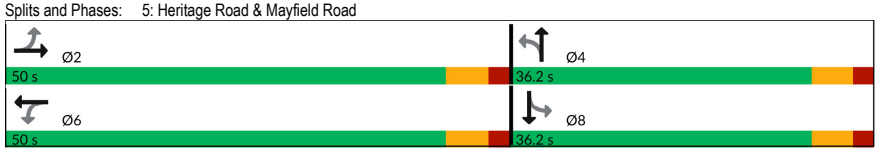
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	454	11	65	366	8	26	68	91	5	28	2
Future Volume (vph)	10	454	11	65	366	8	26	68	91	5	28	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.997			0.934			0.993	
Flt Protected		0.999			0.993			0.993			0.993	
Satd. Flow (prot)	0	1810	0	0	1833	0	0	1775	0	0	1739	0
Flt Permitted		0.988			0.870			0.960			0.965	
Satd. Flow (perm)	0	1790	0	0	1606	0	0	1716	0	0	1690	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			2			62			2	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	6%	0%	3%	4%	0%	0%	1%	0%	0%	11%	0%
Adj. Flow (vph)	11	488	12	70	394	9	28	73	98	5	30	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	511	0	0	473	0	0	199	0	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	50.0	50.0		50.0	50.0		36.2	36.2		36.2	36.2	
Total Split (%)	58.0%	58.0%		58.0%	58.0%		42.0%	42.0%		42.0%	42.0%	
Maximum Green (s)	43.8	43.8		43.8	43.8		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		43.8			43.8			30.0			30.0	
Actuated g/C Ratio		0.51			0.51			0.35			0.35	
v/c Ratio		0.56			0.58			0.31			0.06	
Control Delay (s/veh)		17.5			18.3			15.5			18.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		17.5			18.3			15.5			18.4	
LOS		B			B			B			B	
Approach Delay (s/veh)		17.5			18.3			15.5			18.4	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 86.2			
Actuated Cycle Length: 86.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay (s/veh): 17.5		Intersection LOS: B	
Intersection Capacity Utilization 78.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	511	473	199	37
v/c Ratio	0.56	0.58	0.31	0.06
Control Delay (s/veh)	17.5	18.3	15.5	18.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.5	18.3	15.5	18.4
Queue Length 50th (m)	54.7	51.3	15.8	3.8
Queue Length 95th (m)	83.2	80.2	31.8	10.1
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	910	817	637	589
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.56	0.58	0.31	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	454	11	65	366	8	26	68	91	5	28	2
Future Volume (vph)	10	454	11	65	366	8	26	68	91	5	28	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.93			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1809			1833			1774			1739	
Flt Permitted		0.99			0.87			0.96			0.96	
Satd. Flow (perm)		1790			1607			1716			1689	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	488	12	70	394	9	28	73	98	5	30	2
RTOR Reduction (vph)	0	1	0	0	1	0	0	40	0	0	1	0
Lane Group Flow (vph)	0	510	0	0	472	0	0	159	0	0	36	0
Heavy Vehicles (%)	0%	6%	0%	3%	4%	0%	0%	1%	0%	0%	11%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		43.8			43.8			30.0			30.0	
Effective Green, g (s)		43.8			43.8			30.0			30.0	
Actuated g/C Ratio		0.51			0.51			0.35			0.35	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		909			816			597			587	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.29			c0.09			0.02	
v/c Ratio		0.56			0.58			0.27			0.06	
Uniform Delay, d1		14.6			14.8			20.2			18.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.5			3.0			1.1			0.2	
Delay (s)		17.1			17.7			21.3			18.9	
Level of Service		B			B			C			B	
Approach Delay (s/veh)		17.1			17.7			21.3			18.9	
Approach LOS		B			B			C			B	

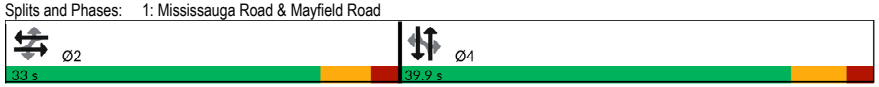
Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	86.2	Sum of lost time (s)	12.4
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	218	31	66	231	9	42	121	82	14	99	31
Future Volume (vph)	36	218	31	66	231	9	42	121	82	14	99	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.994			0.940			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1601	1694	0	1690	1729	0	1674	1638	0	1825	1661	0
Flt Permitted	0.598			0.593			0.666			0.620		
Satd. Flow (perm)	1008	1694	0	1055	1729	0	1174	1638	0	1191	1661	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			3			61			28	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	11%	13%	8%	10%	22%	9%	7%	15%	0%	11%	13%
Adj. Flow (vph)	39	237	34	72	251	10	46	132	89	15	108	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	271	0	72	261	0	46	221	0	15	142	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.1	28.1		28.1	28.1		13.3	13.3		13.3	13.3	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.24	0.24		0.24	0.24	
v/c Ratio	0.08	0.31		0.13	0.29		0.16	0.50		0.05	0.33	
Control Delay (s/veh)	8.0	9.1		8.5	9.2		17.6	16.9		16.0	16.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	8.0	9.1		8.5	9.2		17.6	16.9		16.0	16.1	
LOS	A	A		A	A		B	B		B	B	
Approach Delay (s/veh)		9.0			9.0			17.0			16.1	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 54.8			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay (s/veh): 12.0		Intersection LOS: B	
Intersection Capacity Utilization 70.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	39	271	72	261	46	221	15	142
v/c Ratio	0.08	0.31	0.13	0.29	0.16	0.50	0.05	0.33
Control Delay (s/veh)	8.0	9.1	8.5	9.2	17.6	16.9	16.0	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.0	9.1	8.5	9.2	17.6	16.9	16.0	16.1
Queue Length 50th (m)	1.7	12.6	3.2	12.5	3.6	13.3	1.1	9.2
Queue Length 95th (m)	6.3	29.8	10.2	29.2	10.0	29.0	4.7	20.8
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	516	872	540	886	708	1012	718	1013
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.31	0.13	0.29	0.06	0.22	0.02	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	218	31	66	231	9	42	121	82	14	99	31
Future Volume (vph)	36	218	31	66	231	9	42	121	82	14	99	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1601	1694		1690	1729		1674	1638		1825	1661	
Flt Permitted	0.60	1.00		0.59	1.00		0.67	1.00		0.62	1.00	
Satd. Flow (perm)	1008	1694		1054	1729		1175	1638		1191	1661	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	237	34	72	251	10	46	132	89	15	108	34
RTOR Reduction (vph)	0	5	0	0	1	0	0	46	0	0	21	0
Lane Group Flow (vph)	39	266	0	72	260	0	46	175	0	15	121	0
Heavy Vehicles (%)	14%	11%	13%	8%	10%	22%	9%	7%	15%	0%	11%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		13.3	13.3		13.3	13.3	
Effective Green, g (s)	28.0	28.0		28.0	28.0		13.3	13.3		13.3	13.3	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.24	0.24		0.24	0.24	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	515	867		539	885		285	398		289	403	
v/s Ratio Prot		c0.16			0.15			c0.11			0.07	
v/s Ratio Perm	0.04			0.07			0.04			0.01		
v/c Ratio	0.08	0.31		0.13	0.29		0.16	0.44		0.05	0.30	
Uniform Delay, d1	6.8	7.7		7.0	7.7		16.3	17.5		15.9	16.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.9		0.5	0.8		0.3	0.8		0.1	0.4	
Delay (s)	7.1	8.6		7.5	8.5		16.6	18.3		15.9	17.3	
Level of Service	A	A		A	A		B	B		B	B	
Approach Delay (s/veh)		8.4			8.3			18.0			17.2	
Approach LOS		A			A			B			B	

Intersection Summary					
HCM 2000 Control Delay (s/veh)	12.1	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.35				
Actuated Cycle Length (s)	54.7	Sum of lost time (s)		13.4	
Intersection Capacity Utilization	70.4%	ICU Level of Service		C	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	91	2	25	90	11	6	132	21	5	112	35
Future Volume (vph)	36	91	2	25	90	11	6	132	21	5	112	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.988			0.982			0.969	
Flt Protected		0.986			0.990			0.998			0.998	
Satd. Flow (prot)	0	1787	0	0	1810	0	0	1714	0	0	1686	0
Flt Permitted		0.986			0.990			0.998			0.998	
Satd. Flow (perm)	0	1787	0	0	1810	0	0	1714	0	0	1686	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	5%	0%	12%	2%	0%	0%	11%	5%	0%	11%	9%
Adj. Flow (vph)	38	97	2	27	96	12	6	140	22	5	119	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	137	0	0	135	0	0	168	0	0	161	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	36	91	2	25	90	11	6	132	21	5	112	35
Future Volume (vph)	36	91	2	25	90	11	6	132	21	5	112	35
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	38	97	2	27	96	12	6	140	22	5	119	37

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	137	135	168	161
Volume Left (vph)	38	27	6	5
Volume Right (vph)	2	12	22	37
Hadj (s)	0.14	0.05	0.10	0.04
Departure Headway (s)	5.1	5.0	4.9	4.9
Degree Utilization, x	0.19	0.19	0.23	0.22
Capacity (veh/h)	656	667	687	688
Control Delay (s/veh)	9.3	9.1	9.4	9.2
Approach Delay (s/veh)	9.3	9.1	9.4	9.2
Approach LOS	A	A	A	A

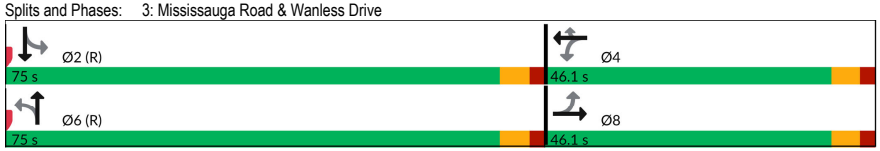
Intersection Summary			
Delay		9.3	
Level of Service		A	
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	84	12	76	82	20	10	190	79	15	147	11
Future Volume (vph)	8	84	12	76	82	20	10	190	79	15	147	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981				0.850		0.962			0.991	
Flt Protected	0.950			0.950				0.998			0.996	
Satd. Flow (prot)	1825	1868	0	1772	1847	1633	0	1628	0	0	1678	0
Flt Permitted	0.699			0.689				0.989			0.963	
Satd. Flow (perm)	1343	1868	0	1285	1847	1633	0	1613	0	0	1622	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				29		27			5	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	3%	4%	0%	10%	19%	0%	13%	14%	0%
Adj. Flow (vph)	9	92	13	84	90	22	11	209	87	16	162	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	105	0	84	90	22	0	307	0	0	190	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.02	0.17		0.20	0.15	0.04		0.33			0.21	
Control Delay (s/veh)	27.8	28.0		30.7	29.4	7.4		13.7			13.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	27.8	28.0		30.7	29.4	7.4		13.7			13.1	
LOS	C	C		C	C	A		B			B	
Approach Delay (s/veh)		28.0			27.5			13.7			13.1	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 121.1			
Actuated Cycle Length: 121.1			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay (s/veh): 19.0		Intersection LOS: B	
Intersection Capacity Utilization 47.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	9	105	84	90	22	307	190
v/c Ratio	0.02	0.17	0.20	0.15	0.04	0.33	0.21
Control Delay (s/veh)	27.8	28.0	30.7	29.4	7.4	13.7	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.8	28.0	30.7	29.4	7.4	13.7	13.1
Queue Length 50th (m)	1.4	16.6	14.3	15.0	0.0	33.4	20.4
Queue Length 95th (m)	5.2	29.9	26.7	27.4	4.7	51.2	32.8
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	443	621	424	610	558	928	923
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.17	0.20	0.15	0.04	0.33	0.21

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	84	12	76	82	20	10	190	79	15	147	11
Future Volume (vph)	8	84	12	76	82	20	10	190	79	15	147	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)	1825	1869		1772	1847	1633		1628			1678	
Flt Permitted	0.70	1.00		0.69	1.00	1.00		0.99			0.96	
Satd. Flow (perm)	1342	1869		1285	1847	1633		1613			1622	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	92	13	84	90	22	11	209	87	16	162	12
RTOR Reduction (vph)	0	4	0	0	0	15	0	12	0	0	2	0
Lane Group Flow (vph)	9	101	0	84	90	7	0	295	0	0	188	0
Heavy Vehicles (%)	0%	1%	0%	3%	4%	0%	10%	19%	0%	13%	14%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	443	617		424	610	539		916			921	
v/s Ratio Prot		0.05			0.05							
v/s Ratio Perm	0.01			c0.07		0.00		c0.18			0.12	
v/c Ratio	0.02	0.16		0.20	0.15	0.01		0.32			0.20	
Uniform Delay, d1	27.3	28.7		29.1	28.5	27.3		13.8			12.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.1	0.6		1.0	0.5	0.0		0.9			0.5	
Delay (s)	27.4	29.3		30.1	29.1	27.3		14.8			13.3	
Level of Service	C	C		C	C	C		B			B	
Approach Delay (s/veh)		29.1			29.3			14.8			13.3	
Approach LOS		C			C			B			B	

Intersection Summary					
HCM 2000 Control Delay (s/veh)	20.0	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.28				
Actuated Cycle Length (s)	121.1	Sum of lost time (s)		12.3	
Intersection Capacity Utilization	47.4%	ICU Level of Service		A	
Analysis Period (min)	15				

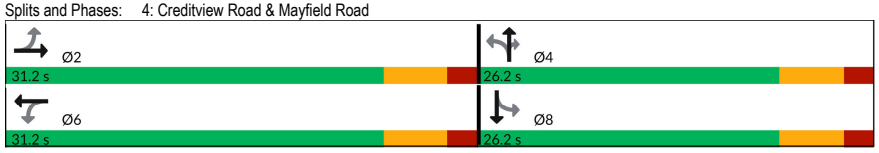
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	383	28	97	356	8	32	70	85	3	46	8
Future Volume (vph)	15	383	28	97	356	8	32	70	85	3	46	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.991			0.998				0.850		0.980	
Flt Protected		0.998			0.990			0.984			0.998	
Satd. Flow (prot)	0	1700	0	0	1763	0	0	1810	1601	0	1873	0
Flt Permitted		0.976			0.771			0.908			0.990	
Satd. Flow (perm)	0	1663	0	0	1373	0	0	1669	1601	0	1858	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2				92		9	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	12%	11%	7%	8%	0%	12%	1%	2%	0%	0%	0%
Adj. Flow (vph)	16	416	30	105	387	9	35	76	92	3	50	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	462	0	0	501	0	0	111	92	0	62	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.69			0.91			0.17	0.13		0.08	
Control Delay (s/veh)		21.7			42.3			12.9	3.7		10.7	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		21.7			42.3			12.9	3.7		10.7	
LOS		C			D			B	A		B	
Approach Delay (s/veh)		21.7			42.3			8.8			10.7	
Approach LOS		C			D			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay (s/veh): 27.4		Intersection LOS: C	
Intersection Capacity Utilization 83.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	462	501	111	92	62
v/c Ratio	0.69	0.91	0.17	0.13	0.08
Control Delay (s/veh)	21.7	42.3	12.9	3.7	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.7	42.3	12.9	3.7	10.7
Queue Length 50th (m)	41.6	52.2	7.9	0.0	3.6
Queue Length 95th (m)	71.1	#106.6	16.7	7.0	9.7
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	671	551	668	696	749
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	0.91	0.17	0.13	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	383	28	97	356	8	32	70	85	3	46	8
Future Volume (vph)	15	383	28	97	356	8	32	70	85	3	46	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.99			1.00			1.00	0.85		0.98	
Flt Protected		1.00			0.99			0.98	1.00		1.00	
Satd. Flow (prot)		1701			1762			1810	1601		1873	
Flt Permitted		0.98			0.77			0.91	1.00		0.99	
Satd. Flow (perm)		1662			1373			1669	1601		1860	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	416	30	105	387	9	35	76	92	3	50	9
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	55	0	5	0
Lane Group Flow (vph)	0	457	0	0	500	0	0	111	37	0	57	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	7%	12%	11%	7%	8%	0%	12%	1%	2%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		665			550			668	641		745	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.36			c0.07	0.02		0.03	
v/c Ratio		0.69			0.91			0.17	0.06		0.08	
Uniform Delay, d1		15.5			17.6			12.0	11.5		11.6	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		5.7			21.4			0.5	0.2		0.2	
Delay (s)		21.2			39.0			12.5	11.6		11.8	
Level of Service		C			D			B	B		B	
Approach Delay (s/veh)		21.2			39.0			12.1			11.8	
Approach LOS		C			D			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

