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Tullamore Secondary Plan Area, Town of Caledon

Functional Servicing Report

February 2025

The Jones Consulting Group Ltd.
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Record of Revisions

Rev. No.	Date	Description
-	March 2016	FSR/SWMR Submission
1	March 2024	Draft Plan Approval
2	February 2025	Revised Draft Plan Approval

Disclaimer

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Functional Servicing Report

Tullamore Secondary Plan Area
Part of Lot 1, Concession 1, Geographic Township of Albion,
Town of Caledon, Regional Municipality of Peel

1. Executive Summary

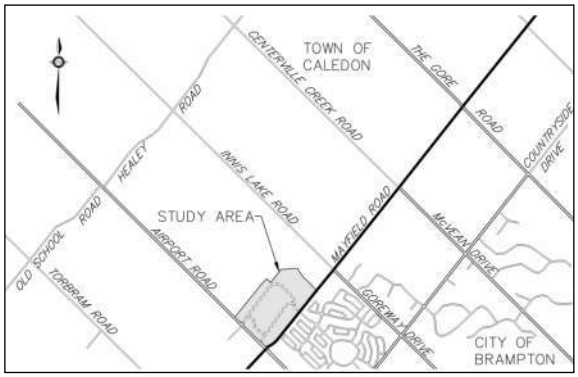

Figure 1: Study Area Key Plan

The Tullamore Secondary Plan Area Landowners have prepared a proposed Draft Plan of Subdivision and completed the supporting background studies for Tullamore Secondary Plan Area's remaining undeveloped lands along the east side of Airport Road. The studies determined the preferred alternative for water and wastewater servicing, stormwater management, street lighting, traffic signals, utilities, and the road layout for the subdivision through consultation with the owners and the approval agencies. This Functional Servicing Report has been prepared in support of the Draft Plan to confirm that the Town of Caledon and Region of Peel infrastructure is available to support the build-out of the lands and to identify any constraints.

The Study Area is generally rectangular in shape, bordered on the west by Airport Road (Regional Road 7), to the south by Mayfield Road (Regional Road 14), Salt Creek (a tributary of the East Humber River sub-watershed) to the east and an existing commercial-industrial development (now Ryder Logistics, previously Vitrans Logistics warehouse facility) to the north.

The Study Area includes thirteen property owners, spanning across approximately 57 hectares (141 acres), who have previously failed to reach agreement on servicing by Plan of Subdivision. As a result of a recent application by SmartCentres to develop portion of the Study Area's south-west corner independently from the remaining lands, and a large portion of the lands being used for truck storage, the current group of owners has decided to take the lead role and complete the necessary background studies to ensure that the remaining lands can be developed in a timely manner and in accordance with the approval agency policies.

The following summarizes the Functional Servicing Report's recommendation:

- The post-development stormwater runoff from the Study Area lands and the portion of Mayfield Road fronting onto the site can be accommodated by the construction of two on-site stormwater quality and quantity control facilities (ponds).
- Base flow to the Environmental Policy Area and culvert crossing Mayfield Road at Maisonneuve Boulevard can be maintained by constructing an environmentally protected corridor and discharging the future phases along the east side of the EP corridor building's roof-leaders via a third-pipe system.
- The Study Area's grading, landform, future road profile, and environmentally protected corridor center line elevations can accommodate the sanitary and storm sewer servicing crossing constraints imposed by the channel that will separate the Study Area into east and west portions.
- The Region of Peel's wastewater (sanitary sewers) and water infrastructure within Airport Road and Mayfield Road (Maisonneuve Boulevard) can accommodate the sanitary effluent and the potable and fire flow demand from the Study Area's full build-out.
- The Study Area's ultimate road network connections at Airport Road and Mayfield Road can accommodate the developments traffic demands by installing traffic signals at both locations.
- The Study Area's landscaping, street lighting and boulevard features will be designed in accordance with the *Tullamore Community Design Guidelines*, and
- The existing hydro, gas, telephone and cable networks within Airport Road and Mayfield Road can accommodate the Study Area's future utility requirements.

2. Introduction

The entire Tullamore Secondary Plan Area covers approximately 118 hectares (292 acres) of land primarily located in the northeast quadrant of Airport Road and Mayfield Road, in the south part of the Town of Caledon (Town), adjacent to the City of Brampton's Vales of Castlemore North Secondary Plan. The Tullamore Secondary Plan Area is the largest of the three Caledon Industrial / Commercial Centres, established by Official Plan Amendment (OPA) 114. The Tullamore Study Area and limits of the Secondary Plan Boundary with the Town's previous conceptual road pattern are shown on **Figure 2**.

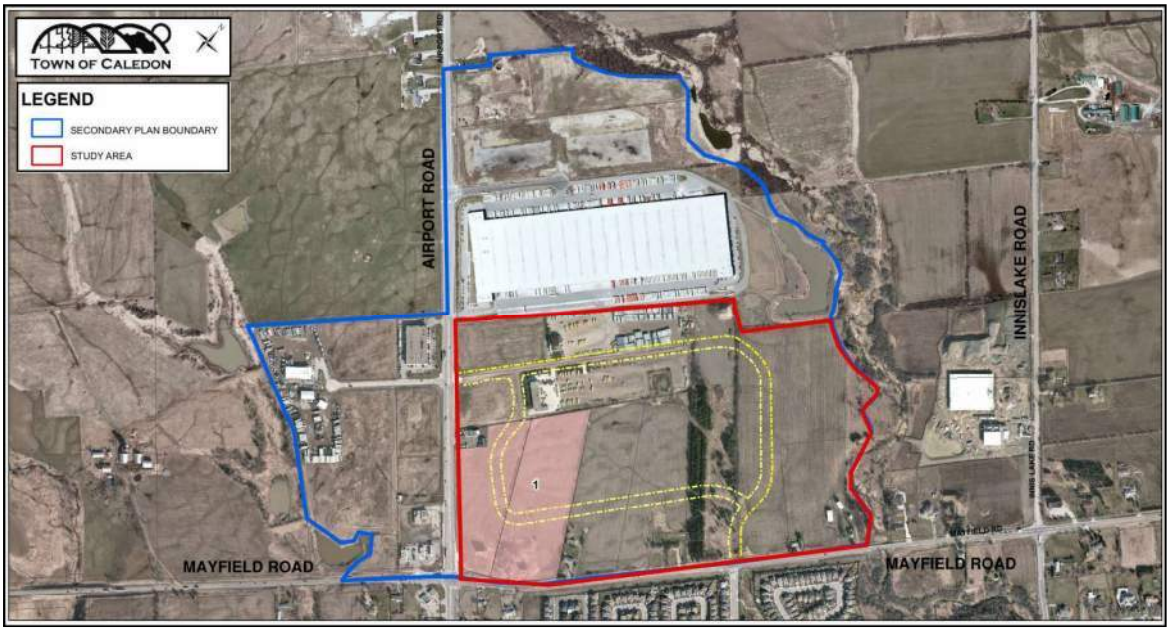

Figure 2: Tullamore Secondary Plan Study Area Map

Various commercial and industrial developments have proceeded throughout the Secondary Plan independently. The lands west of Airport Road are municipally serviced and partially developed with access from Airport Road and Perdue Court. The undeveloped lands in this area have been sub-divided by a reference plan. The north-eastern limits of the Secondary Plan have also been built-out, housing two large warehouse facilities with stormwater management (SWM) ponds and municipal services off Airport Road. Therefore, the lands along the west side of Airport Road and the existing developments on the east side of Airport Road are not located within the landowner's current Tullamore Secondary Plan Area Study

Limits. The current Study Area is in the south-eastern corner of the Planning Area and covers an area of approximately 57 hectares.

This *Functional Servicing Report* (FSR), along with the *Transportation Study* (TS), *Preliminary Stormwater Management Report* (PSWMR) and *Natural Heritage Existing Conditions Report* (NHR) have been used to select the preferred road, Environmental Protection Area, and servicing layout for the Study Area.

2.1. Appointment

The Jones Consulting Group Ltd. (TJCGL) has been retained by the Tullamore Secondary Plan Area landowner group to provide preliminary civil-municipal engineering services in support of the Study Area's Draft Plan of Subdiviion submission.

The purpose of the FSR is to summarize the previous studies and investigations completed for the Study Area and adjacent lands and develop a servicing design and strategy to obtain review comments from the approval agencies. The report will ultimately set the Site Plan Application (SPA) development requirements for the future Study Area development blocks.

The following sections summarize the preliminary design of the proposed municipal infrastructure (watermains, wastewater (sanitary) collection system, storm sewers, stormwater management facilities, stormwater conveyance for minor and major flows), roadways and access, grading, lot-level Low Impact Development (LID) controls, street lighting, traffic signals and utilities.

2.2. Study Area Description

The Study Area is generally rectangular in shape, with a total area of approximately 57.6 hectares. The site is located at the northeast corner of the intersection of Mayfield Road and Airport Road, in the Town of Caledon, Region of Peel. The site is bounded to the north by an existing distribution warehouse development, to the east by Salt Creek, to the west by 600 m of municipal right-of-way frontage on Airport Road, and to the south by 1,200 m of frontage on Mayfield Road. The Study Area consists of thirteen (13) separate properties with varying sizes and shapes. **Figure 3** illustrates each property's location and orientation, and **Table 1** summarizes the property's information and statistics.

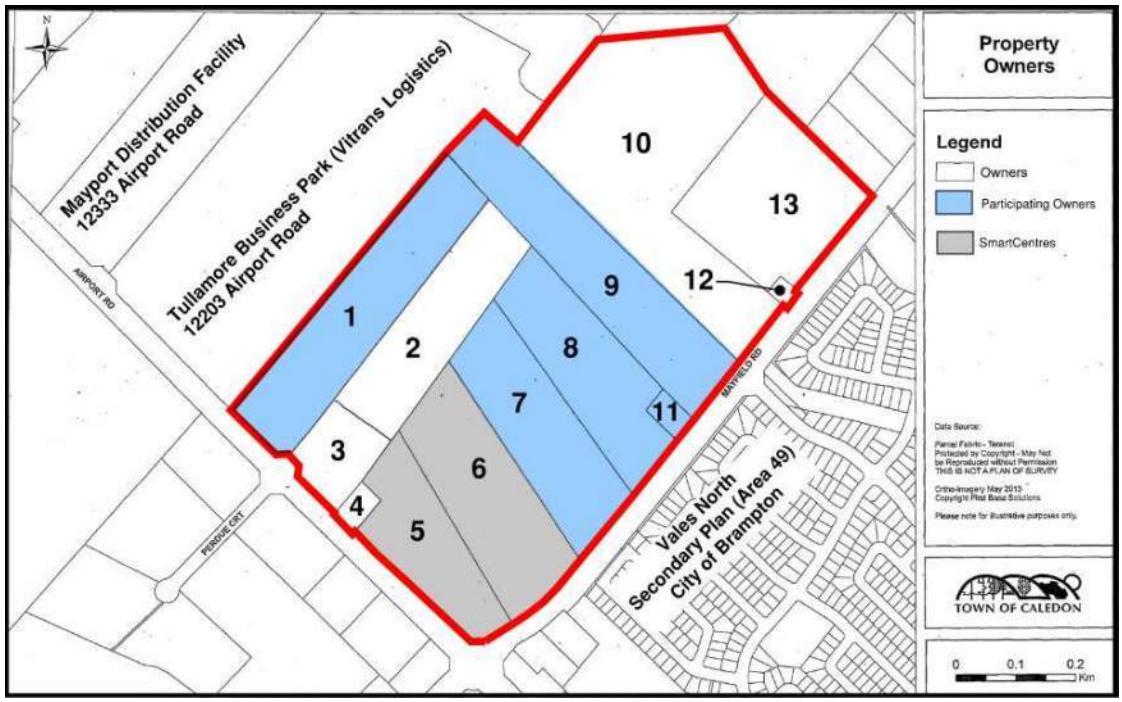

Figure 3: Existing Study Area Property's

Table 1: Study Area Property Information and Statistics

Property Ref. No.	Municipal Address / Legal Description	Existing / Proposed Development Name / Owner	Area (hectares)	Participating Landowner
1	12151 Airport Road	Millennium Tire Airport 12151 Inc.	6.38	Yes
2	12117 Airport Road	Fateh Transport Formerly Laidlaw Transit	4.47	No
3	Part 3 Plan 43R-36141	Preet Transport Carrier Inc.	1.82	No
4	12101 Airport Road	Motorway Sales and Service / Infinity Indian Cuisine	0.31	No
5	0 Airport Road Part 1 Plan 43R-34197	SmartCentres	3.81	No
6	6034 Mayfield Road	SmartCentres	5.63	No
7	6086 Mayfield Road	Falcon Express Group Inc. 6086 Mayfield Inc.	5.11	Yes
8	6186 Mayfield Road	2652876 Ontario Ltd. M&M Carriers	4.92	Yes
9	6230 Mayfield Road Part 1 Plan 43R11401	Millenium Tire 6230 Mayfield Inc.	6.66	Yes
10	PT LT 1 CON 1 Albion	Tullamore Industrial Park	12.02	No
11	6206 Mayfield Road	Residential Dwelling	0.33	Yes
12	6296 Mayfield Road	Residential Dwelling	0.14	No
13	6340 Mayfield Road	Residential Dwelling / Farm	6.01	No
Total			**57.60**	

2.3. Current Site Conditions

Currently, the Study Area is partly developed (some non-permitted developments) and being utilized for industrial usages (i.e. trucking operations) at 12151 Airport Road, 12117 Airport Road, 6086 Mayfield Road, 6186 Mayfield Road and 6230 Mayfield Road. The non-permitted developments are not in the ultimate conditions and the current state of the sites have no bearing on the future ultimate development of the subdivision. Lands not in compliance with the *Draft Plan of Subdivision* will be required to go through the formal site plan process once the final draft plan conditions are approved. There are also four (4) residential/farmhouse dwellings fronting on Mayfield Road and a commercial plaza (car lot, convenience store) fronting on Airport Road.

The trucking operation sites at 12151 and 12117 Airport Road are accessed from Davis Lane and generally consist of an office building surrounded by gravel parking lots. The 6086, 6186, and 6230 Mayfield Road

sites are similar with access from Mayfield Road and the residential dwellings converted to office buildings. The remainder of the site is undeveloped, consisting of highly disturbed meadows communities that were formerly agricultural and/or treed lands.

Davis Lane is a gravel laneway owned by the Town with ditches that provides access to three (3) private properties know as Fateh Transport (formerly Laidlaw Transit Ltd.) at 12117 Airport Road, Millenium Tire at 12151 Airport Road, and Preet Transport Carriers at Part 3 Plan 43R-36141 (Property No. 3). The Fateh Transport property has sanitary and water services from Airport Road and a stormwater management pond at the south-eastern limit of the development that was constructed through the site plan approval process with the Town.

There are several small drainage courses within the Study Area that collect local stormwater runoff and ultimately drain to a tributary of Salt Creek south of the site, adjacent to Maisonneuve Boulevard. As the downstream limits of the tributary is known to contain habitat for Redside Dace, the existing on-site watercourse will be partially preserved and extended with a proposed environmentally protected (EP) channel, dividing the Study Area into west and east portions. Previous on-site reviews with staff from the consultant team, Ministry of Natural Resources and Forestry (MNRF), Toronto and Region Conservation Authority (TRCA) and Town confirmed that the portion of the tributary within the Study Area does not contain Redside Dace.

A detailed *Natural Hazards Assessment* has been completed by the TRCA for Salt Creek, and as such, the development setback limits have been established at the east side of the site adjacent to the creek. Further reference to the Study Area within this Report shall mean the developable area outside of the Salt Creek setback limits. The relevant TRCA flood mapping information is provided in **Appendix A.4**. Further descriptions of the existing servicing infrastructure, drainage conditions and soils information are described in a subsequent section of this report. The Study Area's existing conditions are shown in **Figure 4**.

Figure 4: Existing Study Area Site Conditions

For a full description of the Study Area's existing natural features refer to the *Natural Heritage Existing Conditions Report* (NHR) prepared by Azimuth Environmental Consulting Inc. submitted concurrently with this FSR.

2.4. Proposed Land Use

Town of Caledon Official Plan

The Tullamore Secondary Plan Area is the largest of the three Caledon Industrial / Commercial Centres, established by Official Plan Amendment (OPA) 114. The Town's commercial development's policies primary focus is to provide commercial services to the travelling public and local residences. The OP further specifies that the directive of the industrial areas is to *concentrate industrial activities and employment opportunities within the Town; maximize use of available sanitary, water, and transportation infrastructure; and provide locations for industrial growth*

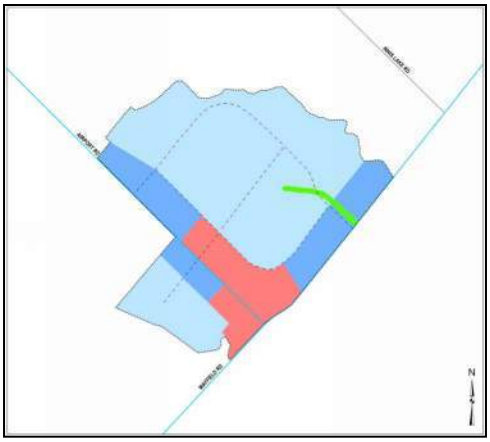

Figure 5: OP Schedule N
Tullamore Land Use Area (2008)

proximate to larger markets to the south and east.

The entire Tullamore Secondary Plan Area covers approximately 118 hectares (292 acres) of land primarily located in the northeast quadrant of Airport Road and Mayfield Road, in the south part of the Town of Caledon, adjacent to the City of Brampton's Vales of Castlemore North Secondary Plan. The Secondary Plan Area is bounded on the east and west sides by Salt Creek and a western branch of the West Branch of the Humber River reach, respectively.

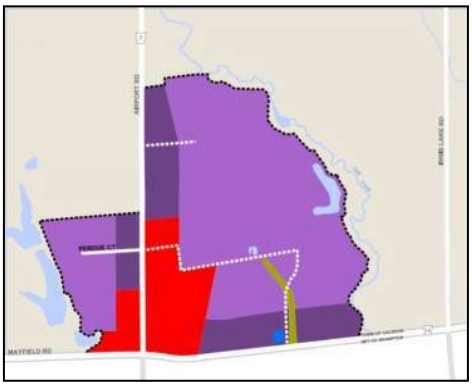

Figure 6: OP Schedule N
Tullamore Land Use Area (2024)

The Town's Official Plan (OP) Schedule N - Tullamore Land Use Area shows the site is zoned a mix of prestige industrial, general industrial, highway commercial, with an environmental policy area over the existing ditch that outlets to Mayfield Road. The OP specifies that Tullamore has a historical established population of 50. The 2008 OP Schedule N showed the eastern portion of the area with an internal network of three (3) roadways looping through the subdivision connecting to Mayfield Road at Maisonneuve Boulevard and two (2) connections to Airport Road; refer to **Figure 5**.

Since the initial OP was established two (2) large commercial warehouses, Vitrans Logistics (12203 Airport Road) and the Mayport Distribution Facility (12333 Airport Road), have been developed in the north-east quadrant of the Secondary Plan, eliminating the possibility of a northern loop road. As a result, the Town updated the OP Schedule N in March 2024 to eliminate the northern road loop; refer to **Figure 6**. **Table 2** generally summarizes the Study Area's OP land use areas and designations.

Table 2: Study Area Official Plan (2024) Land Use Areas and Designations

Land Use	Area (hectares)
Highway Commercial	13.5
Prestige Industrial	9.5
General Industrial	27.6
Roads (26 m ROW)	0
Environmental Policy Area	1.2
Salt Creek Flood Plain	4.8
Total	57.6

The Town's Zone Map 4 (By-Law 2006-05) showing the Study Area's individual zoning designations and current hold restrictions has been attached in **Appendix A.2** for reference. The Town's commercial and industrial zoning by-law standards have also been included.

Proposed Study Area Concept Plan and Draft Plan

The latest Concept Plan (Drawing No. CP-1 attached in **Appendix B**) for the Study Area has been created using the landowners Draft Plan of Subdivision with the Town's 26 meter Local Industrial Standard (Standard No. 211). The plan's internal road layout has gone through various iterations to accommodate the future municipal services, EP channel and road connection locations through consultation with the landowners, Town, MNRF, and TRCA. The most notable change from previous layouts is the EP channel extension and alignment along the future Davis Lane (Street A) to match the Town's latest Schedule N.

The Concept Plan illustrates the internal road providing access to several subdivided blocks, an EP channel dividing the site into west and east portions, and two (2) stormwater management blocks for the proposed extended detention wet ponds. Davis Lane (Street A) will extend through the Study Area, connecting Airport Road to Mayfield Road at Maisonneuve Boulevard. The roadway will extend east from Airport Road then run south to the Smart Centre lands north limits, head eastwards again and then finally south to Mayfield Road. A second right-of-way (Street B) running east-west will connect to the eastern side of Street A and end at a cul-de-sac.

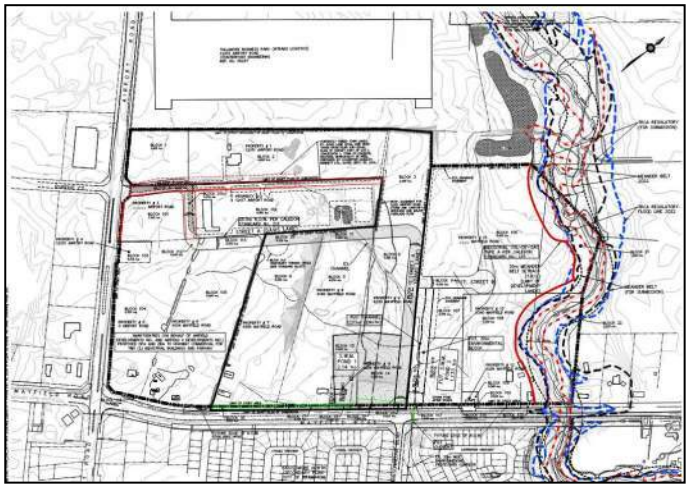

Figure 7: Proposed Study Area Concept Plan

The latest Draft Plan of Subdivision (DPOS) and Concept Plan have separated the current phase of works from the future external phases based on the participating landowners. The current phase of works are numbered as Block 1 through 20 and the future external areas are labeled as Block 101 through 120. The plans include a temporary turning circle on the east side of SmartCentre lands within Block 4. The temporary turning circle will be utilized until the future road connection between Davis Lane (Street A) is extended through SmartCentres. The existing Davis Lane roadway connection will continue to serve as the

access point for the northern properties. **Table 3** summarizes the latest Concept Plan's land use areas and designations.

Table 3: Concept Plan Land Use Areas and Designations

Land Use	Area (hectares)
Highway Commercial	12.0
Prestige Industrial	5.2
General Industrial	27.6
Roads (26 m ROW)	3.4
Environmentally Protected Channel	0.9
Stormwater Management Pond 1	2.1
Stormwater Management Pond 2	1.1
Mayfield Road Widening	0.9
Salt Creek Flood Plain	4.4
Total	**57.6**

The Concept Plan does not currently show any developments; however, the future Site Plan Applications will consist of commercial and industrial lots mainly covered by buildings, parking lots and landscaped areas. These applications must conform to the Town's latest commercial and industrial planning standards. Each lot will be serviced by gas, hydro, watermains, sanitary sewers, and storm sewers located within the proposed road right-of-ways (ROW).

SmartCentres (Property No. 5 and 6) OPA and ZBL Applications for 0 Airport Road and 6034 Mayfield Road

Based on the Town's April 21, 2022, Notice of Public Meeting SmartCentres submitted Official Plan Amendment and Zoning By-law Amendment applications in support of a site plan development at 6034 Airport Road and 0 Airport Road. The *Site Plan* proposes two (2) industrial

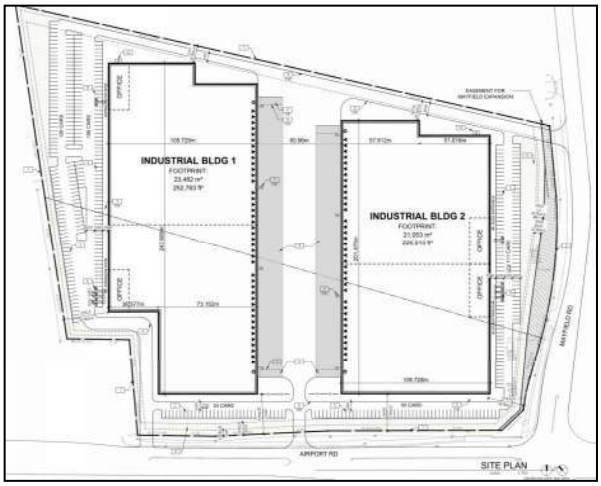

Figure 8: Proposed SmartCentres Site Plan

buildings, parking, and private entrances to Airport Road and Mayfield Road. A copy of the *Site Plan* (Drawing A1.0, prepared by Ware Malcomb, dated July 26, 2021), Notice, and Submission Cover Letter has been attached in **Appendix A.1**.

The development will be serviced internally by watermains and sanitary and storm sewers. The sanitary sewers will outlet to Airport Road. The on-site stormwater system (underground sewers and tanks, rooftop storage) will outlet at the existing Mayfield Road northern ditch. This ditch drains eastwards and crosses Mayfield Road at a road crossing culvert and eventually outlets at Salt Creek. The proposed servicing and grading information is illustrated on the *Preliminary Site Servicing Figure* and *Preliminary Grading Figure* (Sheet Number 4 and 5 respectively, prepared by WSP, dated July 22, 2021) attached in **Appendix A.1**. To ensure that the FSR and accompanying drawings are based on the latest information, SmartCentres was contacted to confirm if an updated development plan was available but no additional information was provided.

2.5. Soils Information

Soil Map of Peel County, Ontario - Report No. 18

The Study Area consists mainly of Chinguacousy Clay Loam (SCS Group C) with pockets of Peel Clay (SCS Group D) and Oneida Clay Loam (SCS Group D), as shown on the *Soil Map of Peel County, Ontario - Report No. 18*. An excerpt from the soils maps is provided in **Appendix A.3**. These soils typically are assigned the Soil Group of CD for assigning Curve Numbers (CN) and Runoff Coefficients (RC).

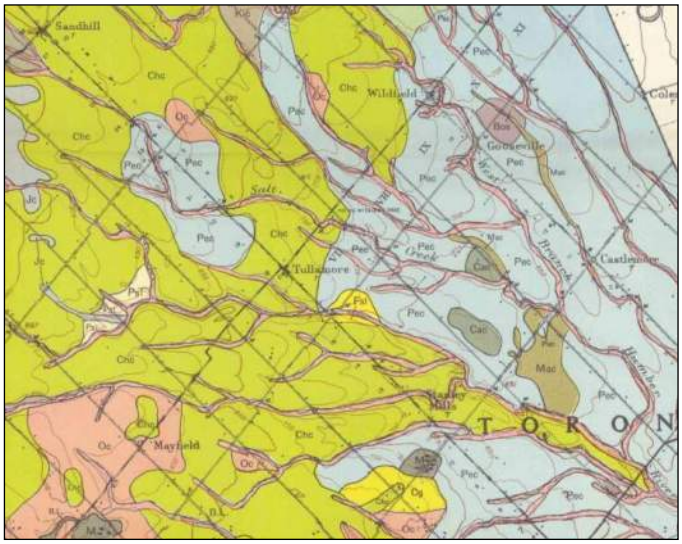

Figure 9: Soils Map Key Plan

Physiography of Southern Ontario Map – P.2715

The Ontario Geological Survey map of the Physiography of Southern Ontario indicates that the study area is situated within the South Slope physiographic region which extends from the Niagara Escarpment to the Trent River. Conditions in the region vary greatly. The location in which the Study Area lies is described as a ground moraine with irregular knolls and hollows. The South Slope lies across the

limestones of the Verulam and Lindsay Formations, the grey shales of the Georgian Bay Formation and the reddish shales of the Queenston Formation. A till consisting nearly of red and grey shale is reached west of the Credit River. The soil is only slightly acidic, ranging from sandy in the east to clayey in the west. A copy of the map has been attached in **Appendix A.3** for reference.

SmartCentres Geotechnical Investigation (Property No. 5 and 6)

As part of the SmartCentres initial submission package a *Preliminary Geotechnical Investigation Report* was completed by Golder Associates in February 2012 and a *Phase 1 Environmental Site Assessment* by Barenco Inc. in December 2010. The geotech investigation determined the general subsurface soil and groundwater conditions at the site by advancing eight (8) boreholes to depths between 6.5 and 9.6 meters. Two (2) piezometers (standpipes) were installed in *EX. BH 5* and *EX. BH 7* and during a site visit on July 7, 2011 (about one week after the boreholes were drilled) water was observed in the boreholes at depths of 4.5 meters and 7.0 meters below the existing grounds surface elevations, respectively.

The report generally summarized the site as having a 250 mm to 480 mm thick topsoil layer over native silty clay. Shallow deposits of clayey silt were found in all boreholes below the topsoil and discontinuous deposits of glacial till were encountered interbedded in the silty clay in a few boreholes. A copy of the geotechnical report's borehole data has been provided in **Appendix A.3**.

Tullamore Industrial Park Soil Survey and Agricultural Report (Property No. 9 and 10)

In March 1989 Ecoplans Limited completed a *Soil Survey and Agricultural Report* for the Tullamore Industrial Park lands. The report determined that the soil material generally consists of calcareous clay tills containing few stones. Surface soils consist of loam with 20% clay content. The three (3) underlying soils mapped on the property consist of Oneida, Chinguacousy and Jeddo. Oneida soils are well drained and vary in slope from 4% to 20%. The Chinguacousy soils are imperfectly drained with very gentle slope of 1% to 2%. Jeddo soils occupy the drainage channels dissecting the properties. These soils are level and saturated most of the year. Poor drainage on the Jeddo is due to the slow runoff rates. A copy of the reports *Soil Survey Map* has been provided in **Appendix A.3.**

Tullamore Business Park (Vitrans Logistics) Existing Soil Conditions

A *Geotechnical Investigation and Report* was completed by Golder and Associates Ltd. as part of the Urbacon Buildings Group's *Stormwater Management Plan Report* prepare by Counterpoint Engineering Inc., dated August 2005. The geotech investigation advanced 21 boreholes in February 2005. The report summarized the site as having a 150 mm to 460 mm thick topsoil layer over native clayey silt till,

transitioning to silty clay till at depths below 1.5 meters to 4.6 meters. Shale bedrock was encountered below the silty clay till in several boreholes. No significant groundwater seepage was observed during the advance of the boreholes and the shallowest groundwater depth was 2.9 meters.

6086, 6186, 6230 Mayfield Road and 12151 Airport Road Geotechnical Investigation

A *Geotechnical Investigation* and groundwater assessment for 6086, 6186, 6230 Mayfield Road and 12151 Airport Road property's future roads, stormwater management ponds (SWMPs) and EP channel was completed by Soil Engineers Ltd., dated September 2023. The investigation completed 24 boreholes between August 3 and 9, 2023. The report summarized that beneath the granular fill, a topsoil veneer and a layer of earth fill in places, the site is underlain by strata of silt, silty clay, silty clay till and sandy silt till. Shale bedrock is contacted near the termination depth of Borehole 20. A detailed summary of the existing conditions is provided below.

- A layer of topsoil, approximately 30 cm to 35 cm in thickness, was encountered at the ground surface of Boreholes 1, 2, 19 and 20.
- Boreholes 6, 16, 18, 22, 24 were carried out on the asphalt pavement, which consists of a layer of asphalt, approximately 30 mm to 100 mm in thickness, and a layer of granular fill, approximately 280 to 450 mm in thickness. Other boreholes were carried out on unpaved gravel surface, having a layer of granular fill with thickness ranging from 150 mm to 600 mm.
- Beneath the surface cover, a layer of earth fill was contacted in Boreholes 1, 4, 5, 8, 9, 11, 13, 15, 16, 18, 22, 23, and 24, extending to a depth of 0.8 to 2.0 m below the ground surface. The fill consists of a mixture of silty clay and sandy silt with gravel, organics, and topsoil inclusions. Shale fragments were occasionally found within the earth fill.
- A layer of sandy silt till deposit was contacted at various depth of Boreholes 14, 18 and 19. The till consists of a mixture of clay and gravel, with silt and sand being the dominant fraction.
- The silty clay till deposit was contacted within the investigated depths of all boreholes except Borehole 15. Localized silt and sand layers were occasionally contacted in the lower stratigraphy of the till deposit. The silty clay till consists of a random mixture of particle sizes with clay or silt being the dominant fraction.
- Similar to the silty clay till, the native silty clay stratum was contacted at various depths in most of the boreholes.

- A layer of silt deposit was contacted beneath the silty clay till in Borehole 4 extending to a depth from 2.6 m to 4.1 m below the ground surface.
- Weathered shale was observed at the lower stratigraphy within the investigated depth of Borehole 20.
- The report noted that upon the completion of drilling the groundwater ranged from 3.1 m to 4.9 m below ground surface in Boreholes 4, 11, 17 and 24.
- On August 18, 2023, approximately 2 weeks after well installation, groundwater level was measured from the monitoring wells at the depths ranging from 0.5 to 6.1 m below the prevailing ground surface, or between El. 222.4 m and El. 236.3 m, which is subject to seasonal fluctuations.

A copy of the report has been included in **Appendix A.3**.

2.6. Overview of Municipal Infrastructure

2.6.1 Stormwater Servicing

The TRCA watershed map shows that the Secondary Plan Area and surround lands are in the Humber River Watershed, part of the Main Humber tributary. Salt Creek borders the area, running along the eastern boundary.

Internal System

The site's topography contains average slopes ranging from 1-2%, generally draining in a southeast direction towards the tributary of Salt Creek adjacent to Maisonneuve Blvd. There are two (2) main intermittent drainage courses which convey the internal site drainage to two (2) existing culverts on Mayfield Road.

There is an existing stormwater management pond servicing the parking lot area central to the site. This pond was designed only to be temporary and is to be removed once the stormwater management pond for the Study Area is constructed. The existing pond discharges to one of the intermittent drainage courses and eventually drains to the culvert in the vicinity of Maisonneuve Boulevard.

External Systems

Two (2) existing culverts within Mayfield Road currently convey the majority of the Study Area's stormwater runoff to the south. A 1,200mm diameter CSP culvert and a 1800x2500mm elliptical culvert. There are also a few smaller pockets of land which drain directly to Airport Road or to Salt Creek. The culvert in the vicinity of Maisonneuve Boulevard will serve as the main stormwater outlet for the site in the post-development condition.

Figure 10: Existing Elliptical Culvert at Mayfield Rd and Maisonneuve Blvd

The Airport Road storm sewer system collects runoff from the right-of-way and conveys it south and then west at Mayfield Road intersection. This system outlets to the Humber River West Branch tributary.

External Drainage

There is only a small external area that drains through the site from the 12203 Airport Road warehouse development. A small ditch was created along the Study Area's northern boundary when the warehouse was constructed to convey runoff from a landscaped area to the Study Area's eastern limits.

2.6.2 Wastewater Servicing

The Region's *Wastewater Master Plan* (2014) illustrates that the Study Area is in the northern limits of the East Trunk Sewer drainage catchment area that outlets to the G. E. Booth Wastewater Pollution Control Plant. The nearest trunk sewer servicing the Study Area and surrounding lands is located within west side of Airport Road. This 750 mm diameter concrete sewer slopes from the north to the south and is at an approximate depth of 6 meters to 7 meters along the Study Area limits. A copy of the Region's existing wastewater infrastructure has been included in **Appendix A.5**.

The Study Area's wastewater will discharge to the municipal system at two (2) locations, Airport Road and Davis Lane, and the proposed Davis Lane (Street A) and Maisonneuve Boulevard.

2.6.3 Water Servicing

The Region's *Water Master Plan* (2014) illustrates that the Study Area is in the East Trunk System's Pressure Zone 6. This zone is serviced from the interconnected Lakeview and Lorne Park Water Treatment Plants. The Tullamore Reservoir and Pumping Station facility is located adjacent to the Study Area, across Salt Creek, on Innis Lake Road. A copy of the Region's existing water infrastructure map has been included in **Appendix A.5**.

The Study Area's internal watermains will connect to the existing system at the two (2) locations, Airport Road and Davis Lane, and proposed Davis Lane (Street A) and Maisonneuve Boulevard.

2.7. Summary of Background Reports

The following summarizes the previous reports and background studies completed for the Tullamore Secondary Plan Area lands along the east side of Airport Road and the Castlemore North Secondary Plan located south of the Study Area.

2.7.1 Tullamore Secondary Plan Area Master Environmental Servicing Plan

The Town retained AGRA Earth & Environmental Ltd. and Giffels Associates Ltd. to complete a *Master Environmental Servicing Plan* (MESP), dated June 2000, for the entire Tullamore Secondary Plan Area. The MESP provides an overview of natural environmental and stormwater management issues for the entire 118 hectare Secondary Plan. The document includes baseline information on the natural environment, including terrestrial, wildlife and aquatic resources, as well as surface water drainage and stormwater management options. Subsequent reports, including the Vitrans Logistics warehouse development along the north side of the Study Area and the *Preliminary Stormwater Management Report* (PSWMR) submitted under separate cover, refer to this document to form the basis of the design.

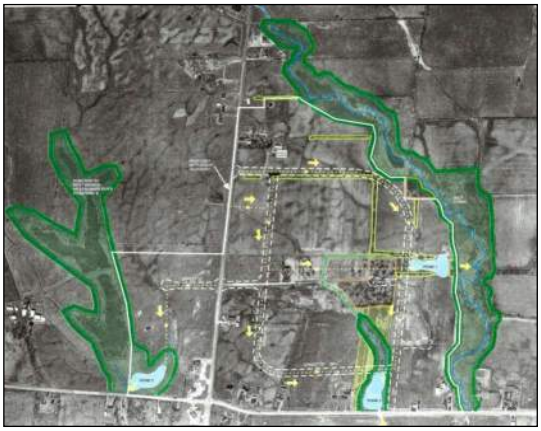

Figure 11: MESP Area (2000)

2.7.2 Tullamore Business Park (Vitrans Logistics) Stormwater Management Plan

The Urbacon Buildings Group retained Counterpoint Engineering Inc. to complete a *Stormwater Management Plan*, dated August 2005 and updated in November 2005, to address the SWM design for part of the Tullamore Secondary Plan Area located immediately north of the Study Area (12203 Airport Road). The industrial warehouse development (formerly Vitrans Logistics, now Loblaws) consists of approximately 27.0 hectares and includes rooftop storage and an extended detention wet pond for SWM quantity and quality control at the properties south-east corner. The area represents part of the 58.6 hectare drainage area defined in the MESP draining to pond 1. The southern site entrance is a right-in only entrance from Airport Road. The facility's road network continues eastward around the building and then back to Airport Road where it also services the Mayport Distribution Facility development. The development is services with water and wastewater connections directly from Airport Road. The approval and construction of this development split the east side of the Tullamore Secondary Plan Areas north and south limits and necessitated the re-alignment of the future Study Area roads.

Figure 12: Vitrans Logistics Warehouse

2.7.3 Airport Road Distribution Facility (Mayport Distribution Facility) Functional Servicing Report and Stormwater Management Report

Hopewell Development Corp. retained JSW+ Associates to complete a *Functional Servicing Report and Stormwater Management Report*, dated August 2013, for the Airport Road Distribution Facility located at 12333 Airport Road (north side of the Vitrans Logistics development development). The report references the MESP as well as the SWMR by Counterpoint Engineering, as the lands were included in the design of the existing SWM pond north of the Study Area (pond 1). The site is services with water and wastewater connections directly from Airport Road.

Figure 13: Mayport Distribution Facility

2.7.4 Existing Study Area Commercial / Industrial Developments

There are six (6) existing commercial / industrial developments within the Study Area located at 12151, 12117, and 12101 Airport Road, and 6086, 6186 and 6230 Mayfield Road. 12101 Airport Road is a commercial plaza, while the other sites are generally used for trucking operations. The trucking operation sites at 12151 and 12117 Airport Road (and the norther portion of 6230 Mayfield Road) are accessed from Davis Lane and consist of an office building surrounded by gravel parking lots. The 6086, 6186, and 6230 Mayfield Road sites are similar with access from Mayfield Road and the residential dwellings converted to office buildings.

Figure 14: Existing Developments

The 12117 Airport Road development currently has Site Plan Approval and the *Laidlaw Transit Site Servicing and Grading Plan* prepared by EMC Group Ltd., dated February 2003, shows that the operations building is serviced with sanitary and water connections from Airport Road. There is also a stormwater management pond located at the properties south-east corner.

2.7.5 Tullamore Industrial Park Functional Servicing Report (Property No. 9 and 10)

The former Tullamore South Landowners group retained IBI Group Inc. to complete a *Functional Servicing Report*, dated February 5, 2009, to address the preliminary design for the municipal roads and services for the development of a large portion of the Study Area's eastern lands. The report outlines preliminary servicing recommendations given that no specific draft plan of subdivision existed at the time. With regards to SWM, the report references the MESP for the proposed SWM pond location, minor/major storm runoff, controls for roof areas, and allowable parking lot ponding. The report also provides preliminary estimates for the developments sanitary (wastewater) flows and water demands. Region

Figure 15: Tullamore Industrial Park Lands

correspondence, dated November 20, 2006, confirms that (at the time of the review) there is available capacity in the Zone 6 water distribution system and in the Maisonneuve Boulevard (Vales of Castlemore North Secondary Plan) wastewater sewer. A copy of the Region's correspondence has been included in **Appendix A.5.**

2.7.6 Castlemore North Secondary Plan – City of Brampton

The City of Brampton's Vales of Castlemore North Secondary Plan (Area 49) is located along the Study Area's southern boundary. Area 49 is an established subdivision housing a mix of residential, institutional and commercial developments, generally spanning from Mayfield Road to Country Side Drive and Airport Road to Goreway Drive.

Figure 16: Castlemore North Secondary Plan

The detailed engineering plans prepared by Candevcon Ltd. shows an existing wastewater (sanitary) sewer for future extension into the Study Area. There is also an existing 35 meter wide Open Space block along the east side of the Mayfield Road and Maisonneuve Boulevard intersection that will be extended into the Study Area. A copy of the subdivisions sanitary drainage area plans, and sewer design sheets have been attached in **Appendix A.5**.

2.7.7 Mayfield Road Improvements Class Environmental Assessment Study Report

The Region retained Stantec Consulting Ltd. to complete a *Municipal Class Environmental Assessment* (MCEA) *Environmental Study Report* (ESR) for *Mayfield Road Improvements*, from Airport Road to Coleraine Drive. The ESR, dated April 2013, provides the interim and ultimate framework for the Mayfield Road configuration and identifies a recommended

Figure 17: Mayfield Road EA Study Area

alternative design concept for equal road widenings to minimize property impacts.

With regards to the Study Area limits, the ESR provides recommendations for replacing two (2) of the existing road crossing culverts along the southern limit of the site, a conceptual road connection at the existing Mayfield Road and Maisonneuve Boulevard intersection, and the construction of a stormwater management facility (SWMF 1) to control the right-of-way runoff adjacent to the future road connection. The ESR also recommends re-aligning the existing creek to suit the culvert extension.

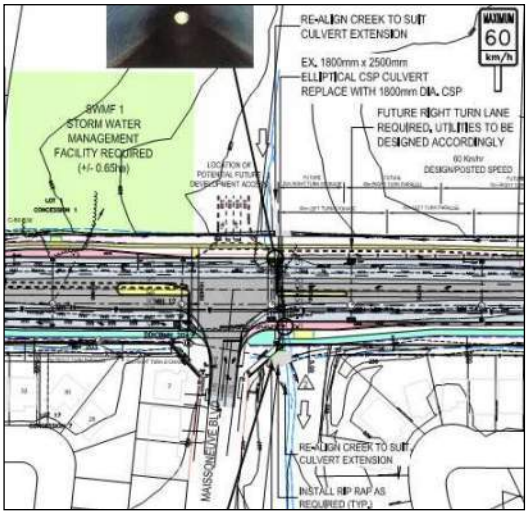

Figure 18: Mayfield Rd EA SWMF-1 Location

The preliminary design of the stormwater management pond for the site accounts for this additional drainage area from Mayfield Road. A copy of the preferred alternative road alignment drawings across the Study Area have been attached in **Appendix A.1**.

2.7.8 Mayfield Road Improvements Detailed Design

The Region retained the IBI Group Inc. to complete the detailed design for the Mayfield Road improvements project, from Airport Road to Coleraine Drive. The design was completed in accordance with the Region's Mayfield Road EA Study Report recommendations with adjustments based on actual field measurements.

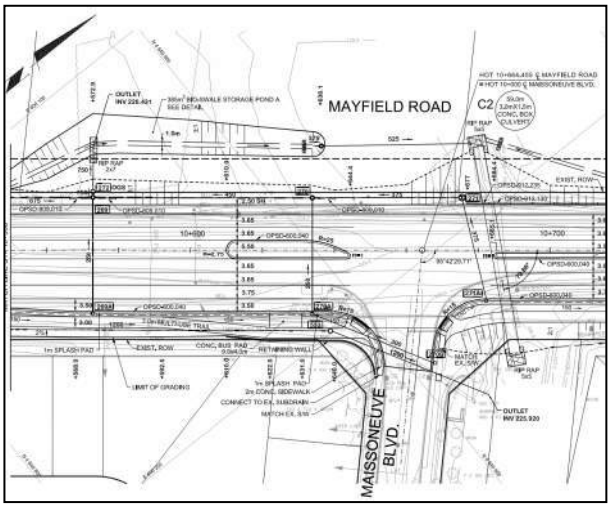

Figure 19: Mayfield Road Improvements - 60% Design Drawing

The Region reviewed various stormwater control options within the future right-of-way limits, including underground storage and infiltration, to eliminate the need for any external stormwater management facilities (ponds), as shown in the Mayfield Road EA Study Report. The intention would be to reduce cost and scheduling delays for land acquisition and to allow the project to move forward independently of the Tullamore Study Area project.

The Region's design drawings illustrate a storm sewer system that collects most of the roadways hard surface area runoff and outlets to an oil-grit-separator and a 385 cu.m bio-swale storage pond at the Study Area's proposed west pond location. The ROW's northern ditch and catchment area west of the road crossing culvert at 6186 Mayfield Road will by-pass the system, draining across the road to a sewer system that outlets to the Maisonneuve Boulevard EP channel. This catchment includes the SmartCentres lands at 0 Airport Road and 6034 Mayfield Road. The current Study Area Concept Plan and stormwater management system has accounted for the Mayfield Road.

The Region's website notes that the Mayfield Road works are planned to start in early 2026 with utility relocation scheduled for 2025. A request was made to the Region for a copy of the latest submission drawings. The Region provided copies of the 60-90% plan and profile progress submission drawings. A review of the design confirmed that the sewers can convey the stormwater to the proposed Tullamore SWM facility with some adjustments to the proposed design. The Mayfield Road storm system outlet invert will need to be raised by either insulating the pipe, adjusting the pipe type to elliptical pipes, raising the future Mayfield Road crossing culvert inverts or adjusting the Mayfield Road culvert dimensions. Additional requirements will be confirmed during the detailed design. A copy of the progress drawings are attached in **Appendix A.1**. Copies of the plan and profiles for the roadways existing conditions have also been attached.

2.7.9 Tullamore Community Design Guidelines

The Town retained Paul Cosburn and Associates Ltd. to prepare the *Tullamore Community Design Guidelines*, dated May 2000, which outlines the streetscape design components to be incorporated into the Study Area's detailed design. The report specifies that the subdivision shall have a primary entrance feature located at the intersection of the Airport Road and Mayfield Road and the Davis Lane and Airport Road and Mayfield Road and Maisonneuve Boulevard intersections/entrances are both to have secondary entrance features. These landscape design components and features will be coordinated with the parks and planning departments during the projects

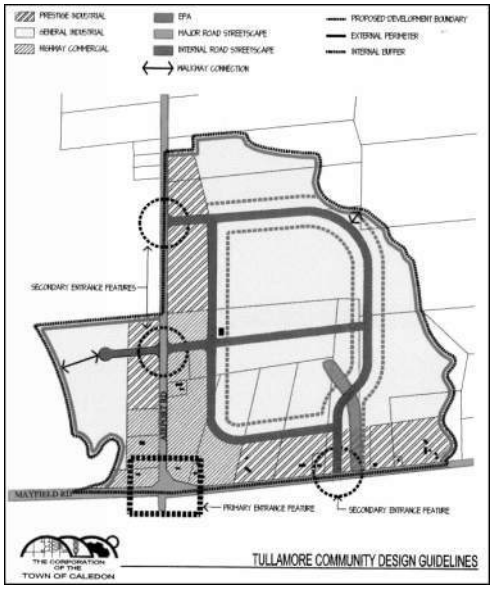

Figure 20: Tullamore Community Design Guidelines Plan

detailed design. A copy of the reports site map, general guidelines and entrance feature requirement has been attached in **Appendix A.1**.

2.7.10 Toronto Region Conservation Authority Watershed Mapping

The TRCA watershed map shows that the Study Area is in the Humber River Watershed, part of the Main Humber tributary. Salt Creek borders the area, running along the eastern boundary. The TRACA Flood Plain Mapping Program identifies this section of Salt Creek as HUM. 132. The TRCA Map Output does not show the EP designation over the existing ditch draining to the road crossing culvert at Maisonneuve Boulevard. Further, *Mayfield Road Improvements Class Environmental Study* drawing labels the ditch to be "*Re-align Creek to Suit Culvert Extension*"; refer to **Figure 18**. Through consultation with the TRCA we have obtained copies of the Salt Creek HUM watershed mapping data to establish the Study Area eastern development limits.

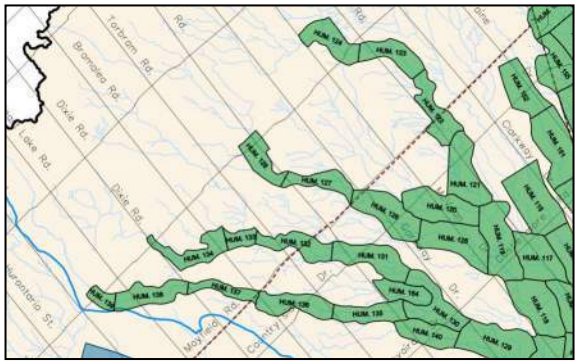

Figure 21: TRCA Humber River Watershed Map

3. Approval Agencies and Design Criteria

The Study Area is subject to the policies and requirements of the Town, Region, TRCA, the MNRF, and the Ministry of the Environment, Conservation and Parks (MOECP) with respect to municipal servicing (water, wastewater, roads, street lighting and traffic signals), stormwater management (quantity, quality, erosion control and water balance) and utility servicing (gas, hydro, phone, cable and internet).

3.1. Town of Caledon

The municipal services, roads, utilities, grading and stormwater drainage design must conform to the Town's *Development Standards Manual* (Version 5 - 2019). The Town's document is intended as a guideline for new land development and provides technical requirements specific to sewers, site grading, street lighting, erosion and sediment control, and stormwater quantity and quality control techniques, among other topics.

The Town has been granted a *Consolidated Linear Infrastructure Environmental Compliance Approval 324-S701* (CLI ECA) authorizing the Town to approve alterations to the municipal wastewater (sanitary) and storm sewers and stormwater management facilities (ponds). The subject lands will be required to meet all the conditions of the Town's CLI ECA along with the associated Design Criteria. Once the detailed design for the development has been completed, this FSR and the SWMR will be updated and submitted to the Town in support of an application for an CLI/ECA.

3.2. Region of Peel

The Region reviews all water and wastewater (sanitary) works for new developments. The water and wastewater works must conform to the Region's *Linear Wastewater Standards* (2023) (previously the *Public Works Design, Specifications & Procedures Manual – Linear Infrastructure, Sanitary Sewer Design Criteria* and *Watermain Design Criteria* (revised 2009 and 2011, respectively). Since the Study Area's build-out will have major impacts on Airport Road and Mayfield Road, the Region is also the review and approval authority for the traffic study's recommendations for intersection improvements and traffic signals.

Further, the stormwater management plan may involve the inclusion of drainage from the future widening works on Mayfield Road (Regional Road No. 14). The Region will therefore be involved in the

design and review of the proposed stormwater management facilities and storm sewers conveying drainage from this road. As a general rule, the Region will require that *Post-Development flows must be equal to or less than Pre-Development levels* for all lands that drain to a Regional road storm system. . Where necessary, the design of the subject site with respect to stormwater drainage will conform to the *Region of Peel's Public Works Stormwater Design Criteria and Procedural Manual* (June 2019), *Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) Stormwater Management Criteria* (September 2022), and *Region of Peel Stormwater Management Report* (December 2022).

3.3. Toronto and Region Conservation Authority

The Study Area is located within the Humber River Watershed within the TRCA's jurisdiction. It is expected that the TRCA will require the stormwater management plan to adhere to the TRCA's *Stormwater Management Criteria* (Version 1.0, August 2012) as well as conform to the recommendations of the MOECP *Stormwater Management Planning and Design Manual* (March 2003). The TRCA criteria provides guidance in the planning and design of stormwater management infrastructure to address flooding, water quality, erosion, water balance, and natural heritage.

3.4. Master Environmental Servicing Plan

Master Environmental Servicing Plans (MESP) are required by municipalities to support new developments and re-developments within a secondary plan area. The TRCA is responsible for the technical clearance of the MESP's as the governing conservation authority (CA). Under the Planning Act and Environmental Assessment Act the CA represents the Provincial interest for Natural Hazards of the Provincial Policy Statement.

The TRCA will review the technical aspects of water management, natural hazards and natural heritage that have been addressed through the MESP. Under Phase 1 of the Characterization of the Natural System the TRCA will require a review of 1) Existing studies and projects 2) Surface Water which would include Watershed Hydrology and Flood Plain Mapping/Hydraulics 3) Erosion including Fluvial Geomorphology and Geotechnical 3) Groundwater assessment 4) Natural Heritage 5) Water Balance. Phase 2 outlines the impact of the proposed development in regard to Stormwater Management and Low Impact Strategies, above and below ground servicing. Identify applicable Valley and Stream crossings and trails. Providing

Preliminary grading plans identifying existing and proposed grades and demonstrating the proposed design will adhere to municipal and regional standards and respecting the limits of the Natural System.

3.5. Ministry of Natural Resources and Forestry

The Study Area is located adjacent to Salt Creek, which has been identified as an ecologically important watercourse due to the presence of Redside Dace Habitat. The watercourse adjacent to Maisonneuve Boulevard, which will serve as the outlet for stormwater runoff from the site, drains into Salt Creek. Through previous consultation with the MNRF, the stormwater management pond design must incorporate thermal mitigation measures to reduce the threat to Redside Dace. Specifically, these measures include the following:

- Average permanent pool depth, of the open water component of the SWM facility, excluding the forebay area and other shallow water features, is to be minimum 3.0 meters deep.
- Bottom draw outlet are to be located a minimum of 2.5 meters below the permanent pool elevation.
- The perimeter of the pond at the permanent pool elevation is to include a minimum 3.0 meter wide flat shelf, 0.3 meter deep, as a wetland planting area. The shelf will include a 30 cm layer of topsoil and planted with native emergent species (cattail and bulrushes) suited for fluctuating water levels.
- Side slopes below the normal water level of the permanent pool are to be 4:1 (max).
- The volume of water in the permanent pool between the depths of 1.5 meters to 3.0 meters is to be at least equivalent to the volume of runoff generated by a 10 mm storm event. The calculated volume below the 1.5 meter depth is to be discharged over a minimum 24 hour period.

3.6. Ministry of the Environment, Conservation and Parks

An Environmental Compliance Approval (ECA) will be required from the MOECP for the proposed wastewater (sanitary) and storm sewers and stormwater management facilities (ponds). Once the detailed design for the site has been completed, this FSR and the

SWMR will be updated and submitted to the Town for the MOECP ECA. Stormwater drainage proposals are to be consistent with the guidelines of the MOECP's *Stormwater Management Planning and Design Manual* (March 2003).

4. Stormwater Servicing

A *Preliminary Stormwater Management Report* (PSWMR) has been completed as part of the TJCGL appointment and scope of work for the Study Area. The PSWMR has been submitted concurrently with this FSR and the following is a brief overview of the report.

The PSWMR has outlined a design for the Study Area's future stormwater management system to meet the compulsory post-development quantity and quality requirements imposed by the Town, Region, TRCA, MNRF and MOECP. During the Study Area's detailed design stage, a (detailed) Stormwater Management Report will be completed in support of the storm system and facilities Town/MOECP ECA Certificates and TRCA Application for Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (Pursuant to Ontario Regulation 166/06) permit.

4.1. Existing Drainage Conditions

The Study Area consists of approximately 57 hectares of land that is partially developed mainly for trucking uses while the remaining area is highly disturbed meadows communities that were formerly agricultural and/or treed lands .

The site's topography contains average slopes ranging from 1-2%, generally draining in a southeast direction towards the tributary of Salt Creek adjacent to Maisonneuve Boulevard. There are intermittent drainage courses which convey the local site drainage to two (2) existing culverts on Mayfield Road. One of these culverts, a 1200mm diameter CSP, drains an area of approximately 9.49 hectares to the south side of Mayfield Road, which is conveyed via a roadside ditch to the tributary adjacent to Maisonneuve Boulevard. The second culvert is an 1800x2500mm elliptical culvert, located immediately upstream of the tributary and drains most of the site (approximately 41.67 hectares) directly to the tributary. There are also smaller pockets of land which drain directly to Airport Road or to Salt Creek. The culvert in the vicinity of Maisonneuve Boulevard will serve as the main stormwater outlet for the site in the post-development condition.

There is an existing SWMP servicing the Laidlaw parking lot area central to the site. This pond was designed only to be temporary and is to be removed once the stormwater management ponds for the overall Study Area are constructed. The existing pond discharges to one of the intermittent drainage courses described above and eventually drains to the culvert in the vicinity of Maisonneuve Boulevard.

The preliminary design confirms that the existing ponds outlet elevations can be accommodated by the proposed storm sewer system until the block is re-developed.

There is only a small external area that drains through the site from the 12203 Airport Road development. A ditch was created along the Study Area's northern boundary when the warehouse was constructed to convey a landscaped area to the Study Area's eastern limits. The Pre-Development Storm Drainage Plan (Drawing No. STM-1) attached in **Appendix B** illustrates the Study Area's current drainage conditions.

4.2. Stormwater Management Plan

The stormwater management plan is intended to provide an environmentally sound approach to stormwater issues. The issues can be divided into four main categories: stormwater quality control, stormwater quantity control, water balance, and erosion and sediment control.

To provide the required stormwater quality and quantity control for the site two (2) extended detention wet ponds and Low Impact Development (LID) devices are proposed. The ponds, referred herein as the west and east ponds, are divided by a proposed 35 meter wide EP channel extending from the tributary of Salt Creek along the east side of Mayfield Road. The channel is the discharge location for the pond outlets and for all other stormwater runoff from the site. The proposed ponds are located generally at the southeast corner of the Study Area.

4.3. Proposed Drainage System

Development of the Study Area will consist of several commercial lots, an internal looped roadway to be built to the Town's 26.0 meter Local Industrial Road (Standard No. 211), an EP drainage channel, and two (2) stormwater management extended detention wet ponds. Each individual lot will be developed with buildings, driveways, parking lots, and landscaped areas. The lots future coverage areas must conform to the Town's commercial and industrial planning policies (attached in **Appendix A.2**). The lot grading will direct the stormwater runoff to the internal road network and the Mayfield Road northern boulevard (for the 6086 and 6186 Mayfield Rd property drainage), which will contain a proposed storm sewer system to convey minor flow to the proposed ponds. The roads and boulevard will also convey the major overland flow within the right-of-way. The proposed end-of-pipe SWM facilities are extended detention wet ponds, providing stormwater quantity and quality control. All proposed buildings will require rooftop controls, as per the recommendations of the MESP. The stormwater runoff from the future development lands building's rooftops on the west side of the proposed Street A extension are proposed to drain to a 3rd pipe

system and conveyed and discharged directly to the EP channel. This channel will drain into the tributary of the Salt Creek within the Vales of Castlemore Secondary Plan, bypassing the proposed ponds. The 3rd pipe system is sized to convey the 100-year storm event peak flow controlled to a rate of 40 L/s/ha of building area. The location of the 3rd pipe within the future external ROW will be determined during the detailed design.

The proposed site grading and drainage design will maintain the culvert drainage at the southwest portion of the Study Area. This drainage, per the Region's latest design drawings, will continue to be conveyed across the road. The planned future roadworks will pipe the flows to the Maisonneuve Boulevard intersection, and to the creek.

In general, the PSWMR results demonstrate that the proposed stormwater management ponds will provide the required quantity control to reduce the Study Area's built-out post-development peak flows to the allowable release rates identified in the MESP which references TRCA's Unit Flow Relationships for the Humber River Watershed. A copy of the TRCA Unit Flow Relationship map is attached in **Appendix A.4**.

The Post-Development Storm Drainage Plan (Drawing No. STM-2) with the accompanying SWMP figures (Drawing No. PND-1, 2, and 3) illustrates the proposed drainage scenario and are attached in **Appendix B**. For a full description of the proposed drainage works refer to the PSWMR submitted concurrently with this FSR.

4.4. Water Balance

The water balance assessment outlined in the Town's CLI/ECA criteria stipulates any drainage area greater than 0.1 ha will require a water balance assessment study of the development area. The assessment reports may include a Source Protection Plan, Master Stormwater Management Plan, Master Environmental Servicing Plan or Class EA all assessment studies shall conform to the Ministry policies. If assessment studies are not available, then stormwater volumes are to be controlled and recharged (infiltration) to meet the site's Pre-development runoff volume or control runoff from the 90th percentile storm event. In the event that site's pre-development water balance cannot be achieved and every effort has been exhausted through the use of retention and LID filtration stormwater practices the Lake Simcoe and Region Conservation Authority (LSRCA) recharge compensation program may be used. The TRCA has completed modeling and mapping identifying important groundwater recharge areas. According to TRCA mapping (provided in **Appendix A.4**), the subject site falls under a Low Volume Groundwater Recharge

Area (LGRA). As such, a site-specific water balance is not required, and best efforts should be made via the SWM plan to maintain groundwater recharge. Refer to the PSWMR for additional details.

4.5. Erosion and Sediment Control

An *Erosion and Sediment Control Report* (ESCR) has been completed as part of the TJCGL appointment and scope of work for the Study Area. The ESCR has been submitted concurrently with this FSR and the following is a brief overview of the report.

During construction, the majority of the Study Area's natural features will be removed and the topsoil stripped within the development area. The exposed surface will be susceptible to erosion, increasing the potential for sediment runoff. To minimize local and downstream impacts from erosion and sedimentation during construction, the following measures have been recommended:

- Excess earth and topsoil is to be stockpiled away from established drainage areas and/or removed from site. Stockpiles shall be seeded or covered with erosion control if left for periods of greater than 30 days.
- Temporary sediment control fencing should be erected around the perimeter of all grading activities.
- Temporary sediment fabric and stone filters should be installed on catch basins until surface cover has been stabilized.
- Temporary rock flow check dams should be installed within drainage cut-off swales.
- A temporary construction access mud mat should be installed at the construction accesses to reduce the amount of materials that may be transported off site.
- Temporary erosion and sediment control basins are to be constructed (during the site plan development stage), complete with a Hickenbottom outlet control structure and overflow weir. The basins' purpose is to detain runoff long enough to allow most soil particles to settle out of suspension.
- Construction during drier months should be monitored for wind-borne transport of sediments. At the direction of the engineer, the contractor may be directed to water down exposed earth areas with an aqueous solution of calcium chloride.

- All disturbed areas not under immediate construction for 30 days, or not intended for building activities within a 3-month time period, should be stabilized with seeding.

An Erosion and Sediment Control Plan (Drawing No. ESC-1) has been included with the ESCR and attached in **Appendix B** for ease of review.

5. Wastewater Servicing

5.1. External Wastewater Servicing Framework

The Study Area is part of the Region's East Trunk Sewer drainage catchment area that outlets to the G. E. Booth Wastewater Pollution Control Plant located on the shore of Lake Ontario. The closest trunk sewer servicing the Study Area and surrounding lands is located within west side of Airport Road. The *Airport Road, New Construction,* Plan No. 38362-D and No. 38363-D (dated January 2010) plan and profile's (P&P) illustrates that there is an existing 750 mm diameter sanitary sewer within the roadway's western boulevard at an approximate depth of 6 meters to 7.5 meters along the Study Area limits. The Region's Wastewater DC Map (2014) shows this sewer draining south along Airport Road until it eventually outlets to the McVean Pump Station at Queen Street in the City of Brampton.

The *Highlands of Castlemore*, *Maisonneuve Boulevard, Plan and Profile* No. 34313-D (dated July 2002) illustrates an existing 250 mm diameter sanitary sewer that terminates at the intersection of Mayfield Road at an approximate depth of 4.75 meters. This local sewer drains south through the Castlemore Secondary Plan and eventually outlets to the east trunk system. All the existing municipal services directly surrounding the Study Area are shown on the Existing Servicing Plan (Drawing No. GEN-1) attached in **Appendix B**.

5.2. Allocated and Projected Populations

The Region's *Linear Wastewater Standards* (2023) (formerly the *Public Works Design, Specifications & Procedures Manual – Linear Infrastructure, Sanitary Sewer Design Criteria* (July 2009)) provides theoretical design criteria for future developments and their projected sanitary loading demands. Specifically, the guidelines provide design criteria for commercial and industrial developments based on land use population equivalents. The population equivalents for the Study Area are:

- Industrial (light): 70 persons per hectare (70 PPH)
- Commercial: 50 persons per hectare (50 PPH)

A copy of the Region's sanitary sewer design criteria has been attached in **Appendix A.5**.

Allocated Population

Correspondence with the Region determined that the wastewater servicing and the allocation in the existing Airport Road servicing framework would be determined based on the Study Area's topography, the Region's sanitary servicing standards, and the depth of the Airport Road sewer. Prior to the commencement of the Study Area's design works it was noted that the land was not specifically accommodated in the Airport Road sewers catchment area. A copy of the Region's correspondence has been attached in **Appendix A.5**. However, the Region's Trunk Catchment System Maps (Sheet 3, 14, 18 and 21) dated March 2014, shows that the Study Area is located within catchment ER_Sub1.

Portion of the Study Area's eastern limits have been accommodated in the Highlands of Castlemore subdivisions design located south of the Study Area. The extension of the sanitary sewer within Maisonneuve Boulevard to the southern limit of Mayfield Road was coordinate by the Tullamore Industrial Park development (Property Owners No. 9 and 10). The *Sanitary Drainage Area Plan,* Sheet No. D.2 (dated July 2002) and accompanying *Sanitary Sewer Design Sheet 3* (dated January 2003) shows an external drainage area of 20.71 hectares (20.23 from Area ID EXT plus an additional 0.48 hectares), a population density of 50 PPH and a total equivalent population of **1,035.5 people**, or flow of 0.018142 cu.m/s, draining to the Maisonneuve Boulevard sewer system from the Study Area (20.71 ha x 50 PPH = 1,035.5 people). However, *Sanitary Sewer Design Sheet 12's* bottom row indicates that "*flow based on population equivalent of 70 for Future areas west of Country Brook and North of Mayfield Rd = 20.23+15.5=38.8".* For the EXT area of 20.23 hectares this equates to a total equivalent population of **1,416.1 people**. Since this note does not reflect the *Sheet 3* data the initial allocation of 50 PPH (conservative allocation scenario) has been used as the governing allocated population.

Projected Design Population

The Study Area Concept Plan has a total land area of 53.2 hectares excluding the Salt Creek floodplain lands (refer to Table 3). For wastewater flow estimates the total developable land (commercial and industrial blocks) is 44.8 hectares, with 8.4 hectares used for the future roadways, EP channel and SWM pond blocks.

Based on the Study Area topography and Region's sanitary sewer design criteria for commercial/industrial areas (sewer obvert shall be located 3.5 meters below the centre line of the road allowance where possible) the lands have been broken down into two (2) main catchments referred to as the west catchment and the east catchment. The west catchment will gravity drain to the Airport Road sewer system and the east catchment will gravity drain to the Maisonneuve Boulevard sewer. The catchment

areas are shown on the Sanitary Drainage Area Plan (Drawing No. SAN-1) attached in **Appendix B**. The west and east catchment area and statistics and projected population based on land uses have been summarized in **Table 4**.

Table 4: Wastewater Catchment Areas and Population Statistics

	Area (hectares)		Population	
Land Use	**West Catchment**	**East Catchment**	**West Catchment**	**East Catchment**
Highway Commercial (50 PPH)	12.0	0.0	598.8	0.0
Prestige Industrial (70 PPH)	0.0	5.2	0.0	364.2
General Industrial (70 PPH)	5.8	21.8	402.5	1,527.5
Roads (26 m ROW)	1.0	2.3		
Environmentally Protected Channel	0.0	0.9		
Stormwater Management Pond 1	0.0	2.1		
Stormwater Management Pond 2	0.0	1.1		
Mayfield Road Widening	0.2	0.7		
Salt Creek Flood Plain	0.0	4.4		
Sub-Totals	19.0	38.6	1,001.3	1,891.7
Total	57.6		2893.0	

Note: The above areas are based on the Study Area land uses with SmartCentres re-zoning designations. Refer to Drawing No. LU-1 attached in Appendix B for the land uses.

Excluding the non-developable lands (roads, EP channel, SWM ponds, road widenings, Salt Creek flood plain lands) the total developable area for the west and east catchments are 19.0 hectares and 28.6 hectares, respectively. Based on these areas and the Region's population equivalent for commercial and industrial developments the west and east catchments will have a total equivalent population of **1,001.03 persons** and **1,891.7 persons**, respectively.

The east catchment area's developable land of 28.6 hectares is greater than the Highlands of Castlemore's sanitary sewer design sheet estimate of 20.7 hectares and the catchments developable lands are all industrial resulting in projected population of 1,891.7 people which is 856.2 people greater than the originally EXT area population of 1,035.5 people if based on the allowable commercial areas projected population density (50 PPH), and is 475.6 people higher than the EXT area population of 1,416.1 people if based on the allowable industrial areas project population density (70 PPH). If the east catchments actual

developable area was restricted to the Highlands of Castlemore's sanitary sewer design sheet population this corresponds to an allowable PPH density of approximately 36.2 (1,035.5/28.6).

To confirm that the east catchments additional population and resulting sanitary flow rate can be accommodated in the downstream sewer network the projected wastewater flows have been estimated to compare against the sewer networks excess flow capacity.

5.3. Allocated and Projected Wastewater Flows

Allocated Wastewater Flows

As previously mentioned, portion of the Study Area's eastern limits have been accommodated in the Highlands of Castlemore subdivisions design. The *Sanitary Drainage Area Plan,* Sheet No. D.2 (dated July 2002) and accompanying *Sanitary Sewer Design Sheet 3* (dated January 2003) show an external drainage area of 20.71 hectares that equates to a sewage flow of 0.014 cubic meters per second (m^3/sec) and infiltration flows of 0.00414 m^3/sec for a total flow rate of 0.01814 m^3/sec.

Design Criteria

For detailed design the Region's *Sanitary Sewer Design Criteria* Standard Drawing 2-5-5 *Sewage Flows (Excluding Infiltration)* uses an average daily domestic sewage flow rate (q) of 302.8 liters per capita per day (lpcd) for estimating projected sanitary loading demands. The Region's Linear Wastewater Standards A Section 2.3 notes that the daily per capita sanitary flow rate shall be 270 L/employee/per day for non-residential and 290 lpcd for residential. Since the number of employees for the development lands is unknown the more stringent flow of 302.8 lpcd has been utilized.

The infiltration (extraneous) sewage flow rate of 0.00026 cubic meter per second per hectare (0.0026 m^3/sec/ha or 0.26 L/sec/ha) is used for all types of lands (developable and non-developable) within the sanitary catchment boundary. An additional allowance for maintenance hole inflow of 0.00028 m^3/sec/maintenance hole or 0.000028 m^3/sec/meter of sewer length is also used for detailed design calculations.

To confirm that the existing outfall sewers have the capacity to convey the Study Area's future wastewater the peak projected sanitary flows have been calculated using the site's design population with the *Peak Domestic Sewage Flow* equation and the *Harmon Formula* provided below.

Peak Domestic Sewage Flow $Q_p = P \times q \times M / 86.4 + I \times A$

Where: Q_p *= peak residential sanitary sewage flow, including extraneous flow (L/s), P = design population in thousands, q = average domestic flow per capita (litres/day/person), M = Peaking factor (no less than 2 and not greater than 4), I = Peak extraneous flow (litres/second/hectare), A = tributary area (hectares)*

Harmon Formula $M = 1 + 14/(4 + P^{1/2})$

Where: M = ratio of peak flow to average flow, P = tributary population in thousands

Projected Wastewater Flows

Using the above equations with the development areas and land use types, the Study Area's total peak wastewater flows have been summarized in the following table.

Table 5: Wastewater Flows Based on Projected Population

			Wastewater Flow (cu.m/s)		Sub-Totals
	West Catchment	**East Catchment**	**West Catchment**	**East Catchment**	**(cu.m/s)**
Total Population	1,001.3	1,891.7	0.01333	0.0239	0.03723
Total Area for Infiltration (ha)	19.0	34.2	0.00493	0.00890	0.01383
Sub-Totals			0.01826	0.03280	
Total Peak Wastewater Flows			0.05106		

Based on the above table, the total peak flow (including infiltration) for the west and east catchments is 0.03997 m^3/s and 0.0328 m^3/s, respectively. The peak flows are consistent with the Region's Standard Drawing 2-5-2 *(Sewage Flows - Excluding Infiltration)* for the development area populations. Drawing 2-5-2's applicable population and domestic flows have been summarized in the following table.

Table 6: Region's Standard Drawing 2-5-2 (Sewage Flows - Excluding Infiltration) Summary

Population	Peak Wastewater Flow (cu.m/s)
1,200	0.0157
1,300	0.0169
1,400	0.0181
2,600	0.0318
2,800	0.0340

The Region's Standard Drawing 2-5-2 (Sewage Flows - Excluding Infiltration) illustrates that the actual combined flows from both catchments will be less than when calculated separately due to the decreased peaking factor. The peaking factor for the west and east catchments when calculated separately are 3.8 and 3.6, respectively. The combined population's peaking factor decreases to 3.46, or a reduction of 9%.

A summary version of the Region's Standard Drawings No. 2-5-1 *(Sanitary Sewer Design Sheet)* has been prepared using the populations and areas identified in the above tables. A copy of the design sheet has been attached in **Appendix A.5** showing the detailed calculations. The design sheet will be updated during the detailed design when the subdivision lotting has been finalized with the land owners.

Based on the above information, the Study Area's east catchment will generate an excess peak sanitary flow of **0.014658 m^3/s** (0.0328 - 0.018142; proposed - allowable) or 14.66 l/s.

These flows are conservatively based on the Region's peak light industrial population equivalents when actual industrial sewage flows will vary greatly with the types of industries, the provision of in-plant treatment or regulation of flows. For instance, the current land use for trucking and storage could reduce the actual sanitary flow from these projected rates.

The MOECC *Guidelines for the Design of Water Storage Facilities, Water Distribution Systems, Sanitary Sewage Systems and Storm Sewers,* (May 1979) and the *Design Guidelines for Drinking-Water Systems* (2008) both recommend using a light industrial average day demand wastewater/water flow allowance of 35 m^3/ha-day (excluding infiltration). A typical peaking factor of 2 to 4 is applied to this rate depending on the type of industry and production schedule. A copy of the design guidelines have been attached in **Appendix A.5**.

Based on the light industrial flow allowance of 35 m^3/ha-day and a peaking factor of 2 to 4 the east catchments peak wastewater flows have been estimated and summarized in the following table.

Table 7: East Catchment Wastewater Flows Based on Light Industrial Demands

	Average Wastewater Flow		Peak Wastewater Flow (cu.m/s)	
	(cu.m/d)	**(cu.m/s)**	**PF=2**	**PF=4**
Developable Area Flow based on 27.0 ha at 35 cu.m/da-ha	945.9	0.01095	0.02189	0.04379
Infiltration Flow based on 34.2 ha at 0.0026 cu.m/sec/ha	768.9	0.0089	0.0089	0.0089
Totals	1,714.78	0.01985	0.03079	0.05269

The above table confirms that the Region's standards for calculating sewage waste flows are consistent with the MOECP standards.

Excess Wastewater Flows

As noted above, the Study Area's east catchment will generate an excess peak sanitary flow of **0.014658 m^3/s**, which is 80.8% greater than the allowable discharge rate (0.014658/0.018142*100).

5.3.1. Sanitary Sewer Capacity Check

To confirm that the Study Area's east catchment's additional population and resulting sanitary flow rate can be accommodated in the downstream sewer network the excess **0.014658 m^3/s** flow rate was reviewed against the Highlands of Castlemore subdivisions *Sanitary Sewer Design Sheet's* 1 through 12 downstream sewers *Total Flow (Sewage Flow plus Infiltration Flow)* to confirm if the increased flow rate can be added to the system without surcharging the *Capacity* of each of the sewers.

The locations of the existing sewer systems minimum excess flow capacities from each of the Highlands of Castlemore subdivisions *Sanitary Sewer Design Sheet's* 2 through 12 have been summarized in the following table. **Note:** The sanitary discharges actual route from the Study Area's east catchment through the existing system to the pump station will need to be confirmed as all the sanitary drainage plans where not available at the time of the FSR's completion.

Table 8: Existing Downstream Sanitary Sewer Flow Capacities

No.	Location	Pipe Diam. (mm)	Slope (%)	Sewer Flow (cu.m/s)	Sewer Capacity (cu.m/s)	Excess Capacity (cu.m/s)	East Catch. Flow (cu.m/s)	Surcharge Rate (cu.m/s)
1	Sheet 2 Street B - Easement MH6A to MH5A	250	0.40	0.019604	0.038	0.018396	0.014658	0
2	Sheet 2 Street B - Easement MH5A to MH4A	300	0.40	0.030144	0.061	0.030856	0.014658	0
3	Sheet 3 Street I MH34A to MH33A	250	0.50	0.019446	0.042	0.022554	0.014658	0
4	Sheet 4 Street D MH41A to MH40A	250	0.50	0.013774	0.042	0.028226	0.014658	0
5	Sheet 5 Street H MH25A to MH26A	250	0.50	0.014426	0.042	0.029488	0.014658	0
6	Sheet 6 Street D MH28A to MH111A	250	0.50	0.029166	0.042	0.012834	0.014658	**0.001824**
7	Sheet 7 Street L MH85A to MH86A	250	0.50	0.040984	0.042	**0.001016**	0.014658	**0.013642**
8	Sheet 8 Easement MH116A to MH8A	250	0.50	0.032316	0.042	0.009684	0.014658	**0.004974**
9	Sheet 9 Street C	250	0.50	0.014542	0.042	0.027458	0.014658	0

No.	Location	Pipe Diam. (mm)	Slope (%)	Sewer Flow (cu.m/s)	Sewer Capacity (cu.m/s)	Excess Capacity (cu.m/s)	East Catch. Flow (cu.m/s)	Surcharge Rate (cu.m/s)
	MH48A to MH20A							
10	Sheet 10 Street G MH5A to MH4A	250	0.50	0.019698	0.042	0.022302	0.014658	0
11	Sheet 11 Street D MH10A to MH9A	250	0.50	0.02326	0.042	0.01874	0.013858	0
12	Sheet 12 Street O MH85A to MH96A	300	0.50	0.063486	0.068	**0.004514**	0.013858	**0.010144**
13	Sheet 12 Last Row	300		0.0917	0.097	**0.0053**	0.013858	**0.009358**

Based on the above table the proposed Study Area's east catchment sanitary flows would create a potential capacity issue at five (5) locations; refer to row no. 6, 7, 8, 12 and 13. The greatest surcharge rate occurs in row 7 at a rate of **0.013642 cu.m/s** (13.6 l/s).

If the increased population is added to the Highlands of Castlemore subdivisions *Sanitary Sewer Design Sheets* the higher population would reduce the peaking factor and result in an even lower surcharge rate. If the Region requires the peak flows to be reduce to the allocated levels options such as flow equalizations restrictions and/or off-peak discharge facilities can be implemented during the detailed design. Further some of the actual site plans will likely consist of truck yards and storage which would reduce the actual sanitary flows from these projected rates. Due to the relatively small increase in flows to the Region's overall system, we anticipate that there will not be any issues, and the excess flow rate can be accommodated by the existing infrastructure.

5.4. Proposed Sanitary Servicing Scenario

The Study Area will construct an internal gravity sanitary sewer network that will discharge to the municipal system at two (2) locations; Airport Road and Davis Lane (approx. 6 meter deep sewer

connection) and the proposed Davis Lane (Street A) and Maisonneuve Boulevard (approx. 4.75 meter deep sewer connection).

The future right-of-way sewers will be installed 3.5 meters below the centre line of the road allowance, where possible. However, to accommodate the restricted allowable sanitary discharge to the Maisonneuve Boulevard sewer system, sections of the sanitary sewers are set at a depth of 2.0 meters. Refer to the preliminary Plan and Profiles (Drawing No. PP-1 and PP-2) attached in **Appendix B** for the depth and location of the proposed sewers. The sewers will generally be located 1.5 meters north or east of the centerline of the roadways. The future property blocks will have individual services stubbed at the limit of the right-of-way. The exact service locations will be confirmed during the detailed design when the subdivisions draft plan has been created with consultation from the landowners.