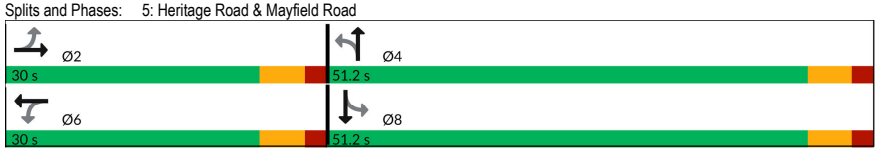
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	204	13	30	195	3	13	31	29	3	20	8
Future Volume (vph)	8	204	13	30	195	3	13	31	29	3	20	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.992			0.998			0.946			0.964	
Flt Protected		0.998			0.993			0.991			0.995	
Satd. Flow (prot)	0	1668	0	0	1788	0	0	1736	0	0	1843	0
Flt Permitted		0.984			0.931			0.966			0.984	
Satd. Flow (perm)	0	1644	0	0	1676	0	0	1693	0	0	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1			35			10	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Confl. Peds. (#/hr)	1					1			1	1		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	12%	15%	0%	0%	7%	33%	0%	0%	7%	0%	0%	0%
Adj. Flow (vph)	10	243	15	36	232	4	15	37	35	4	24	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	272	0	0	87	0	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	30.0	30.0		30.0	30.0		51.2	51.2		51.2	51.2	
Total Split (%)	36.9%	36.9%		36.9%	36.9%		63.1%	63.1%		63.1%	63.1%	
Maximum Green (s)	23.8	23.8		23.8	23.8		45.0	45.0		45.0	45.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		26.0			26.0			45.0			45.0	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
v/c Ratio		0.52			0.52			0.09			0.04	
Control Delay (s/veh)		27.6			27.8			6.4			7.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		27.6			27.8			6.4			7.4	
LOS		C			C			A			A	
Approach Delay (s/veh)		27.6			27.8			6.4			7.4	
Approach LOS		C			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 81.2			
Actuated Cycle Length: 83.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay (s/veh): 23.7		Intersection LOS: C	
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	268	272	87	38
v/c Ratio	0.52	0.52	0.09	0.04
Control Delay (s/veh)	27.6	27.8	6.4	7.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.6	27.8	6.4	7.4
Queue Length 50th (m)	34.2	35.1	3.7	2.0
Queue Length 95th (m)	52.0	52.8	9.1	5.6
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	515	523	929	987
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.52	0.09	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	204	13	30	195	3	13	31	29	3	20	8
Future Volume (vph)	8	204	13	30	195	3	13	31	29	3	20	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.95			0.96	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1669			1789			1737			1843	
Flt Permitted		0.98			0.93			0.97			0.98	
Satd. Flow (perm)		1645			1677			1691			1823	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	10	243	15	36	232	4	15	37	35	4	24	10
RTOR Reduction (vph)	0	3	0	0	1	0	0	16	0	0	5	0
Lane Group Flow (vph)	0	265	0	0	271	0	0	71	0	0	33	0
Confl. Peds. (#/hr)	1					1			1	1		
Heavy Vehicles (%)	12%	15%	0%	0%	7%	33%	0%	0%	7%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		26.0			26.0			45.0			45.0	
Effective Green, g (s)		26.0			26.0			45.0			45.0	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		512			522			912			983	
v/s Ratio Prot												
v/s Ratio Perm		0.16			c0.16			c0.04			0.02	
v/c Ratio		0.52			0.52			0.08			0.03	
Uniform Delay, d1		23.6			23.6			9.2			9.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.7			3.7			0.2			0.1	
Delay (s)		27.3			27.2			9.4			9.1	
Level of Service		C			C			A			A	
Approach Delay (s/veh)		27.3			27.2			9.4			9.1	
Approach LOS		C			C			A			A	

Intersection Summary					
HCM 2000 Control Delay (s/veh)	23.9	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.24				
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	12.4		
Intersection Capacity Utilization	53.1%	ICU Level of Service	A		
Analysis Period (min)	15				

c Critical Lane Group

Appendix D

Estimated Construction Vehicle Trips

Estimated Construction Vehicle Trips

Construction Phase	Phasing Details	Base Construction Crew (Vehicles)	Material Delivery Vehicles	Floating Vehicles	Construction and Infill			Total Vehicles per Phase (PCE)	Notes
					Vehicle Trips	Vehicle Type	PCE Conversion		
1	Mobilization	12	10	–	–	–	–	22	N/A
2	Grading	12	10	4	40	Trucks	120	**146**	Maximum vehicles added to network
3	Excavation for pipelines and foundations	12	10	–	10	Trucks	30	52	N/A
4	Tower erection	12	10	–	2	Trucks	6	28	N/A
5	Mechanical installation	12	10	–	5	Cars	5	27	N/A
6	Coatings	12	10	–	5	Cars	5	27	N/A
7	Grading, paving, sodding	12	10	–	15	Trucks	45	67	N/A
8	Testing and commissioning	–	10	–	12	Cars	12	22	N/A
Total	–	**84**	**80**	**4**	–	–	**223**	**391**	–

Appendix E

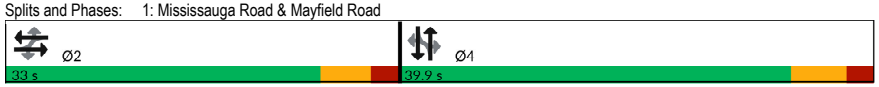
Background Traffic Operations Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	237	68	128	390	46	64	124	66	25	214	71
Future Volume (vph)	57	237	68	128	390	46	64	124	66	25	214	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966			0.984			0.948			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1615	3255	0	1690	3295	0	1772	1734	0	1755	1709	0
Flt Permitted	0.459			0.550			0.539			0.627		
Satd. Flow (perm)	780	3255	0	978	3295	0	1005	1734	0	1158	1709	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			20			48			30	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	13%	9%	6%	8%	7%	26%	3%	4%	7%	4%	8%	9%
Adj. Flow (vph)	63	260	75	141	429	51	70	136	73	27	235	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	335	0	141	480	0	70	209	0	27	313	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
v/c Ratio	0.22	0.27		0.38	0.38		0.16	0.26		0.05	0.40	
Control Delay (s/veh)	18.2	13.8		20.8	17.3		13.6	11.0		12.3	14.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.2	13.8		20.8	17.3		13.6	11.0		12.3	14.5	
LOS	B	B		C	B		B	B		B	B	
Approach Delay (s/veh)		14.5			18.1			11.6			14.4	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 74.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay (s/veh): 15.3		Intersection LOS: B	
Intersection Capacity Utilization 74.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	335	141	480	70	209	27	313
v/c Ratio	0.22	0.27	0.38	0.38	0.16	0.26	0.05	0.40
Control Delay (s/veh)	18.2	13.8	20.8	17.3	13.6	11.0	12.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.2	13.8	20.8	17.3	13.6	11.0	12.3	14.5
Queue Length 50th (m)	5.9	13.6	14.1	24.0	5.6	13.3	2.1	25.4
Queue Length 95th (m)	14.4	22.3	28.5	35.6	13.1	26.1	6.2	44.1
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	293	1261	368	1252	445	795	513	774
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.27	0.38	0.38	0.16	0.26	0.05	0.40

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	237	68	128	390	46	64	124	66	25	214	71
Future Volume (vph)	57	237	68	128	390	46	64	124	66	25	214	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1615	3256		1690	3295		1772	1733		1755	1708	
Flt Permitted	0.46	1.00		0.55	1.00		0.54	1.00		0.63	1.00	
Satd. Flow (perm)	781	3256		978	3295		1005	1733		1158	1708	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	63	260	75	141	429	51	70	136	73	27	235	78
RTOR Reduction (vph)	0	36	0	0	12	0	0	27	0	0	17	0
Lane Group Flow (vph)	63	299	0	141	468	0	70	182	0	27	296	0
Heavy Vehicles (%)	13%	9%	6%	8%	7%	26%	3%	4%	7%	4%	8%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	293	1225		368	1240		445	768		513	757	
v/s Ratio Prot		0.09			0.14			0.11			c0.17	
v/s Ratio Perm	0.08			c0.14			0.07			0.02		
v/c Ratio	0.22	0.24		0.38	0.38		0.16	0.24		0.05	0.39	
Uniform Delay, d1	15.7	15.9		16.9	16.9		12.4	12.9		11.8	13.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.5		3.0	0.9		0.8	0.7		0.2	1.5	
Delay (s)	17.4	16.4		19.9	17.7		13.1	13.6		12.0	15.5	
Level of Service	B	B		B	B		B	B		B	B	
Approach Delay (s/veh)		16.6			18.2			13.5			15.2	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	16.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	74.6%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	113	14	33	102	12	3	117	32	12	271	50
Future Volume (vph)	37	113	14	33	102	12	3	117	32	12	271	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.989			0.971			0.980	
Flt Protected		0.989			0.989			0.999			0.998	
Satd. Flow (prot)	0	1771	0	0	1776	0	0	1716	0	0	1767	0
Flt Permitted		0.989			0.989			0.999			0.998	
Satd. Flow (perm)	0	1771	0	0	1776	0	0	1716	0	0	1767	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	6%	15%	13%	2%	18%	67%	6%	13%	9%	7%	2%
Adj. Flow (vph)	40	123	15	36	111	13	3	127	35	13	295	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	0	0	160	0	0	165	0	0	362	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.1%	ICU Level of Service A	
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	37	113	14	33	102	12	3	117	32	12	271	50
Future Volume (vph)	37	113	14	33	102	12	3	117	32	12	271	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	40	123	15	36	111	13	3	127	35	13	295	54

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	178	160	165	362
Volume Left (vph)	40	36	3	13
Volume Right (vph)	15	13	35	54
Hadj (s)	0.10	0.09	0.02	0.03
Departure Headway (s)	5.7	5.8	5.5	5.2
Degree Utilization, x	0.28	0.26	0.25	0.52
Capacity (veh/h)	569	560	590	657
Control Delay (s/veh)	11.0	10.7	10.4	13.8
Approach Delay (s/veh)	11.0	10.7	10.4	13.8
Approach LOS	B	B	B	B

Intersection Summary			
Delay	12.0		
Level of Service	B		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

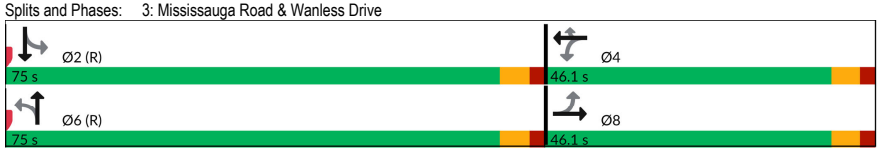
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	127	8	222	266	38	17	269	72	38	444	20
Future Volume (vph)	3	127	8	222	266	38	17	269	72	38	444	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850		0.973			0.995	
Flt Protected	0.950			0.950				0.998			0.996	
Satd. Flow (prot)	1825	1904	0	1807	1921	1585	0	1684	0	0	1793	0
Flt Permitted	0.432			0.638				0.964			0.943	
Satd. Flow (perm)	830	1904	0	1214	1921	1585	0	1627	0	0	1697	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				43		17			3	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	13%	5%	0%	7%	0%
Adj. Flow (vph)	3	143	9	249	299	43	19	302	81	43	499	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	152	0	249	299	43	0	402	0	0	564	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.01	0.24		0.62	0.47	0.08		0.43			0.58	
Control Delay (s/veh)	27.7	30.2		42.3	35.2	8.6		16.0			19.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	27.7	30.2		42.3	35.2	8.6		16.0			19.9	
LOS	C	C		D	D	A		B			B	
Approach Delay (s/veh)		30.1			36.2			16.0			19.9	
Approach LOS		C			D			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 121.1
Actuated Cycle Length: 121.1
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 0.62
Intersection Signal Delay (s/veh): 25.6 Intersection LOS: C
Intersection Capacity Utilization 75.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	3	152	249	299	43	402	564
v/c Ratio	0.01	0.24	0.62	0.47	0.08	0.43	0.58
Control Delay (s/veh)	27.7	30.2	42.3	35.2	8.6	16.0	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.7	30.2	42.3	35.2	8.6	16.0	19.9
Queue Length 50th (m)	0.5	25.6	49.7	56.2	0.0	49.8	82.1
Queue Length 95th (m)	2.8	41.8	77.3	81.1	7.8	71.6	113.7
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	274	630	400	634	552	931	965
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.24	0.62	0.47	0.08	0.43	0.58

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	127	8	222	266	38	17	269	72	38	444	20
Future Volume (vph)	3	127	8	222	266	38	17	269	72	38	444	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.97			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)	1825	1904		1807	1921	1585		1683			1793	
Flt Permitted	0.43	1.00		0.64	1.00	1.00		0.96			0.94	
Satd. Flow (perm)	831	1904		1213	1921	1585		1626			1696	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	3	143	9	249	299	43	19	302	81	43	499	22
RTOR Reduction (vph)	0	2	0	0	0	29	0	7	0	0	1	0
Lane Group Flow (vph)	3	150	0	249	299	14	0	395	0	0	563	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	13%	5%	0%	7%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	274	628		400	634	523		923			963	
v/s Ratio Prot		0.08			0.16							
v/s Ratio Perm	0.00			c0.21		0.01		0.24			c0.33	
v/c Ratio	0.01	0.24		0.62	0.47	0.03		0.43			0.58	
Uniform Delay, d1	27.3	29.5		34.2	32.2	27.4		14.9			16.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.1	0.9		7.1	2.5	0.1		1.4			2.6	
Delay (s)	27.3	30.4		41.3	34.7	27.5		16.4			19.5	
Level of Service	C	C		D	C	C		B			B	
Approach Delay (s/veh)		30.3			36.9			16.4			19.5	
Approach LOS		C			D			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	25.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	75.9%	ICU Level of Service	D	
Analysis Period (min)	15			

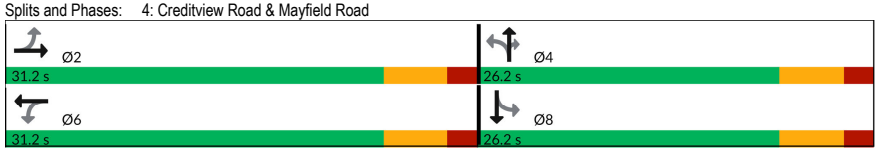
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	422	46	109	552	4	45	85	100	8	97	24
Future Volume (vph)	23	422	46	109	552	4	45	85	100	8	97	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00	0.99		1.00	
Frt		0.986			0.999				0.850		0.975	
Flt Protected		0.998			0.992			0.983			0.997	
Satd. Flow (prot)	0	4817	0	0	3350	0	0	1772	1498	0	1777	0
Flt Permitted		0.884			0.748			0.862			0.982	
Satd. Flow (perm)	0	4267	0	0	2526	0	0	1554	1479	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39			1				112		22	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	7%	12%	3%	9%	0%	17%	1%	9%	0%	3%	14%
Adj. Flow (vph)	26	474	52	122	620	4	51	96	112	9	109	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	552	0	0	746	0	0	147	112	0	145	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.32			0.74			0.24	0.17		0.20	
Control Delay (s/veh)		12.5			21.2			13.7	3.7		11.2	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		12.5			21.2			13.7	3.7		11.2	
LOS		B			C			B	A		B	
Approach Delay (s/veh)		12.5			21.2			9.3			11.2	
Approach LOS		B			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 15.7		Intersection LOS: B	
Intersection Capacity Utilization 67.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	552	746	147	112	145
v/c Ratio	0.32	0.74	0.24	0.17	0.20
Control Delay (s/veh)	12.5	21.2	13.7	3.7	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.5	21.2	13.7	3.7	11.2
Queue Length 50th (m)	14.1	36.8	10.8	0.0	8.8
Queue Length 95th (m)	20.8	54.5	21.2	7.5	18.6
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	1732	1012	622	659	714
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.74	0.24	0.17	0.20

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	422	46	109	552	4	45	85	100	8	97	24
Future Volume (vph)	23	422	46	109	552	4	45	85	100	8	97	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		0.91			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.99		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.99			1.00			1.00	0.85		0.97	
Flt Protected		1.00			0.99			0.98	1.00		1.00	
Satd. Flow (prot)		4815			3351			1772	1479		1776	
Flt Permitted		0.88			0.75			0.86	1.00		0.98	
Satd. Flow (perm)		4266			2527			1554	1479		1750	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	26	474	52	122	620	4	51	96	112	9	109	27
RTOR Reduction (vph)	0	23	0	0	1	0	0	0	67	0	13	0
Lane Group Flow (vph)	0	529	0	0	745	0	0	147	45	0	132	0
Confl. Peds. (#/hr)							1		1	1		1
Heavy Vehicles (%)	0%	7%	12%	3%	9%	0%	17%	1%	9%	0%	3%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1709			1012			622	592		701	
v/s Ratio Prot												
v/s Ratio Perm		0.12			c0.30			c0.09	0.03		0.08	
v/c Ratio		0.31			0.74			0.24	0.08		0.19	
Uniform Delay, d1		12.8			15.9			12.4	11.6		12.1	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.5			4.8			0.9	0.2		0.6	
Delay (s)		13.3			20.7			13.3	11.8		12.7	
Level of Service		B			C			B	B		B	
Approach Delay (s/veh)		13.3			20.7			12.6			12.7	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

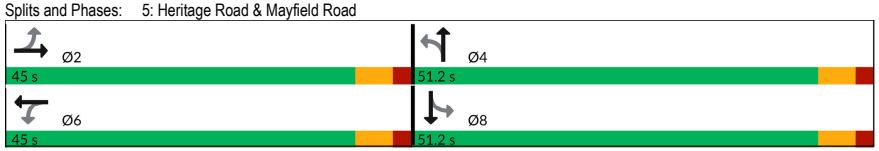
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	433	44	112	333	5	9	10	41	3	55	2
Future Volume (vph)	1	433	44	112	333	5	9	10	41	3	55	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.998			0.907			0.996	
Flt Protected					0.988			0.993			0.998	
Satd. Flow (prot)	0	3399	0	0	3430	0	0	1695	0	0	1883	0
Flt Permitted		0.954			0.655			0.971			0.994	
Satd. Flow (perm)	0	3242	0	0	2274	0	0	1658	0	0	1875	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			1			48			2	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	6%	5%	2%	6%	0%	0%	0%	3%	33%	0%	0%
Adj. Flow (vph)	1	503	51	130	387	6	10	12	48	3	64	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	555	0	0	523	0	0	70	0	0	69	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	45.0	45.0		45.0	45.0		51.2	51.2		51.2	51.2	
Total Split (%)	46.8%	46.8%		46.8%	46.8%		53.2%	53.2%		53.2%	53.2%	
Maximum Green (s)	38.8	38.8		38.8	38.8		45.0	45.0		45.0	45.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		38.8			38.8			45.0			45.0	
Actuated g/C Ratio		0.40			0.40			0.47			0.47	
v/c Ratio		0.42			0.57			0.09			0.08	
Control Delay (s/veh)		21.3			25.2			6.7			14.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		21.3			25.2			6.7			14.1	
LOS		C			C			A			B	
Approach Delay (s/veh)		21.3			25.2			6.7			14.1	
Approach LOS		C			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 96.2			
Actuated Cycle Length: 96.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay (s/veh): 21.8		Intersection LOS: C	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	555	523	70	69
v/c Ratio	0.42	0.57	0.09	0.08
Control Delay (s/veh)	21.3	25.2	6.7	14.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.3	25.2	6.7	14.1
Queue Length 50th (m)	37.2	38.7	2.1	6.6
Queue Length 95th (m)	48.1	51.6	8.5	13.4
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	1315	917	801	878
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.57	0.09	0.08

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	433	44	112	333	5	9	10	41	3	55	2
Future Volume (vph)	1	433	44	112	333	5	9	10	41	3	55	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.91			1.00	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		3399			3430			1696			1882	
Flt Permitted		0.95			0.65			0.97			0.99	
Satd. Flow (perm)		3244			2274			1659			1875	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	503	51	130	387	6	10	12	48	3	64	2
RTOR Reduction (vph)	0	8	0	0	1	0	0	26	0	0	1	0
Lane Group Flow (vph)	0	547	0	0	522	0	0	44	0	0	68	0
Heavy Vehicles (%)	0%	6%	5%	2%	6%	0%	0%	0%	3%	33%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		38.8			38.8			45.0			45.0	
Effective Green, g (s)		38.8			38.8			45.0			45.0	
Actuated g/C Ratio		0.40			0.40			0.47			0.47	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1308			917			776			877	
v/s Ratio Prot												
v/s Ratio Perm		0.17			c0.23			0.03			c0.04	
v/c Ratio		0.42			0.57			0.06			0.08	
Uniform Delay, d1		20.6			22.2			14.0			14.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.0			2.6			0.1			0.2	
Delay (s)		21.6			24.8			14.1			14.3	
Level of Service		C			C			B			B	
Approach Delay (s/veh)		21.6			24.8			14.1			14.3	
Approach LOS		C			C			B			B	

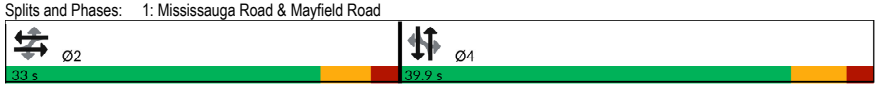
Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	12.4
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	508	92	74	321	28	72	247	113	28	187	79
Future Volume (vph)	74	508	92	74	321	28	72	247	113	28	187	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.988			0.953			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1587	3401	0	1674	3508	0	1674	1709	0	1690	1725	0
Flt Permitted	0.533			0.353			0.575			0.469		
Satd. Flow (perm)	890	3401	0	622	3508	0	1013	1709	0	834	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			14			41			38	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	15%	5%	4%	9%	2%	12%	9%	4%	14%	8%	5%	10%
Adj. Flow (vph)	78	535	97	78	338	29	76	260	119	29	197	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	632	0	78	367	0	76	379	0	29	280	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
v/c Ratio	0.23	0.49		0.33	0.28		0.17	0.49		0.08	0.36	
Control Delay (s/veh)	18.3	18.3		21.6	16.2		13.8	15.6		12.8	13.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.3	18.3		21.6	16.2		13.8	15.6		12.8	13.3	
LOS	B	B		C	B		B	B		B	B	
Approach Delay (s/veh)		18.3			17.1			15.3			13.2	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 74.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay (s/veh): 16.5		Intersection LOS: B	
Intersection Capacity Utilization 82.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	78	632	78	367	76	379	29	280
v/c Ratio	0.23	0.49	0.33	0.28	0.17	0.49	0.08	0.36
Control Delay (s/veh)	18.3	18.3	21.6	16.2	13.8	15.6	12.8	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.3	18.3	21.6	16.2	13.8	15.6	12.8	13.3
Queue Length 50th (m)	7.3	32.8	7.6	17.6	6.1	31.8	2.3	21.1
Queue Length 95th (m)	16.8	47.0	18.6	27.0	14.0	54.2	6.8	37.6
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	334	1299	234	1328	449	780	369	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.49	0.33	0.28	0.17	0.49	0.08	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	508	92	74	321	28	72	247	113	28	187	79
Future Volume (vph)	74	508	92	74	321	28	72	247	113	28	187	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1587	3401		1674	3509		1674	1709		1690	1724	
Flt Permitted	0.53	1.00		0.35	1.00		0.57	1.00		0.47	1.00	
Satd. Flow (perm)	891	3401		622	3509		1013	1709		835	1724	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	78	535	97	78	338	29	76	260	119	29	197	83
RTOR Reduction (vph)	0	20	0	0	9	0	0	23	0	0	21	0
Lane Group Flow (vph)	78	612	0	78	358	0	76	356	0	29	259	0
Heavy Vehicles (%)	15%	5%	4%	9%	2%	12%	9%	4%	14%	8%	5%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	335	1279		234	1320		449	758		370	764	
v/s Ratio Prot		c0.18			0.10			c0.21			0.15	
v/s Ratio Perm	0.09			0.13			0.08			0.03		
v/c Ratio	0.23	0.48		0.33	0.27		0.17	0.47		0.08	0.34	
Uniform Delay, d1	15.9	17.6		16.5	16.1		12.5	14.6		11.9	13.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	1.3		3.8	0.5		0.8	2.1		0.4	1.2	
Delay (s)	17.5	18.9		20.3	16.6		13.3	16.6		12.3	14.8	
Level of Service	B	B		C	B		B	B		B	B	
Approach Delay (s/veh)		18.8			17.3			16.1			14.5	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	17.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.47			
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	82.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	207	2	27	218	27	5	301	48	16	213	42
Future Volume (vph)	94	207	2	27	218	27	5	301	48	16	213	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.987			0.982			0.979	
Flt Protected		0.985			0.995			0.999			0.997	
Satd. Flow (prot)	0	1836	0	0	1872	0	0	1798	0	0	1714	0
Flt Permitted		0.985			0.995			0.999			0.997	
Satd. Flow (perm)	0	1836	0	0	1872	0	0	1798	0	0	1714	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	0%	1%	0%	0%	5%	4%	13%	10%	5%
Adj. Flow (vph)	99	218	2	28	229	28	5	317	51	17	224	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	319	0	0	285	0	0	373	0	0	285	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	94	207	2	27	218	27	5	301	48	16	213	42
Future Volume (vph)	94	207	2	27	218	27	5	301	48	16	213	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	99	218	2	28	229	28	5	317	51	17	224	44

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	319	285	373	285
Volume Left (vph)	99	28	5	17
Volume Right (vph)	2	28	51	44
Hadj (s)	0.11	-0.03	0.00	0.08
Departure Headway (s)	7.3	7.3	7.0	7.3
Degree Utilization, x	0.64	0.57	0.72	0.58
Capacity (veh/h)	453	445	479	441
Control Delay (s/veh)	22.5	19.6	26.2	19.9
Approach Delay (s/veh)	22.5	19.6	26.2	19.9
Approach LOS	C	C	D	C

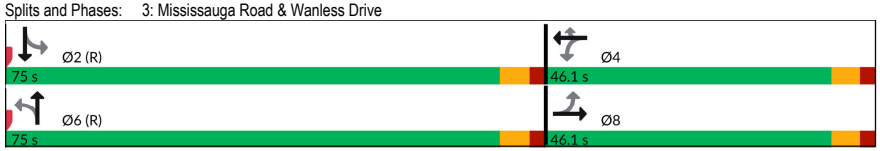
Intersection Summary			
Delay	22.4		
Level of Service	C		
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	353	29	111	150	41	23	393	191	35	301	10
Future Volume (vph)	26	353	29	111	150	41	23	393	191	35	301	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989				0.850		0.957			0.996	
Flt Protected	0.950			0.950				0.998			0.995	
Satd. Flow (prot)	1825	1900	0	1825	1921	1585	0	1800	0	0	1898	0
Flt Permitted	0.619			0.277				0.976			0.894	
Satd. Flow (perm)	1189	1900	0	532	1921	1585	0	1760	0	0	1705	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				45		32			2	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	3%	0%	3%	0%	0%
Adj. Flow (vph)	29	388	32	122	165	45	25	432	210	38	331	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	420	0	122	165	45	0	667	0	0	380	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.07	0.67		0.70	0.26	0.08		0.66			0.39	
Control Delay (s/veh)	28.7	40.7		58.2	31.1	8.4		20.9			15.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	28.7	40.7		58.2	31.1	8.4		20.9			15.9	
LOS	C	D		E	C	A		C			B	
Approach Delay (s/veh)		39.9			38.0			20.9			15.9	
Approach LOS		D			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 121.1			
Actuated Cycle Length: 121.1			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay (s/veh): 27.7		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	29	420	122	165	45	667	380
v/c Ratio	0.07	0.67	0.70	0.26	0.08	0.66	0.39
Control Delay (s/veh)	28.7	40.7	58.2	31.1	8.4	20.9	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.7	40.7	58.2	31.1	8.4	20.9	15.9
Queue Length 50th (m)	4.7	84.6	25.1	28.6	0.0	99.3	47.6
Queue Length 95th (m)	11.6	119.8	#55.0	46.0	8.2	139.9	68.9
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	392	630	175	634	553	1013	969
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.67	0.70	0.26	0.08	0.66	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	353	29	111	150	41	23	393	191	35	301	10
Future Volume (vph)	26	353	29	111	150	41	23	393	191	35	301	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)	1825	1899		1825	1921	1585		1801			1898	
Flt Permitted	0.62	1.00		0.28	1.00	1.00		0.98			0.89	
Satd. Flow (perm)	1188	1899		532	1921	1585		1762			1706	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	29	388	32	122	165	45	25	432	210	38	331	11
RTOR Reduction (vph)	0	3	0	0	0	30	0	14	0	0	1	0
Lane Group Flow (vph)	29	417	0	122	165	15	0	653	0	0	379	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	3%	0%	3%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	392	627		175	634	523		1001			969	
v/s Ratio Prot		0.22			0.09							
v/s Ratio Perm	0.02			c0.23		0.01		c0.37			0.22	
v/c Ratio	0.07	0.67		0.70	0.26	0.03		0.65			0.39	
Uniform Delay, d1	27.8	34.8		35.3	29.7	27.4		17.9			14.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.4	5.5		20.6	1.0	0.1		3.3			1.2	
Delay (s)	28.2	40.3		55.9	30.7	27.5		21.3			15.7	
Level of Service	C	D		E	C	C		C			B	
Approach Delay (s/veh)		39.5			39.5			21.3			15.7	
Approach LOS		D			D			C			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	27.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	81.3%	ICU Level of Service	D	
Analysis Period (min)	15			

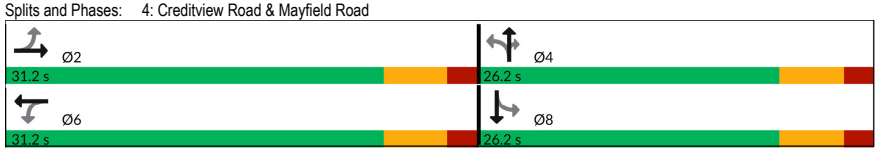
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	608	67	124	486	10	41	130	116	14	131	28
Future Volume (vph)	30	608	67	124	486	10	41	130	116	14	131	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00				0.99		1.00	
Frt		0.986			0.997				0.850		0.978	
Flt Protected		0.998			0.990			0.988			0.996	
Satd. Flow (prot)	0	4827	0	0	3514	0	0	1862	1617	0	1857	0
Flt Permitted		0.889			0.667			0.896			0.971	
Satd. Flow (perm)	0	4300	0	0	2367	0	0	1688	1596	0	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39			4				122		18	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	11%	6%	11%	0%	3%	11%	5%	1%	1%	0%	1%	0%
Adj. Flow (vph)	32	640	71	131	512	11	43	137	122	15	138	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	743	0	0	654	0	0	180	122	0	182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.43			0.69			0.27	0.17		0.25	
Control Delay (s/veh)		13.7			20.0			13.9	3.5		12.3	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		13.7			20.0			13.9	3.5		12.3	
LOS		B			B			B	A		B	
Approach Delay (s/veh)		13.7			20.0			9.7			12.3	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 15.1		Intersection LOS: B	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	743	654	180	122	182
v/c Ratio	0.43	0.69	0.27	0.17	0.25
Control Delay (s/veh)	13.7	20.0	13.9	3.5	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.7	20.0	13.9	3.5	12.3
Queue Length 50th (m)	20.5	31.3	13.4	0.0	12.0
Queue Length 95th (m)	29.2	48.4	25.5	8.0	23.7
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	1746	950	676	712	736
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.69	0.27	0.17	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	608	67	124	486	10	41	130	116	14	131	28
Future Volume (vph)	30	608	67	124	486	10	41	130	116	14	131	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		0.91			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.99		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.99			1.00			1.00	0.85		0.98	
Flt Protected		1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)		4824			3515			1862	1596		1858	
Flt Permitted		0.89			0.67			0.90	1.00		0.97	
Satd. Flow (perm)		4300			2370			1688	1596		1812	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	640	71	131	512	11	43	137	122	15	138	29
RTOR Reduction (vph)	0	23	0	0	2	0	0	0	73	0	11	0
Lane Group Flow (vph)	0	720	0	0	652	0	0	180	49	0	171	0
Confl. Peds. (#/hr)			2	2					1	1		
Heavy Vehicles (%)	11%	6%	11%	0%	3%	11%	5%	1%	1%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1722			949			676	639		725	
v/s Ratio Prot												
v/s Ratio Perm		0.17			c0.27			c0.11	0.03		0.09	
v/c Ratio		0.42			0.69			0.27	0.08		0.24	
Uniform Delay, d1		13.5			15.5			12.5	11.6		12.4	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.7			4.0			1.0	0.2		0.8	
Delay (s)		14.2			19.5			13.5	11.8		13.1	
Level of Service		B			B			B	B		B	
Approach Delay (s/veh)		14.2			19.5			12.8			13.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