The Study Area's sanitary sewers will be constructed in accordance with the Region and Town's Engineering Standards and the MOECP guidelines. The proposed sewer network will consist of PVC, DR35 pipe with a minimum diameter of 250mm. The design will ensure that the minimum and maximum velocities are maintained under full flow conditions.

Refer to the Sanitary Drainage Area Plan (Drawing No. SAN-1) attached in **Appendix B** for the future sanitary sewer locations and the Sanitary Sewer Design Sheet attached in **Appendix A.5** for the flows and velocities. All the existing external and proposed Study Area municipal services are shown on the General Servicing Plan (Drawing No. GEN-2).

6. Water Servicing

6.1. External Water Servicing

The Study Area is in the Region's East Trunk System's Pressure Zone 6. This zone is serviced from the interconnected Lakeview and Lorne Park Water Treatment Plans, both of which are located on the shore of Lake Ontario. The zone has a serviceable elevation range of 227.3 meters to 259.1 meters with a top water level of 297.2 meters. The Tullamore Reservoir and Pumping Station facility is located adjacent to the Study Area, across Salt Creek, off Innis Lake Road.

The *Airport Road, New Construction,* Plan No. 38362-D and No. 38363-D (dated January 2010) P&P shows that there is an existing 300 mm diameter watermain within the roadway's eastern asphalt, at an approximate depth of 2 meters. This main connects to the existing 300 mm diameter main within Mayfield Road's northern boulevard and is shown on the *Mayfield Road, Tullamore Transmission Main, Contract No. 2,* Plan No. 48180-D. This contract drawing set also shows existing 1050 mm diameter and a 750 mm diameter transmission watermains within Mayfield Road. Plan No. 48182-D shows the 300 mm diameter main reduced to a 200 mm main in front of the Maisonneuve Boulevard intersection before continuing to Innis Lake Road. The *Mayfield Road Prop. 300 mm Watermain Relocation,* Plan 68322-D to 68324, IFC, stamped date of July 26, 2019, illustrate that the 200 mm diameter reducer and main were removed and upgraded with a 300 mm diameter main. All the existing municipal services surrounding the Study Area are shown on the Existing Servicing Plan (Drawing No. GEN-1) in **Appendix B**. A copy of the Region's existing water infrastructure information has been included in **Appendix A.5**.

6.2. Proposed Watermain System

The Study Area's proposed 300 mm diameter watermains will connect to the existing system at two (2) locations; Airport Road and Davis Lane and at the proposed Davis Lane (Street A) extension to Maisonneuve Boulevard/Mayfield Road. The Airport Road connection will be fed from the existing 300 mm diameter main running along Airport Road's eastern boulevard. The Davis Lane and Maisonneuve Boulevard/Mayfield Road connection will connect to the exiting 300 mm diameter main.

The proposed internal watermain system will be looped and include potable and fire water services stubbed at the limit of the right-of-way for each individual property / block. The exact service locations will be confirmed during the detailed design. The mains will be installed at the minimum depth of cover

(1.7 meter within ROW boulevards, 1.4 meters beneath the centerline of ditch crossings) and fire hydrants will be spaced at 100 meter intervals in accordance with Town and Region's industrial standards.

Refer to the General Servicing Plan (Drawing No. GEN-2) attached in **Appendix B** for the location of the existing external watermains, future connection points and internal subdivision layout.

6.3. Water System Analysis

During the project's initial background data collection and review the Region indicated that they have completed preliminary modelling for the Study Area's future water system demands. However, if requested by the Region, a Water System Analysis (WSA) will be completed for the Study Area's proposed water distribution system during the detailed design stage. The WSA will demonstrate how the future development blocks can achieve the minimum standards in the MOECP, Town, Ontario Building Code (OBC) and Region guidelines for water distribution systems. The model will also examine the effect of the Study Area's demands on the adjacent municipal system.

Based on the location of the Study Area and proximity to the Region's pumping station there should not be any issues meeting minimum potable and fire system standards for flow and pressure.

7. Grading and Landform

7.1. Existing Conditions

The existing site conditions and surrounding municipal infrastructure data was initially provided by the Region's GIS department. The overall Study area existing contour data was primarily obtained through the First Base Solutions On-Line Mapping Data Warehouse. Further, the Tullamore Industrial Park's (Property 10) topographical and legal survey plan (dated February 2007), the Davis Lane legal survey (dated February 2014), the SmartCentres (Property 5 and 6), and the 6086 and 6230 Mayfield Road (Property 7 and 8) topographical survey were obtained and overlaid into the Study Area's digital base plan. Using the initial base data, the internal and external elevations and infrastructure locations were confirmed through survey spot checking.

7.2. Proposed Grading Scenario

The proposed grading scenario is based on the latest Concept Plan's right-of-way, EP channel and SWMP locations and the Town's grading standards. The Concept Plan proposes a 26-meter industrial collector roadway network (Street A / Davis Lane) approximately 1,400 meter in length connecting Airport Road at Davis Lane to Mayfield Road at the Maisonneuve Boulevard intersection. Street B will be 170 m in length located on the east side of Street / Davis Lane terminating at a cul-de-sac.

Generally, the grading design has been completed in accordance with the Town's industrial development standards, including the minimum road grade of 0.75%, maximum road grade of 6%, minimum K values of 25 (sag and crest) (where achievable) and the minimum intersection crown slope of 2%.

Additionally, the future lot grades are currently proposed at a minimum of 0.5% (standard is 2% minimum) to meet the Town's engineering standards for individual lots to drain to a single outlet/ROW location for the minor and major overland flow routes. The road and subdivision blocks grading will match into the existing Study Area perimeter elevations. The perimeter of some blocks will require sloping (3:1 max used) to ensure the block's future stormwater is directed to the ROW's and ultimately to the SWM ponds.

7.3. Proposed Roadway Vertical Curve Geometric Design Review

The Town's Standards Section 1.5.2. *Geometric Design*, Table 1.2 notes that a 26.0 m Industrial Collector with an Average Daily Traffic (ADT) of 1,000 to 3,000 and a posted speed of 70 km/h requires a minimum vertical curve (K) in a sag and crest of 25. Due to the development's existing elevation and proposed stormwater design constraints, the proposed Street A connection at Mayfield Road K values deviate from the Town's criteria by proposing a minimum vertical sag K of 8 and a minimum vertical crest K of 13. Refer to the Plan and Profile drawings (PP-1 and PP-2) attached in **Appendix B** for an illustration of the proposed roadway profile details. The following road vertical curve geometric design review has been completed to illustrate that the proposed road K values meet or exceed the Ministry of Transportation (MTO) Geometric Design Standards for Ontario Highways minimum design criteria.

As part of the Draft Plan of Subdivision development requirements a Transportation Study was prepared by CGE Transportation Consulting (CGE), dated December 16, 2024. A copy of the Transportation Study has been attached in **Appendix A.7**. The study provides a high-level assessment of the proposed developments anticipated traffic impacts to the surrounding roadways. CGE's proposed site trip generation data identifies the total amount of traffic during weekday morning peak hour, and two-way trips during afternoon peak hour, and has been summarized below.

- 310 two-way trips (221 in and 89 out) – **Weekday morning peak hour**
- 445 two-way trips (174 in and 271 out) – **Afternoon peak hour**

A total of 755 trips is anticipated for the development. The proposed ADT of 755 is lower than the ADT for an Industrial Collector R.O.W. (1,000 to 3,000) and is more in line with a Local Industrial R.O.W. (<1,000). As such the development's design speed will presumably have a posted design speed of 50 km/h. The Town's Standards Section 1.5.2. *Geometric Design*, Table 1.2 notes that the posted design speed of 50km/h based on an ADT of <1,000 requires a minimum vertical curve K in a sag and crest of 18 and 15, respectively.

To direct the post-development major overland flow to the proposed SWM facility a high point is required at Street A, north of the Mayfield Road intersection. This high point ensures that the major storm event runoff spills to the SWM facility for quantity control before draining south to Mayfield Road. The roadway high point and matching into the Mayfield Road asphalt 3% cross-fall, imposes a deviation in the road K values from the Town's criteria by requiring a vertical sag of 8 and a vertical crest of 13.

The MTO Geometric Design Standards for Ontario Highways is the governing document from which most municipalities roadway design standards are based on. Chapter C – *Alignment*, Section C.4 provides vertical alignment component design requirements, including the minimum sag and crest curvature, and is summarized below in Table C4-5 *K - Standard Vertical Curve Values*, and Table C4-8 *Sag Curvature, Comfort*.

Table C4-5
K - STANDARD VERTICAL CURVE VALUES

4	5	8	10	12	15	18	20	25	30	35	40	45
50	60	70	80	90	100	120	150	180	200	230	250	300

Table C4-8
SAG CURVATURE, COMFORT

Design Speed km/h	40	50	60	70	80	90	100	110	120
Minimum sag vertical curvature K, comfort criterion	4	5	8	12	15	20	25	25	30

The above tables illustrate that the minimum curvature for a crest and sag with a design speed of 50 km/h is 4 and 5, respectively. The proposed Street A roadway profile minimum crest and sage K of 13 and 8, respectively, both exceed the MTO minimum geometric design requirements.

Refer to the Grading Plan (Drawing No. LG-1) and preliminary Plan and Profiles (Drawing No.'s PP-1 through PP-6) attached in **Appendix B** for the proposed road and lot elevations and details.

8. Transportation

8.1. External Road Network

The Study Area borders onto two (2) Regional roads: Airport Road (Regional Road 7) along the western boundary and Mayfield Road (Regional Road 14) along the southern boundary. Both are considered arterial collector roads. A copy of the Region's Road Map is attached in **Appendix A.7**.

Figure 22: Regional Road Map

8.2. Mayfield Road Widening

The Region's Mayfield Road improvements project, from Airport Road to Colerain Drive, is expected to commence in 2026. The design and construction works will accommodate the Study Area's entrance location at the Davis Lane extension to the Mayfield Road and Maisonneuve Boulevard intersection. This subdivision entrance will ultimately require traffic signals to accommodate Study Area's commercial and industrial transportation demands on the surrounding roadways.

8.3. Transportation Study

As part of the Study Area's preliminary design a *Transportation Study* (TS) has been completed by CGE Transportation Consulting, dated December 16, 2024, to provide a high level assessment for the impact of the future Study Area traffic on the adjacent roadways and to provide recommendations to accommodate the traffic in a safe and efficient manner. The TS reflects the early planning stages of the development and was prepared in advance of the site Traffic Impact Study (TIS) and the Functional Internal Traffic Study (FITS). Note that the TS and the SmartCentres TIS and Demand

Figure 23: Transportation Study Map

Management Plan are complementing each other to address the traffic impacts and site accesses to the various developments located within this quadrant.

In general, the TS has reviewed and addressed the proposed access locations and traffic scenarios with recommendations for the planned intersections. For a full description of the transportation requirements refer to the TS attached in **Appendix A.7**.

9. Utilities, Street Lighting and Traffic Signals

The Study Area will be serviced by secondary utilities including hydro, gas, phone, cable, internet, streetlights, and Canada Post for mail. At this time there are no known encumbrances with the utilities and the specific servicing needs for the subdivision blocks will be determined during the project's detailed design process. The following provides a summary for the existing utility provider's plant data, street lighting and traffic signals information surrounding the Study Area.

9.1. Gas

The Enbridge Atlas Tile Mapping data shows there are four (4) inch PE mains within Airport Road's eastern boulevard, Mayfield Road's southern boulevard and running along the west side of Maisonneuve Boulevard. A copy of the mapping data has been included in **Appendix A.8**.

New gas mains will connect to the existing service at the Study Area entrances and loop through the future right-of-ways. The proposed mains actual size will be determined during the detailed designs stage. A composite utility plan (CUP) will summarize all the utility design and construction works for the Study Area.

9.2. Hydro

Hydro One Networks Inc. (HONI) currently services the existing developments within the Study Area and surrounding the site. The HONI servicing map shows three (3) phase primary overhead lines (16/27.6 KV) and poles running along Airport Road's eastern boulevard and Mayfield Road's northern boulevard. A site visit confirmed that there is a second set of hydro poles and lines running along Mayfield Road's southern boulevard. A copy of the mapping data has been included in **Appendix A.8**.

Figure 24: Mayfield Road and Maisonneuve Boulevard Intersection

The existing hydro network will service the Study Area by connecting to the grid at the future site entrances and installing underground cables and pad mounted transformers that will loop through the

future right-of-ways. The primary and secondary hydro servicing specifics for the future commercial and industrial blocks will be determined through consultation with HONI during the detailed designs stage.

9.3. Rogers

Rogers was contacted to obtain their networks utility information surrounding the Study Area, but it was not made available at the time of this report's preparation. Based on the other utilities that are available in the area it is assumed that there will be no encumbrances to equip the site with Rogers services.

9.4. Bell

Bell currently has buried cable and conduit servicing the properties surrounding the Study Area. There are services running along both side of Airport Road and Mayfield Road. These services will be extended through the Study Area to service the individual blocks. A copy of the Bell mark-up mapping data has been included in **Appendix A.8.**

9.5. Street Lighting

Airport Road is currently equipped with streetlights along both sides of the right-of-way. These lights are operated by the Region. Mayfield Road only has lighting at the intersection of Maisonneuve Boulevard.

New streetlights will be installed throughout the Study Area in accordance with the Town and HONI's latest standards for industrial subdivisions. All lighting will be approved by the Electrical Safety Authority (ESA) before being energized and assumed into the Town's streetlighting inventory. For new development LED lighting sources are typically required with 6 Lux at 3:1 illumination ratios, spaced at 55 – 60 meter intervals for industrial collector roads but will be confirmed during the detailed design. A copy of the Town's applicable street lighting standards has been attached in **Appendix A.8**.

9.6. Traffic Signals

The Airport Road and Mayfield Road intersection is currently equipped with traffic control signals operated by the Region. There are also existing signals at the intersection of Airport Road and the Mayport Distribution Facility entrance (referred to as Street A). A copy of the existing signal diagrams are attached in **Appendix A.8**.

Figure 25: Airport Road and Mayfield Road Intersection

The Study Area's ultimate build-out will require traffic signals at the Davis Lane and Airport Road intersection and at the Davis Lane, Mayfield Road, and Maisonneuve Boulevard intersection. The traffic created from the Study Area developments and neighbouring growth demands will warrant the traffic signal installation timing. The design and installation timing for the traffic signals will be coordinated with the Region and the Town during the detailed design. Further details for the traffic signal construction timing and triggers have been described in the TIS prepared for the Study Area.

10.Conclusions

This Functional Servicing Report identifies the recommended servicing design for the Tullamore Secondary Plan Study Area. This Report in conjunction with the preliminary civil engineering drawings, *Preliminary Stormwater Management Report* and *Transportation Study* outlines the proposed infrastructure required to service the site for water, wastewater, roads, stormwater management quality control, quantity control, water balance, and erosion and sediment control, conventional utilities, street lighting and traffic signals.

In particular, this Report has recommended the following:

- The post-development stormwater runoff from the Study Area lands and the portion of Mayfield Road fronting onto the site can be accommodated by the construction of two on-site stormwater quality and quantity control facilities (ponds).
- Base flow to the existing Environmental Policy Area and culvert crossing Mayfield Road at Maisonneuve Boulevard can be maintained by constructing an environmentally protected corridor and discharging the future phases of the development's building roof-leaders via a third-pipe system.
- The Study Area's grading, landform, future road profile and environmentally protected corridor center line elevations can accommodate the sanitary and storm sewer servicing crossing constraints.
- The Region of Peel's wastewater (sanitary sewers) infrastructure within Airport Road and Mayfield Road (Maisonneuve Boulevard) can accommodate the effluent from the Study Area's full build-out.
- The Study Area's ultimate road network connections at Airport Road and Mayfield Road can accommodate the developments traffic demands by installing traffic signals at both locations.
- The Study Area's landscaping, street lighting and boulevard features will be designed in accordance with the *Tullamore Community Design Guidelines.*
- The existing hydro, gas, telephone and cable networks within Airport Road and Mayfield Road can accommodate the Study Area's future utility requirements.

- The preliminary designs works are consistent with the Town of Caledon, Region of Peel, Ministry of Natural Resources and Forestry, Ministry of the Environment and Climate Chance, and the Toronto and Region Conservation Authority standards and development criteria.

All costs incurred to facilitate servicing the initial phase and any subsequent phases of the Study Area will be recovered from all benefitting property owners. The lands benefitting from the works will be required to commute the balance of the area specific assessment owing on those lands prior to finalizing any future site plan agreement to develop the said lands. The costs for recovery and timing will be dependent on the project's progress.

We trust the enclosed is appropriate for the Study Area's preliminary design. It is recommended that this Report be accepted as demonstrating a functional servicing approach for the Study Area.

All of which is respectfully submitted,

THE JONES CONSULTING GROUP LTD.

Jim Parker, P.Eng.
Consulting Engineer

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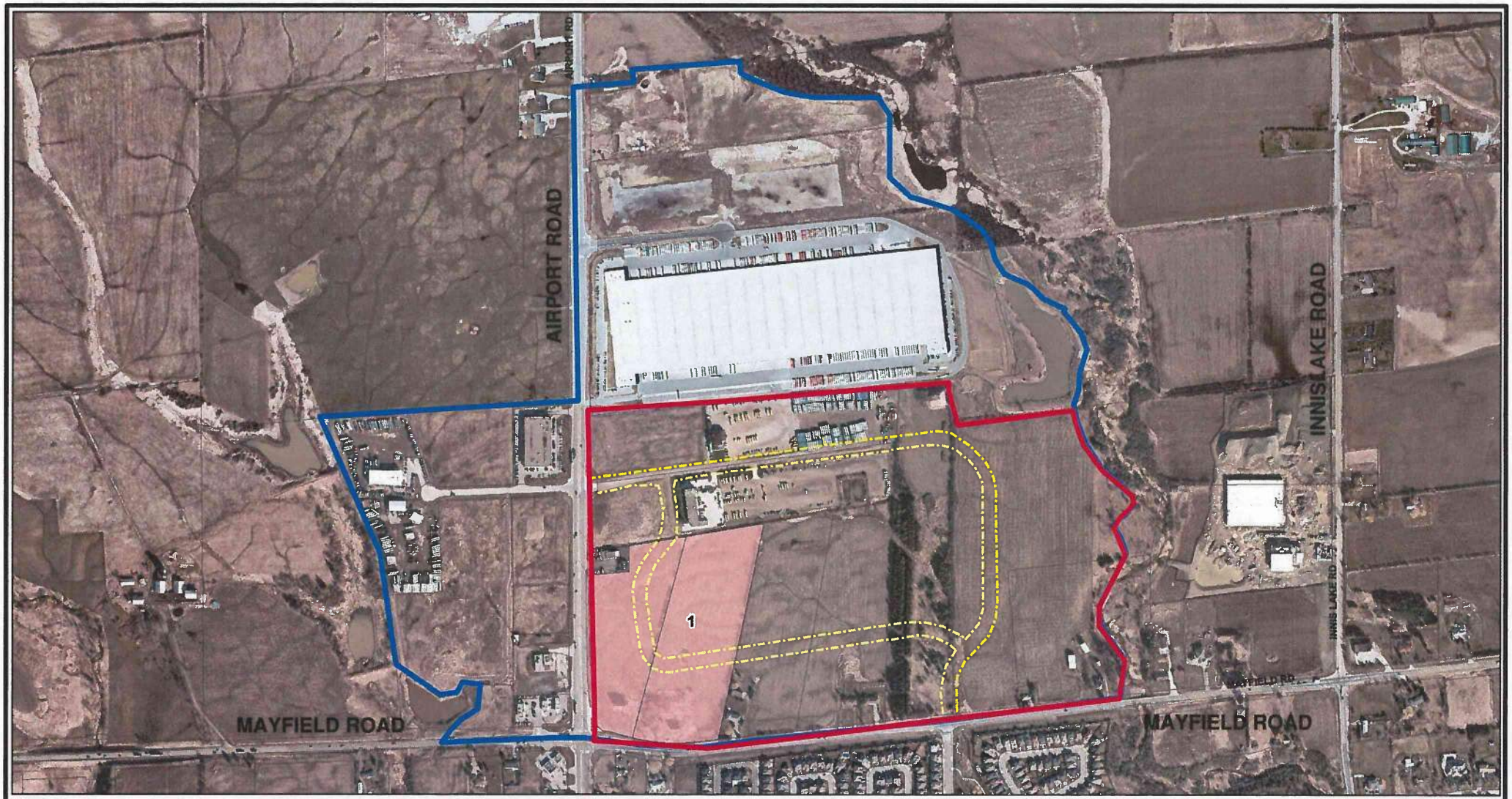
Appendix A

External Reports and Drawings, Maps and Design Criteria

Appendix A.1

Maps, Engineering Drawings, Road Standards, Tullamore Design Guidelines, Meeting Minutes



TOWN OF CALEDON

0 65 130 260 Meters

Tullamore Study Area Map

Date: June 2014
Drawn By: B.B.
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LEGEND

- SECONDARY PLAN BOUNDARY
- STUDY AREA
- SMART CENTRES

TOWN OF CALEDON

0 45 90 180 Meters

TULLAMORE STUDY AREA MAP

Date: Feb, 2015
Drawn By:
B.B.
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tullamore_STUDY.pdf

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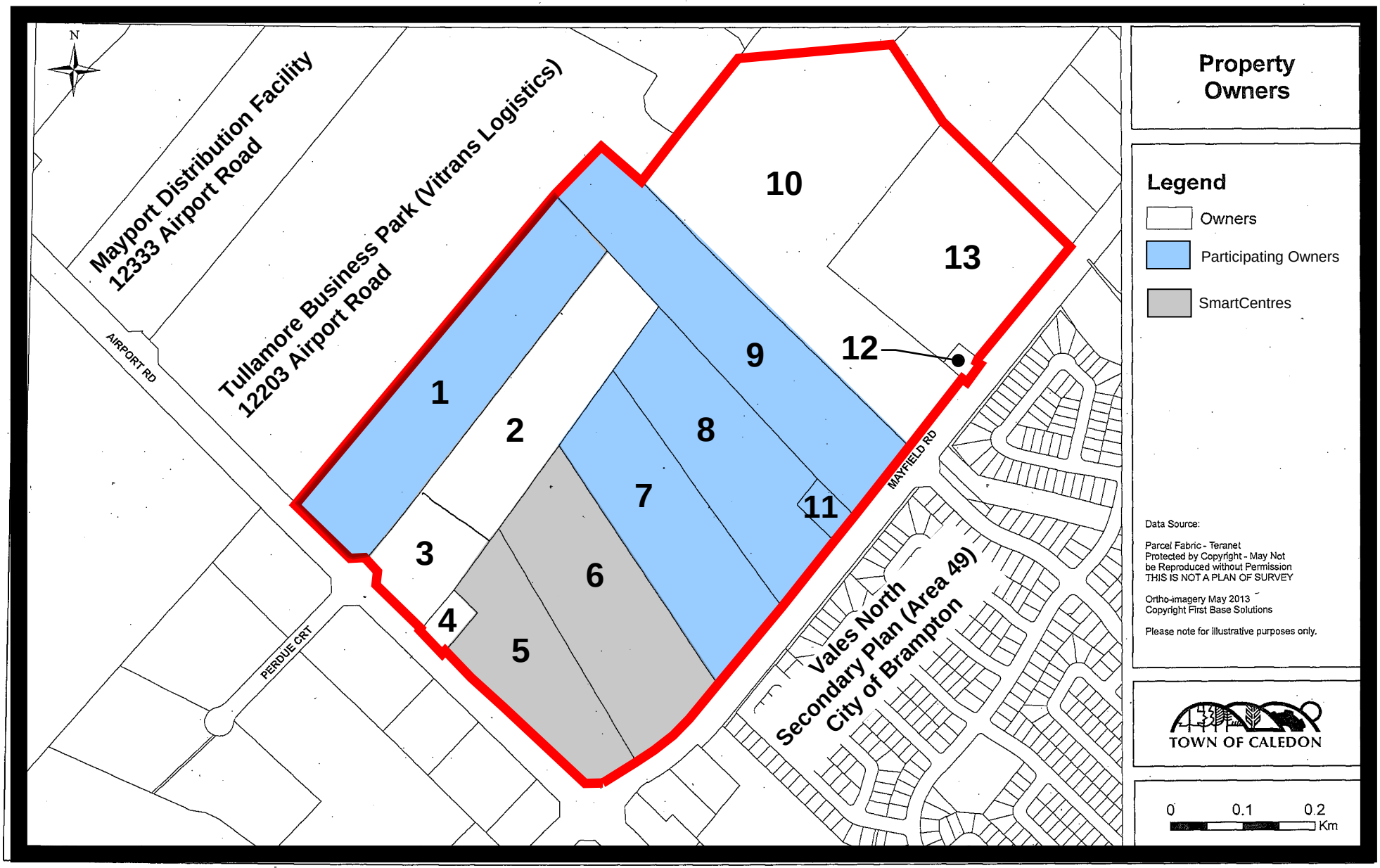
- STUDY AREA
- POTENTIAL ROADS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Mayport Distribution Facility
12333 Airport Road
Tullamore Business Park (Vitrans Logistics)
12203 Airport Road
AIRPORT RD
PERDUE CRT
MAYFIELD RD
Vales North
Secondary Plan (Area 49)
City of Brampton
1
2
3
4
5
6
7
8
9
10
11
12
13
Property Owners
Legend
Owners
Participating Owners
SmartCentres
Data Source:
Parcel Fabric - Teranet
Protected by Copyright - May Not be Reproduced without Permission
THIS IS NOT A PLAN OF SURVEY
Ortho-imagery May 2013
Copyright First Base Solutions
Please note for illustrative purposes only.
TOWN OF CALEDON
0
0.1
0.2
Km

METRIC: DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

I REQUIRE THIS PLAN TO BE DEPOSITED UNDER THE LAND TITLES ACT.

DATE May 16, 2003.

W.M. Fenton
W.M. FENTON
ONTARIO LAND SURVEYOR

PLAN 43R-28114

RECEIVED AND DEPOSITED

DATE MAY 20, 2003

ASST. DEP. BUKOLA SAHEED
LAND REGISTRAR FOR THE LAND TITLES DIVISION OF PEEL No. 43

SCHEDULE

PART	PART OF LOT	CONCESSION	PART OF PIN	AREA (m^2)
1			14348-0021	32.26
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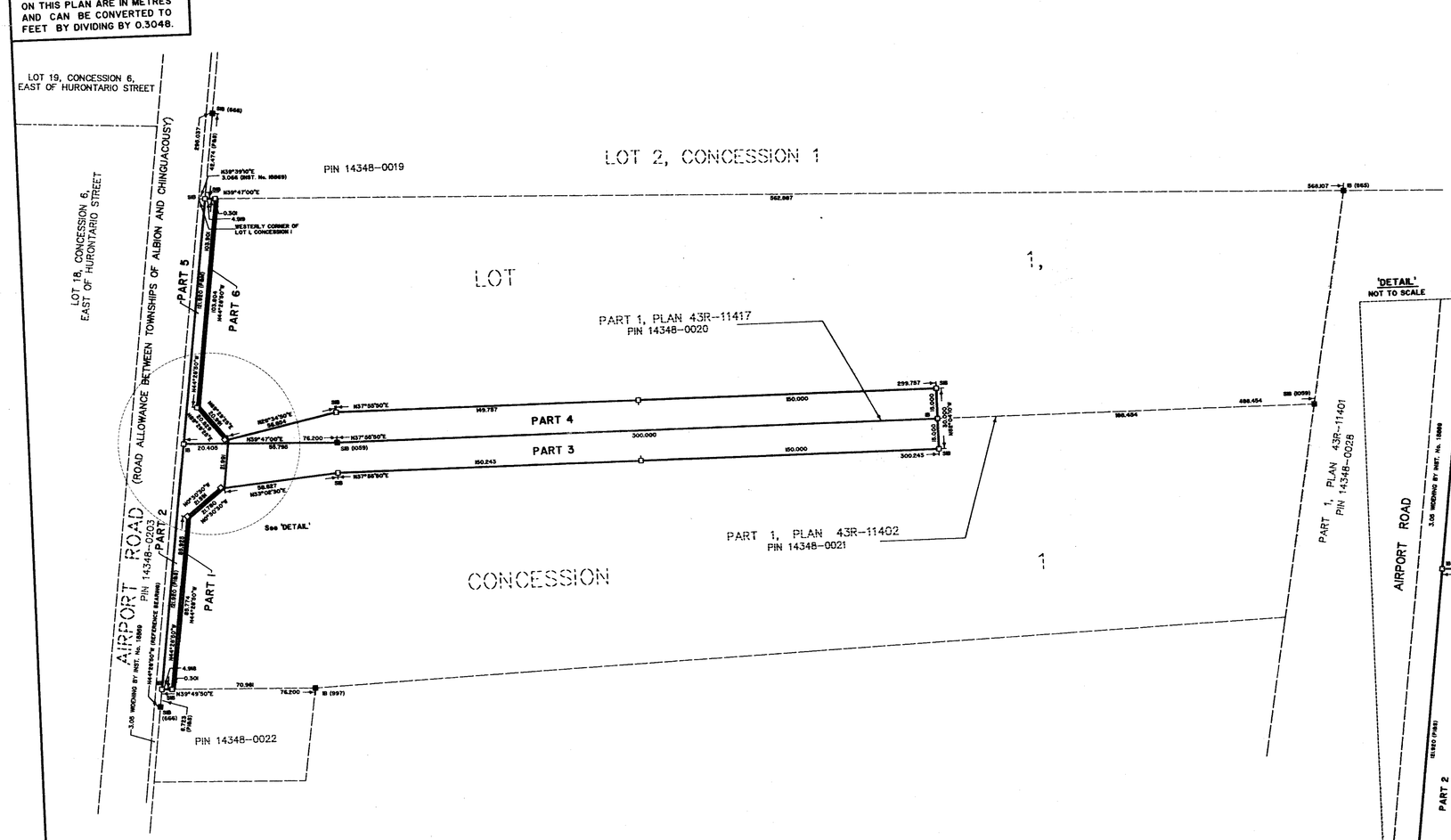
3				5549.73
4	1	1	14348-0020	497.09
5				748.01
6				37.45



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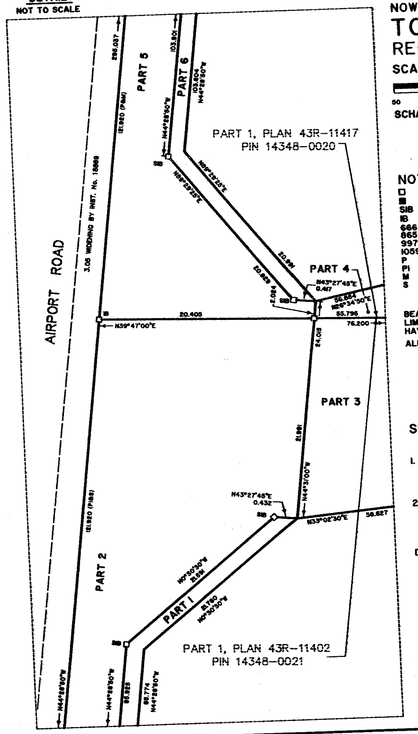

PLAN OF SURVEY OF
PART OF LOT 1, CONCESSION 1
TOWNSHIP OF ALBION, COUNTY OF PEEL
NOW IN THE
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

SCALE 1:1250

50 25 0 50 100 METRES

SCHAEFFER & DZALDOV LIMITED

NOTES

D	DENOTES	PLANTED MONUMENT
■	"	FOUND MONUMENT
SIB	"	STANDARD IRON BAR
IB	"	IRON BAR
666	"	A. DEATH, O.L.S.
665	"	D. McLEAN, O.L.S.
997	"	J.I. KOHING, O.L.S.
1059	"	W.M. FENTON, O.L.S.
P	"	PLAN 43R-1417
P1	"	PLAN 43R-8402
M	"	MEASURED
S	"	SET

BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE NORTHEASTERLY LIMIT OF AIRPORT ROAD AS WIDENED BY INST. No. 18869, HAVING A BEARING OF N44°28'50"W.

ALL PLANTED MONUMENTS ARE IB's UNLESS NOTED OTHERWISE.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 13th DAY OF MAY, 2003.

DATE MAY 13, 2003.

W.M. Fenton
W.M. FENTON
Ontario Land Surveyor

SCHAEFFER & DZALDOV LIMITED
ONTARIO LAND SURVEYORS
64 JARDIN DRIVE CONCORD, ONTARIO L4K 3P3 TEL.(416)987-0101

DRAWN ACAD/LW | CHECKED WMF | SCALE 1:250 | JOB NO. 02-188-04A

...02 JOBS\02-188-04 COOPER CONSTRUCTION LIMITED\Lisa +\02-188-04A.dwg Fri May 16 13:17:08 2003 LISA

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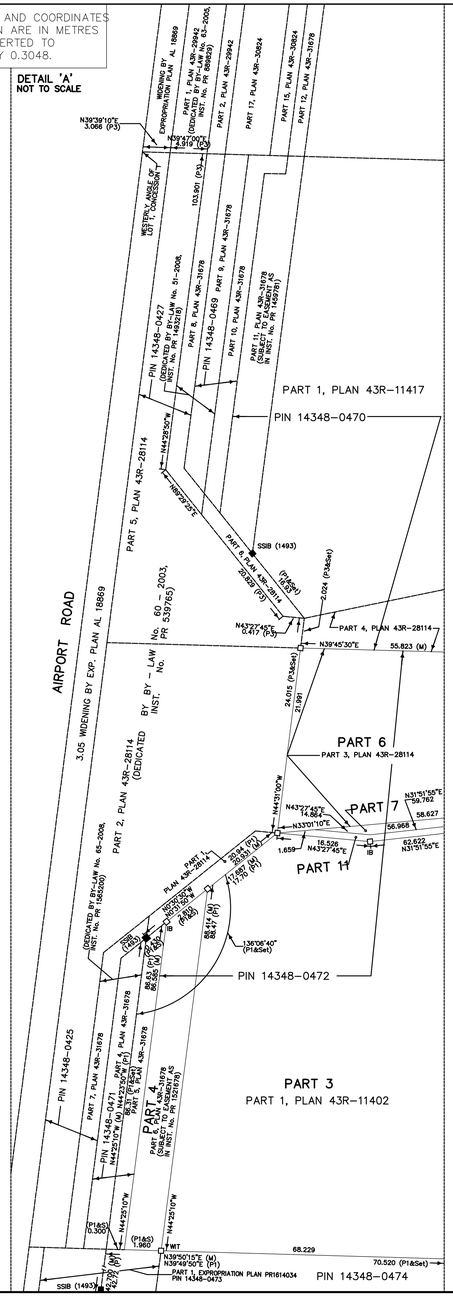

NOTES

□	DENOTES	PLANTED MONUMENT
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SIB	"	STANDARD IRON BAR
SSIB	"	SHORT STANDARD IRON BAR
IB	"	IRON BAR
922	"	SCHAEFFER DZALDOV BENNETT LTD.
997	"	J.I. KONING, O.L.S.
1059	"	W.M. FENTON, O.L.S.
1493	"	J.F.D. YOUNG, O.L.S.
1345	"	G. PAPA, O.L.S.
P1	"	PLAN 43R-31678
P2	"	PLAN 43R-11402
P3	"	PLAN 43R-28114
P4	"	PLAN 43R-34197
(M)	"	MEASURED
(P)	"	SET
WIT	"	WITNESS
CP	"	CONCRETE PIN
PWF	"	POST AND WIRE FENCE
CLF	"	CHAIN LINK FENCE

ALL PLANTED MONUMENTS ARE SSIB's UNLESS NOTED OTHERWISE.
ALL FOUND MONUMENTS ARE NUMBERED 922 UNLESS NOTED OTHERWISE.

NOTE: VARIOUS PARTS HAVE BEEN EXAGGERATED FOR CLARITY.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 24th DAY OF SEPTEMBER, 2014.

DATE SEPTEMBER 26, 2014

DAN DZALDOV
Ontario Land Surveyor

PLAN OF SURVEY OF
PART OF LOT 1,
CONCESSION 1
TOWNSHIP OF ALBION, COUNTY OF PEEL
NOW IN THE
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
SCALE 1:1250

50 25 0 50
100 METRES

SCHAEFFER DZALDOV BENNETT LTD.

I REQUIRE THIS PLAN TO BE DEPOSITED UNDER THE LAND TITLES ACT.

DATE SEPTEMBER 30, 2014.

DAN DZALDOV
ONTARIO LAND SURVEYOR

PLAN 43R-

RECEIVED AND DEPOSITED

DATE

REPRESENTATIVE FOR LAND REGISTRAR FOR THE LAND TITLES DIVISION OF PEEL No. 43

SCHEDULE

PART	PART OF LOT	CONCESSION	ALL OF PIN	AREA (m²)
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3				13820.95
4				170.46
5				2434.57
6				4979.93
7				132.20
8				50.61
9				61.00
10				429.56
11				23.12
12				10.56
13				19.11

PART 4 – SUBJECT TO EASEMENT AS SET OUT IN INST. No. PR 1521678.
PARTS 6, 8, 9, 10, 12 AND 13 – SUBJECT TO EASEMENT AS SET OUT IN INST. No. PR 450488.

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TO OBTAIN UTM GRID BEARINGS A COUNTER-CLOCKWISE ROTATION OF 0°49'10" MUST BE APPLIED.

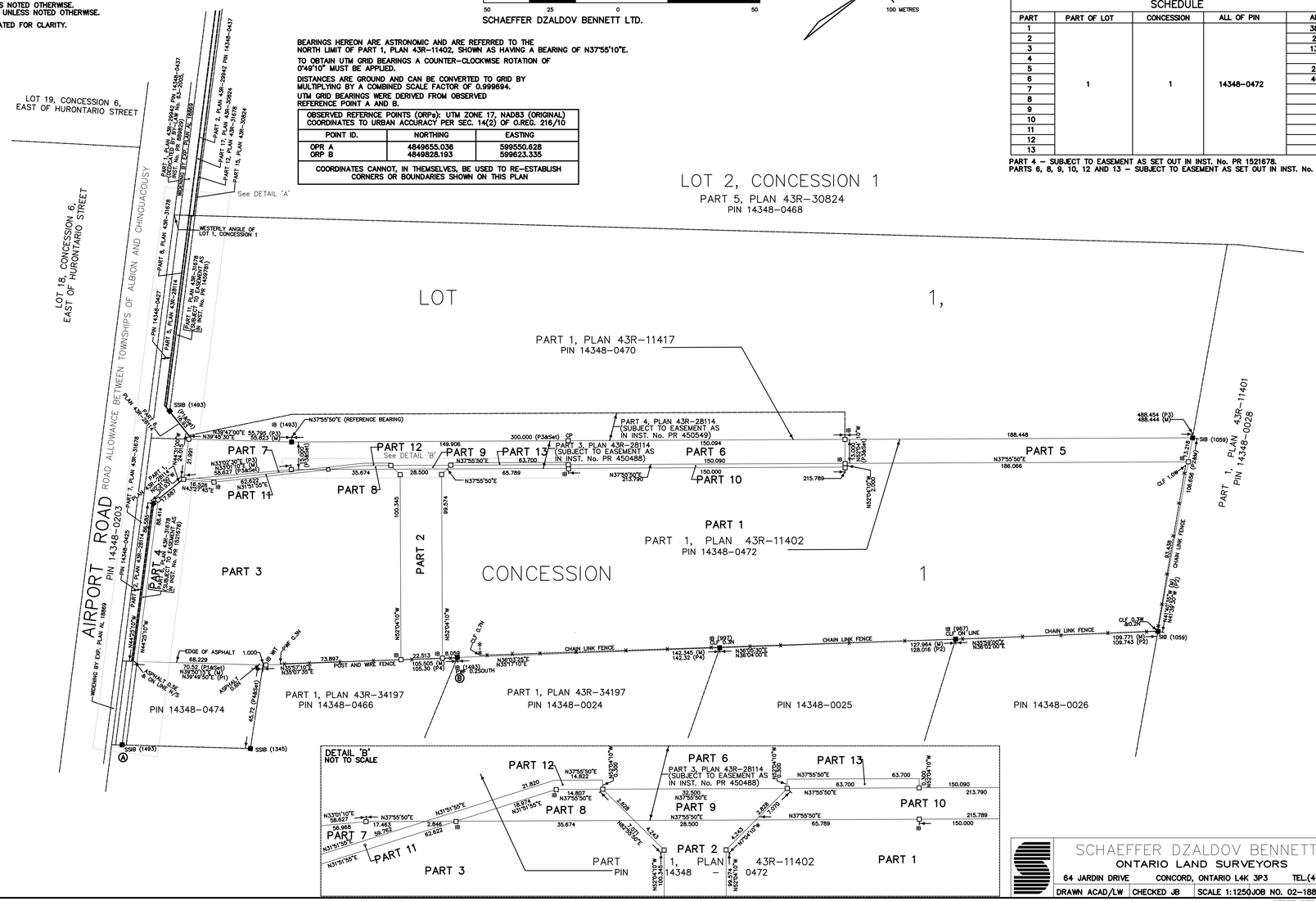
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999694.

UTM GRID BEARINGS WERE DERIVED FROM OBSERVED REFERENCE POINT A AND B.

OBSERVED REFERNCE POINTS (ORPs): UTM ZONE 17, NAD83 (ORIGINAL) COORDINATES TO URBAN ACCURACY PER SEC. 14(2) OF O.REG. 216/10

POINT ID.	NORTHING	EASTING
OPR A	4849655.036	599550.628
ORP B	4849828.193	599623.335

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN



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NOT TO SCALE

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ONTARIO LAND SURVEYORS
64 JARDIN DRIVE CONCORD, ONTARIO L4K 3P3 TEL.(416)987-0101

DRAWN ACAD/LW | CHECKED JB | SCALE 1:1250 | JOB NO. 02-188-05-01C

SEPTEMBER 26, 2014

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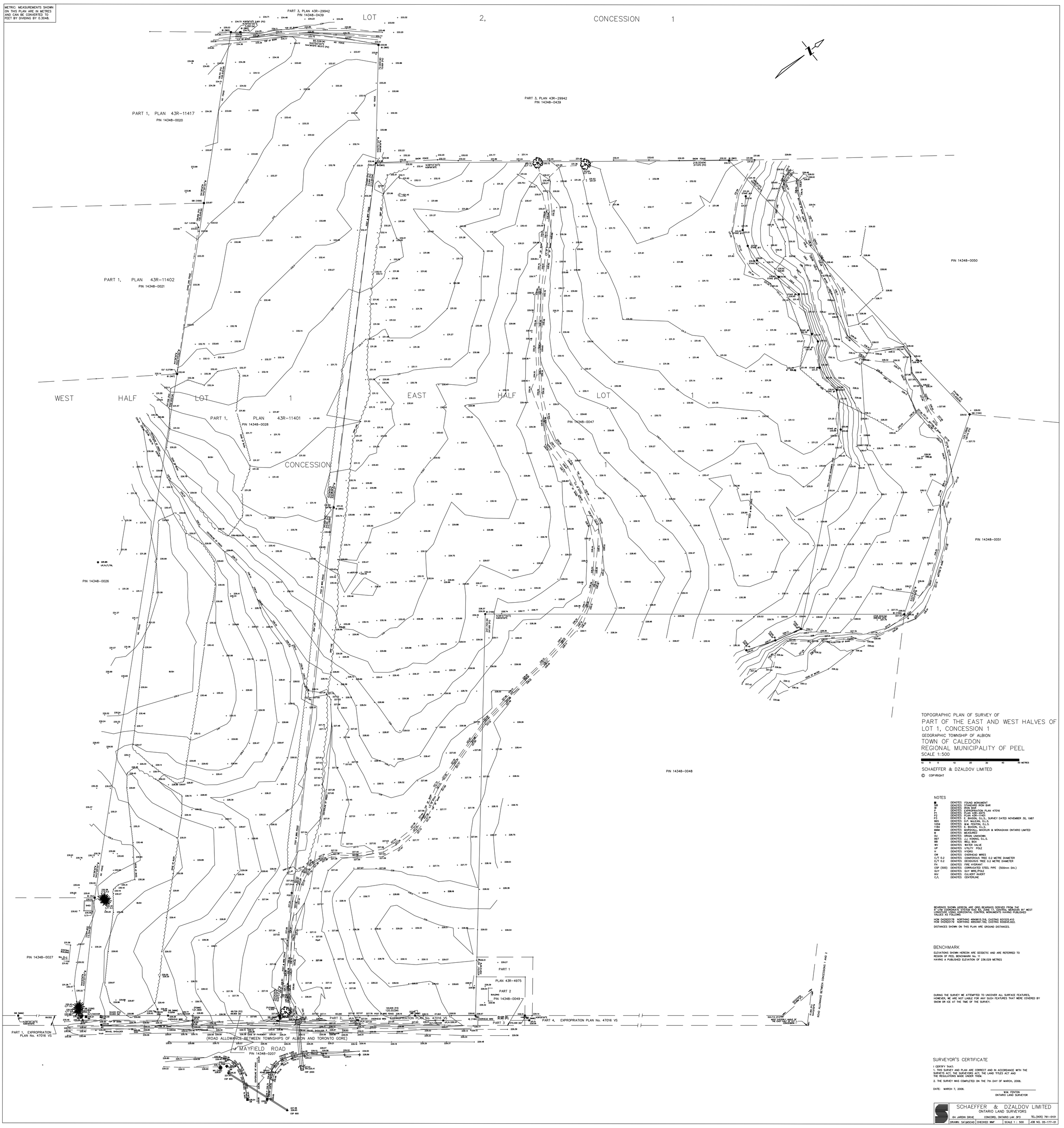

TOPOGRAPHIC PLAN OF SURVEY OF
PART OF THE EAST AND WEST HALVES OF LOT 1, CONCESSION 1
GEOGRAPHIC TOWNSHIP OF ALBION
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
SCALE 1:500

10 5 0 10 20 30 40 50 METRES

SCHAEFFER & DZALDOV LIMITED

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NOTES

■	DENOTES	FOUND MONUMENT
SIB	DENOTES	STANDARD IRON BAR
IB	DENOTES	IRON BAR
P	DENOTES	EXPROPRIATION PLAN 47016
P1	DENOTES	PLAN 43R-4975
P2	DENOTES	PLAN 43R-11401
P3	DENOTES	E. BIASON, O.L.S. SURVEY DATED NOVEMBER 30, 1987
965	DENOTES	D.P. McLEAN, O.L.S.
1059	DENOTES	W.M. FENTON, O.L.S.
1184	DENOTES	E. BIASON, O.L.S.
MMM	DENOTES	MARSHALL, MACKLIN & MONAGHAN ONTARIO LIMITED
M	DENOTES	MEASURED
OU	DENOTES	ORIGIN UNKNOWN
997	DENOTES	J.J. KONING, O.L.S.
BB	DENOTES	BELL BOX
WV	DENOTES	WATER VALVE
UP	DENOTES	UTILITY POLE
H	DENOTES	HYDRO
OW	DENOTES	OVERHEAD WIRES
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D/T 0.2	DENOTES	DECIDUOUS TREE 0.2 METRE DIAMETER
FH	DENOTES	FIRE HYDRANT
CSP (500)	DENOTES	CORRUGATED STEEL PIPE (500mm DIA.)
GUY	DENOTES	GUY WIRE/POLE
INV	DENOTES	CULVERT INVERT
C/L	DENOTES	CENTERLINE

BEARINGS SHOWN HEREON ARE GRID BEARINGS DERIVED FROM THE 6° UTM COORDINATE SYSTEM NAD 83, ZONE 17, CENTRAL MERIDIAN 81° WEST LONGITUDE, USING HORIZONTAL CONTROL MONUMENTS HAVING PUBLISHED VALUES AS FOLLOWS:

HCM 042920178 NORTHING 4849615.316, EASTING 601525.410
HCM 042920179 NORTHING 4850461.182, EASTING 600645.922.

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.

BENCHMARK

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO REGION OF PEEL BENCHMARK No. 11 HAVING A PUBLISHED ELEVATION OF 236.029 METRES

DURING THE SURVEY WE ATTEMPTED TO UNCOVER ALL SURFACE FEATURES, HOWEVER, WE ARE NOT LIABLE FOR ANY SUCH FEATURES THAT WERE COVERED BY SNOW OR ICE AT THE TIME OF THE SURVEY.

SURVEYOR'S CERTIFICATE

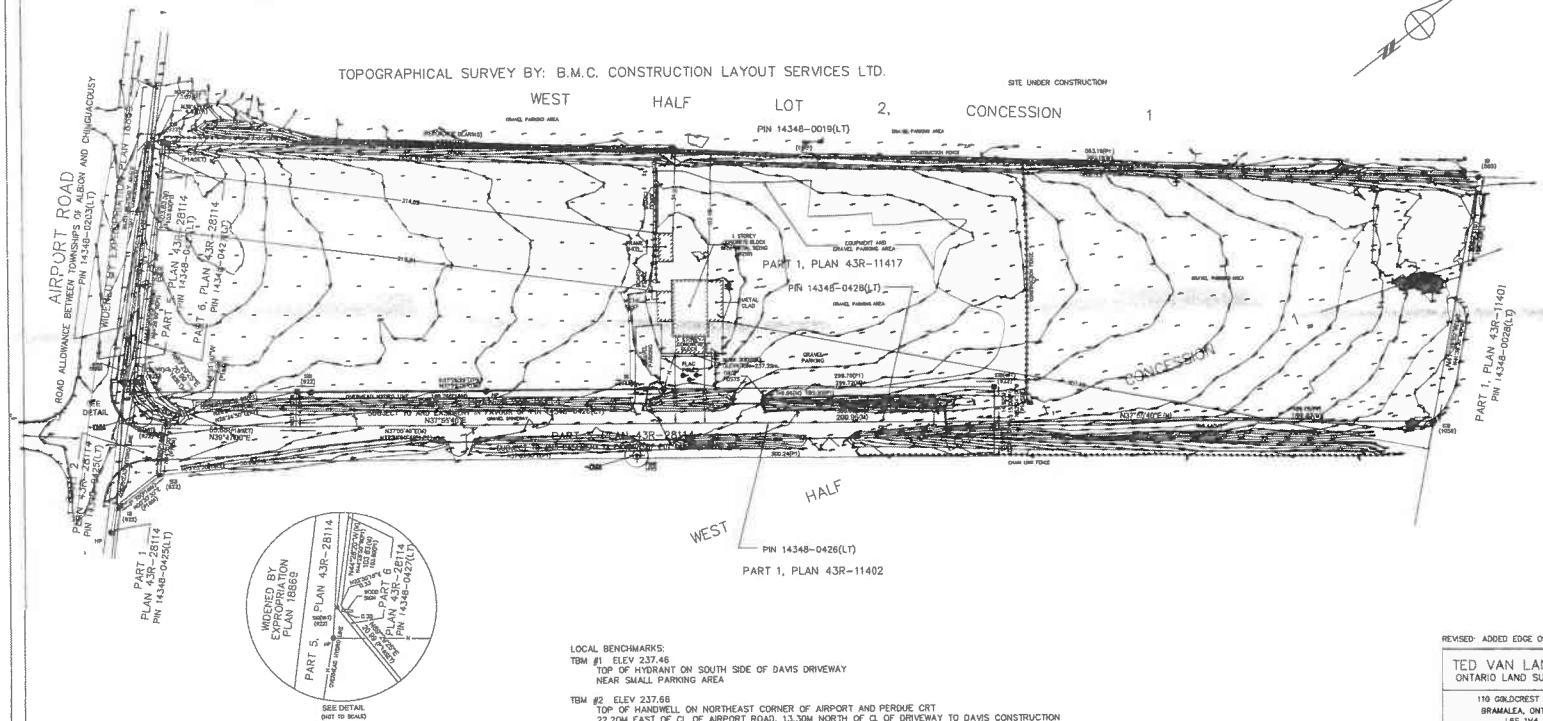
I CERTIFY THAT:
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 7th DAY OF MARCH, 2006.

DATE: MARCH 7, 2006.

W.M. FENTON
ONTARIO LAND SURVEYOR

SCHAEFFER & DZALDOV LIMITED
ONTARIO LAND SURVEYORS
64 JARDIN DRIVE | CONCORD, ONTARIO L4K 3P3 | TEL.(905) 761-0101

DRAWN: SA\MSCAD	CHECKED: WMF	SCALE: 1 : 500	JOB NO. 05-177-01



LOCAL BENCHMARKS:

TBM #1 ELEV 237.46
TOP OF HYDRANT ON SOUTH SIDE OF DAVIS DRIVEWAY
NEAR SMALL PARKING AREA

TBM #2 ELEV 237.68
TOP OF HANDWELL ON NORTHEAST CORNER OF AIRPORT AND PERDUE CRT
22.20M EAST OF CL OF AIRPORT ROAD, 13.30M NORTH OF CL OF DRIVEWAY TO DAVIS CONSTRUCTION

SURVEYOR'S REAL PROPERTY REPORT
PART 1
PLAN OF
PART OF WEST HALF LOT 1
CONCESSION 1
(GEOGRAPHIC TOWNSHIP OF ALBION)
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

1:1000

TED VAN LANKVELD, O.L.S., 2005

METRIC : DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

PART 2 (REPORT SUMMARY)

1. THE RE-ESTABLISHMENT OF THE SUBJECT PROPERTY BOUNDARIES WAS BASED ON INFORMATION CONTAINED IN THE RELEVANT TITLE DOCUMENTS, REGISTERED PLANS AND ON THE EVIDENCE OF PRIOR SURVEYS FOUND DURING THE COURSE OF PREPARING THE SUBJECT SURVEY

2. THE TYPE AND LOCATION OF THE EXISTING BUILDINGS AND OTHER IMPROVEMENTS, FENCES ETC., ON OR NEAR THE SUBJECT PROPERTY ARE AS SHOWN ON THE SURVEY PLAN.

3. THE LOCATION OF THE FENCING AROUND THE PROPERTY.

4. COMPLIANCE WITH MUNICIPAL ZONING REQUIREMENTS IS NOT CERTIFIED BY THIS REPORT.

5. TOGETHER WITH AN EASEMENT OVER PART 3, PLAN 43R-28114

6. SUBJECT TO AN EASEMENT OVER PART 4, PLAN 43R-28114 IN FAVOUR OF PIN 14348-0426(LT)

BEARING

BEARINGS HEREON ARE ASTRONOMIC AND ARE REFERRED TO THE NORTHWESTERLY LIMIT OF PART 1, PLAN 43R-11417 HAVING A BEARING OF N39°47'00"E.

LEGEND

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(M)	DENOTES MEASURED
(P)	DENOTES EXPROPRIATION PLAN 18869
(P1)	DENOTES REFERENCE PLAN 43R-28114
(P2)	DENOTES REFERENCE PLAN 43R-11417
(865)	DENOTES D. McLEAN, O.L.S.
(922)	DENOTES F. SCHAEFFER, O.L.S.
(1515)	DENOTES TED VAN LANKVELD, O.L.S.
(1059)	DENOTES W.M. FENTON, O.L.S.
N,S,E,W	DENOTES NORTH, SOUTH, EAST, WEST
⊕ FIRE HYD	DENOTES FIRE HYDRANT

THIS REPORT WAS PREPARED FOR DAVIS CONSTRUCTION AND THE UNDERSIGNED ACCEPTS NO RESPONSIBILITY FOR USE BY OTHER PARTIES

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.

2. THIS SURVEY WAS COMPLETED ON THE 28th DAY OF FEBRUARY, 2005

DATE: MARCH 7 2005

TED VAN LANKVELD
ONTARIO LAND SURVEYOR

REVISED: ADDED EDGE OF GRAVEL PARKING AND LOCATED FIRE HYDRANTS ON MARCH 30, 2005.

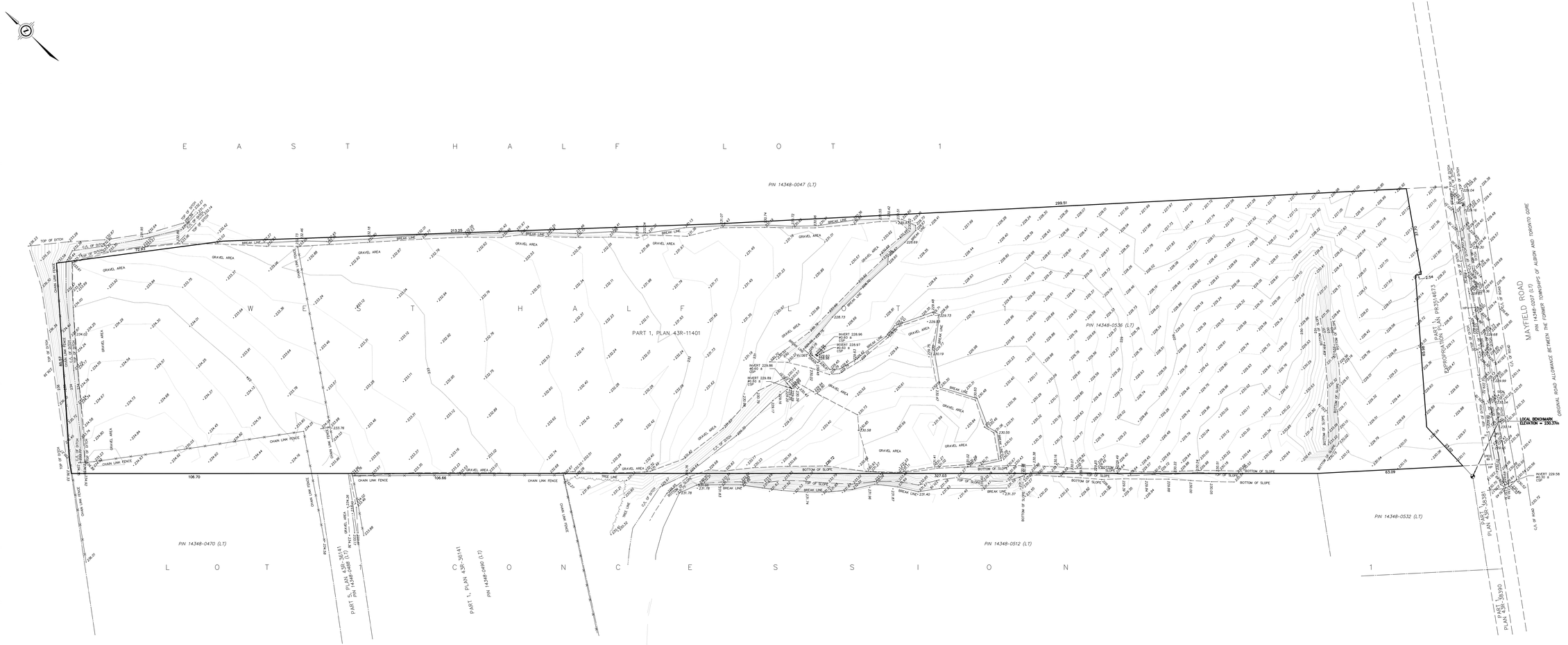
TED VAN LANKVELD
ONTARIO LAND SURVEYORS

110 GOLDCREST ROAD
BRAMALEA, ONTARIO
L6S 1H4
TEL.(905) 792-6641

PREPARED FOR: DAVIS CONSTRUCTION

© COPYRIGHT 2005 TED VAN LANKVELD, O.L.S.
Unauthorized reproduction, distribution, alteration or use of this plan, in whole or in part, is strictly prohibited.

FIELD: T.V. DRAWN: S.B. CHECKED: T.V. JOB No: 05-1672
DWG NAME: 05-1672.DWG PLOT DATE: MARCH 07, 2005



TOPOGRAPHIC PLAN OF

PART OF WEST HALF OF LOT 1, CONCESSION 1

GEOGRAPHIC TOWNSHIP OF ALBION

TOWN OF CALEDON

REGIONAL MUNICIPALITY OF PEEL

SCALE 1 : 500

10 0 10 20 30 metres

J.D. BARNES LIMITED

© COPYRIGHT

METRIC DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

ELEVATION NOTE

THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.

THIS PLAN IS PROTECTED BY A COPYRIGHT.

ELEVATIONS ARE OF GEODETIC ORGIN (COVID-1928.78), AND ARE DERIVED FROM CKKS OBSERVATIONS AND NATURAL RESOURCES CANADA'S GEOID MODEL HT2.0.

BOUNDARY INFORMATION IS COMPILED FROM AVAILABLE PAPER RECORDS, AND HAS NOT BEEN VERIFIED BY ACTUAL FIELD MEASUREMENTS.

PRIMARY CONTOURS ARE AT THE 1.00 m INTERVALS, SECONDARY CONTOURS ARE AT THE 0.25 m INTERVALS.

LOCAL BENCHMARK

TOP OF IRON BAR LOCATED AT SOUTHEAST CORNER OF SUBJECT BOUNDARY, APPROXIMATELY 8.5 METRES FROM HYDRO POLE, 14 METRES FROM CORRUGATED STEEL PIPE.

ELEVATION = 230.37 METRES.

LEGEND

GM	DENOTES GAS MARKER
G METER	DENOTES GAS METER
SP	DENOTES STAND PIPE
HP	DENOTES HYDRO POLE
LS	DENOTES LIGHT STANDARD
TJB	DENOTES TELEPHONE JUNCTION BOX
H	DENOTES FIRE HYDRANT
WV	DENOTES WATER VALVE
CSP	DENOTES CORRUGATED STEEL PIPE
PED	DENOTES TELEPHONE PEDESTAL

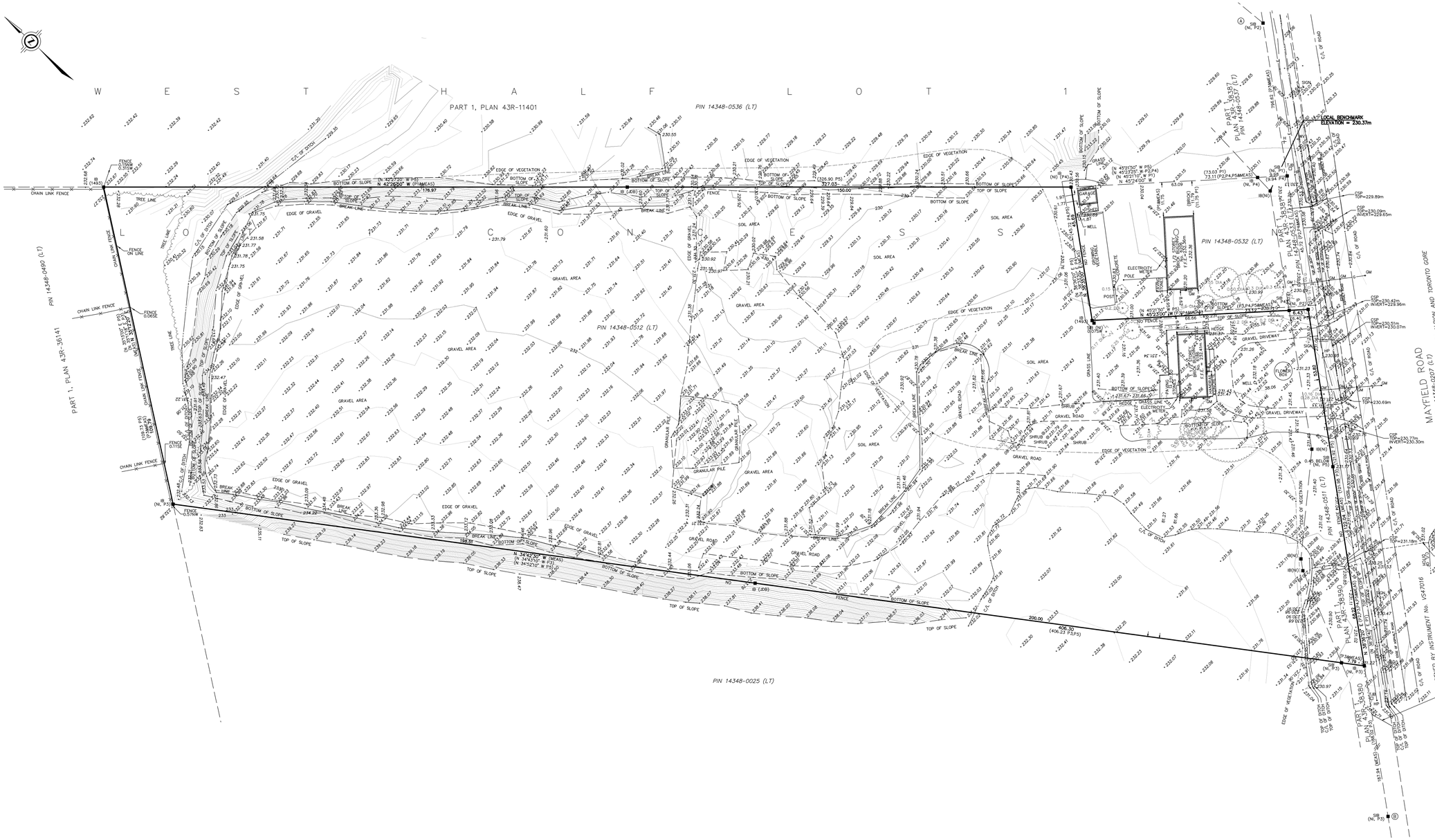
BEFORE DIGGING, UNDERGROUND SERVICES SHOULD BE LOCATED ON SITE BY THE RESPECTIVE AGENCIES.

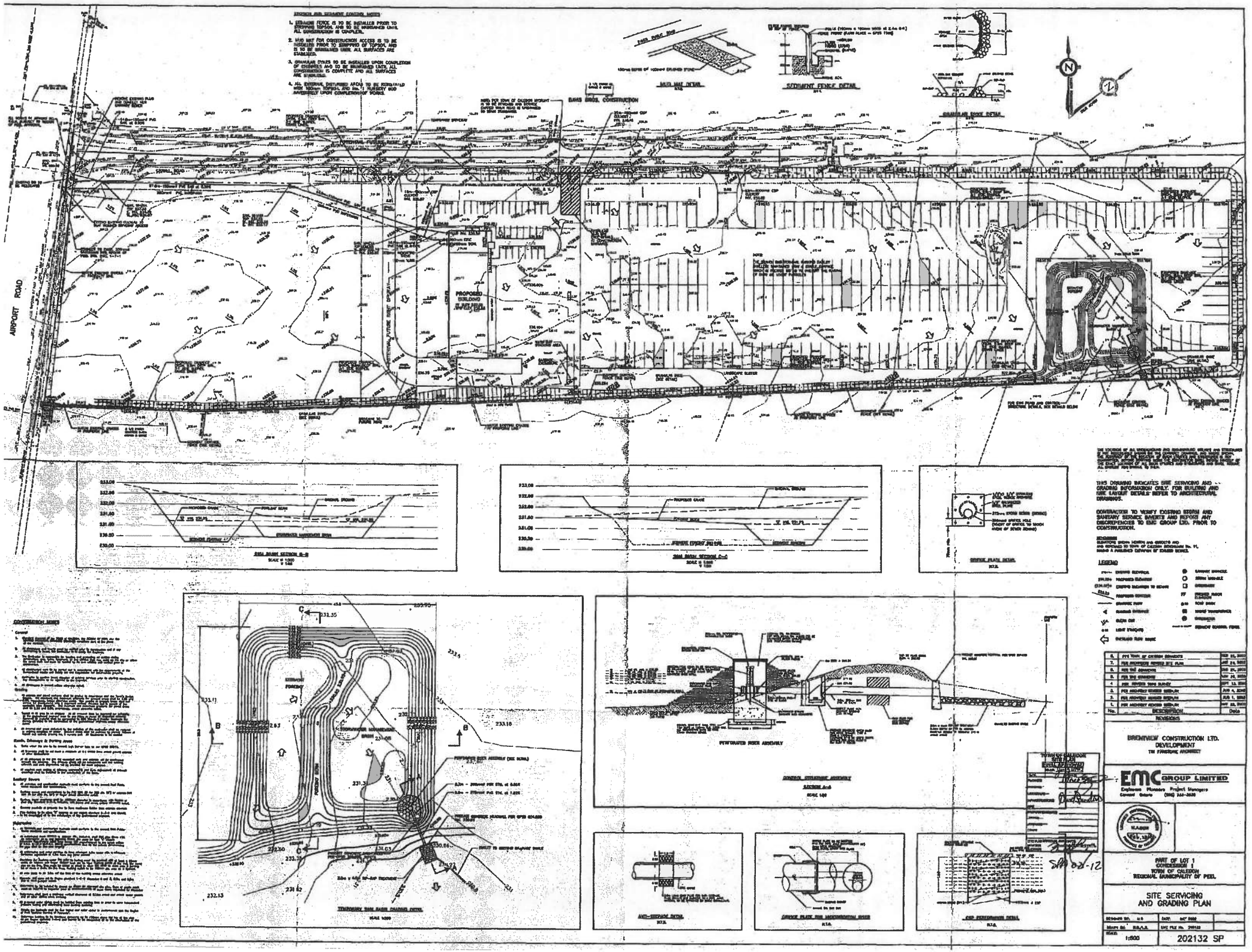
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE LOCAL BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT THE RELATIVE ELEVATIONS AGREE WITH THE INFORMATION SHOWN ON THIS PLAN.

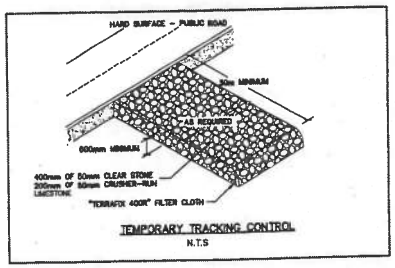
J.D.BARNES LIMITED
SURVEYING MAPPING GIS
LAND INFORMATION SPECIALISTS
401 WISSEL ABRATOR WAY, SUITE A, MILTON, ON L9T 3C3
T: (905) 875-9955 F: (905) 875-9956 www.jdbarnes.com

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
SC	RSG	18-30-310-02-A
PLOTTED: 6/8/2021		DATED: JUNE/08/2021

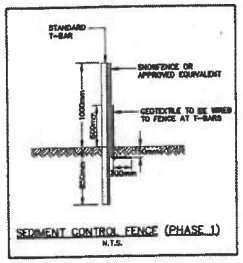
FILE: G:\18-30-310\02\Drawing\18-30-310-02-01JUNE2021.dgn


W E S T H A L F L O T 1 C O N C E S S 1
PART 1, PLAN 43R-11401
PIN 14348-0536 (LT)
PIN 14348-0532 (LT)
PIN 14348-0512 (LT)
PIN 14348-0490 (LT)
PIN 14348-0025 (LT)
PART 1, PLAN 43R-35141
PART 1, PLAN 43R-38387
PART 1, PLAN 43R-38390
PART 1, PLAN 43R-38380
PIN 14348-0537 (LT)
PIN 14348-0511 (LT)
MAYFIELD ROAD
PIN 14348-0207 (LT)
ORIGINAL ROAD ALLOWANCE BETWEEN THE FORMER TOWNSHIPS OF ALBION AND TORONTO GORE
WIDENED BY INSTRUMENT No. VS47016
LOCAL BENCHMARK
ELEVATION = 230.37m
CHAIN LINK FENCE
FENCE CORNER
FENCE CLOSE
TREE LINE
EDGE OF GRAVEL
EDGE OF VEGETATION
BREAK LINE
TOP OF SLOPE
BOTTOM OF SLOPE
GRAVEL AREA
GRAVEL ROAD
SOIL AREA
HEDGE
GRANULAR PILE
GRASS LINE
C/L OF DITCH
C/L OF ROAD
GAS METER
HYDRO POLE
ELECTRICITY METER
GUY WIRE
GUY ANCHOR
SIB (NO. P2)
IB (NO. P3)
IB (NO. P4)
SIB (NO. P5)
IB (NO. P6)
IB (NO. P7)
IB (NO. P8)
IB (NO. P9)
IB (NO. P10)
IB (NO. P11)
IB (NO. P12)
IB (NO. P13)
IB (NO. P14)
IB (NO. P15)
IB (NO. P16)
IB (NO. P17)
IB (NO.

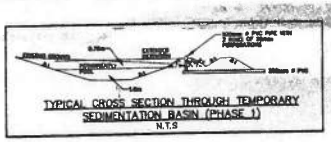

AIRPORT ROAD
PROPOSED BUILDING
EXISTING FUTURE BUILDING
SEDIMENT FENCE DETAIL
MUD MAT DETAIL
GRANULAR DYKE DETAIL
SWALE DETAIL
SERVICE PLATE DETAIL
TEMPORARY SWM BASIN GRADING DETAIL
PERFORATED RISER ASSEMBLY
ANTI-SEEPAGE DETAIL
SERVICE PLATE SWM INFORMATION DETAIL
CBMH DETAIL
LEGEND
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
BRENTVIEW CONSTRUCTION LTD.
DEVELOPMENT
EMC GROUP LIMITED
PART OF LOT 1
CONCESSION 1
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
SITE SERVICING
AND GRADING PLAN
1:500
202132 SP



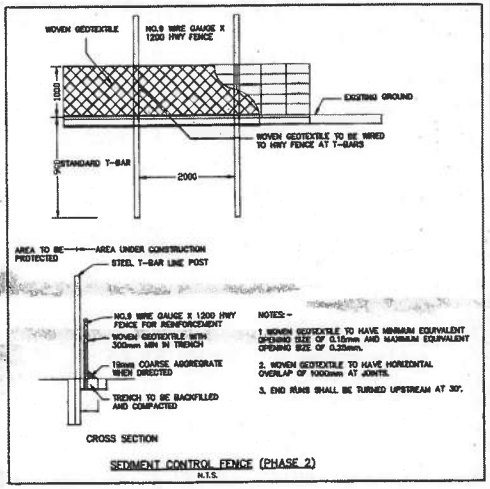
TEMPORARY TRACKING CONTROL
N.T.S



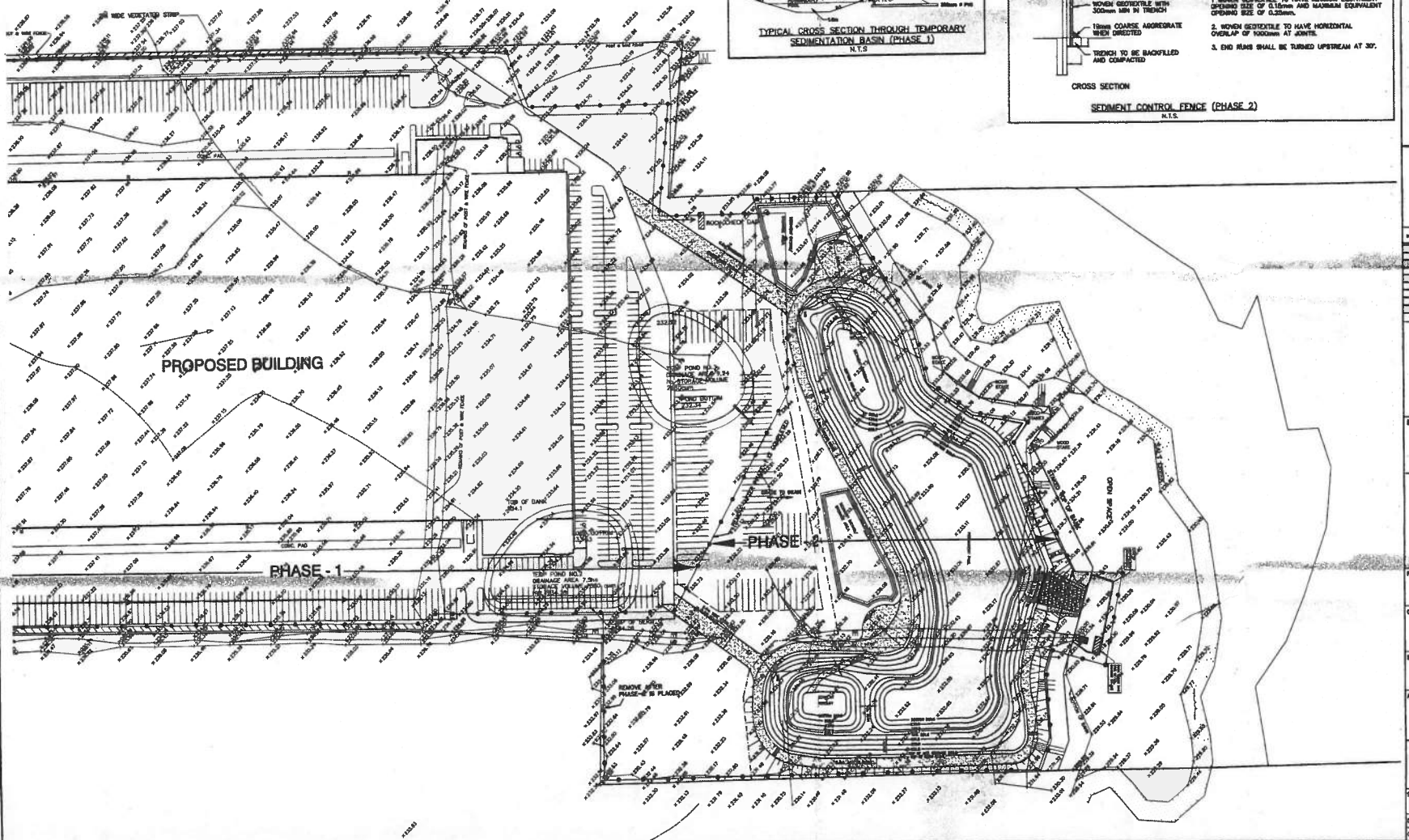
SEDIMENT CONTROL FENCE (PHASE 1)
N.T.S.



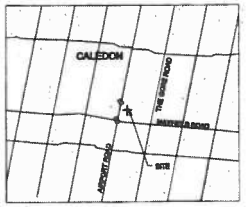
TYPICAL CROSS SECTION THROUGH TEMPORARY SEDIMENTATION BASIN (PHASE 1)
N.T.S



SEDIMENT CONTROL FENCE (PHASE 2)
N.T.S.



KEY MAP



GENERAL NOTES

1. ALL WORK SHALL BE CARRIED OUT IN COMPLIANCE WITH THE APPLICABLE HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.

   ALL WORKS AND MATERIALS TO CONFORM WITH CURRENT ADDRESS OF THE ENGINEERING & SURVEY OF STANDARD, CITY OF HAMILTON, AND PROVINCIAL STANDARDS AND SPECIFICATIONS.

2. THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE CARRIED DURING THE PERIOD OF THIS CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH ALL OTHER CONTRACTORS AND PRESENT CONSTRUCTION COMPLETES.

3. THE INFORMATION SHOWN FOR EXISTING UTILITIES WAS PROVIDED BY OTHERS. THE INFORMATION IS SHOWN FOR GENERAL INFORMATION ONLY AND THE ACCURACY OR COMPLETION OF THE PROVIDED INFORMATION HAS NOT BEEN CONFIRMED BY CounterPoint. EACH CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. ALL EXISTING UTILITIES MUST BE LOCATED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. ANY VARIANCE IS TO BE IMMEDIATELY REPORTED TO THE ENGINEER. LOST TIME DUE TO FAILURE OF THE CONTRACTOR TO CONFIRM UTILITY LOCATIONS AND NOTIFY THE ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT THE CONTRACTOR'S EXPENSE.

4. THIS PLAN SHOULD BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS PLANS. ANY DISCREPANCIES SHALL BE CLARIFIED PRIOR TO CONSTRUCTION. INFORMATION RELATED TO DIMENSIONS FOR PRIVATE ROAD, PARKING, CURBING, BUILDING LOCATION AND SETBACKS SHALL BE TAKEN FROM THE SITE PLAN PREPARED BY THE ARBARCH GROUP.

5. ALL DIMENSIONS AND ELEVATIONS TO BE VERIFIED PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES FOUND PRIOR TO OR DURING CONSTRUCTION SHALL BE CLARIFIED WITH THE ENGINEER.

LEGEND

- PROTECTION AND SILT FENCE (PHASE 1)
- PROTECTION AND SILT FENCE (PHASE 2)
- 2.0m UNDISTURBED STRIP
- INTERCEPTOR DITCH
- DRAINAGE DIVIDE

NO.	BY	DATE	REVISION	CHK'D	APP'D
3	MS/JP	29/07	TRCA 3rd APPROVAL SUBMISSION		
2	MS/JP	31/08	TRCA 2nd APPROVAL SUBMISSION		
1	MM/JP	06/05	APPROVAL SUBMISSION		

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO.