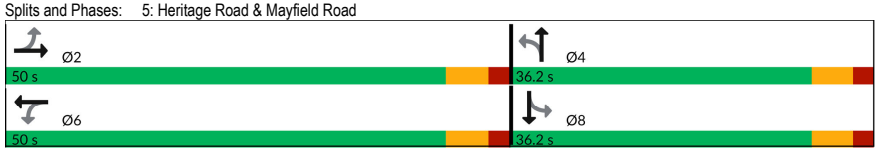
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	514	12	74	414	9	29	77	103	6	32	2
Future Volume (vph)	11	514	12	74	414	9	29	77	103	6	32	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.997			0.933			0.994	
Flt Protected		0.999			0.993			0.993			0.993	
Satd. Flow (prot)	0	3438	0	0	3482	0	0	1773	0	0	1741	0
Flt Permitted		0.941			0.777			0.959			0.959	
Satd. Flow (perm)	0	3239	0	0	2725	0	0	1713	0	0	1682	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			3			62			2	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	6%	0%	3%	4%	0%	0%	1%	0%	0%	11%	0%
Adj. Flow (vph)	12	553	13	80	445	10	31	83	111	6	34	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	578	0	0	535	0	0	225	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	50.0	50.0		50.0	50.0		36.2	36.2		36.2	36.2	
Total Split (%)	58.0%	58.0%		58.0%	58.0%		42.0%	42.0%		42.0%	42.0%	
Maximum Green (s)	43.8	43.8		43.8	43.8		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		43.8			43.8			30.0			30.0	
Actuated g/C Ratio		0.51			0.51			0.35			0.35	
v/c Ratio		0.35			0.39			0.35			0.07	
Control Delay (s/veh)		13.4			13.9			16.7			18.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		13.4			13.9			16.7			18.6	
LOS		B			B			B			B	
Approach Delay (s/veh)		13.4			13.9			16.7			18.6	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 86.2			
Actuated Cycle Length: 86.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay (s/veh): 14.3		Intersection LOS: B	
Intersection Capacity Utilization 59.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	578	535	225	42
v/c Ratio	0.35	0.39	0.35	0.07
Control Delay (s/veh)	13.4	13.9	16.7	18.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.4	13.9	16.7	18.6
Queue Length 50th (m)	28.2	26.7	19.1	4.4
Queue Length 95th (m)	39.3	38.1	36.7	11.0
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	1647	1386	636	586
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.39	0.35	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	514	12	74	414	9	29	77	103	6	32	2
Future Volume (vph)	11	514	12	74	414	9	29	77	103	6	32	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		1.00			1.00			0.93			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3437			3481			1774			1740	
Flt Permitted		0.94			0.78			0.96			0.96	
Satd. Flow (perm)		3238			2727			1714			1680	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	12	553	13	80	445	10	31	83	111	6	34	2
RTOR Reduction (vph)	0	2	0	0	1	0	0	40	0	0	1	0
Lane Group Flow (vph)	0	576	0	0	534	0	0	185	0	0	41	0
Heavy Vehicles (%)	0%	6%	0%	3%	4%	0%	0%	1%	0%	0%	11%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		43.8			43.8			30.0			30.0	
Effective Green, g (s)		43.8			43.8			30.0			30.0	
Actuated g/C Ratio		0.51			0.51			0.35			0.35	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1645			1385			596			584	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.20			c0.11			0.02	
v/c Ratio		0.35			0.39			0.31			0.07	
Uniform Delay, d1		12.7			13.0			20.5			18.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.8			1.3			0.2	
Delay (s)		13.3			13.8			21.9			19.0	
Level of Service		B			B			C			B	
Approach Delay (s/veh)		13.3			13.8			21.9			19.0	
Approach LOS		B			B			C			B	

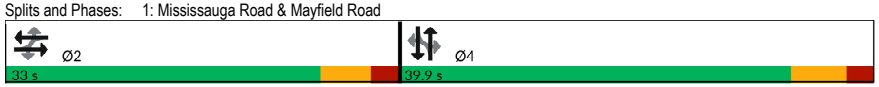
Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	86.2	Sum of lost time (s)	12.4
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	241	34	73	255	10	46	134	91	15	109	34
Future Volume (vph)	40	241	34	73	255	10	46	134	91	15	109	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.994			0.939			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1601	3219	0	1690	3285	0	1674	1636	0	1825	1661	0
Flt Permitted	0.575			0.569			0.659			0.607		
Satd. Flow (perm)	969	3219	0	1012	3285	0	1161	1636	0	1166	1661	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			6			61			28	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	11%	13%	8%	10%	22%	9%	7%	15%	0%	11%	13%
Adj. Flow (vph)	43	262	37	79	277	11	50	146	99	16	118	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	299	0	79	288	0	50	245	0	16	155	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.1	28.1		28.1	28.1		13.8	13.8		13.8	13.8	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.25	0.25		0.25	0.25	
v/c Ratio	0.09	0.18		0.15	0.17		0.17	0.54		0.06	0.36	
Control Delay (s/veh)	8.6	7.6		9.1	8.0		17.5	18.1		15.7	16.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	8.6	7.6		9.1	8.0		17.5	18.1		15.7	16.3	
LOS	A	A		A	A		B	B		B	B	
Approach Delay (s/veh)		7.7			8.2			18.0			16.2	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 55.3			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay (s/veh): 11.7		Intersection LOS: B	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	299	79	288	50	245	16	155
v/c Ratio	0.09	0.18	0.15	0.17	0.17	0.54	0.06	0.36
Control Delay (s/veh)	8.6	7.6	9.1	8.0	17.5	18.1	15.7	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	7.6	9.1	8.0	17.5	18.1	15.7	16.3
Queue Length 50th (m)	1.9	6.4	3.5	6.6	3.9	15.5	1.2	10.3
Queue Length 95th (m)	7.1	15.0	11.6	15.2	10.6	32.5	4.7	22.5
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	492	1646	513	1671	694	1003	697	1005
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.18	0.15	0.17	0.07	0.24	0.02	0.15

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	241	34	73	255	10	46	134	91	15	109	34
Future Volume (vph)	40	241	34	73	255	10	46	134	91	15	109	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1601	3220		1690	3286		1674	1637		1825	1662	
Flt Permitted	0.58	1.00		0.57	1.00		0.66	1.00		0.61	1.00	
Satd. Flow (perm)	970	3220		1013	3286		1161	1637		1166	1662	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	262	37	79	277	11	50	146	99	16	118	37
RTOR Reduction (vph)	0	12	0	0	3	0	0	46	0	0	21	0
Lane Group Flow (vph)	43	287	0	79	285	0	50	199	0	16	134	0
Heavy Vehicles (%)	14%	11%	13%	8%	10%	22%	9%	7%	15%	0%	11%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.1	28.1		28.1	28.1		13.8	13.8		13.8	13.8	
Effective Green, g (s)	28.1	28.1		28.1	28.1		13.8	13.8		13.8	13.8	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	492	1636		514	1669		289	408		290	414	
v/s Ratio Prot		c0.09			0.09			c0.12			0.08	
v/s Ratio Perm	0.04			0.08			0.04			0.01		
v/c Ratio	0.09	0.18		0.15	0.17		0.17	0.49		0.06	0.32	
Uniform Delay, d1	7.0	7.3		7.3	7.3		16.3	17.7		15.8	16.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		0.6	0.2		0.3	0.9		0.1	0.5	
Delay (s)	7.4	7.6		7.9	7.5		16.6	18.7		15.9	17.4	
Level of Service	A	A		A	A		B	B		B	B	
Approach Delay (s/veh)		7.5			7.6			18.3			17.3	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	11.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.28			
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	71.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	98	2	27	97	12	6	142	23	5	121	38
Future Volume (vph)	39	98	2	27	97	12	6	142	23	5	121	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.988			0.982			0.969	
Flt Protected		0.986			0.990			0.998			0.999	
Satd. Flow (prot)	0	1787	0	0	1810	0	0	1714	0	0	1687	0
Flt Permitted		0.986			0.990			0.998			0.999	
Satd. Flow (perm)	0	1787	0	0	1810	0	0	1714	0	0	1687	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	5%	0%	12%	2%	0%	0%	11%	5%	0%	11%	9%
Adj. Flow (vph)	41	104	2	29	103	13	6	151	24	5	129	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	0	0	145	0	0	181	0	0	174	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	39	98	2	27	97	12	6	142	23	5	121	38
Future Volume (vph)	39	98	2	27	97	12	6	142	23	5	121	38
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	41	104	2	29	103	13	6	151	24	5	129	40

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	147	145	181	174
Volume Left (vph)	41	29	6	5
Volume Right (vph)	2	13	24	40
Hadj (s)	0.15	0.05	0.09	0.04
Departure Headway (s)	5.2	5.1	5.0	5.0
Degree Utilization, x	0.21	0.20	0.25	0.24
Capacity (veh/h)	639	650	673	674
Control Delay (s/veh)	9.5	9.4	9.7	9.5
Approach Delay (s/veh)	9.5	9.4	9.7	9.5
Approach LOS	A	A	A	A

Intersection Summary			
Delay		9.5	
Level of Service		A	
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)		15	

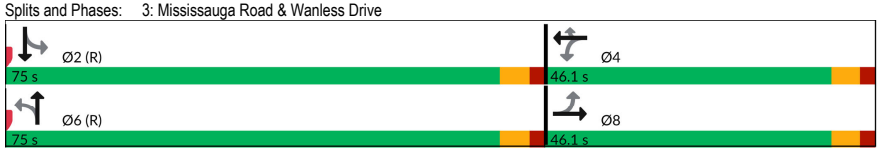
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	95	14	86	93	23	11	215	89	17	166	12
Future Volume (vph)	9	95	14	86	93	23	11	215	89	17	166	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981				0.850		0.962			0.992	
Flt Protected	0.950			0.950				0.998			0.996	
Satd. Flow (prot)	1825	1868	0	1772	1847	1633	0	1628	0	0	1679	0
Flt Permitted	0.691			0.681				0.988			0.955	
Satd. Flow (perm)	1327	1868	0	1270	1847	1633	0	1611	0	0	1610	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				29		27			4	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	3%	4%	0%	10%	19%	0%	13%	14%	0%
Adj. Flow (vph)	10	104	15	95	102	25	12	236	98	19	182	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	119	0	95	102	25	0	346	0	0	214	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.02	0.19		0.23	0.17	0.04		0.37			0.23	
Control Delay (s/veh)	27.8	28.5		31.2	29.7	8.5		14.5			13.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	27.8	28.5		31.2	29.7	8.5		14.5			13.6	
LOS	C	C		C	C	A		B			B	
Approach Delay (s/veh)		28.5			28.0			14.5			13.6	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 121.1
Actuated Cycle Length: 121.1
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 0.37
Intersection Signal Delay (s/veh): 19.5 Intersection LOS: B
Intersection Capacity Utilization 49.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	10	119	95	102	25	346	214
v/c Ratio	0.02	0.19	0.23	0.17	0.04	0.37	0.23
Control Delay (s/veh)	27.8	28.5	31.2	29.7	8.5	14.5	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.8	28.5	31.2	29.7	8.5	14.5	13.6
Queue Length 50th (m)	1.6	19.1	16.3	17.1	0.0	39.3	23.6
Queue Length 95th (m)	5.5	33.4	29.9	30.5	5.5	59.1	37.2
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	438	621	419	610	558	926	916
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.19	0.23	0.17	0.04	0.37	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	95	14	86	93	23	11	215	89	17	166	12
Future Volume (vph)	9	95	14	86	93	23	11	215	89	17	166	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)	1825	1868		1772	1847	1633		1628			1678	
Flt Permitted	0.69	1.00		0.68	1.00	1.00		0.99			0.95	
Satd. Flow (perm)	1328	1868		1269	1847	1633		1612			1609	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	10	104	15	95	102	25	12	236	98	19	182	13
RTOR Reduction (vph)	0	4	0	0	0	17	0	12	0	0	2	0
Lane Group Flow (vph)	10	115	0	95	102	8	0	334	0	0	212	0
Heavy Vehicles (%)	0%	1%	0%	3%	4%	0%	10%	19%	0%	13%	14%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	438	617		419	610	539		915			914	
v/s Ratio Prot		0.06			0.06							
v/s Ratio Perm	0.01			c0.07		0.01		c0.21			0.13	
v/c Ratio	0.02	0.19		0.23	0.17	0.02		0.37			0.23	
Uniform Delay, d1	27.4	28.9		29.4	28.7	27.3		14.3			13.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.1	0.7		1.3	0.6	0.1		1.1			0.6	
Delay (s)	27.5	29.6		30.6	29.3	27.3		15.4			13.6	
Level of Service	C	C		C	C	C		B			B	
Approach Delay (s/veh)		29.4			29.7			15.4			13.6	
Approach LOS		C			C			B			B	

Intersection Summary					
HCM 2000 Control Delay (s/veh)	20.4	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.31				
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.3		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A		
Analysis Period (min)	15				

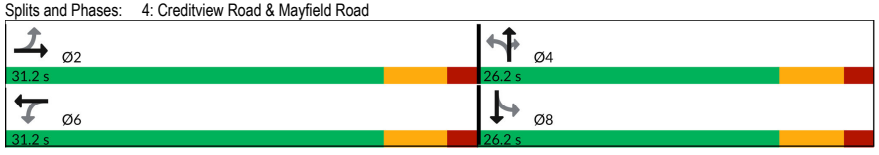
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	413	30	104	384	9	34	75	92	3	50	9
Future Volume (vph)	16	413	30	104	384	9	34	75	92	3	50	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.997				0.850		0.980	
Flt Protected		0.998			0.990			0.985			0.998	
Satd. Flow (prot)	0	4636	0	0	3347	0	0	1812	1601	0	1875	0
Flt Permitted		0.913			0.733			0.906			0.991	
Satd. Flow (perm)	0	4242	0	0	2478	0	0	1667	1601	0	1862	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			4				100		10	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	12%	11%	7%	8%	0%	12%	1%	2%	0%	0%	0%
Adj. Flow (vph)	17	449	33	113	417	10	37	82	100	3	54	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	499	0	0	540	0	0	119	100	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.29			0.54			0.18	0.14		0.09	
Control Delay (s/veh)		12.6			16.7			13.0	3.7		10.7	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		12.6			16.7			13.0	3.7		10.7	
LOS		B			B			B	A		B	
Approach Delay (s/veh)		12.6			16.7			8.7			10.7	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay (s/veh): 13.6		Intersection LOS: B	
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	499	540	119	100	67
v/c Ratio	0.29	0.54	0.18	0.14	0.09
Control Delay (s/veh)	12.6	16.7	13.0	3.7	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.6	16.7	13.0	3.7	10.7
Queue Length 50th (m)	13.0	23.9	8.5	0.0	3.9
Queue Length 95th (m)	19.5	37.0	17.7	7.3	10.2
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	1713	995	667	701	751
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.54	0.18	0.14	0.09

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	413	30	104	384	9	34	75	92	3	50	9
Future Volume (vph)	16	413	30	104	384	9	34	75	92	3	50	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		0.91			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.99			1.00			1.00	0.85		0.98	
Flt Protected		1.00			0.99			0.98	1.00		1.00	
Satd. Flow (prot)		4638			3347			1811	1601		1875	
Flt Permitted		0.91			0.73			0.91	1.00		0.99	
Satd. Flow (perm)		4243			2477			1667	1601		1862	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	449	33	113	417	10	37	82	100	3	54	10
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	60	0	6	0
Lane Group Flow (vph)	0	485	0	0	538	0	0	119	40	0	61	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	7%	12%	11%	7%	8%	0%	12%	1%	2%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1699			992			667	641		745	
v/s Ratio Prot												
v/s Ratio Perm		0.11			c0.22			c0.07	0.03		0.03	
v/c Ratio		0.29			0.54			0.18	0.06		0.08	
Uniform Delay, d1		12.7			14.3			12.1	11.5		11.6	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.4			2.1			0.6	0.2		0.2	
Delay (s)		13.1			16.4			12.7	11.7		11.8	
Level of Service		B			B			B	B		B	
Approach Delay (s/veh)		13.1			16.4			12.2			11.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

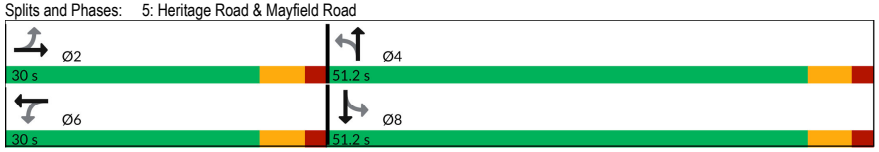
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	231	15	34	221	3	15	35	33	3	23	9
Future Volume (vph)	9	231	15	34	221	3	15	35	33	3	23	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.991			0.998			0.947			0.965	
Flt Protected		0.998			0.994			0.991			0.995	
Satd. Flow (prot)	0	3167	0	0	3401	0	0	1746	0	0	1845	0
Flt Permitted		0.938			0.868			0.961			0.985	
Satd. Flow (perm)	0	2976	0	0	2970	0	0	1693	0	0	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2			39			11	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Confl. Peds. (#/hr)	1					1			1	1		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	12%	15%	0%	0%	7%	33%	0%	0%	7%	0%	0%	0%
Adj. Flow (vph)	11	275	18	40	263	4	18	42	39	4	27	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	304	0	0	307	0	0	99	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	30.0	30.0		30.0	30.0		51.2	51.2		51.2	51.2	
Total Split (%)	36.9%	36.9%		36.9%	36.9%		63.1%	63.1%		63.1%	63.1%	
Maximum Green (s)	23.8	23.8		23.8	23.8		45.0	45.0		45.0	45.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		26.0			26.0			45.0			45.0	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
v/c Ratio		0.33			0.33			0.11			0.04	
Control Delay (s/veh)		22.6			23.1			6.4			7.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		22.6			23.1			6.4			7.4	
LOS		C			C			A			A	
Approach Delay (s/veh)		22.6			23.1			6.4			7.4	
Approach LOS		C			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 81.2			
Actuated Cycle Length: 83.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay (s/veh): 19.8		Intersection LOS: B	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	304	307	99	42
v/c Ratio	0.33	0.33	0.11	0.04
Control Delay (s/veh)	22.6	23.1	6.4	7.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.6	23.1	6.4	7.4
Queue Length 50th (m)	18.7	19.4	4.3	2.2
Queue Length 95th (m)	26.7	27.5	10.1	6.0
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	933	927	931	990
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.33	0.11	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	231	15	34	221	3	15	35	33	3	23	9
Future Volume (vph)	9	231	15	34	221	3	15	35	33	3	23	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.95			0.96	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		3167			3400			1745			1844	
Flt Permitted		0.94			0.87			0.96			0.99	
Satd. Flow (perm)		2976			2972			1692			1825	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	11	275	18	40	263	4	18	42	39	4	27	11
RTOR Reduction (vph)	0	6	0	0	1	0	0	18	0	0	5	0
Lane Group Flow (vph)	0	298	0	0	306	0	0	81	0	0	37	0
Confl. Peds. (#/hr)	1					1			1	1		
Heavy Vehicles (%)	12%	15%	0%	0%	7%	33%	0%	0%	7%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		26.0			26.0			45.0			45.0	
Effective Green, g (s)		26.0			26.0			45.0			45.0	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		927			926			912			984	
v/s Ratio Prot												
v/s Ratio Perm		0.10			c0.10			c0.05			0.02	
v/c Ratio		0.32			0.33			0.09			0.04	
Uniform Delay, d1		22.0			22.0			9.3			9.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			1.0			0.2			0.1	
Delay (s)		22.9			23.0			9.5			9.1	
Level of Service		C			C			A			A	
Approach Delay (s/veh)		22.9			23.0			9.5			9.1	
Approach LOS		C			C			A			A	