DATE: _____ APPROVED BY: _____
H. MUNTZ, P.ENG.
Town Engineer

BENCH MARK:

R. G. MORRISON
100063903
PROVINCE OF ONTARIO

PROJECT NAME
TULLAMORE BUSINESS PARK

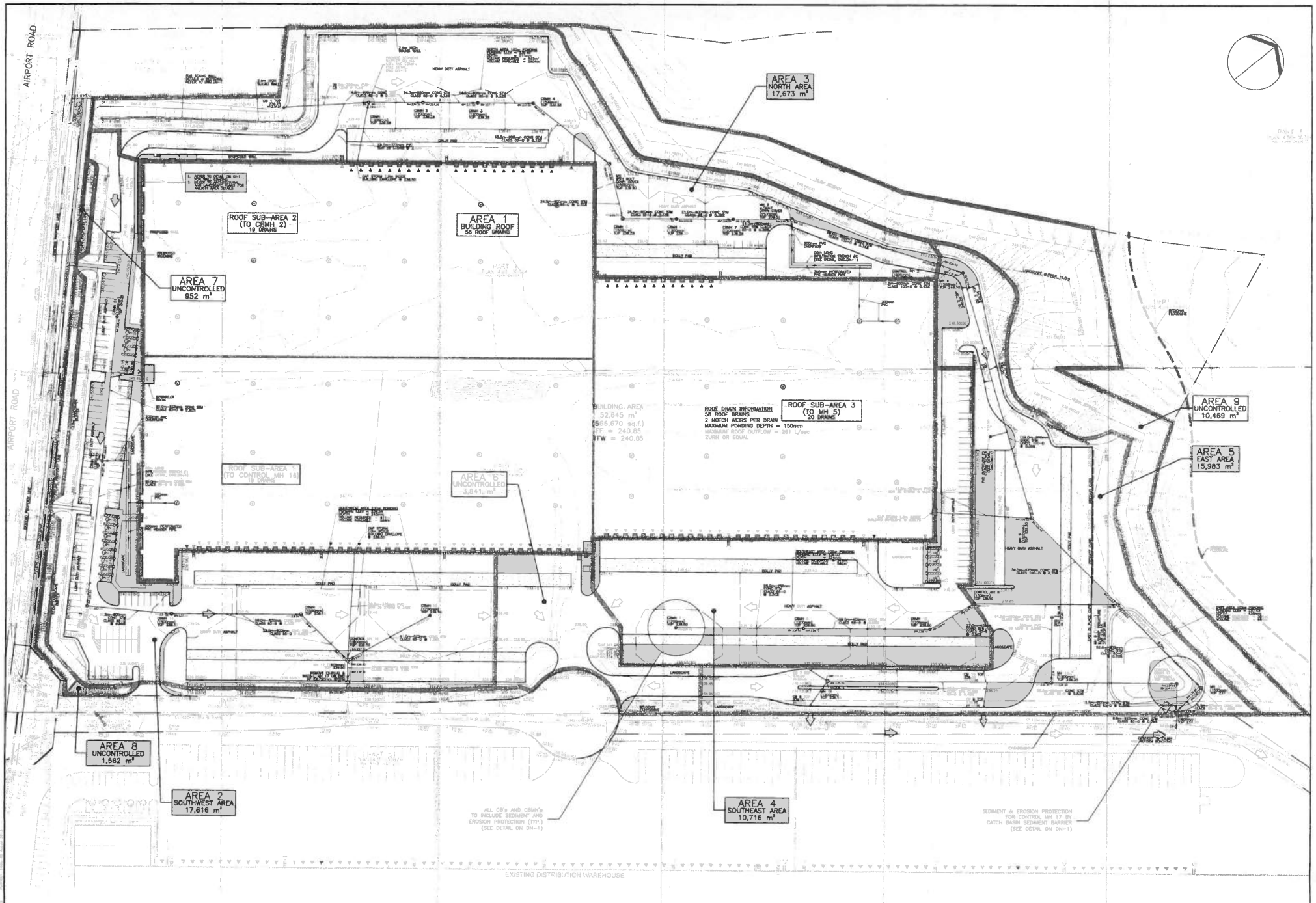
CONSULTANT
counterpoint ENGINEERING

SITE LOCATION:
MAYFIELD – AIRPORT ROAD
REGION OF PEEL SP-2005-055

APPLICANT:
THE CORPORATION OF THE
TOWN OF CALEDON

EROSION AND SEDIMENT CONTROL PLAN
PHASE-2

SCALE: 1:1000
PROJECT No. 05257
DESIGNED BY: CFU
DRAWN BY: JY
CHECKED BY: RM
DATE: JUNE/05
DRAWING No. 8-ESC



Hopewell Development

TOWN OF CALEDON

AIRPORT ROAD DISTRIBUTION FACILITY

12333 AIRPORT ROAD

BENCHMARK

LEGEND

REVISIONS

No.	BY	DATE	DESCRIPTION	CHK'D
5.	JL	2012/07/04	ISSUED FOR SITE PLAN APPROVAL	B.S.
3.	JL	2012/10/17	ISSUED FOR TENDER	B.S.
5.	JL	2012/11/12	REVISED AS PER AGENCY COMMENTS	B.S.
4.	JL	2012/11/12	ISSUED FOR POST TENDER ADDENDUM	B.S.
5.	JL	2013/03/15	ISSUED FOR 3RD SPA SUBMISSION	B.S.
4.	JL	2013/03/28	ISSUED FOR CONSTRUCTION	B.S.
3.	JL	2013/05/03	STORM SEWER INVERTS REVISED (MH7-CBMH11)	B.S.
2.	JL	2013/05/03	[illegible]	B.S.
1.	JL	2013/08/13	ISSUED FOR S.P. SUBMISSION	B.S.

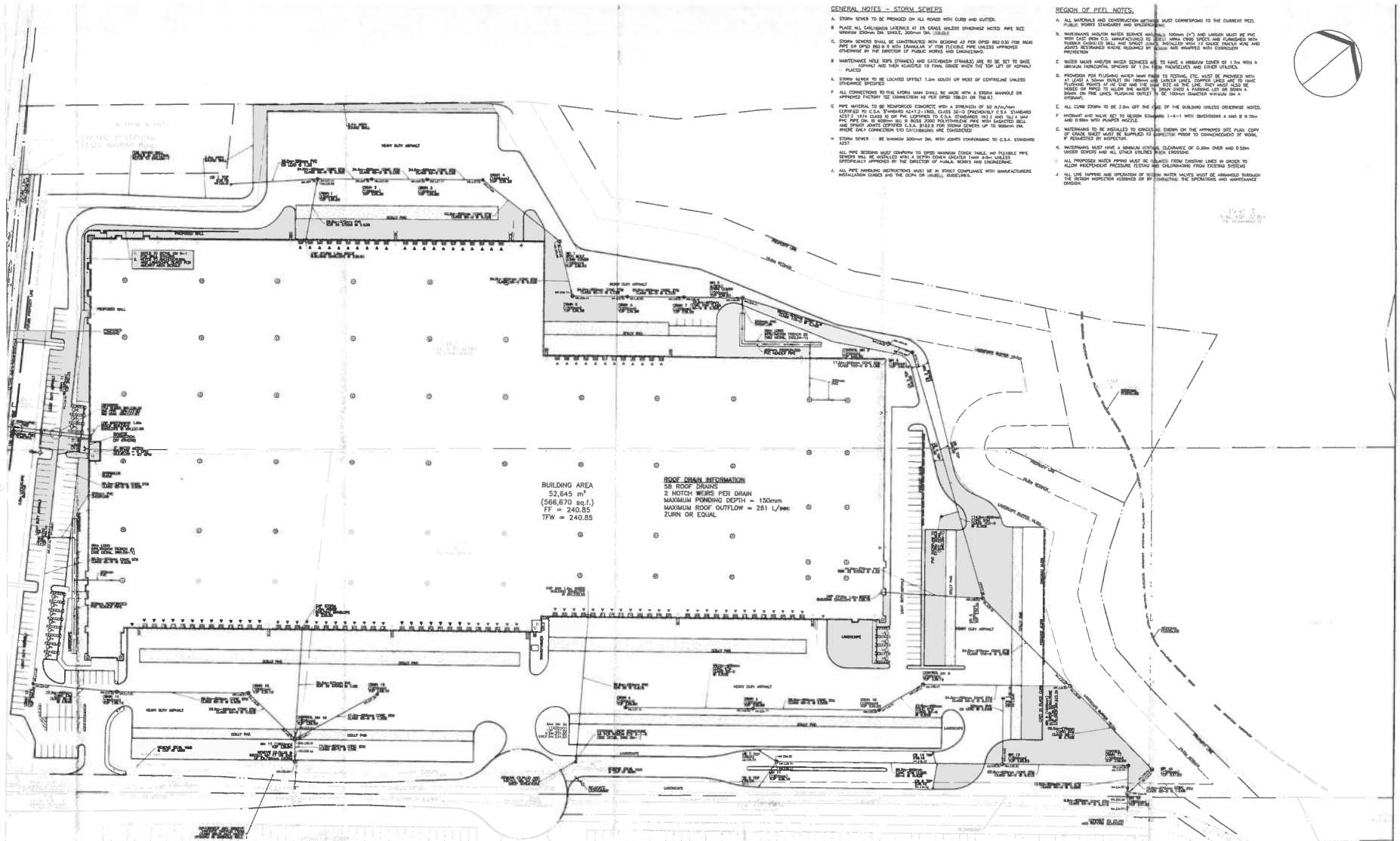
JSW+ associates

SITE

SHEET TITLE: STORM DRAINAGE AREA PLAN

SITE PLAN No.	SP#-12-66
APPLICATION No.	C-471880
DESIGNED BY:	B.S.
DRAWN BY:	JL
CHECKED BY:	B.S.
PROJECT No.	12-30
SCALE:	1:500
DATE ISSUED:	JULY 2012

SHEET No. STM-1



TOWN OF CALEDON

AIRPORT ROAD DISTRIBUTION FACILITY

12333 AIRPORT ROAD

BENCHMARK

ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM MINISTRY OF TRANSPORTATION BENCHMARK No. 0508-B726026 HAVING AN ELEVATION OF 251.24m

LEGEND

- 277.36 — PROPOSED SPOT ELEVATION
- 277.38(TW) — TOP OF WALL ELEVATION
- 277.38(BW) — BOTTOM OF WALL ELEVATION
- 277.38(TS) — TOP OF SWM ELEVATION
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED SINGLE CATCHBASIN
- PROPOSED DOUBLE CATCHBASIN
- PROPOSED HYDRANT & VALVE
- PROPOSED VALVE & BOX
- PROPOSED DIRECTION OF FLOW
- EXISTING SPOT ELEVATION
- EXISTING MANHOLE
- EXISTING SINGLE CATCHBASIN
- EXISTING HYDRANT
- EXISTING VALVE & CHAMBER/BOX
- EXISTING UTILITY POLE
- PROPOSED SWM POND
- EMERGENCY OVERLAND FLOW ROUTE

REVISIONS

No	BY	DATE	DESCRIPTION	CHKD
1.	JL	2012/07/04	ISSUED FOR SITE PLAN APPROVAL	B.S.
2.	JL	2012/10/17	ISSUED FOR TENDER	B.S.
3.	JL	2012/11/12	REVISED AS PER AGENCY COMMENTS	B.S.
4.	JL	2012/11/13	ISSUED FOR POST TENDER ADDENDUM	B.S.
5.	JL	2012/03/16	ISSUED FOR 3RD SPA SUBMISSION	B.S.
6.	JL	2013/03/28	ISSUED FOR CONSTRUCTION	B.S.
7.	JL	2013/04/08	STORM SEWER #MH13 REVISED (MH17-OBMH11)	B.S.
8.	JL	2013/05/03	AS PER REGION COMMENTS	B.S.
9.	JL	2013/05/13	ISSUED FOR 4TH SPA SUBMISSION	B.S.

JSW+ associates

ENGINEER'S STAMP

LOCATION PLAN

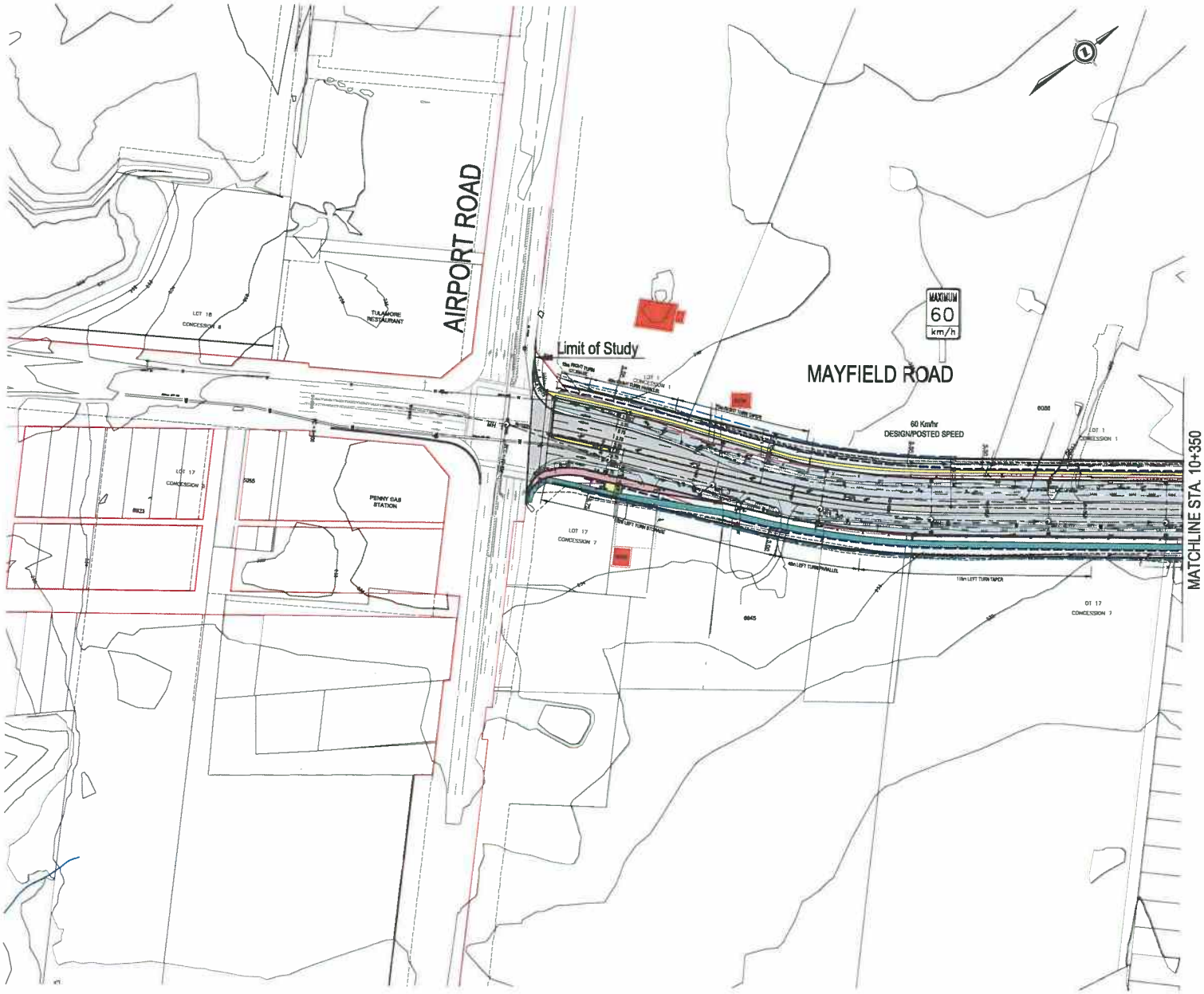
SITE SERVICING PLAN

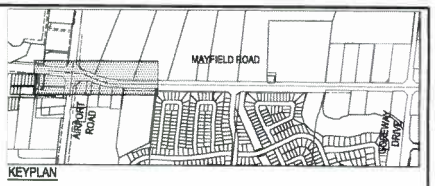
SITE PLAN No: SPA-12-66
APPLICATION No: C-4316BD

DESIGNED BY: B.S. DRAWN BY: JL

CHECKED BY: B.S. PROJECT No.: 12-30

S-1





KEYPLAN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- APPROXIMATE GRADING LIMIT
- CALCULATED CLEAR ZONE INDICATING MINIMUM DISTANCE FROM EDGE OF PAVEMENT FOR HYDRO POLE LOCATION.
- MINIMUM OFFSET FOR GUYING EASEMENT BASED ON POLES LOCATED A MINIMUM CLEAR ZONE OFFSET FROM EDGE OF PAVEMENT. (5.0m "HYDRO ONE BRAMPTON" - SOUTHSIDE, 5.5m "HYDRO ONE NETWORKS" - NORTH SIDE.)
- TRCA WATERCOURSE DESIGNATION
- OVERLAND FLOW DIRECTION
- POTENTIAL PROPERTY LINE 3.5m FROM CLEAR ZONE REQUIREMENTS
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- PROPOSED CONCRETE MEDIANS, SIDEWALKS & BUS PADS
- PROPOSED 3.0m MULTI-USE PATHWAY
- PROPOSED CONC. BUS BAY
- PROPOSED PROPERTY ACQUISITION OUTSIDE OF RIGHT OF WAY
- BUILT HERITAGE FEATURE
- FUTURE SIGNALIZED INTERSECTION

Scale

20m 0 20 40 60m HORIZONTAL SCALE

2m 0 2 4 6m VERTICAL SCALE

Stantec

Client

Region of Peel
Working for you

Drawing Title

MAYFIELD ROAD
AIRPORT ROAD TO COLERAINE DRIVE
CLASS EA STUDY REPORT
RECOMMENDED DESIGN ALTERNATIVE
PLAN
STA. 10+000 TO STA. 10+350

Drawn By	Checked By	Drawing Number
W.R.W.	J.C.B.	P1A
Date	Project No.	
2012-10-17	160210480	

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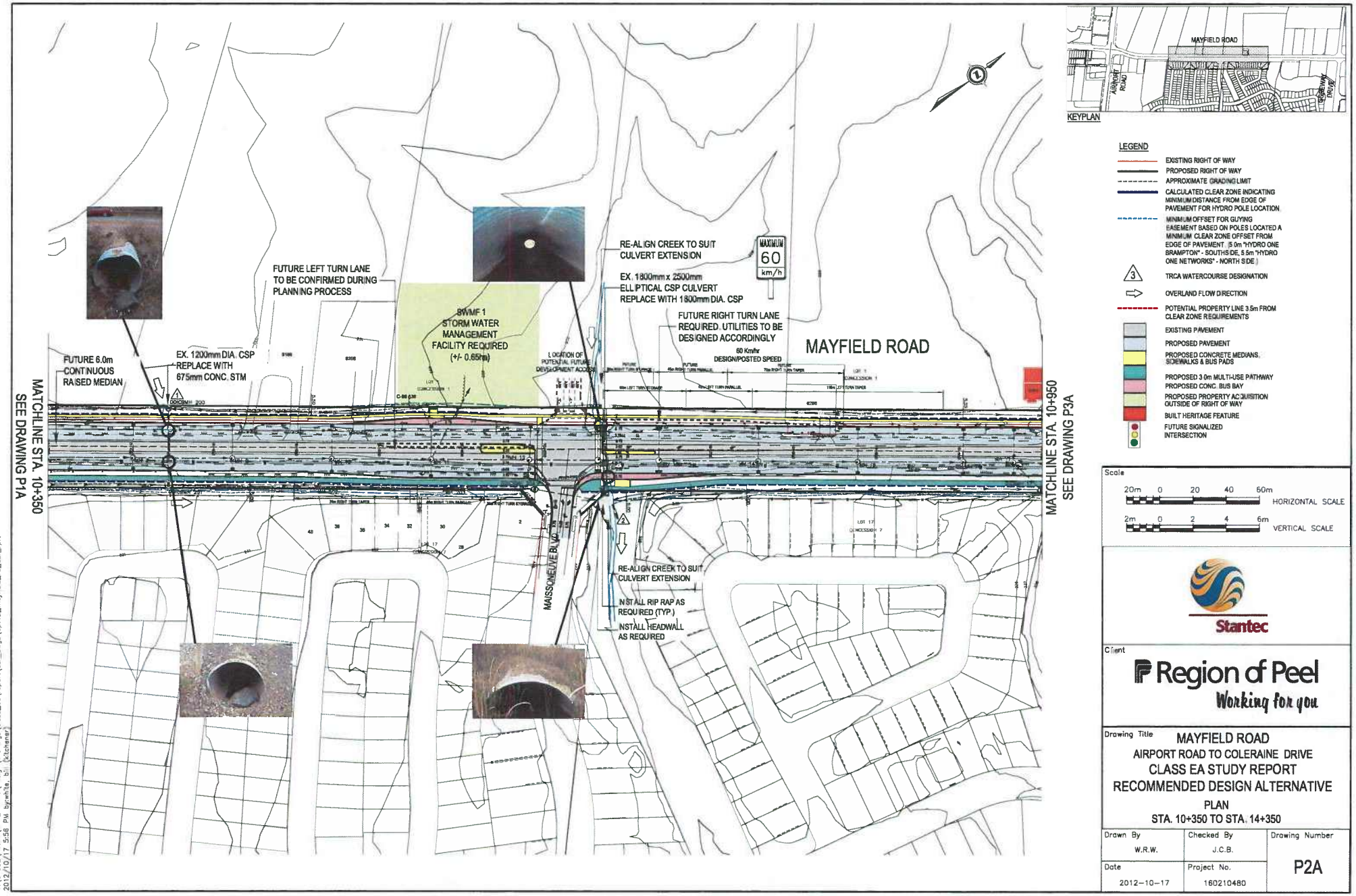

KEYPLAN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- APPROXIMATE GRADING LIMIT
- CALCULATED CLEAR ZONE INDICATING MINIMUM DISTANCE FROM EDGE OF PAVEMENT FOR HYDRO POLE LOCATION
- MINIMUM OFFSET FOR GUYING EASEMENT BASED ON POLES LOCATED A MINIMUM CLEAR ZONE OFFSET FROM EDGE OF PAVEMENT (5.0m "HYDRO ONE BRAMPTON" - SOUTHSIDE, 5.5m "HYDRO ONE NETWORKS" - NORTH SIDE)
- TRCA WATERCOURSE DESIGNATION
- OVERLAND FLOW DIRECTION
- POTENTIAL PROPERTY LINE 3.5m FROM CLEAR ZONE REQUIREMENTS
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- PROPOSED CONCRETE MEDIANS, SIDEWALKS & BUS PADS
- PROPOSED 3.0m MULTI-USE PATHWAY
- PROPOSED CONC. BUS BAY
- PROPOSED PROPERTY ACQUISITION OUTSIDE OF RIGHT OF WAY
- BUILT HERITAGE FEATURE
- FUTURE SIGNALIZED INTERSECTION

Scale

20m 0 20 40 60m HORIZONTAL SCALE

2m 0 2 4 6m VERTICAL SCALE

Stantec

Client

Region of Peel
Working for you

Drawing Title

MAYFIELD ROAD
AIRPORT ROAD TO COLERAINE DRIVE
CLASS EA STUDY REPORT
RECOMMENDED DESIGN ALTERNATIVE
PLAN
STA. 10+350 TO STA. 14+350

Drawn By	Checked By	Drawing Number
W.R.W.	J.C.B.	P2A
Date	Project No.	
2012-10-17	160210480	

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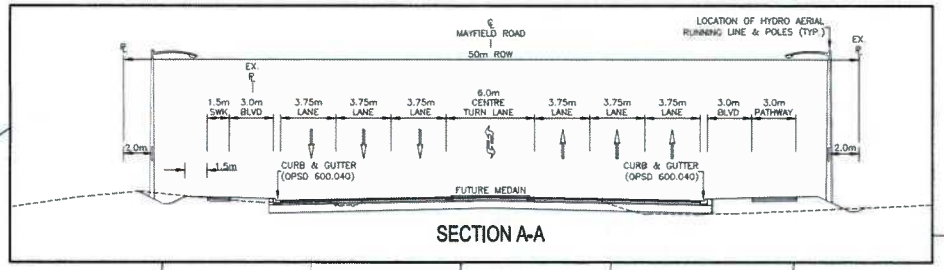
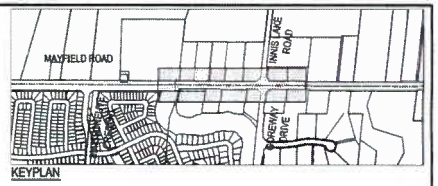




REPLACE EXISTING 3000mm x 2500mm CONC. RIGID FRAME OPEN WITH 18400mm x 3000mm CONC. SINGLE SPAN.

MAYFIELD ROAD

BUS BAY (TYP.)

INNIS LAKE ROAD

MAXIMUM 60 km/h

MAXIMUM 80 km/h

RELOCATION OF ACCESS TO INNIS LAKE ROAD TO BE INVESTIGATED (#6520). MEDIAN ISLAND TO BE EXTENDED IF ACCESS IS RELOCATED.

FUTURE 6.0m CONTINUOUS RAISED MEDIAN

90 Km/hr DESIGN SPEED

90 Km/hr DESIGN SPEED

MATCHLINE STA. 10+950 SEE DRAWING P2A

MATCHLINE STA. 11+550 SEE DRAWING P4A

STORM SEWER OUTLET (PROPOSED OIL/GRIT SEPARATOR)

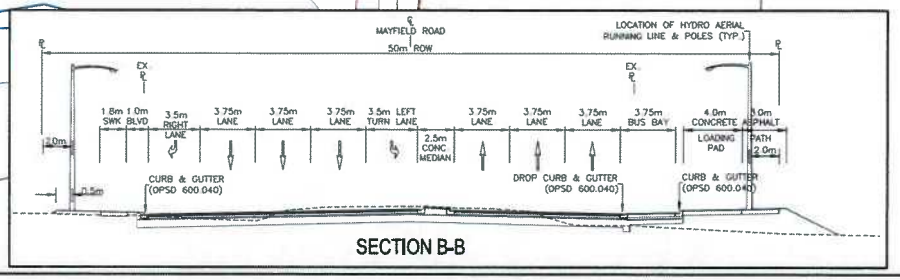
STORM SEWER OUTLET (PROPOSED OIL/GRIT SEPARATOR)

SALT CREEK

NOTE: REDSIDE DACE HABITAT INDENTIFIED AND TO BE PROTECTED IN ACCORDANCE WITH THE REQIREMENTS OF THE ENDANGERED SPECIES ACT.

GOREWAY DRIVE

FOR ADDITIONAL DETAILS ON PROPOSED LANE CONFIGURATION REFER TO GOREWAY DRIVE CLASS E.A. SEPTEMBER 2007 PREPARED BY URS CANADA INC. FOR CITY OF BRAMPTON



LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- APPROXIMATE GRADING LIMIT
- CALCULATED CLEAR ZONE INDICATING MINIMUM DISTANCE FROM EDGE OF PAVEMENT FOR HYDRO POLE LOCATION.
- MINIMUM OFFSET FOR GUYING EASEMENT BASED ON POLES LOCATED A MINIMUM CLEAR ZONE OFFSET FROM EDGE OF PAVEMENT, (5.0m "HYDRO ONE BRAMPTON" - SOUTHSIDE, 5.5m "HYDRO ONE NETWORKS" - NORTH SIDE.)
- TRCA WATERCOURSE DESIGNATION
- OVERLAND FLOW DIRECTION
- POTENTIAL PROPERTY LINE 3.5m FROM CLEAR ZONE REQUIREMENTS
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- PROPOSED CONCRETE MEDIANS, SIDEWALKS & BUS PADS
- PROPOSED 3.0m MULTI-USE PATHWAY
- PROPOSED CONC. BUS BAY
- PROPOSED PROPERTY ACQUISITION OUTSIDE OF RIGHT OF WAY
- BUILT HERITAGE FEATURE
- FUTURE SIGNALIZED INTERSECTION

Scale

20m 0 20 40 60m HORIZONTAL SCALE

2m 0 2 4 6m VERTICAL SCALE

Stantec

Client

Region of Peel
Working for you

Drawing Title

MAYFIELD ROAD
AIRPORT ROAD TO COLERAINE DRIVE
CLASS EA STUDY REPORT
RECOMMENDED DESIGN ALTERNATIVE
PLAN
STA. 10+950 TO STA. 11+550

Drawn By	Checked By	Drawing Number
W.R.W.	J.C.B.	P3A
Date	Project No.	
2013-04-04	160210480	

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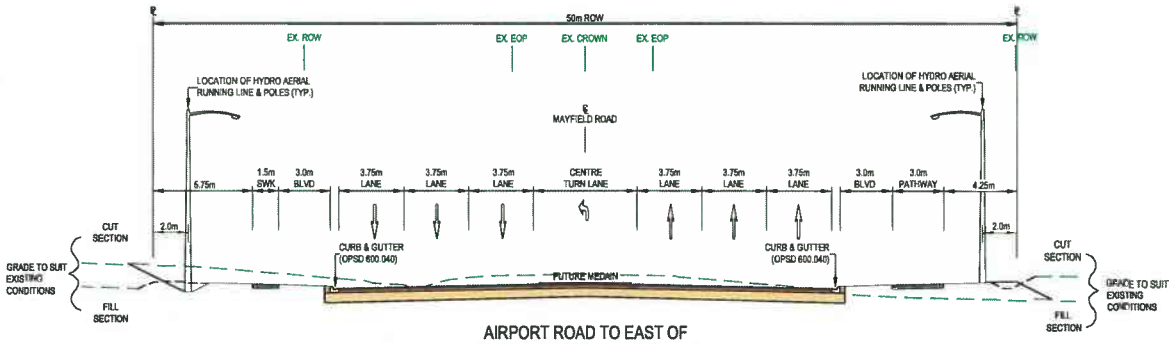
2013/4/4 3:08 PM brankite, bell (Electronic)

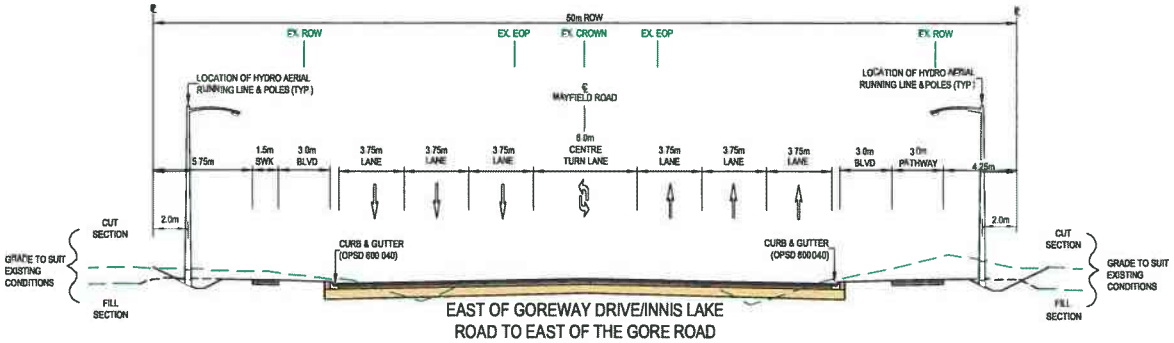
Region of Peel
Working for you

Stantec

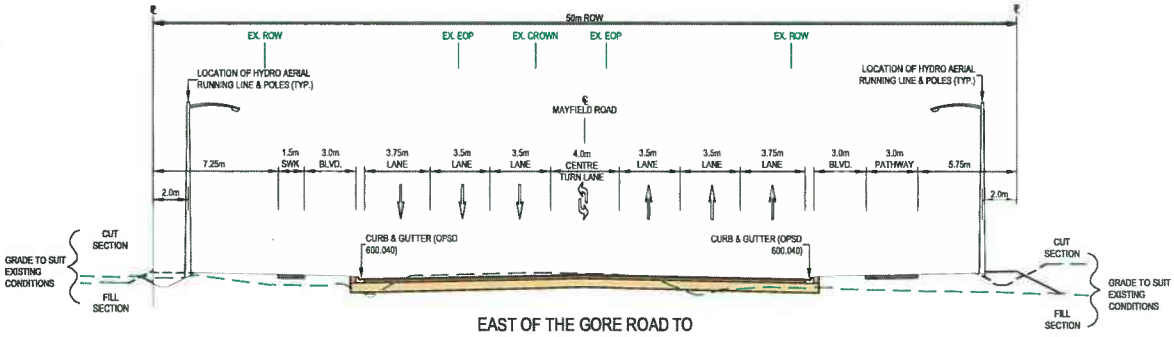
RECOMMENDED DESIGN ALTERNATIVE - "DESIGN CONCEPT 4 MODIFIED"
EQUAL WIDENING CONCEPT
TO MINIMIZE PROPERTY IMPACTS
TYPICAL SECTIONS



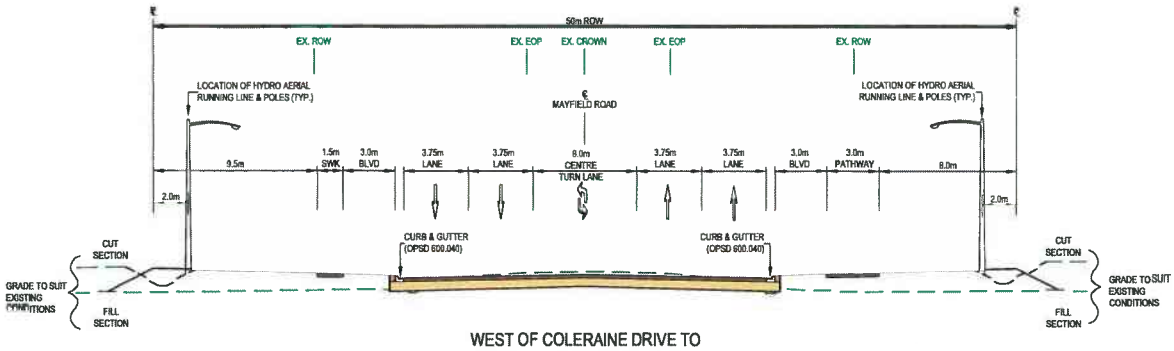
AIRPORT ROAD TO EAST OF
GOREWAY DRIVE/INNIS LAKE ROAD



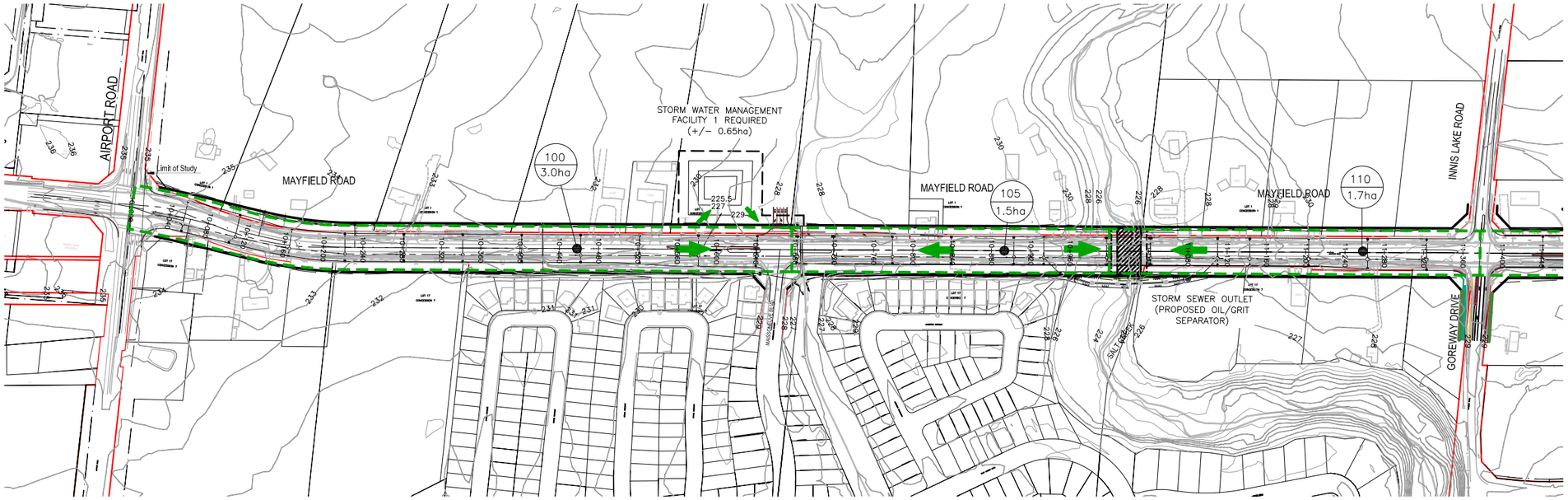
EAST OF GOREWAY DRIVE/INNIS LAKE
ROAD TO EAST OF THE GORE ROAD

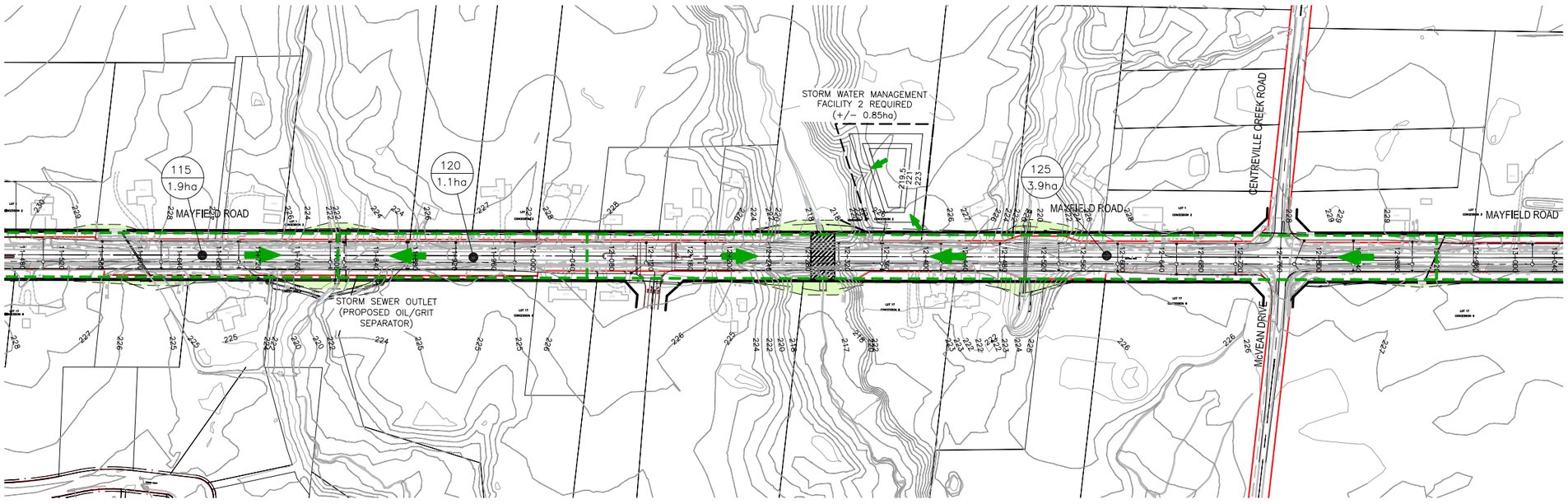


EAST OF THE GORE ROAD TO
WEST OF COLERAINE DRIVE



WEST OF COLERAINE DRIVE TO
EAST OF COLERAINE DRIVE





LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- CATCHMENT BOUNDARY
- FLOW DIRECTION
- 100 / 1.2ha — DRAINAGE AREA
- PROPERTY ACQUISITION FOR CULVERT EXTENSIONS

Scale

50m 0 50 100 150m

Stantec

Client

Region of Peel
Working for you

Drawing Title

MAYFIELD ROAD
AIRPORT ROAD TO COLERAINE DRIVE
CLASS EA STUDY REPORT
RECOMMENDED DESIGN ALTERNATIVE
STORM DRAINAGE
STA. 10+000 TO STA. 13+340

Drawn By	Checked By	Drawing Number
W.R.W.	J.I.	S1
Date: 2012/10/16	Project No.: 160210480	

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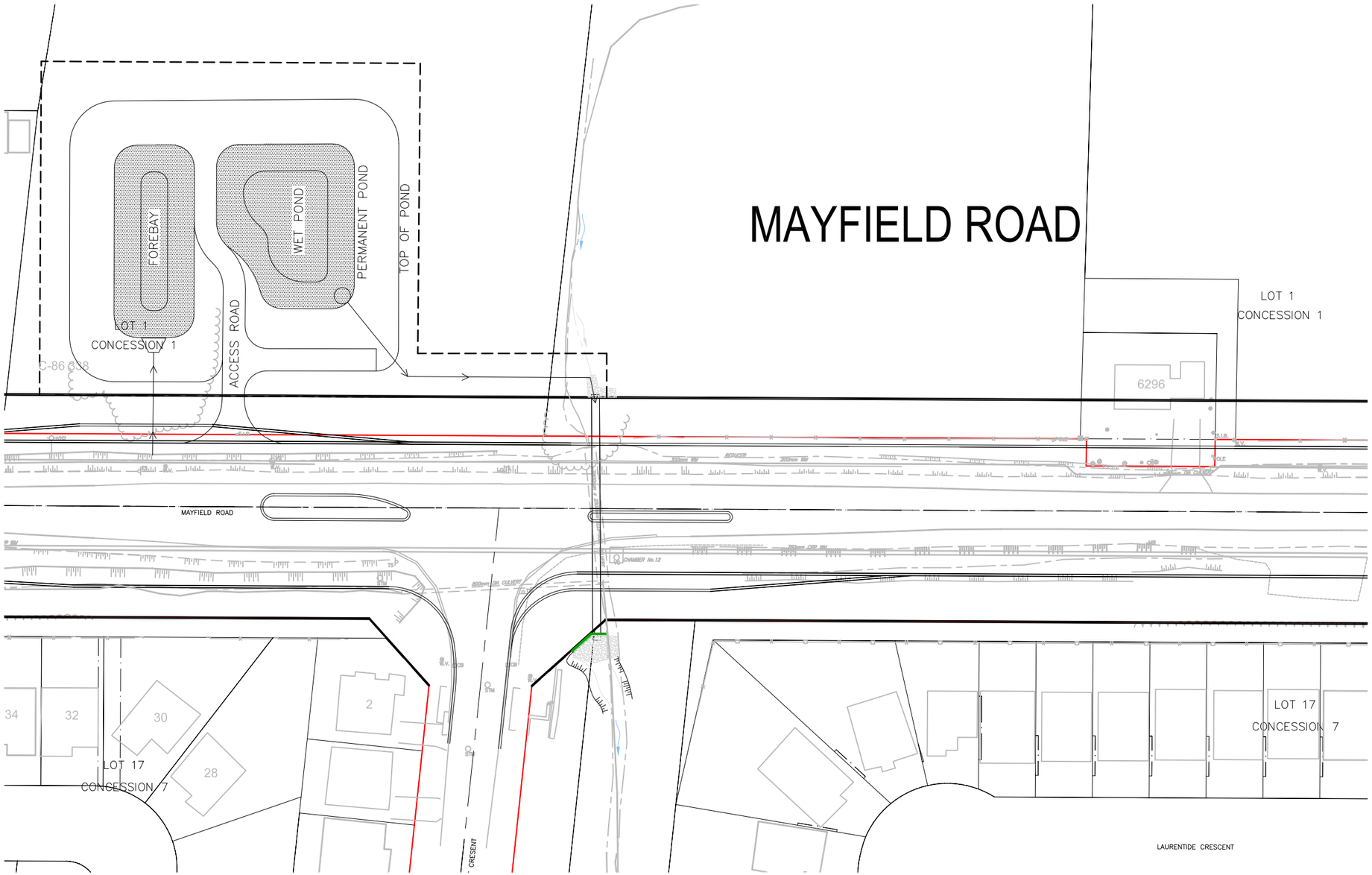

LEGEND

EXISTING RIGHT OF WAY

PROPOSED RIGHT OF WAY

Scale

10m 0 10 20 30m

Stantec

Client

Region of Peel
Working for you

Drawing Title

MAYFIELD ROAD
AIRPORT ROAD TO COLERAINE DRIVE
CLASS EA STUDY REPORT
RECOMMENDED DESIGN ALTERNATIVE
STORM DRAINAGE
TYPICAL SWM FACILITY

Drawn By	Checked By	Drawing Number
W.R.W.	J.I.	S4
Date: 2012/10/16	Project No.: 160210480	

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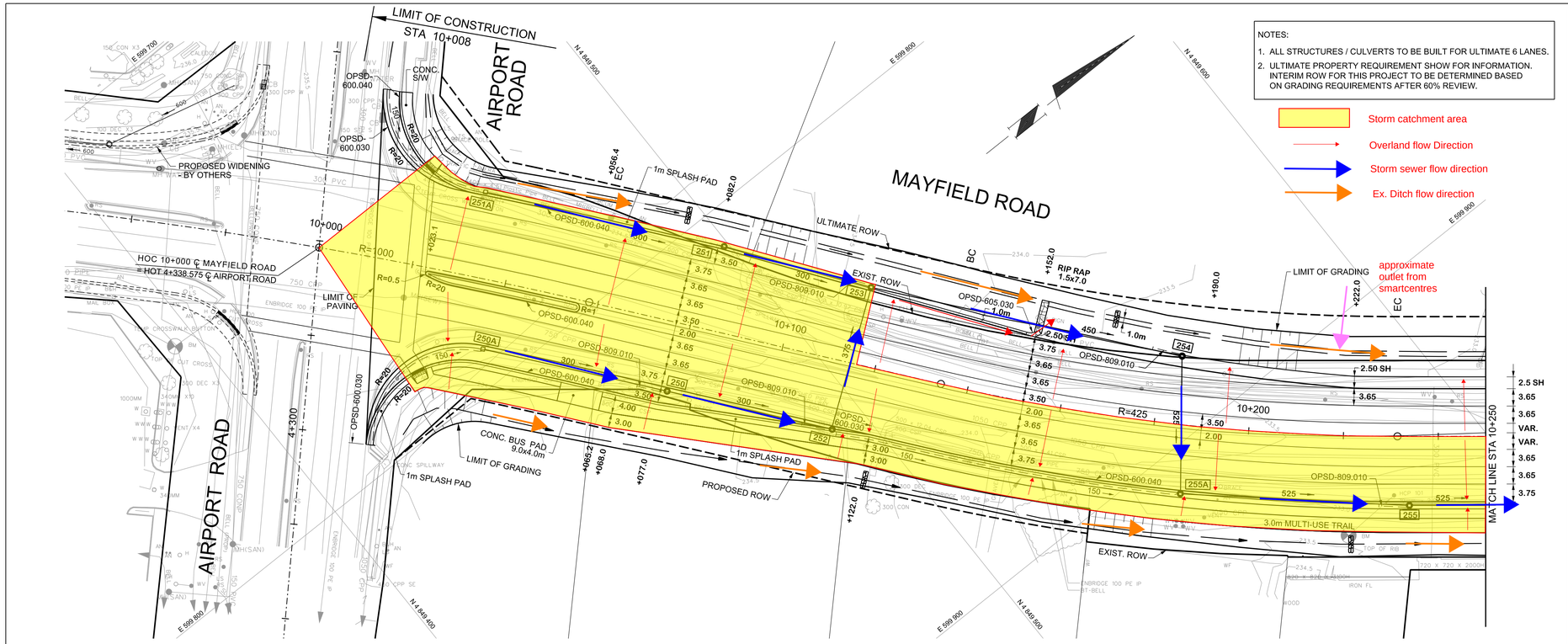


NOTES:

1. ALL STRUCTURES / CULVERTS TO BE BUILT FOR ULTIMATE 6 LANES.
2. ULTIMATE PROPERTY REQUIREMENT SHOW FOR INFORMATION. INTERIM ROW FOR THIS PROJECT TO BE DETERMINED BASED ON GRADING REQUIREMENTS AFTER 60% REVIEW.

Storm catchment area

Overland flow Direction

Storm sewer flow direction

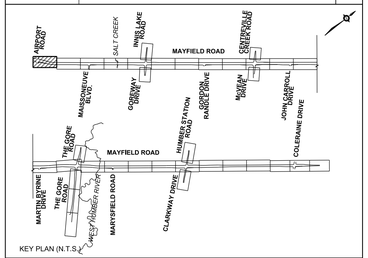
Ex. Ditch flow direction

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.



LEGEND:

PROPOSED ROW / ULTIMATE ROW

ROCK FLOW CHECK DAM
OPSD-219.210 OR OPSD-219.211

General Notes

All Driveways Are ASPHALT Unless Otherwise Noted

All Water And Sanitary Service Locations Are Approximate And Must Be Located Accurately In The Field

All Horizontal And Vertical Bends Are In Degrees

All Pipes Size In mm

20℄ Existing Water Service, Size In mm

WS20 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.

IBI Group
100 - 175 Galaxy Blvd.
Toronto ON M9W 0C9 CANADA

Designed by Chkd. Approved by

NOTICE TO CONTRACTOR

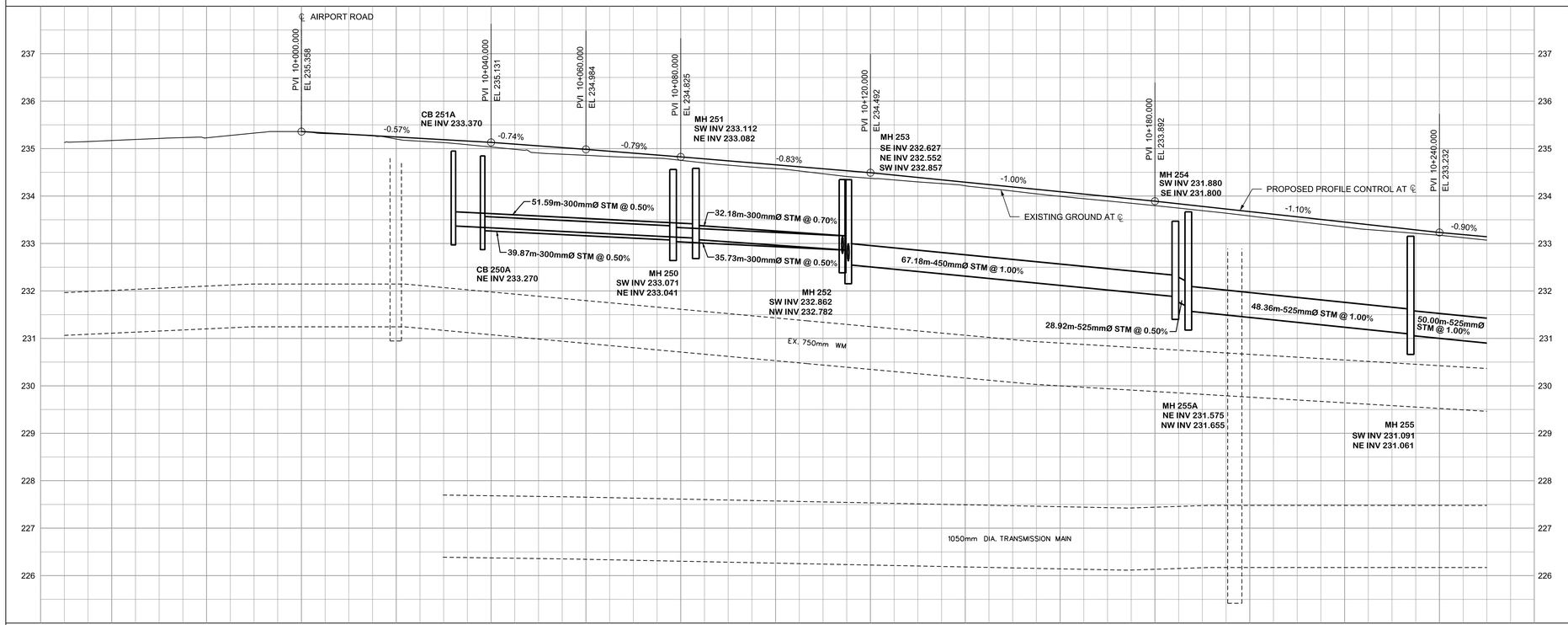
48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

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)

10Om 0 10 20 30m — HORIZONTAL SCALE

1m 0 1 2 3m — VERTICAL SCALE



		235.36	235.24	235.13	234.98	234.82	234.66	234.49	234.29	234.09	233.89	233.67	233.45	233.23	PROP. ROAD EL.
235.17	235.23	235.36	235.20	235.03	234.86	234.75	234.58	234.37	234.22	233.99	233.80	233.58	233.35	233.17	EX. ROAD ELEV.
9+960	9+980	10+000	10+020	10+040	10+060	10+080	10+100	10+120	10+140	10+160	10+180	10+200	10+220	10+240	ROAD CHAINAGE

Region of Peel
Working for you

MAYFIELD ROAD

(FROM AIRPORT ROAD TO COLERAINE DRIVE)

NEW CONSTRUCTION

STA. 10+000 TO STA. 10+250

CAD Area	X-XX	Area	X-XX
Checked by		Drawn by	T.Y.
Date		Sheet	22 of 80

Project No. 11-4075 & 13-4065

Plan No. **XXXXX-D**

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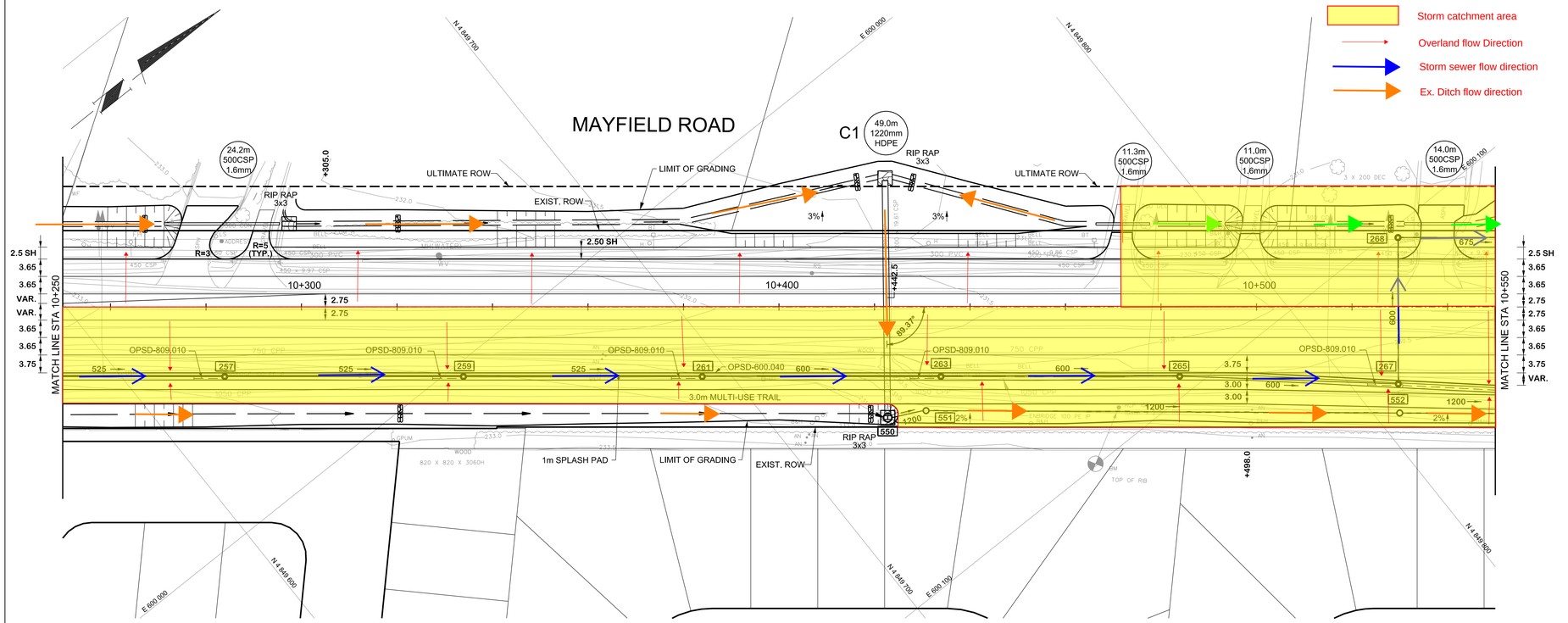
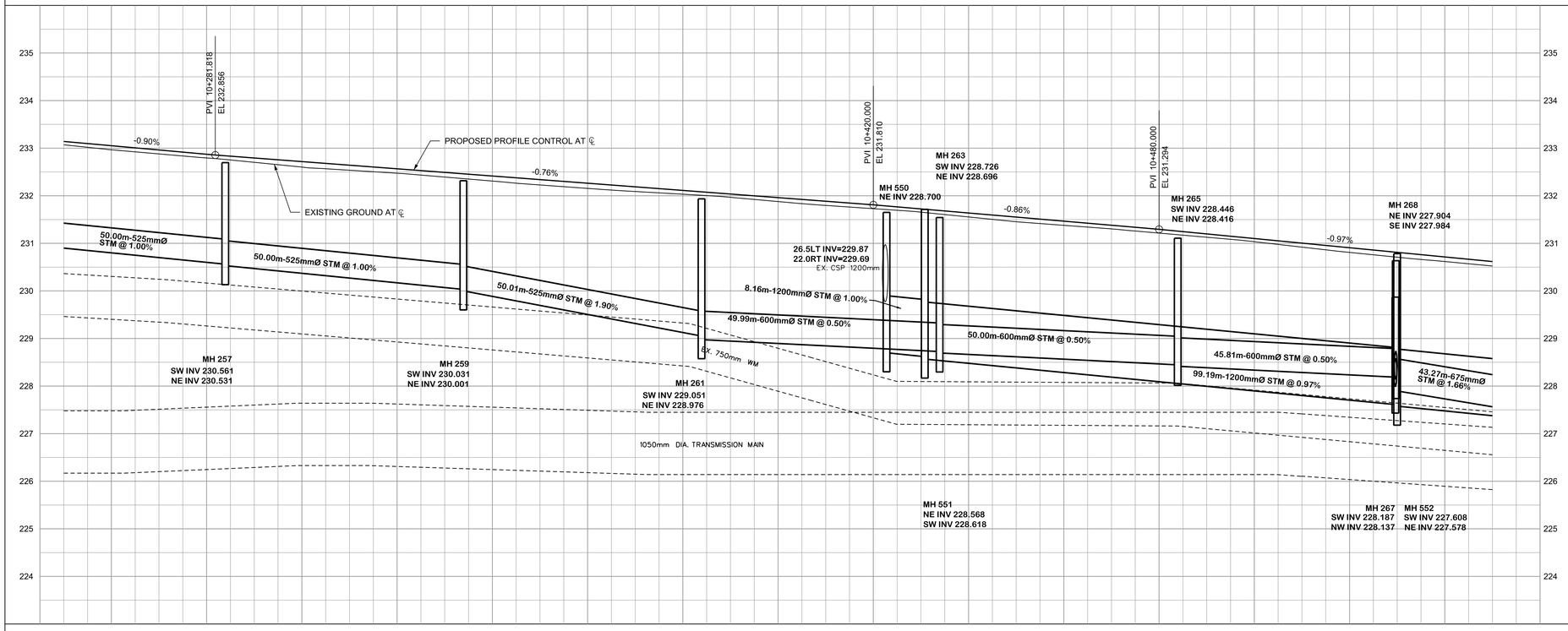
USER:terence.ying

3/7/2016





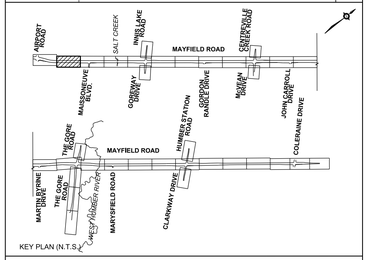
233.05	232.87	232.72	232.57	232.42	232.26	232.11	231.96	231.81	231.64	231.47	231.29	231.10	230.91	230.71	PROP. ROAD EL.
232.97	232.79	232.60	232.47	232.31	232.15	232.03	231.88	231.73	231.55	231.38	231.22	231.03	230.81	230.62	EX. ROAD ELEV.
10+260	10+280	10+300	10+320	10+340	10+360	10+380	10+400	10+420	10+440	10+460	10+480	10+500	10+520	10+540	ROAD CHAINAGE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.



KEY PLAN (N.T.S.)

General Notes

All Driveways Are ASPHALT Unless Otherwise Noted

All Water And Sanitary Service Locations Are Approximate And Must Be Located Accurately In The Field

All Horizontal And Vertical Bends Are In Degrees

All Pipes Size In mm

20℄ Existing Water Service, Size In mm

WS20 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.

IBI Group
100 - 175 Galaxy Blvd.
Toronto ON M9W 0C9 CANADA

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 for you

MAYFIELD ROAD

(FROM AIRPORT ROAD TO COLERAINE DRIVE)

NEW CONSTRUCTION

STA. 10+250 TO STA. 10+550

CAD Area	X-XX	Area	X-XX	Project No.	11-4075 & 13-4065
Checked by		Drawn by	T.Y.		
Date		Sheet	23 of 80	Plan No.	XXXXX-D

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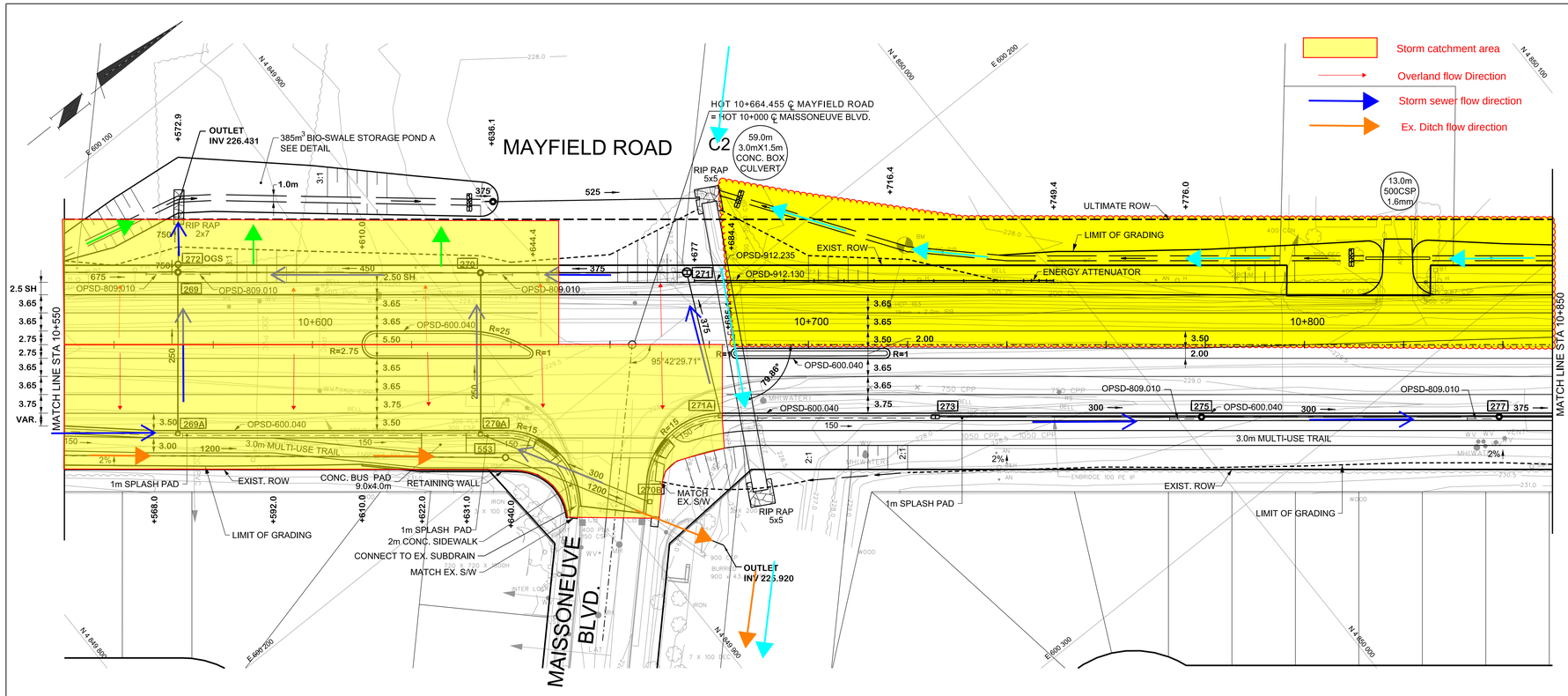
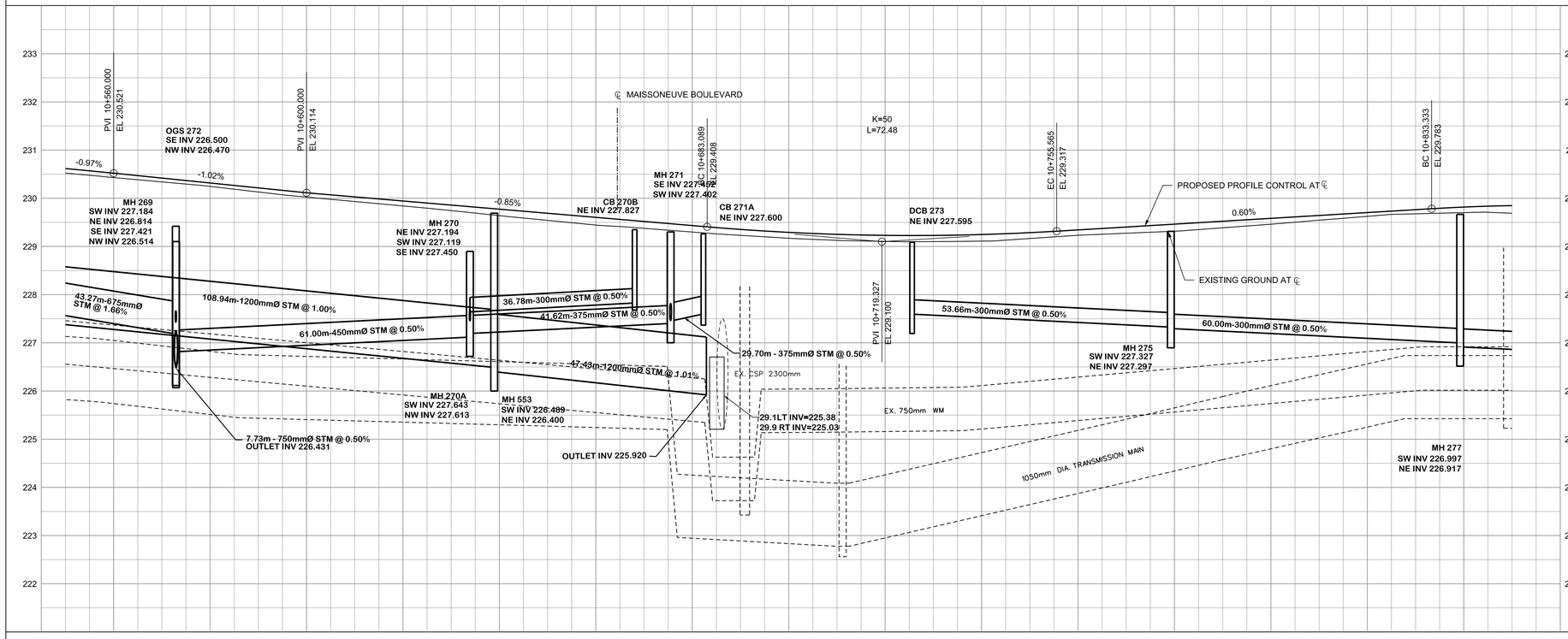
3/7/2016





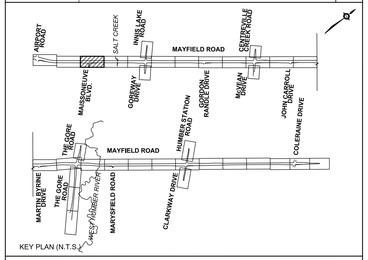
230.52	230.32	230.11	229.94	229.77	229.60	229.43	229.29	229.23	229.25	229.34	229.46	229.58	229.70	229.82	PROP. ROAD EL.
230.43	230.25	230.02	229.84	229.64	229.44	229.30	229.17	229.11	229.11	229.23	229.32	229.46	229.63	229.70	EX. ROAD ELEV.
10+560	10+580	10+600	10+620	10+640	10+660	10+680	10+700	10+720	10+740	10+760	10+780	10+800	10+820	10+840	ROAD CHAINAGE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.



General Notes

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All Water And Sanitary Service Locations Are Approximate And Must Be Located Accurately In The Field

All Horizontal And Vertical Bends Are In Degrees

All Pipes Size In mm

20℄ Existing Water Service, Size In mm

WS20 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.

IBI Group
100 - 175 Galaxy Blvd.
Toronto ON M9W 0C9 CANADA

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:
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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 for you

MAYFIELD ROAD

(FROM AIRPORT ROAD TO COLERAINE DRIVE)

NEW CONSTRUCTION

STA. 10+550 TO STA. 10+850

CAD Area	X-XX	Area	X-XX	Project No.	11-4075 & 13-4065
Checked by		Drawn by	T.Y.		
Date		Sheet	24 of 80	Plan No.	XXXXX-D

J:\24RY14.0228_Peel\Mayfield\Rd-Airport-Coleraine\5.9 Drawing\59hwy\PLATES\TMAYFIELD-dnc03.dgn
USER:terence.ying
3/7/2016

MAYFIELD ROAD

SALT CREEK

Storm catchment area

LIMIT OF GRADING | +855.0 | +891.0 | 9.1m 500CSP 1.6mm | ULTIMATE ROW | +985.0 | +037 | RIP RAP 1.5x8.5 | 17.7m 500CSP 1.6mm | LIMIT OF GRADING | 12.2m 500CSP 1.6mm

1.0m DITCH | 2.50 SH | EXIST. ROW | 2:1 | OPSD-605.030 | OPSD-912.531 | OPSD-912.235 | OPSD-912.130

2.5 SH
3.65
3.65
VAR.
VAR.
3.65
3.65
3.75

MATCH LINE STA 10+850

10+900 | 11+000 | 11+100

2.75
2.75

MATCH LINE STA 11+150

2.5 SH
3.65
3.65
2.75
2.75
3.65
3.65
3.75
3.50
3.00

OPSD-809.010 | ENERGY ATTENUATOR | OPSD-600.040 | 279 | 281 OGS | 283 | 285 | 286 | 288 OGS | 290 | 300 | 375 | 600

3.0m MULTI-USE TRAIL | OPSD-912.530 | OPSD-912.130 | EXIST. ROW | RIP RAP 2x6 | PROPOSED ROW

2% | 83m³ UNDERGROUND STORAGE MC-3500 (36.3m) | LIMIT OF GRADING | 1m SPLASH PAD | EXIST. ROW | OUTLET INV 225.454 | +963 RIP RAP 2x3 | BIO-SWALE SEE DETAIL | OUTLET INV 225.164 | 197m³ UNDERGROUND STORAGE MC-4500 (84.5m) | LIMIT OF GRADING

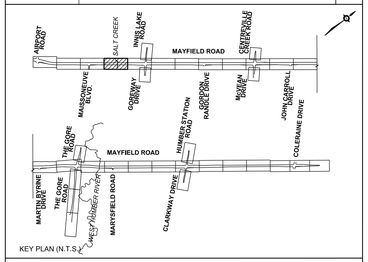
N 4 850 100 | E 600 300 | N 4 850 200 | E 600 400 | N 4 850 300 | E 600 500

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.



KEY PLAN (N.T.S.)

General Notes

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WS20 Proposed Water Service, Size In mm

B.M. No. Elev.
Description
Location

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IBI Group
100 - 175 Galaxy Blvd.
Toronto ON M9W 0C9 CANADA

Designed by | Chkd. | Approved by

NOTICE TO CONTRACTOR

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CITY OF BRAMPTON WORKS DEPT.
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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 for you

MAYFIELD ROAD

(FROM AIRPORT ROAD TO COLERAINE DRIVE)

NEW CONSTRUCTION

STA. 10+850 TO STA. 11+150

CAD Area	X-XX	Area	X-XX
Checked by		Drawn by	T.Y.
Date		Sheet	25 of 80

Project No. 11-4075 & 13-4065

Plan No. **XXXXX-D**

K=40
L=94.00

PVI 10+880.333
EL 230.065

EC 10+927.333
EL 229.243

BC 10+991.992
EL 228.111

PVI 11+074.992
EL 226.658

MH 279
SW INV 226.617
NE INV 226.587

MH 281
SW INV 226.262
SE INV 225.615
NE INV 226.033

MH 285
S INV 225.476
NW INV 225.562

CB 283
SW INV 226.360

DCB 286
NE INV 225.900

MH 288
SW INV 225.648
NE INV 225.612
SE INV 225.302

MH 300
NW INV 225.248
S INV 225.186

MH 290
NE INV 226.437
SW INV 226.362

-1.75% | 32.66m-300mmØ STM @ 1.00% | -1.75% | 29.65m-300mmØ STM @ 0.85% | 50.02m-375mmØ STM @ 1.50%

60.00m-375mmØ STM @ 0.50% | 64.96m-375mmØ STM @ 0.50% | 8.53m-600mmØ STM @ 0.25% OUTLET INV 225.164

83m³ UNDERGROUND STORAGE MC-3500 (36.3m) | 8.85m-600mmØ STM @ 0.25% OUTLET INV 225.454

197m³ UNDERGROUND STORAGE MC-4500 (84.5m)

1050mm DIA. TRANSMISSION MAIN | EX. 750mm WM | EXISTING GROUND AT ℄ | ℄ SALT CREEK | PROPOSED PROFILE CONTROL AT ℄ | 17m - TUNNEL UNDER CREEK

1050mm DIA. TRANSMISSION MAIN
45.86m LONG TUNNEL/LINER

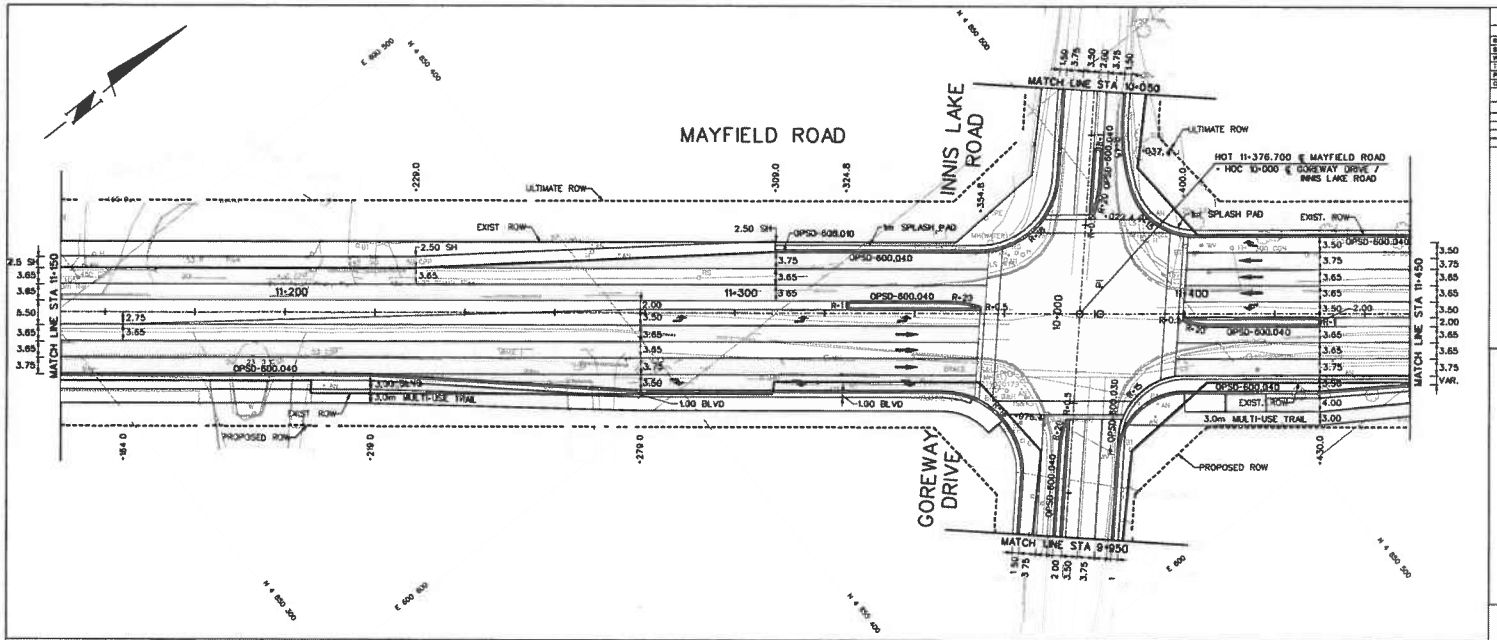
232 231 230 229 228 227 226 225 224 223 222 221 220 219 218 217

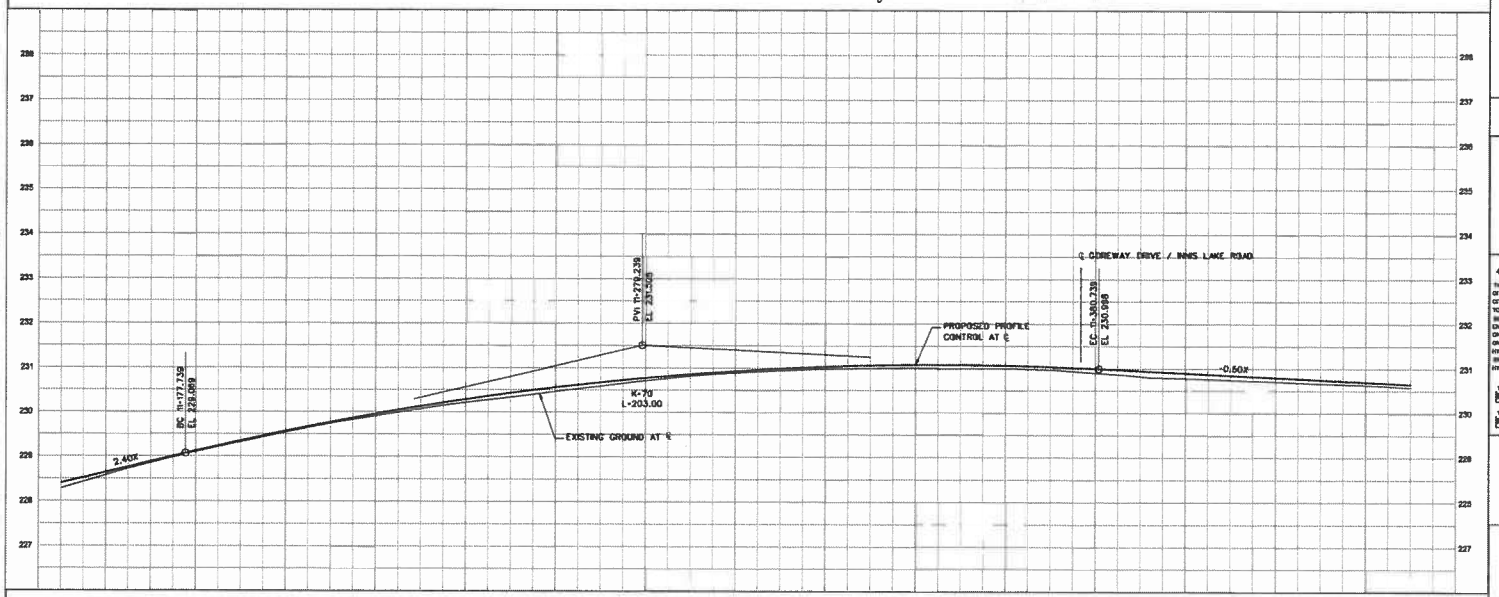
229.85	229.79	229.63	229.36	229.02	228.67	228.32	227.98	227.72	227.56	227.50	227.54	227.68	227.92	228.26	PROP. ROAD EL.
229.65	229.48	229.21	228.77	228.20	227.50	226.90	226.54	223.47	226.56	226.71	226.88	227.20	227.60	228.03	EX. ROAD ELEV.
10+860	10+880	10+900	10+920	10+940	10+960	10+980	11+000	11+020	11+040	11+060	11+080	11+100	11+120	11+140	ROAD CHAINAGE

J:\24RY\4.0228_Peel Mayfield Rd Airport-Coleraine\5.9 Drawing\59hwy\PLATES\MAYFIELD-drc04.dgn

USER:terence.ying

3/7/2016





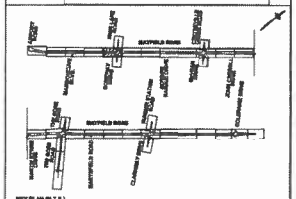
228.84	228.12	229.57	229.96	230.28	230.56	230.78	230.94	231.04	231.08	231.07	231.00	230.90	230.80	230.70	PROP. ROAD EL.
228.58	229.10	229.64	229.91	230.21	230.46	230.71	230.89	230.90	231.01	231.06	230.91	230.79	230.71	230.63	EX. ROAD ELEV.
11+160	11+180	11+200	11+220	11+240	11+260	11+280	11+300	11+320	11+340	11+360	11+380	11+400	11+420	11+440	ROAD CHAINAGE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL LUG CABLE		
WATERMAINS			HYDRO UG CABLE		
TRANSIT			HYDRO SWC		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.



General Notes

All Driveways Are ASPHALT Unless Otherwise Noted
All Water And Sanitary Service Locations Are Approximate And Must Be Located Accurately In The Field
All Horizontal And Vertical Bends Are In Degrees
All Pipes Size in mm
20C Existing Water Service, Size in mm
WS08 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.