Intersection Summary					
HCM 2000 Control Delay (s/veh)	20.4	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.18				
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	12.4		
Intersection Capacity Utilization	62.1%	ICU Level of Service	B		
Analysis Period (min)	15				

c Critical Lane Group

Appendix F

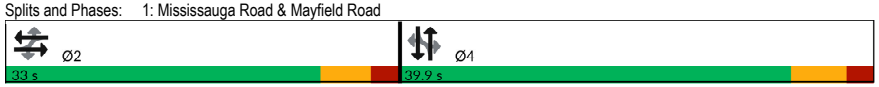
Total Traffic Operations Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	237	68	128	390	92	64	169	66	67	269	98
Future Volume (vph)	84	237	68	128	390	92	64	169	66	67	269	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966			0.971			0.958			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1615	3255	0	1690	3204	0	1772	1755	0	1755	1703	0
Flt Permitted	0.422			0.550			0.444			0.598		
Satd. Flow (perm)	717	3255	0	978	3204	0	828	1755	0	1105	1703	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			44			35			33	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	13%	9%	6%	8%	7%	26%	3%	4%	7%	4%	8%	9%
Adj. Flow (vph)	92	260	75	141	429	101	70	186	73	74	296	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	335	0	141	530	0	70	259	0	74	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
v/c Ratio	0.34	0.27		0.38	0.43		0.19	0.32		0.15	0.52	
Control Delay (s/veh)	21.2	13.8		20.8	17.0		14.4	12.9		13.4	16.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	21.2	13.8		20.8	17.0		14.4	12.9		13.4	16.7	
LOS	C	B		C	B		B	B		B	B	
Approach Delay (s/veh)		15.4			17.8			13.2			16.2	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 74.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay (s/veh): 16.1		Intersection LOS: B	
Intersection Capacity Utilization 79.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	92	335	141	530	70	259	74	404
v/c Ratio	0.34	0.27	0.38	0.43	0.19	0.32	0.15	0.52
Control Delay (s/veh)	21.2	13.8	20.8	17.0	14.4	12.9	13.4	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.2	13.8	20.8	17.0	14.4	12.9	13.4	16.7
Queue Length 50th (m)	9.0	13.6	14.1	25.7	5.7	19.2	5.9	35.9
Queue Length 95th (m)	20.8	22.3	28.5	38.3	13.6	34.7	13.5	59.9
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	269	1261	368	1233	367	797	490	773
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.27	0.38	0.43	0.19	0.32	0.15	0.52

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	237	68	128	390	92	64	169	66	67	269	98
Future Volume (vph)	84	237	68	128	390	92	64	169	66	67	269	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1615	3256		1690	3205		1772	1755		1755	1703	
Flt Permitted	0.42	1.00		0.55	1.00		0.44	1.00		0.60	1.00	
Satd. Flow (perm)	718	3256		978	3205		828	1755		1105	1703	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	92	260	75	141	429	101	70	186	73	74	296	108
RTOR Reduction (vph)	0	36	0	0	27	0	0	19	0	0	18	0
Lane Group Flow (vph)	92	299	0	141	503	0	70	240	0	74	386	0
Heavy Vehicles (%)	13%	9%	6%	8%	7%	26%	3%	4%	7%	4%	8%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	270	1225		368	1206		367	778		490	755	
v/s Ratio Prot		0.09			c0.16			0.14			c0.23	
v/s Ratio Perm	0.13			0.14			0.08			0.07		
v/c Ratio	0.34	0.24		0.38	0.42		0.19	0.31		0.15	0.51	
Uniform Delay, d1	16.6	15.9		16.9	17.2		12.6	13.3		12.3	14.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	0.5		3.0	1.1		1.2	1.0		0.7	2.5	
Delay (s)	20.0	16.4		19.9	18.2		13.7	14.4		13.0	17.4	
Level of Service	C	B		B	B		B	B		B	B	
Approach Delay (s/veh)		17.2			18.6			14.2			16.7	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	17.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.47			
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	79.5%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	113	21	40	102	12	10	125	39	12	286	50
Future Volume (vph)	37	113	21	40	102	12	10	125	39	12	286	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.989			0.970			0.981	
Flt Protected		0.989			0.987			0.997			0.998	
Satd. Flow (prot)	0	1754	0	0	1768	0	0	1672	0	0	1768	0
Flt Permitted		0.989			0.987			0.997			0.998	
Satd. Flow (perm)	0	1754	0	0	1768	0	0	1672	0	0	1768	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	6%	15%	13%	2%	18%	67%	6%	13%	9%	7%	2%
Adj. Flow (vph)	40	123	23	43	111	13	11	136	42	13	311	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	0	0	167	0	0	189	0	0	378	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	37	113	21	40	102	12	10	125	39	12	286	50
Future Volume (vph)	37	113	21	40	102	12	10	125	39	12	286	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	40	123	23	43	111	13	11	136	42	13	311	54

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	186	167	189	378
Volume Left (vph)	40	43	11	13
Volume Right (vph)	23	13	42	54
Hadj (s)	0.08	0.11	0.07	0.03
Departure Headway (s)	5.9	6.0	5.7	5.3
Degree Utilization, x	0.30	0.28	0.30	0.56
Capacity (veh/h)	549	538	574	642
Control Delay (s/veh)	11.5	11.2	11.1	14.9
Approach Delay (s/veh)	11.5	11.2	11.1	14.9
Approach LOS	B	B	B	B

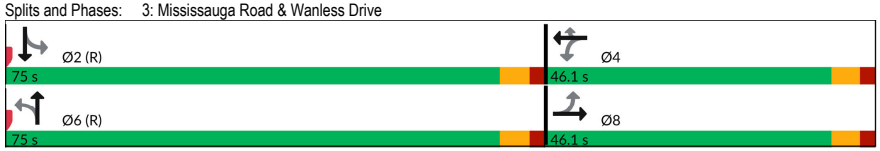
Intersection Summary			
Delay	12.8		
Level of Service	B		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	127	8	222	266	61	17	285	72	49	474	34
Future Volume (vph)	9	127	8	222	266	61	17	285	72	49	474	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850		0.974			0.992	
Flt Protected	0.950			0.950				0.998			0.996	
Satd. Flow (prot)	1825	1904	0	1807	1921	1585	0	1684	0	0	1791	0
Flt Permitted	0.432			0.638				0.962			0.927	
Satd. Flow (perm)	830	1904	0	1214	1921	1585	0	1624	0	0	1667	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				69		16			4	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	13%	5%	0%	7%	0%
Adj. Flow (vph)	10	143	9	249	299	69	19	320	81	55	533	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	152	0	249	299	69	0	420	0	0	626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.04	0.24		0.62	0.47	0.12		0.45			0.66	
Control Delay (s/veh)	28.2	30.2		42.3	35.2	7.1		16.5			22.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	28.2	30.2		42.3	35.2	7.1		16.5			22.2	
LOS	C	C		D	D	A		B			C	
Approach Delay (s/veh)		30.1			34.9			16.5			22.2	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 121.1			
Actuated Cycle Length: 121.1			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 25.9		Intersection LOS: C	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	10	152	249	299	69	420	626
v/c Ratio	0.04	0.24	0.62	0.47	0.12	0.45	0.66
Control Delay (s/veh)	28.2	30.2	42.3	35.2	7.1	16.5	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.2	30.2	42.3	35.2	7.1	16.5	22.2
Queue Length 50th (m)	1.6	25.6	49.7	56.2	0.0	53.0	97.3
Queue Length 95th (m)	5.6	41.8	77.3	81.1	9.7	76.0	134.8
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	274	630	400	634	569	929	948
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.24	0.62	0.47	0.12	0.45	0.66

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	127	8	222	266	61	17	285	72	49	474	34
Future Volume (vph)	9	127	8	222	266	61	17	285	72	49	474	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.97			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)	1825	1904		1807	1921	1585		1684			1790	
Flt Permitted	0.43	1.00		0.64	1.00	1.00		0.96			0.93	
Satd. Flow (perm)	831	1904		1213	1921	1585		1623			1668	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	10	143	9	249	299	69	19	320	81	55	533	38
RTOR Reduction (vph)	0	2	0	0	0	46	0	7	0	0	2	0
Lane Group Flow (vph)	10	150	0	249	299	23	0	413	0	0	624	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	0%	13%	5%	0%	7%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	274	628		400	634	523		922			947	
v/s Ratio Prot		0.08			0.16							
v/s Ratio Perm	0.01			c0.21		0.01		0.25			c0.37	
v/c Ratio	0.04	0.24		0.62	0.47	0.04		0.45			0.66	
Uniform Delay, d1	27.5	29.5		34.2	32.2	27.6		15.1			18.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.2	0.9		7.1	2.5	0.2		1.6			3.6	
Delay (s)	27.7	30.4		41.3	34.7	27.7		16.7			21.6	
Level of Service	C	C		D	C	C		B			C	
Approach Delay (s/veh)		30.2			36.6			16.7			21.6	
Approach LOS		C			D			B			C	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	26.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	82.9%	ICU Level of Service	E	
Analysis Period (min)	15			

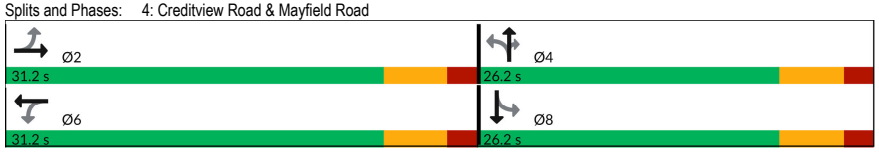
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	447	58	109	582	4	55	85	100	8	97	30
Future Volume (vph)	28	447	58	109	582	4	55	85	100	8	97	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00	0.99		1.00	
Frt		0.984			0.999				0.850		0.970	
Flt Protected		0.997			0.992			0.981			0.997	
Satd. Flow (prot)	0	4801	0	0	3349	0	0	1757	1498	0	1760	0
Flt Permitted		0.872			0.741			0.836			0.983	
Satd. Flow (perm)	0	4199	0	0	2502	0	0	1497	1479	0	1735	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			1				112		28	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	7%	12%	3%	9%	0%	17%	1%	9%	0%	3%	14%
Adj. Flow (vph)	31	502	65	122	654	4	62	96	112	9	109	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	598	0	0	780	0	0	158	112	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.35			0.78			0.26	0.17		0.21	
Control Delay (s/veh)		12.6			23.1			14.1	3.7		10.9	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		12.6			23.1			14.1	3.7		10.9	
LOS		B			C			B	A		B	
Approach Delay (s/veh)		12.6			23.1			9.7			10.9	
Approach LOS		B			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 16.6		Intersection LOS: B	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	598	780	158	112	152
v/c Ratio	0.35	0.78	0.26	0.17	0.21
Control Delay (s/veh)	12.6	23.1	14.1	3.7	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.6	23.1	14.1	3.7	10.9
Queue Length 50th (m)	15.4	39.5	11.7	0.0	8.9
Queue Length 95th (m)	22.5	#58.8	22.9	7.5	18.8
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	1710	1003	599	659	711
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.78	0.26	0.17	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	447	58	109	582	4	55	85	100	8	97	30
Future Volume (vph)	28	447	58	109	582	4	55	85	100	8	97	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		0.91			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.99		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.98			1.00			1.00	0.85		0.97	
Flt Protected		1.00			0.99			0.98	1.00		1.00	
Satd. Flow (prot)		4801			3350			1756	1479		1759	
Flt Permitted		0.87			0.74			0.84	1.00		0.98	
Satd. Flow (perm)		4199			2502			1497	1479		1734	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	31	502	65	122	654	4	62	96	112	9	109	34
RTOR Reduction (vph)	0	28	0	0	1	0	0	0	67	0	17	0
Lane Group Flow (vph)	0	570	0	0	779	0	0	158	45	0	135	0
Confl. Peds. (#/hr)							1		1	1		1
Heavy Vehicles (%)	0%	7%	12%	3%	9%	0%	17%	1%	9%	0%	3%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1682			1002			599	592		694	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.31			c0.11	0.03		0.08	
v/c Ratio		0.34			0.78			0.26	0.08		0.19	
Uniform Delay, d1		13.0			16.3			12.5	11.6		12.2	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.5			5.9			1.1	0.2		0.6	
Delay (s)		13.5			22.2			13.6	11.8		12.8	
Level of Service		B			C			B	B		B	
Approach Delay (s/veh)		13.5			22.2			12.9			12.8	
Approach LOS		B			C			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

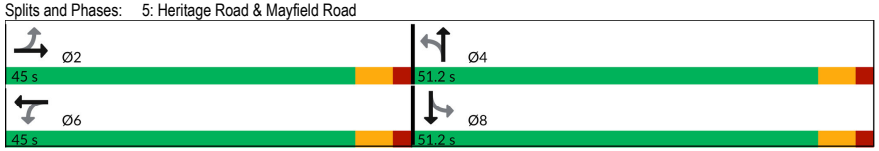
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	454	44	122	349	6	9	10	44	6	55	2
Future Volume (vph)	1	454	44	122	349	6	9	10	44	6	55	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.998			0.906			0.996	
Flt Protected					0.987			0.993			0.995	
Satd. Flow (prot)	0	3402	0	0	3427	0	0	1693	0	0	1845	0
Flt Permitted		0.954			0.641			0.972			0.982	
Satd. Flow (perm)	0	3245	0	0	2226	0	0	1657	0	0	1821	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			2			51			2	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	6%	5%	2%	6%	0%	0%	0%	3%	33%	0%	0%
Adj. Flow (vph)	1	528	51	142	406	7	10	12	51	7	64	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	580	0	0	555	0	0	73	0	0	73	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	45.0	45.0		45.0	45.0		51.2	51.2		51.2	51.2	
Total Split (%)	46.8%	46.8%		46.8%	46.8%		53.2%	53.2%		53.2%	53.2%	
Maximum Green (s)	38.8	38.8		38.8	38.8		45.0	45.0		45.0	45.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		38.8			38.8			45.0			45.0	
Actuated g/C Ratio		0.40			0.40			0.47			0.47	
v/c Ratio		0.44			0.62			0.09			0.09	
Control Delay (s/veh)		21.6			26.4			6.5			14.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		21.6			26.4			6.5			14.2	
LOS		C			C			A			B	
Approach Delay (s/veh)		21.6			26.4			6.5			14.2	
Approach LOS		C			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 96.2			
Actuated Cycle Length: 96.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay (s/veh): 22.4		Intersection LOS: C	
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	580	555	73	73
v/c Ratio	0.44	0.62	0.09	0.09
Control Delay (s/veh)	21.6	26.4	6.5	14.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.6	26.4	6.5	14.2
Queue Length 50th (m)	39.3	42.0	2.1	7.1
Queue Length 95th (m)	50.5	55.8	8.7	13.9
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	1316	898	802	852
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.44	0.62	0.09	0.09