IBI Group
100 - 175 Galaxy Blvd
Toronto ON M9W 0C8 CANADA

Designed by | Drawn | Approved by

NOTICE TO CONTRACTOR
48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

FEDERAL MUNICIPALITY OF PEEL	CABLE TELEVISION/SPECIFY PROVIDER
CITY OF [illegible] WORKS DEPT	BELL CANADA
CITY OF BRAMPTON WORKS DEPT	UNDERGROUND TELECOM
TOWN OF CALEDON WORKS DEPT	HYDRO ONE TELECOM
BELL CANADA	RESIDENTIAL CABLE
ENBRIDGE INCORPORATED [illegible]	ALLSTREAM
ONTARIO MINISTRY OF TRANSPORTATION	PAM (PUBLIC SECTOR MAINTENANCE)
ONTARIO CLEAN WATER AGENCY	FUTUREWAY (PCI BROADBAND)
HYDRO ONE NETWORKS	
ENBRIDGE GAS DISTRIBUTION	
HYDRO ONE BRAMPTON	

HORIZONTAL SCALE 10m 0 5 10 20 30m
VERTICAL SCALE 1m 0 1 2 3m

Region of Peel
Working for you

MAYFIELD ROAD

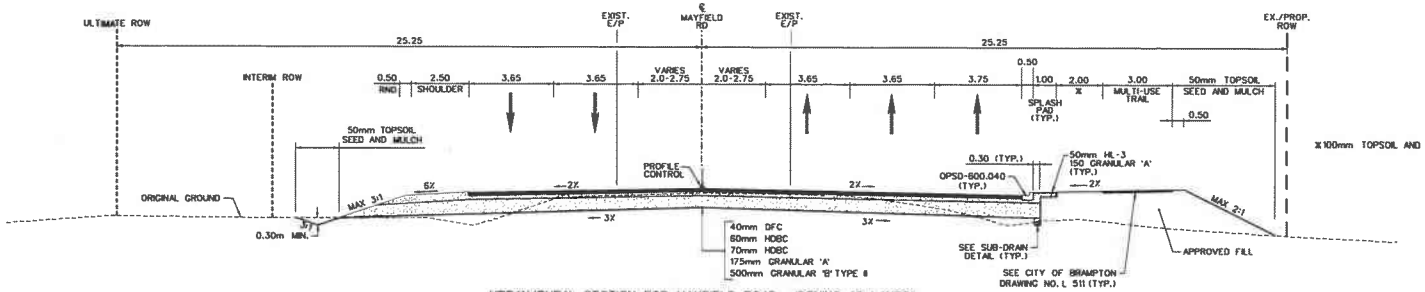
(FROM AIRPORT ROAD TO COLERAINE DRIVE)

NEW CONSTRUCTION

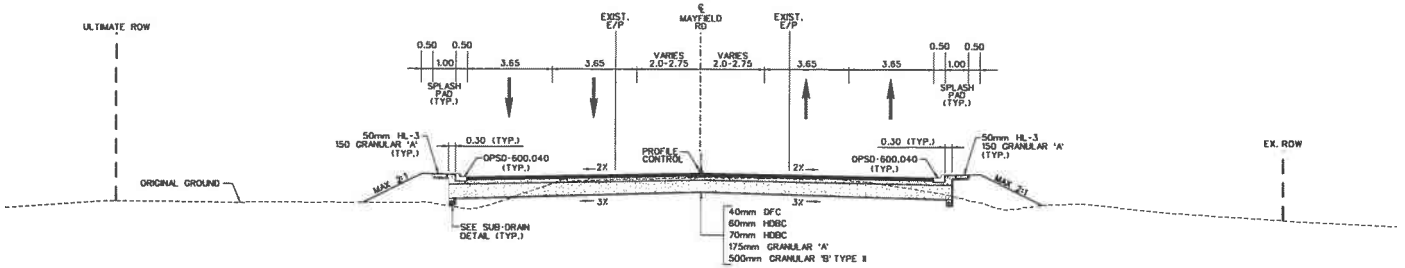
STA. 11+150 TO STA. 11+450

CAD Area	X-XX	Area	X-XX	Project No.	11-4075 & 13-4065
Checked by		Comm by	X.X.		
Date		Sheet	10 of 41	Plan No.	XXXXX-D

3/19/2015 USSStrservice.png J:\248574.0228_Peel Mayfield\6-Airport Coleraine\3.0 Drawing\Survey\PLATES\TRAFFIELD-dwg06.dgn

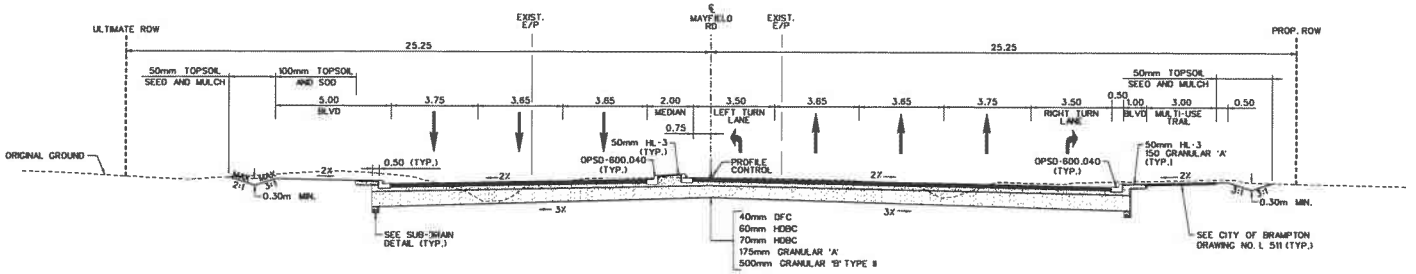


URBAN/RURAL SECTION FOR MAYFIELD ROAD WIDENING (5 LANES)

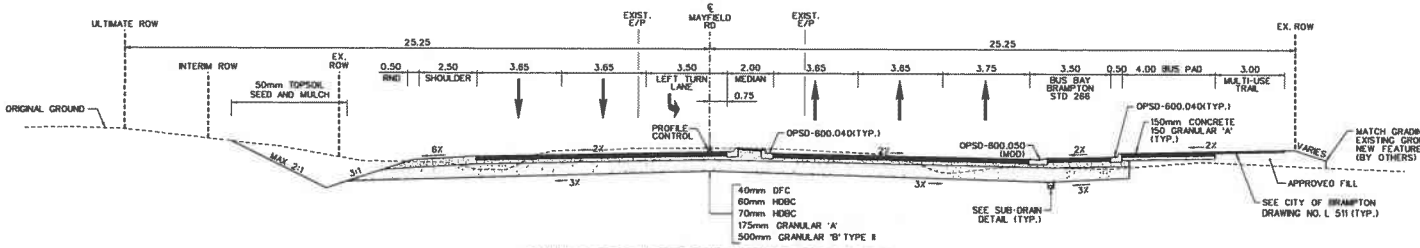


URBAN SECTION FOR MAYFIELD ROAD WIDENING (4 LANES)

NOTE: PAVEMENT STRUCTURE TO BE FINALIZED.



MAYFIELD ROAD INTERSECTION WIDENING



MAYFIELD ROAD INTERSECTION WIDENING WITH BUS BAY

SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO O/H		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLE		

REVISIONS		
DATE	DETAILS	INIT.

IBI Group
100 - 175 Galaxy Blvd.
Toronto ON M9W 0C9 CANADA

Designed by ____ Chkd. ____ Approved by ____

Region of Peel
Working for you

MAYFIELD ROAD

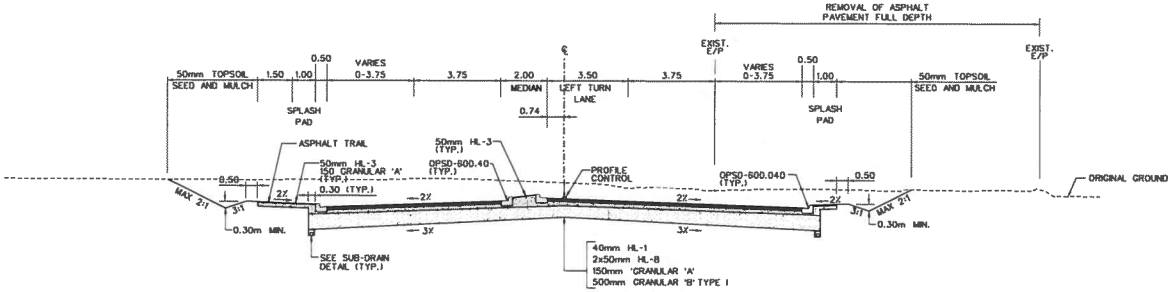
(FROM AIRPORT ROAD TO COLERAINE DRIVE)

TYPICAL SECTION

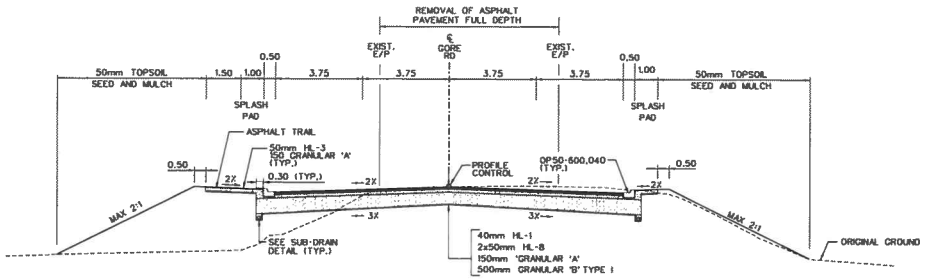
STA. 0+000 TO STA. 0+000

CAD Area	X-XX	Area	X-XX	Project No.	11-4075 & 13-4065
Checked by		Drawn by	X.X.		
Date		Sheet	40 of 41	Plan No.	XXXXX-D

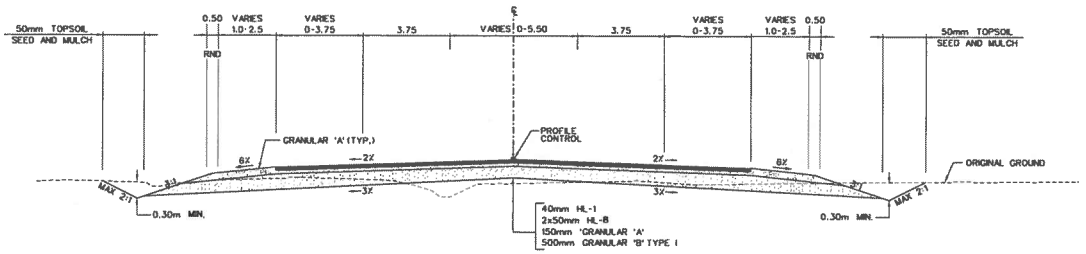
3/10/2015 USERnames.php J:\14XRX\ 03218 \Post May\Traffic Airport-Coleraine\3.0 Drawing\Sibley\PLATES\TMAYFIELD-prelim.dgn



SIDE ROAD INTERSECTION WIDENING



THE GORE ROAD WIDENING



SIDE ROAD RURAL SECTION WIDENING

SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS		
DATE	DETAILS	INIT.

NOTE: PAVEMENT STRUCTURE TO BE FINALIZED.

IBI Group
100 - 175 Galaxy Blvd.
Toronto ON M9W 0C9 CANADA

Designed by _____ Chkd. _____

Approved by _____

Region of Peel
Working for you

MAYFIELD ROAD

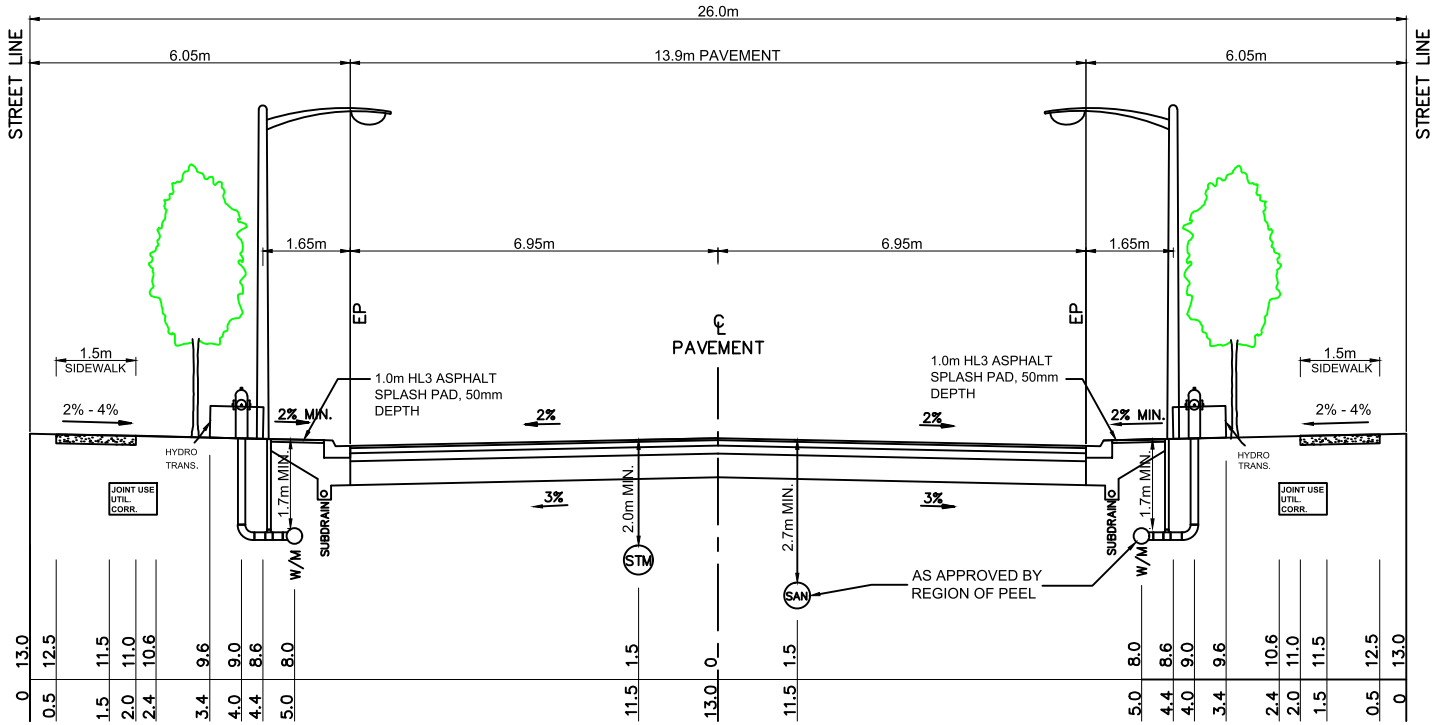
(FROM AIRPORT ROAD TO COLERAINE DRIVE)

TYPICAL SECTION

STA. 0+000 TO STA. 0+000

CAD Area X-XX	Area X-XX	Project No.	11-4075 & 13-4065
Checked by	Drawn by X.X.		
Date	Sheet 41 of 41	Plan No.	XXXXX-D

3/10/2015 USERtolerance.png J:\14-0804\4.02.03 - Peel Mayfield\R - Airport - Coleraine\3.0 Drawing\3.0Survey\PLATES\TMAYFIELD-dsn02.dgn



NOTES

1. UTILITY CORRIDOR TO HAVE A MINIMUM COVER OF 0.9 m.
2. WATERMAIN TO HAVE A MINIMUM COVER OF 1.7 m.
3. THE FOLLOWING IS A MINIMUM ROAD BASE AND WILL REQUIRE A SOILS REPORT VERIFICATION
   - 40 mm HL3 HS
   - 110 mm HDBC
   - 150 mm GRANULAR "A"
   - 450 mm GRANULAR "B"
4. THE BOULEVARDS REQUIRE A MINIMUM OF 300mm OF TOPSOIL AND NURSERY SOD.
5. TREES TO BE PLACEDIN LOCATIONS PER APPROVED LANDSCAPE PLANS.
6. STREETLIGHT FIXTURE PER APPROVED TOWN OF CALEDON STANDARD.
7. FULL LENGTH MINIMUM 100 MM DIA.SUB-DRAINS C/W FILTERCLOTH SHALL BE INSTALLED, AS PER APPROVED TOWN STANDARD NO. 218.
8. SUB-GRADE SHALL BE COMPACTED TO A MINIMUM 95% OF S.P.D. AT OPTIMUM MOISTURE CONTENT.
9. WHERE POSSIBLE MANHOLE LIDS TO BELOCATED OUT OF TIRE LANE OF TRAFFIC.
10. 1.0 m SPLASH PAD TO BE PATTERNED CONCRETE AS PER APPROVED TOWN OF CALEDON STANDARD NO. 218.
11. LONG DIMENSION OF TRANSFORMER TO BE PARALLEL TO STREETLINE.

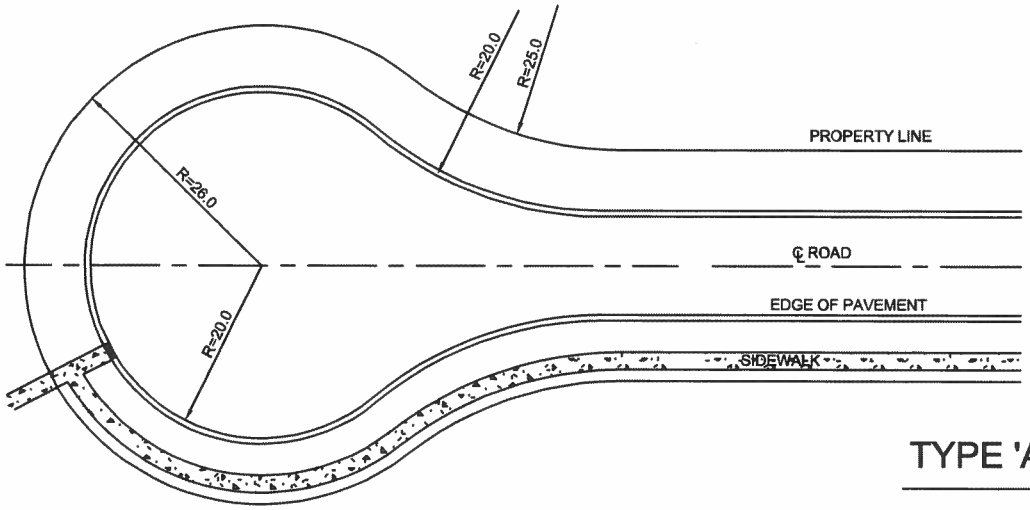
TOWN OF CALEDON

26.0m INDUSTRIAL COLLECTOR
14.5m ROADWAY (13.9m PAVEMENT)

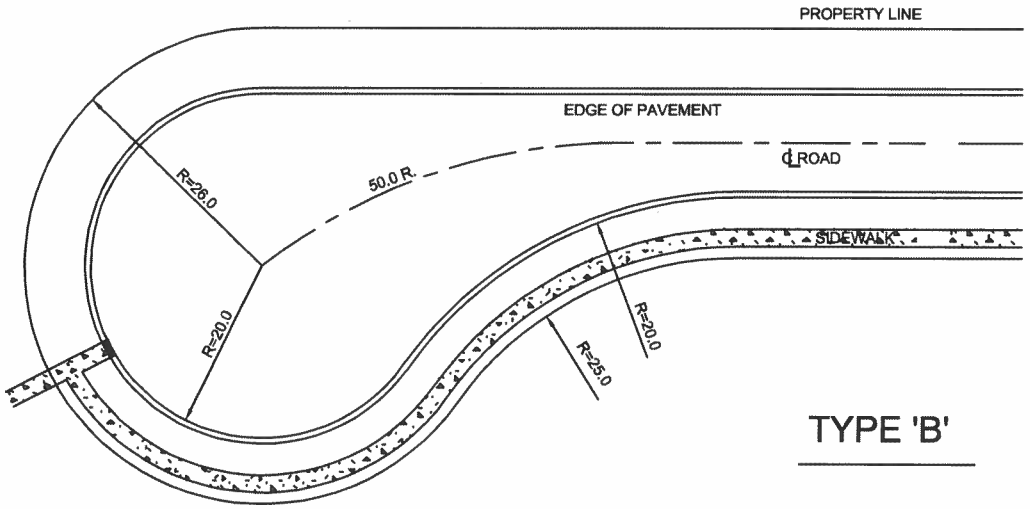
NO.	REVISION	APR'D	DATE
4	TEXT AND SLOPE REVISION		APR 19
3	DIMENSION AND TEXT REVISION		JAN. 09
2	DIMENSION AND LAYOUT REVISION		JULY 08
1	DIMENSION EDIT, STD No. 209 NOW 211		JUNE 08

APR'D: C.C. | DATE: JUNE 08
DRAWN: | SCALE: N.T.S.

STANDARD No. 211



TYPE 'A'



TYPE 'B'

NOTES:

1. ALL DIMENSIONS ARE IN METRES, UNLESS OTHERWISE SHOWN
2. MINIMUM GUTTER GRADE 0.75%
3. AT THE CURB, THERE SHALL BE A MIN. 1.0M BARRIER CURB BETWEEN EVERY DRIVEWAY AROUND THE BULB OF THE CUL-DE-SAC.

NO.	REVISION	APR'D	DATE
3	NOTE 3 EDIT, STANDARD No. 250 NOW 215		JUNE 08
2	ROADWAY DIMENSIONS REMOVED, NOTE 3 ADDED, CURB TERMINATED		MARCH 08
1	RADII DIMENSIONING CORRECTED		MAY 04

TOWN OF CALEDON	APR'D: C.C.	DATE: 19/01/09
	DRAWN:	SCALE: N.T.S.
INDUSTRIAL CUL-DE-SAC	STANDARD No.215	

1.0 INTRODUCTION

The Tullamore Community is located on the north side of Mayfield Road at the intersection of Airport Road and Mayfield Road, as illustrated on Figure 1. It is currently dominated by active agricultural land although it contains a mixture of some commercial, industrial and residential land uses. The Tullamore Industrial/Commercial Secondary Plan provides direction for future development in the area as illustrated on Figure 2.

2.0 DESIGN GUIDELINES... SCOPE AND INTENT

The purpose of this document is best described by the following objectives:

a) To establish a coordinated approach to landscaping in the area that will assist in creating an attractive and desirable community, which could be used as strong marketing tool by the developers and the Town.

b) To provide direction to individual developers and their Landscape Architects when preparing the detailed plans for each subdivision and site plan. This should have the effect of simplifying and accelerating the drawing approvals process.

c) To assist the Town staff in the review and approval of each individual subdivision and site plan application. This will ensure that plans are consistent with the overall "vision" for the Tullamore Community.

The following document deals with design guidelines and landscape standards as they pertain to minimum expectations for landscape performance, materials, etc. to be employed in the development of a cohesive community.

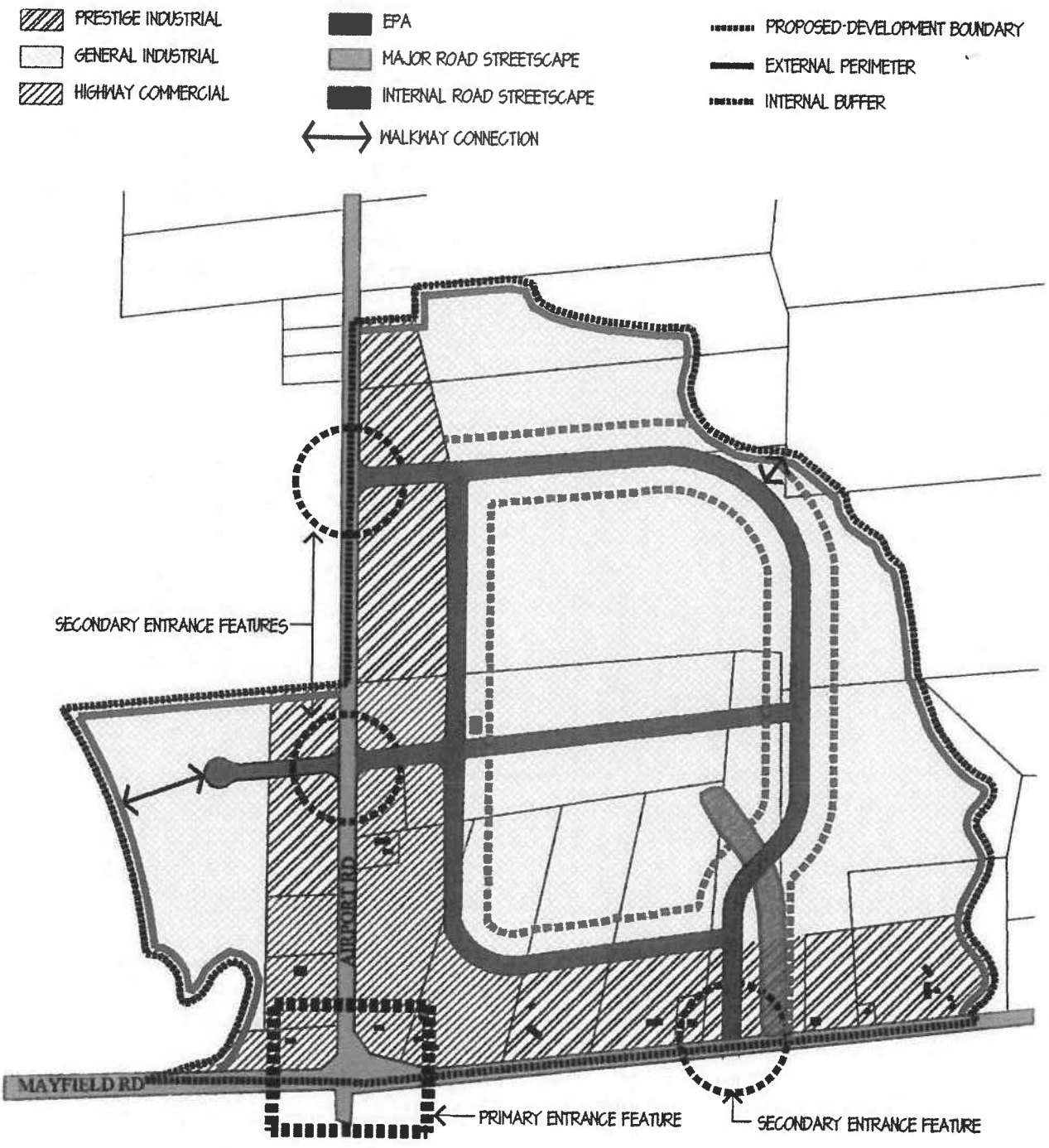
The design guidelines are made up of written descriptions, plan views, and cross sections to be considered by an applicant, to design the streetscapes, select the trees and shrubs, and create a scheme that will be in keeping with the character established by this document. In several cases, alternative options are provided for the treatment of specific areas.

Various landscape standards are contained in Appendix A of this document. They include construction details, specifications and notes specific to the various landscape categories and are to be considered the minimum technical requirements for development.

All the landscape standards in this report (found in construction detail format) are available to the developer or landscape architect in a digital format so that they can be imported directly into computer generated landscape drawings.

The consultant for each development site is responsible for reviewing this package and ensuring the site is designed within the parameters established by these standards and guidelines, and that the relevant details and specifications are included in the landscape submission.

FIGURE 2



THE CORPORATION OF THE TOWN OF CALEDON

TULLAMORE COMMUNITY DESIGN GUIDELINES

5.0 *PRIMARY ENTRANCE - GATEWAY*

The intersection of Airport Road and Mayfield Road forms an important vehicular gateway into the Town of Caledon, as illustrated on Figure 5a. To accentuate the entrance into the municipality, a strong landscape treatment and signage is recommended. In combination with municipal signage, the landscape treatment will also recognize the Tullamore Commercial and Industrial Community. The accompanying concept plan illustrates the level of treatment envisioned for the intersection.

The gateway is situated on private property and is subject to a satisfactory agreement being reached with the respective landowners. In addition, the location and configuration of the design is strongly dependent on future roadway improvements at this intersection.

The gateway design has an estimated construction cost of $150,000.00. It is anticipated that this cost will be distributed between the Tullamore development community and the Town of Caledon.

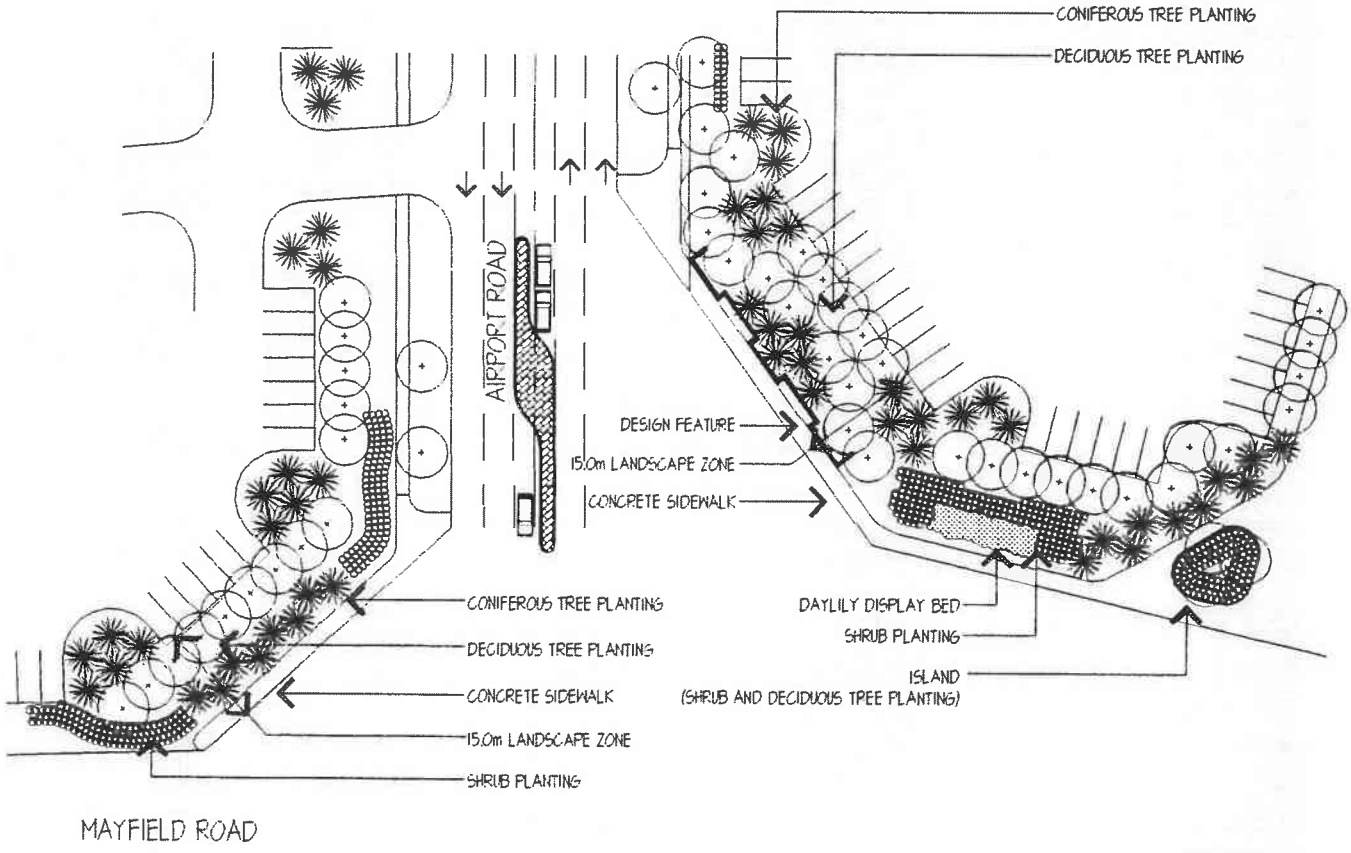


FIGURE 5a

6.0 *SECONDARY ENTRANCE*

Along Airport Road and Mayfield Road there are three proposed intersections. At each intersection, as illustrated on Figure 2, landscape treatment will enhance the streetscape and provide signage.

The landscape features at each intersection will be positioned on private property along the "daylight triangles". The anticipated cost for the construction is $150,000.00 for a complete intersection and $75,000.00 for half intersection.

The construction cost of the secondary entrances will be the responsibility of the Tullamore development community.

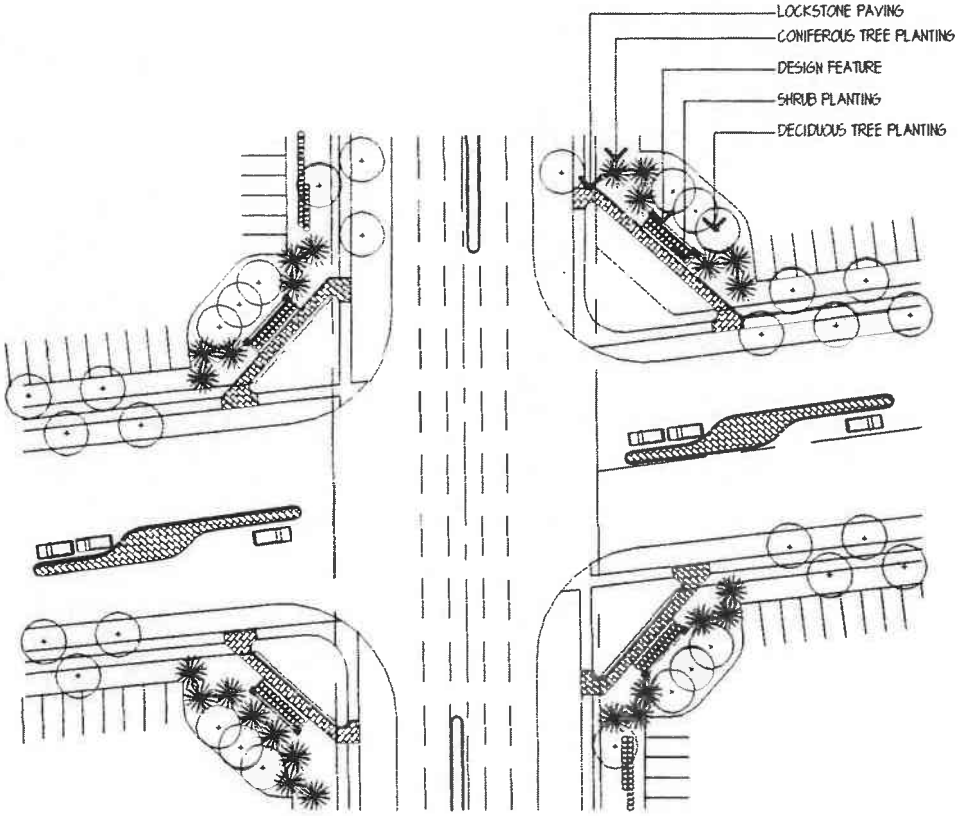
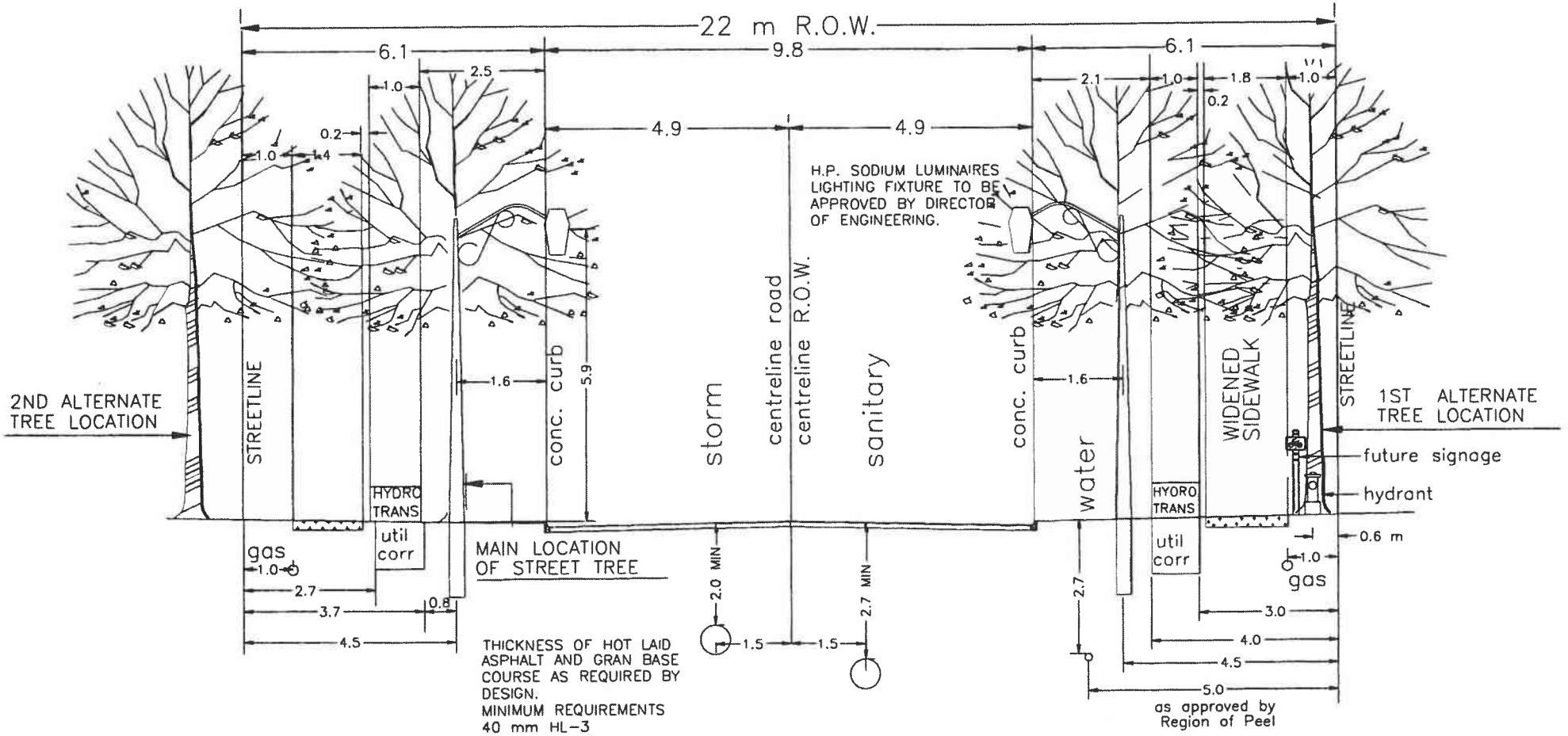


FIGURE 6a

ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED



GRANULAR ROAD BASE TO BE COMPACTED TO 100% S.P.D. AS PER O.P.S.S. 501.07.02
MAXIMUM DRIVEWAY GRADE 10%

THICKNESS OF HOT LAID ASPHALT AND GRAN BASE COURSE AS REQUIRED BY DESIGN.
MINIMUM REQUIREMENTS
40 mm HL-3
90 mm HL-8
150 mm GRAN A
300 mm GRAN B
CROSS FALL 2%
SUBDRAIN AS REQUIRED BY DESIGN

SIDEWALK TO HAVE MAXIMUM CROSSFALL OF 3% AND 2% AT DRIVEWAYS.
MAXIMUM GRADE OF BLVD. 6%
MINIMUM GRADE OF BLVD 2%

ALL DIMENSIONS SHOWN FOR COVER ARE MIN. UTILITY LOCATIONS IN ACCORDANCE WITH TOWN OF CALEDON PROCEDURE

NOTE:
THIS CROSS SECTION IS PROVIDED TO ILLUSTRATE TREE LOCATIONS ONLY. REFERENCE SHOULD BE MADE TO THE APPROVED TOWN OF CALEDON ENGINEERING CROSS SECTION FOR ALL OTHER PURPOSES.

THE CORPORATION OF THE
TOWN OF CALEDON

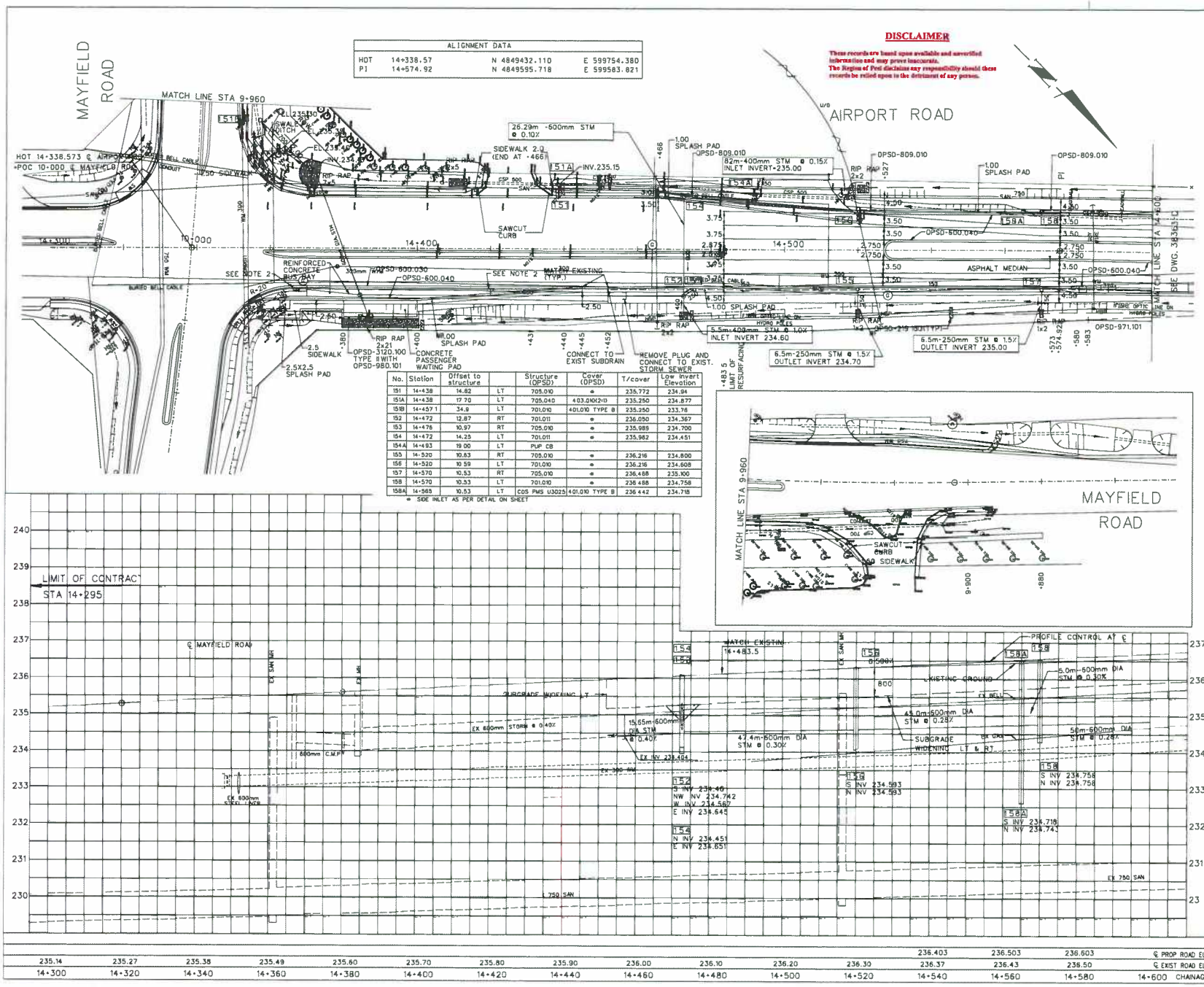
TULLAMORE COMMUNITY DESIGN GUIDELINES: LANDSCAPE STANDARDS

DRAWING TITLE: URBAN SUBDIVISION ROAD CROSS SECTION FOR 22 M R.O.W. (With increased sidewalk width – One side)

PLAN NO: SEC-1

PREPARED BY:
alexander budrevics and associates limited
modified by Landscape Planning Limited

May 1998



ALIGNMENT DATA

HOT	14+338.57	N 4849432.110	E 599754.380
PI	14+574.92	N 4849595.718	E 599583.821

DISCLAIMER

These records are based upon available and unverified information and may prove inaccurate. The Region of Peel disclaims any responsibility should these records be relied upon to the detriment of any person.

No.	Station	Offset to structure		Structure (OPSD)	Cover (OPSD)	T/cover	Low Invert Elevation
151	14+438	14.82	LT	705.010	*	235.772	234.94
151A	14+438	17.70	LT	705.040	403.010X2+D	235.250	234.877
151B	14+457.1	34.8	LT	701.010	401.010 TYPE B	235.250	233.76
152	14+472	12.87	RT	701.011	*	236.050	234.367
153	14+478	10.97	RT	705.010	*	235.989	234.700
154	14+472	14.25	LT	701.011	*	235.982	234.451
154A	14+493	19.00	LT	PUP CB			
155	14+520	10.83	RT	705.010	*	236.216	234.800
156	14+520	10.59	LT	701.010	*	236.216	234.608
157	14+570	10.53	RT	705.010	*	236.488	235.100
158	14+570	10.53	LT	701.010	*	236.488	234.758
158A	14+585	10.53	LT	COS PMS U3025	401.010 TYPE B	236.442	234.716

* SIDE INLET AS PER DETAIL ON SHEET

235.14	235.27	235.38	235.49	235.60	235.70	235.80	235.90	236.00	236.10	236.20	236.30	236.37	236.43	236.50	236.603	℄ PROP ROAD EL.
14+300	14+320	14+340	14+360	14+380	14+400	14+420	14+440	14+460	14+480	14+500	14+520	14+540	14+560	14+580	14+600	CHAINAGE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS

DATE	DETAILS	INIT.
JUNE 10/10	REVISION NO. 2	J.K.
FEB 21/2012	AS-BUILT	J.K.

KEY PLAN N.T.S.

LEGEND:

TEMPORARY EASEMENT
BARRIER FOR TREE PROTECTION
TEMPORARY STRAW FLOW CHECKS OPSD-219.180
IMPRESSED COLOUR CONCRETE
RIP-RAP (OPSD-810.010)

NOTE:

1. ADJUST ALL MANHOLES, VALVE CHAMBERS, CATCHBASINS, WATER VALVES AND HAND WELLS IMPACTED BY CONSTRUCTION TO SUIT FINAL GRADES.
2. ADJUST/REBUILD EXISTING CATCH BASIN TO SUIT NEW CURB, INCLUDING THE SUPPLY AND INSTALLATION OF OPSD-400.030 FRAMES AND GRATES(2).

General Notes

- All Driveways ASPHALT (125mm HL3, 50mm HL8, 150mm GRAN 'A') Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In The Field
- Denotes Building - Not Located
- Denotes Building Located Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction, Location of shown Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

Giffels Associates Limited
Consulting Engineers and Architects
An IBI Group Company

LICENSED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO
J. KREUTZER

Designed by _____ Chkd. _____

Designed 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 TELEPHONE COMPANY
CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. CITY OF MISSISSAUGA
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE
1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

AIRPORT ROAD

(FROM MAYFIELD ROAD NORTHERLY 1.3KM)

NEW CONSTRUCTION

Sta. 14+300 To Sta. 14+600

LOTS	AREA C4, C5	PROJECT NO. 03-4040	
CHECKED BY J.K.	DRAWN BY S.A.K.	PLAN NO. 38362-D	
DATE JANUARY 2010	SHEET 8 OF 31		

DGNSPEC:\2345678901234567890123456789012 $$$$USERNAME$$$$ $$$$ A $$$$

ALIGNMENT DATA			
PI	14+797.120	N 4849752.267	E 599426.129
HDT	14+798.052	N 4849752.923	E 599425.469

DISCLAIMER

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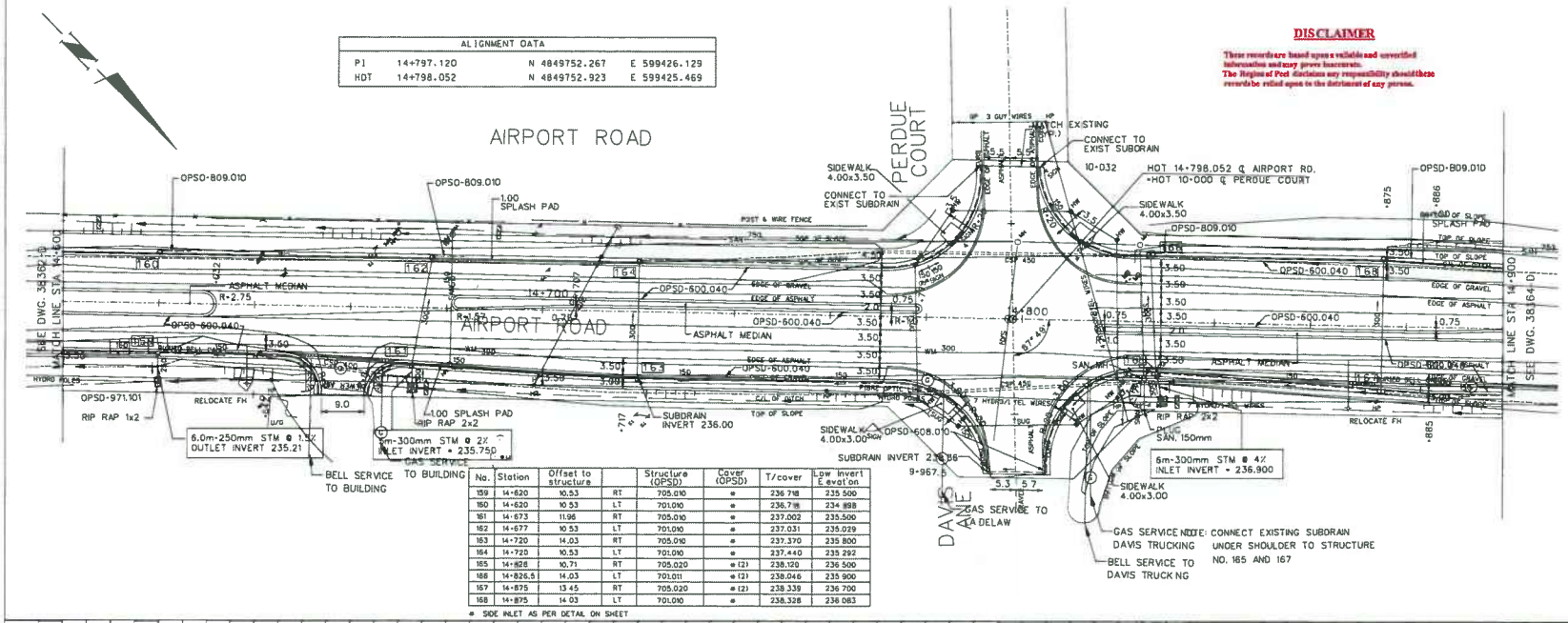
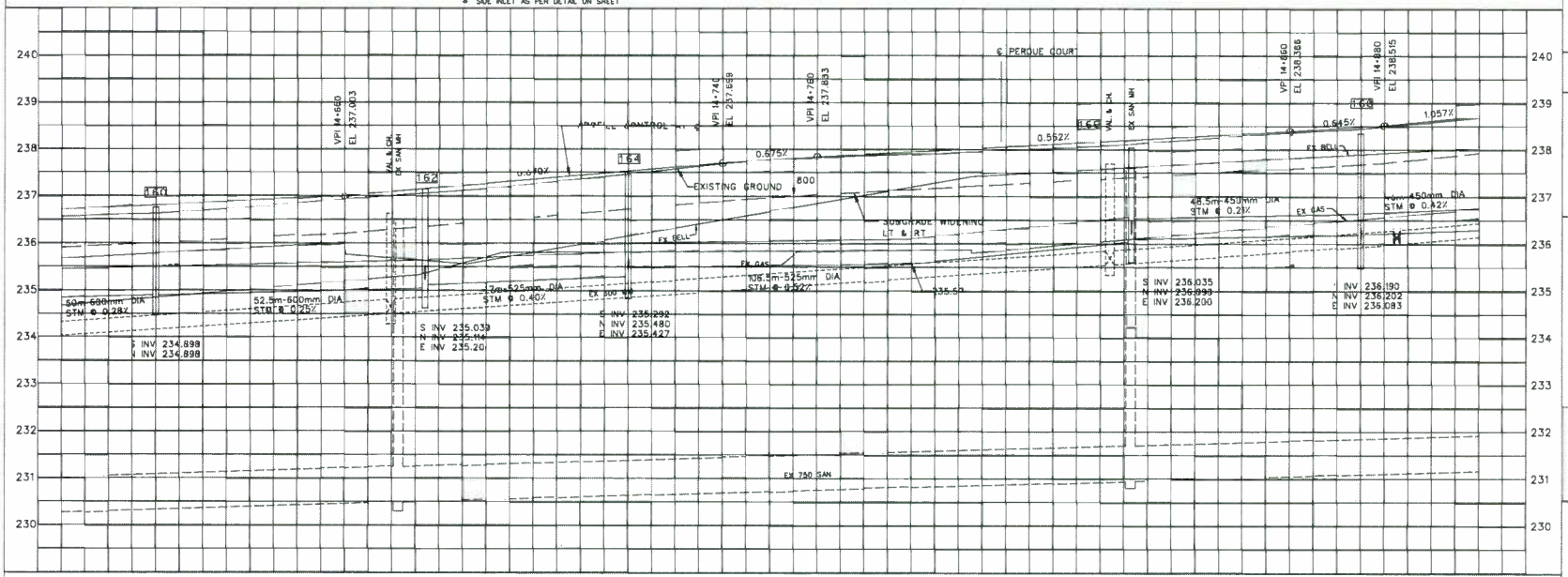


No.	Station	Offset to structure		Structure (OPSD)	Cover (OPSD)	T/cover	Low Invert Elevation
159	14+620	10.53	RT	705.010	*	236.718	235.500
160	14+620	10.53	LT	701.010	*	236.718	234.898
161	14+673	11.96	RT	705.010	*	237.002	235.500
162	14+677	10.53	LT	701.010	*	237.031	235.029
163	14+720	14.03	RT	705.010	*	237.370	235.800
164	14+720	10.53	LT	701.010	*	237.440	235.292
165	14+826	10.71	RT	705.020	* (2)	238.120	236.500
166	14+826.5	14.03	LT	701.011	* (2)	238.046	235.900
167	14+875	13.45	RT	705.020	* (2)	238.339	236.700
168	14+875	14.03	LT	701.010	*	238.328	236.083

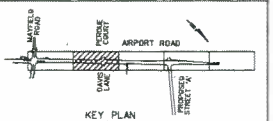
* SIDE INLET AS PER DETAIL ON SHEET



236.703	236.803	236.903	237.003	237.177	237.351	237.525	237.699	237.834	237.944	238.055	238.165	238.276	238.386	238.515	℄ PROP ROAD EL.
236.56	236.63	236.75	236.93	237.08	237.25	237.46	237.69	237.82	237.89	237.98	238.08	238.22	238.35	238.49	℄ EXIST ROAD EL.
14+600	14+620	14+640	14+660	14+680	14+700	14+720	14+740	14+760	14+780	14+800	14+820	14+840	14+860	14+880	14+900 CHAINAGE

SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN. SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS		
DATE	DETAILS	INIT.
JUNE 10/10	REVISION NO.2	J.K.
FEB. 21/2012	AS-BUILT	J.K.



KEY PLAN
N.T.S.

General Notes

- All Driveways ASPHALT (25mm HL3, 50mm HL8, 150mm GRAN 'A') Unless Otherwise Noted.
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J. KREUTZER
LICENSED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO

Designed by — Chkd

Designed by

NOTICE TO CONTRACTOR

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CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE

1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

AIRPORT ROAD

(FROM MAYFIELD ROAD NORTHERLY 1.3KM)

NEW CONSTRUCTION

Sta. 14+600 To Sta. 14+900

LOTS	AREA C4, C5	PROJECT NO. 03-4040	
CHECKED BY J.K.	DRAWN BY S.A.K.		
DATE JANUARY 2010	SHEET 9 OF 31	PLAN NO. 38363-D	

$$$$DATE$$$$ $$$$USERNAME$$$$ DGN$SPEC-1234567890123456789012345678012

ALIGNMENT DATA			
PI	15+071.46	N 4849945.714	E 599231.596

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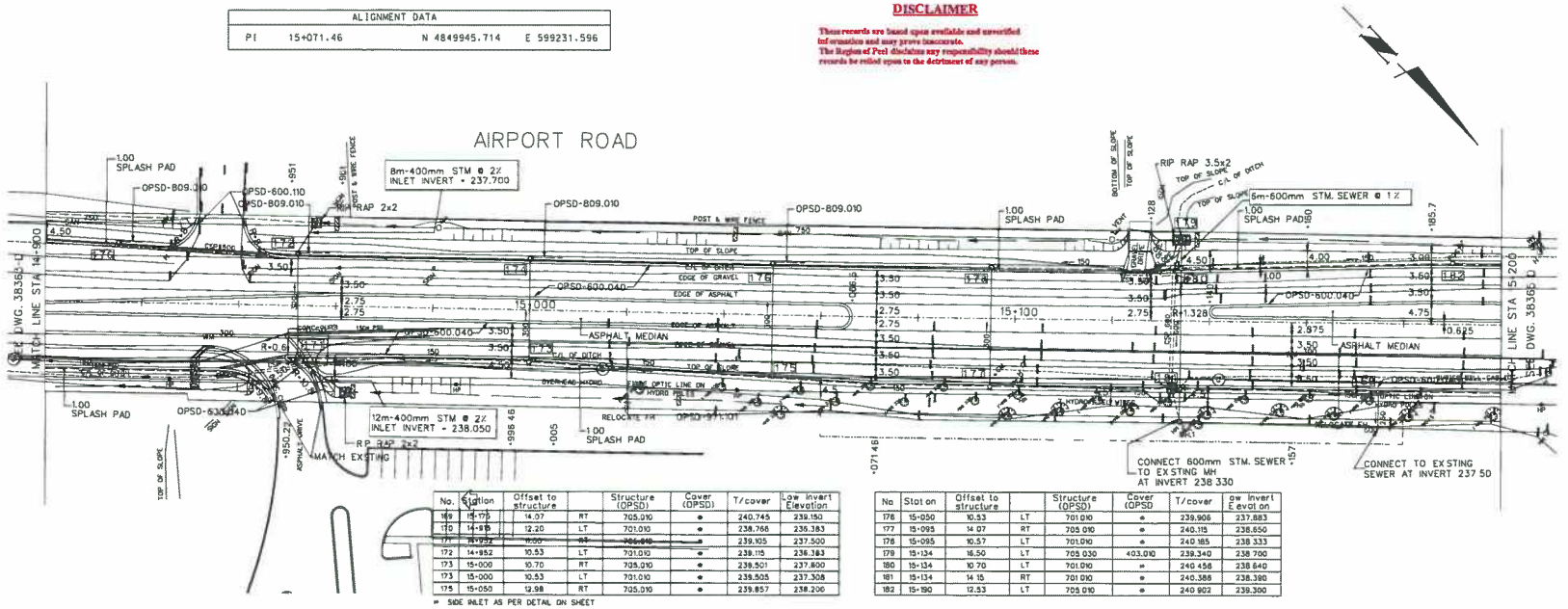
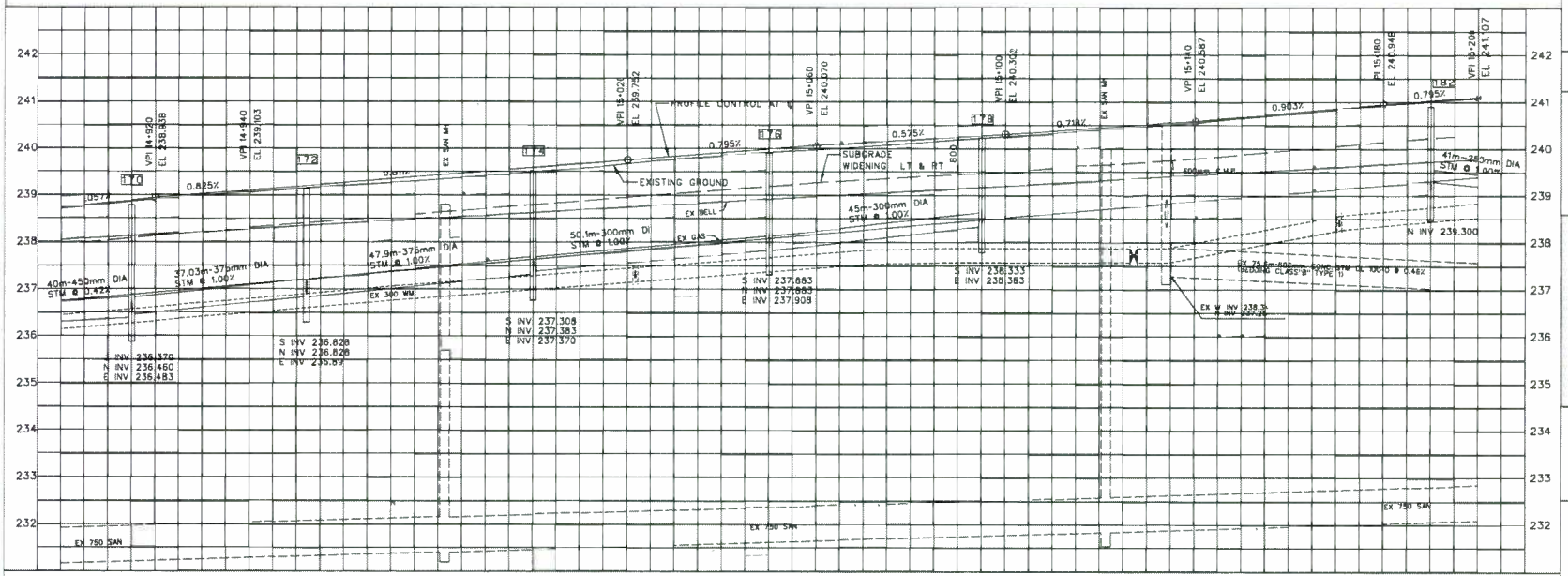


No.	Station	Offset to structure		Structure (OPSD)	Cover (OPSD)	T/cover	Low Invert Elevation
169	15+175	14.07	RT	705.010	*	240.745	239.150
170	14+918	12.20	LT	701.010	*	238.766	236.383
171	14+952	11.00	RT	705.040	*	239.105	237.500
172	14+952	10.53	LT	701.010	*	239.115	236.383
173	15+000	10.70	RT	705.010	*	238.501	237.800
174	15+000	10.53	LT	701.010	*	238.505	237.308
175	15+050	12.98	RT	705.010	*	239.857	238.200

* SIDE INLET AS PER DETAIL ON SHEET

No	Station	Offset to structure		Structure (OPSD)	Cover (OPSD)	T/cover	gw Invert Elevation
176	15+050	10.53	LT	701.010	*	238.906	237.883
177	15+095	14.07	RT	705.010	*	240.115	238.650
178	15+095	10.57	LT	701.010	*	240.185	238.333
179	15+134	16.50	LT	705.030	403.010	239.340	238.700
180	15+134	10.70	LT	701.010	*	240.458	238.640
181	15+134	14.15	RT	701.010	*	240.388	238.390
182	15+190	12.53	LT	705.010	*	240.902	239.300



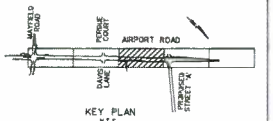
238.727	238.938	239.103	239.265	239.427	239.590	239.752	239.911	240.070	240.185	240.300	240.444	240.587	240.768	240.948	℄ PROP ROAD EL.
238.69	238.90	239.06	239.20	239.33	239.49	239.67	239.84	239.98	240.11	240.25	240.40	240.55	240.73	240.93	℄ EXIST ROAD EL.
14+900	14+920	14+940	14+960	14+980	15+000	15+020	15+040	15+060	15+080	15+100	15+120	15+140	15+160	15+180	15+200 CHAINAGE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS

DATE	DETAILS	INIT.
JUNE 10/10	REVISION NO.2	J.K.
FEB. 21/2012	AS-BUILT	J.K.



KEY PLAN
N.T.S.

General Notes

— — All Driveways ASPHALT 125mm HL3, 50mm HL8, 150mm GRAN 'A' Unless Otherwise Noted.
— — All Service Locations Are Approximate And Must Be Located Accurately In The Field
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Denotes Building Located
Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

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LICENSED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO
J. KREUTZER

Designed by CN&S

Designed by

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

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CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
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CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. CITY OF MISSISSAUGA
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE
1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

AIRPORT ROAD

(FROM MAYFIELD ROAD NORTHERLY 1.3KM)

NEW CONSTRUCTION

Sta. 14+900 To Sta. 15+200

LOTS	AREA C4, C5	PROJECT NO. 03-4040	
CHECKED BY J.K.	DRAWN BY S.A.K.		
DATE JANUARY 2010	SHEET 10 OF 31	PLAN NO.	38364-D

DGN:$(PC-LU)345678901234567890123456789012
$$$$USERNAME$$$$
$$$$DATE$$$$

ALIGNMENT DATA			
PI	15+300	N 4850105.659	E 599068.357
PI	15+455.54	N 4850215.338	E 598958.076

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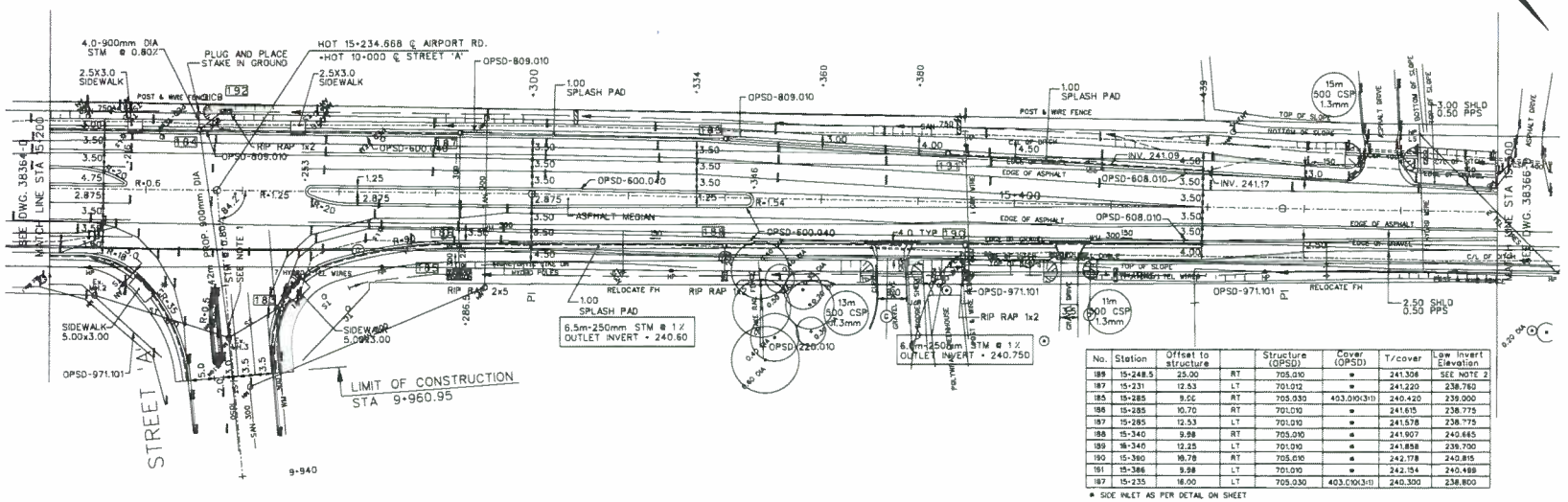
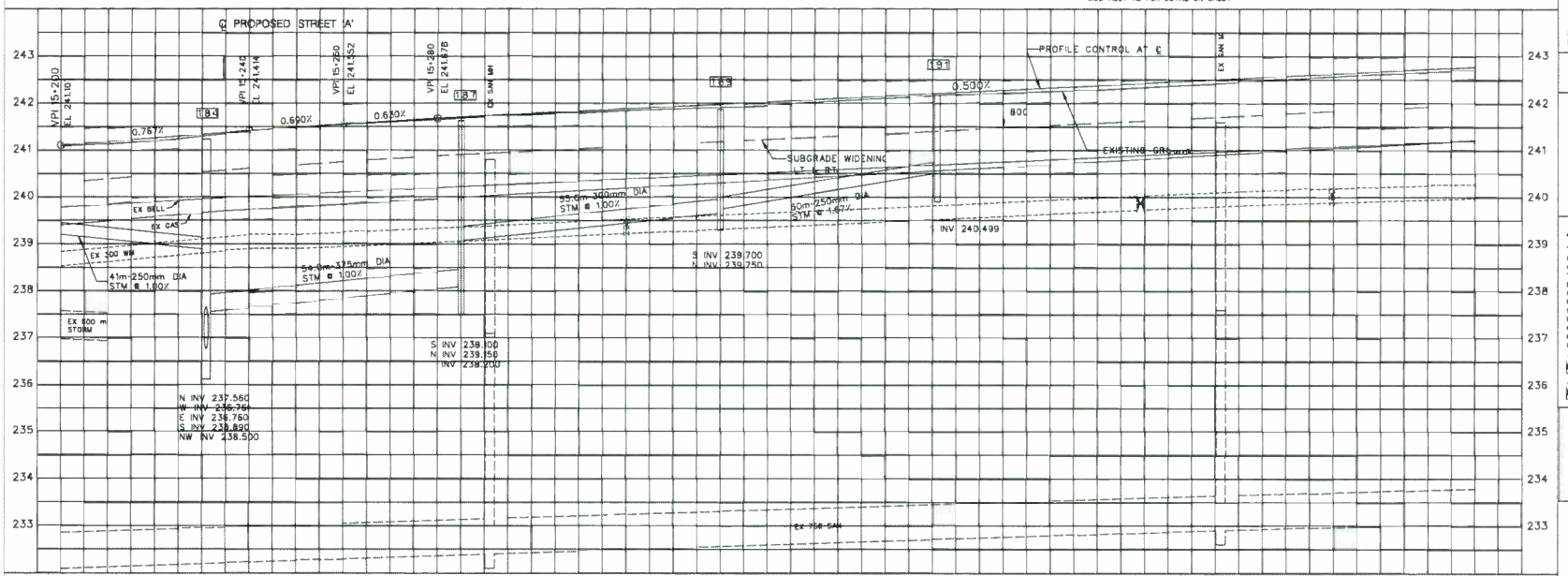
AIRPORT ROAD



No.	Station	Offset to structure		Structure (OPSD)	Cover (OPSD)	T/cover	Low Invert Elevation
189	15+248.5	25.00	RT	705.010	*	241.306	SEE NOTE 2
187	15+231	12.53	LT	701.012	*	241.220	238.760
185	15+285	9.00	RT	705.030	403.010(3+1)	240.420	239.000
186	15+285	10.70	RT	701.010	*	241.615	238.775
187	15+285	12.53	LT	701.010	*	241.578	238.775
188	15+340	9.98	RT	705.010	*	241.907	240.665
189	15+340	12.25	LT	701.010	*	241.858	239.790
190	15+380	10.78	RT	705.010	*	242.178	240.815
191	15+386	9.98	LT	701.010	*	242.154	240.488
187	15+235	16.00	LT	705.030	403.010(3+1)	240.300	238.800

* SIDE INLET AS PER DETAIL ON SHEET



241.107	241.260	241.414	241.552	241.678	241.778	241.878	241.978	242.078	242.178	242.278	242.378	242.478	242.578	242.678	℄ PROP ROAD EL.
241.09	241.19	241.36	241.55	241.66	241.76	241.84	241.91	242.02	242.13	242.17	242.16	242.39	242.51	242.62	℄ EXIST ROAD EL.
15+200	15+220	15+240	15+260	15+280	15+300	15+320	15+340	15+360	15+380	15+400	15+420	15+440	15+460	15+480	15+500 CHAINAGE

SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN. SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS		
DATE	DETAILS	INIT.
JUNE 10/10	REVISION NO.2	J.K.
FEB 21/2012	AS-BUILT	J.K.

KEY PLAN
N.T.S.

NOTES:
1. LOCATE END OF EXISTING STORM SEWER STUB (APPROX. INVERT 236.42) REMOVE EXISTING PLUG, CONFIRM INVERT AND INSTALL PROP. 900mm SEWER.
2. LOCATE EXISTING SEWER (APPROX. INVERT 238.780). CONSTRUCT NEW CATCHBASIN TO SUIT, REMOVE PIPE NOT REQUIRED.

General Notes

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B.M. No. Elev.

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LICENSED PROFESSIONAL ENGINEER J. KREUTZER PROVINCE OF ONTARIO

Designed by ____ CM.d. ____ Designed by

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLEWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
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TOWN OF CALEDON WORKS DEPT.
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CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. CITY OF MISSISSAUGA
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE

1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

AIRPORT ROAD

(FROM MAYFIELD ROAD NORTHERLY 1.3KM)

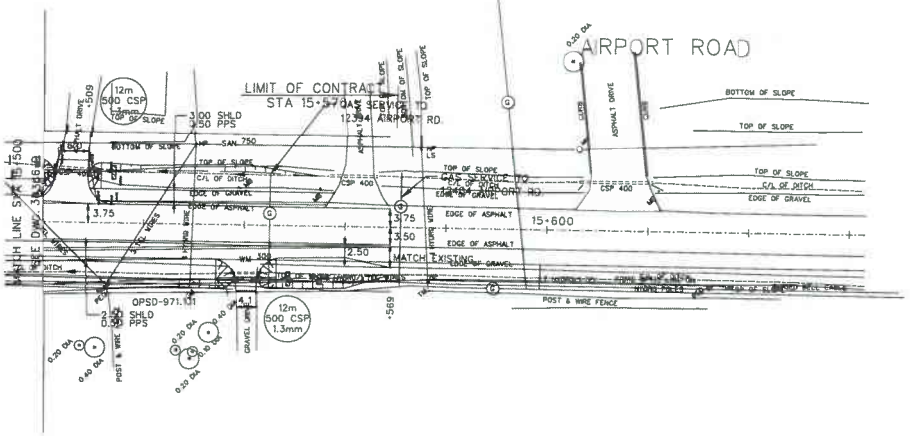
NEW CONSTRUCTION

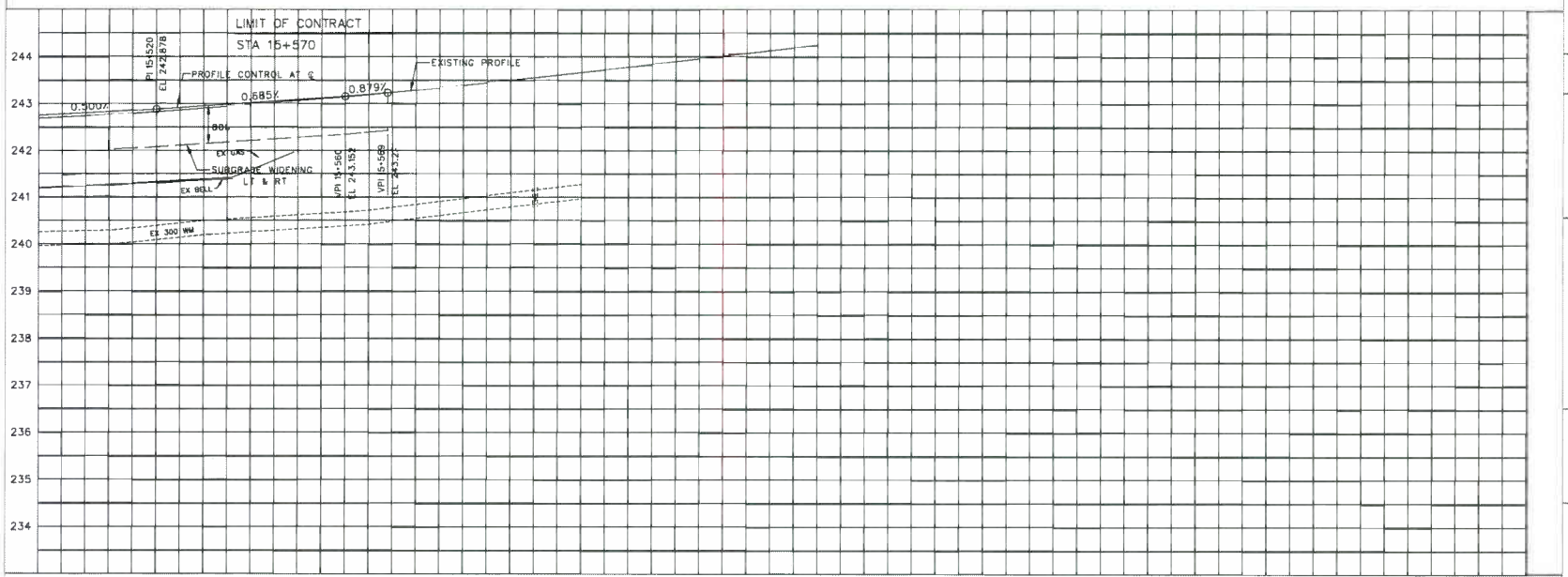
Sta. 15+200 To Sta. 15+500

LOTS	AREA C4, C5	PROJECT NO. 03-4040	
CHECKED BY J.K.	DRAWN BY S.A.K.	PLAN NO. 38365-D	
DATE JANUARY 2010	SHEET 11 OF 31		

DGN:SPEC-1234567890123456789012345678901 $$$$USERNAME$$$$ $$$$DATE$$$$

ALIGNMENT DATA			
HDT	15+569.00	N 4850295.13	E 598877.46





242.778	242.878	243.015	243.152			℄ PROP ROAD EL.
242.71	242.83	242.98	243.15	243.34	243.55 243.66	℄ EXIST ROAD EL.
15+500	15+520	15+540	15+560	15+580	15+600 15+610.05	CHAINAGE

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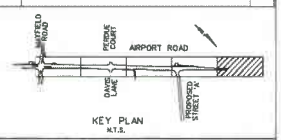
SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS

DATE	DETAILS	INIT.
FEB 21/2012	AS-BUILT	J.K.



KEY PLAN
N.T.S.

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CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE

1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

AIRPORT ROAD

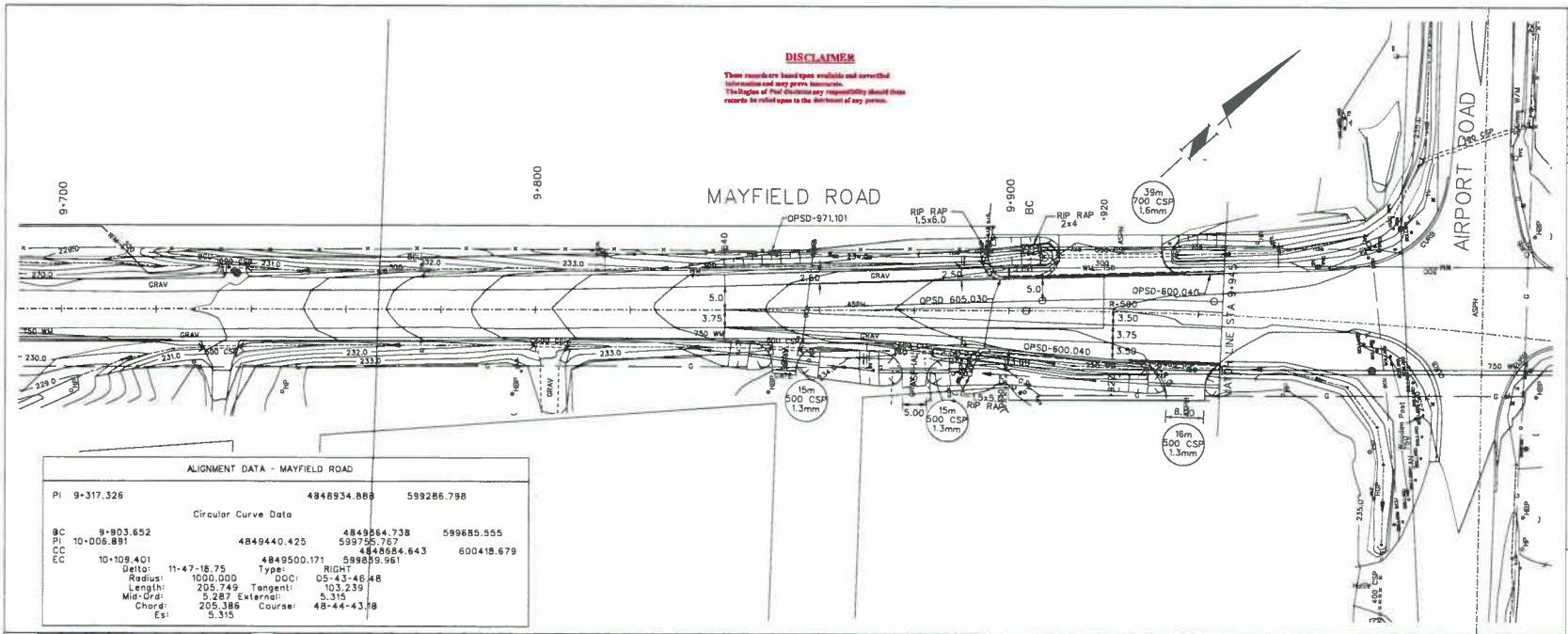
(FROM MAYFIELD ROAD NORTHERLY 1.3KM)

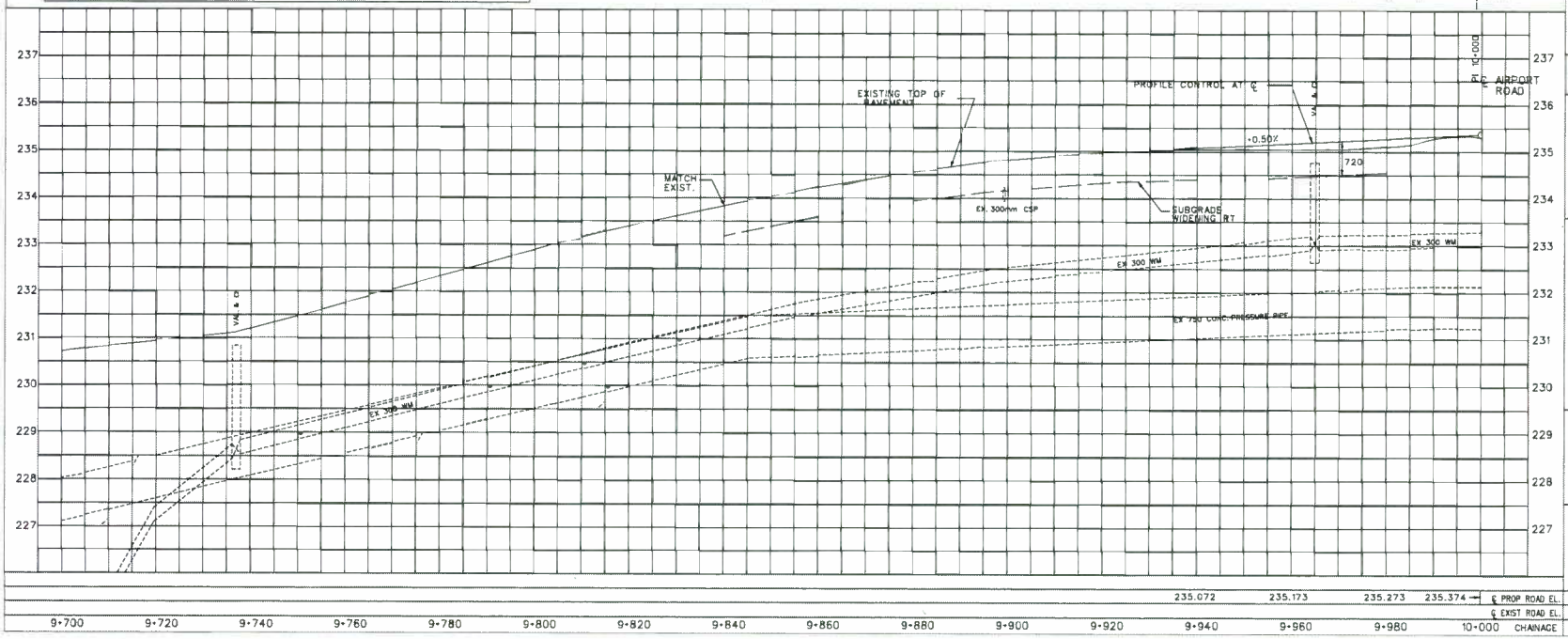
NEW CONSTRUCTION

Sta. 15+500 To Sta. 15+610

LOTS	AREA C4, C5	PROJECT NO. 03-4040	
CHECKED BY J.K.	DRAWN BY S.A.K.	PLAN NO. 38366-D	
DATE JANUARY 2010	SHEET 12 OF 31		

$$DGNSPEC:\1234567890123456789012345678901234567890123456789012$$
$$$$USERNAME$$$$
$$$$DATE$$$$





$$$$USERNAME$$$$ DCN$SPECe123456789012345678901234567890123456789012

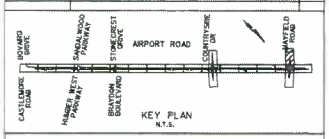
$$$$TIME$$$$$$$$DATE$$$$$

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS

DATE	DETAILS	INIT.
AUG. 26/08	AS BUILT	



KEY PLAN
N.T.S.