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	454	44	122	349	6	9	10	44	6	55	2
Future Volume (vph)	1	454	44	122	349	6	9	10	44	6	55	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.91			1.00	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		3401			3429			1693			1846	
Flt Permitted		0.95			0.64			0.97			0.98	
Satd. Flow (perm)		3246			2227			1656			1822	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1	528	51	142	406	7	10	12	51	7	64	2
RTOR Reduction (vph)	0	8	0	0	1	0	0	27	0	0	1	0
Lane Group Flow (vph)	0	572	0	0	554	0	0	46	0	0	72	0
Heavy Vehicles (%)	0%	6%	5%	2%	6%	0%	0%	0%	3%	33%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		38.8			38.8			45.0			45.0	
Effective Green, g (s)		38.8			38.8			45.0			45.0	
Actuated g/C Ratio		0.40			0.40			0.47			0.47	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1309			898			774			852	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.25			0.03			c0.04	
v/c Ratio		0.44			0.62			0.06			0.08	
Uniform Delay, d1		20.8			22.8			14.0			14.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			3.2			0.1			0.2	
Delay (s)		21.9			26.0			14.2			14.4	
Level of Service		C			C			B			B	
Approach Delay (s/veh)		21.9			26.0			14.2			14.4	
Approach LOS		C			C			B			B	

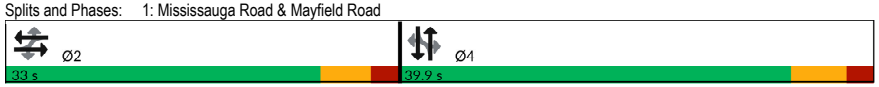
Intersection Summary					
HCM 2000 Control Delay (s/veh)	22.8	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.33				
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	12.4		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	508	92	74	321	68	72	293	113	73	228	102
Future Volume (vph)	101	508	92	74	321	68	72	293	113	73	228	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.974			0.958			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1587	3401	0	1674	3427	0	1674	1723	0	1690	1720	0
Flt Permitted	0.511			0.353			0.503			0.421		
Satd. Flow (perm)	854	3401	0	622	3427	0	887	1723	0	749	1720	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			39			35			40	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	15%	5%	4%	9%	2%	12%	9%	4%	14%	8%	5%	10%
Adj. Flow (vph)	106	535	97	78	338	72	76	308	119	77	240	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	632	0	78	410	0	76	427	0	77	347	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
v/c Ratio	0.33	0.49		0.33	0.31		0.19	0.55		0.23	0.44	
Control Delay (s/veh)	20.2	18.3		21.6	15.5		14.3	17.1		15.2	14.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	20.2	18.3		21.6	15.5		14.3	17.1		15.2	14.7	
LOS	C	B		C	B		B	B		B	B	
Approach Delay (s/veh)		18.6			16.5			16.6			14.8	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 74.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay (s/veh): 16.9		Intersection LOS: B	
Intersection Capacity Utilization 84.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	106	632	78	410	76	427	77	347
v/c Ratio	0.33	0.49	0.33	0.31	0.19	0.55	0.23	0.44
Control Delay (s/veh)	20.2	18.3	21.6	15.5	14.3	17.1	15.2	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.2	18.3	21.6	15.5	14.3	17.1	15.2	14.7
Queue Length 50th (m)	10.3	32.8	7.6	18.6	6.2	38.5	6.4	28.1
Queue Length 95th (m)	22.6	47.0	18.6	28.7	14.4	63.6	15.1	48.3
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	321	1299	234	1314	393	783	332	785
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.49	0.33	0.31	0.19	0.55	0.23	0.44

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	508	92	74	321	68	72	293	113	73	228	102
Future Volume (vph)	101	508	92	74	321	68	72	293	113	73	228	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1587	3401		1674	3425		1674	1724		1690	1720	
Flt Permitted	0.51	1.00		0.35	1.00		0.50	1.00		0.42	1.00	
Satd. Flow (perm)	854	3401		622	3425		886	1724		748	1720	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	535	97	78	338	72	76	308	119	77	240	107
RTOR Reduction (vph)	0	20	0	0	24	0	0	19	0	0	22	0
Lane Group Flow (vph)	106	612	0	78	386	0	76	408	0	77	325	0
Heavy Vehicles (%)	15%	5%	4%	9%	2%	12%	9%	4%	14%	8%	5%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.44	0.44		0.44	0.44	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	321	1279		234	1288		392	764		331	762	
v/s Ratio Prot		c0.18			0.11			c0.24			0.19	
v/s Ratio Perm	0.12			0.13			0.09			0.10		
v/c Ratio	0.33	0.48		0.33	0.30		0.19	0.53		0.23	0.43	
Uniform Delay, d1	16.5	17.6		16.5	16.3		12.6	15.1		12.8	14.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	1.3		3.8	0.6		1.1	2.7		1.6	1.7	
Delay (s)	19.3	18.9		20.3	16.9		13.7	17.7		14.5	15.9	
Level of Service	B	B		C	B		B	B		B	B	
Approach Delay (s/veh)		19.0			17.5			17.1			15.7	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	17.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.51			
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	84.9%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	207	13	37	218	27	15	317	58	16	223	42
Future Volume (vph)	94	207	13	37	218	27	15	317	58	16	223	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.987			0.980			0.980	
Flt Protected		0.985			0.993			0.998			0.997	
Satd. Flow (prot)	0	1828	0	0	1868	0	0	1795	0	0	1715	0
Flt Permitted		0.985			0.993			0.998			0.997	
Satd. Flow (perm)	0	1828	0	0	1868	0	0	1795	0	0	1715	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	0%	1%	0%	0%	5%	4%	13%	10%	5%
Adj. Flow (vph)	99	218	14	39	229	28	16	334	61	17	235	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	331	0	0	296	0	0	411	0	0	296	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	94	207	13	37	218	27	15	317	58	16	223	42
Future Volume (vph)	94	207	13	37	218	27	15	317	58	16	223	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	99	218	14	39	229	28	16	334	61	17	235	44

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	331	296	411	296
Volume Left (vph)	99	39	16	17
Volume Right (vph)	14	28	61	44
Hadj (s)	0.08	-0.02	0.00	0.08
Departure Headway (s)	7.8	7.8	7.4	7.9
Degree Utilization, x	0.72	0.64	0.85	0.65
Capacity (veh/h)	428	413	467	411
Control Delay (s/veh)	28.1	23.9	39.3	24.2
Approach Delay (s/veh)	28.1	23.9	39.3	24.2
Approach LOS	D	C	E	C

Intersection Summary				
Delay		29.8		
Level of Service		D		
Intersection Capacity Utilization		64.0%	ICU Level of Service	C
Analysis Period (min)		15		

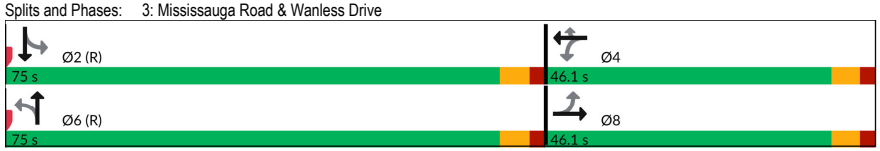
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	353	29	111	150	52	23	414	191	55	316	16
Future Volume (vph)	40	353	29	111	150	52	23	414	191	55	316	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989				0.850		0.959			0.994	
Flt Protected	0.950			0.950				0.998			0.993	
Satd. Flow (prot)	1825	1900	0	1825	1921	1585	0	1803	0	0	1888	0
Flt Permitted	0.619			0.277				0.975			0.839	
Satd. Flow (perm)	1189	1900	0	532	1921	1585	0	1761	0	0	1595	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				57		30			3	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	3%	0%	3%	0%	0%
Adj. Flow (vph)	44	388	32	122	165	57	25	455	210	60	347	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	420	0	122	165	57	0	690	0	0	425	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.11	0.67		0.70	0.26	0.10		0.68			0.47	
Control Delay (s/veh)	29.3	40.7		58.2	31.1	7.7		21.8			17.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	29.3	40.7		58.2	31.1	7.7		21.8			17.4	
LOS	C	D		E	C	A		C			B	
Approach Delay (s/veh)		39.6			36.9			21.8			17.4	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: Other
Cycle Length: 121.1
Actuated Cycle Length: 121.1
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 0.70
Intersection Signal Delay (s/veh): 27.8 Intersection LOS: C
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	44	420	122	165	57	690	425
v/c Ratio	0.11	0.67	0.70	0.26	0.10	0.68	0.47
Control Delay (s/veh)	29.3	40.7	58.2	31.1	7.7	21.8	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.3	40.7	58.2	31.1	7.7	21.8	17.4
Queue Length 50th (m)	7.2	84.6	25.1	28.6	0.0	105.6	56.2
Queue Length 95th (m)	16.0	119.8	#55.0	46.0	9.2	148.4	81.3
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	392	630	175	634	561	1013	907
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.67	0.70	0.26	0.10	0.68	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	353	29	111	150	52	23	414	191	55	316	16
Future Volume (vph)	40	353	29	111	150	52	23	414	191	55	316	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1825	1899		1825	1921	1585		1803			1889	
Flt Permitted	0.62	1.00		0.28	1.00	1.00		0.98			0.84	
Satd. Flow (perm)	1188	1899		532	1921	1585		1762			1595	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	44	388	32	122	165	57	25	455	210	60	347	18
RTOR Reduction (vph)	0	3	0	0	0	38	0	13	0	0	1	0
Lane Group Flow (vph)	44	417	0	122	165	19	0	677	0	0	424	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	3%	0%	3%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	392	627		175	634	523		1001			906	
v/s Ratio Prot		0.22			0.09							
v/s Ratio Perm	0.04			c0.23		0.01		c0.38			0.27	
v/c Ratio	0.11	0.67		0.70	0.26	0.04		0.68			0.47	
Uniform Delay, d1	28.2	34.8		35.3	29.7	27.5		18.3			15.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.6	5.5		20.6	1.0	0.1		3.7			1.7	
Delay (s)	28.8	40.3		55.9	30.7	27.6		22.0			17.1	
Level of Service	C	D		E	C	C		C			B	
Approach Delay (s/veh)		39.2			39.1			22.0			17.1	
Approach LOS		D			D			C			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	28.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	85.6%	ICU Level of Service	E	
Analysis Period (min)	15			

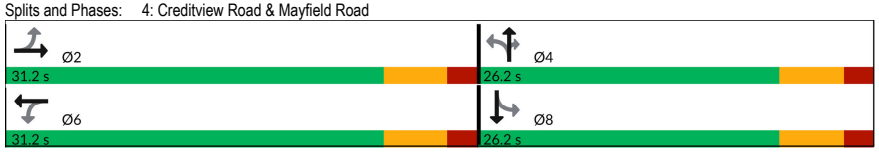
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	635	79	124	509	10	52	130	116	14	131	34
Future Volume (vph)	36	635	79	124	509	10	52	130	116	14	131	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00				0.99		1.00	
Frt		0.984			0.998				0.850		0.974	
Flt Protected		0.998			0.990			0.986			0.996	
Satd. Flow (prot)	0	4813	0	0	3517	0	0	1854	1617	0	1850	0
Flt Permitted		0.878			0.656			0.867			0.971	
Satd. Flow (perm)	0	4234	0	0	2330	0	0	1631	1596	0	1804	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			4				122		23	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	11%	6%	11%	0%	3%	11%	5%	1%	1%	0%	1%	0%
Adj. Flow (vph)	38	668	83	131	536	11	55	137	122	15	138	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	789	0	0	678	0	0	192	122	0	189	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.46			0.73			0.29	0.17		0.26	
Control Delay (s/veh)		13.9			21.2			14.3	3.5		12.1	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		13.9			21.2			14.3	3.5		12.1	
LOS		B			C			B	A		B	
Approach Delay (s/veh)		13.9			21.2			10.1			12.1	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 15.6		Intersection LOS: B	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	789	678	192	122	189
v/c Ratio	0.46	0.73	0.29	0.17	0.26
Control Delay (s/veh)	13.9	21.2	14.3	3.5	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.9	21.2	14.3	3.5	12.1
Queue Length 50th (m)	21.9	33.1	14.4	0.0	12.2
Queue Length 95th (m)	31.2	51.1	27.3	8.0	24.1
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	1723	935	653	712	736
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.73	0.29	0.17	0.26

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	635	79	124	509	10	52	130	116	14	131	34
Future Volume (vph)	36	635	79	124	509	10	52	130	116	14	131	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		0.91			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.99		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.98			1.00			1.00	0.85		0.97	
Flt Protected		1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)		4812			3516			1854	1596		1851	
Flt Permitted		0.88			0.66			0.87	1.00		0.97	
Satd. Flow (perm)		4236			2328			1631	1596		1805	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	668	83	131	536	11	55	137	122	15	138	36
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	73	0	14	0
Lane Group Flow (vph)	0	762	0	0	676	0	0	192	49	0	175	0
Confl. Peds. (#/hr)			2	2					1	1		
Heavy Vehicles (%)	11%	6%	11%	0%	3%	11%	5%	1%	1%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1697			932			653	639		723	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.29			c0.12	0.03		0.10	
v/c Ratio		0.45			0.72			0.29	0.08		0.24	
Uniform Delay, d1		13.7			15.8			12.7	11.6		12.4	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.9			4.9			1.1	0.2		0.8	
Delay (s)		14.5			20.7			13.8	11.8		13.2	
Level of Service		B			C			B	B		B	
Approach Delay (s/veh)		14.5			20.7			13.1			13.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

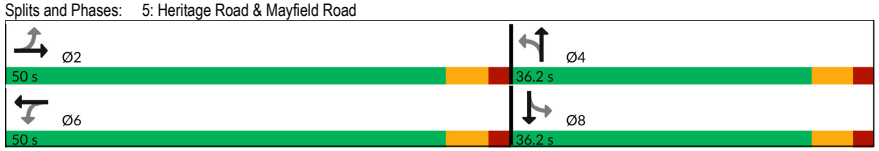
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	533	12	78	430	12	29	77	110	7	32	2
Future Volume (vph)	11	533	12	78	430	12	29	77	110	7	32	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.997			0.931			0.994	
Flt Protected		0.999			0.993			0.993			0.991	
Satd. Flow (prot)	0	3438	0	0	3483	0	0	1770	0	0	1744	0
Flt Permitted		0.941			0.769			0.960			0.943	
Satd. Flow (perm)	0	3238	0	0	2697	0	0	1711	0	0	1660	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			4			66			2	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	6%	0%	3%	4%	0%	0%	1%	0%	0%	11%	0%
Adj. Flow (vph)	12	573	13	84	462	13	31	83	118	8	34	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	598	0	0	559	0	0	232	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	50.0	50.0		50.0	50.0		36.2	36.2		36.2	36.2	
Total Split (%)	58.0%	58.0%		58.0%	58.0%		42.0%	42.0%		42.0%	42.0%	
Maximum Green (s)	43.8	43.8		43.8	43.8		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		43.8			43.8			30.0			30.0	
Actuated g/C Ratio		0.51			0.51			0.35			0.35	
v/c Ratio		0.36			0.41			0.36			0.08	
Control Delay (s/veh)		13.5			14.2			16.7			18.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		13.5			14.2			16.7			18.7	
LOS		B			B			B			B	
Approach Delay (s/veh)		13.5			14.2			16.7			18.7	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 86.2			
Actuated Cycle Length: 86.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay (s/veh): 14.4		Intersection LOS: B	
Intersection Capacity Utilization 61.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	598	559	232	44
v/c Ratio	0.36	0.41	0.36	0.08
Control Delay (s/veh)	13.5	14.2	16.7	18.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.5	14.2	16.7	18.7
Queue Length 50th (m)	29.4	28.3	19.5	4.6
Queue Length 95th (m)	40.7	40.2	37.6	11.5
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	1647	1372	638	579
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.41	0.36	0.08

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	533	12	78	430	12	29	77	110	7	32	2
Future Volume (vph)	11	533	12	78	430	12	29	77	110	7	32	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		1.00			1.00			0.93			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3437			3480			1771			1744	
Flt Permitted		0.94			0.77			0.96			0.94	
Satd. Flow (perm)		3238			2696			1712			1660	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	12	573	13	84	462	13	31	83	118	8	34	2
RTOR Reduction (vph)	0	2	0	0	2	0	0	43	0	0	1	0
Lane Group Flow (vph)	0	596	0	0	557	0	0	189	0	0	43	0
Heavy Vehicles (%)	0%	6%	0%	3%	4%	0%	0%	1%	0%	0%	11%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		43.8			43.8			30.0			30.0	
Effective Green, g (s)		43.8			43.8			30.0			30.0	
Actuated g/C Ratio		0.51			0.51			0.35			0.35	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1645			1369			595			577	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.21			c0.11			0.03	
v/c Ratio		0.36			0.41			0.32			0.07	
Uniform Delay, d1		12.8			13.1			20.6			18.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.9			1.4			0.2	
Delay (s)		13.4			14.0			22.0			19.1	
Level of Service		B			B			C			B	
Approach Delay (s/veh)		13.4			14.0			22.0			19.1	
Approach LOS		B			B			C			B	