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Giffels Giffels Associates Limited
Consulting Engineers and Architects

S.S.CHIU

Designed by Checked

Designed 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 TELEPHONE COMPANY
CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. CITY OF MISSISSAUGA
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE

1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

AIRPORT ROAD

(FROM BOVAIRD DRIVE TO MAYFIELD ROAD)

NEW CONSTRUCTION

Sta. 9+840 To Sta. 9+945

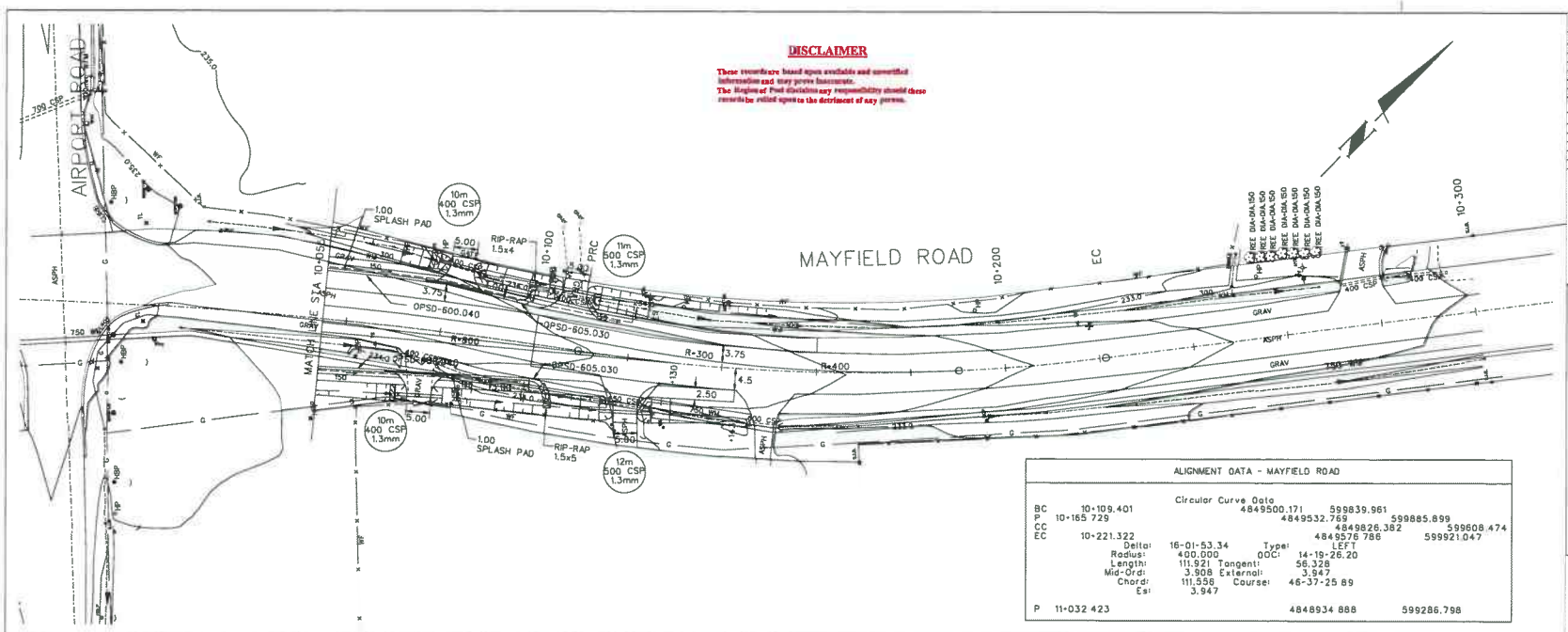
LOTS AREA

CHECKED BY S.B. / E.B. DRAWN BY R.R. / P.T.

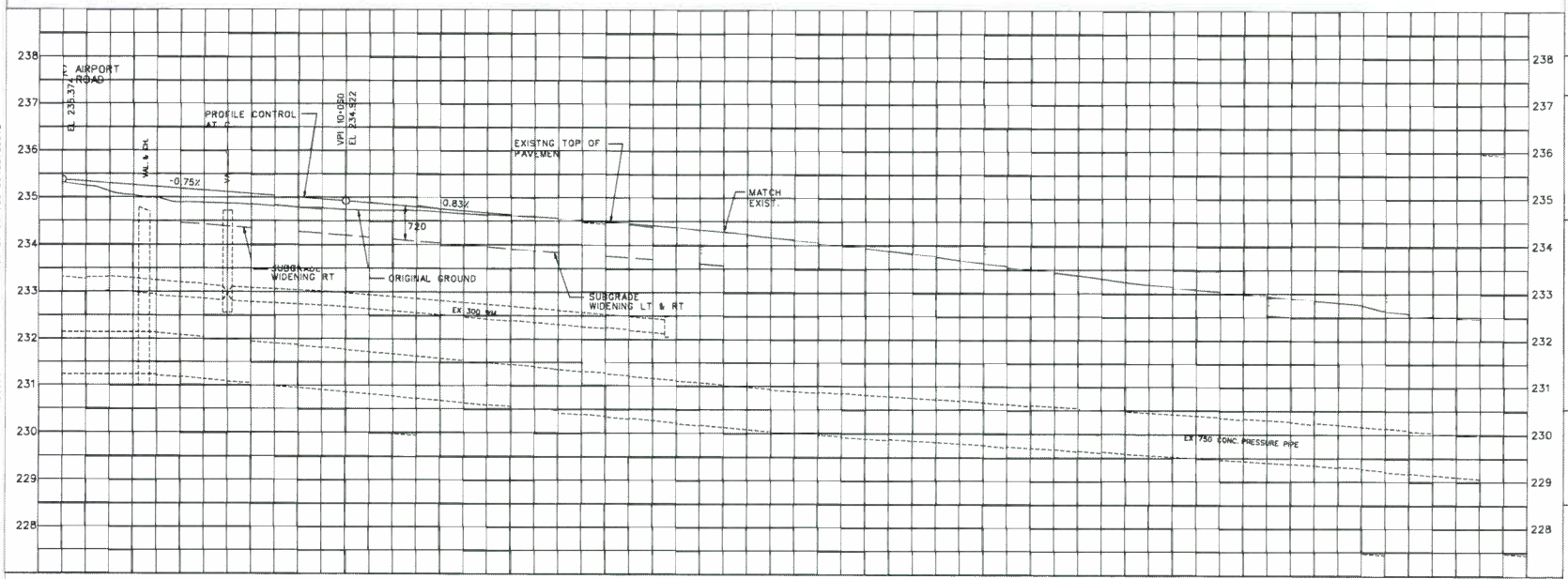
DATE APR 2005 SHEET 42 OF 156

PROJECT NO. 01-4035

PLAN NO. 38115-D



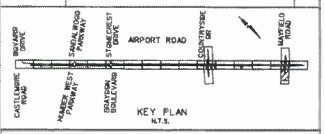
ALIGNMENT DATA - MAYFIELD ROAD				
Circular Curve Data				
BC	10+109.401		4849500.171	599839.961
P	10+165 729		4849532.769	599885.899
CC			4849826.382	599608.474
EC	10+221.322		4849576 786	599921.047
Delta:	16-01-53.34	Type:	LEFT	
Radius:	400.000	OOC:	14-19-26.20	
Length:	111.921	Tangent:	56.328	
Mid-Ord:	3.908	External:	3.947	
Chord:	111.556	Course:	46-37-25 89	
Est	3.947			
P	11+032 423		4848934 888	599286.798



℄ PROP ROAD EL.	235.374	235.223	235.072	234.922	234.757	234.592					
℄ EXIST ROAD EL.											
CHAINAGE	10+000	10+020	10+040	10+060	10+080	10+100	10+120	10+140	10+160	10+180	10+200

SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS		
DATE	DETAILS	INIT.
MAY. 3, 2005	REVISION No. 14	S.C.
AUG. 26/09	AS BUILT	J.K.



General Notes

- All Driveways ASPHALT 125mm HL3, 50mm HL8, 150mm GRAN 'A' Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In The Field
- Denotes Building - Not Located
- Denotes Building Located Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

The Contractor is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction. Location of shown Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

Giffels Giffels Associates Limited
Consulting Engineers and Architect

REGISTERED PROFESSIONAL ENGINEER S.S.CHIU PROVINCE OF ONTARIO

Designed by — Chkd. — Designed by

NOTICE TO CONTRACTOR

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CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE

1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

AIRPORT ROAD

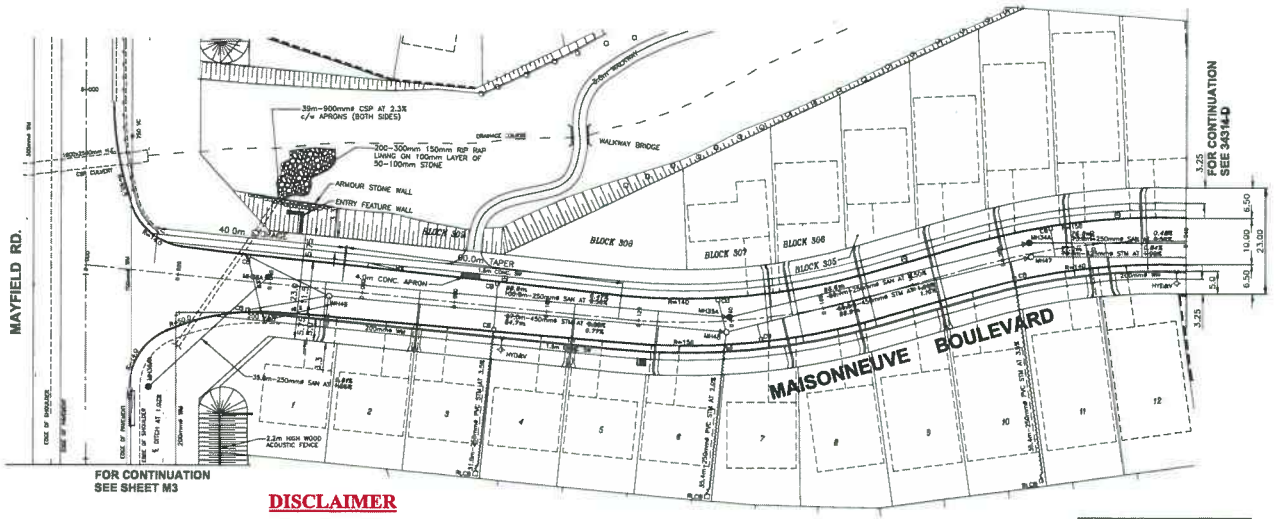
(FROM BOVAIRD DRIVE TO MAYFIELD ROAD)

NEW CONSTRUCTION

Sta. 10+000 To Sta. 10+180

LOTS	AREA	PROJECT NO.	01-4035
CHECKED BY S.B. / E.B.	DRAWN BY R.R. / P.T.	PLAN NO.	38116-D
DATE APR 2005	SHEET 43 OF 156		

$$$$$$1MC$$$$$$$$$$DATE$$$$ $$$USERNAME$$$$ DCN$SPEC$:\2345678901\2345678901\2345678901



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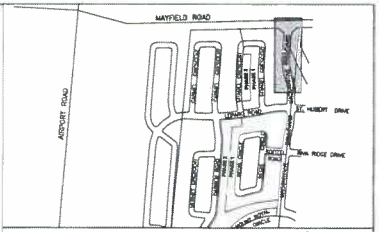


KEY PLAN
N.T.S.

LEGEND:

CB	SINGLE CATCHBASIN		DOUBLE SERVICE CONNECTION
DCB	DOUBLE CATCHBASIN		SINGLE SERVICE CONNECTION
RLCB	REAR LOT CATCHBASIN	CMB	COMMUNITY MAILBOX
DICB	DITCH INLET CATCHBASIN		CONCRETE BUS PAD
MHCB1	STORM MANHOLE CATCHBASIN		"NO EXIT SIGN"
MHST	STORM MANHOLE		STOP SIGN
MHSA	SANITARY MANHOLE		STREET NAME SIGN
MHSD	FOUNDATION DRAIN MANHOLE		1.2m HIGH CHAIN LINK FENCE
VB	VALVE & BOX		2.2m HIGH ABSTUTIC FENCE
HYDRV.	HYDRANT & VALVE		1.8m HIGH PRIVACY FENCE
	HYDRO LIGHTPOLE	48.6m 54.6m	DESIGN / AS BUILT
			HYDRO TRANSFORMER

NOTES:

1. ALL CONCRETE AND PLASTIC SEWER PIPE HAVE RUBBER GASKET JOINTS.
2. ALL SEWERS CONSTRUCTED WITH BEDDING IN ACCORDANCE WITH OPSD 802.03, CLASS "B".
3. PLASTIC SEWER PIPES CONSTRUCTED WITH ULTRA RIB OR APPROVED EQUAL UP TO THE MAXIMUM DIAMETER OF 600mm.
4. ALL WORKS CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF BRAMPTON, REGION OF PEEL AND O.P.S.D. STANDARD DRAWINGS AND SPECIFICATIONS.
5. SINGLE CATCHBASIN LEADS TO BE 200mm, DOUBLE CATCHBASIN LEADS TO BE 256mm, ALL CATCHBASIN LEADS ARE P.V.C. TYPE S.D.R. 28.
6. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY, EXCEPT FOR TOP 0.3m WHICH WAS COMPACTED TO 98%.
7. THE MAXIMUM CATCHBASIN HEIGHT MEASURED FROM THE TOP OF GRATE TO PIPE INVERT DID NOT EXCEED 2.4m, OTHERWISE MANHOLE CATCHBASINS WITH 356mm SUMP SHALL BE USED.
8. WATERMAIN WAS NOT LAID ON FILL UNTIL THE DENSITY TEST REPORTS HAD BEEN SUBMITTED TO AND APPROVED BY THE REGION. FILL WAS PLACED TO 0.6m MINIMUM ABOVE THE TOP OF THE WATERMAIN GRADES AND COMPACTED TO THE MINIMUM OF 100% STANDARD PROCTOR DENSITY IN 0.3m LIFTS. TESTS WERE TAKEN ALONG THE CENTERLINE. ALL TEES, HORIZONTAL BENDS, AND BRANCH VALVES IN FILL AREAS WERE TIED WITH TIE RODS.
9. AN ASPHALT PRESERVATIVE SEALER SUCH AS RE-CLIMATE (OR ANOTHER APPROVED EQUIVALENT) WAS APPLIED AFTER ONE YEAR MAINTENANCE PERIOD FOR THE TOP COURSE ASPHALT.
10. ALL SERVICE CONNECTIONS ON CORNER LOTS ARE LOCATED 3.6m AWAY FROM LOT LINE ADJACENT TO DRIVEWAY SIDE.

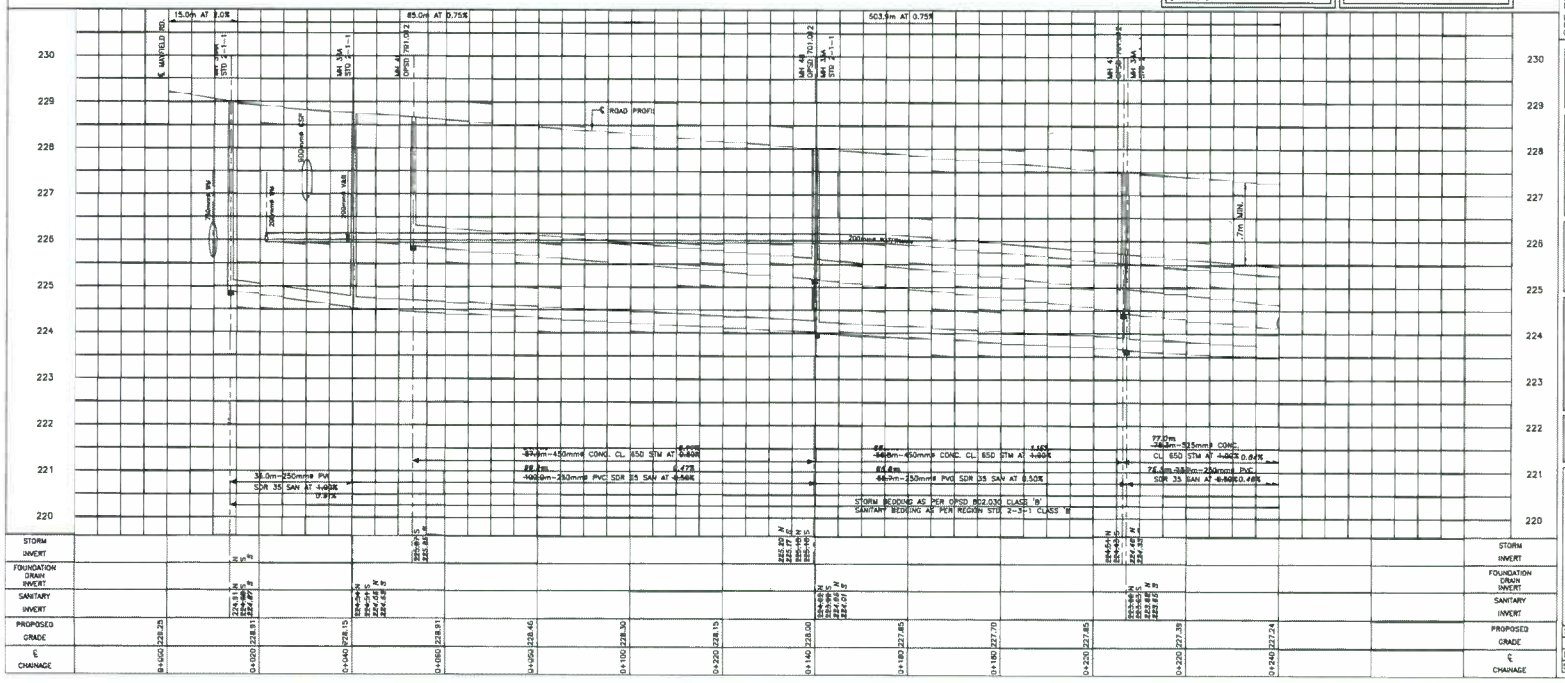
ALL NEW HYDRANTS ARE MCAVITY M67
ALL NEW VALVES ARE MUELLER

NOTE:
ALL CB'S EXCEPT RLCB TO HAVE SCEPTER ICD TYPE 'A' (19.8 L/s) INSTALLED.
ALL DCB'S AND CB'S CONNECTED TO RLCB'S TO HAVE SCEPTER ICD TYPE 'C' (36.8 L/s) INSTALLED

AS CONSTRUCTED

PAVEMENT STRUCTURE
40mm OF HL3 ASPHALT
100mm OF HL8 ASPHALT
130mm OF 20mm CRUSHED LIMESTONE
300mm OF 50mm CRUSHED LIMESTONE

BENCHMARK INFO:
BENCHMARK No. 91 - 128
ELEVATION = 228.117m
LOCATED ON A ONE AND 1/2 STOREY, BRICK DWELLING, AT THE SOUTHEAST CORNER OF MAYFIELD ROAD AND SCREEMAN DRIVE. TABLET IS SET 0.5m SOUTH OF NORTHWEST CORNER OF FOUNDATION AT GROUND LEVEL.



SUBMISSION

1st	X	Date 12.07.02	Pre-Serv	X	Date 19.02.03
2nd	X	Date 10.10.02	Interim		Date
3rd	X	Date 18.12.02	Final	X	Date 01.12.03

No.	By	Date	Revision	Checked
2		27.05.09	AS CONSTRUCTED	
1	R.V.S.	11.07.03	(PHASE-1) DRAWING ORIGINALLY APPROVED ON APRIL 25th 2003 FOR UNDERGROUND SERVICES ONLY.	

CITY OF BRAMPTON
PLANNING, DESIGN AND DEVELOPMENT
DIRECTOR OF ENGINEERING AND DEVELOPMENT R.J. BING, P. ENG.

LICENCED PROFESSIONAL ENGINEER — Rodolfo Santos — PROVINCE OF ONTARIO
LICENCED PROFESSIONAL ENGINEER — D. LEE — 100083628 — PROVINCE OF ONTARIO

Project | Dwg. No.

CANDEVCON LIMITED
CONSULTING ENGINEERS AND PLANNERS
TEL (905) 794-0800 FAX (905) 794-0811

PROJECT NUMBER 202063

HIGHLANDS OF CASTLEMORE

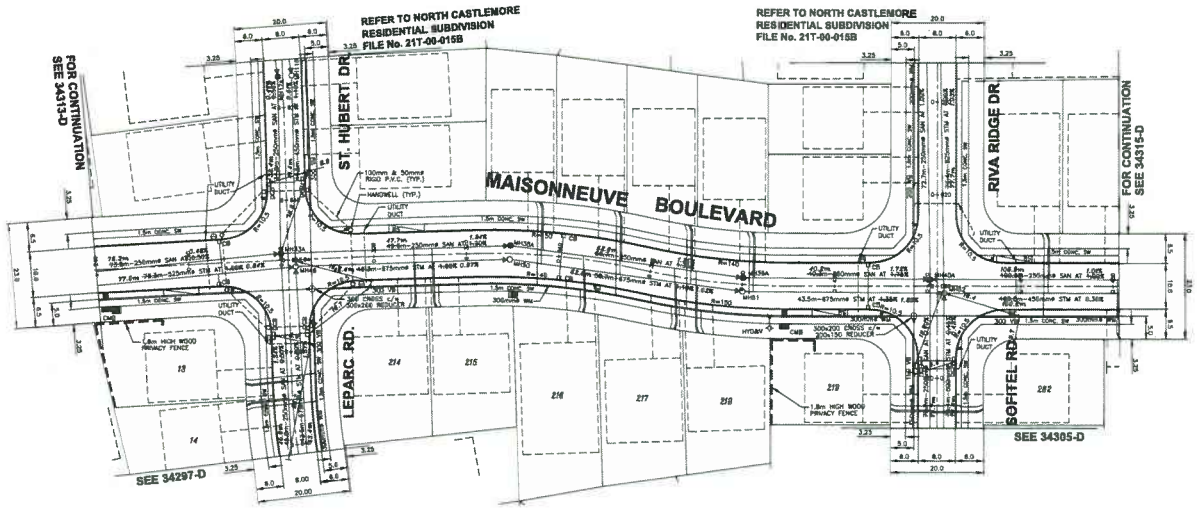
KINDWIN DEVELOPMENT CORPORATION RESIDENTIAL SUBDIVISION

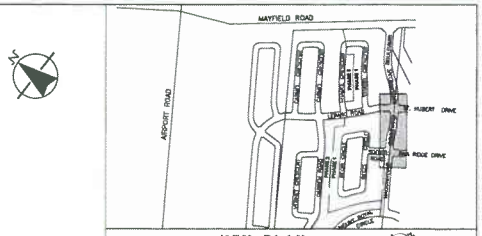
MAISONNEUVE BOULEVARD

0+000 TO 0+240

21T-01026B

Surveyed By:	Date:	Contract No.	
Drawn By: C.R.M.	Checked By: R.S.	Drawing No.	Sheet No.
Designed By: F.S.	Checked By: D.K.H.	34313-D	
Scale: v 1:50 h 1:500	Date: JULY 8th 2002		





KEY PLAN
N.T.S.

LEGEND:

CB	SINGLE CATCHBASIN		DOUBLE SERVICE CONNECTION
DCB	DOUBLE CATCHBASIN		SINGLE SERVICE CONNECTION
RLCB	REAR LOT CATCHBASIN	CMB	COMMUNITY MAILBOX
DICB	DITCH INLET CATCHBASIN		CONCRETE BUS PAD
MHCB1	STORM MANHOLE CATCHBASIN		"NO EXIT" SIGN
MHSB	STORM MANHOLE		STOP SIGN
MHSA	SANITARY MANHOLE		STREET NAME SIGN
MHDB	FOUNDATION DRAIN MANHOLE		1.2m HIGH CHAIN LINK FENCE
VB	VALVE & BOX		2.2m HIGH ACOUSTIC FENCE
HYDRV.	HYDRANT & VALVE		1.8m HIGH PRIVACY FENCE
	HYDRO LIGHTPOLE		HYDRO TRANSFORMER

NOTES:

1. ALL CONCRETE AND PLASTIC SEWER PIPE HAVE RUBBER GASKET JOINTS.
2. ALL SEWERS CONSTRUCTED WITH BEDDING IN ACCORDANCE WITH OPSD 802.03, CLASS "B".
3. PLASTIC SEWER PIPES CONSTRUCTED WITH ULTRA RIB OR APPROVED EQUAL UP TO THE MAXIMUM DIAMETER OF 600mm.
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7. THE MAXIMUM CATCHBASIN HEIGHT MEASURED FROM THE TOP OF GRATE TO PIPE INVERT SIG NOT EXCEED 2.4m, OTHERWISE MANHOLE CATCHBASINS WITH 300mm SUMP SHALL BE USED.
8. WATERMAIN WAS NOT LAID ON FILL UNTIL THE DENSITY TEST REPORTS HAS BEEN SUBMITTED TO AND APPROVED BY THE REGION. FILL WAS PLACED TO 0.6m MINIMUM ABOVE THE TOP OF THE WATERMAIN GRADES AND COMPACTED TO THE MINIMUM OF 100% STANDARD PROCTOR DENSITY IN 0.3m LIFTS. TESTS WERE TAKEN ALONG THE CENTERLINE AT ALL TEES, HORIZONTAL BENDS, AND BRANCH VALVES IN FILL AREAS WERE TIED WITH TIE RODS.
9. AN ASPHALT PRESERVATIVE SEALER SUCH AS RE-CLIMATE (OR ANOTHER APPROVED EQUIVALENT) WAS APPLIED AFTER ONE YEAR MAINTENANCE PERIOD FOR THE TOP COURSE ASPHALT.
10. ALL SERVICE CONNECTIONS ON CORNER LOTS ARE LOCATED 3.6m AWAY FROM LOT LINE ADJACENT TO DRIVEWAY SIDE.

BENCHMARK INFO:

BENCHMARK No. #1 - 128
ELEVATION = 229.117m
LOCATED ON A ONE AND 1/2 STOREY, BRICK DWELLING, AT THE SOUTHEAST CORNER OF MAYFIELD ROAD AND CORDEWAY DRIVE, TABLET IS SET 8.56m SOUTH OF NORTHWEST CORNER OF FOUNDATION AT GROUND LEVEL.

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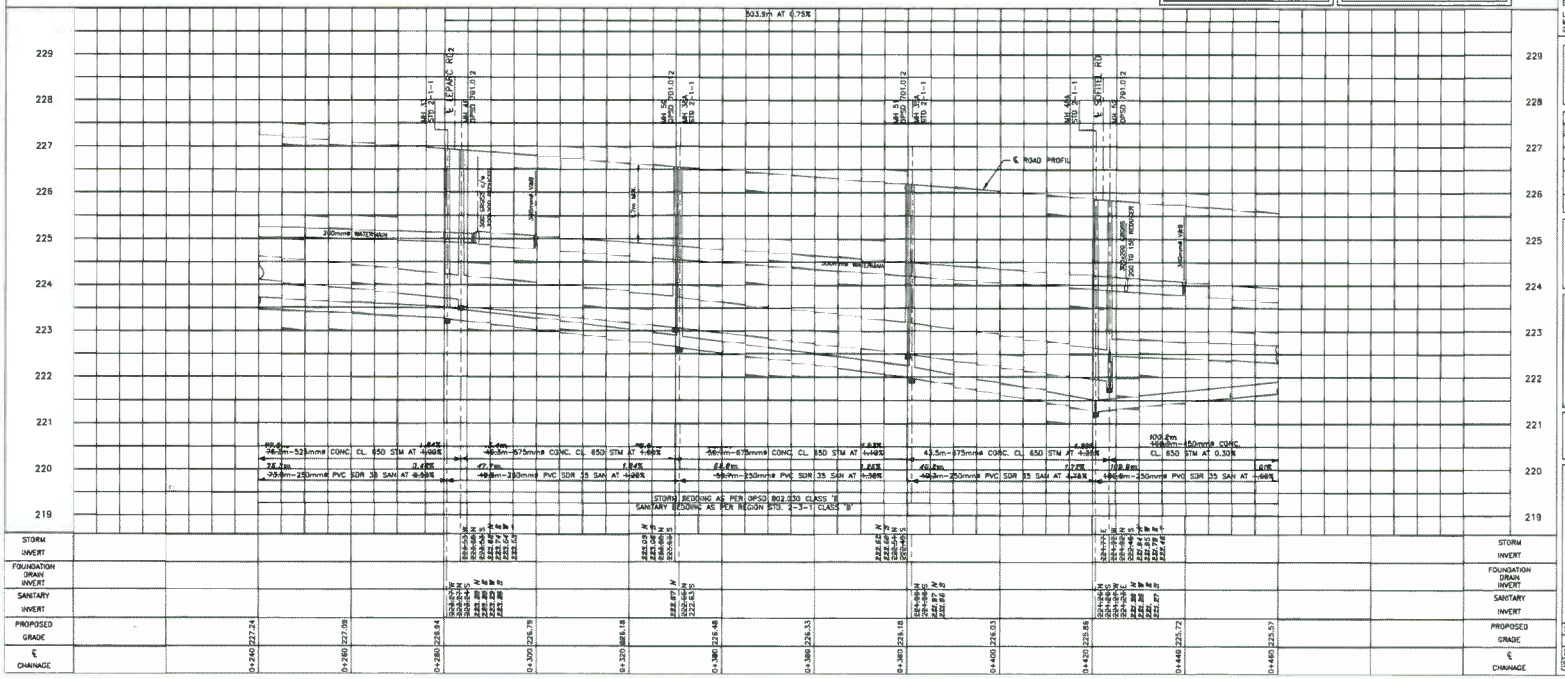
ALL NEW HYDRANTS ARE MCAVITY M8?
ALL NEW VALVES ARE MUELLER

NOTE:
ALL CB'S EXCEPT RLCB TO HAVE SCEPTER ICD TYPE 'A' (19.8 L/s) INSTALLED
ALL DCB'S AND CB'S CONNECTED TO RLCB'S TO HAVE SCEPTER ICD TYPE 'C' (38.8 L/s) INSTALLED

AS CONSTRUCTED

PAVEMENT STRUCTURE
40mm OF HL3 ASPHALT
100mm OF HLB ASPHALT
150mm OF 20mm CRUSHED LIMESTONE
300mm OF 50mm CRUSHED LIMESTONE



No.	By	Date	Revision	Checked
2		27.05.09	AS CONSTRUCTED	
1	R.V.S.	11.07.03	(PHASE-1) DRAWING ORIGINALLY APPROVED ON APRIL 25th, 2003 FOR UNDERGROUND SERVICES ONLY.	

SUBMISSION

1st	X	Date	12.07.02	Pre-Serv	X	Date	19.02.03
2nd	X	Date	10.10.02	Interim		Date	
3rd	X	Date	18.12.02	Final	X	Date	01.12.03

CITY OF BRAMPTON
PLANNING, DESIGN AND DEVELOPMENT
DIRECTOR OF ENGINEERING AND DEVELOPMENT R.J. BINQ, P. ENG.

Project | Dwg. No.

LICENSED PROFESSIONAL ENGINEER — Rodolfo Santos — PROVINCE OF ONTARIO
LICENSED PROFESSIONAL ENGINEER — D. LEE 100083628 — PROVINCE OF ONTARIO

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PROJECT NUMBER 202063

HIGHLANDS OF CASTLEMORE

KINDWIN DEVELOPMENT CORPORATION RESIDENTIAL SUBDIVISION

MAISONNEUVE BOULEVARD

0+240 TO 0+460

21T-01025B

Surveyed By:		Date:	Contract No.
Drawn By: C.R.M.		Checked By: R.S.	Drawing No. 34314-D
Designed By: F.S.		Checked By: D.K.H.	Sheet No.
Scale: v 1:50 h 1:500		Date: JULY 8th 2002	

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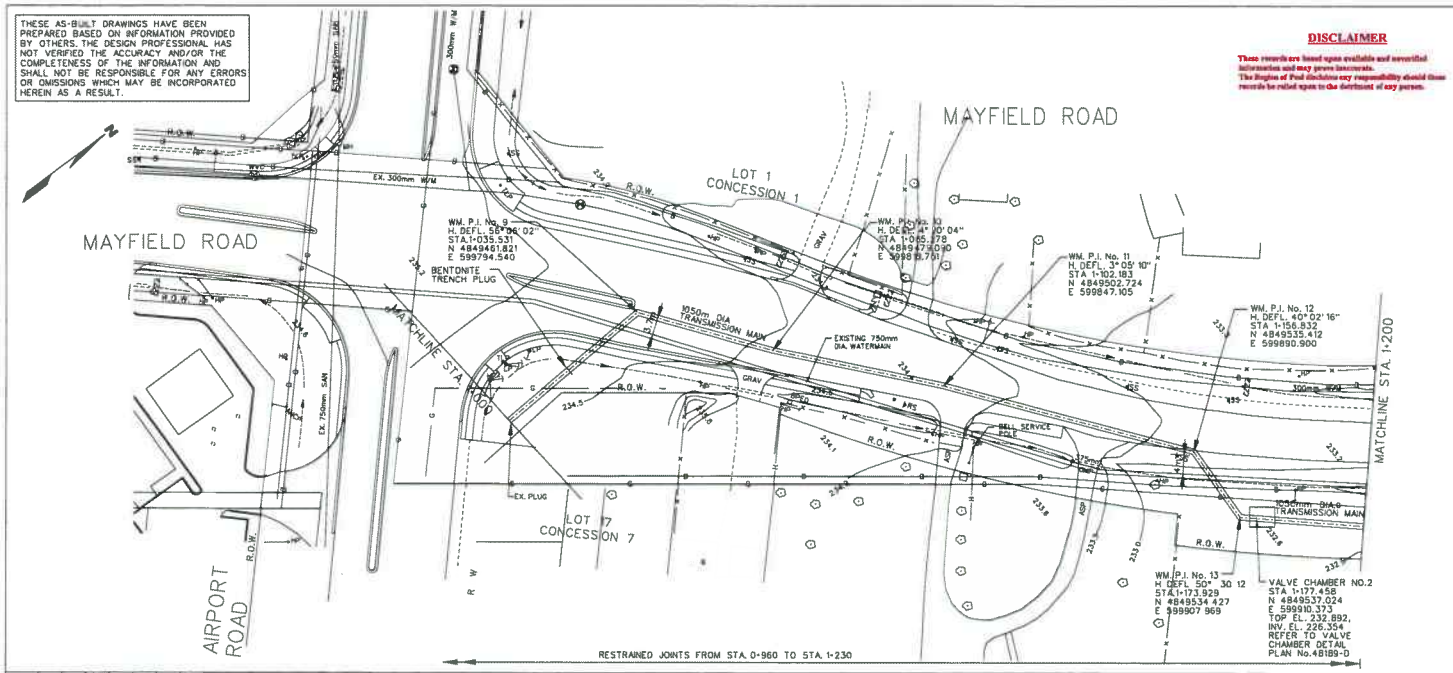
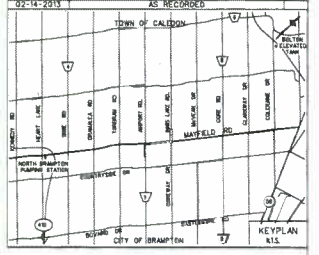


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

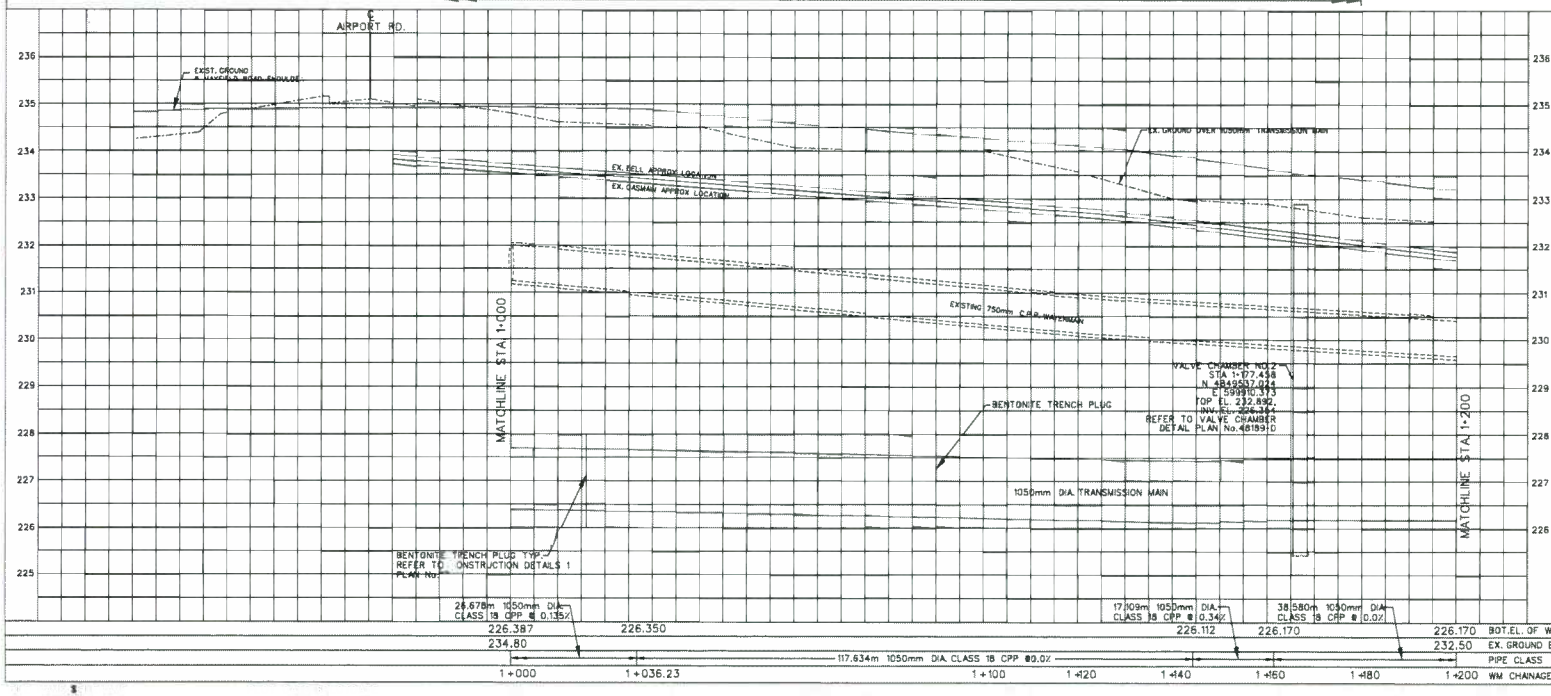
REVISIONS

DATE	DETAILS	INIT.
01-10-2011	ISSUED FOR TENDER	MP
03-17-2011	ISSUED FOR CONSTRUCTION	MP
08-10-2011	REVISION 1	SK
02-14-2013	AS RECORDED	



NOTE:

1. EXISTING CULVERTS REPLACED WITH BIG "O" BOSS 2000 HDPE PIPE.



General Notes

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- Denotes Building - Not Located
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B.M. No. Elev.

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CH2MHILL

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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
ENERCOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FEI BROADBAND)

10m 0 10 20 30m HORIZONTAL SCALE 1 : 500
1m 0 1 2 3m VERTICAL SCALE 1 : 50

Region of Peel
Working for you

MAYFIELD ROAD

(FROM AIRPORT ROAD TO INNIS LAKE ROAD

TULLAMORE TRANSMISSION MAIN
CONTRACT No.2
CITY OF BRAMPTON & TOWN OF CALEDON
STA. 1+000 TO STA. 1+200

CAD Area	Area B-28	Project No.	07-1210
Checked by M.P.	Drawn by K.P.		
Date JANUARY 2011	Sheet 6 of 29	Plan No.	48180-D

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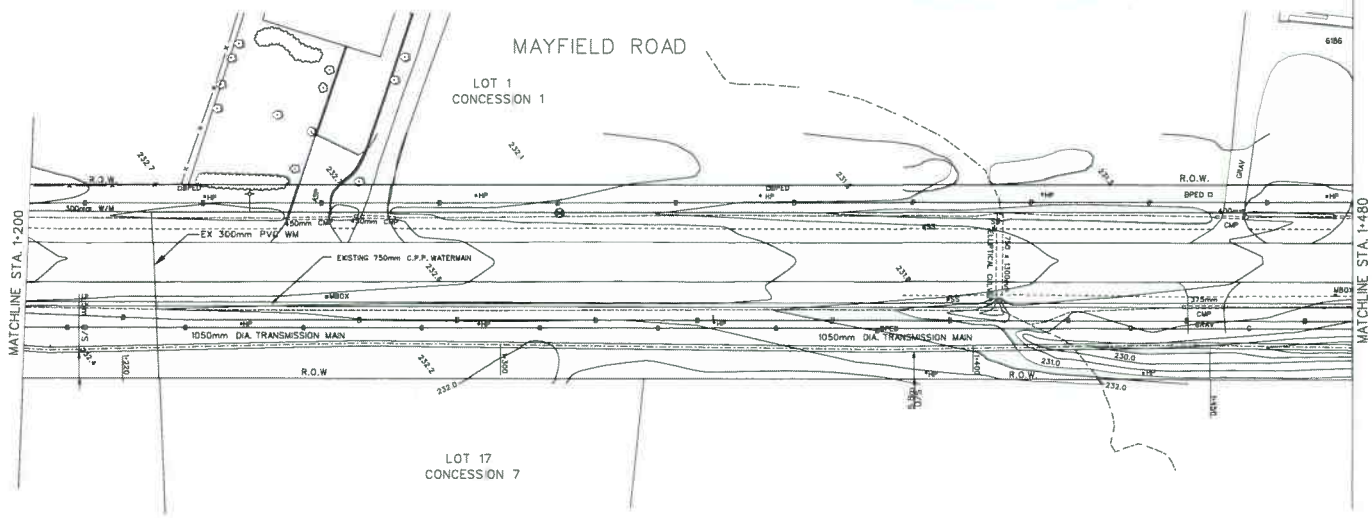
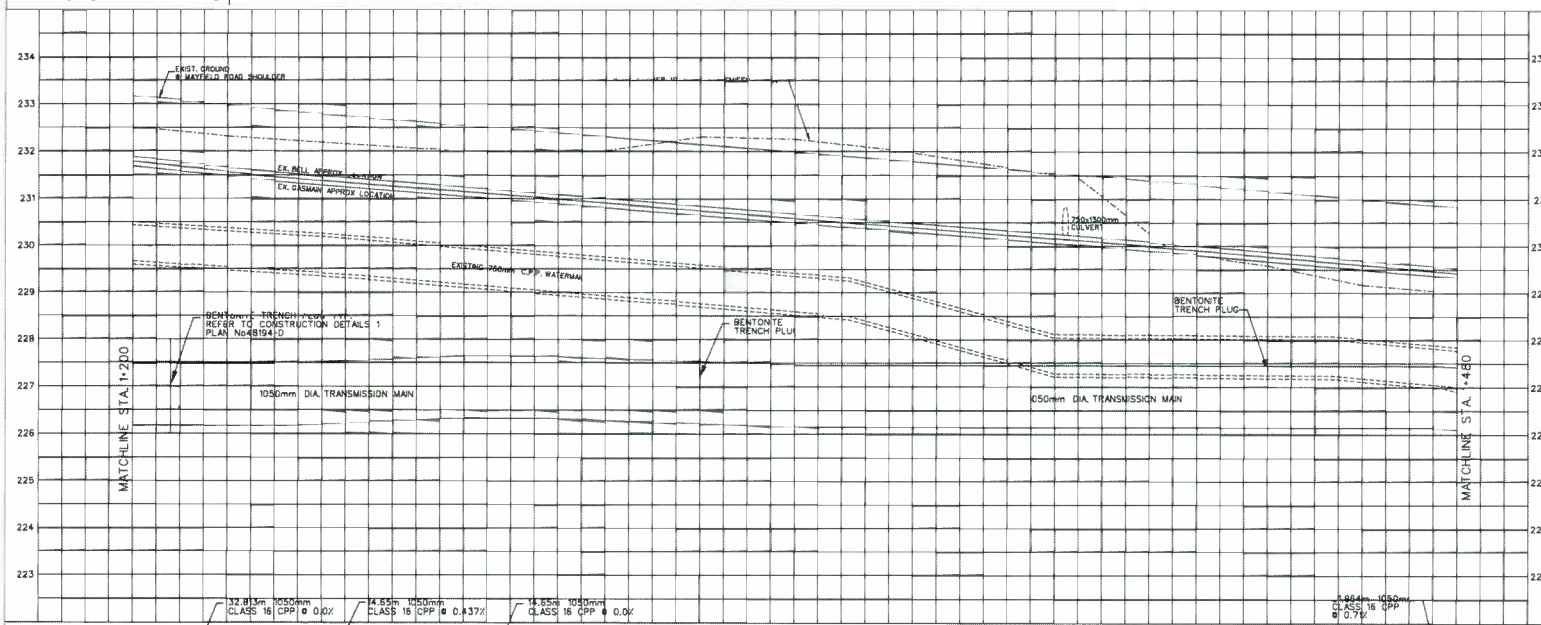


RESTRAINED JOINTS FROM STA. 0+930 TO STA. 1+230



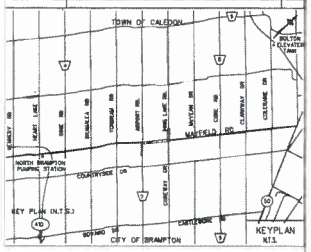
FILE NAME: $FILENAME PLOT DATE: $PLOTDATE

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MARKS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO O/HE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.
01-10-2011	ISSUED FOR TENDER	MP
03-17-2011	ISSUED FOR CONSTRUCTION	MP
02-14-2013	AS RECORDED	



General Notes

- All Driveways ASPHALT Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In The Field
- Denotes Building - Not Located
- Denotes Building Located Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

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CH2MHILL

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/FIBRE OPTIC 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 1 : 500
1m 0 1 2 3m VERTICAL SCALE 1 : 50

Region of Peel
Working for you

MAYFIELD ROAD

(FROM AIRPORT ROAD TO INNIS LAKE ROAD

TULLAMORE TRANSMISSION MAIN
CONTRACT No.2
CITY OF BRAMPTON & TOWN OF CALEDON
STA. 1+200 TO STA. 1+480

CAD Area		Area B-28	Project No. 07-1210
Checked by M.P.	Drawn by K.P.		
Date JANUARY 2011	Sheet 7 of 29		Plan No. 48181-D

THESE AS-BUILT DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE DESIGN PROFESSIONAL HAS NOT VERIFIED THE ACCURACY AND/OR THE COMPLETENESS OF THE INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

DISCLAIMER

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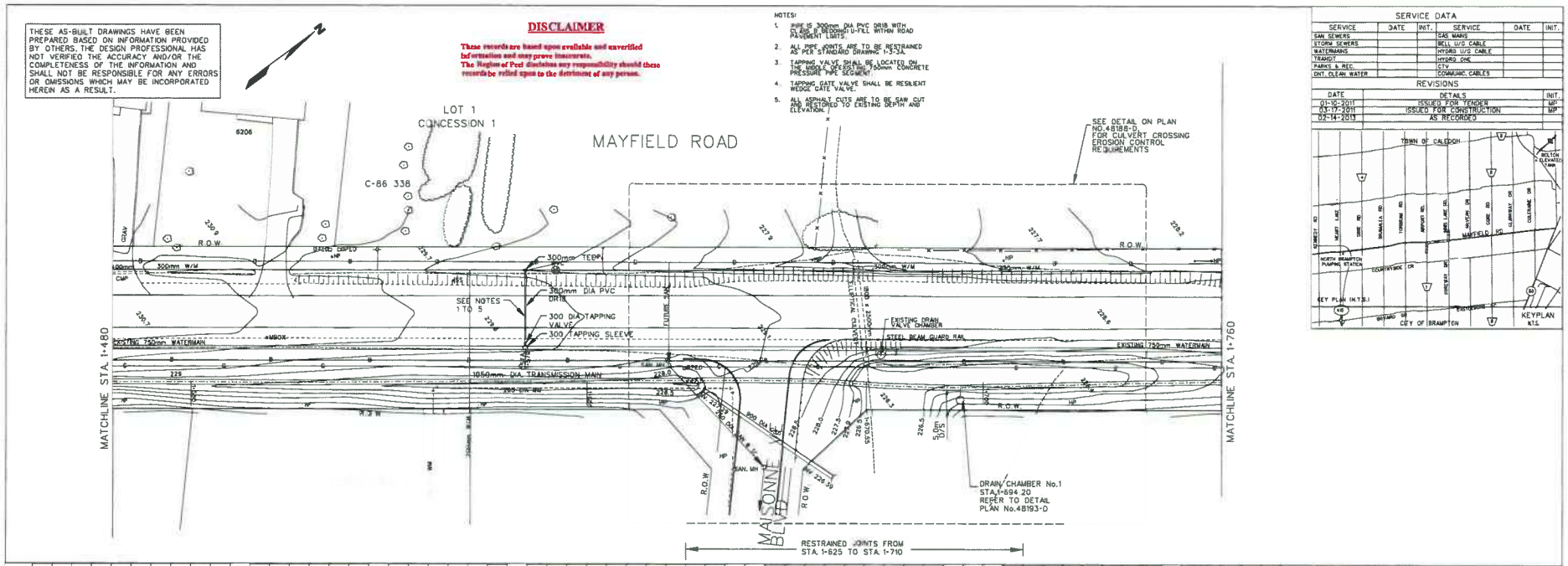
NOTES:
1. PIPE IS 300mm DIA PVC DR18 WITH CLASS 'B' BEDDING U-FILL WITHIN ROAD PAVEMENT LIMITS.
2. ALL PIPE JOINTS ARE TO BE RESTRAINED AS PER STANDARD DRAWING 1-3-3A.
3. TAPPING VALVE SHALL BE LOCATED ON THE MIDDLE OF EXISTING 750mm CONCRETE PRESSURE PIPE SEGMENT.
4. TAPPING GATE VALVE SHALL BE RESILIENT WEDGE GATE VALVE.
5. ALL ASPHALT CUTS ARE TO BE SAW CUT AND RESTORED TO EXISTING DEPTH AND ELEVATION.

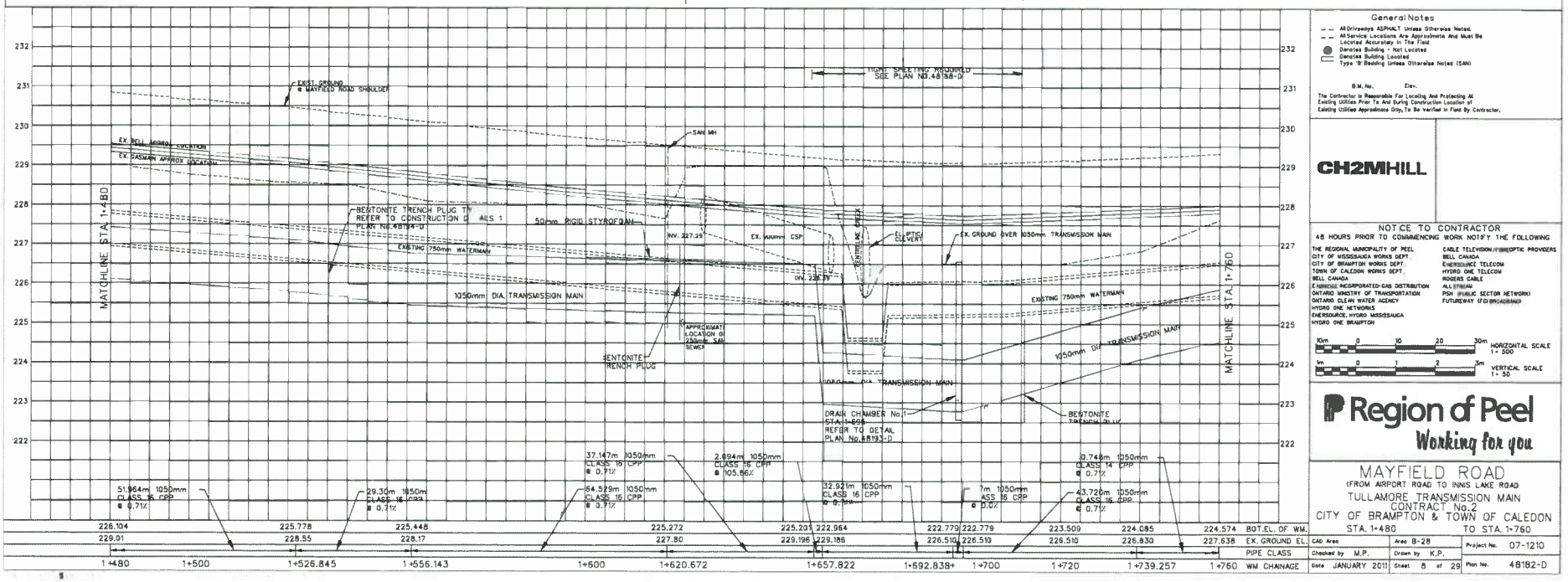
SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.
01-10-2011	ISSUED FOR TENDER	MP
03-17-2011	ISSUED FOR CONSTRUCTION	MP
02-14-2013	AS RECORDED	





General Notes

- All Driveways ASPHALT Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In The Field
- Denotes Building - Not Located
- Denotes Building Located
- Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

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CH2MHILL

NOTICE TO CONTRACTOR

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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 / SEPTIC PROVIDERS
BELL CANADA
ENBRIDGE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FOR BROADBAND)

10m 0 10 20 30m HORIZONTAL SCALE 1 : 500
1m 0 1 2 3m VERTICAL SCALE 1 : 50

Region of Peel
Working for you

MAYFIELD ROAD
(FROM AIRPORT ROAD TO INNIS LAKE ROAD
TULLAMORE TRANSMISSION MAIN
CONTRACT No.2
CITY OF BRAMPTON & TOWN OF CALEDON
STA. 1+480 TO STA. 1+760

CAD Area	Area B-28	Project No.	07-1210
Checked by M.P.	Drawn by K.P.		
Date JANUARY 2011	Sheet 5 of 29	Plan No.	48182-D

THESE AS-BUILT DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE DESIGN PROFESSIONAL HAS NOT VERIFIED THE ACCURACY AND/OR THE COMPLETENESS OF THE INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

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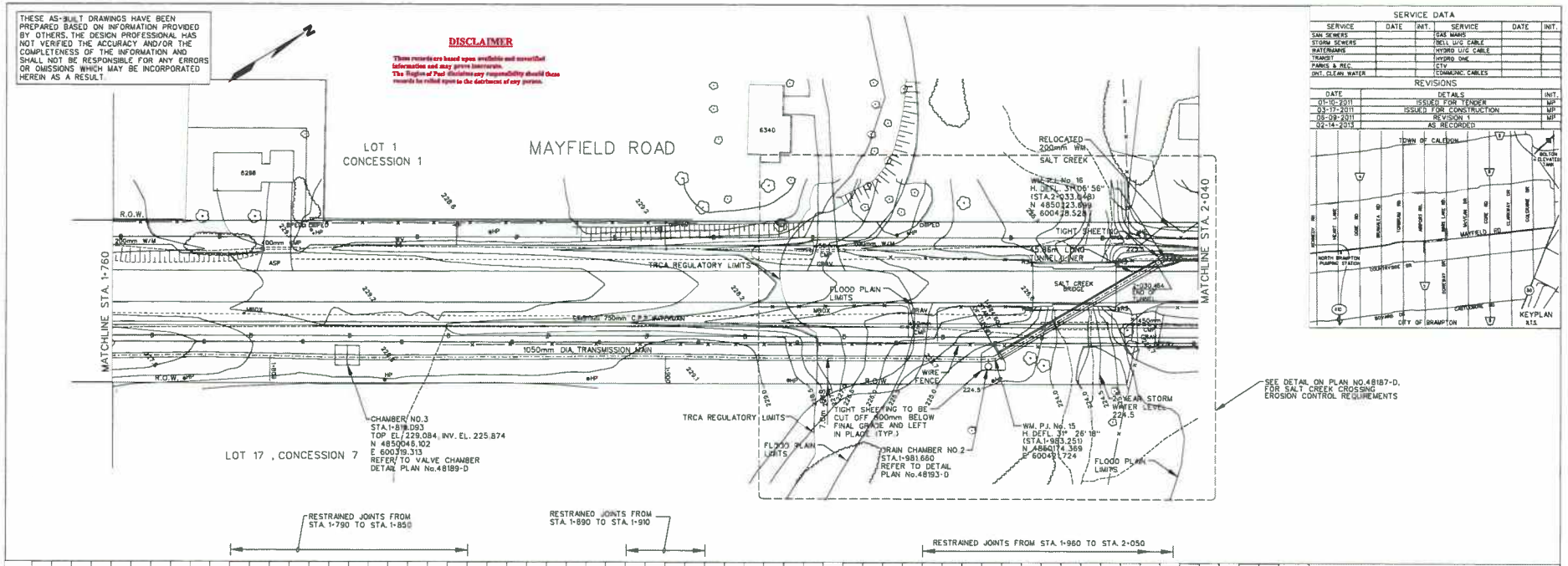
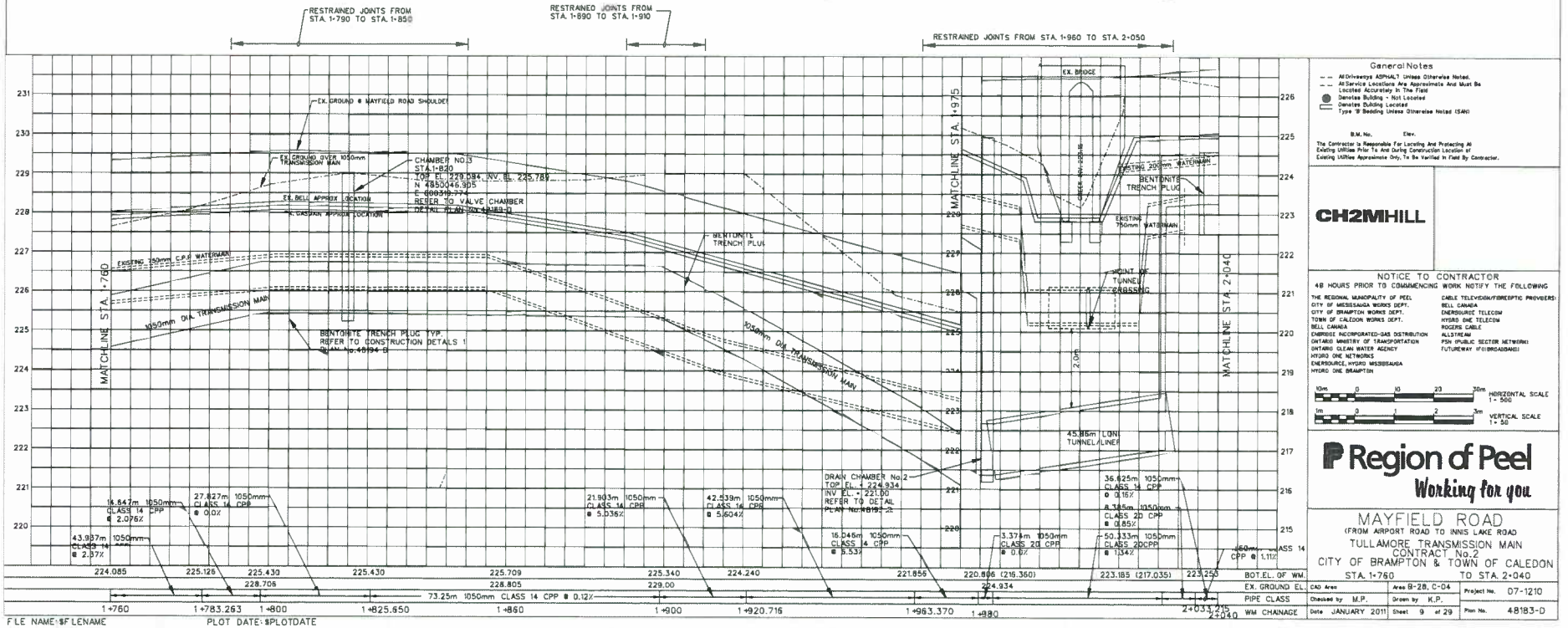


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN. SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.
01-10-2011	ISSUED FOR TENDER	MP
03-17-2011	ISSUED FOR CONSTRUCTION	MP
05-09-2011	REVISION 1	MP
02-14-2013	AS RECORDED	



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CH2MHILL

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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/FIBEROPTIC PROVIDERS:
BELL CANADA
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ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (BROADBAND)

HORIZONTAL SCALE 1 : 500
VERTICAL SCALE 1 : 50

Region of Peel
Working for you

MAYFIELD ROAD

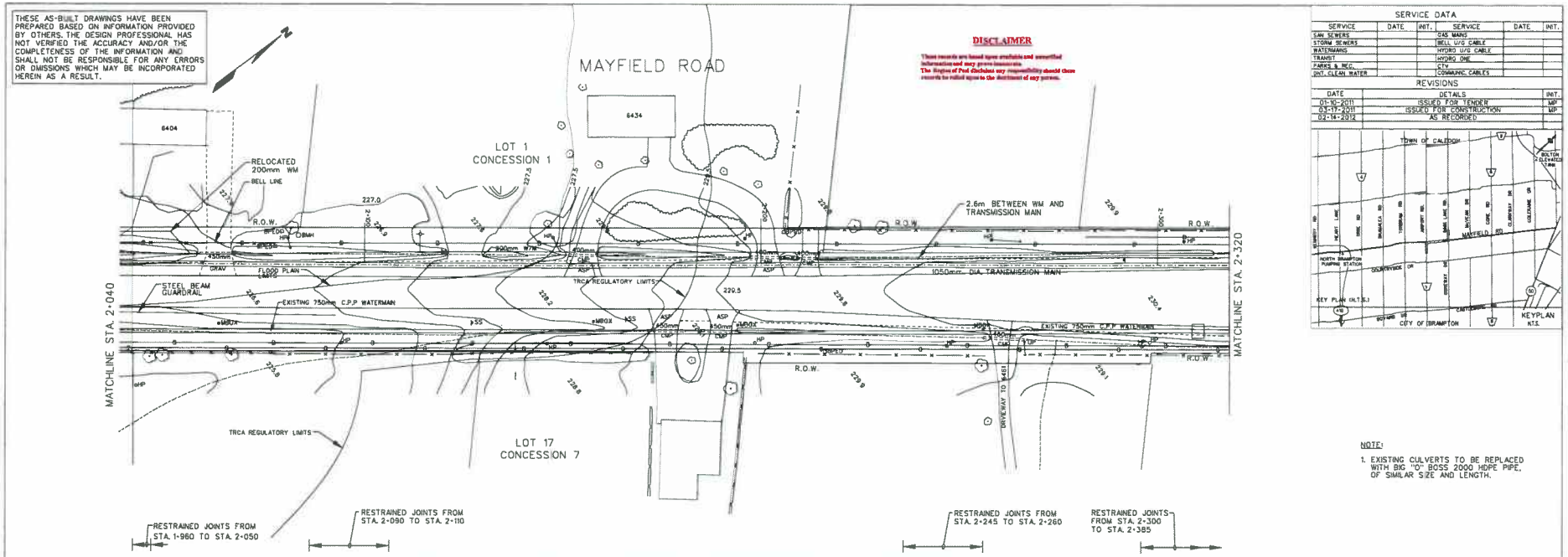
(FROM AIRPORT ROAD TO INNIS LAKE ROAD

TULLAMORE TRANSMISSION MAIN
CONTRACT No.2
CITY OF BRAMPTON & TOWN OF CALEDON
STA. 1+760 TO STA. 2+040

CAD Area	Area B-28, C-04	Project No.	07-1210
Checked by M.P.	Drawn by K.P.		
Date JANUARY 2011	Sheet 9 of 29	Plan No.	48183-D

FILE NAME: $FILENAME PLOT DATE: $PLOTDATE

THESE AS-BUILT DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE DESIGN PROFESSIONAL HAS NOT VERIFIED THE ACCURACY AND/OR THE COMPLETENESS OF THE INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



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SERVICE DATA

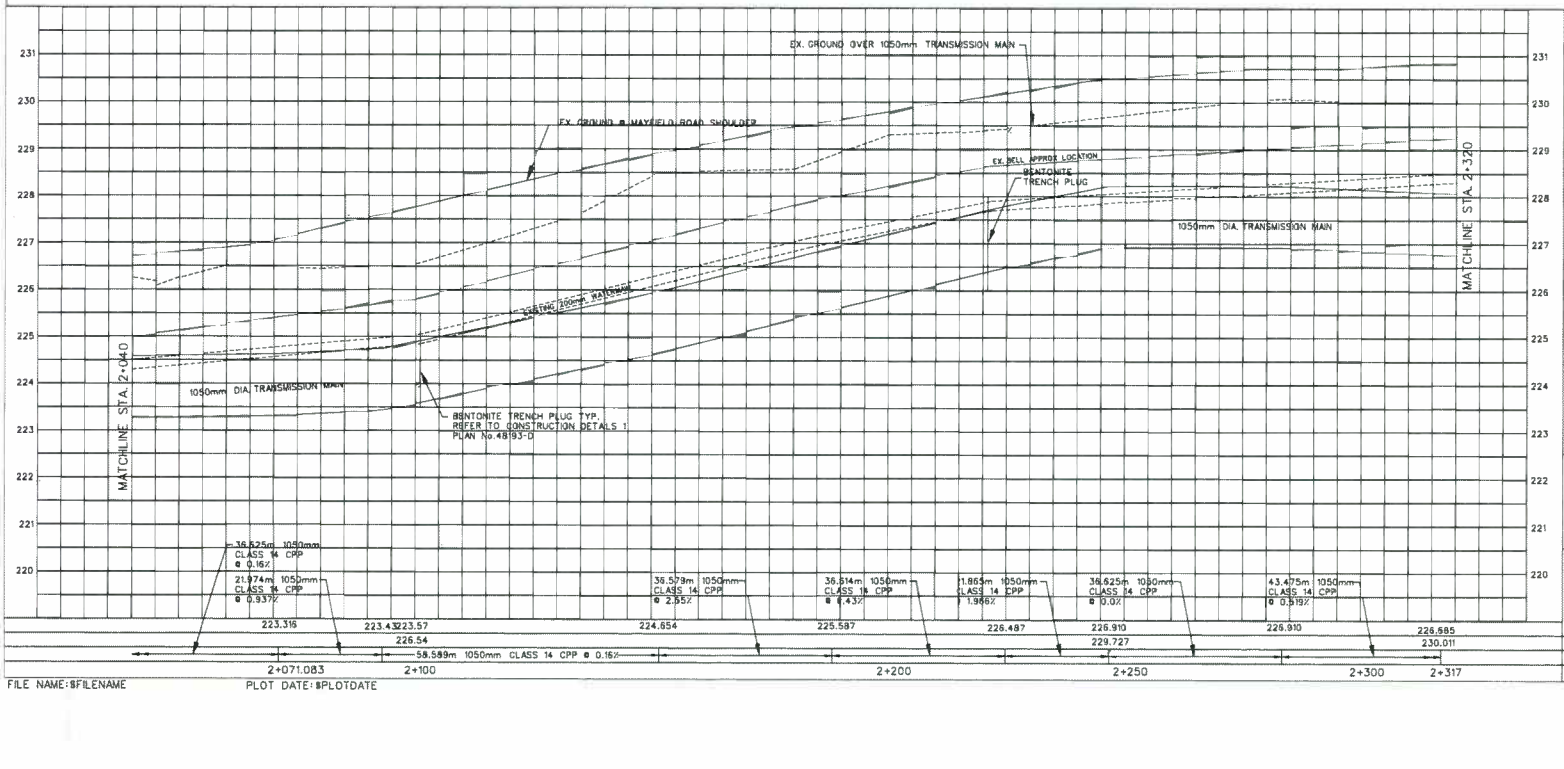
SERVICE	DATE	INT.	SERVICE	DATE	INT.
SAN. SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & RECR.			CTV		
INT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INT.
01-10-2011	ISSUED FOR TENDER	MP
03-11-2011	ISSUED FOR CONSTRUCTION	MP
02-14-2012	AS RECORDED	

NOTE:

1. EXISTING CULVERTS TO BE REPLACED WITH BIG "D" BOSS 2000 HDPE PIPE, OF SIMILAR SIZE AND LENGTH.



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B.M. No. Elev.

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CH2MHILL

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ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FIBRE/BROADBAND)

10m 0 10 20 30m HORIZONTAL SCALE 1 - 500

1m 0 1 2 3m VERTICAL SCALE 1 - 50

Region of Peel
Working for you

MAYFIELD ROAD

(FROM AIRPORT ROAD TO INNIS LAKE ROAD)

TULLAMORE TRANSMISSION MAIN

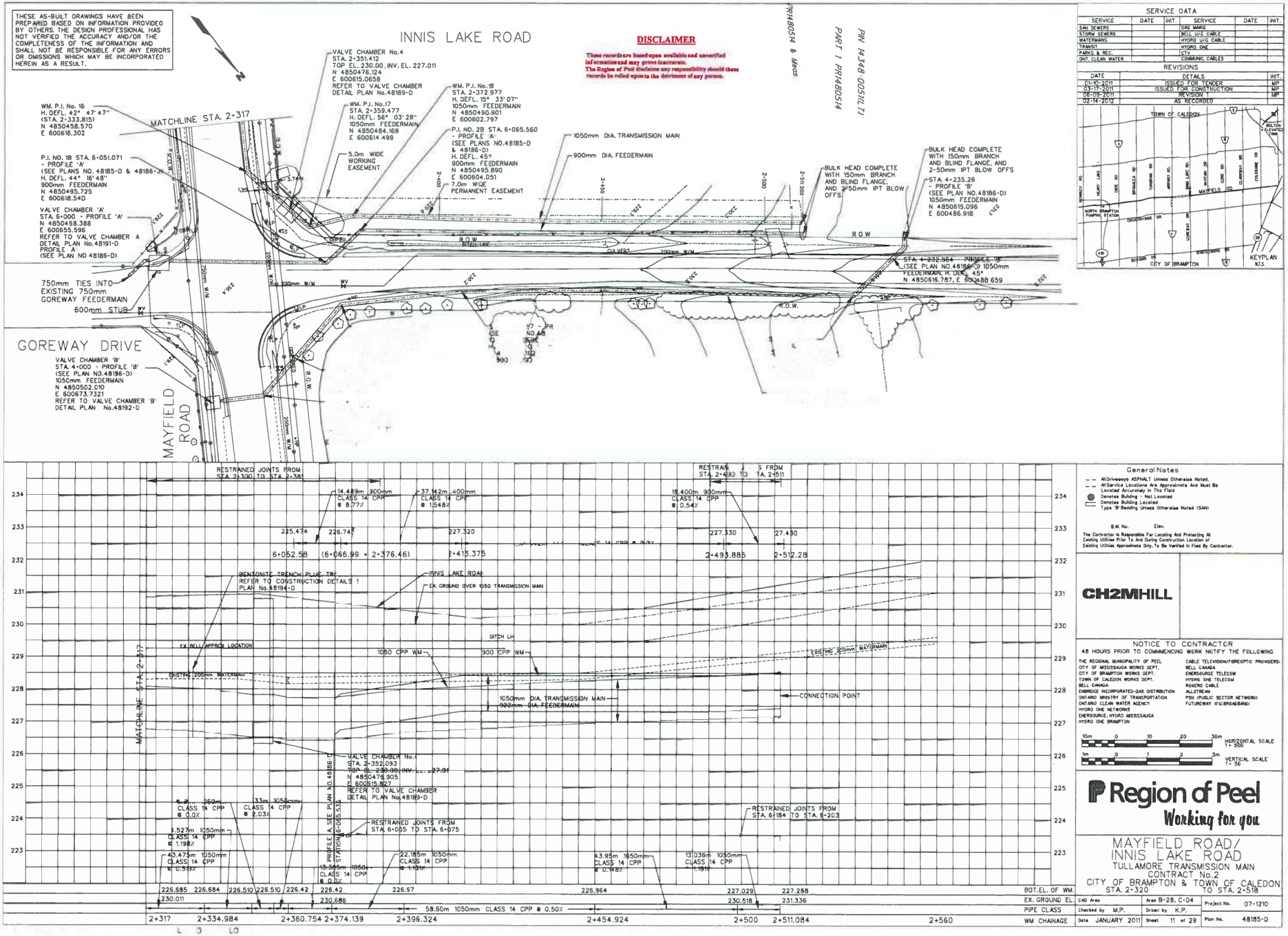
CONTRACT No.2

CITY OF BRAMPTON & TOWN OF CALEDON

STA. 2+040 TO STA. 2+320

CAD Area	Area B-28, C-04	Project No.	07-1210
Checked by M.P.	Drawn by K.P.		
Date JANUARY 2011	Sheet 10 of 29	Plan No.	48184-D

FILE NAME: $FILENAME PLOT DATE: $PLOTDATE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INNIS LAKE ROAD
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PIN 14348 0051(LT)
PART 1 PRI48051A
MATCHLINE STA. 2+317
WM. P.I. No. 16
H. DEFL. 42° 47' 47"
(STA. 2+333.815)
N 4850458.570
E 600616.302
P.I. NO. 1B STA. 6+051.071
- PROFILE 'A'
(SEE PLANS NO. 48185-D & 48186-D)
H. DEFL. 44° 16' 48"
900mm FEEDERMAIN
N 4850495.725
E 600618.540
VALVE CHAMBER 'A'
STA. 6+000 - PROFILE 'A'
N 4850458.388
E 600655.596
REFER TO VALVE CHAMBER A DETAIL PLAN No.48191-D
PROFILE A
(SEE PLAN NO 48186-D)
750mm TIES INTO EXISTING 750mm GOREWAY FEEDERMAIN
600mm STUB
GOREWAY DRIVE
VALVE CHAMBER 'B'
STA. 4+000 - PROFILE 'B'
(SEE PLAN NO.48186-D)
1050mm FEEDERMAIN
N 4850502.010
E 600673.7321
REFER TO VALVE CHAMBER 'B' DETAIL PLAN No.48192-D
MAYFIELD ROAD
VALVE CHAMBER No.4
STA. 2+351.412
TOP EL. 230.00, INV. EL. 227.011
N 4850476.124
E 600615.0658
REFER TO VALVE CHAMBER DETAIL PLAN No.48189-D
WM. P.I. No.17
STA. 2+359.477
H. DEFL. 56° 03' 28"
1050mm FEEDERMAIN
N 4850484.168
E 600614.499
5.0m WIDE WORKING EASEMENT
WM. P.I. No. 18
STA. 2+372.977
H. DEFL. 15° 33' 07"
1050mm FEEDERMAIN
N 4850490.901
E 600602.797
P.I. NO. 2B STA. 6+065.560
- PROFILE 'A'
(SEE PLANS NO.48185-D & 48186-D)
H. DEFL. 45°
900mm FEEDERMAIN
N 4850495.890
E 600604.051
7.0m WIDE PERMANENT EASEMENT
1050mm DIA. TRANSMISSION MAIN
900mm DIA. FEEDERMAIN
BULK HEAD COMPLETE WITH 150mm BRANCH AND BLIND FLANGE, AND 2-50mm IPT BLOW OFFS
BULK HEAD COMPLETE WITH 150mm BRANCH AND BLIND FLANGE, AND 2-50mm IPT BLOW OFFS
STA. 4+235.26
- PROFILE 'B'
(SEE PLAN NO.48186-D)
1050mm FEEDERMAIN
N 4850615.096
E 600486.918
STA. 4+232.864 - PROFILE 'B'
(SEE PLAN NO.48186-D) 1050mm FEEDERMAIN, H. DEFL. 45°
N 4850616.787, E 600488.659
R.O.W.
CH. VERT.
RESTRAINED JOINTS FROM STA. 2+300 TO STA. 2+384
RESTRAINED JOINTS FROM STA. 2+490 TO STA. 2+511
14.483m 900mm CLASS 14 CPP @ 0.77%
37.142m 400mm CLASS 14 CPP @ 1.548%
15.400m 900mm CLASS 14 CPP @ 0.54%
6+052.58
(6+066.99 = 2+376.46)
2+415.375
2+493.885
2+512.28
BENTONITE TRENCH PLUG TYP. REFER TO CONSTRUCTION DETAILS 1 PLAN No.48194-D
INNIS LAKE ROAD
EX. GROUND OVER 1050 TRANSMISSION MAIN
EX. BELL APPROX LOCATION
DITCH LP
1050 CPP WM
900 CPP WM
EXISTING 200mm WATERMAIN
EXISTING 400mm WATERMAIN
1050mm DIA. TRANSMISSION MAIN
900mm DIA. FEEDERMAIN
CONNECTION POINT
VALVE CHAMBER No.4
STA. 2+352.093
TOP EL. 230.00, INV. EL. 227.01
N 4850476.905
E 600615.827
REFER TO VALVE CHAMBER DETAIL PLAN No.48189-D
RESTRAINED JOINTS FROM STA. 6+055 TO STA. 6+075
RESTRAINED JOINTS FROM STA. 6+184 TO STA. 6+203
PROFILE A SEE PLAN NO.48186-D STATION 6+065.55
58.60m 1050mm CLASS 14 CPP @ 0.50%
BOT.EL. OF WM.
EX. GROUND EL.
PIPE CLASS
WM CHAINAGE
2+317
2+334.984
2+360.754
2+374.139
2+396.324
2+454.924
2+500
2+511.084
2+560
SERVICE DATA
SERVICE | DATE | INIT. | SERVICE | DATE | INIT.
SAN. SEWERS | GAS MAINS
STORM SEWERS | BELL U/G CABLE
WATERMAINS | HYDRO U/G CABLE
TRANSIT | HYDRO ONE
PARKS & REC. | CTV
UNT. CLEAN. WATER | COMMUNIC. CABLES
REVISIONS
DATE | DETAILS | INIT.
05-10-2011 | ISSUED FOR TENDER | MP
03-17-2011 | ISSUED FOR CONSTRUCTION | MP
06-05-2011 | REVISION 1 | MP
02-14-2012 | AS RECORDED
TOWN OF CALEDON
CITY OF BRAMPTON
KEYPLAN N.T.S.
General Notes
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HYDRO ONE NETWORKS
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HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FIBRE/RADIO)
HORIZONTAL SCALE 1" = 500
VERTICAL SCALE 1" = 50
Region of Peel
Working for you
MAYFIELD ROAD/
INNIS LAKE ROAD
TULLAMORE TRANSMISSION MAIN
CONTRACT No.2
CITY OF BRAMPTON & TOWN OF CALEDON
STA. 2+320 TO STA. 2+518
CAD Area
Area B-28, C-04
Project No. 07-1210
Checked by M.P.
Drawn by K.P.
Date JANUARY 2011
Sheet 11 of 29
Plan No. 48185-D

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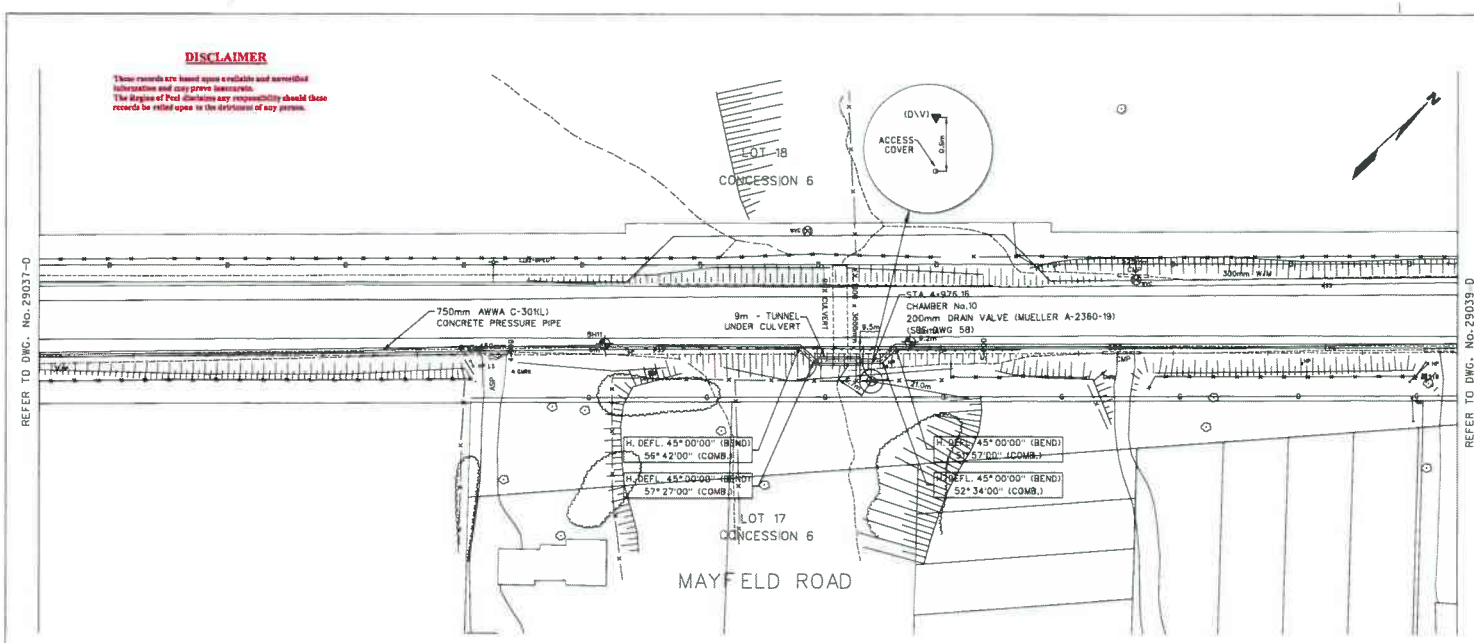

SERVICE DATA

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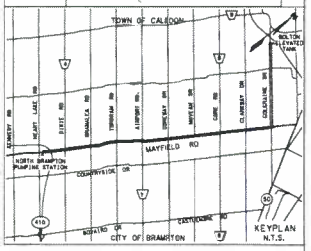
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS

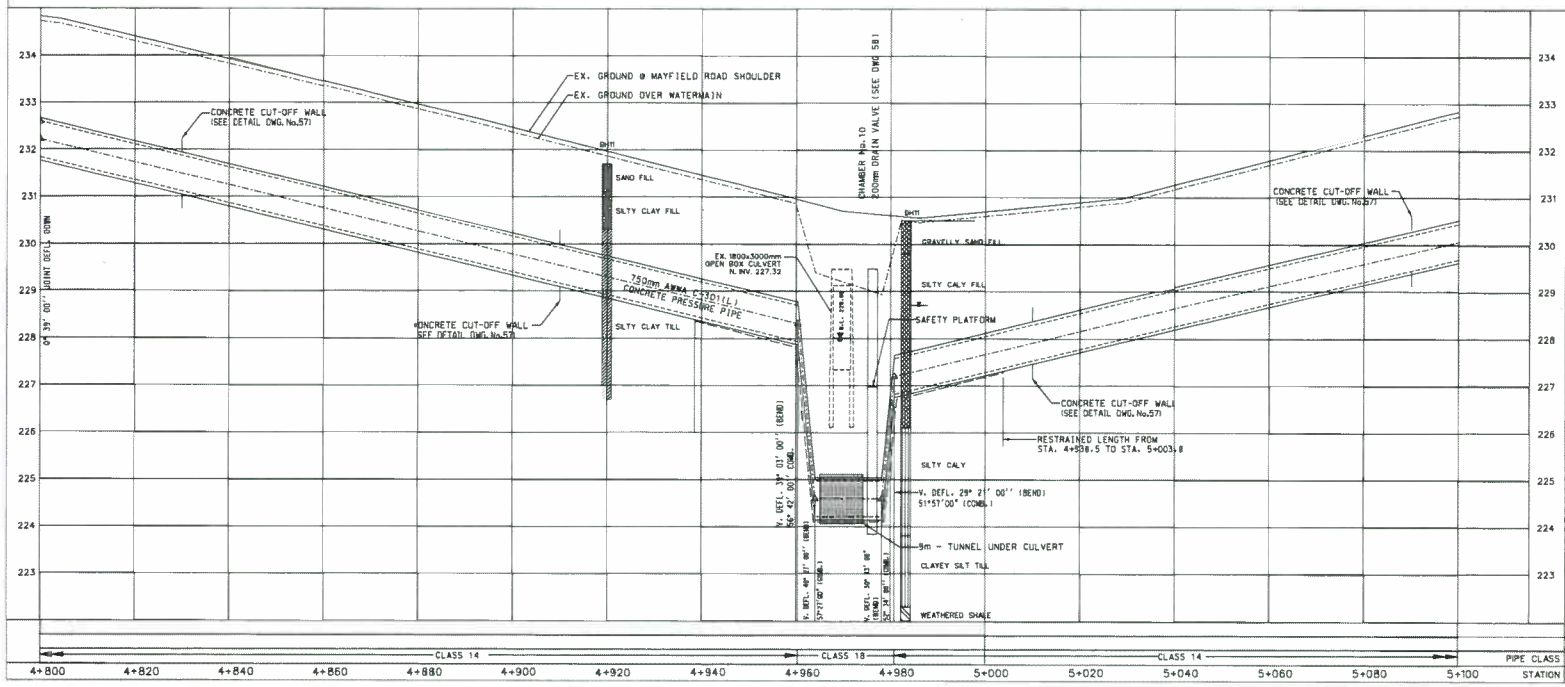
DATE	DETAILS	INIT.
MARCH 2002	CONSTRUCTION RECORD	T.M.



NOTE:
CHAMBER SWING TIES ARE TO ACCESS COVER

CONSTRUCTION RECORD
CONSTRUCTION PERIOD JAN. 2001 TO AUG. 2001

FOR GENERAL NOTES SEE PLAN 1



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KMK Consultants Limited
Consulting Engineers, Project Managers, Ecological Planners, Landscape Architects
Designed by ____ Chkd. ____

REGISTERED PROFESSIONAL ENGINEER R. A. VARJA PROVINCE OF ONTARIO
Approved by ____

NOTICE TO CONTRACTOR

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CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL TELEPHONE COMPANY
CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. TOWN OF CALEDON
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE
1m 0 1 2 3m VERTICAL SCALE

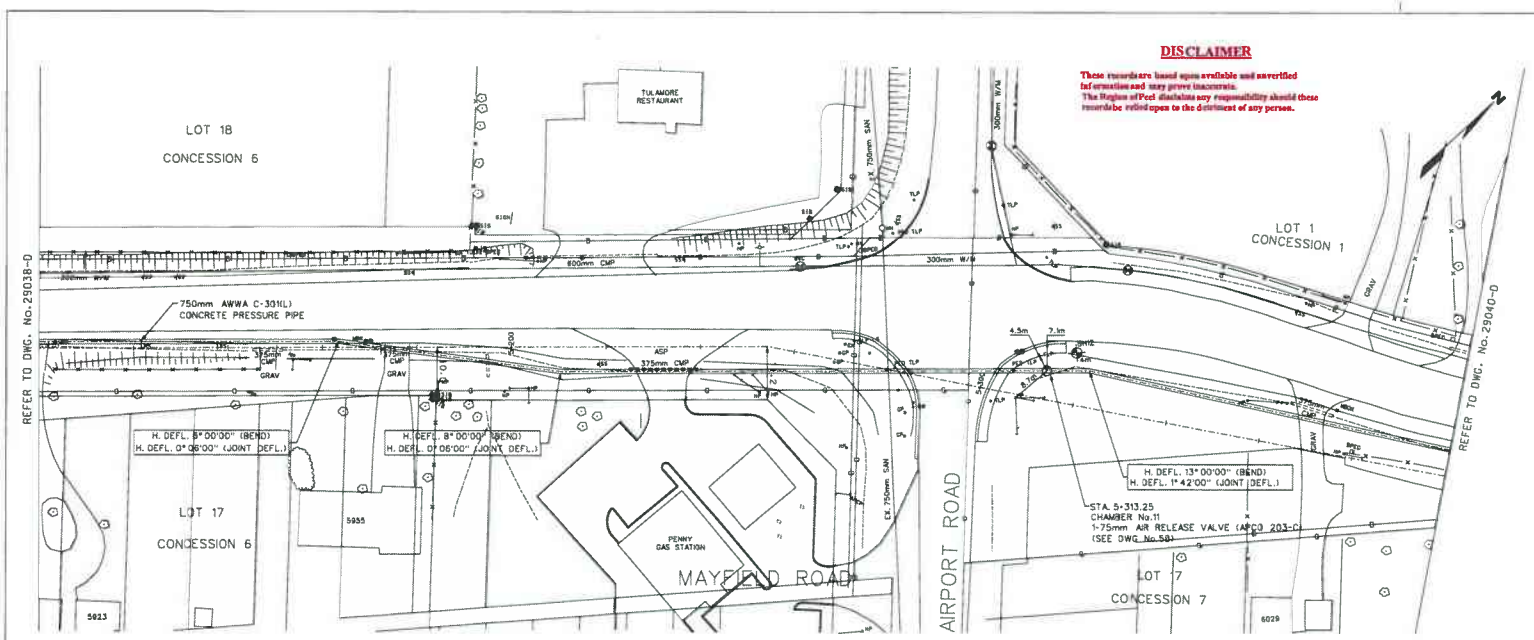
Region of Peel
Public Works

MAYFIELD ROAD

PROPOSED 750mm BOLTON FEEDERMAIN

Sta. 4+800 **To Sta.** 5+100

Lots	Ref No. 2199-A-34	Project No.	99-1930
Checked by R.V.	Drawn by G.D.	Plan No.	29038-D
Date SEPT 00	Sheet 17 of x		



SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
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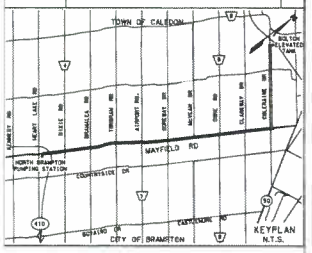
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN. WATER					

REVISIONS		
DATE	DETAILS	INIT.
MARCH 2002	CONSTRUCTION RECORD	Y.M.



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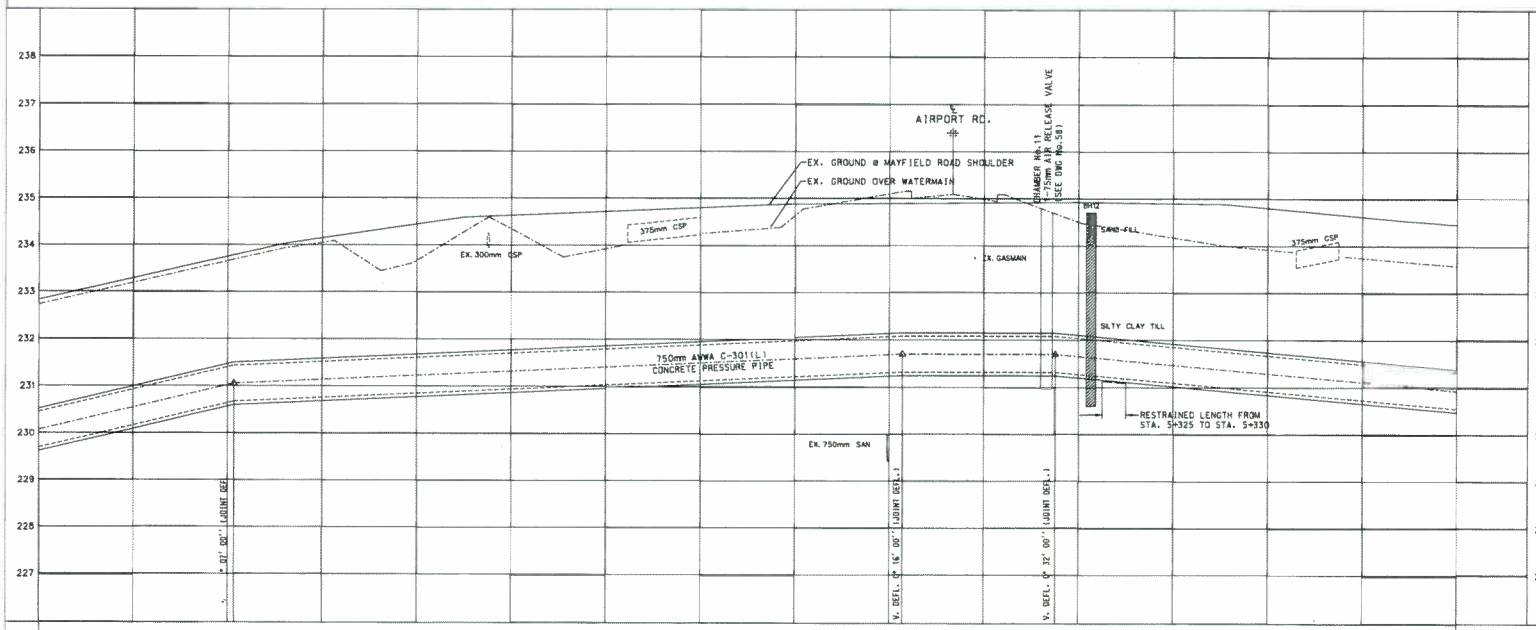
CONSTRUCTION PERIOD JAN. 2001 TO AUG. 2001

FOR GENERAL NOTES SEE PLAN 1



General Notes

- All Driveways ASPHALT Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In The Field
- Denotes Building - Not Located
- Denotes Building Located
- Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

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.

KMK Consultants Limited
Consulting Engineers, Project Managers, Ecological Planners, Landscape Architects
Designed by ____ Dwg. ____

REGISTERED PROFESSIONAL ENGINEER
R. A. VARIA
PROVINCE OF ONTARIO
Approved by ____

NOTICE TO CONTRACTOR
48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING
THE REGIONAL MUNICIPALITY OF PEEL
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL TELEPHONE COMPANY
CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. TOWN OF CALEDON
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE
1m 0 1 2 3m VERTICAL SCALE

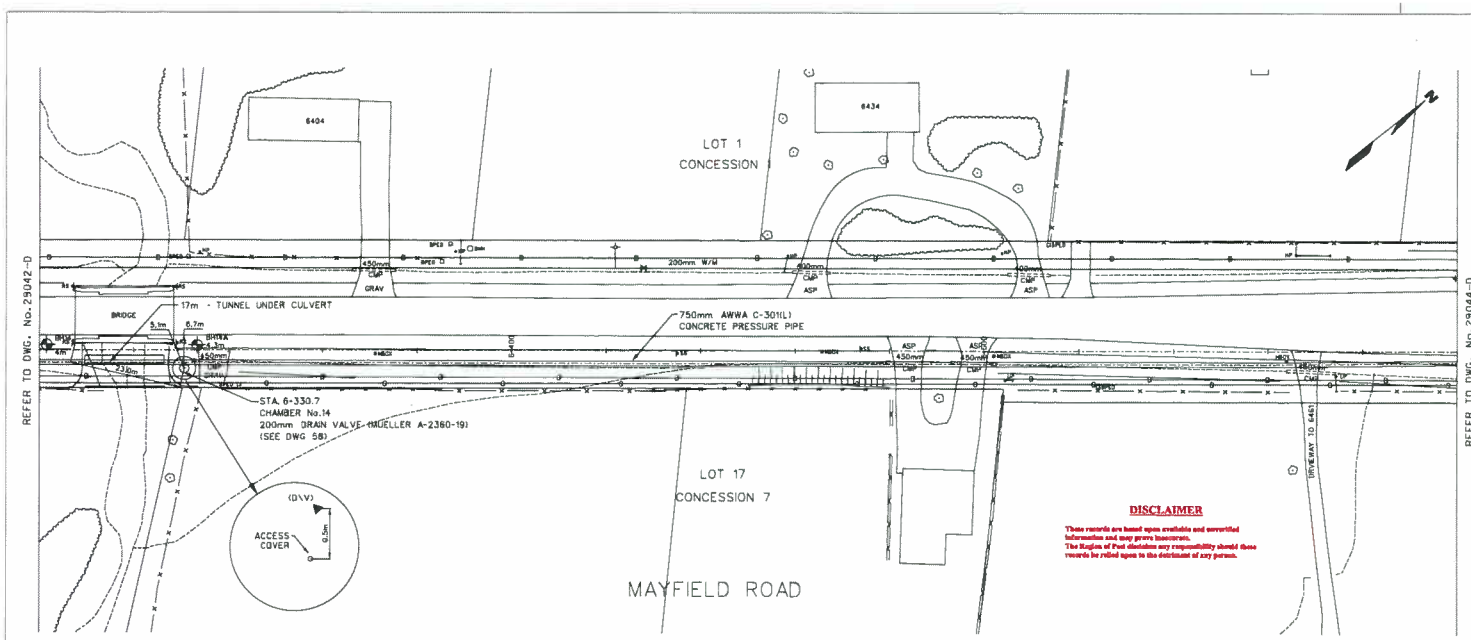
Region of Peel
Public Works

MAYFIELD ROAD

PROPOSED 750mm BOLTON FEEDERMAIN

Sta. 5+100 **To Sta.** 5+400

Lots	Ref No. 2199-A-35	Project No.	99-1930
Checked by R.V.	Drawn by G.D.	Plan No.	29039-D
Date SEPT 00	Sheet 18 of x		



DISCLAIMER

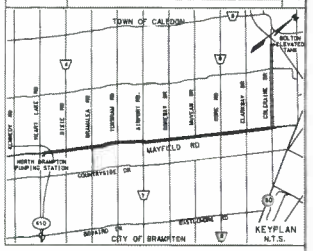
These records are based upon available and unverified information and may prove inaccurate.
The Region of Peel disclaims any responsibility should these records be relied upon to the detriment of any person.

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN. SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

REVISIONS

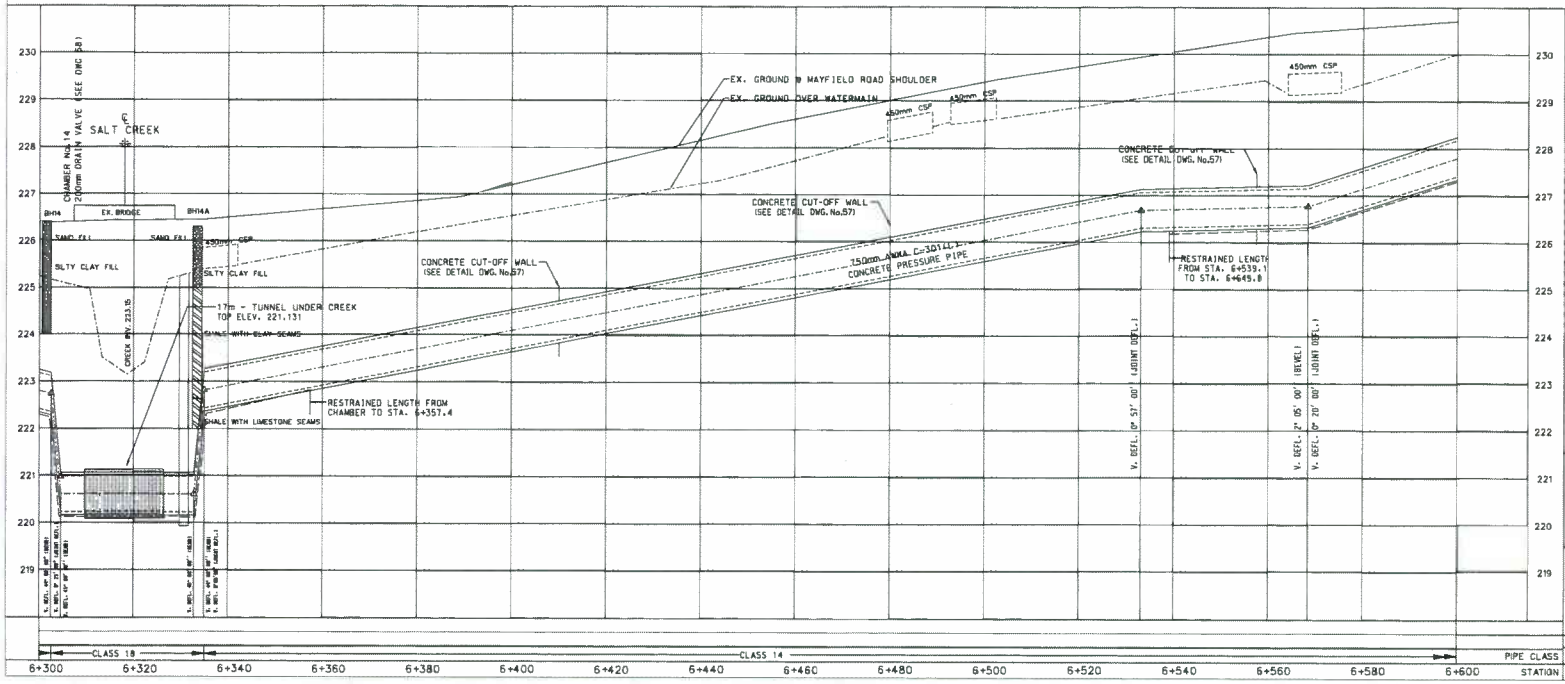
DATE	DETAILS	INIT.
MARCH 2002	CONSTRUCTION RECORD	Y.M.



NOTE:
CHAMBER SWING TIES ARE TO ACCESS COVER

CONSTRUCTION RECORD
CONSTRUCTION PERIOD JAN. 2001 TO AUG. 2001

FOR GENERAL NOTES SEE PLAN 1



General Notes

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- Denotes Building Located
- Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

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KMK Consultants Limited
Consulting Engineers, Project Managers, Ecological Planners, Landscape Architects
Designed by — Date —

REGISTERED PROFESSIONAL ENGINEER
R. A. VARIA
PROVINCE OF ONTARIO
Approved by

NOTICE TO CONTRACTOR
48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT
BELL TELEPHONE COMPANY
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MINISTRY OF TRANSPORTATION
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. TOWN OF CALEDON
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE
1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

MAYFIELD ROAD

PROPOSED 750mm BOLTON FEEDERMAIN

Sta. 6+300 **To Sta.** 6+600

Lots	Ref No. 2199-A-39	Project No.	99-1930
Checked by R.V.	Drawn by G.D.		
Date SEPT 00	Sheet 22 of x	Plan No.	29043-D

DISCLAIMER

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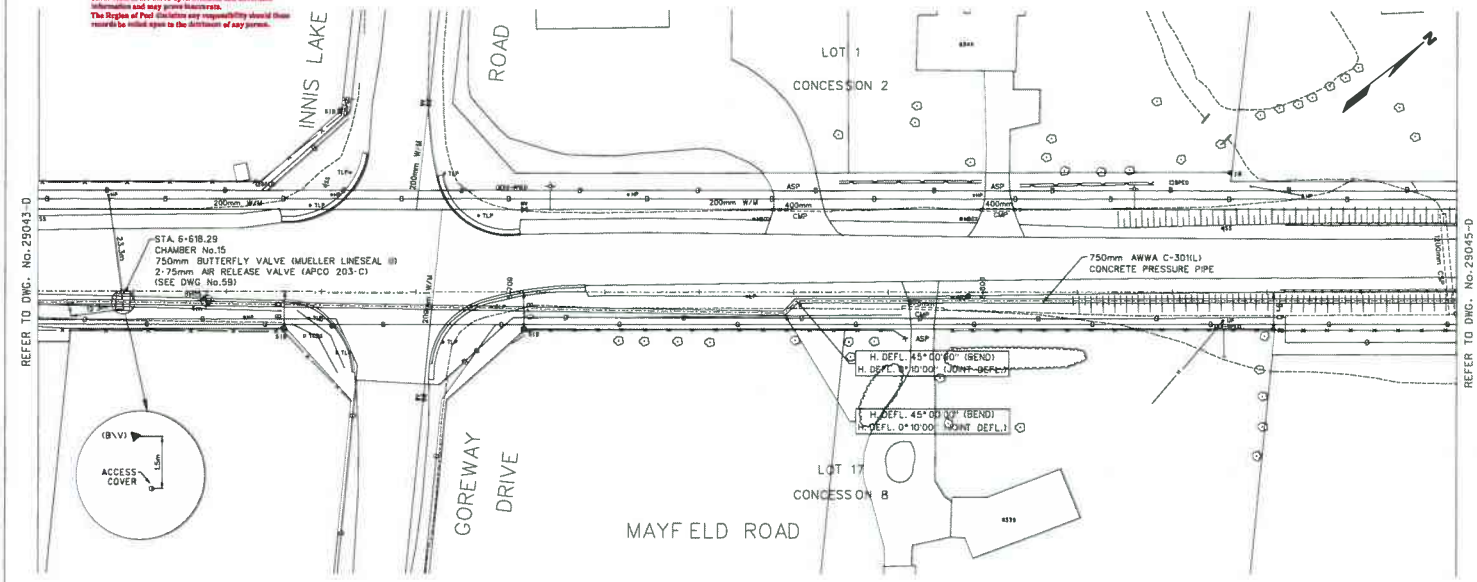
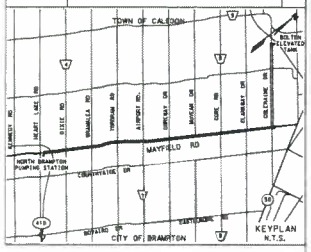


SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			ONT. HYDRO		
PARKS & REC.			CTV		
ONT. CLEAN WATER					

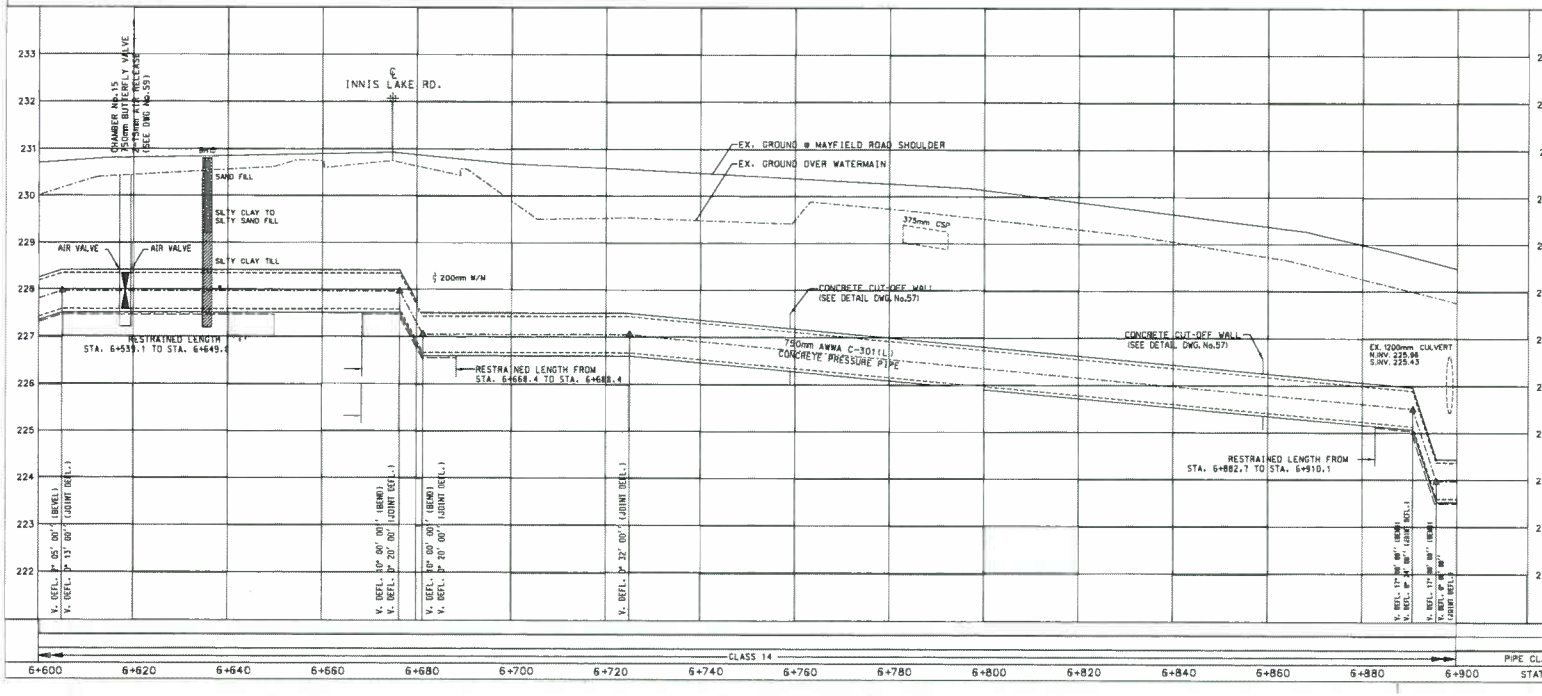
REVISIONS		
DATE	DETAILS	INIT.
MARCH 2002	CONSTRUCTION RECORD	T.M.



NOTE:
CHAMBER SWING TIES ARE TO ACCESS COVER

CONSTRUCTION RECORD
CONSTRUCTION PERIOD JAN. 2001 TO AUG. 2001

FOR GENERAL NOTES SEE PLAN 1



General Notes
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- Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

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KMK Consultants Limited
Consulting Engineers, Project Managers, Ecological Planners, Landscape Architects
Designed by ____ Checked ____

REGISTERED PROFESSIONAL ENGINEER R. A. VARIA PROVINCE OF ONTARIO
Approved by ____

NOTICE TO CONTRACTOR
48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING
THE REGIONAL MUNICIPALITY OF PEEL
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT
BELL TELEPHONE COMPANY
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MINISTRY OF TRANSPORTATION
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. TOWN OF CALEDON
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE
1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Public Works

MAYFIELD ROAD

PROPOSED 750mm BOLTON FEEDERMAIN

Sta. 6+600 **To Sta.** 6+900

Lots	Ref No. 2199-A-40	Project No.	99-1930
Checked by R.V.	Drawn by G.D.	Plan No.	29044-D
Date SEPT 00	Sheet 23 of x		

DISCLAIMER

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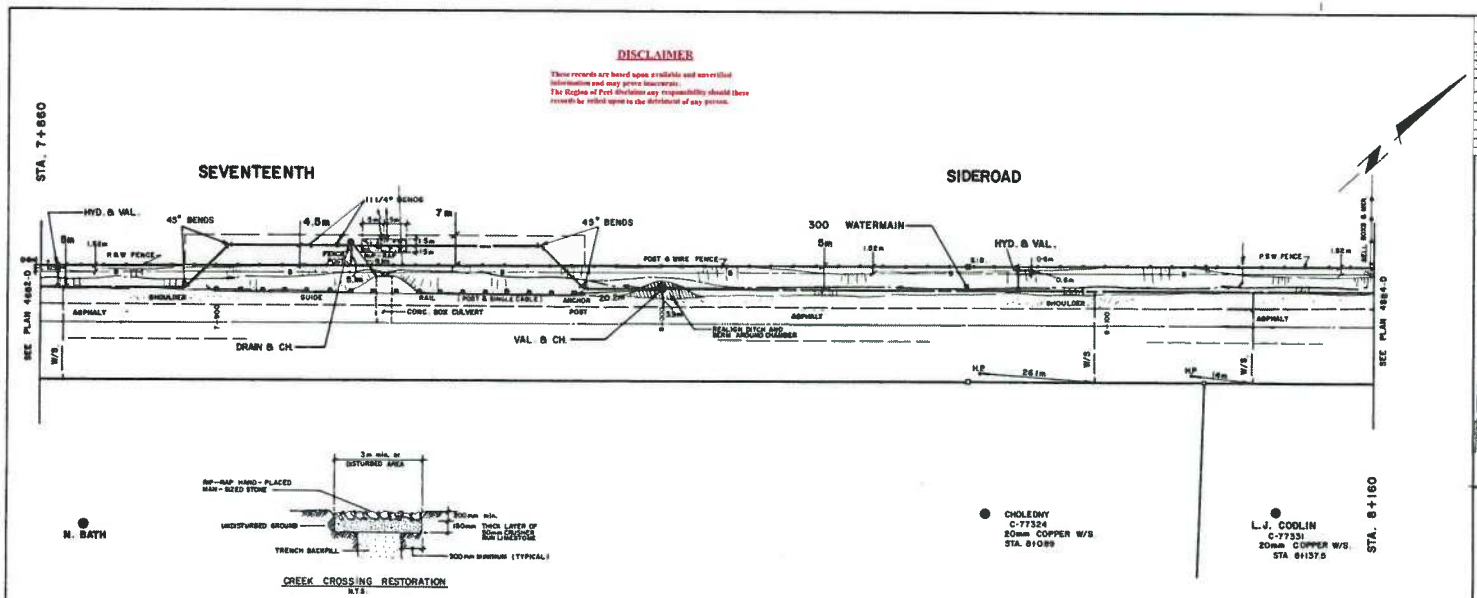
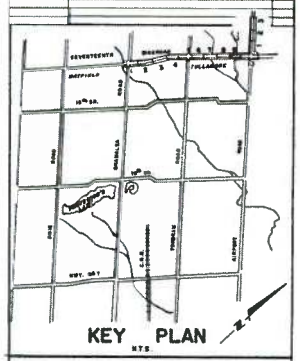


CREEK CROSSING RESTORATION
N.T.S.

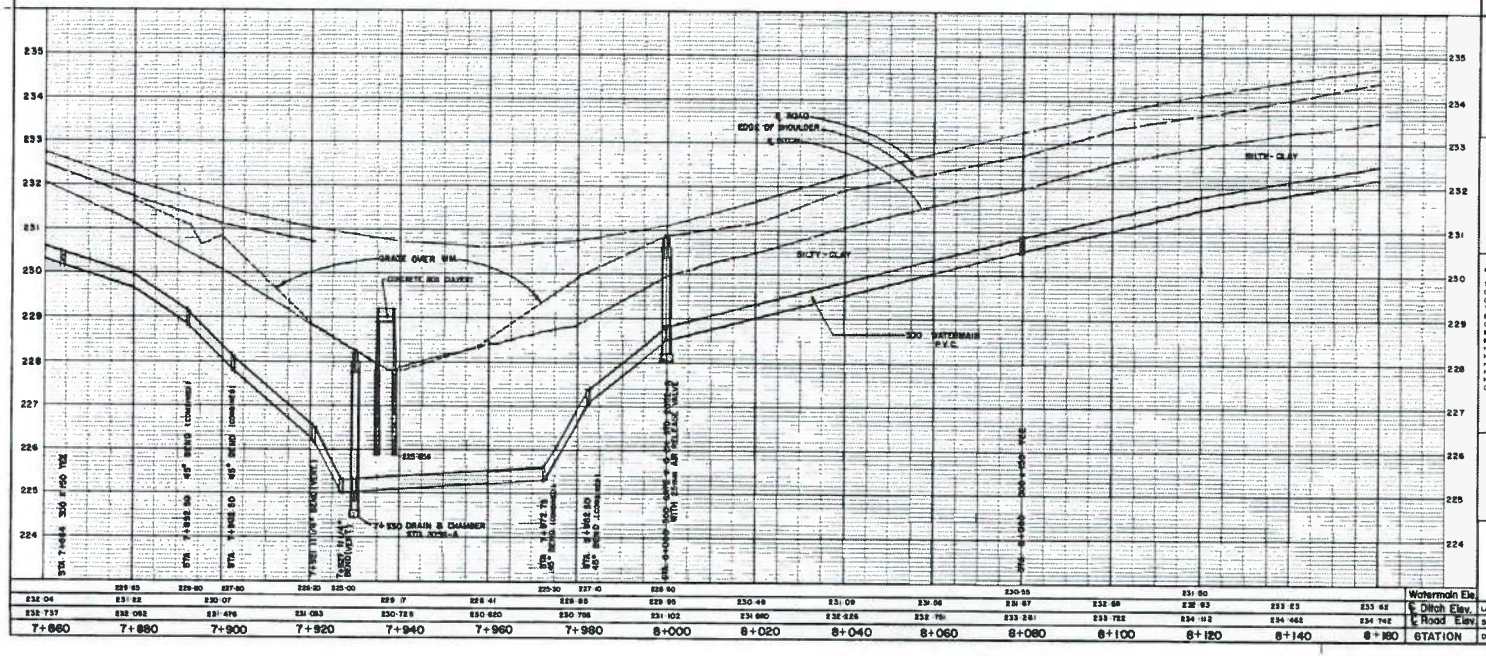


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN. SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		

REVISIONS

DATE	DETAILS	INIT.
AUG./82.	AS CONSTRUCTED	B.K.



Watermain Ele.															
C. Ditch Elev.	232.04	232.22	230.07	229.17	228.41	228.83	228.90	230.48	231.09	231.86	231.67	232.69	233.23	233.62	
C. Road Elev.	232.737	232.092	231.478	231.083	230.728	230.820	230.798	231.102	231.880	232.226	232.786	233.281	233.722	234.112	234.462	234.742
STATION	7+860	7+880	7+900	7+920	7+940	7+960	7+980	8+000	8+020	8+040	8+060	8+080	8+100	8+120	8+140	8+160

General Notes

- All Distances Given Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In Field.
- Denotes Building - Not Located
- Denotes Building Located
- Type B Bedding Unless Otherwise Noted (SAN.)

B.M. =
Elev.

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: B. J. KUCZEWSKI, Chief Engineering Technologist, Province of Ontario

Approved By: G. J. [illegible], Chief Engineering Technologist, Province of Ontario

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 TELEPHONE COMPANY
CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
MINISTRY OF ENVIRONMENT
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. CITY OF MISSISSAUGA
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
HYDRO ELECTRIC COMM. PORT CREDIT
HYDRO ELECTRIC COMM. STREETSVILLE
CABLE TELEVISION

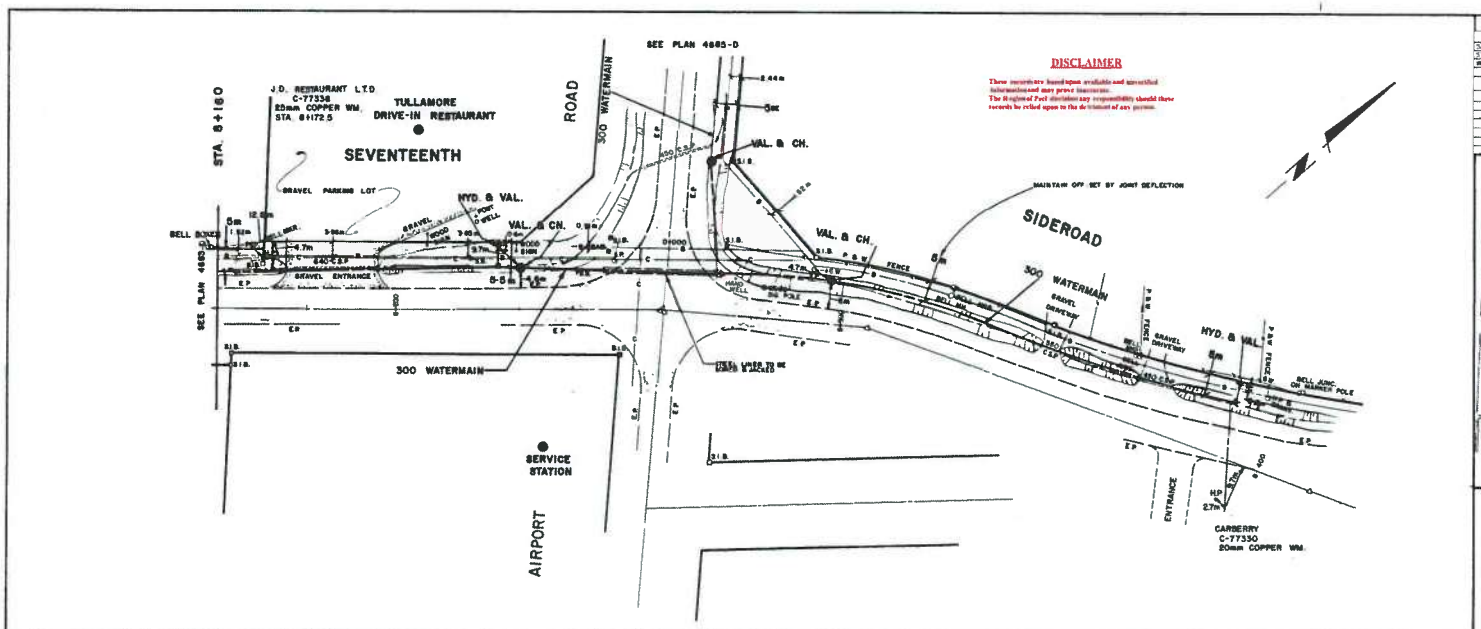
Region of Peel

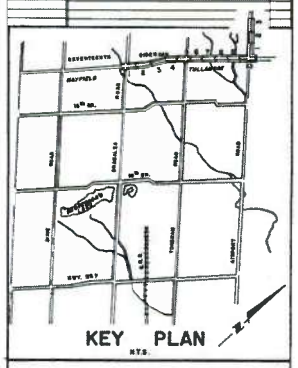
Department of Public Works

300 mm WATERMAIN on SEVENTEENTH SIDEROAD (REGION ROAD #8)
from BRAMALEA ROAD to AIRPORT ROAD
Sta. 7+860 To Sta. 6+160

Lors	Area C-S	Project No. 81-1140	
Scale Hor. 1:500 Ver. 1:100	Drawn By A.B.E. & B.K.	Checked By	
Date July 1982	Sheet 9 of 10	Plan No. 4683-D	

4683-D



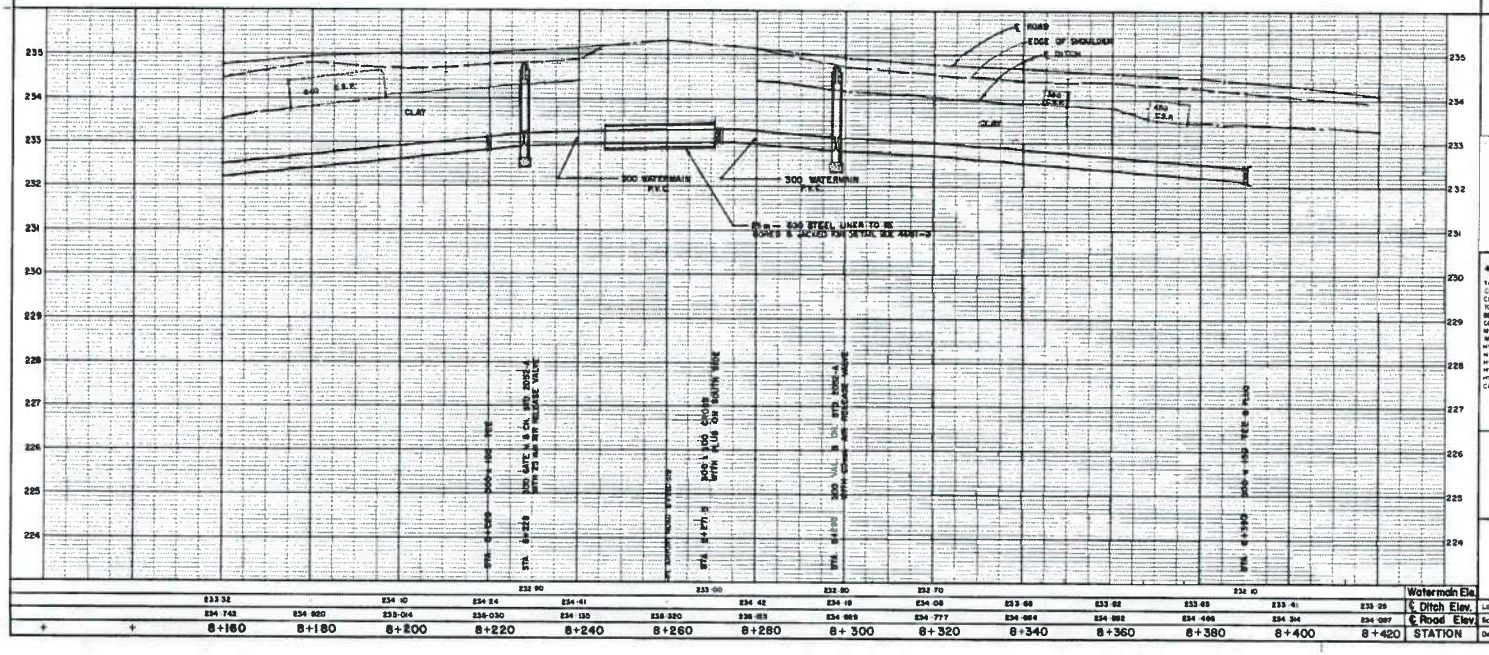


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN. SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CAB. T.		

REVISIONS

DATE	DETAILS	INIT
AUG./80.	AS CONSTRUCTED	B.E.



Watermain Ele.	233.32		234.10	234.24	234.41		234.42	234.19	234.08	233.68	233.62	233.69	233.41	233.29
℄ Ditch Elev.	234.742	234.920	235.014	235.030	234.130	236.320	236.813	234.869	234.777	234.684	234.892	234.496	234.394	234.087
℄ Road Elev.														
STATION	8+160	8+180	8+200	8+220	8+240	8+260	8+280	8+300	8+320	8+340	8+360	8+380	8+400	8+420

General Notes

- All Driveways Gravel Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In Field
- Denotes Building Located
- Denotes Building Located
- Take 8 Reading Unless Otherwise Noted (SAN.)

Ref. No. Elev.

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

B. J. WICZEWSKI
Province of Ontario

G. J. CAVISE
Province of Ontario

Designed by

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 TELEPHONE COMPANY
CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
MINISTRY OF ENVIRONMENT
HYDRO ELECTRIC POWER COMM OF ONTARIO
HYDRO ELECTRIC COMM. CITY OF MISSISSAUGA
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
HYDRO ELECTRIC COMM. PORT CREDIT
HYDRO ELECTRIC COMM. STREETSVILLE
CABLE TELEVISION

Region of Peel

Department of Public Works

300 mm WATERMAIN on SEVENTEENTH SIDEROAD (REGION ROAD No. 1)

from BRAMALEA ROAD to AIRPORT ROAD

Sta. 8+160 To Sta. 8+420

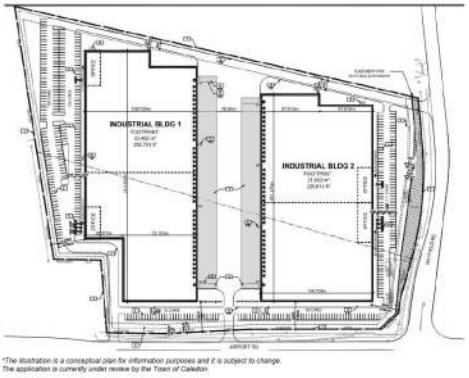
Lots	Area C-5	Project No. 81-110	
Scale Hor. 1:500 Ver. 1:50	Drawn by R.B.C. & B.E.	Checked by	
Date July, 1981	Sheet 10 of 10	Plan No. 4684-D	

4684-D

TOWN OF CALEDON

Notice of Public Meeting: 0 Airport and 6034 Mayfield Road

Posted on Thursday, April 21, 2022



A Public Meeting will be held to consider proposed Official Plan Amendment and Zoning By-law Amendment applications. Your input and insight will inform and shape plans that meet the needs of our community.

The Town of Caledon is offering a hybrid meeting model offering many ways for you to engage with Council. To participate in-person or virtually, complete the participation form by registering here.

Meeting date: May 3, 2022 | Meeting start time: 7 p.m.

How to participate

Members of the public may participate and learn more about proposed applications and can provide direct input.

How to attend

1. Attend In-Person: Members of the public may register to delegate in-person and speak to an item listed on the agenda or sit in the gallery to watch the meeting. Those registering to attend in-person must show proof of full vaccination and government issued identification, wear a face mask at all times unless delegating, and successfully complete the Town's COVID-19 screening prior to entering Town Hall.
2. Virtually: Members of the public are welcome to participate via phone or WebEx Meeting upon request. For more information on how to participate, please visit http://www.caledon.ca/notice or contact the Planning Department. Please note that there are deadlines by which the request to participate need to be made.

For more information on the above 2 options please follow this link.

How to delegate

If you wish to delegate to a specific application listed on the agenda package, please register in advance by completing the electronic registration form.

Note: Complete and submit your electronic registration form prior to the start of the scheduled public meeting to ensure that your comments are heard during the meeting.

How to submit a written comment

You may submit written comments by uploading them directly through the electronic registration form. If you do not wish to submit your written comments through the electronic registration form, you can e-mail your comments to planning@caledon.ca and agenda@caledon.ca. Written comments submitted will be considered public information and will form part of the public record.

Note: Submit your written comments prior to the start of the scheduled public meeting.

Speak to Staff

- Contacting Planning staff or the Lead Planner during office hours by phone or email.
- Booking an appointment to visit Town Hall to speak with Planning staff. Visit our development webpage for more information.

Applicant and Location

- Applicant: SmartCentres on behalf of Airfield Developments Inc., and Airfield II Developments Inc.
- Location: 0 Airport Road and 6034 Mayfield Road, Ward 2
- File Number(s): POPA 2021-0008 and RZ 2021-0014

Proposed Changes

The applicant has applied for an Official Plan and Zoning By-law Amendment for a development proposal consisting of two large-industrial buildings. The buildings will have a total gross floor area of 23,482 m² and 21,053 m² respectively (44,535 m² / 479,776 square feet combined), including accessory office spaces totaling approximately 2,034 m²). A full-movement access would be located on Airport Road, with additional access on Airport Road, and Mayfield Road.

The Official Plan Amendment would change the designation of the subject lands from "Highway Commercial" (subject to OPA 239) and "General Industrial" to "Highway Commercial" with site specific policies to allow additional employment uses. The Zoning By-law Amendment would rezone the property from Highway Commercial with a Holding provision (CH-556-H19 and CH-480-H13) and Service Industrial (MS-483-H13) to Highway Commercial with and Exception and Holding Provision (CH XXX-HXX).

Lead Planner

Sean Kenney, MCIP, RPP
Senior Planner
Development and Design
905-584-2272 x.4199
sean.kenney@caledon.ca

Additional Information

For more information about this matter, please contact the Lead Planner at Town Hall from Monday to Friday, 8:30 a.m. to 4:30 p.m.

How to stay informed

If you wish to be notified of a specific application, please make a request to:

Town of Caledon,
Planning Department
6311 Old Church Road
Caledon, ON
L7C 1J6

Or via e-mail.

Appeal Procedure

If a person or public body does not make oral submissions at a public meeting, if one is held, or make written submission to the Clerk of the Town of Caledon in respect of the proposed plan of subdivision before the approval authority gives or refuses to give approval to the draft plan of subdivision, the person or public body is not entitled to appeal the decision of the Council of the Town of Caledon to the Ontario Land Tribunal

If a person or public body does not make oral submissions at a public meeting, if one is held, or make written submissions to the Clerk of the Town of Caledon before the approval authority gives or refuses to give approval to the draft plan of subdivision, the person or public body may not be added as a party to the hearing of an appeal before the Local Planning Appeal Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to add the person or public body as a party.

Accessibility

If you require an accessibility accommodation or to access information in an alternate format, please contact staff in Legislative Services at 905.584.2272 x.2366 or via e-mail to accessibility@caledon.ca. Requests should be submitted at least 10 days prior to the scheduled meeting.

Multi-Tenant Landowners: Please post this notice in a visible location to all residents of the land.

Notice Date: April 7, 2022

How can we help?

Dial 311 or email us!

Stay Informed

Subscribe now to get our newsletter.

Have your say

Contact Council or visit our new public engagement site.

Our residents make Caledon a vibrant place to live, work and play.

Contact Us

The Corporation of the Town of Caledon
6311 Old Church Rd
Caledon ON L7C 1J6

Phone
905-584-2272

Toll Free
1-888-225-3366

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SMARTCENTRES®
REAL ESTATE INVESTMENT TRUST
3200 HIGHWAY 7 | VAUGHAN, ON. CANADA L4K 5Z5
T 905 326 6400 F 905 326 0783

TOWN OF CALEDON
PLANNING
RECEIVED
July 30, 2021

July 29, 2021

Rob Hughes
Manager, Planning Services
Town of Caledon
6311 Old Church Road,
Caledon, ON, L7C 1J6

Relevant File: **PRE 2020-0162**
POPA 2021-0008
RZ 2021-0014

Subject: **Official Plan and Zoning By-law Amendment Applications**
Airfield Developments Inc., Airfield II Developments Inc.
PT LT 1 CON 1 ALBION AS IN RO829323; CALEDON & PT LT 1 CON 1 ALB, DESIGNATED AS PART 1, 43R34197 TOWN OF CALEDON

Dear Mr. Hughes,

BACKGROUND

On behalf of Airfield Developments Inc. and Airfield II Developments Inc**.**, we are pleased to submit the enclosed Official Plan and Zoning By-law amendment applications to permit industrial / employment uses and site-specific development standards on the Subject Lands for the development of two one-storey industrial buildings. The Subject Lands are legally known as PT LT 1 CON 1 ALBION AS IN RO829323; CALEDON & PT LT 1 CON 1 ALB, DESIGNATED AS PART 1, 43R34197 TOWN OF CALEDON ("Site").

The Site is comprised of 23.31-acres, bounded by Mayfield Road to the south, Airport Road to the west, adjacent industrial uses to the north, and industrial/agricultural lands to the east. The Site is currently vacant and unimproved.

The majority of the Site is designated "Highway Commercial" with a strip of lands at the northeast corner designated "General Industrial" under the Official Plan. Additionally, the Site is subject to OPA 239. Under the Zoning By-law the majority of the Site is zoned "CH-556-H19" (Highway Commercial), with the northwestern end zoned "CH-480-H13" (Highway Commercial) and the northeastern end zoned "MS-483-H13" (Service Industrial). This application seeks to modify and amend the existing designations in order to expand the range of uses permitted on site and introduce appropriate development standards in keeping with the proposed development.

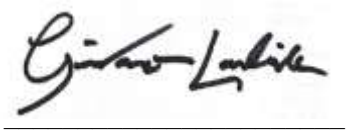
PROPOSAL DESCRIPTION

The proposal for the Site consists of two large-scale industrial buildings envisioned to service the greater surrounding area. The buildings will have a total gross floor area of 23,482 m² and 21,053 m² respectively (44,535 m² / 479,776 square feet combined), including accessory office spaces totaling approximately 2,034 m².

The building will include 83 dock-high doors and 4 grade-level doors for loading. Additionally, the proposal contains 426 at-grade parking stalls including 12 barrier free parking spaces to serve all employees, visitors and users. A full-move access to the site is planned to on Airport Road, with an additional access on Airport Road, and Mayfield Road.

Please refer to Appendix A for a complete list of material submitted for your review. As always, we look forward to working with you and Staff on this application. Should you have any questions or require additional copies of the items, please feel free to contact me at 416-795-0959 or at glabile@smartcentres.com

Respectfully Submitted,
SmartCentres



Giordano Labile
Development Associate

APPENDIX A

We are pleased to submit the following materials as part of our Application:

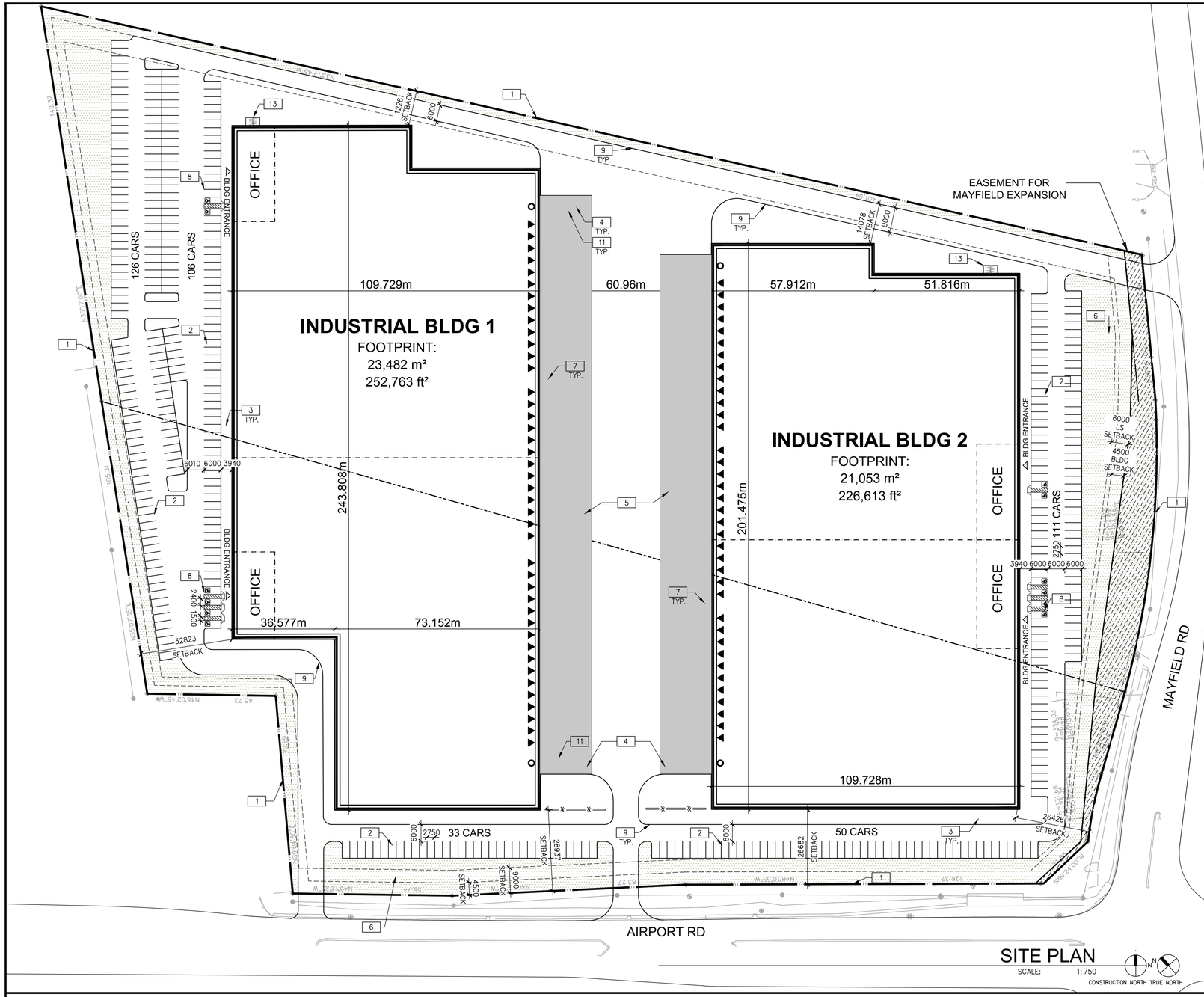
Forms, Letters, and Reports

- Cover Letter, dated July 29, 2021
- Functional Servicing and Stormwater Management Report, prepared by WSP, dated July 22, 2021
- Preliminary Geotechnical Investigation, prepared by EXP Services Inc., dated July 23, 2021
- Phase One Environmental Assessment, prepared by EXP Services Inc., dated July 23, 2021
- Stationary Noise Feasibility Assessment, prepared by Gradient, dated July 23, 2021
- Transportation Impact Study and Demand Management Plan prepared by WSP, dated July 29, 2021
- Planning Justification Report, prepared by MHBC, dated July 2021
    - Draft Zoning By-Law Amendment, prepared by MHBC
    - Draft Official Plan Amendment, prepared by MHBC
- Tree Inventory and Preservation Plan Report, prepared by Jackson Arboriculture Inc., dated July 14, 2021

Drawings:

- Site Plan, prepared by Ware Malcomb, dated July 26, 2021
- Conceptual Grading and Servicing Plans, prepared by WSP, dated July 22, 2021
- Tree Protection Plan and Conceptual Landscape Plan, prepared by Adesso Design Inc, dated July 26, 2021
- Electrical Illumination Plan and Details, prepared by Ellard-Willson Engineering Ltd, dated July 26, 2021
- Draft Reference Plan, prepared by David J. Pesce, dated July 2011

CAUTION: IF THIS SHEET IS NOT 24"x36" IT IS A REDUCED PRINT



SITE PLAN NOTES

1. EXISTING PROPERTY LINE
2. 2750x6000 PARKING STALL
3. 1800mm MIN. WIDE SIDEWALK TYPICAL U.N.O
4. DRIVE-IN RAMP, WITH GALVANIZED GUARDRAIL. SEE CIVIL DRAWING FOR SLOPE %
5. CONCRETE APRON
6. LANDSCAPE AREA – SEE LANDSCAPE DWGS.
7. EXTERIOR STEEL STAIRS W/ TUBE STEEL GUARDRAIL, TYP.
8. TYPICAL SHARED ACCESSIBLE PARKING STALLS, PAINTED PARKING STRIPING PER CITY OF BRAMPTON MUNICIPAL STANDARDS. EACH PAIR OF SHARED STALL TO HAVE (2) 2400X6000 LONG WITH A 1500mm WIDE PAINTED BARRIER FREE AISLE AND SIGNAGE REFER TO ONTARIO INTEGRATED ACCESSIBILITY STANDARDS.
9. 150mm WIDE CURB TYPICAL
10. FIRE DEPARTMENT CONNECTION / SIAMESE
11. RETAINING WALL. SEE CIVIL DWG.
12. PAINTED PEDESTRIAN PATH
13. BIKE RACKS. SEE LANDSCAPE DWG.

PROJECT DATA

SMART CENTRES

SITE STATISTICS

PT LT 1 CON 1 ALBION AS IN RO829323 ; CALEDON

ZONING	CH-556-H19
GROSS SITE AREA	94,317.41 m² (9.43 HA)
GROSS BLDG AREA	44,545.19m²
LOT COVERAGE	47.23%
% LANDSCAPE AREA	19.67%

Zone Permitted Use

Proposed Use	Industrial	
	Proposed	**Required**
Min. Front Yard Building Setback (m)	31.25 m	4.5 m
Min. Interior Side Yard Building Set back (m)	32.82 m	6.0 m
Min. Exterior Side Yard Building Set back (m)	26.42 m	4.5 m
Min.Rear Yard Building Setback (m)	12.26 m	10.5 m
Building Floor Area		
Building 1		
Industrial	22,488.12 m²	242,063.10 ft²
Office	994.07 m²	10,700.08 ft²
Total Area	23,482.19 m²	252,763.18 ft²
Building 2		
Industrial	20,012.47 m²	215,412.43 ft²
Office	1,040.53 m²	11,200.17 ft²
Total Area	21,053 m²	226,612.60 ft²
TOTAL BUILDING GFA	**44,535.19 m²**	**479,375.78 ft²**
Parking Requirement		
Building 1	***REQUIRED***	***PROPOSED***
139+(23,482.19-10,000) m²/170 m²	219	
Building 2		
139+(21,053.0-10,000) m²/170 m²	204	
Total No. of Parking Spaces	423	426
Barrier Free Parking Spaces (2 plus 2% of Total Spaces)	11	12
Parking Stall Dimensions	2.75 m X 6.0 m	
Barrier Free Parking Stall	2.4 m X 6.0 m	
Barrier Free Parking Access Aisle	1.5 m X 6.0 m	
Dock Statics	***PROPOSED***	
Dock-High Doors	83	
Grade-Level Doors	4	

SITE LEGEND

- NEW HEAVY DUTY PAVEMENT (HATCHED)
- NEW LANDSCAPED AREA (HATCHED)
- PAINTED DIAGONAL LINES WHERE INDICATED
- FIRE ACCESS ROUTE WITH 12.0M TURNING RADIUS
- PROPERTY LINE
- MAN DOOR ENTRY
- FIRE DEPT CONNECTION (VERIFY LOCATION WITH CIVIL DRAWINGS)
- EXISITNG FIRE HYDRANT (VERIFY LOCATION WITH CIVIL DRAWINGS)
- PROPOSED FIRE HYDRANT (VERIFY LOCATION WITH CIVIL DRAWINGS)
- NEW STOP SIGN
- D.C. 1500mm WIDE DEPRESSED CURB FOR ACCESSIBLE PARKING AND PEDESTRIAN ACCESS – REFER TO DETAIL 4/A1.2
- FENCE
- DOCK HIGH TRUCK DOOR
- KNOCK-OUT PANEL
- GRADE LEVEL TRUCK DOOR

TOWN OF CALEDON
PLANNING
RECEIVED
July 30, 2021

WARE MALCOMB
Leading Design for Commercial Real Estate

architecture
planning
interiors
graphics
civil engineering

180 bass pro mills drive, unit 103
vaughan, ontario, L4K 5W9
p 905.760.1221
f 905.248.3344
a business name of WMA Inc.

ONTARIO ASSOCIATION OF ARCHITECTS
ANA CATALINA ROCHA
LICENCE 7266

SMARTCENTRES

6034 MAYFIELD RD
CALEDON, ONTARIO, CANADA

SITE PLAN

	DATE	REMARKS
1	2021-07-26	ISSUED FOR OPA/ZBA SUBMISSION

PA / PM:	B. NAJMAN
DRAWN BY:	S. KAO
JOB NO.:	TOR21-0082-00

SHEET
A1.0

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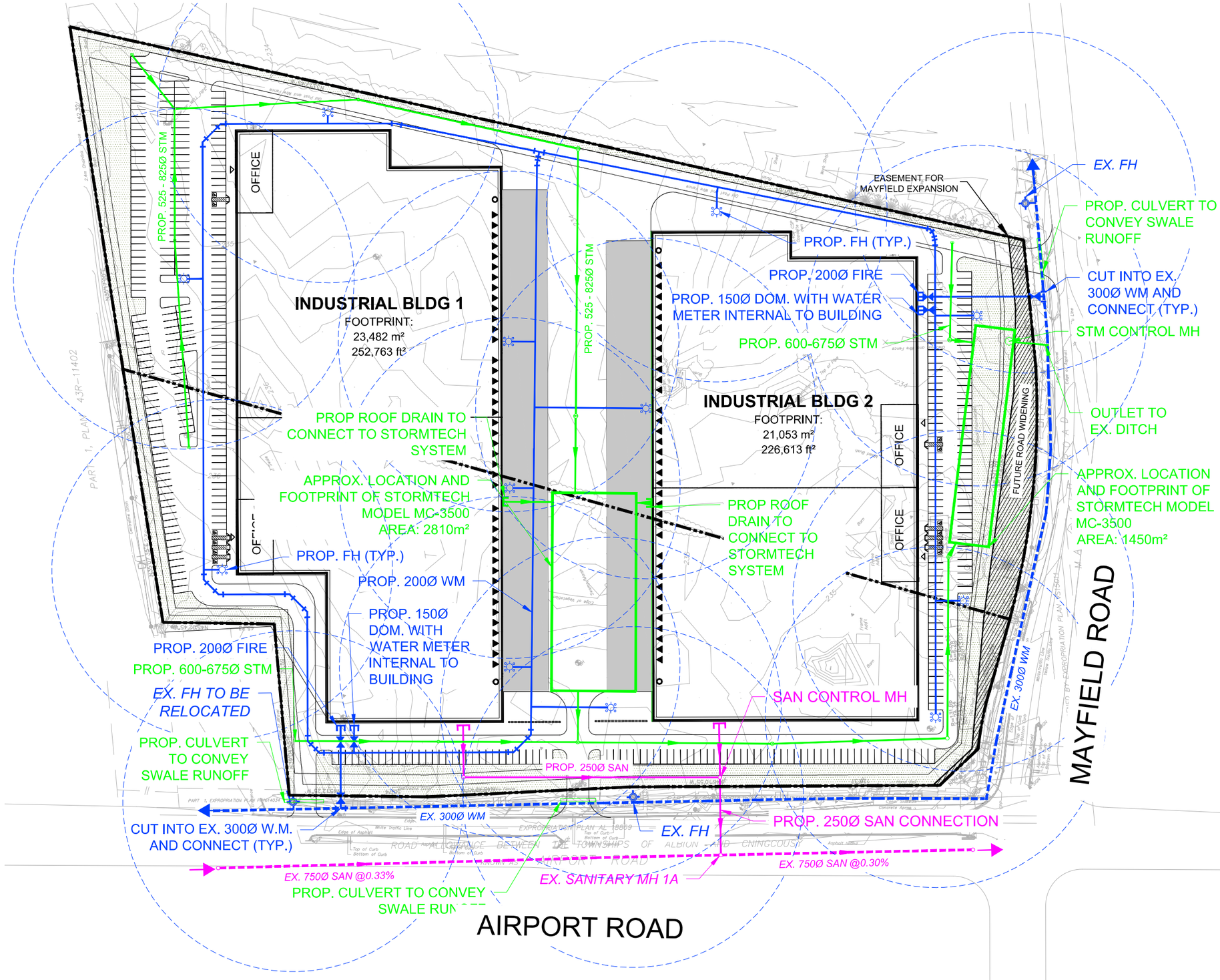
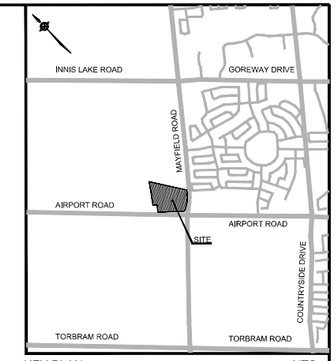




KEY PLAN NTS

TOWN OF CALEDON
PLANNING
RECEIVED
July 30, 2021

LEGEND

- LIMIT OF PROPERTY
- EX. WATERMAIN
- EX. FIRE HYDRANT
- HYDRANT COVERAGE RADIUS
- EX. SAN SEWER
- EX. SEWER MANHOLE
- EX. CATCHBASIN
- PROP. WATERMAIN
- PROP. WATER VALVE
- PROP. HYDRANT & BOLLARDS
- PROP. SAN SEWER
- PROP. STM SEWER
- PROP. CATCHBASINS
- PROP. CATCHBASIN MANHOLE
- PROP. SEWER MANHOLE

SURVEY: DAVID J. PESCE SURVEYING

DATE OF SURVEY: JULY 13, 2011

NOTE: ALL ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO REGION OF PEEL BENCHMARK NO. 48, HAVING A POSTED ELEVATION OF 229.756 M, BENCHMARK IS LOCATED ON THE SOUTH FACE AT THE EAST CORNER OF GARAGE OF A RED BRICK BUNGALOW LOCATED ON THE NORTH SIDE OF SEVENTEENTH SIDEROAD (REGIONAL ROAD #14). APPROX. 0.80KM EAST OF AIRPORT ROAD

No.	REVISIONS TO DRAWING	BY	DATE	APPR.
1	ISSUED FOR CLIENT REVIEW	G.W	2021-07-22	A.D.R

ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

CLIENT
AIRFIELD DEVELOPMENTS INC. & AIRFIELD DEVELOPMENTS II INC.

MUNICIPALITY
TOWN OF CALEDON

PROJECT TITLE
6034 MAYFIELD ROAD

SHEET TITLE
PRELIMINARY SITE SERVICING FIGURE

CONSULTANT
wsp
100 Commerce Valley Dr. West, Thornhill, ON Canada L3T 0A1
t: 905.882.1100 f: 905.882.0055 www.wsp.com

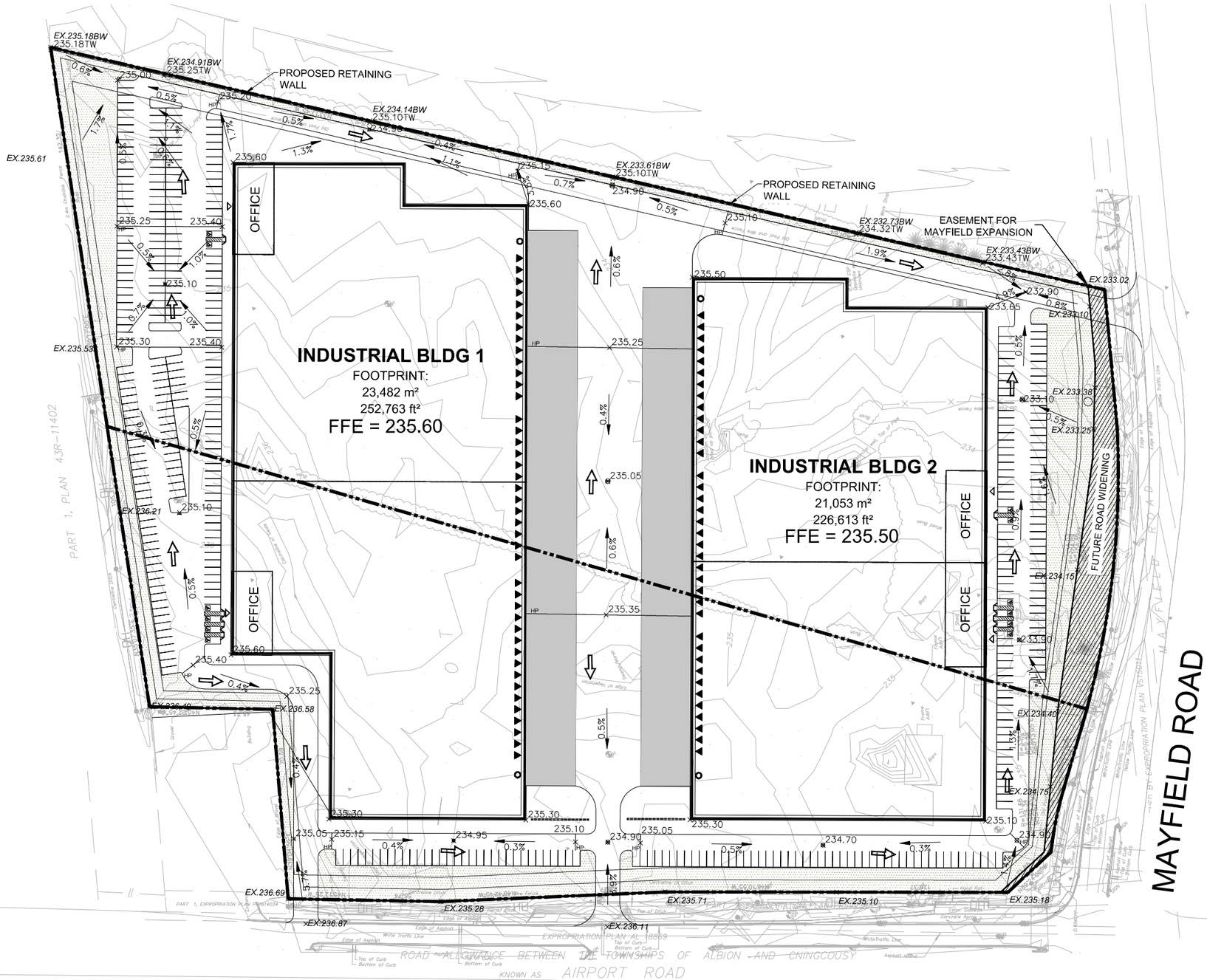
STAMP

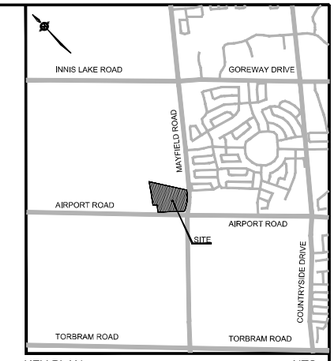
DESIGNED	DRAWN	CHECKED
G.W	CAD 10/12	A.D.R.

SCALE	DATE
1:750	JULY 2021

DWG. NUMBER	SHEET NUMBER
211-07736	4

FILENAME: X:\Dir\2021\07736 - Simar\Comms - 6034 Mayfield Road\Mun\Engineering Drawings\211-07736 SC_SS.dwg
PLOTDATE: Jul 22, 2021 - 5:59pm CADWORKS06





KEY PLAN NTS

LEGEND

- LIMIT OF PROPERTY
- EX.±216.25× EX. ELEVATION
- 216.25× PROP. ELEVATION
- 0.5% PROPOSED SLOPE
- OVERLAND FLOW DIRECTION
- BW BOTTOM OF WALL
- TW TOP OF WALL

SURVEY: DAVID J. PESCE SURVEYING

DATE OF SURVEY: JULY 13, 2011

NOTE: ALL ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO REGION OF PEEL BENCHMARK NO. 48, HAVING A POSTED ELEVATION OF 229.756 M. BENCHMARK IS LOCATED ON THE SOUTH FACE AT THE EAST CORNER OF GARAGE OF A RED BRICK BUNGALOW LOCATED ON THE NORTH SIDE OF SEVENTEENTH SIDEROAD (REGIONAL ROAD #14). APPROX. 0.80KM EAST OF AIRPORT ROAD

No.	REVISIONS TO DRAWING	BY	DATE	APPR.
1	ISSUED FOR CLIENT REVIEW	G.W	2021-07-22	A.D.R

ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

CLIENT
AIRFIELD DEVELOPMENTS INC. & AIRFIELD DEVELOPMENTS II INC.

MUNICIPALITY
TOWN OF CALEDON

PROJECT TITLE
6034 MAYFIELD ROAD

SHEET TITLE
PRELIMINARY SITE GRADING FIGURE

CONSULTANT
wsp
100 Commerce Valley Dr. West, Thornhill, ON Canada L3T 0A1
t: 905.882.1100 f: 905.882.0055 www.wsp.com

STAMP

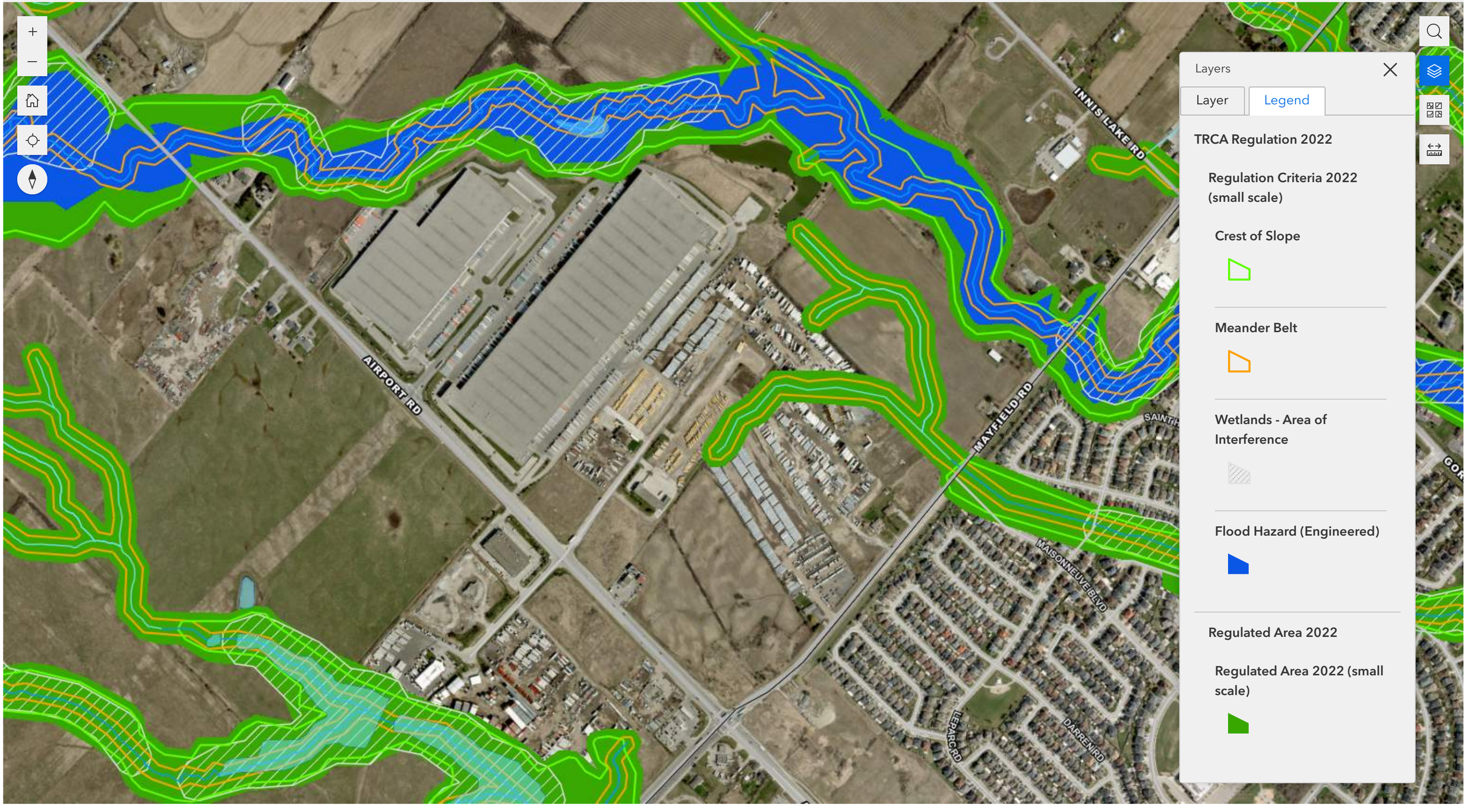
DESIGNED	DRAWN	CHECKED
G.W	CAD 10/12	A.D.R.