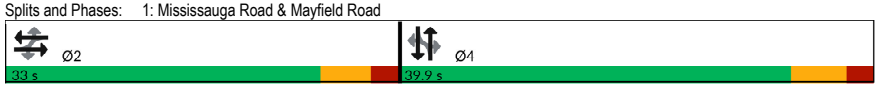
Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	86.2	Sum of lost time (s)	12.4
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	241	34	73	255	62	46	175	91	68	147	58
Future Volume (vph)	63	241	34	73	255	62	46	175	91	68	147	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	72.0		0.0	58.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			36.0			38.0			34.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.971			0.949			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1601	3219	0	1690	3155	0	1674	1661	0	1825	1650	0
Flt Permitted	0.545			0.569			0.619			0.544		
Satd. Flow (perm)	918	3219	0	1012	3155	0	1091	1661	0	1045	1650	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			46			47			36	
Link Speed (k/h)		80			60			70			80	
Link Distance (m)		1366.3			1373.3			1243.2			3083.9	
Travel Time (s)		61.5			82.4			63.9			138.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	11%	13%	8%	10%	22%	9%	7%	15%	0%	11%	13%
Adj. Flow (vph)	68	262	37	79	277	67	50	190	99	74	160	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	299	0	79	344	0	50	289	0	74	223	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	34.5	34.5		34.5	34.5		30.9	30.9		30.9	30.9	
Total Split (s)	33.0	33.0		33.0	33.0		39.9	39.9		39.9	39.9	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	26.5	26.5		26.5	26.5		33.0	33.0		33.0	33.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	16.0	16.0		16.0	16.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	28.1	28.1		28.1	28.1		15.7	15.7		15.7	15.7	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.27	0.27		0.27	0.27	
v/c Ratio	0.15	0.19		0.16	0.22		0.17	0.59		0.26	0.47	
Control Delay (s/veh)	10.7	8.7		10.6	8.4		16.6	20.1		18.2	17.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	10.7	8.7		10.6	8.4		16.6	20.1		18.2	17.4	
LOS	B	A		B	A		B	C		B	B	
Approach Delay (s/veh)		9.1			8.8			19.5			17.6	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72.9			
Actuated Cycle Length: 57.3			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 13.3		Intersection LOS: B	
Intersection Capacity Utilization 73.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Mississauga Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	68	299	79	344	50	289	74	223
v/c Ratio	0.15	0.19	0.16	0.22	0.17	0.59	0.26	0.47
Control Delay (s/veh)	10.7	8.7	10.6	8.4	16.6	20.1	18.2	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.7	8.7	10.6	8.4	16.6	20.1	18.2	17.4
Queue Length 50th (m)	3.4	7.2	3.9	7.8	3.9	21.3	6.0	15.8
Queue Length 95th (m)	12.0	17.4	13.3	19.0	10.3	40.1	14.2	31.0
Internal Link Dist (m)		1342.3		1349.3		1219.2		3059.9
Turn Bay Length (m)	70.0		72.0		58.0		50.0	
Base Capacity (vph)	450	1593	497	1573	631	981	604	970
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.19	0.16	0.22	0.08	0.29	0.12	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	241	34	73	255	62	46	175	91	68	147	58
Future Volume (vph)	63	241	34	73	255	62	46	175	91	68	147	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1601	3220		1690	3154		1674	1661		1825	1649	
Flt Permitted	0.55	1.00		0.57	1.00		0.62	1.00		0.54	1.00	
Satd. Flow (perm)	919	3220		1013	3154		1091	1661		1044	1649	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	262	37	79	277	67	50	190	99	74	160	63
RTOR Reduction (vph)	0	12	0	0	23	0	0	34	0	0	26	0
Lane Group Flow (vph)	68	287	0	79	321	0	50	255	0	74	197	0
Heavy Vehicles (%)	14%	11%	13%	8%	10%	22%	9%	7%	15%	0%	11%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	28.2	28.2		28.2	28.2		15.7	15.7		15.7	15.7	
Effective Green, g (s)	28.2	28.2		28.2	28.2		15.7	15.7		15.7	15.7	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.27	0.27		0.27	0.27	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	452	1584		498	1552		298	455		286	451	
v/s Ratio Prot		0.09			c0.10			c0.15			0.12	
v/s Ratio Perm	0.07			0.08			0.05			0.07		
v/c Ratio	0.15	0.18		0.16	0.21		0.17	0.56		0.26	0.44	
Uniform Delay, d1	8.0	8.1		8.0	8.2		15.8	17.8		16.3	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.3		0.7	0.3		0.3	1.6		0.5	0.7	
Delay (s)	8.7	8.4		8.7	8.5		16.1	19.4		16.7	17.8	
Level of Service	A	A		A	A		B	B		B	B	
Approach Delay (s/veh)		8.4			8.6			18.9			17.6	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay (s/veh)	12.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.33			
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	73.8%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	98	11	36	97	12	16	155	32	5	132	38
Future Volume (vph)	39	98	11	36	97	12	16	155	32	5	132	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.989			0.979			0.971	
Flt Protected		0.987			0.988			0.996			0.999	
Satd. Flow (prot)	0	1781	0	0	1800	0	0	1716	0	0	1690	0
Flt Permitted		0.987			0.988			0.996			0.999	
Satd. Flow (perm)	0	1781	0	0	1800	0	0	1716	0	0	1690	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1110.5			921.3			3083.9			1570.7	
Travel Time (s)		57.1			47.4			138.8			70.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	5%	0%	12%	2%	0%	0%	11%	5%	0%	11%	9%
Adj. Flow (vph)	41	104	12	38	103	13	17	165	34	5	140	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	0	0	154	0	0	216	0	0	185	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	39	98	11	36	97	12	16	155	32	5	132	38
Future Volume (vph)	39	98	11	36	97	12	16	155	32	5	132	38
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	41	104	12	38	103	13	17	165	34	5	140	40

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	157	154	216	185
Volume Left (vph)	41	38	17	5
Volume Right (vph)	12	13	34	40
Hadj (s)	0.10	0.07	0.08	0.05
Departure Headway (s)	5.3	5.3	5.1	5.1
Degree Utilization, x	0.23	0.23	0.31	0.26
Capacity (veh/h)	621	623	661	651
Control Delay (s/veh)	9.9	9.8	10.3	9.9
Approach Delay (s/veh)	9.9	9.8	10.3	9.9
Approach LOS	A	A	B	A

Intersection Summary					
Delay		10.0			
Level of Service		A			
Intersection Capacity Utilization	35.2%	ICU Level of Service		A	
Analysis Period (min)	15				

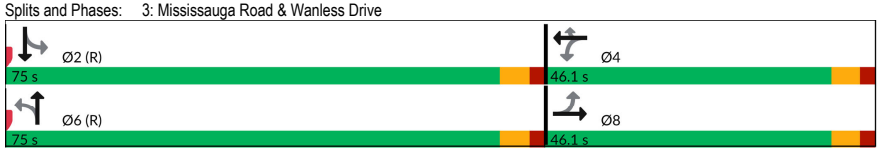
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	95	14	86	93	36	11	235	89	30	183	20
Future Volume (vph)	17	95	14	86	93	36	11	235	89	30	183	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	31.0		0.0	98.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	18.0			24.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981				0.850		0.964			0.988	
Flt Protected	0.950			0.950				0.998			0.994	
Satd. Flow (prot)	1825	1868	0	1772	1847	1633	0	1626	0	0	1675	0
Flt Permitted	0.691			0.681				0.988			0.920	
Satd. Flow (perm)	1327	1868	0	1270	1847	1633	0	1610	0	0	1550	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				40		25			6	
Link Speed (k/h)		60			60			60			70	
Link Distance (m)		356.1			175.0			1315.1			1243.2	
Travel Time (s)		21.4			10.5			78.9			63.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	3%	4%	0%	10%	19%	0%	13%	14%	0%
Adj. Flow (vph)	19	104	15	95	102	40	12	258	98	33	201	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	119	0	95	102	40	0	368	0	0	256	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Minimum Split (s)	27.1	27.1		27.1	27.1	27.1	75.0	75.0		75.0	75.0	
Total Split (s)	46.1	46.1		46.1	46.1	46.1	75.0	75.0		75.0	75.0	
Total Split (%)	38.1%	38.1%		38.1%	38.1%	38.1%	61.9%	61.9%		61.9%	61.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	68.8	68.8		68.8	68.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0	13.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.04	0.19		0.23	0.17	0.07		0.40			0.29	
Control Delay (s/veh)	28.1	28.5		31.2	29.7	8.7		15.0			14.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	28.1	28.5		31.2	29.7	8.7		15.0			14.3	
LOS	C	C		C	C	A		B			B	
Approach Delay (s/veh)		28.5			26.8			15.0			14.3	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 121.1
Actuated Cycle Length: 121.1
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 0.40
Intersection Signal Delay (s/veh): 19.5 Intersection LOS: B
Intersection Capacity Utilization 50.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Mississauga Road & Wanless Drive



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	19	119	95	102	40	368	256
v/c Ratio	0.04	0.19	0.23	0.17	0.07	0.40	0.29
Control Delay (s/veh)	28.1	28.5	31.2	29.7	8.7	15.0	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.1	28.5	31.2	29.7	8.7	15.0	14.3
Queue Length 50th (m)	3.1	19.1	16.3	17.1	0.0	43.0	29.2
Queue Length 95th (m)	8.6	33.4	29.9	30.5	7.7	64.1	45.0
Internal Link Dist (m)		332.1		151.0		1291.1	1219.2
Turn Bay Length (m)	31.0		98.0				
Base Capacity (vph)	438	621	419	610	566	925	883
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.19	0.23	0.17	0.07	0.40	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	95	14	86	93	36	11	235	89	30	183	20
Future Volume (vph)	17	95	14	86	93	36	11	235	89	30	183	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1825	1868		1772	1847	1633		1627			1675	
Flt Permitted	0.69	1.00		0.68	1.00	1.00		0.99			0.92	
Satd. Flow (perm)	1328	1868		1269	1847	1633		1610			1551	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	19	104	15	95	102	40	12	258	98	33	201	22
RTOR Reduction (vph)	0	4	0	0	0	27	0	11	0	0	3	0
Lane Group Flow (vph)	19	115	0	95	102	13	0	357	0	0	253	0
Heavy Vehicles (%)	0%	1%	0%	3%	4%	0%	10%	19%	0%	13%	14%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Effective Green, g (s)	40.0	40.0		40.0	40.0	40.0		68.8			68.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.57			0.57	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Grp Cap (vph)	438	617		419	610	539		914			881	
v/s Ratio Prot		0.06			0.06							
v/s Ratio Perm	0.01			c0.07		0.01		c0.22			0.16	
v/c Ratio	0.04	0.19		0.23	0.17	0.02		0.39			0.29	
Uniform Delay, d1	27.6	28.9		29.4	28.7	27.4		14.5			13.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.2	0.7		1.3	0.6	0.1		1.3			0.8	
Delay (s)	27.7	29.6		30.6	29.3	27.5		15.8			14.3	
Level of Service	C	C		C	C	C		B			B	
Approach Delay (s/veh)		29.3			29.5			15.8			14.3	
Approach LOS		C			C			B			B	

Intersection Summary					
HCM 2000 Control Delay (s/veh)	20.5	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.33				
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.3		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A		
Analysis Period (min)	15				

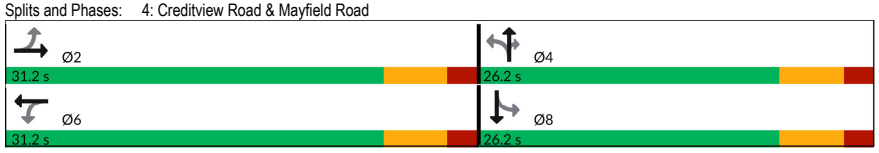
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	447	42	104	418	9	48	75	92	3	50	13
Future Volume (vph)	23	447	42	104	418	9	48	75	92	3	50	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		22.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.988			0.997				0.850		0.973	
Flt Protected		0.998			0.990			0.981			0.998	
Satd. Flow (prot)	0	4630	0	0	3346	0	0	1790	1601	0	1861	0
Flt Permitted		0.898			0.724			0.873			0.991	
Satd. Flow (perm)	0	4166	0	0	2447	0	0	1593	1601	0	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			4				100		14	
Link Speed (k/h)		60			80			60			70	
Link Distance (m)		1373.3			1028.8			1049.9			905.2	
Travel Time (s)		82.4			46.3			63.0			46.6	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	12%	11%	7%	8%	0%	12%	1%	2%	0%	0%	0%
Adj. Flow (vph)	25	486	46	113	454	10	52	82	100	3	54	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	557	0	0	577	0	0	134	100	0	71	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	31.2	31.2		31.2	31.2		31.2	31.2	31.2	31.2	31.2	
Total Split (s)	31.2	31.2		31.2	31.2		26.2	26.2	26.2	26.2	26.2	
Total Split (%)	54.4%	54.4%		54.4%	54.4%		45.6%	45.6%	45.6%	45.6%	45.6%	
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.2			6.2			6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max	Max	Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Flash Don't Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
v/c Ratio		0.33			0.59			0.21	0.14		0.09	
Control Delay (s/veh)		12.8			17.6			13.4	3.7		10.3	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay (s/veh)		12.8			17.6			13.4	3.7		10.3	
LOS		B			B			B	A		B	
Approach Delay (s/veh)		12.8			17.6			9.2			10.3	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 57.4			
Actuated Cycle Length: 62.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 14.0		Intersection LOS: B	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Creditview Road & Mayfield Road



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	557	577	134	100	71
v/c Ratio	0.33	0.59	0.21	0.14	0.09
Control Delay (s/veh)	12.8	17.6	13.4	3.7	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.8	17.6	13.4	3.7	10.3
Queue Length 50th (m)	14.6	26.1	9.7	0.0	3.9
Queue Length 95th (m)	21.6	40.4	19.8	7.3	10.4
Internal Link Dist (m)	1349.3	1004.8	1025.9		881.2
Turn Bay Length (m)				22.0	
Base Capacity (vph)	1688	982	638	701	748
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.59	0.21	0.14	0.09

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	447	42	104	418	9	48	75	92	3	50	13
Future Volume (vph)	23	447	42	104	418	9	48	75	92	3	50	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2	6.2		6.2	
Lane Util. Factor		0.91			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.99			1.00			1.00	0.85		0.97	
Flt Protected		1.00			0.99			0.98	1.00		1.00	
Satd. Flow (prot)		4627			3349			1790	1601		1861	
Flt Permitted		0.90			0.72			0.87	1.00		0.99	
Satd. Flow (perm)		4165			2450			1594	1601		1848	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	486	46	113	454	10	52	82	100	3	54	14
RTOR Reduction (vph)	0	19	0	0	2	0	0	0	60	0	8	0
Lane Group Flow (vph)	0	538	0	0	575	0	0	134	40	0	63	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	7%	12%	11%	7%	8%	0%	12%	1%	2%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)		25.0			25.0			25.0	25.0		25.0	
Effective Green, g (s)		25.0			25.0			25.0	25.0		25.0	
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	
Clearance Time (s)		6.2			6.2			6.2	6.2		6.2	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1668			981			638	641		740	
v/s Ratio Prot												
v/s Ratio Perm		0.13			c0.23			c0.08	0.03		0.03	
v/c Ratio		0.32			0.59			0.21	0.06		0.08	
Uniform Delay, d1		12.9			14.6			12.2	11.5		11.6	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.5			2.6			0.7	0.2		0.2	
Delay (s)		13.4			17.2			13.0	11.7		11.8	
Level of Service		B			B			B	B		B	
Approach Delay (s/veh)		13.4			17.2			12.4			11.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