SCALE	DATE
1:750	JULY 2021

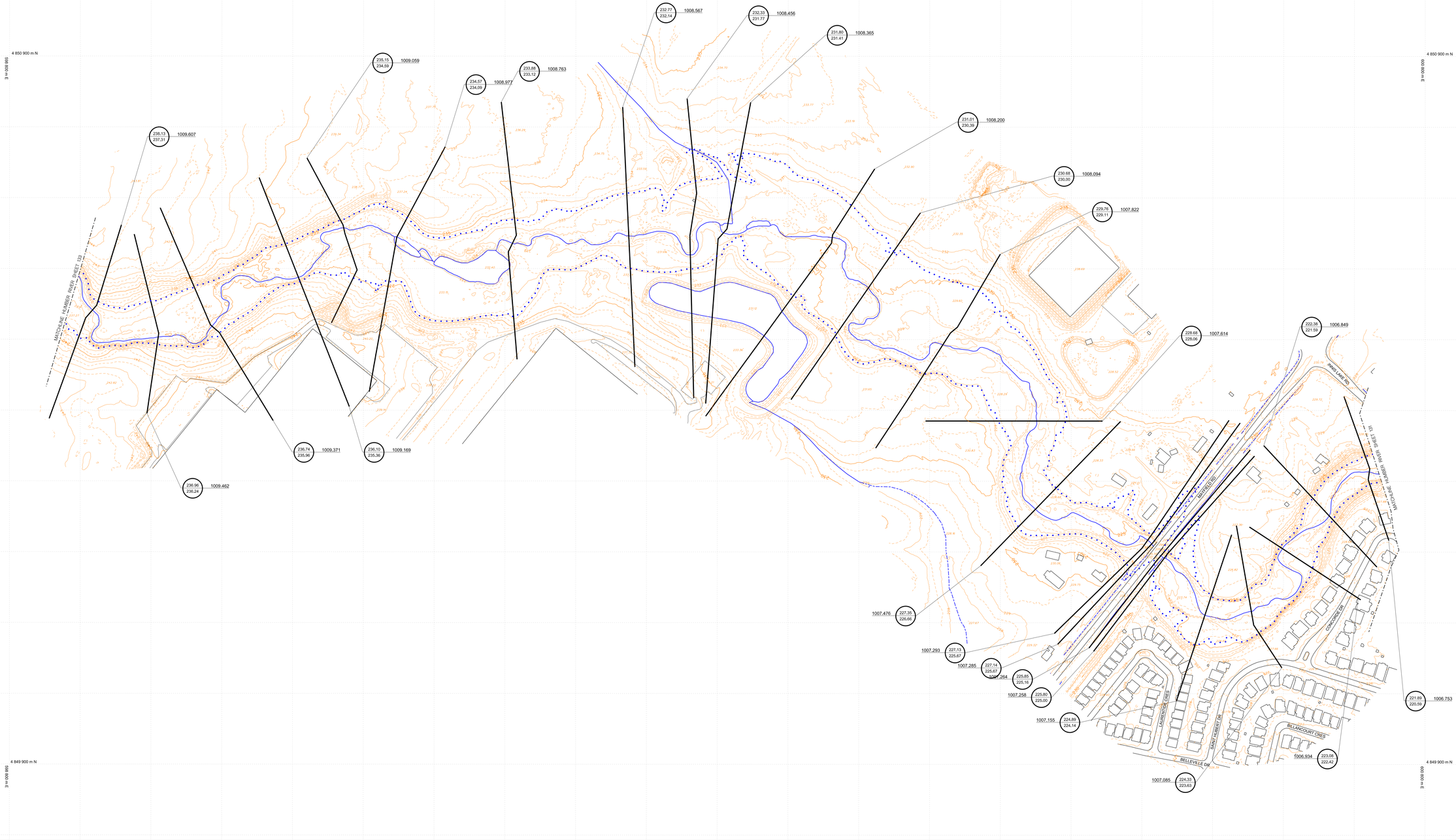
DWG. NUMBER	SHEET NUMBER
211-07736	5

FILENAME X:\2021\211-07736 - Bona\Commos - 6034 Hwy\Add Road\Aun\Engineering Drawings\211-07736_SG_JS5.dwg
PLOTDATE Jul 22, 2021 - 7:55pm, CADMIT390

TRCA Regulation Mapping



Peel Region, Maxar | TRCA | Ministry of Natural Resources and Forestry Position name Land Information Ontario - Support Point of contact: Party who can be contacted for acquiring knowledge about or acquisition of the resource Voice: 1 (705) 7551878 Electronic mail… Powered by Esri



REVISIONS

NO.	DESCRIPTION	BY	DATE

LEGEND
Cross-Section Label
Cross-Section Leader Line
Regional Flood Elevation (m)
Cross-Section Number 14.060
100 Year Flood Elevation (m) 172.00 / 172.00
Cross-Section Length
REGULATORY FLOOD ELEVATION IS THE HIGHER OF THE TWO ELEVATIONS DISPLAYED

LEGEND

- Contour Index
- Contour 1 metre
- Contour 0.5 metre
- Contour Label (100)
- Spot Elevation (100.10)
- Road
- Parking Lot / Large Driveway
- Rail Line
- Bridge / Large Culvert
- Water Feature
- Ditch
- Marsh
- Building
- Regulatory Flood Line

The elevation data on this map was produced by TRCA from a DEM with 1.0 m grid resolution. The DEM was created using mass points with a vertical accuracy tolerance of +/- 0.10m RMSE on hard flat surfaces. The mass points were collected using LiDAR flown in 2014 by Airborne Imaging.
Downstream of Mayfield Rd.:
The planimetric data on this map was acquired from the City of Brampton Open Data Catalogue in 2017. The vintage of the data may not match with the elevation dataset and is for reference only.
Upstream of Mayfield Rd.:
The planimetric data on this map was compiled from a variety of sources of different vintage and may not match with the elevation dataset. This data is for reference only.
Building footprints were acquired from Peel Region in 2017.
The vertical datum is mean sea level as established by the Geodetic Survey of Canada, CGVD 1928-1978 Ontario Adjusted Version
The horizontal datum is North American Datum 1983, U.T.M. 6° projection Zone 17, Central Meridian 81° W
Grid Interval 100 metres.

PLEASE NOTE:
FLOODLINE ELEVATIONS ARE SUBJECT TO CHANGE DUE TO REVISED INFORMATION.

Elevation Data provided by:

AIRBORNE IMAGING
A Clean Harbors Company

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T:(416) 987 8161 / 905.940.8161 F:905.940.2064

PLEASE NOTE:
THE PROFESSIONAL ENGINEER'S STAMP DENOTES THE FLOOD LINE AND ASSOCIATED DATA ONLY AS SHOWN HEREON UNLESS OTHERWISE NOTED

LICENSED PROFESSIONAL ENGINEER
O.F. SANDERS
PROVINCE OF ONTARIO

FLOOD PLAIN MAPPING PROGRAM

FLOODLINE APPROVED DATE: 2018-05-18

Toronto and Region Conservation for The Living City
5 Shoreham Drive Downsview Ontario M3N 1S4 (416) 661-6600

Scale 1:12000
100 Metres 0 100 200 Metres
200 Feet 0 200 400 600 800 1000 Feet

HUMBER RIVER

SHEET No. 132

Jim Parker

From: Karen Wen <Karen.Wen@IBIGroup.com>
Sent: Wednesday, June 10, 2015 2:01 PM
To: Jose.Montouto@peelregion.ca; Orest.Jacyla@peelregion.ca; Hashim.Hamdani@peelregion.ca; Jerry.Kulyk@peelregion.ca; Ryan.Vandenburg@peelregion.ca; Bino.Varghese@brampton.ca; Geoff.Hebbert@caledon.ca; Bev Wicks; Steven Broe; Karen Wen; Chinnery, Owen (Owen.Chinnery@peelregion.ca); Rakesh Pandey; imre.tot@peelregion.ca; sally.eshak@peelregion.ca; Rebecca.caughey@peelregion.ca; Jim Parker; Tristan Knight
Cc: William Sanabria; Donald Moore; Billy Shum
Subject: ROP-11-4075 13-4065 Mayfield Rd Widening (Airport Rd to Coleraine Dr) - Minutes of 30% Review Meeting, 2015-04-23
Attachments: TTN_Mayfield_Airport-Coleraine 30% Review_2015-04-23.pdf

Good afternoon all,

Attached please find Minutes of 30% review progress meeting for Mayfield Road Widening project (Airport Rd to Coleraine Dr) held at Region of Peel on April 23rd , 2015 in PDF format.

Best Regards,

Karen Wen P.Eng.

Transportation Engineer
email Karen.Wen@IBIGroup.com web www.ibigroup.com

IBI Group
100 - 175 Galaxy Blvd
Toronto ON M9W 0C9 Canada
tel +1 416 679 1930 ext 65298 fax +1 416 675 4620

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IBI GROUP
100 – 175 Galaxy Boulevard
Toronto ON M9W 0C9 Canada
tel 416 679 1930 fax 416 675 4620
ibigroup.com

Minutes

To/Attention	Notes to File	**Date**	April 23, 2015
From	Karen Wen	**Project No**	24rx14.0228.00
		Issue Date	April 23, 2015

Subject Mayfield Rd Widening - Airport Road to Coleraine Drive
Projects: 11-4075 & 13-4065
Project Design 30% Review Meeting
RMOP, 10 Peel Centre Drive, Ste. B, 3rd Flr.
April 23, 2015 @ 1:00 p.m. - 3:00 p.m.

Present
Jose Montouto, Region of Peel
Orest Jacyla, Region of Peel - Development Eng.
Hashim Hamdani, Region of Peel - Traffic
Imre Tot, Region of Peel - Traffic Operations
Owen Chinnery, Region of Peel - Real Estate
Jerry Kulyk, Region of Peel - Development Engineering
Ryan Vandenburg, Region of Peel - Development Services
Sally Eshak, Region of Peel - Development Services
Rebecca Caughey, Region of Peel - Development Services
Bino Varghese, City of Brampton - Engineering
Geoff Hebbert, Town of Caledon - Project Contact
Jim Parker, Jones Consulting
Tristan Knight, RiverStone
Stephen Chiu, IBI Group
Steven Broe, IBI Group
Rakesh Pandey, IBI Group
Karen Wen, IBI Group

Distribution
Attendees
William Sanabria, IBI - Infrastructure Practice Lead
Billy Shum, IBI - Electrical
Don Moore, IBI - Structures
Project File

1 Introductions

A brief roundtable self-introduction of all attendees was given at the commencement of the meeting. Attendance list was circulated and filled in by all attendees.

IBI Group is a group of firms providing professional services and is affiliated with IBI Group Architects

Item Discussed	Action By
2 Communication	
Steven Broe provided to Jose Montouto a hardcopy of project contact list which was developed to include all members of the project team.	Region of Peel (J. Montouto)
3 Town of Caledon Review/Update	
a) J. Parker provided an update on the proposed development in the N-E quadrant at Airport Road. It was further noted that there is a new stormwater management (SWM) pond being proposed at the north side of Mayfield Road between Airport Rd and the Salt Creek crossing. He also presented the overall drainage strategy study and design considerations for this proposed SWM pond. J. Parker indicated that the design of SWM pond facility includes Mayfield Road within the developments limits. Jones Consulting Group is to provide a copy of SWM report including plan and profile drawings of the SWM pond to IBI Group for comment/coordination with this project.	Jones Consulting Group
b) Current status of the above noted SWM pond is in preliminary EA stage and EA design will be completed by the end of 2015. The subsequent construction for the pond will be scheduled in 2016/2017.	
c) Given that the SWM pond site is in conjunction with this Mayfield Road widening project, coordination work will be required. Town of Caledon is currently in contact with TRCA and MNR for the proposed pond and will further inform the project team upon receipt of the approval result from TRCA and MNR.	Jones Consulting Group / Town of Caledon
d) Rakesh Pandey, IBI, elaborated on the SWM pond design concept for this Mayfield Road project drainage design study. He noted IBI is recommending a change from the EA concept that will eliminate or reduce ponds requirements. Quantity control requirements for the Mayfield Road runoff between Airport Road and Coleraine Drive will be met by bio-swale and storm pipe storages while quality control to stormwater will be provided by a train of treatment that will include oil and grit separators and bio-swales. The proposed scheme will reduce property impact and reduce project costs. The draft report was submitted April 13, 2015 to the Region for comment prior to submission to TRCA and MNR.	Region of Peel
J. Parker requested IBI to provide a copy of the draft report that was submitted to the Region on April 13, 2015 for comment.	IBI
e) It was further noted that watermain upgrades will be required for the development which will be provided as they become available.	

Item Discussed	Action By
f) IBI noted that Salt Creek crossing at Mayfield Road will be replaced by an 18.4m single span bridge to eliminate the current regional flood overtopping. This replacement will improve flood lines in the vicinity of Salt Creek. Bridge geometry is currently being investigated. J. Parker requested any preliminary information of bridge design is to be forwarded to Jones consulting for the design reference. Those information include Salt Creek digital topographical survey data, bridge HEC-RAS model and bridge drawings etc.	IBI
g) Town of Caledon will provide in writing as for the requirements to sidewalk at the north side of Mayfield Road.	Town of Caledon
4 City of Brampton Review/Update	
a) City comments have been provided to IBI in a summarized table (attached) for details on the 30% design submission drawings. IBI to review and revise plans as required.	IBI Group
b) B. Varghese provided an update on the concurrent City of Brampton (COB) project status adjacent to the Mayfield Road. Currently, there are two COB projects in this Mayfield project area, as such the design coordination and cost sharing is required to be considered between the COB and Peel Region to avoid throwaway cost for the connecting area.	
c) One of the two projects is at McVean Drive at the intersection with Mayfield Road. The EA design is still ongoing and 2nd PIC is pending. The other project is at Goreway Drive. EA for this project was completed in 2012 and detailed design has not started yet. In terms of project timing for the two projects, Bino noted the two projects could be constructed within the future 4 or 5 years.	
d) IBI noted that they have received and already incorporated EA preliminary design of the two projects into Mayfield 30% design submission drawings.	
e) The Region clarified that this Mayfield project schedule for construction will be in two phases: first contract construction of Airport Road to the Gore Road will be commenced in the spring of 2019; second contract construction of the Gore Road to Coleraine Drive will be started in the following year of 2020.	
5 Peel Region Development Update	
a) Owen Chinnery noted two key properties are at #6443 and # 7650 Mayfield Road. It was noted that since these two properties are located at bridge / structure area, the grading design should be minimized to reduce the impact to those properties. This consideration is required critically not only because the sensitive site, but also the cost saving on property acquisition.	

Item Discussed	Action By
b) Owen inquired the timing of review the grading design requirements at this location as grading design affects his negotiation with property owners. IBI noted that at this time 30% has completed, 60% grading design will require the geotechnical pavement recommendation report (PDR). Once IBI receives pavement design recommendations, they make it a priority to complete design at the two properties area.	
c) Owen noted another update is about new format of agreement for the PTE. The process is conducting phone calls to the all 64 owners by giving them a heads up first. Then follow up with letters to notify them of the upcoming changes. The communication content is to make the owners aware of what is going to happen and when they will be affected and then request a signed PTE.	
Subsequent to the meeting, the Region noted by email that Owen will provide a copy of the requested Permission To Enter notice to IBI and Jones Consulting.	O. Chinnery
d) It was noted that any additional Archaeological stage 3 /4 field work resulting from proposed stage 2 work will require additional PTE. Owen will initiate the process for seeking PTE if those are required.	
e) Ryan Vandenburg noted that GTAA corridor design should be coming up at the end of this year, 2015. The ramp locations will tie into Mayfield Road in the future. No provisions are required or expected for this project.	
6 Peel Region 30% Review/Update	
a) The Region provided IBI with PDF mark-up drawings with comment from their Active Transportation, Traffic Operations and Traffic Development offices. IBI to review and address as required.	IBI
b) Orest Jacyca, the Region of Peel, stated that there are 3 future watermain projects at the adjacent areas of the Mayfield Road: 600mm WM along Mayfield from Innis Lake running easterly to past Coleraine Drive; second one is 400mm WM on McVean Drive; third one is 400mm WM on the Gore Road.	
Jose Montouto will coordinate with the Region's water section/planning group in Peel Region internally for confirmation. If there are any drawings or comments, those will be provided to IBI for design considerations.	J. Montouto

Item Discussed	Action By
c) Intersection design of Airport Road and Mayfield road was discussed at the meeting. Hashim Hamdani commented that interim transition design of lane layout is needed since the Mayfield phase 2 project is only constructing the widened west leg of Mayfield Road. In this Mayfield project the east leg of the Mayfield Road widening will be constructed. IBI will review options and discuss with the Region how the two projects could be coordinated.	IBI
d) Hashim Hamdani also commented the entrance design requirements located at north side of Mayfield to enter the smart center. The proposed smart center site development project will be constructed prior to Mayfield Widening. It might not be able to avoid the entrance reconstruction cost. The design drawing or as built is required to be provided to IBI for matching grading.	
e) Steven Broe, noted during the design process of the Mayfield Road Widening project, several sites are being developed and will be constructed earlier than the Mayfield Road widening. These sites will all require access roads or entrances connecting to Mayfield Road. The topographic survey for the Mayfield Road has been completed and as such will not reflect the changes to existing conditions. Plan information can be updated from as-built drawings but 3D topographic information is typically not provided. It was noted this will result in inaccurate grading quantities and it is not practical to survey the site every time another development is constructed. It was agreed the design should proceed based on the current survey and assessment will be done prior to project tendering if additional field survey and design update is warranted.	
J. Parker requested IBI to forward the available Mayfield Road topographical survey data.	IBI
f) S. Broe questioned the signage requirements as to the Multi-Use Trail and design guidelines. The Region will review and provide typical details.	Region of Peel
7 Environmental update	
Tristan Knight, RiverStone, summarized the recent environmental progress as below:	
a) Based on a scoping discussion with TRCA (Dec. 2014) and a screening letter from MNRF (Jan. 2015), Riverstone must carry out a number of environmental studies/inventories to secure permits from relevant approval agencies.	
J. Parker requested IBI to forward a copy of the MNRF screening letter (January 2015) and the TRCA scoping discussion Minutes.	IBI

Item Discussed	Action By
b) Given that property access has not yet been secured, only those studies/inventories that can be undertaken from the roadside have been initiated by RiverStone.	
c) Anuran Calling Surveys and Breeding Bird Surveys can be completed from the right of way. • Anuran (Frog and Toad) Calling Surveys (total 3 surveys to be required between April and June): 1st survey was completed on April 16, 2015; 2nd and 3rd surveys are to be completed in May and June, 2015. • Breeding Bird Surveys (Grassland species at risk): 2 surveys are required in late May-early June.	
d) The remainder of the surveys cannot be completed until property access has been secured, including: Tree inventory; Ecological Land Classification; Wetland delineation; Aquatic Habitat Surveys.	
8 Property Request Plan Requirements	
a) The Region has provided IBI new property impact plan samples which require considerably more detail than previously expected. It was understood that the plan with/without mosaic photo is needed as this was the Region's standard requirements. IBI agreed that separate plans for each individual property can be prepared with adjacent property owner information deleted. However, drawings prepared with cross sections and detailed labels for the lane layout go beyond the property request plan requirements in previous projects.	
b) Jose Montouto directed that IBI is to keep going with the mosaic sample and ignore the cross sections requirements at this time. IBI will provide revised sample plan and Jose will further check with Owen in terms of the cross section requirements.	Region of Peel
9 Project Schedule	
a) In order to complete the Pavement Design Report, Terraprobe has asked for previous reports prepared by JEGEL in 2006/2007 to address previous pavement rehabilitation. Also any contract drawings associated with the rehab would be useful. Jose noted that resurfacing projects with the Region do not typically include design drawings. Jose is following up to provide the reports.	Region of Peel
b) Project Schedule is delayed already. The critical element to receive is geotechnical design recommendation for continuing with 60% design. The estimated time required to complete the 60% design is about 4 months which will be by the end of August.	

Item Discussed	Action By
c) Drainage Design Report has been submitted to the Region for review. Jose noted that the Region will not have much comment on the report and IBI will get feedback from the Region in about one week's time. Then IBI can submit the report to TRCA and MNR for approval.	Region of Peel / IBI Group
J. Parker requested IBI to forward a copy of the Drainage Design Report.	IBI

10 Others

Attached please find the 30% comments list provided by the City of Brampton. The Region of Peel also provided their comments/markups on 30% drawings which are not appended in the minutes.

Region of Peel
Working for you

Mayfield Rd (Airport Rd to Coleraine Dr.) 30% Review

Proj. No.:
Proj. Name: Queen St (Chinguacousy Rd to Mississauga Rd) Project 05-4250
Peel Region PM:
Consultant PM: Region of Peel
Consultant Action: 1 - Agreed; 2 - Clarification Required; 3 - Not Applicable (Provide Explanation)

Sheet No.	Reviewer	Agency Comments	Action
all	Pritchard, Ann	Realty is not currently involved in any road project land acquisitions in the vicinity of the subject project and, as such, has no comment.	
all	Jason Preet	No photometrics provided	
		Clear zones to be met (no frangible bases permitted)	
		REG2204 not provided	
		No street light designs provided	
		1. use LED fixtures (4k CCT +/- 500 CCT, IP66, 0-10v dimming driver, 7-pin receptacles)	
PP2, PP3	Mohammad Alam	Sheet 5: Bus bay not shown on Airport Road. Drainage is not shown. Sheet 6: Station 10+420 - Will the culvert extended or be removed not clear. Sheet 7: S/W should be labeled on Maisonneuve Blvd. Sheet 7: Culvert under the road be eleminated? Sheet 9 : S/W on Goreway Drive - check to see if the S/W shown in the EA. Sheet All sheets: All driveways should be shown visibly and the sidewalk should be shown on Goreway Drive and Innislake Road. Sheet 16 : EA of McVean is ongoing and is required to show multi-use path and sidewalk to match to existing Sheet 28: Should show existing sidewalk on the sideroad to match. All sheets : Storm sewer and drainage not shown Sheet 31: S/W and multi-use path to match existing on Clarkway Drive Sheet 38 : S/W to match to existing on Coleraine Drive	
General	John Allison	Landscape plans prepared by a qualified OALA landscape architect are to be provided with the next submission.	
		It is recommended that the Region of Peel (ROP) set up a meeting with City of Brampton (COB) staff to discuss the streescape requirements in accordance with COB standards and ROP streetscape toolbox index.	
General		Topsoil depth is to be 150mm throughout not 50mm	
Sh. 5 of 41	Tahar Singh	Eastbound Mayfield Road at Airport Road (southeast corner) add the length dimension of the bus bay storage area (40m), since this is non-standard length.	
Sh.7 of 41		Eastbound Mayfield Road at Maissoneuve Boulevard, remove the bus bay and concrete pad located at the southeast corner of the intersection and provide a 9.0m x 4.0m concrete bus landing / shelter pad at the southwest corner, between stations 10+622 and 10+631, flush to the curb, with the multi-use path behind.	
Sh.10 of 41		Southbound Goreway Drive at Mayfield Road (southwest), provide a 9.0m x 4.0m concrete bus landing / shelter pad, between stations 9+949 and 9+958, flush to the curb.	
Sh.25 of 41		Southbound The Gore Road at Mayfield Road (southwest), provide a 9.0m x 4.0m concrete bus landing / shelter pad, between stations 14+065 and 14+074, flush to the curb.	
General		Reference the City of Brampton Standards 260 for concrete pads, 263 for shelter electrical conduit layout, 261 for bus bay dimension and 266 for bus bay cross-section including curb types.	

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

MEETING MINUTES

Date of Minutes: January 29, 2015

Date of Meeting:	January 22, 2015, 9:30am
Meeting No.:	3
Meeting Location:	Region of Peel Office, 10 Peel Centre Drive
Project Name:	Tullamore Secondary Plan
Jones/Town File:	CAL-13304 / 2014-092
Purpose of Meeting:	Water and Wastewater Servicing Strategy

Attendees:

Miriam S. Polga, ROP

Tom Slomke, ROP

Junior Mohammed, ROP

Orest Jacyla, ROP

Geoff Hebbert, Town of Caledon

Lucius Maitre, Town of Caledon

Jim Parker, Jones Consulting

Regrets:

Lynne Germaine

Mark Schiller, ROP

Aleksander Masley, ROP

Meeting Topics	
3.1 Introductions	3.5 Stormwater Management
3.2 General Overview	3.6 Risk Management
3.3 Background Studies and Information	3.7 Project Meetings
3.4 Servicing Strategy	3.8 Additional Items

No.	Discussion	Action By
3.1	**Introductions**	
3.2	**General Overview** The meeting is being held to discuss the Tullamore Secondary Planning Area's water and wastewater servicing strategy. • Provide relevant background information • Establish requirements for FSS • Answer questions Over the past year the Water and Wastewater Division has developed an enhanced process for providing new infrastructure service analysis for development areas of Peel Region. This enhancement was devised to provide a more comprehensive analysis for selected broad based areas within the Region of Peel's planning and intensification initiatives to realize some efficiency for stakeholders involved in the process. The Tullamore Secondary Plan Area is considered one of these select areas and in order to expedite the review and	

	comment process, the Region of Peel (ROP) will be working closely with the Town of Caledon in determining the best servicing strategy for this area, while taking into account the overall water and wastewater servicing strategy for the Region.	
3.3	**Background Studies and Information**	
3.3.1	**Smart Centres Studies** The Smart Centres (SC) Official Plan Amendment Application and Zoning By-Law Amendment Application included the submission of a Functional Servicing and Stormwater Management Report in support of the applications The FSSWMR shows the site's sanitary effluent draining towards Airport Road via a new 250mm diameter sanitary sewer network within a municipal ROW The report provided the following sanitary flows draining to Airport Road • 9.44 ha general commercial lands – peak flow = 13.2 l/s • 2.59 ha general industrial lands – peak flow = 2.63 l/s • 18.14 ha external industrial – peak flow = 18.4 l/s • Total combined flow of 39 l/s within the contributing area (including infiltration) Report noted that the Region of Peel stated that the Airport Road sanitary sewer has capacity for the development	
3.3.2	**Region of Peel Studies** • Mayfield Road EA - Mayfield Road Proposed Road Widening Plan - Stormwater Management Pond Location Identified - Culverts - Detailed Design 2014-2015 - Construction 2015 - Airport Road to Bramalea Road (2 to 4 lanes) - Construction 2018 - Airport Road to The Gore Road (2 to 4 lanes)	
3.3.3	**Town of Caledon Studies** Tullamore Secondary Plan MESP Report	
3.3.4	**Tullamore Industrial Area Functional Servicing Report** The IBI Group submitted a Functional Servicing Report for the Tullamore Industrial Area (properties 9 (Centurion Homes) & 10 (VAC Developments)) comprising of approx. 19 hectares of land (11.9 developable) with a peak sanitary flow of 13 l/s	

	The Region of Peel memorandum dated November 20, 2006 stated that there is sanitary sewage capacity for the lands within Maisonneuve Boulevard sanitary sewer	
3.3.5	**AMB Warehouse Distribution Facility – 12203 Airport Road** A stormwater management report for the existing AMB warehouse development will be reviewed to confirm the Tullamore SP lands draining to the developments SWM pond	
3.4	**Servicing Strategy**	
3.4.1	**Wastewater** • Sanitary outfall locations - Airport Road and Davis Lane - Airport Road and Future Street B - Mayfield Road and Maisonneuve Boulevard • Sanitary outfall capacity - Airport Road - Mayfield Road and Maisonneuve Boulevard	
3.4.2	**Water** • Water connection locations - Airport Road and Davis Lane - Airport Road and Future Street B - Mayfield Road and Maisonneuve Boulevard	
3.5	**Stormwater Management** • Preliminary Airport Road and Mayfield Road Plan and Profile Drawings • Smart Centres Interim SWM Approach • Airport Road, Mayfield Road and Maisonneuve Boulevard Storm Sewer Design Sheets • TRCA Headwater Drainage Model (HEC-RAS model data) • Preliminary Pre-Development Storm Drainage Area Plan	

3.6	**Risk Management** A preliminary list of potential risks that may be crucial to the delivery of the project are listed below. • Mayfield Road detailed design - Legal plan and ROW acquisitions - Sanitary sewer connection - Watermain connection - Storm sewers - SWMP - Culvert sizing and HEC-RAS model - Road width and ditches • Wastewater capacity and availability • Water capacity and availability	
3.7	**Project Meetings** The next project meeting is schedule for second/third week of February 2015. The actual date to be confirmed based on the project team members availability.	Team
3.8	**Additional Items**	

Meeting minutes prepared by:

The Jones Consulting Group Ltd.

Jim Parker, P.Eng.

Project Engineer

Appendix A.2

Planning Documents, Criteria, Standards and Maps

Schedule A
TOWN OF CALEDON LAND USE PLAN

TOWN OF CALEDON

The Town of Orangeville has undertaken studies, which have not been supported by the Region of Peel and the Town of Caledon, relating to the possibility of an expansion of the Orangeville settlement area into its neighbouring municipalities, including the Town of Caledon

Refer to OPA #150
See Section 5.2.3.2
See Section 5.2.3.7
Refer to Explanatory Notes of the Official Plan
Refer to OPA #161/124
Refer to OPA #163
Refer to OPA #133
See Section 3.2.4.16
For details of this area refer to the Caledon Village Land Use Plan Schedule "E"
Refer to OPA #98
Refer to OPA #171
Reddington Retirement Community
For details of this area refer to the applicable Palgrave Estate Residential Community Schedules "G, H, & I"
Refer to OPA #122
Refer to OPA #241
Refer to OPA #210
Refer to OPA #217
Refer to OPA #156
For details of this area refer to the Caledon East Land Use Plan Schedule "D"
Bolton Golf Course Estate Residential
Refer to OPA #234
Refer to OPA #195
Refer to OPA #65
For details of this area refer to Inglewood & Area Land Use Plan Schedule "M"
For details of this area refer to Sandhill Secondary Plan Schedule "T"
Refer to OPA #227
Terra Cotta Special Residential Area
For details of this area refer to Victoria Business Park Land Use Plan Schedule "R"
See Section 5.1.3.1.5
For details of this area refer to Bolton Land Use Plan Schedule "C"
Refer to OPA #148
Refer to OPA #2
For details of this area refer to Tullamore Secondary Plan Schedule "N"
Refer to OPA #101 and OPA #232
For details of this area refer to Schedule B-2 Mayfield West Phase 2 Secondary Plan Land Use Plan
For details of this area refer to Mayfield West Land Use Plan Schedule "B"

Alton
Melville
Mono Mills
Caledon Village
Cataract
Belfountain
Inglewood
CALEDON EAST
Mono Road
Claude
Cheltenham
Campbells Cross
Victoria
Terra Cotta
Sandhill
BOLTON
Palgrave
Albion
Tullamore
Wildfield
MAYFIELD WEST
Tottenham
Nobleton

DUFFERIN COUNTY
WELLINGTON COUNTY
SIMCOE COUNTY
REGION OF PEEL
REGION OF YORK
CITY OF BRAMPTON
TOWN OF HALTON HILLS
TOWNSHIP OF EAST GARAFRAXA
TOWN OF ORANGEVILLE
TOWN OF MONO
TOWNSHIP OF ADJALA-TOSORONTIO
TOWN OF NEW TECUMSETH
TOWN OF ERIN
CITY OF VAUGHAN
TOWNSHIP OF KING

CALEDON/EAST GARAFRAXA TOWN LINE
HIGHPOINT SIDE RD
BEECH GROVE SIDE RD
COOK SANS SIDE RD
CHARLESTON SIDE RD
GINNERTY SIDE RD
ESCARPMENT SIDE RD
PATTERSON SIDE RD
THE GRANGE SIDE RD
OLD BASE LINE RD
BOSTON MILLS RD
CASTLEDERG SIDE RD
OLD SCHOOL RD
HEALEY RD
OLD CHURCH RD
MAYFIELD RD
KING ST
HIGHWAY 9
HIGHWAY 50
CALEDON/KING TOWNLINE
PORTERFIELD RD
WILLOUGHBY RD
SHAWS CREEK RD
MAIN ST
HORSESHOE HILL RD
ST ANDREW'S RD
MOUNTAINVIEW RD
THE CORE RD
AIRPORT RD
MOUNT PLEASANT RD
MOUNT WOLFE RD
MOUNT HOPE RD
DUFFS LANE
WINSTON CHURCHILL BLVD
MISSISSAUGA RD
HURONTARIO ST
HERITAGE RD
CREDITVIEW RD
CHINGUACOUSY RD
MCLAUGHLIN RD
KENNEDY RD
HEART LAKE RD
DIXIE RD
BRAMALEA RD
TORBRAM RD
INNIS LAKE RD
CENTREVILLE CREEK RD
HUMBER STATION RD
QUEEN ST
ALBION-VAUGHAN RD
CALEDON KING TOWNLINE

LOT 30
LOT 25
LOT 20
LOT 15
LOT 10
LOT 5
LOT 35
LOT 30
LOT 25
LOT 20
CON 1
CON 2
CON 3
CON 4
CON 5
CON 6
CON 7
CON 8
CON 9
CON 10

General Agricultural Area
Prime Agricultural Area
Rural Lands
Extractive Industrial Area
Waste Management Area
Open Space Policy Area
Environmental Policy Area
Estate Residential Area
Retirement Community Area
Settlement Area
Mayfield West Study Area Boundary
Boundary of Greenbelt Plan Area
Oak Ridges Moraine Conservation Plan Area
Niagara Escarpment Plan Area

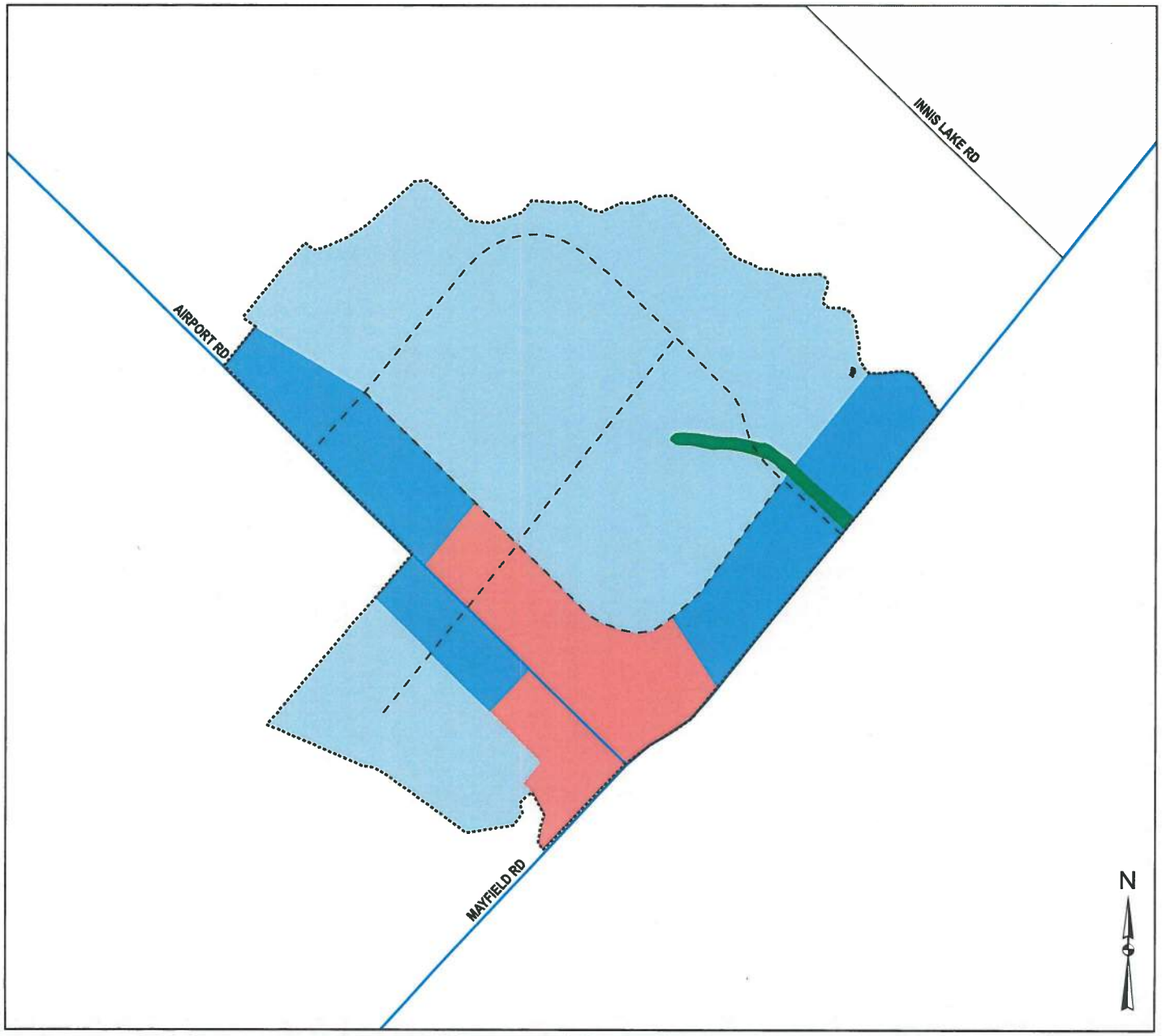
Provincial Road
Regional Road
Local Road
Railway
Caledon Trailway

Base Data Source: Town of Caledon

0 0.5 1 2 3 4 5 km

SAVED: 2 April 2018
FILE: S:\POLICY SECTIONGIS\official_plan\mxd\9-april_2018
SAVED BY: bloverock

April 2018 Office Consolidation



SCHEDULE N
TULLAMORE
LAND USE AREA

LEGEND

- PRESTIGE INDUSTRIAL
- GENERAL INDUSTRIAL
- HIGHWAY COMMERCIAL
- ENVIRONMENTAL POLICY AREA
- SETTLEMENT AREA BOUNDARY
- CONCEPTUAL ROAD NETWORK
- PROVINCIAL HIGHWAY
- REGIONAL ROAD
- LOCAL ROAD - MAJOR
- LOCAL ROAD - MINOR
- RAILWAY LINES

NOTE:
This Schedule represents the consolideted Official Plan Schedule, as of December 31, 2008.

If necessary, refereoce should be made to the Town of Caledon Planning & Development Departmeot or the Town Clerk for confirmation of curreot Minister approved policies.

Base Data Source: Town of Caledon

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TOWN OF CALEDON

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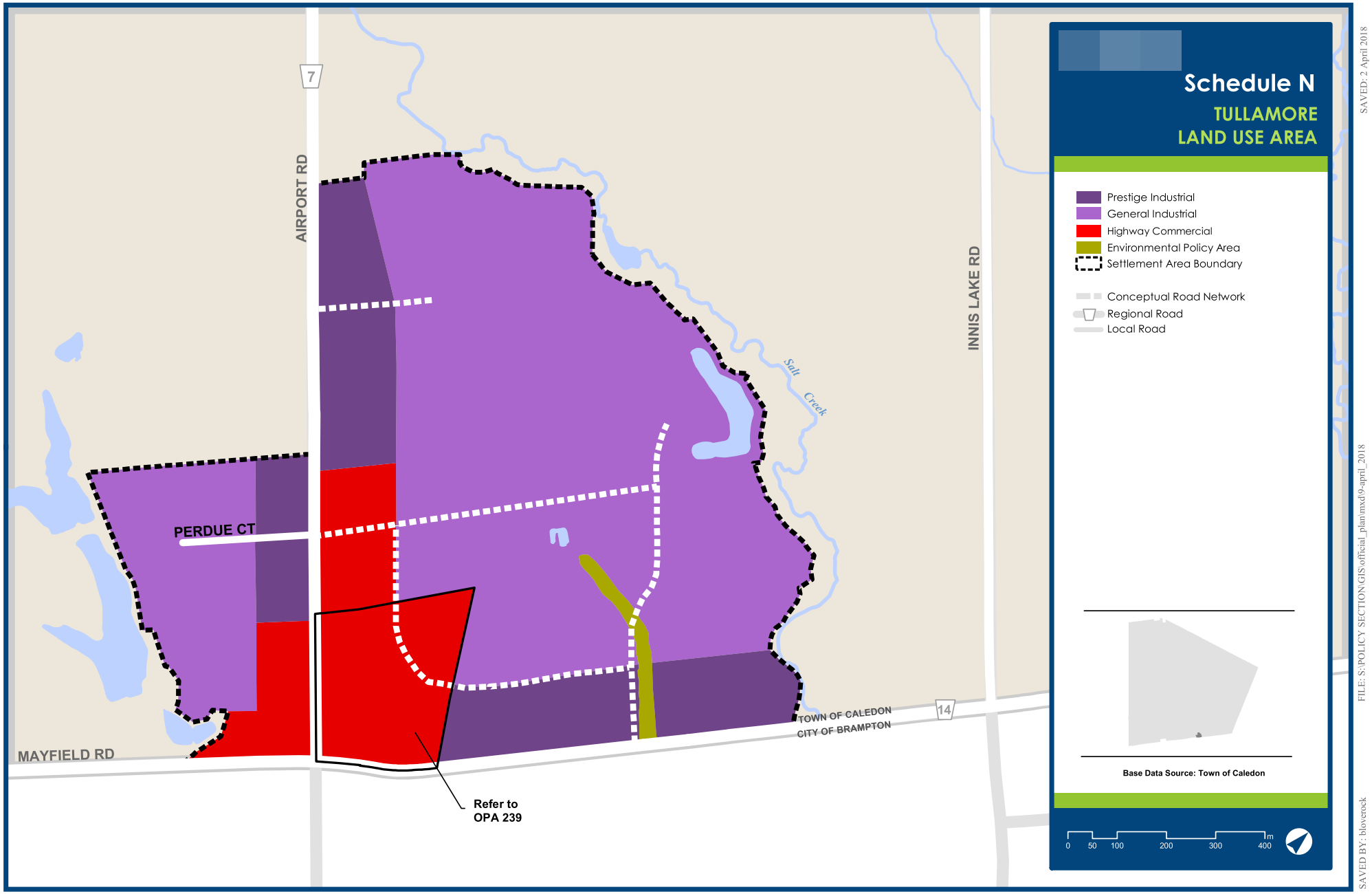

April 2018 Office Consolidation

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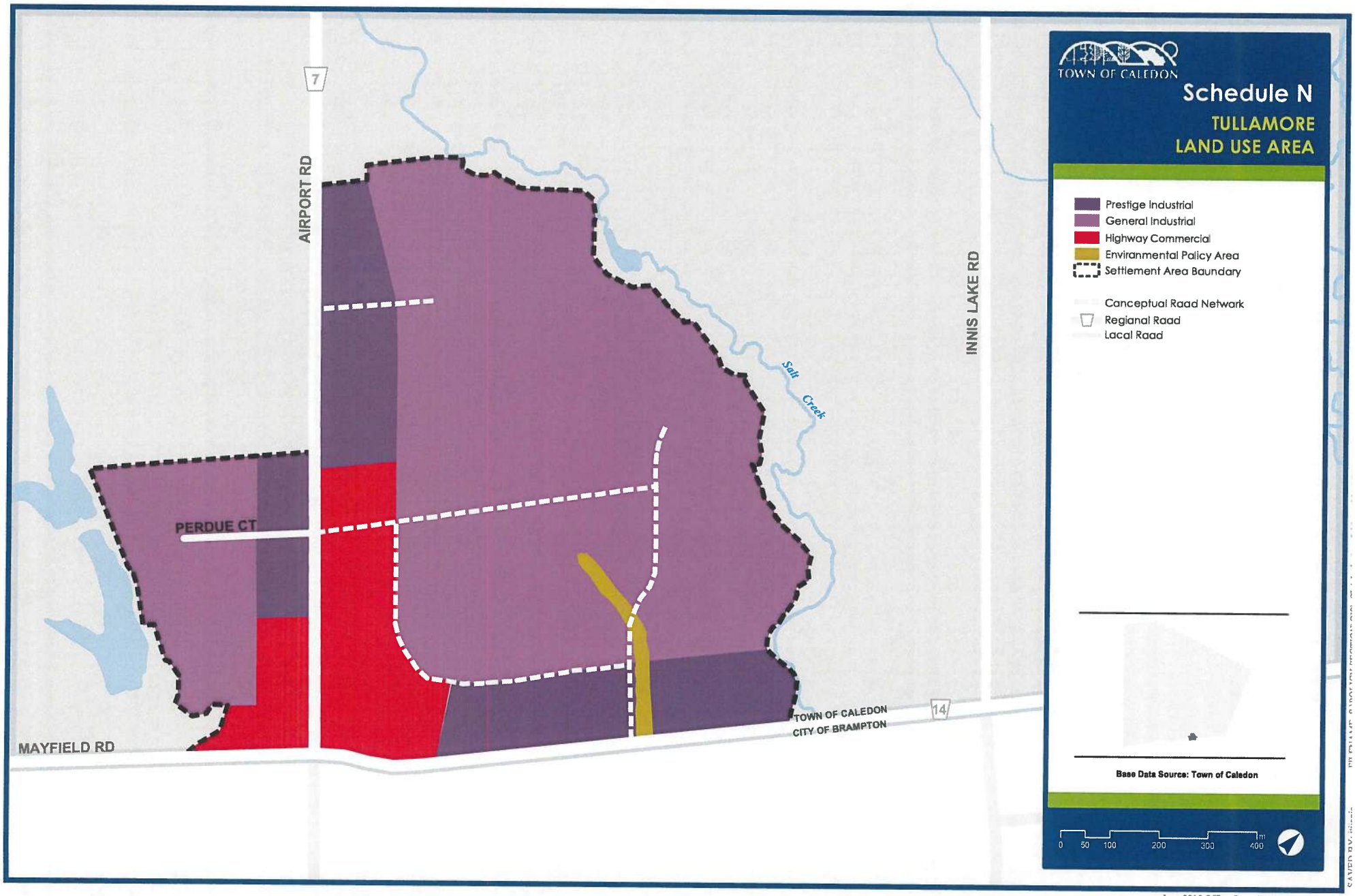


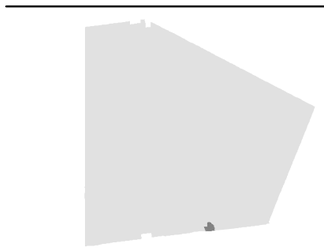
June 2015 Office Consolidation

TOWN OF CALEDON

Schedule N

TULLAMORE LAND USE AREA

- Prestige Industrial
- General Industrial
- Highway Commercial
- Environmental Policy Area
- Settlement Area Boundary
- Conceptual Stormwater Management Facility
- Conceptual Road Network
- Regional Road
- Local Road



Base Data Source: Town of Caledon

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AIRPORT RD

INNIS LAKE RD

PERDUE CT

MAYFIELD RD

TOWN OF CALEDON
CITY OF BRAMPTON

7

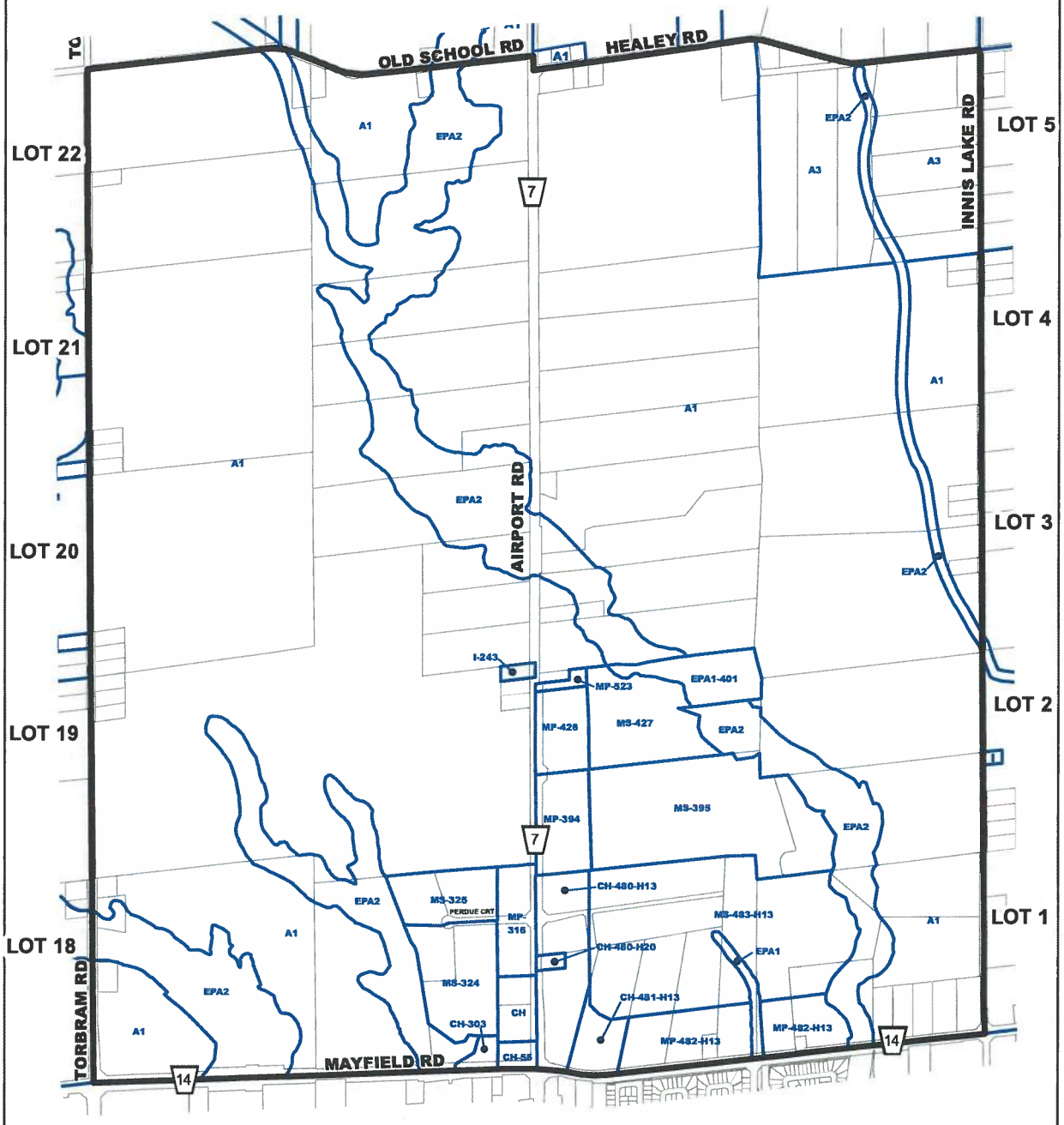
14

Salt Creek

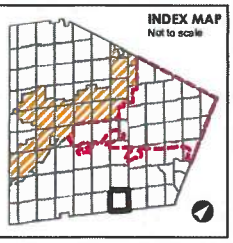
March 2024 Office Consolidation

CON. 6 E.H.S. (CHING)

CON. 1 (ALB)



This copy is provided for convenience only. If necessary, the original may be referred to in the office of the Town Clerk.



A2 ZONE SYMBOL

A2-### ZONE SYMBOL
Note: Number of suffixes represent Exceptions which can be looked up in the Exceptions section of the By-law.

ZONE BOUNDARY

STRUCTURAL ENVELOPE MAP

NIAGARA ESCARPMENT DEVELOPMENT CONTROL AREA
Lands lying within the Development Control area pursuant to the Niagara Planning and Development Act are subject to permit requirements under Ontario Regulations 685/50, as amended.

OAK RIDGES MORAINE CONSERVATION PLAN AREA BOUNDARY

WELLHEAD PROTECTION AREA BOUNDARY
WP-2 WP-5 WP-10 WP-25
Zone Maps amended to indicate the 2, 5, 10, and 25 year Wellhead Protection Areas.

The base data on this map is provided for convenience only. The Town of Caledon is not responsible for any deficiency or inaccuracy in the base data, and will not accept any liability whatsoever therefor. The reproduction of the base data, in whole or in part, by any means is prohibited without the prior written permission of the Town of Caledon.

BY-LAW 2006-50

ZONE MAP 4

SCHEDULE "A"

0 137.5 275 550 m

TOWN OF CALEDON

Date: 3 April 2006

Revised: October 14, 2015

File: S:\POLICY SECTION\GIS\zoning_bylaw\2015_map

4

SECTION 7
COMMERCIAL ZONES

7.1 GENERAL PROHIBITION

No *person* shall, within any **Commercial *Zone***, use any land, or erect, *alter*, enlarge, use or maintain any *building* or *structure* for any *use* other than as permitted in **Table 7.1** of Subsection 7.2 and in accordance with the standards contained in **Table 7.2** of Subsection 7.3, the General Provisions contained in Section 4 and the Parking, Loading & Delivery Standards contained in Section 5.

7.2 PERMITTED USES

Uses permitted in a **Commercial *Zone*** are noted by the symbol '✓' in the column applicable to that *Zone* and corresponding with the row for a specific permitted *use* in **Table 7.1**. A number(s) following the symbol '✓' , *zone* heading or identified permitted *use*, indicates that one or more conditions apply to the *use* noted or, in some cases, to the entire *Zone*. Conditions are listed below the Permitted Use Table, **Table 7.1**.

The **Commercial *Zones*** established by this By-law are as follows:

CC Core Commercial
CCV Village Core Commercial
C General Commercial
CN Neighbourhood Commercial
CV Village Commercial
CH Highway Commercial
CHB Bolton Highway Commercial
CHV Village Highway Commercial
CT Tourist Camp Commercial

TABLE 7.1

	ZONE								
USE	**CC**	**CCV (12)**	**C**	**CN**	**CV**	**CH**	**CHV**	**CHB**	**CT**
Animal Hospital	✓		✓		✓	✓	✓	✓	
Art Gallery	✓	✓			✓				
Artist Studio & Gallery	✓	✓			✓				
Bakery		✓							
Boarding House	✓								
Building, Apartment		✓							
Business Office	✓	✓	✓	✓	✓			✓	
Clinic	✓	✓	✓	✓	✓	✓	✓		

Convenience Store	✓**(4)**	✓**(4)**	✓**(4)**	✓**(4)**	✓**(4)**				
Drive-Through Service Facility			✓ **(13)**			✓ **(13)**	✓ **(13)**	✓ **(13)**	
Dry Cleaning or Laundry Outlet	✓	✓	✓	✓	✓				
Dwelling, Accessory					✓ **(9) (11)**	✓ **(10) (11)**	✓ **(10) (11)**		✓
Dwelling, Common Element Townhouse		✓							
Dwelling, Freehold Townhouse		✓							
Dwelling, Townhouse		✓							
Dwelling Unit		✓							
Dwelling Unit, Accessory	✓ **(7) (8)**				✓ **(7) (9)**	✓ **(7) (10)**	✓**(7)**		✓**(7)**
Factory Outlet								✓	
Farmers' Market		✓			✓	✓	✓	✓	
Financial Institution	✓	✓	✓	✓	✓	✓	✓	✓	
Fitness Centre	✓	✓	✓	✓	✓	✓	✓	✓	
Funeral Home	✓		✓		✓				
Grocery Store		✓	✓ **(5)**						
Hotel	✓	✓	✓			✓	✓	✓	
Industrial Use								✓	
Laundromat	✓	✓	✓	✓	✓				
Merchandise Service Shop	✓	✓	✓		✓			✓	
Motel	✓		✓			✓	✓	✓	
Motor Vehicle Gas Bar					✓	✓	✓	✓	
Motor Vehicle Rental Establishment					✓	✓	✓	✓	
Motor Vehicle Repair Facility					✓	✓	✓	✓	
Motor Vehicle Sales Establishment					✓	✓	✓	✓	
Motor Vehicle Service Centre					✓	✓	✓	✓	
Motor Vehicle Used Sales Establishment					✓	✓	✓	✓	
Open Storage Area, Accessory						✓	✓	✓ **(14)**	

Outside Display or Sales Area, Accessory								✓	
Parking Area, Commercial	✓	✓	✓	✓	✓	✓	✓	✓	
Parking Area, Municipal	✓	✓							
Personal Service Shop	✓	✓	✓	✓	✓				
Place of Assembly	✓	✓	✓		✓	✓	✓	✓	
Place of Entertainment	✓	✓	✓		✓ **(1)**	✓	✓ **(1)**	✓	
Private Club	✓	✓	✓	✓	✓	✓	✓	✓	
Research Establishment								✓	
Restaurant	✓	✓	✓	✓	✓	✓	✓	✓	
Retail Store	✓	✓	✓	✓	✓ **(6)**	✓ **(6)**	✓ **(6)**		
Retail Store, Accessory								✓ **(2)**	
Sales, Service and Repair Shop	✓	✓	✓	✓	✓				
Tourist Camp									✓
Training Facility	✓	✓	✓		✓			✓	
Video Outlet/Rental Store	✓ **(3)**	✓	✓ **(3)**	✓ **(3)**	✓ **(3)**				
Warehouse								✓	
Warehouse, Public Self-Storage								✓	
Warehouse, Wholesale								✓	

Footnotes For Table 7.1

(1) Excluding a cinema or theatre.

(2) An *accessory retail store* shall not exceed 93 m^2 *net floor area*.

(3) A *video outlet/rental store* shall not exceed 185 m^2 *net floor area*.

(4) *Convenience store* not to exceed a maximum 160 m^2 *net floor area*.

(5) *Grocery store* not to exceed a maximum 1100 m^2 *net floor area*.

(6) A *retail store* shall not exceed 925 m^2 *net floor area* per *building.*

(7) Unit size not to exceed 15% of commercial *net floor area*.

(8) **CC *Zone*** permits a *boarding house* as well as 3 *accessory dwelling units* per commercial establishment.

(9) **CV *Zone*** permits both 1 a*ccessory dwelling* and 1 a*ccessory dwelling unit* per establishment.

(10) **CH *Zone*** and **CHV *Zone*** permit a maximum of 1 a*ccessory dwelling* or 1 a*ccessory dwelling unit* per establishment.

(11) *Accessory dwelling* size shall be governed by the applicable *lot* coverage and *yard* requirements.

(12) CCV Zone – The following provisions shall apply to any building abutting Kennedy Road or Dougall Avenue:

i. Only commercial uses shall be permitted on the first storey;
ii. Only dwelling units, business offices and hotel uses shall be permitted on storeys above the first storey;
iii. Entrances and lobbies used to service those uses listed in (ii) above shall be permitted on the first storey.

(13) Subject to compliance with Section 4.9, *drive-through service facilities* shall only be permitted in the Settlement Areas of Bolton and Mayfield West, and in Tullamore, Victoria, Sandhill, and Caledon Village only in existing commercial zones along Hurontario Street (Highway 10) and Charleston Sideroad (Regional Road 24).

(14) *Open Storage Area, Accessory* shall not be permitted with an *Industrial Use*

7.3 ZONE STANDARDS

No *person* shall, within any Commercial *Zone*, use any *lot* or erect, *alter*, use any *building* or *structure* except in accordance with the following *zone* provisions as set out in **Table 7.2**. A number(s) following the *zone* standard, *zone* heading or description of the standard, indicates an additional *Zone* requirement. These additional standards are listed at the end of **Table 7.2**.

TABLE 7.2

	ZONES								
STANDARD	**CC**	**CCV (12)**	**C**	**CN**	**CV**	**CH**	**CHV**	**CHB (7)**	**CT**
***Lot Area* (Minima):**	275 m^2	N/A	0.8ha	2,000 m^2	2,000 m^2				8,000 m^2
Motor Vehicle Service Centre						2,000 m^2	2,000 m^2	2,000 m^2	
Motel						2,750 m^2	2,750 m^2		

Hotel or M*otel*								2,750 m^2	
Other *uses* on *unserviced lot*						2,040 m^2	2,040 m^2	2,040 m^2	
Other *uses* on *partially serviced* lot						1,390 m^2	1,390 m^2	1,390 m^2	
Other *uses* on *fully serviced lot*						460 m^2	460 m^2	460 m^2	
***Lot Frontages* (Minima)**	Nil	9m	30m	30m	30m				45m
Motor Vehicle Service Centre, Hotel or Motel						40m	40m	40m	
Other *uses* on *fully serviced lot*						9m	9m	9m	
Other *uses* on any other *lot*						30m	30m	30m	
***Building Area* (Maximum)**	75%	N/A	25%	30%	25%	30%	30%	30%	25%
Building Setback (Minimum)									9m **(8)**
Front Yard		**(9)**							
Minimum	Nil	0.3m	15m	9m	9m	18m	18m	18m	
Maximum		2m							
Exterior Side Yard		**(11)**							
Minimum	Nil	0.3m	15m	9m	9m	18m	18m	18m	
Maximum		2m							
***Rear Yard* (Minima)**	6m	6m							
From a *rear lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*			19.5 m			10.5m	10.5m	10.5m	
From a *rear lot line* abutting a Residential *zone*				9m	10.5m				
From any other *rear lot line*			15m	6m	7.5m	7.5m	7.5m	7.5m	
***Interior Side Yard* (Minima)**		**(11)**							
From an *interior side lot line*	1.5m	3m		9m	4.5m				

abutting a Residential *zone*									
From an *interior side lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*			12m			10.5m	10.5m	10.5m	
From any other *interior side lot line*	Nil	Nil	7.5m	6m	3m	7.5m	7.5m	7.5m	
***Motor Vehicle Gas Bar Setback* (Minima)**									
From any *lot line*					4.5m **(6)**	6m **(6)**	6m **(6)**	6m **(6)**	
From any *sight triangle*					3m **(6)**	3m **(6)**	3m **(6)**	3m **(6)**	
Building Height									
Minimum									
Maximum	10.5m		10.5 m	10.5m	10.5m	10.5m	10.5m	10.5m	10.5m
Main Building (Minimum)		7.5m							
Main Building (Maximum)		15m							
***Landscaping Area* (Minimum)**	Nil	Nil	10%		20%	20%	20%	20%	30%
***Gross Floor Area* (Maxima)**									
Retail Store	465 m^2				925 m^2	925 m^2	925 m^2		
Retail Store, Accessory								93 m^2	
***Planting Strip Widths* (Minima):**		1.5m	4.5m	3m	3m	3m	3m	6m	6m
Along an *interior side lot line*	1.5m								
Along a *rear lot line*	3m								
***Planting Strip* Location**	**(1)**	**(10)**	**(2)**	**(1)**	**(1)**	**(3)**	**(3)**	**(3)**	**(4)**
***Play Facility Area* (Minimum)**									4%
***Play Facility* Location**									6m **(5)**

***Driveway Setbacks* (Minima)**		1.5m	4.5m						6m
From a *lot line* abutting a Residential *Zone*	1.5m			1.5m	4.5m	4.5m			
From a *lot line* abutting a Residential *zone* or a *lot* containing a Residential Use							4.5m	6m	
From any other *lot line*	Nil			Nil	1.5m	1.5m	1.5m	1.5m	
***Parking Space Setback* (Minima)**									
From any *street line*	1.5m	3m	1.5m	3m	1.5m	1.5m	1.5m	6m	
From any *lot line* abutting a Residential *zone*	4.5m	3m		4.5m	4.5m				
From any *lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*			4.5m			4.5m	4.5m		
From any other *lot line*		1.5m						1.5m	
From any *lot line*									6m

Footnotes for Table 7.2

(1) **CC *Zone*, CN *Zone*, CV *Zone*** – A *planting strip* shall be required along any portion of a *rear lot line* and any portion of an *interior side lot line* which abuts a Residential *Zone*.

(2) **C *Zone*** - A *planting strip* shall be required along any of a *rear lot line* and any portion of an *interior side lot line* which abut a Residential *Zone* or which abuts a *lot* containing a Residential *use*.

(3) **CH *Zone*, CHV *Zone*, CHB *Zone*** – A *planting strip* shall be required along any *front lot line* and any *exterior lot line* and along any portion of a *rear lot line* and any portion of an *interior side lot line* which abut a Residential *Zone* or which abut a lot containing a Residential *use.*

(4) **CT *Zone*** – A *planting strip* shall be required along every *lot line* except that no *planting strip* shall be required for a length of 15m along a *front lot line* between a *tourist camp* management office and a *street*.

(5) **CT *Zone*** – No part of any *play facility* shall be located closer to any *lot line* than 6m

(6) *Motor Vehicle Gas Bar setback* – Where a *motor vehicle gas bar* includes a canopy or roof structure, the required *setback* shall be measured to the nearest part of the canopy or roof structure.

(7) **CHB *Zone*** – The following performance standards shall apply to a *Factory Outlet, Industrial Use*, *Merchandise Service Shop*, and a *Warehouse*:

(i) *Lot Area* (minimum):	925m^2
(ii) *Lot Frontage* (minimum):	30m
(iii) *Building Area* (maximum):	50%
(iv) *Yard, Front* (minimum):	
- from *lot line* abutting Residential *zone*	20m
- from any other *front lot line*	18m
(v) *Yard, Rear* (minimum):	
- from *lot line* abutting Residential *zone*	15m
- from *lot line* abutting provincial highway	18m
- from any other *rear lot line*	7.5m
(vi) *Yard, Interior Side* (minimum):	
- from *side lot line* abutting a Residential *zone* or *lot* containing Residential *use*	15m
- any other *side lot line*	7.5m
(vii) *Floor Area, Net*	
- *Factory Outlet*	20% of *net floor area* of permitted *industrial use* to which it is *accessory*

(8) **CT *Zone*** – *Building* Separations (minima):

Between tourist vehicles	6m
(i) Between tourist vehicle and Management office	9m
(ii) Between tourist vehicle and Recreation building	12m
(iii) Between *main building* and Detached *accessory building*	2m
(iv) Between detached *accessory buildings*	1m

(9) CCV *Zone* – Within the CCV Zo*ne*, with the exception of driveways and pedestrian walkways, lands abutting Kennedy Road or Dougall Avenue shall be developed with a continuous *building* face.

(10) CCV *Zone* – A *planting strip* shall be required along each *street line* adjacent to a *parking area*.

(11) CCV *Zone* – The minimum setback for any type of first *storey* residential *use* shall be 3m.

(12) CCV *Zone* – Within the CCV *Zone* the following special standards shall apply:

(i) For Holding Provisions see CCV-H15 in Subsection 13.3;

(ii) For the purpose of this *zone*, each of the two parcels of land located on the north and south sides of Dougall Ave. west of Kennedy Road shall each be deemed to be one *lot*, regardless of the number of *buildings* constructed thereon and regardless of any subdivision thereof by any means. Further the *lot line* abutting Dougall Ave. shall be considered to be the *front lot line*.

(iii) Notwithstanding any other provision of this By-law, no *building* or *structure* or part thereof and no chimney, pilaster or similar ornamental *structure* or part thereof and no *patio* or *porch* or part thereof and no machinery or equipment or part thereof and no fence, sidewalk or walkway or part thereof shall be located in any part of a *yard* that is subject to a registered easement;

(iv) Notwithstanding Section 5.4.2 and 5.4.4 only one *delivery space* shall be required on the *lot* described in Section 12(ii) above.

(v) The minimum off street parking requirement for any commercial *use* shall be 1 *parking space* per 34m2 of *gross floor area* or portion thereof.

(vi) The minimum off street parking requirement for any *apartment building* shall be 1.25 *parking spaces* per *dwelling unit* plus the requirement for any commercial *use* as noted in (v) above.

(vii) For the purpose of this *zone*, Section 4.36 with respect to *Sight Triangles* shall not apply.

(viii) In addition to the requirements of Section 4.4, air conditioners or heat pumps shall not be located in the *front yard* or *exterior side yard*.

(ix) For the purpose of this *zone, Building Height* shall be calculated using the vertical distance measured from the average elevation of the established grade at the front of such *building* to the median level between eaves and ridge on a gable, gambrel or hip roof.

(x) For the purpose of this *zone*, Established Grade, with reference to a *building*, shall be calculated using the average elevation of the finished surface of the ground where it meets the exterior of the front of such *building*.

SECTION 8

INDUSTRIAL ZONES

8.1 GENERAL PROHIBITION

No *person* shall, within any **Industrial *Zone***, use any land, or erect, *alter*, enlarge, use or maintain any *building* or *structure* for any *use* other than as permitted in **Table 8.1** of Subsection 8.2 and in accordance with the standards contained in **Table 8.2** of Subsection 8.3, the General Provisions contained in Section 4 and the Parking, Loading & Delivery Standards contained in Section 5.

8.2 PERMITTED USES

Uses permitted in an **Industrial *Zone*** are noted by the symbol '✓' in the column applicable to that *Zone* and corresponding with the row for a specific permitted *use* in **Table 8.1**. A number(s) following the symbol '✓' , *zone* heading or identified permitted *use*, indicates that one or more conditions apply to the *use* noted or, in some cases, to the entire *Zone*. Conditions are listed below the Permitted Use Table, **Table 8.1**.

The **Industrial *Zones*** established by this By-law are as follows:

MP Prestige Industrial
MS Serviced Industrial
MU Unserviced Industrial
MA Airport Industrial
MX Extractive Industrial
MD Waste Management

TABLE 8.1

	ZONE					
USE	**MP**	**MS**	**MU**	**MA**	**MX**	**MD**
Adult Video Store		✓				
Airport				✓		
Bulk Storage Facility		✓	✓			
Business Office	✓					
Cannabis-Related Use-Indoor	✓ **(3)**	✓ **(3)**				
Contractor's Facility		✓	✓			
Dry Cleaning or Laundry Plant	✓	✓				
Equipment Storage Building	✓	✓	✓			
Factory Outlet	✓	✓	✓			
Farm					✓	
Financial Institution	✓ **(2)**					
Gasoline Pump Island, Accessory	✓	✓	✓	✓		

Gravel Pit					✓	
Industrial Hemp-Related Use-Indoor	✓ (3)	✓ (3)				
Industrial Use	✓	✓	✓			
Light Equipment Rental Establishment	✓	✓				
Maintenance Garage, Accessory	✓	✓	✓			
Merchandise Service Shop	✓	✓	✓			
Motor Vehicle Body Shop		✓	✓			
Motor Vehicle Compound		✓	✓			
Motor Vehicle Gas Bar		✓				
Motor Vehicle Repair Facility		✓	✓			
Motor Vehicle Towing Facility		✓	✓			
Open Storage Area, Accessory		✓	✓	✓	✓	
Outside Display or Sales Area, Accessory		✓	✓			
Place of Assembly	✓					
Place of Worship	✓					
Quarry					✓	
Research Establishment	✓	✓				
Restaurant	✓ (2)	✓ (2)		✓ (2)		
Retail Store, Accessory	✓ (1)	✓ (1)				
Sanitary Landfill Site						✓
Sewage Treatment Facility						✓
Training Facility	✓					
Transportation Depot		✓	✓			
Warehouse	✓	✓	✓			
Warehouse, Public Self-Storage	✓	✓	✓			
Warehouse, Wholesale	✓	✓	✓			
Waste Processing Facility						✓
Waste Transfer Facility						✓

Footnotes for Table 8.1

(1) Must comply with Section 8.4.1

(2) Must comply with Section 8.4.2

(3) Must comply with Section 4.7 Cannabis or Industrial Hemp Uses.

8.3 ZONE STANDARDS

No *person* shall, within any **Industrial *Zone***, use any *lot* or erect, *alter*, use any *building* or *structure* except in accordance with the following *zone* provisions. A number(s) following the *zone* standard, *zone* heading or description of the standard, indicates an additional *Zone* requirement. These additional standards are listed at the end of *Table 8.2*.

TABLE 8.2

	ZONE					
STANDARD	**MP**	**MS**	**MU**	**MA**	**MX**	**MD**
***Lot Areas* (Minima):**	925 m^2	925 m^2	4,000 m^2	Nil	1ha	
Sanitary landfill site						4ha
Other Non-Residential *uses*						1ha
***Lot Frontage* (Minimum)**	30m	30m	50m	30m	10m	10m
***Building Area* (Minimum)**						
For a *Transportation Depot*		10% **(22) (23)**	10% **(22) (23)**			
***Building Area* (Maximum)**	50%	50% **(22)**	10% **(22)**	**(9)**	900 m^2	
Sanitary landfill site						180m^2
Sewage treatment facility						20%
Other Non-Residential *uses*						35%
***Yards* (Minima)**	**(14)**	**(14) (24)**	15m **(24)**		**(15)**	
From a *lot line* abutting a *zone* other than an Industrial *zone*				30m		
From any other *lot line*				21m		
***Front Yards* (Minima)**					30m	18m
From a *front lot line* abutting a Residential *zone*	20m					
From a *front lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*		20m				
From a *front lot line* abutting a Provincial Highway	14m					
From any other *front lot line*	9m	9m				
***Exterior Side Yards* (Minima)**					30m	18m
From an *exterior side lot line* abutting a Residential *zone*	15m					
From an *exterior side lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*		15m				
From an *exterior side lot line* abutting a Provincial Highway	14m					

From any other *exterior side lot line*	7.5m	7.5m				
Rear Yards (Minima)						
From a *rear lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*		15m				
From a *rear lot line* abutting a Residential *zone*	15m				90m	
From a *rear lot line* abutting a Provincial Highway	14m					
From a *rear lot line* abutting a *zone* other than an MD or MX *Zone*						15m
From any other *rear lot line*	7.5m	7.5m			30m	3m
***Interior Side Yards* (Minima)**						
From an *interior side lot line* abutting a *zone* other than an MD or MX *Zone*						15m
From any other *lot line*						3m
From an *interior side lot line* abutting a Residential *zone*					90m	
From any other *interior side lot line*	**(1)**	**(5)**			30m	
From an *interior side lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*	15m	15m				
***Gasoline Pump Island, Accessory* Setbacks (Minima)**				30m **(11) (16)**		
From any *street line*	**(21)**	6m **(16)**	6m **(16)**			
From any other *lot line*	4.5m **(16)**	4.5m **(16)**	4.5m **(16)**			
Excavation Setbacks (Minima)						
From any *lot line*					15m	
From any *street line*					30m	
***Accessory Open Storage Area* Setbacks (Minima)**		**(19) (24)**	**(20) (24)**			
From any *lot* line which abuts a Residential *zone*					90m	
From any other *lot line*					30m	
***Accessory Outside Sales* or *Display Area* Setback (Minimum)**						
From any *street line*		9m				
***Building Heights* (Maxima)**	18m	12.2m	12.2m		25m	12.2m
Residential *buildings*				10.5 m		
Non-Residential *Building*				12.2 m		
***Landscaping Area* (Minimum)**	10% **(13)**	10%	10%		5%	25%
***Net Floor Area* (Maxima)**						
Factory Outlet	20%	20%				

	(3)	**(6)**				
An indoor Sales Display Area associated with a W*holesale Warehouse*	33% **(4)**					
***Planting Strip Width* (Minimum):**	6 m	6 m	3 m	15 m	15 m	7.5 m
***Planting Strip* Location**	**(2) (17) (18)**	**(7) (17) (18)**	**(8)**	**(10)**	**(10)**	**(12)**
Landfill Area *Setbacks* (Minima)						
From any *street line*						30 m
From any *lot line* which abuts a *zone* other than an MD or MX *Zone*						90 m
***Driveway Setbacks* (Minima)**		**(24)**	**(24)**			
From a *lot line* abutting a Residential *zone*	4.5m					
Where a *driveway* forms part of a mutual *driveway* on an adjacent *lot*	Nil					
From any other *lot line*	1.5m	1.5m	1.5m	3m	3m	3m
From a *lot line* abutting a Residential *zone* or a *lot* containing a Residential use		4.5m	4.5m			
From a *lot line* abutting a *zone* other than an Industrial *zone*				9m		
From a *lot line* abutting a *zone* other than an MX or MD *zone*					9m	9.5m
***Parking Space Setbacks* (Minima)**		**(24)**	**(24)**			
From any front *lot line*	6m	6m				
From any other *lot line*	3m	3m				
From any *street line*			1.5m	3m	3m	3m
From any *lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*			4.5m		9m	
From any *lot line* abutting a *zone* other than an Industrial *zone*				9m		
From any *lot line* abutting a *zone* other than an MD or MX *zone*						9m

Footnotes For Table 8.2

(1) **MP** *Zone* – Minimum *interior side yard* from any other *interior side lot line* shall be 3m on one side, 6m on other side

(2) **MP** *Zone* – A *planting strip* shall be required along each *front lot line* and each *exterior side lot line* and along any portion of a rear *lot line*, which abuts a Residential *zone* line or a *lot* containing a Residential *use*, and along any portion of an *interior side lot line* which abuts a Residential *zone* or a *lot* containing a Residential *use*.

(3) **MP** *Zone* – The maximum *net floor area* of a *factory outlet* shall be 20% of the *net floor area* of the *industrial facility* to which it is *accessory*.

(4) **MP** *Zone* – The maximum *net floor area* of a sales display area associated with a *wholesale warehouse use* shall be 33% of the total *net floor area*.

(5) **MS** *Zone* – The minimum *interior side yard* from any other *interior side lot line* shall be 3m on one side; 6m on other side.

(6) **MS** *Zone* – The maximum *net floor area* of a *factory outlet* shall be 20% of the *gross floor area* of the *industrial use* to which it is accessory.

(7) **MS** *Zone* – A *planting strip* shall be required along each *front lot line*.

(8) **MU** *Zone* – A *planting strip* shall be required along any portion of a *rear lot line* and any portion of an *interior side lot line* which abuts a Residential *zone* or which abuts a *lot* containing a Residential *use*.

(9) **MA** *Zone* – The maximum *building area* shall be the lesser of 5%; or 0.4 hectares.

(10) **MA** *Zone***, MX** *Zone* – A *planting strip* shall be required along each *front lot line*. A *planting strip* shall also be required along any portion of a *rear lot line* and any portion of an *interior side lot line* which abut a Residential *zone*.

(11) **MA** *Zone* – No *accessory gasoline pump island* shall be located closer to any *lot line* than 30m.

(12) **MD** *Zone* – A *planting strip* shall be required along any portion of a *rear lot line* and any portion of an *interior side lot line* which abut a *zone* other than an **MD** or **MX** *zone*.

(13) **MP** *Zone* - The required minimum *Landscaping Area* for a *corner lot* shall be 12.5%

(14) **MP** *Zone*, **MS** *Zone* - Notwithstanding any *building setback* provisions to the contrary, no *building setback* shall be required from any portion of a *lot line* which abuts a railroad right-of-way.

(15) **MX** *Zone* - Notwithstanding any *building setback* provisions to the contrary, no *building setback* shall be required from any portion of a *lot line* which abuts a railroad right-of-way or abuts another *lot* in an **MX** *Zone*.

(16) **MP** *Zone***, MS** *Zone,* **MU** *Zone,* **MA** *Zone - Accessory Gasoline Pump Island Setback* – Where an *Accessory Gasoline Pump Island* includes a canopy or roof *structure*, the required *setback* shall be measured to the nearest part of the canopy or roof *structure*.

(17) **MP** and **MS** *Zone* – In addition to the *Planting Strip* Widths and Locations noted in **Table 8.2**, the following provisions shall also apply:

(i) Minimum width abutting an arterial road or Provincial Highway 9.0m

(ii) Minimum width where truck *parking* or *loading spaces* are provided adjacent to an arterial road or Provincial Highway 12.0m

(iii) Minimum width required on all *interior side yards* except where there is a mutual *driveway* along an *interior side lot line*. 1.5m

(18) **MP** and **MS** *Zone* – Tullamore Industrial Commercial Secondary Plan Area– A *planting strip* along an arterial road shall be a minimum of 12m, and a *planting strip* for all internal roads within the Tullamore Industrial Commercial Secondary Plan Area shall be a minimum of 8 m.

(19) No open storage area shall be located:

(i) In a *front yard* or *exterior side yard*; or
(ii) Closer than 6 metres to any *lot line* unless a chain-link fence, at least 1.8 metres high, is constructed along that *lot line*.

(20) No open storage area shall be located:

(i) in a *front yard* or an *exterior side yard*; or
(ii) in a *rear yard* adjacent to a *rear lot line* of such *lot* which abuts a Residential *zone* or abuts a *lot* containing a Residential *use*; or
(iii) in a *side yard* adjacent to an *interior side lot line* of such *lot* which abuts a Residential *zone* or abuts a *lot* containing a Residential *use*; or
(iv) closer than 6 metres to any *lot line* if combustible materials are stored there.

(21) No accessory gasoline pump island shall be permitted in a *front yard* or in an *exterior side yard*.

(22) **MS** and **MU** *Zones* – Section 4.2.5 shall not apply to *transportation depots.*

(23) **MS** and **MU** *Zones* – For the purpose of calculating the minimum *building area*, it shall mean that portion of the *lot area* excluding any *landscaping area* permitted to be covered by one or more *building envelope.*

(24) **MS** and **MU** *Zones* – No parking, storing or staging for a *transportation depot* shall be located:

i) in a *front yard* or an *exterior side yard*; or

ii) in a *rear yard* adjacent to a *rear lot line* of such *lot* which abuts a residential *zone* or abuts a *lot* containing a Residential *use*; or

iii) in a *side yard* adjacent to an *interior side lot line* of such *lot* which abuts a Residential *zone* or abuts a *lot* containing a Residential *use.*

8.4 SPECIAL PROVISIONS AND STANDARDS FOR INDUSTRIAL ZONES

8.4.1 *Retail Store, Accessory* shall comply with the following provisions:

a) An *Accessory Retail Store* shall only be permitted as accessory to a permitted *industrial use* and for the retail sale and/or display of products manufactured or assembled on the *premises*;
b) An *Accessory Retail Store* shall only be located on the ground floor of the *building* in which the *industrial use* is located;
c) The area devoted to an *accessory retail store* shall not exceed 500 m^2 or 15% of the total *gross floor area* devoted to the *industrial use*, whichever is less; and
d) An *Accessory Retail Store* may be permitted in a free-standing *building* located on the same lot as a permitted *industrial use*, provided that the total *net floor area* of the *Accessory Retail Store* does not exceed 300 m^2.