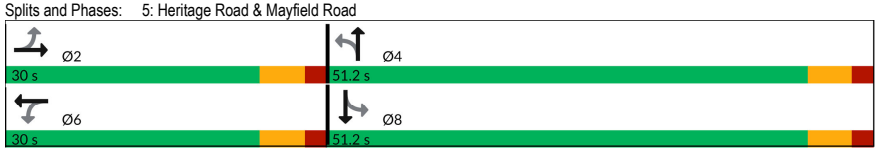
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	247	15	39	237	6	15	35	38	5	23	9
Future Volume (vph)	9	247	15	39	237	6	15	35	38	5	23	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.992			0.997			0.942			0.966	
Flt Protected		0.998			0.993			0.992			0.993	
Satd. Flow (prot)	0	3168	0	0	3389	0	0	1733	0	0	1843	0
Flt Permitted		0.938			0.856			0.963			0.976	
Satd. Flow (perm)	0	2978	0	0	2921	0	0	1683	0	0	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			45			11	
Link Speed (k/h)		80			80			60			70	
Link Distance (m)		613.3			1366.3			829.4			820.1	
Travel Time (s)		27.6			61.5			49.8			42.2	
Confl. Peds. (#/hr)	1					1			1	1		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	12%	15%	0%	0%	7%	33%	0%	0%	7%	0%	0%	0%
Adj. Flow (vph)	11	294	18	46	282	7	18	42	45	6	27	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	323	0	0	335	0	0	105	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		29.2	29.2		29.2	29.2	
Total Split (s)	30.0	30.0		30.0	30.0		51.2	51.2		51.2	51.2	
Total Split (%)	36.9%	36.9%		36.9%	36.9%		63.1%	63.1%		63.1%	63.1%	
Maximum Green (s)	23.8	23.8		23.8	23.8		45.0	45.0		45.0	45.0	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.2			6.2			6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Flash Don't Walk (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		26.0			26.0			45.0			45.0	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
v/c Ratio		0.35			0.37			0.11			0.04	
Control Delay (s/veh)		22.9			23.5			6.1			7.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		22.9			23.5			6.1			7.5	
LOS		C			C			A			A	
Approach Delay (s/veh)		22.9			23.5			6.1			7.5	
Approach LOS		C			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 81.2			
Actuated Cycle Length: 83.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.37			
Intersection Signal Delay (s/veh): 20.2		Intersection LOS: C	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: Heritage Road & Mayfield Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	323	335	105	44
v/c Ratio	0.35	0.37	0.11	0.04
Control Delay (s/veh)	22.9	23.5	6.1	7.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.9	23.5	6.1	7.5
Queue Length 50th (m)	20.2	21.3	4.3	2.3
Queue Length 95th (m)	28.5	30.0	10.1	6.2
Internal Link Dist (m)	589.3	1342.3	805.4	796.1
Turn Bay Length (m)				
Base Capacity (vph)	933	912	928	982
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.37	0.11	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	247	15	39	237	6	15	35	38	5	23	9
Future Volume (vph)	9	247	15	39	237	6	15	35	38	5	23	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.94			0.97	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3168			3389			1733			1843	
Flt Permitted		0.94			0.86			0.96			0.98	
Satd. Flow (perm)		2976			2922			1682			1811	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	11	294	18	46	282	7	18	42	45	6	27	11
RTOR Reduction (vph)	0	5	0	0	2	0	0	21	0	0	5	0
Lane Group Flow (vph)	0	318	0	0	333	0	0	84	0	0	39	0
Confl. Peds. (#/hr)	1					1			1	1		
Heavy Vehicles (%)	12%	15%	0%	0%	7%	33%	0%	0%	7%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		26.0			26.0			45.0			45.0	
Effective Green, g (s)		26.0			26.0			45.0			45.0	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
Clearance Time (s)		6.2			6.2			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		927			910			907			977	
v/s Ratio Prot												
v/s Ratio Perm		0.11			c0.11			c0.05			0.02	
v/c Ratio		0.34			0.37			0.09			0.04	
Uniform Delay, d1		22.1			22.3			9.3			9.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.0			1.1			0.2			0.1	
Delay (s)		23.1			23.4			9.5			9.1	
Level of Service		C			C			A			A	
Approach Delay (s/veh)		23.1			23.4			9.5			9.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



PEEL REGION

WEST CALEDON STORAGE FACILITY AND TRANSMISSION MAIN SCHEDULE 'C' CLASS EA

Volume 3: Supporting Discipline Studies

Appendix 3J: Agricultural Impact Assessment Addendum Letter

Prepared by:
GEI Consultants Canada

Peel Region is committed to ensuring that all Regional services, programs, and facilities are inclusive and accessible. Please contact the Project Team if you need any accommodations to provide comments and/or feedback for this Study.

COLVILLE CONSULTING INC.

February 18, 2026

Sandra Anastasio, M.Env.Sc., RPP, MCIP, EP
Project Manager
GEI Consultants
3300 Highway No.7, Suite 402
Vaughan, ON L4K 4M3

Dear Ms. Anastasio,

RE: Peel Region Municipal Class EA for West Caledon Transmission Main and Storage Facility

GEI Consultants (GEI) is undertaking a Municipal Class EA for the West Caledon Storage Facility and Transmission Main. The purpose of the Class EA is to identify a location for a new water storage infrastructure for Pressure Zone 7 West (7W) and a new transmission main and feedermain alignment to service the projected growth in the Region of Peel. One of the required components of the Class EA was to complete an Agricultural Impact Assessment (AIA) and comparative analysis of the selected sites and transmission routes.

Colville Consulting Inc. was retained by GEI to undertake this component of the Class EA, which was completed in October 2023. The AIA involved an initial screening and evaluation of the candidate sites and routes selected as part of the Class EA process. An assessment of the potential impacts was provided for the Class EA. The analysis involved a comparative analysis of the agricultural resources and activities identified in the Study Area.

Input from the AIA and other technical disciplines' studies was used to identify a preferred location of the elevated tank. The AIA identified Site 'D' as the most preferred location, from an agricultural perspective, and was ultimately chosen for the location of the elevated tank.

The elevated tank requires a connection to the Alloa Reservoir and Pumping Station through a new transmission main. The selected preferred alignment of the new transmission main uses Mississauga Road as the main corridor, as it is the shortest distance to the selected elevated tank location. The new transmission main is proposed to run northward along the western edge of the property on which the Alloa Reservoir and Pumping Station is located before running westward to Mississauga Road and finally northward along Mississauga Road to the elevated tank. The elevated tank will then connect to a new feedermain which will run southward along Mississauga Road to connect to the existing water distribution system at Mississauga Road and Mayfield Road.

The preferred alignment of the new transmission main will result in impacts to a portion of two parcels which are currently in agricultural production. The impacted portion of the two parcels is herein referred to as the Subject Lands. Impacts to agriculture may occur as a result of the construction of the transmission main. The Subject Lands are located at Part of Lot 19, Concession 4 West of Centre Road, Chinguacousy, and are designated Urban Area in the adopted Future Caledon Official Plan and Urban System in the

Region of Peel Official Plan. Figure 1 shows the location of the area potentially impacted by the proposed development and preferred transmission main alignment.

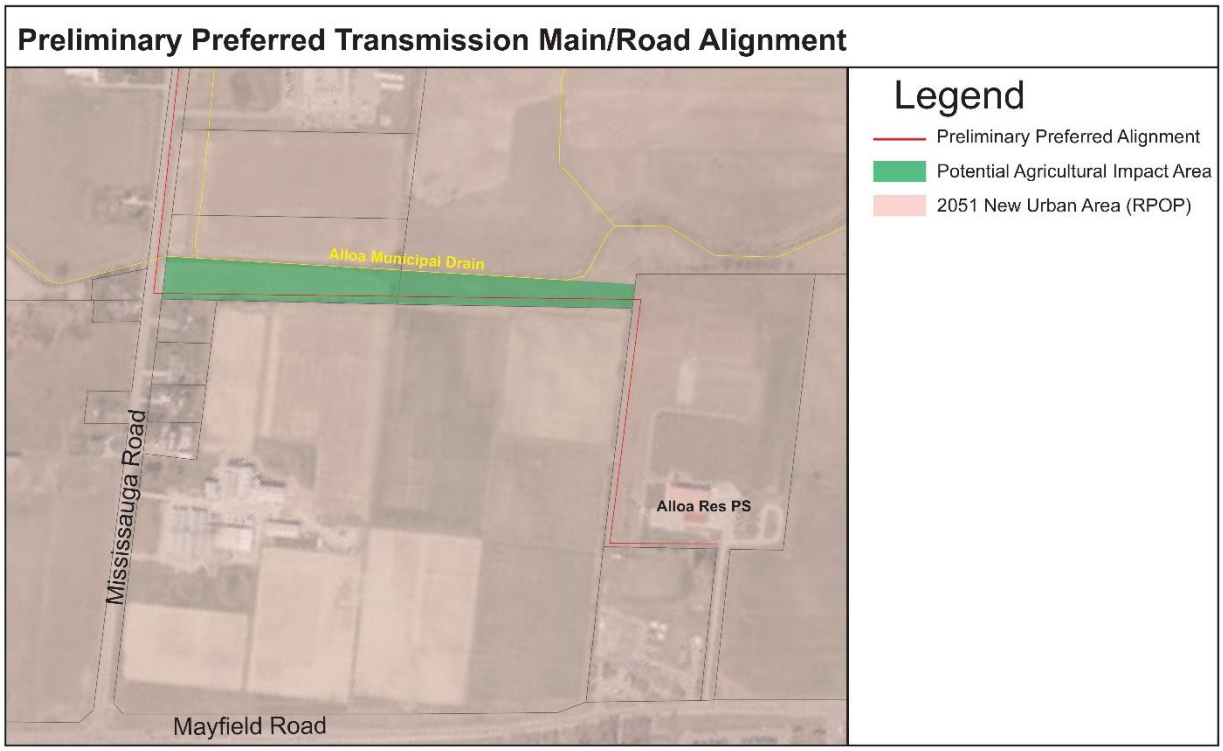


Figure 1: Preferred alignment and potential area of impact

Following our initial work and completion of an AIA for the preferred location of the elevated tank, Colville Consulting Inc. was subsequently retained in October 2024 to assess the impacts on the Subject Lands associated with the proposed development. As shown in Figure 1 the Subject Lands are located within the 2051 New Urban Area and are not located within a prime agricultural area. As such, an AIA is not required for the proposed municipal infrastructure development. In lieu of an AIA, we have prepared this technical report to explain why a full AIA is not required. Although in our opinion an AIA is not required, we have also assessed the potential impacts of the proposed development on the Agricultural System of the Town of Caledon and provided some mitigation recommendations to minimize the short-term impacts identified.

LAND USE DESIGNATIONS

PROVINCIAL PLANNING STATEMENT

The Provincial Planning Statement replaced the 2020 Provincial Policy Statement and came into effect October 20, 2024. Section 4.3.5.1 of the Provincial Planning Statement (PPS) states that under certain conditions a planning authority may permit limited, non-agricultural uses in prime agricultural areas. Policy 4.3.5.1 b) states that a planning authority may only permit non-agricultural uses in prime agricultural areas for "limited non-residential uses, provided that all of the following are demonstrated:

1. the land does not comprise a specialty crop area;
2. the proposed use complies with the minimum distance separation formulae;

3. there is an identified need within the planning horizon identified in the official plan as provided for in policy 2.1.3 for additional land to accommodate the proposed use; and
4. alternative locations have been evaluated, and
    i. there are no reasonable alternative locations which avoid prime agricultural areas; and
    ii. there are no reasonable alternative locations in prime agricultural areas with lower priority agricultural lands."

Section 4.3.5.2 of the PPS states that "Impacts from any new or expanding non-agricultural uses on the agricultural system are to be avoided, or where avoidance is not possible, minimized and mitigated as determined through an agricultural impact assessment or equivalent analysis, based on provincial guidance."

These tests must be met for development proposed in a prime agricultural area. An AIA is not required for development proposals outside of the Rural System.

REGION OF PEEL OFFICIAL PLAN

The Rural System in the Region of Peel Official Plan includes lands designated Prime Agricultural Area, Rural Lands, and Rural Settlement Areas. The Region of Peel updated its Official Plan through a Municipal Comprehensive Review (MCR). The Province approved the updated Official Plan and associated land use schedules in November of 2022. Schedule E-1 of the Region of Peel Official Plan shows that the Subject Lands are located within the Urban System and no longer form part of the prime agricultural area.

With the land use change, in our opinion, the proposed infrastructure development is no longer required to be consistent with the agricultural policies of the Region of Peel Official Plan.

TOWN OF CALEDON OFFICIAL PLAN

The Town of Caledon has also recently updated its official plan. The Future Caledon Official Plan was adopted by Council on March 26, 2024, to align with the Region of Peel. The Rural System in the Future Caledon Official Plan includes lands designated Prime Agricultural Area, Rural Lands, Village, Hamlet, and Rural Employment Centre. With the adoption of the new official plan, the Subject Lands are no longer located within the prime agricultural area. Schedule B1 of the Future Caledon Official Plan shows that the Subject Lands are located within the Town's Urban Area. As such, the proposed development is not required to be consistent with the agricultural policies of the Future Caledon Official Plan and an AIA is not required.

NEED FOR AIA

Although the Subject Lands are actively cultivated for agricultural purposes, they have been removed from the prime agricultural area and designated for non-agricultural land uses. It is understood that the long-term use of the Subject Lands is intended for non-agricultural land uses and future development will remove the majority, if not all, of these lands from agricultural production. The proposed infrastructure development will not directly impact a prime agricultural area, and an AIA will not be required for the proposed infrastructure development.

POTENTIAL IMPACTS TO AGRICULTURE

In prime agricultural areas, farm operations can be adversely impacted by new non-agricultural development. Non-agricultural development can result in the loss of agricultural resources and the disruption to existing farm practices brought about by changes such as an increase in non-farm traffic, incidence of trespass and vandalism, and increased levels of noise, dust, and lighting. Although, in our opinion, an assessment of impacts to lands within an urban area is not required, at the request of GEI, we have addressed some of the common impacts associated with non-farm development.

The proposed transmission main will result in direct impacts to urban lands that are used for agricultural purposes (common field crop production). The proposed development will not have significant, long-term affect on lands within the prime agricultural area. In the near future, these lands will transition from agricultural uses to urban uses.

LOSS OF PRIME AGRICULTURAL LANDS

Although not part of a prime agricultural area, the Subject Lands are comprised primarily of prime agricultural lands (Canada Land Inventory Classes 1-3). The installation of the transmission main will result in the temporary loss of prime agricultural lands within the developed area. The required easement for the proposed transmission main is approximately 671 m in length and 20.16 m in width. The transmission main will be installed through open-cut construction, and no chambers will be installed within the easement to limit the need to access for regular operations and maintenance. It is understood that the Region is supportive of permitting farming activities within the easement, which will allow for the lands to be cultivated for agricultural production, following rehabilitation of the lands disturbed through open-cut construction.

To ensure the lands disturbed through open-cut construction are rehabilitated to a similar agricultural condition, it is recommended that a soil handling and rehabilitation plan be developed and that rehabilitation activities be monitored to ensure the soil handling and rehabilitation plans are adhered to. With the rehabilitation of the lands, there will be no long-term loss of prime agricultural lands associated with the proposed development.

LOSS OF CULTIVATABLE LANDS

The proposed development will be located between the Alloa Municipal Drain and the southern boundary of the Subject Lands. The Subject Lands are currently cultivated for common field crops. The proposed development will result in the temporary loss of approximately 0.14 ha of cultivatable lands during construction, up until the lands are rehabilitated.

To ensure the lands disturbed through open-cut construction can be viably cultivated post-construction, it is recommended that a soil handling and rehabilitation plan be developed and adhered to. Following rehabilitation, there will be no long-term loss of cultivatable lands associated with the proposed development.

LOSS OF AGRICULTURAL LAND IMPROVEMENTS

OMAFRA's Agricultural Information Atlas (AgMaps) provides artificial drainage mapping for the province. This online tool was accessed to obtain drainage mapping for the Subject Lands. According to

AgMaps, no portion of the development footprint has been artificially drained. Therefore, the proposed development will not result in any loss of agricultural land improvements.

LOSS OF AGRICULTURAL INFRASTRUCTURE

There is no agricultural infrastructure present on the Subject Lands and thus, there will be no impact to agricultural infrastructure.

DISRUPTION TO FARM OPERATIONS

There are several active farm operations in the area surrounding the Subject Lands, however no significant impacts to these operations are anticipated as a result of the construction of the proposed municipal infrastructure. The Subject Lands are not used as an access point for any adjacent operations to move between farm parcels, therefore the potential for the proposed use to restrict access to farm fields and farm operations is negligible.

However, the lands between the Alloa Municipal Drain and the southern boundary of the Subject Lands are accessed where the transmission main is proposed. To allow for these lands to be cultivated, access to the field should be maintained at all times during construction.

The proposed use will not have an affect on the flexibility of surrounding lands to accommodate changes in types of farming. The adjacent lands will not be affected by construction. These adjacent lands will remain available for continued cultivation of common field crops and other agricultural products without limitation.

Noise, dust, and light can have a negative impact on some farm operations. Construction may temporarily generate greater levels of noise, dust, and lighting. It is recommended that noise, dust, and light, generated from construction on the Subject Lands be kept within Ministry of Environment, Conservations and Parks (MECP) guidelines. No impact is anticipated to surrounding agricultural operations.

CONCLUSION

An AIA is not required for the proposed transmission main because these lands have been redesignated for urban uses, and they are no longer part of the prime agricultural area.

Despite the fact that provincial, regional and local policies do not require the completion of an AIA, we have assessed the potential impacts associated with the proposed development in a preliminary manner. Impacts to the Agricultural System associated with the proposed development are anticipated to be negligible and limited to short-term impacts.

With the removal of these lands from the prime agricultural area, there will not be any long-term impacts to the Agricultural System related to the construction of the municipal infrastructure project. It is expected that the Subject Lands and surrounding area will transition from agricultural uses to urban uses over time.

Yours sincerely,



Sean Colville, B.Sc., P.Ag.
President, Colville Consulting Inc.

REFERENCES

Ontario Ministry of Municipal Affairs. Provincial Planning Statement. 2024, King's Printer for Ontario.

Region of Peel Official Plan, Consolidated April, 2022
https://www.peelregion.ca/business/planning/official-plan/download/_media/official-plan-review-consolidation-clean.pdf

Future Caledon Official Plan, 2024
https://pub-caledon.escribemeetings.com/filestream.ashx?DocumentId=38343