8.4.2 *Financial Institution* and/or *Restaurant* shall comply with the following provisions:

a) The area devoted to the *Financial Institution* or *Restaurant* shall not exceed 15% of the total *gross floor area* of all *buildings* on a *lot*, to a maximum of 500 m^2.

7.8 TULLAMORE SECONDARY PLAN

7.8.1 Introduction

7.8.1.1 Purpose

The purpose of the Secondary Plan is to establish detailed land use policies for the Tullamore Industrial /Commercial Centre. The Tullamore Industrial/Commercial Secondary Plan contains policies regarding the future land uses including industrial and commercial uses. In addition, the policies cover transportation, servicing, cost sharing, phasing, environmental, urban design principles and implementation.

7.8.1.2 Location

The Tullamore Industrial/Commercial Secondary Plan covers approximately 118 ha (292 acres) located at the intersection of Airport and Mayfield Roads in the south part of the Town of Caledon adjacent to the City of Brampton. The following policies shall apply to the Tullamore Industrial Secondary Plan Area as shown on Schedule N Land Use Plan.

7.8.1.3 Basis

The Tullamore Industrial/Commercial Secondary Plan is a result of review and analysis of land use designations and applicable Official Plan policies to lands within the Tullamore Industrial/ Commercial Centre. In accordance with Official Plan policy 5.10.7.3.1, the Tullamore Industrial Policy Area requires the preparation of a Secondary Plan prior to the release of lands for development.

The Plan was prepared in the context of:

- The need for Industrial /Commercial Centres to serve a complementary role to other settlements;
- To provide, at a small scale, a supportive function to the Rural Service Centres for industrial and commercial development;
- The strategic location of Tullamore in the southern part of the Town in close proximity to the rest of the GTA and growing markets;
- The accessibility/visibility afforded by its location at the intersection of two regional roads, Mayfield and Airport Roads.

In addition to the above, the Secondary Plan is based on the following principles and policies as established in the Official Plan:

7.8.1.3.1 Tullamore will serve primarily as an industrial centre and to a lesser extent as a highway commercial centre in accordance with the Official Plan policies as set out in section 5.4.5 and 5.5.

7.8.1.3.2 Joint access will be encouraged for lands within the centre to limit conflicts with arterial roads.

7.8.1.3.3 Land use compatibility with lands in the City of Brampton and adjacent residential uses is maximized.

7.8.1.3.4 Only prestige industrial and highway commercial development will be permitted along Mayfield Road.

7.8.1.3.5 Existing residential uses shall be permitted to continue, but new residential uses are discouraged in this centre.

7.8.1.3.6 The principal means of access will be from Airport and Mayfield Road as well as from the internal collector road system.

7.8.1.3.7 High quality industrial development can be achieved through the adoption of community design guidelines for land uses within the Secondary Plan.

7.8.1.3.8 New development shall proceed by way of full municipal services.

7.8.2 **Goals**

In general, the Tullamore Industrial/Commercial Secondary Plan promotes high quality industrial and commercial development in a comprehensive manner through the provision of appropriate policies respecting land use, environment, municipal servicing, transportation and community design. Although some complementary highway commercial development is anticipated in this Plan, it is not the intent that this development shall compete with the retail uses planned for Caledon East.

Specific goals for the Tullamore Industrial Commercial centre include:

- To provide for a mix of high quality industrial and highway commercial uses that would contribute to the Town's employment and commercial/industrial assessment base;
- To provide for logical and orderly development on full urban services;
- To ensure land use compatibility with adjacent uses both in the Town of Caledon and within the City of Brampton to the south;
- To ensure a high standard of community design is provided particularly on the frontages of Mayfield and Airport Roads;
- To recognize and protect significant environment features and functions within and adjacent to the secondary plan area, and, where possible, restore and enhance the environment.

7.8.3 **Structural Concept**

The Tullamore Industrial/Commercial Secondary Plan promotes Tullamore primarily as an industrial centre; with a secondary function as a highway commercial centre, with a limited retail commercial focus. The Plan provides for highway and service commercial uses as well as prestige industrial uses without outdoor storage along the frontages of Airport and Mayfield Roads that can benefit from the high accessibility and exposure.

Interior lands within the Secondary Plan boundary are planned for uses of a more general industrial nature with provisions for outdoor storage.

The collector road configuration throughout the Secondary Plan provides for appropriate circulation and division of property to provide for maximum flexibility of end users. The collector road pattern reflects the regional requirements for distance separation from the intersection of Mayfield and Airport Roads, as well as the land use considerations and access on the south side of Mayfield Road, within the City of Brampton.

The land uses proposed will respect the features and functions on the east and west side of the Secondary Plan area, associated with Salt Creek and the west branch of the West Branch of the Humber River, respectively, and small tributaries, woodlots and hedgerows within the Secondary Plan area.

7.8.4 **Community Design**

In recognition of the location of these lands at the entrance to the Town of Caledon and at the intersection of two major regional roads, and the need for buffering of adjacent sensitive land uses, the streetscape and community design of the area shall be of a consistently high quality. To this end, the Town of Caledon shall adopt overall design principles and standards for the Secondary Plan Area.

7.8.4.1 All development shall conform to the Tullamore Community Design Guidelines, prepared by Paul Cosburn Associates Limited, adopted by Caledon Council May 15, 2000, as may be amended by Council from time to time. This shall include the submission of Landscape Plans, prepared by a landscape architect, for approval through the subdivision and/or site plan approval process.

7.8.4.2 In order to address visual impacts, aesthetics and compatibility of uses, development adjacent to Mayfield and Airport Roads shall, in addition to conforming to the General Design policies of Sections 5.4.9 and 5.5.7 and the Community Design Guidelines referenced in Section 7.8.4.1, be guided by the following general site design principles:

- truck parking and truck storage, waste enclosures, overhead doors, accessory buildings, and loading/unloading bays shall be oriented away from Mayfield and Airport Roads, unless fully screened by a solid wall or a building;
- high quality building façades are encouraged and building elevation drawings may be required as part of the development approvals process. This shall include screening/enclosure of rooftop mechanical units, and limiting the height of buildings;
- signage shall be coordinated and integrated into the landscaped areas, specific restrictions may be placed on signage in order to reduce visual impacts;

- larger minimum lot sizes and wider frontages shall be required.

The implementing Zoning By-law shall include specific provisions with respect to these design principles.

7.8.5 **Industrial**

7.8.5.1 Industrial development in the Tullamore Industrial/Commercial Secondary Plan Area shall be permitted in accordance with the policies of Section 5.5 as well as the following specific policies.

7.8.5.2 Development shall only be permitted on full municipal services including sanitary and storm sewers, municipal roads, municipal water, hydro and other utilities.

7.8.5.3 No outdoor storage will be permitted in the Industrial designations adjacent to Airport or Mayfield Roads.

7.8.5.4 Prestige Industrial Uses

7.8.5.4.1 Development on lands designated Prestige Industrial on Schedule N shall be permitted in accordance with Section 5.5.4.

7.8.5.4.2 Notwithstanding Section 7.8.5.4.1 open space and recreation facilities shall not be permitted in Prestige Industrial designations, except for recreational establishments, which may be permitted in the implementing Zoning By-law.

7.8.5.4.3 Notwithstanding Section 5.5.3.3 commercial uses shall not be permitted in Prestige Industrial designations.

7.8.5.4.4 Open storage shall not be permitted in Prestige Industrial designations.

7.8.5.4.5 Notwithstanding any other provision of this Plan, Cold Storage uses and Trucking Terminals shall not be permitted in Prestige Industrial designations.

7.8.5.4.6 Prestige Industrial uses, which may have noise, dust, vibration or other environmental impacts, may be required to conduct appropriate studies in order to address compatibility of land uses and mitigation of impacts.

7.8.5.5 General Industrial Uses

7.8.5.5.1 Development on lands designated General Industrial on Schedule N shall be permitted in accordance with Section 5.5.5.

7.8.5.5.2 Notwithstanding Section 7.8.5.5.1 open space and recreation facilities shall not be permitted in General Industrial designations, except for recreational establishments, which may be permitted in the implementing Zoning By-law.

7.8.5.5.3 Notwithstanding Section 5.5.3.3 commercial uses shall not be permitted in General Industrial designations.

7.8.5.5.4 A maximum of two concrete batching plants, and accessory offices, may be permitted within the General Industrial designation on the west side of

Airport Road, provided the use is located a minimum of 100 metres from Airport Road, and a minimum of 350 metres from Mayfield Road or north of the internal east-west collector road, whichever is greater. Establishment of the use shall require a site specific rezoning, which shall only be considered in conjunction with the submission of a complete site plan application which satisfactorily addresses all requirements of this secondary plan, including satisfactorily addressing all potential environmental, noise and dust impacts, and compatibility with adjacent land uses in Caledon and Brampton. Development of these sites shall proceed by way of full municipal servicing including municipal roads.

7.8.5.5.5 General Industrial uses, including concrete batching plants, are encouraged to be contained within enclosed buildings, except for adequately screened open storage.

7.8.5.5.6 General Industrial uses, which may have noise, dust, vibration or other environmental impacts, may be required to conduct appropriate studies in order to address compatibility of land uses and mitigation of impacts.

7.8.5.5.7 In order to reduce visual impacts and ensure compatibility of uses, the implementing Zoning By-law shall contain provisions limiting the height of open storage in the General Industrial designation.

7.8.6 **Highway Commercial**

7.8.6.1 Development on lands designated Highway Commercial on Schedule N shall be permitted in accordance with Section 5.4.5.

7.8.7 **Ecosystem Planning and Management**

7.8.7.1 All lands on Schedule 'N' are subject to the Ecosystem Planning and Management provisions of Section 3.1 of the Official Plan and all lands designated Environmental Policy Area on Schedule 'N' are subject to the provisions of Section 5.7 of the Official Plan and to the following specific policies.

7.8.7.2 All new development and servicing shall address the environmental protection, mitigation and management measures contained in the approved Tullamore Secondary Plan Area Master Environmental Servicing Plan, to the satisfaction of the Town of Caledon and other relevant agencies.

7.8.7.3 All new development shall provide a 15 metre ecological/visual landscaped buffer adjacent to lands designated Agriculture and Environmental Policy Area, in accordance with the Council adopted Tullamore Community Design Guidelines.

7.8.7.4 Stormwater management infrastructure shall be permitted in lands designated Environmental Policy Area only in accordance with the approved Tullamore Secondary Plan Area Master Environmental Servicing Plan.

7.8.8 **Heritage Resources**

7.8.8.1 Conservation of heritage resources shall be consistent with the provisions of the Official Plan. The Secondary Plan includes areas with potential for undiscovered archaeological resources. Prior to final approval of new development or redevelopment, a detailed archeological examination shall be conducted for those areas not previously investigated in accordance with the Archaeological Guidelines of the Town of Caledon. Existing and discovered burial sites shall be treated in accordance with the provisions of the *Ontario Cemeteries Act*.

7.8.8.2 It is the intent of this Secondary Plan to encourage the retention and conservation of heritage resources of architectural and/or historical merit and promote the integration of these resources into the new development proposals.

7.8.9 **Transportation**

7.8.9.1 The transportation system servicing the Secondary Plan Area, shown conceptually on Schedule N shall be developed in accordance with Section 5.9.

7.8.9.2 New development shall only be serviced by full municipal roads and temporary access will not be permitted.

7.8.9.3 An industrial collector road shall provide internal access and circulation on the lands east of Airport Road.

7.8.9.4 An industrial collector road shall extend west of Airport Road to service the concrete batching plant(s). This road shall be designed to provide for a southerly extension, as required to provide proper access to the remainder of the development lands. A second industrial collector road shall extend east of Airport Road to provide access to the eastern industrial lands. It is intended that these two roads shall meet at a signalized intersection at Airport Road.

7.8.9.5 Where roads are proposed to intersect with Regional roads, the transportation system shall also have regard to Regional requirements and standards.

7.8.9.6 New direct access from individual properties to Airport and Mayfield Roads shall be limited to consolidated access points.

7.8.9.7 Minor adjustments to the location of the collector road system shown conceptually on Schedule 'N' shall not require amendment to the Secondary Plan.

7.8.10 **Servicing**

7.8.10.1 All development in the Tullamore Industrial/Commercial Secondary Plan area shall be serviced by full municipal sanitary and storm sewers, municipal roads, municipal water, hydro and other utilities.

7.8.10.2 The design of these services shall comply with Town standards as well as those of the respective public and private utility providers.

7.8.10.3 New public and private infrastructure shall be subject to the environmental policies of the Official Plan.

7.8.11 **Stormwater Management**

7.8.11.1 The development of stormwater management infrastructure, including the location, design, size and function of facilities shall be in accordance with the Tullamore Secondary Plan Area Master Environmental Servicing Plan, to the satisfaction of the Town of Caledon and the Toronto and Region Conservation Authority.

7.8.11.2 Stormwater management infrastructure shall be permitted in lands designated Environmental Policy Area only in accordance with the approved Tullamore Secondary Plan Area Master Environmental Servicing Plan.

7.8.11.3 All development proponents shall prepare detailed engineering studies indicating the location and size of stormwater management facilities prior to draft plan approval.

7.8.11.4 Final design details shall be determined prior to the registration for subdivision plans in accordance with a detailed drainage and engineering report.

7.8.11.5 The Town may require on site treatment of stormwater prior to discharge into the municipal stormwater system.

7.8.12 **Phasing**

7.8.12.1 The development of this Secondary Plan may take place in phases generally in accordance with Schedule 'N', if deemed appropriate by the Town.

7.8.12.2 Any phasing shall take place in accordance with the policies set out in the Official Plan section 6.2.1.7.

7.8.12.3 Notwithstanding policy 7.8.12.2, new development shall only be permitted when all required municipal services are in place.

7.8.13 **Implementation**

The provisions of the *Town of Caledon Official Plan* regarding implementation shall apply with regard to this Plan.

7.8.13.1 The land use pattern shown on Schedule 'N' Land Use Plan, is schematic and may be adjusted in the subdivision or site plan approval processes, taking into account such matters as the preservation of environmental features, stormwater management requirements, heritage resources, the provision of full urban services, detailed land use relationships and street patterns.

7.8.13.2 Minor variations of land use boundaries and street patterns shall not require an amendment to this Secondary Plan providing the intent of the Plan is maintained.

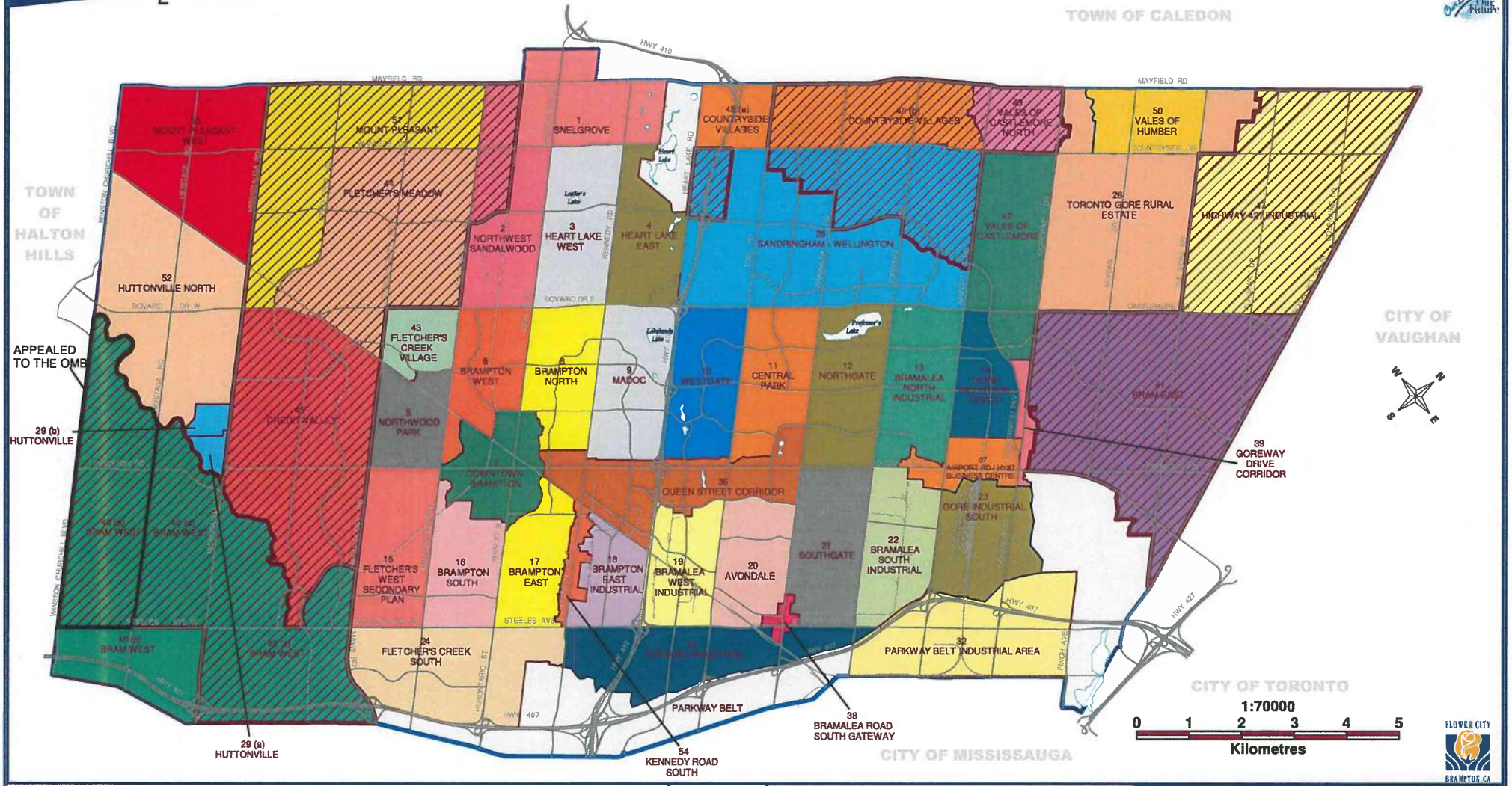
7.8.13.3 New lots shall normally only be created through plans of subdivision.

7.8.13.4 Appropriate Zoning By-law(s) shall be enacted to implement the land use designations and policies of this Plan, generally at the time of subdivision approval.

7.8.13.5 Development may be allowed to proceed in advance of subdivision approval on existing lots with commercial zoning subject to site plan approval, provided the development conforms to all other policies of this Plan, and the Tullamore Community Design Guidelines, and provided that the site plan addresses the overall development pattern of the Secondary Plan area, as well as any servicing and cost sharing requirements, to the satisfaction of the Town of Caledon.

7.8.13.6 Prior to development proceeding, a cost-sharing plan shall be instituted to apportion municipal servicing and road infrastructure costs to benefiting landowners within the Secondary Plan area.

Brampton



LEGEND

NEWER SECONDARY PLAN AREAS OR PORTIONS THEREOF SUBJECT TO THE NEW HOUSING MIX AND DENSITY CATEGORIES OF THE OFFICIAL PLAN

Last Amended Date

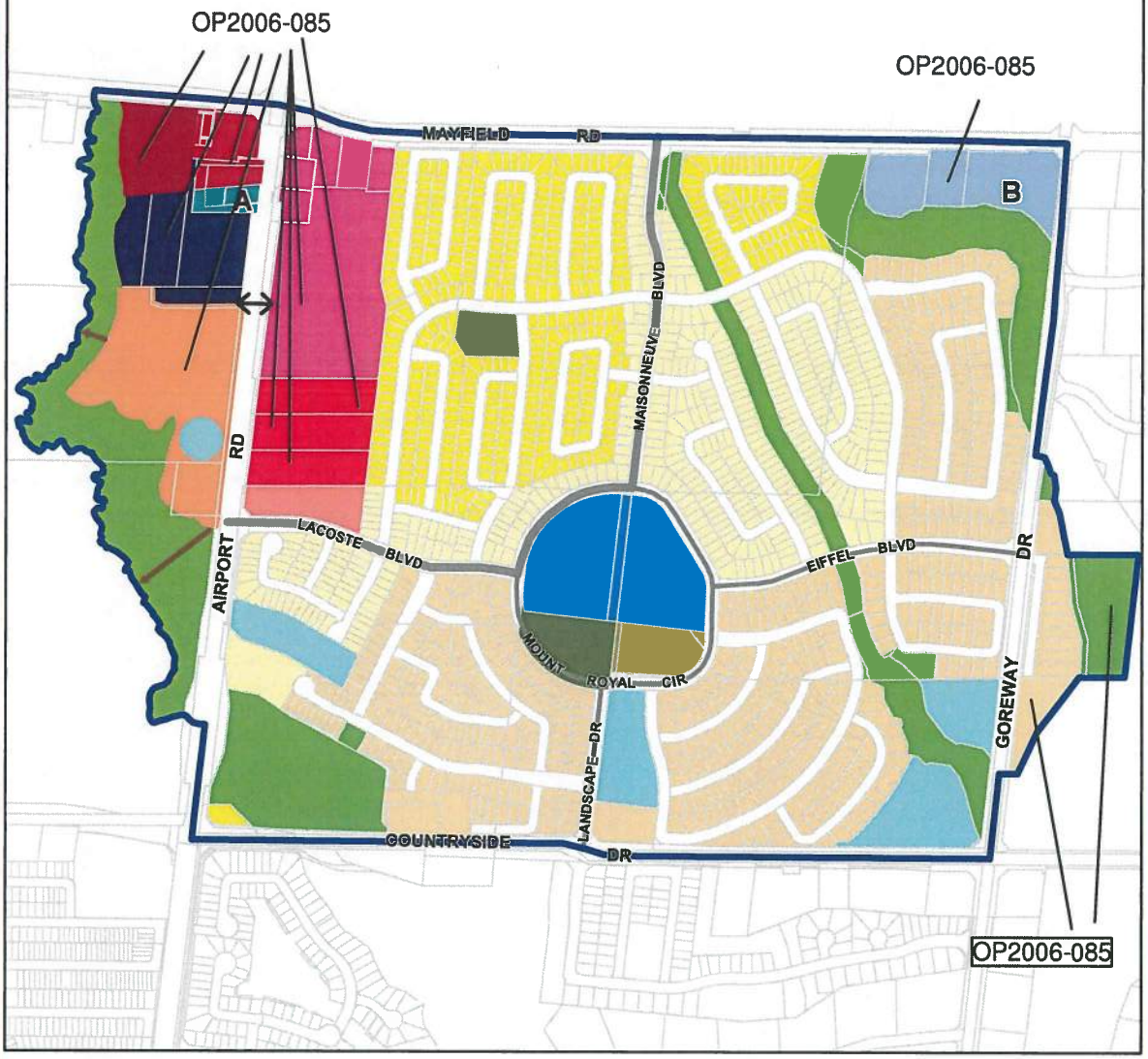
Aug 25th, 2015

NOTES:

City of Brampton 2006 Official Plan September 2015 Office Consolidation.

Schedule G

SECONDARY PLAN AREAS



RESIDENTIAL

- EXECUTIVE RESIDENTIAL
- LOW DENSITY RESIDENTIAL 1
- LOW DENSITY RESIDENTIAL 2
- RESIDENTIAL SPECIAL POLICY AREA

INSTITUTIONAL

- ELEMENTARY SCHOOL
- CEMETERY
- MIXED INSTITUTIONAL
- INSTITUTIONAL - SPECIAL POLICY AREA

COMMERCIAL

- NEIGHBOURHOOD RETAIL
- HIGHWAY / SERVICE COMMERCIAL
- SERVICE COMMERCIAL
- SERVICE EMPLOYMENT
- COMMERCIAL / INSTITUTIONAL

OPEN SPACE

- WOODLOT
- VALLEYLAND
- NEIGHBOURHOOD PARK
- STORM WATER MANAGEMENT FACILITY

TRANSPORTATION

- COLLECTOR RD
- MINOR COLLECTOR RD
- POTENTIAL TRAIL LOCATION
- FULL MOVES ACCESS

HERITAGE

- A CATEGORY A
- B CATEGORY B

SECONDARY PLAN BOUNDARY

Local roads shown are not part of this schedule.

BRAMPTON
Flower City
brampton.ca
PLANNING, DESIGN & DEVELOPMENT

0 100 200
Metres

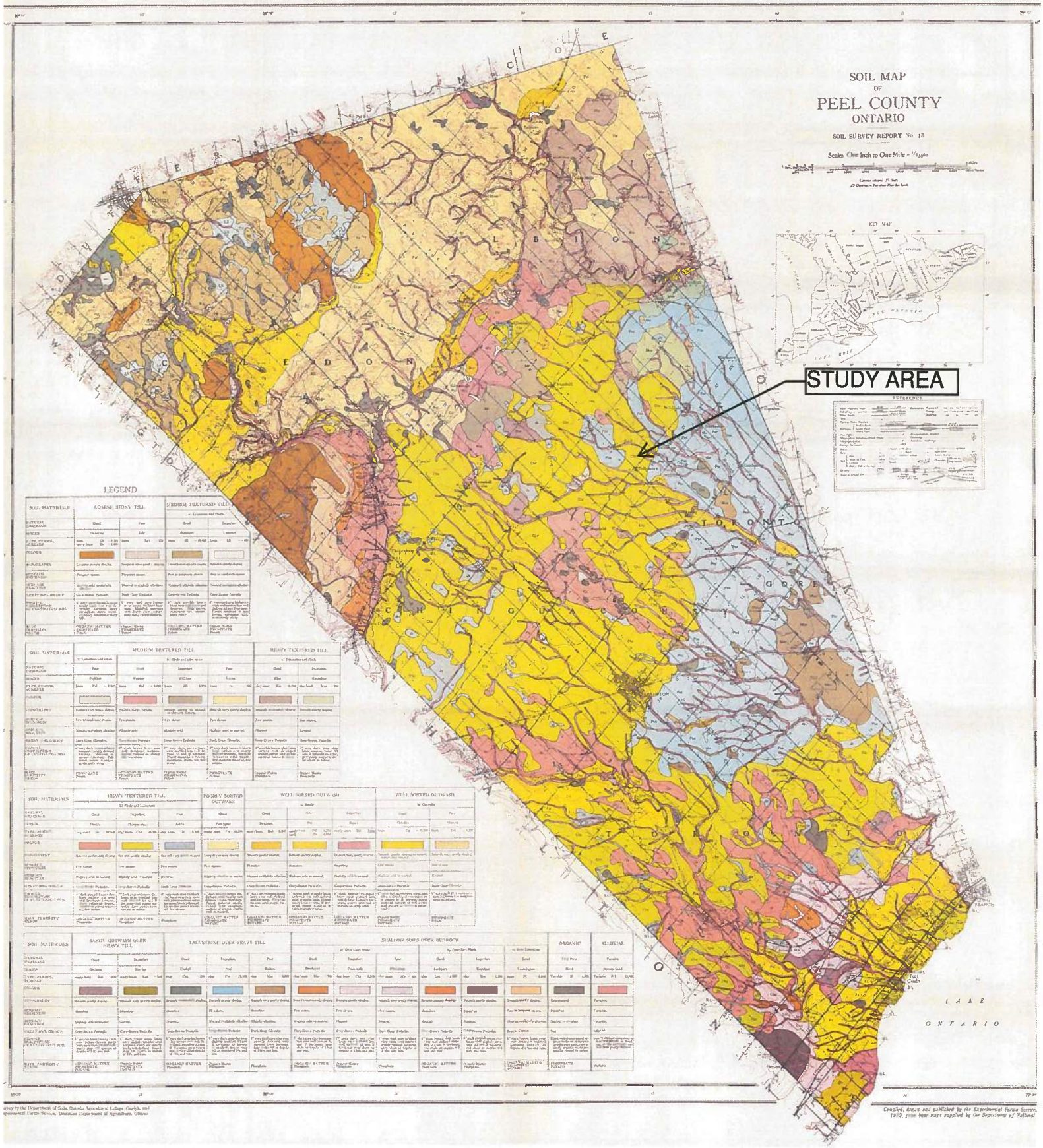
Date: 2014 07 18

VALES NORTH SECONDARY PLAN (AREA 49)
SCHEDULE SP49(a)

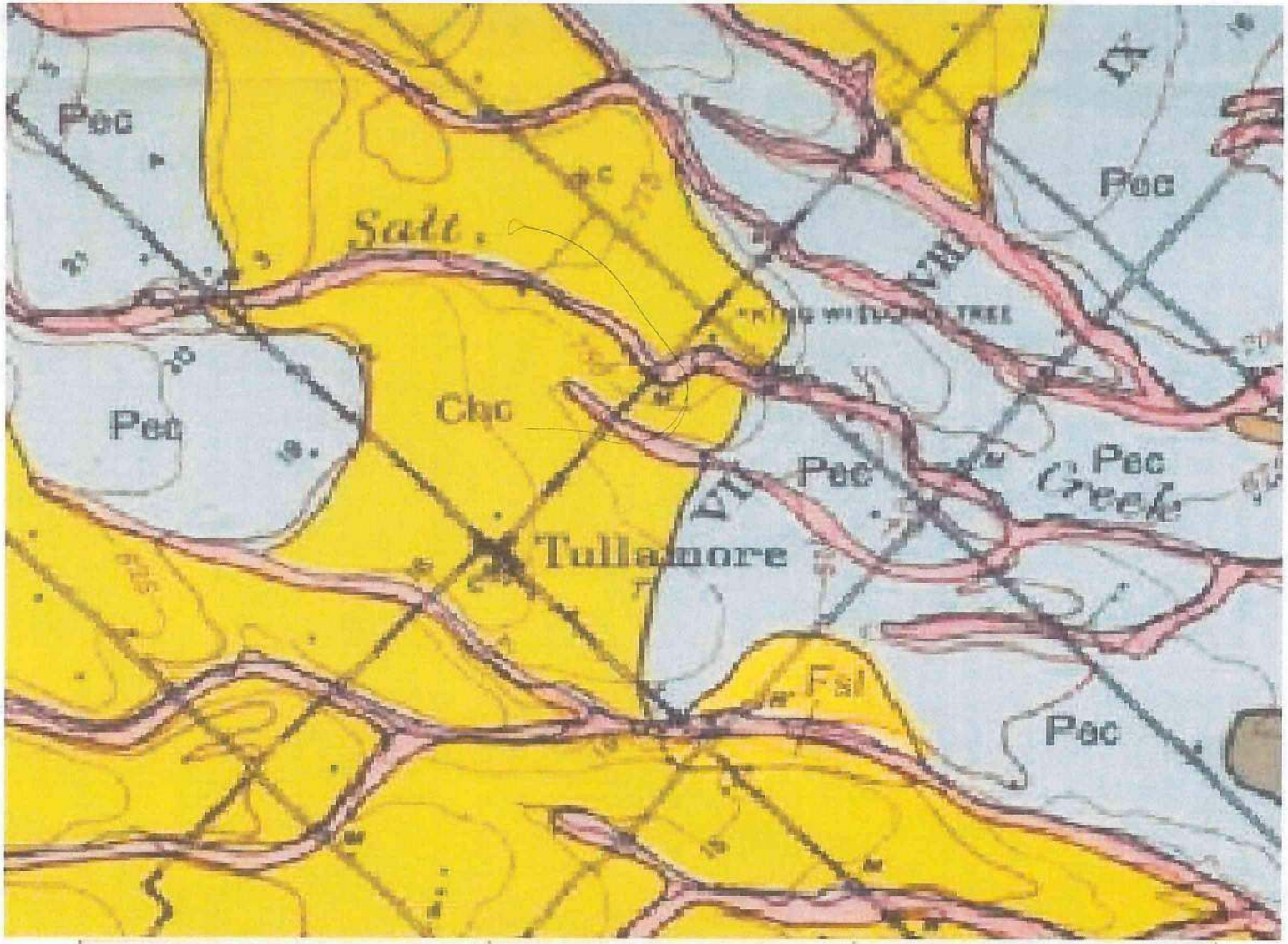
FILE: SPA49.gws

Appendix A.3

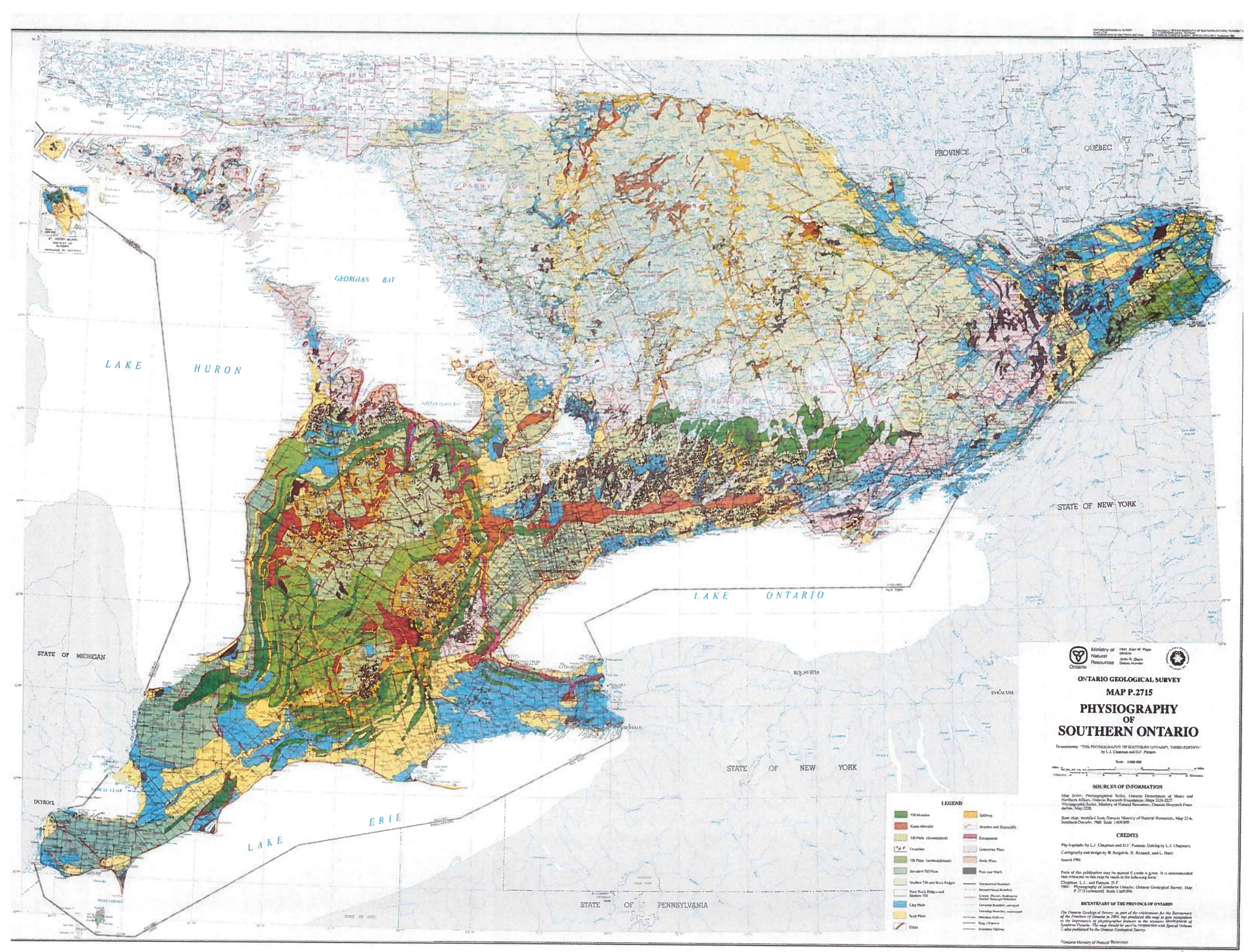
Soils Information



Compiled, drawn and published by the Experimental Farms Service, 1949, from base maps supplied by the Department of National



NATURAL DRAINAGE	Good	Imperfect
SERIES	Oneida	Chinguacousy
TYPE, SYMBOL, ACREAGE	clay loam Oc – 20,500	clay loam Chc – 68,500
COLOUR		



Ministry of Natural Resources
Ontario

Hon. Alan W. Pope, Minister
John R. Shaw, Deputy Minister

ONTARIO GEOLOGICAL SURVEY

MAP P.2715

PHYSIOGRAPHY OF SOUTHERN ONTARIO

To accompany "THE PHYSIOGRAPHY OF SOUTHERN ONTARIO, THIRD EDITION" by L.J. Chapman and D.F. Putnam

Scale 1:600 000

SOURCES OF INFORMATION

Map Series: Physiographical Series, Ontario Department of Mines and Northern Affairs, Ontario Research Foundation, Maps 2224-2227
Physiographic Series, Ministry of Natural Resources, Ontario Research Foundation, Map 2228

Base map, modified from Ontario Ministry of Natural Resources, Map 2146, Southern Ontario, 1980. Scale 1:600 000

CREDITS

Physiography by L.J. Chapman and D.F. Putnam. Editing by L.J. Chapman.

Cartography and design by R. Reigadas, R. Renaud, and L. Hurr.

Issued 1984

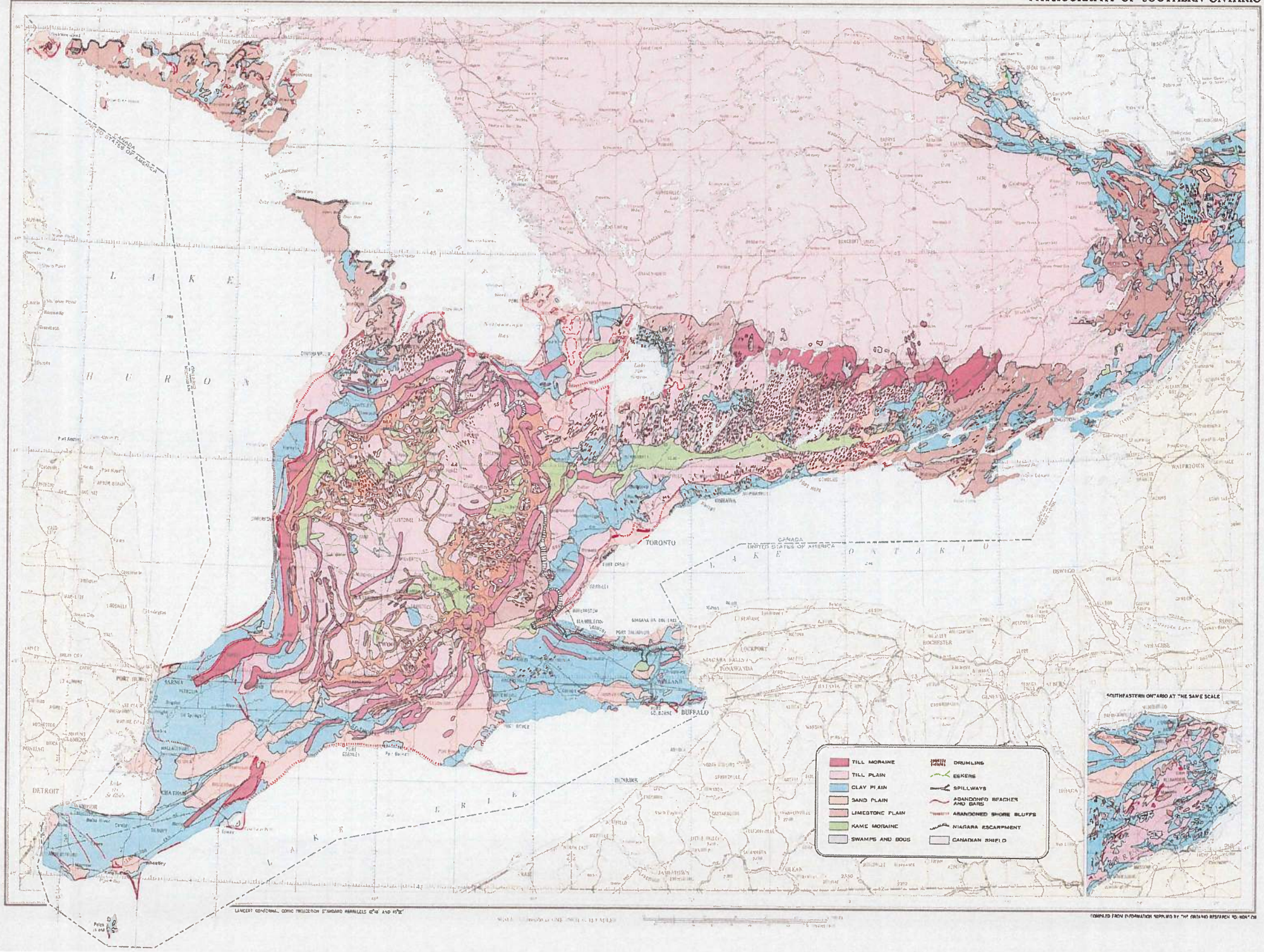
Parts of this publication may be quoted if credit is given. It is recommended that reference to this map be made in the following form:

Chapman, L.J., and Putnam, D.F.
1984: Physiography of Southern Ontario, Ontario Geological Survey, Map P.2715 (coloured), Scale 1:600 000.

BICENTENARY OF THE PROVINCE OF ONTARIO

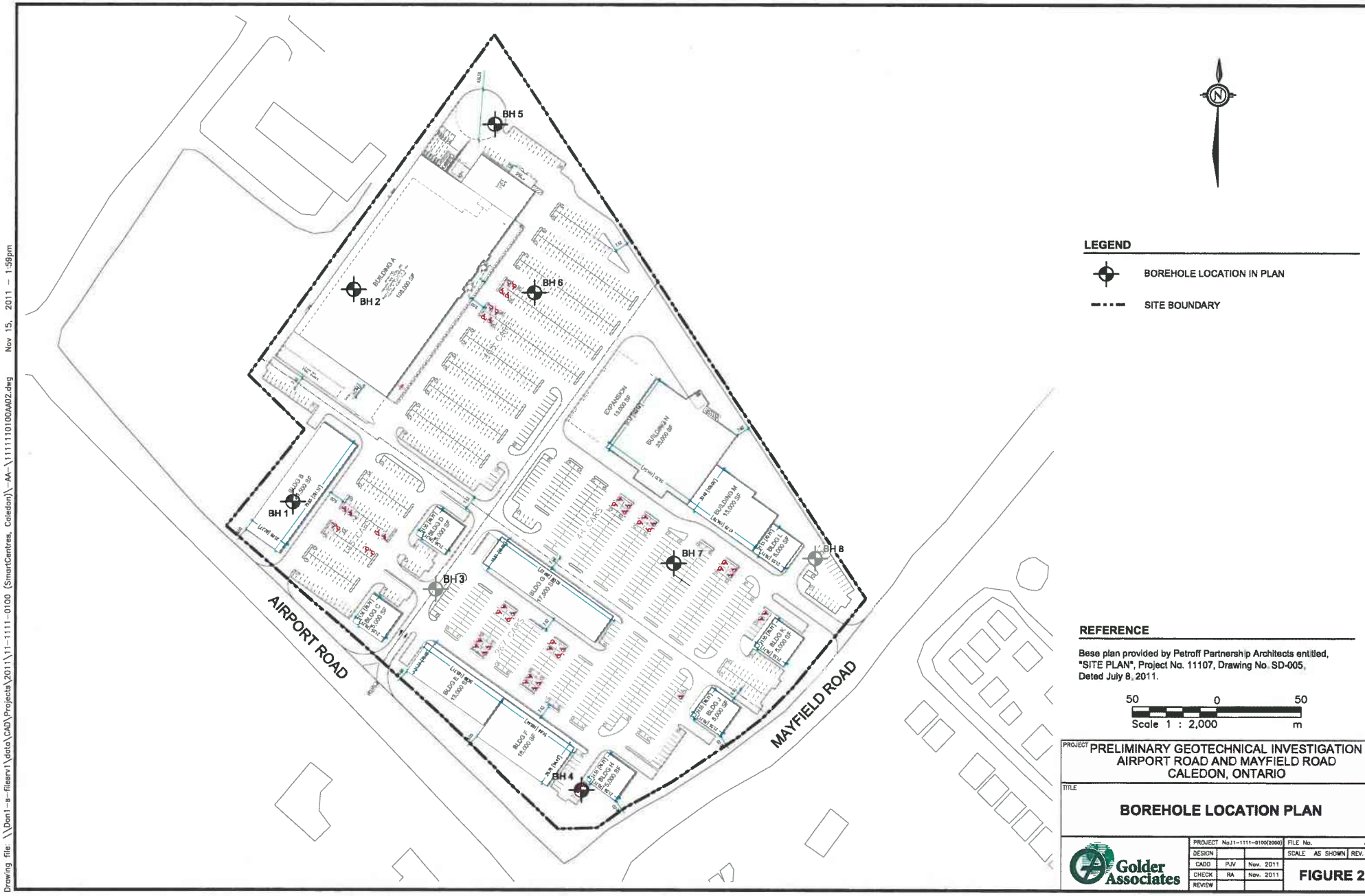
The Ontario Geological Survey, as part of the celebrations for the Bicentenary of the Province of Ontario in 1984, has produced this map to give recognition to the importance of physiographic features to the resource development of Southern Ontario. The map should be used in conjunction with Special Volume 1 also published by the Ontario Geological Survey.

PHYSIOGRAPHY OF SOUTHERN ONTARIO



LAMBERT CONFORMAL CONIC PROJECTION STANDARD PARALLELS 42°49' AND 45°5'

COMPILED FROM INFORMATION SUPPLIED BY THE ONTARIO RESEARCH FOUNDATION



LEGEND

- BOREHOLE LOCATION IN PLAN
- SITE BOUNDARY

REFERENCE

Base plan provided by Petroff Partnership Architects entitled, "SITE PLAN", Project No. 11107, Drawing No. SD-005, Dated July 8, 2011.

50 0 50

Scale 1 : 2,000 m

PROJECT: PRELIMINARY GEOTECHNICAL INVESTIGATION
AIRPORT ROAD AND MAYFIELD ROAD
CALEDON, ONTARIO

TITLE: **BOREHOLE LOCATION PLAN**

Golder Associates

PROJECT No.	11-1111-0100(2000)	FILE No.	AA02
DESIGN		SCALE	AS SHOWN REV. 0
CADD	PJV	Nov. 2011	FIGURE 2
CHECK	RA	Nov. 2011	
REVIEW			

Drawing file: \\Don1-s-filesrv1\data\CAD\Projects\2011\11-1111-0100 (SmartCentres, Caledon)\--AA--\11111101000AA02.dwg Nov 15, 2011 - 1:59pm

PROJECT: 11-1111-0100 (1000)

RECORD OF BOREHOLE: BH1

SHEET 1 OF 1

LOCATION: Caledon, ON, SEE FIGURE 1

BORING DATE: June 28, 2011

DATUM: MSL, NAD 83

SPT/DCPT HAMMER: MASS, 64kg; DRDP, 546mm

HAMMER TYPE:

HAMMER DETAILS:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	TRACK MOUNTED POWER AUGER, 150mm Diameter Solid Stem Augers, Automatic Hammer	GROUND SURFACE		236.00							
		TOPSOIL		0.00							
				235.59	1	50 DO	11				
		Brown CLAYEY SILT, trace sand, trace gravel		0.41							
				235.39							
		Very stiff to hard brown mottled SILTY CLAY, trace sand, trace gravel, rusty, oxidation staining		0.61							
1					2	50 DO	21				
					3	50 DO	36				
2											
				233.49	4A	50 DO	29				
		Compact brown SILT, trace sand, trace clay, trace gravel			4B						
				233.10							
3		Very stiff to stiff grey SILTY CLAY, trace sand, trace gravel		2.90							
					5	50 DO	16				
4											
					6	50 DO	11			MH	
5											
6					7	50 DO	14				
				229.45							
		END OF BOREHOLE		6.55							
7											
8											
9											
10											

Borehole open to a depth of 6.1mbgs upon completion of drilling, June 28, 2011

Borehole dry upon completion of drilling June 28, 2011

GTA-BHS 001 1111110100.GPJ GAL-MIS.GDT 2/10/12

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: RA

CHECKED: RA

PROJECT: 11-1111-0100(1000)

RECORD OF BOREHOLE: BH2

SHEET 1 OF 1

LOCATION: Caledon, ON, SEE FIGURE 1

BORING DATE: June 28, 2011

DATUM: MSL, NAD 83

SPT/DCPT HAMMER: MASS, 64kg; DROP, 546mm

HAMMER TYPE:

HAMMER DETAILS:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊢ W ⊣ Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	TRACK MOUNTED POWER AUGER, 150mm Diameter Solid Stem Augers, Automatic Hammer	GROUND SURFACE		234.46							
		TOPSOIL		0.00 / 233.99	1	50 DO	6				
		Dark brown CLAYEY SILT, trace sand, trace gravel		0.41 / 233.79							
		Stiff to hard brown mottled SILTY CLAY, trace sand, trace gravel, rusty oxidation staining		0.61	2	50 DO	19				
					3	50 DO	25				
					4	50 DO	43				
					5	50 DO	43				
		- Becoming grey			6	50 DO	18				
					7	50 DO	13				
					8	50 DO	20				
8		END OF BOREHOLE		226.32 / 8.08							Borehole open to a depth of 7.2mbgs upon completion of drilling, June 28, 2011 Borehole dry upon completion of drilling June 28, 2011
9											
10											

GTA-BHS 001 1111101000.GPJ GAL-MIS.GDT 2/10/12

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: RA

CHECKED: RA

PROJECT: 11-1111-0100(1000)

RECORD OF BOREHOLE: BH3

SHEET 1 OF 1

LOCATION: Caledon, ON, SEE FIGURE 1

BORING DATE: June 28, 2011

DATUM: MSL, NAD 83

SPT/DCPT HAMMER: MASS, 64kg; DROP, 546mm

HAMMER TYPE:

HAMMER DETAILS:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp, W, Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		233.80									
		TOPSOIL		0.00	1	50 DO	5						
				233.42									
		Very stiff brown mottled CLAYEY SILT, trace sand, trace gravel, rootlets		0.38									
				232.89	2A								
1		Stiff to hard brown mottled SILTY CLAY, trace sand, trace gravel		0.91	2B	50 DO	21						
					3	50 DO	25						
2					4	50 DO	30						
3					5	50 DO	21						
4		- Becoming grey with sand seams											
					6	50 DO	13						
5													
6					7	50 DO	12						
7													
8					8	50 DO	15						
9													
					9	50 DO	28						
				224.20									
		END OF BOREHOLE		9.60									
10													

BORING METHOD: 178ACK MOUNTED POWER AUGER; 150mm Diameter Solid Stem Augers, Automatic Hammer

Borehole open to a depth of 9.1mbgs upon completion of drilling, June 28, 2011

Borehole dry upon completion of drilling June 28, 2011

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: RA

CHECKED: RA

GTA-BHS 001 11111010O.GPJ GAL-MIS.GDT 2/10/12

PROJECT: 11-1111-0100(1000)

RECORD OF BOREHOLE: BH4

SHEET 1 OF 1

LOCATION: Caledon, ON, SEE FIGURE 1

BORING DATE: June 28, 2011

DATUM: MSL, NAD 83

SPT/DCPT HAMMER: MASS, 64kg; DROP, 546mm

HAMMER TYPE:

HAMMER DETAILS:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		234.20				SHEAR STRENGTH Cu, kPa (nat V. +, rem V ⊕; Q - ●, U - ○) (20 40 60 80)	WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)		
0	TRACK MOUNTED POWER AUGER, 150mm Diameter Solid Stem Augers, Automatic Hammer	TOPSOIL		0.00							
				233.95	1	SS DO	5				
		Very stiff brown mottled CLAYEY SILT, trace to some sand, trace gravel, rootlets, topsoil inclusions		0.25							
1					2	SS DO	23				
				232.83							
		Compact brown SANDY SILT, trace clay, trace gravel (weathered) (TILL)		1.37							
				232.52	3A						
2		Stiff to hard brown to light brown mottled SILTY CLAY, trace sand, trace gravel, sand seams		1.68	3B	SS DO	16				
					4	SS DO	36				
3					5	SS DO	34				
4		- Becoming grey									
					6	SS DO	15				
5											
6					7	SS DO	15				
				227.65							
		END OF BOREHOLE		6.55							
7											Borehole open to a depth of 6.1mbgs upon completion of drilling, June 28, 2011
											Borehole dry upon completion of drilling June 28, 2011
8											
9											
10											

GTA-BHS 001 1111110100.GPJ GAL-MIS.GDT 2/10/12

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: RA

CHECKED: RA

PROJECT: 11-1111-0100(1000)

RECORD OF BOREHOLE: BH5

SHEET 1 OF 1

LOCATION: Caledon, ON, SEE FIGURE 1

BORING DATE: June 29, 2011

DATUM: MSL, NAD 83

HAMMER TYPE:

SPT/DCPT HAMMER: MASS, 64kg; DROP, 546mm

HAMMER DETAILS:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (20 40 60 80) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		229.10									
0	TRACK MOUNTED POWER AUGER; 150mm Diameter Solid Stem Augers, Automatic Hammer	TOPSOIL		0.00	1	SS	6						Bentonite
		Brown mottled CLAYEY SILT, trace sand, trace gravel, rootlets		228.69 0.41 228.49									
		Stiff to hard brown mottled SILTY CLAY, trace sand, trace gravel, rusty oxidation staining		0.61	2	SS	20						
1					3	SS	40						
2					4	SS	29						Cuttings
3					5	SS	28						
													Bentonite
4		- Becoming grey											Sand and pipe
					6	SS	12						July 7, 2011
5													Screen and Sand
6					7A	SS	22						
		Compact grey SILTY SAND, trace clay, trace gravel (TILL)		222.70 6.40	7B								
		END OF BOREHOLE		6.55									
7													
8													
9													
10													

Borehole open to a depth of 6.1mbgs upon completion of drilling, June 29, 2011

Borehole dry upon completion of drilling June 29, 2011

Water level measured in piezometer at a depth of 4.5 mbgs on an elevation of 229.10 m, July 7, 2011

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: RA

CHECKED:

GTA-BHS 001 1111101000.GPJ GAL-MIS.GDT 2/10/12

PROJECT: 11-1111-0100(1000)

RECORD OF BOREHOLE: BH6

SHEET 1 OF 1

LOCATION: Caledon, ON, SEE FIGURE 1

BORING DATE: June 29, 2011

DATUM: MSL, NAD 83

HAMMER TYPE:

SPT/DCPT HAMMER: MASS, 64kg; DROP, 546mm

HAMMER DETAILS:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V +, rem V ⊕, Q ●, U ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-4} 10^{-5} 10^{-6} 10^{-7})	WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		233.60									
0	TRACK MOUNTED POWER AUGER 165mm Diameter Solid Stem Augers, Automatic Hammer	TOPSOIL		0.00 / 233.19	1	SS DO	10						
		Brown CLAYEY SILT, trace sand, trace gravel, rootlets		0.41 / 233.19									
		Stiff to hard brown mottled SILTY CLAY, trace sand, trace gravel, rusty oxidation staining, cobbles		0.61	2	SS DO	22						
1													
					3	SS DO	35						
2													
					4	SS DO	29						
3													
					5	SS DO	23						
4		- Becoming grey											
					6	SS DO	17						
5													
					7	SS DO	15						
6				227.05									
		END OF BOREHOLE		6.55									Borehole open to a depth of 6.1mbgs upon completion of drilling, June 29, 2011 Borehole dry upon completion of drilling June 29, 2011
7													
8													
9													
10													

GTA-BHS 001 1111110100.GPJ GAL-MIS.GDT 2/10/12

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: RA

CHECKED: RA

RECORD OF BOREHOLE: BH7

PROJECT: 11-1111-0100(1000)

SHEET 1 OF 1

LOCATION: Caledon, ON, SEE FIGURE 1

BORING DATE: June 29, 2011

DATUM: MSL, NAD 83

HAMMER TYPE:

SPT/DCPT HAMMER: MASS, 64kg; DROP, 546mm

HAMMER DETAILS:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V +, rem V ⊕, Q-●, U-○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	TRACK MOUNTED POWER AUGER 150mm Diameter Solid Stem Augers, Automatic Hammer	GROUND SURFACE		225.50							
		TOPSOIL		0.00	1	50 DO	7				Bentonite
				225.02							
1		Very stiff brown mottled CLAYEY SILT, trace sand, trace gravel, grey pockets		0.48	2	50 DO	28				
				224.13							
		Stiff to hard brown mottled SILTY CLAY, trace sand, trace gravel		1.37	3	50 DO	35				
2					4	50 DO	28				
											Cuttings
3					5	50 DO	27				
4		- Becoming grey with sand seams									
					6	50 DO	12				
5											Bentonite
											Sand and pipe
6					7	50 DO	12				
											Screen and sand
7											July 7, 2011
					8	50 DO	18				
8				217.42							
		END OF BOREHOLE		8.08							
9											
10											

Borehole open to a depth of 7.6mbgs upon completion of drilling, June 29, 2011

Borehole dry upon completion of drilling June 29, 2011

Water level measured in piezometer at a depth of 7.0 mbgs on an elevation of 225.50 m, July 7, 2011

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: RA

CHECKED:

GTA-BHS 001 1111101000.GPJ GAL-MIS.GDT 2/10/12

PROJECT: 11-1111-0100(1000)

RECORD OF BOREHOLE: BH8

SHEET 1 OF 1

LOCATION: Caledon, ON, SEE FIGURE 1

BORING DATE: June 28, 2011

DATUM: MSL, NAD 83

SPT/DCPT HAMMER: MASS, 64kg; DROP, 546mm

HAMMER TYPE:

HAMMER DETAILS:

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu. kPa nat V, + Q - ● rem V. ⊕ U - ○ (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	TRACK MOUNTED POWER AUGER 150mm Diameter Solid Stem Augers, Automatic Hammer	GROUND SURFACE		231.70							
		TOPSOIL		0.00 231.32	1	SS DO	10				
		Brown CLAYEY SILT, trace sand, trace gravel, rusty oxidation staining		0.38 231.09							
		Stiff to hard brown to light brown mottled SILTY CLAY, trace sand, trace gravel, rusty, oxidation staining		0.61	2	SS DO	12				
1											
					3	SS DO	25				
2											
					4	SS DO	43			MH	
3											
					5	SS DO	28				
4				227.56							
		Stiff grey CLAYEY SILT, trace sand, trace gravel (TILL)		4.01							
					6	SS DO	14				
5				226.14							
		Stiff to very stiff grey SILTY CLAY, trace to some sand, trace gravel, pockets of sandy silt, sand seams		5.59							
6											
					7	SS DO	15				
7											
					8	SS DO	21				
8				223.62							
		END OF BOREHOLE		8.08							Borehole open to a depth of 7.6mbgs upon completion of drilling, June 28, 2011 Borehole dry upon completion of drilling June 28, 2011
9											
10											

GTA-BHS 001 1111110100 GPJ GAL-MIS.GDT 2/10/12

DEPTH SCALE

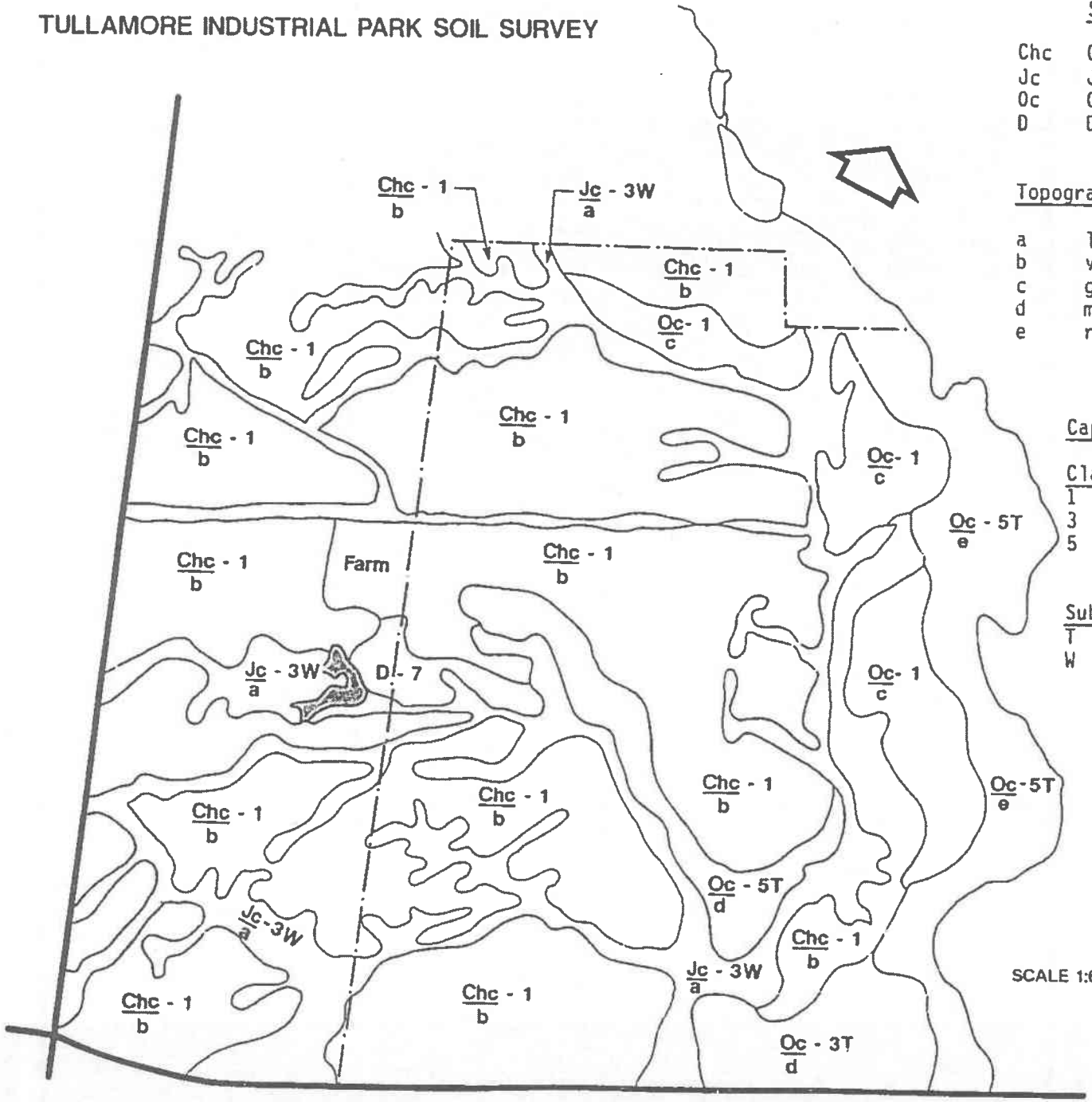
1 : 50

Golder Associates

LOGGED: RA

CHECKED:

TULLAMORE INDUSTRIAL PARK SOIL SURVEY



	Soil Type	Drainage
Chc	Chinquacousy Loam	Imperfect
Jc	Jeddo Loam	Poor
Oc	Oneida Loam	Gooc
D	Disturbed Area	

Topography

a	level (0-0.5%)
b	very gently sloping (0.5-2.0%)
c	gently sloping (2.0-5.0%)
d	moderately sloping (6.0-9.0%)
e	rolling (10-16%)

Capability Classification

Class
1 No significant limiting factors
3 Moderately severe limiting factors
5 Severe limitations to the production of common field crops

Subclass
T Topography
W Wetness

Soil Type — Oc - 5T — Class
Slope — e — Subclass

SCALE 1:6600

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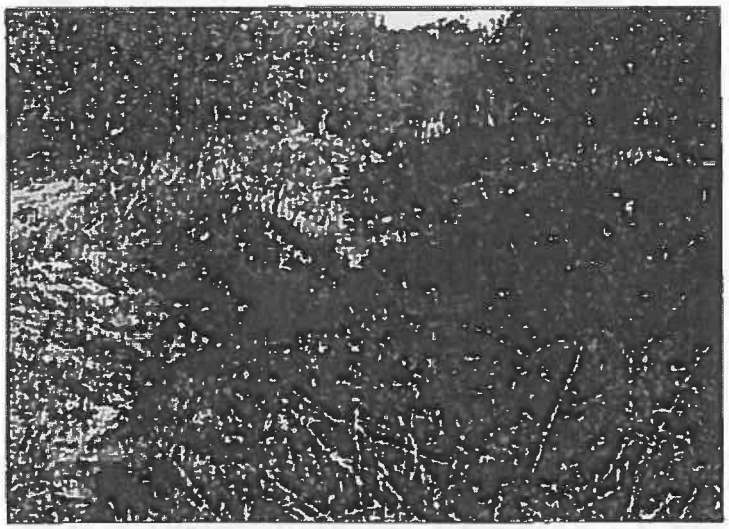
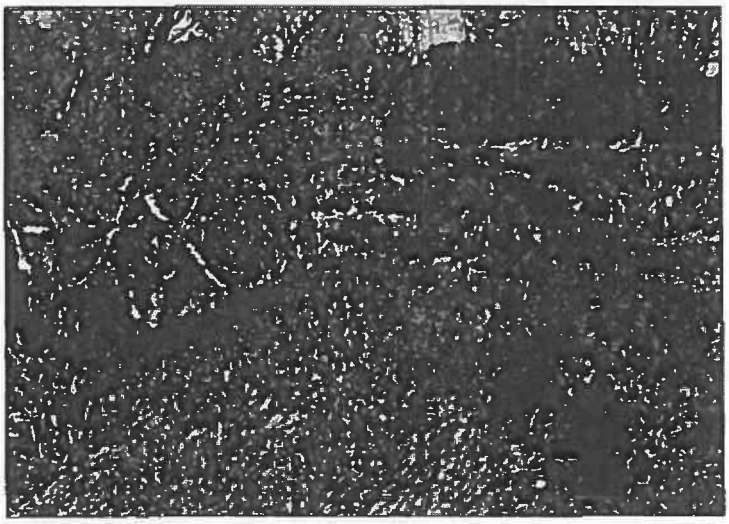


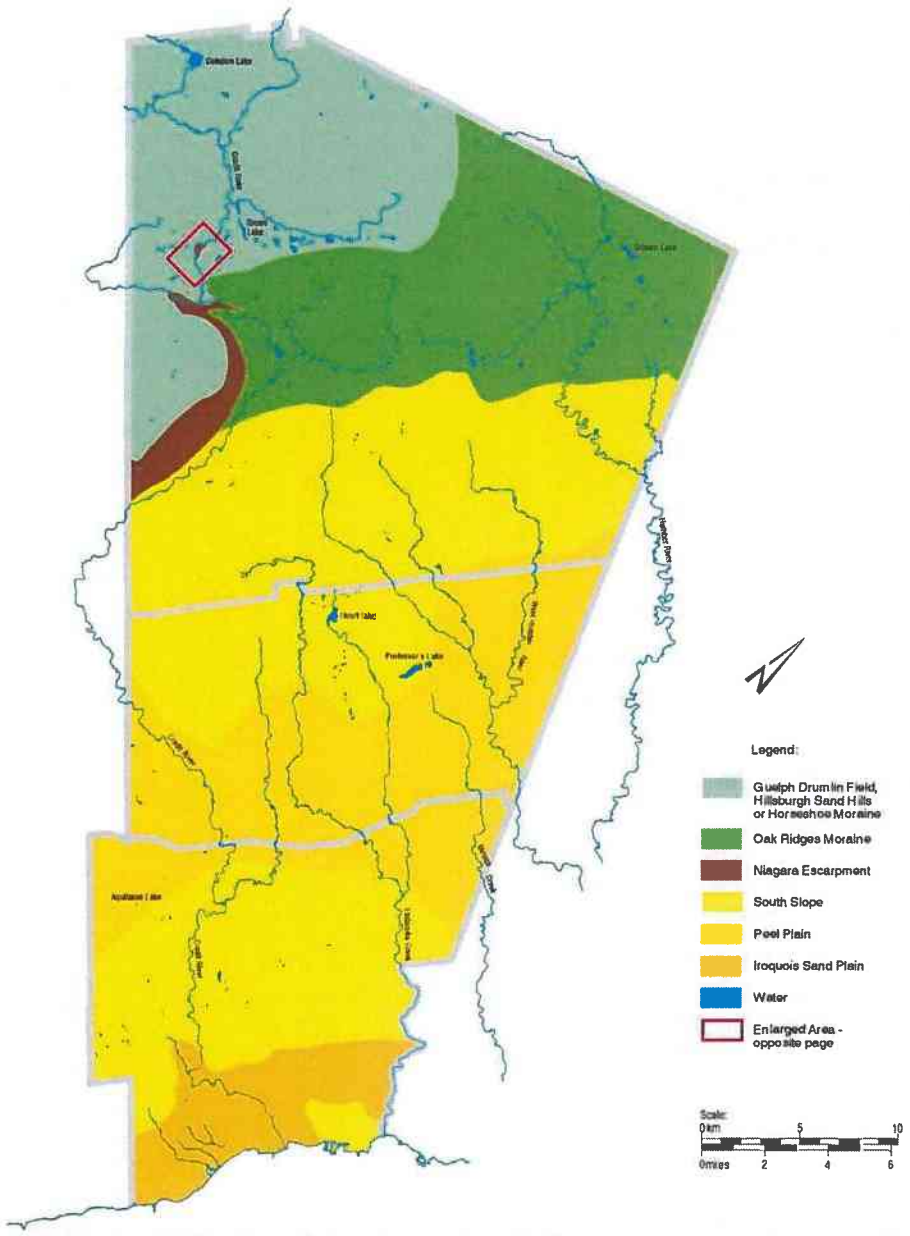
Site Photo #2: Salt Creek Tributary (looking downstream)



Site Photo #3: Salt Creek (adjacent to proposed SWM pond)

2.3. Existing Soil Conditions

Golder Associates Ltd. advanced 21 boreholes on the site in February 2005 to determine the existing soils conditions and assess groundwater levels. The thickness of topsoil ranged from 150 mm to 460 mm. Underlying the topsoil, the subsoil conditions generally consisted of clayey silt till, transitioning to silty clay till at depths below 1.5 m to 4.6 m. Shale bedrock was encountered below the silty clay till in several of the boreholes. No significant groundwater seepage was observed during the advance of the boreholes and the shallowest groundwater depth was 2.9 m.

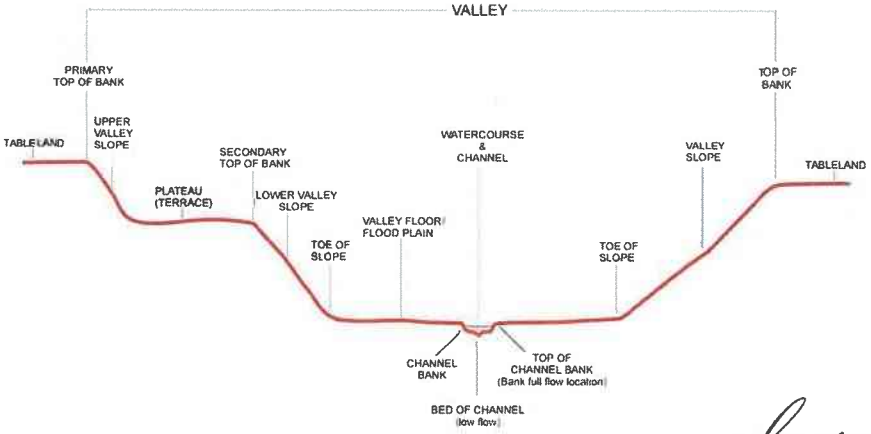


Landform

A physiographic region is an area of land that has a similar landform, topography, geology and soils. The natural landscape of Peel Region is the result of the action of glaciers that once covered southern Ontario. The physiography of Peel has a significant influence on the present Regional planning issues, including protection of distinct landforms and landscapes, as well as the sustainable use of mineral aggregate and agricultural resources.

The bedrock of the Niagara Escarpment survived erosion by glacial action to produce a landform of significant ecological and scenic value. The Niagara Escarpment is also the source of many rivers, and provides places to live for many plant and animal species. The action of moving ice and water resulted in deposits of mineral aggregate material varying from sand to boulders. The Oak Ridges Moraine is a massive ridge of sand and gravel that performs essential ecological functions, including the recharge and storage of groundwater. The Peel Plain, South Slope and Iroquois Plain are high quality agricultural areas that are under development pressure or have been developed for urban uses.

The valley corridors of the Credit and Humber Rivers, and the Etobicoke and Mimico Creeks represent distinct scenic landforms that cut across the plains of the Region and provide essential natural corridors for wildlife.

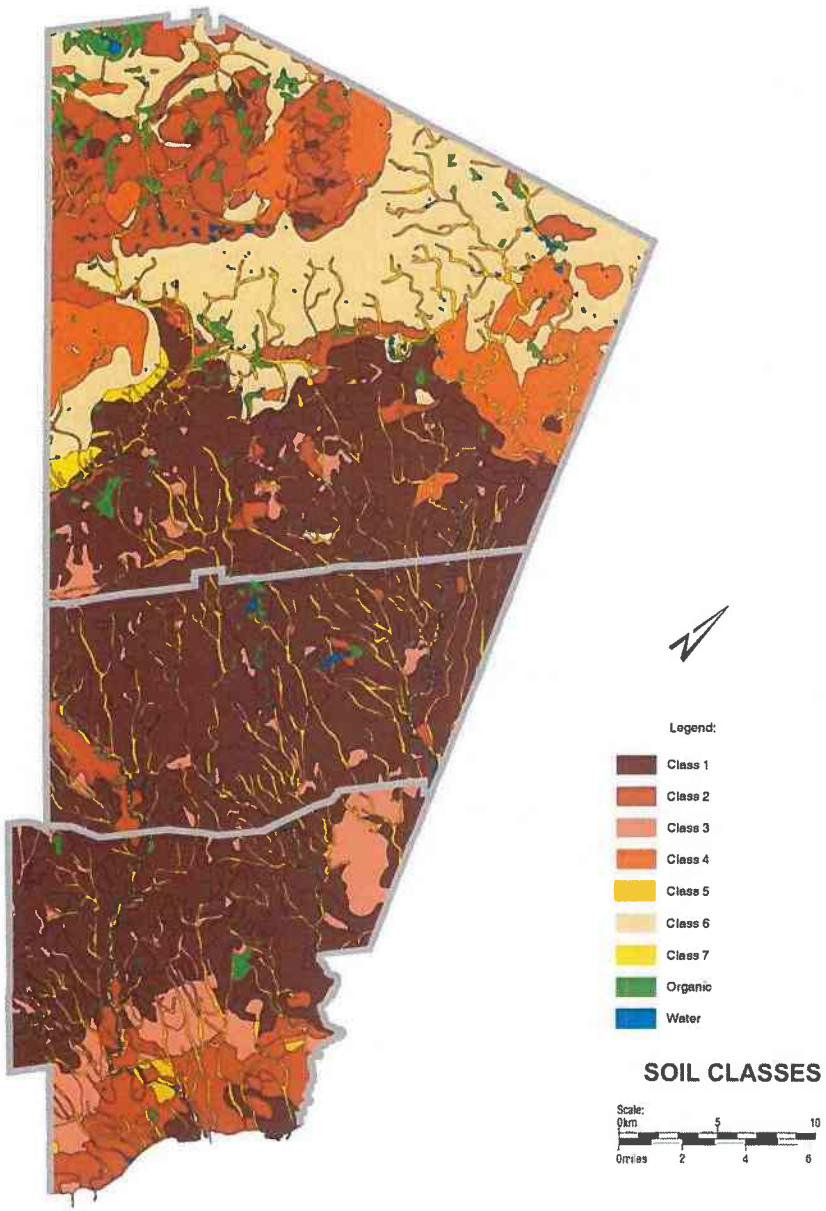


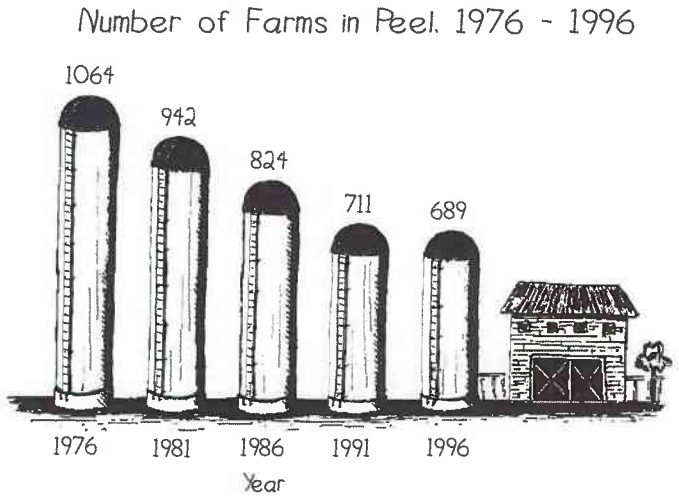
Agriculture/Soils

Despite the fact that Peel Region continues to experience steady urbanization, agriculture remains an important economic activity and way of life. Since around the turn of the century, the amount of agricultural land has generally been in a steady decline in Ontario. Urban areas have been expanding and some marginal farmlands have been abandoned to natural regeneration. Farmland located close to growing urban areas is under pressure for urban development. It is well suited to accommodate urban development as it is cleared of forest, level and well-drained.

A prime agricultural area is one that has the best soils for agriculture. The best soils are classified as Canada Land Inventory Class 1-3. Only 0.5 per cent of Canada's land is designated as Class 1, and half of this land is located in southern Ontario. The Region of Peel has identified a large part of the remaining prime agricultural land in the Region as Prime Agricultural Area in order to preserve it for agricultural uses. This area includes the majority of the land in the southern part of Caledon, as well as the land outside the urbanized area on the west of Brampton.

Question 2:
If the total area of farms in Peel was 155,507 acres in 1976 and 120,026 acres in 1996, what was the change in the average farm size in the Region over that time period? Answer on page 31





planning Peel

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A REPORT TO
2048138 ONTARIO LIMITED

A GEOTECHNICAL INVESTIGATION FOR PROPOSED INDUSTRIAL/COMMERCIAL DEVELOPMENT

6086, 6186, 6230 MAYFILED ROAD AND 12151 AIRPORT ROAD

TOWE OF CALEDON

REFERENCE NO. 2307-S067

SEPTEMBER 2023

DISTRIBUTION

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1.0 INTRODUCTION

In accordance with the written authorization dated between July 10 and 12, 2023 from Mr. Jarnail Singh Sidhu (6086 Mayfield Inc.), Mr. Inderjit Dhugga (6230 Mayfield Inc. and Airport 12151 Inc.) and Mr. Mandeep Singh Sahi (2652876 Ontario Limited), a geotechnical investigation was conducted on the multiple land parcels located at the northeast quadrant of Mayfield Road and Airport Road in the Town of Caledon.

The purpose of the investigation was to reveal the subsurface conditions and to determine the engineering properties of the disclosed soils for the design and construction of the proposed industrial development. The findings and resulting geotechnical recommendations are presented in this report.

2.0 SITE AND PROJECT DESCRIPTION

The Town of Caledon is situated on Halton till plain where the drift dominates the soil stratigraphy. In places, lacustrine sand, silt, clay and drift which have been reworked by the water action of Peel Ponding (glacial lake) have modified the drift stratigraphy.

The subject site, consisting of multiple land parcels having municipal addresses of 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, is located at the northeast quadrant of Mayfield Road and Airport Road.

At the time of investigation, majority of the site was gravel covered, used for transportation terminal, vehicle parking and storage of truck container; the remaining areas were vacant and generally grass-covered. Multiple single-storey structures were evident in places. The existing site gradient generally descend towards the southeast and the maximum grade difference of approximately 8 m.

It is understood that the subject site will be utilized for industrial purposes. Details of the developments, however, are not available for review at the time of the report preparation.

3.0 FIELD WORK

The field work, consisting of twenty-four(24) sampled boreholes extending to depths of 6.2 to 8.1 m below grade, was completed between August 3 and 9, 2023. The locations of the boreholes are shown on Drawing No. 1.

The boreholes were advanced at intervals to the sampling depths by a track-mounted machine equipped with split spoon sampler for soil sampling. Split spoon samples were recovered for soil classification and laboratory testing. Standard Penetration Tests, using the procedures described on the enclosed "List of Abbreviations and Terms", were performed at the sampling depths. The test results are recorded as the Standard Penetration Resistance (or 'N' values) of the subsoil. The relative density of the non-cohesive strata and the consistency of the cohesive strata are inferred from the 'N' values. The field work was supervised and the findings recorded by a Geotechnical Technician.

Upon completion of borehole drilling, 50-mm diameter PVC monitoring wells were installed in selected boreholes to facilitate groundwater monitoring and the hydrogeological assessment. Details of the well installation are presented in the corresponding borehole logs.

The geodetic elevation at each of the borehole locations was obtained using the Global Navigation Satellite System (GNSS).

4.0 SUBSURFACE CONDITIONS

The boreholes were drilled across the gravel yard and vacant areas. The investigation has disclosed that beneath the granular fill, a topsoil veneer and a layer of earth fill in places, the site is underlain by strata of silt, silty clay, silty clay till and sandy silt till. Shale bedrock is contacted near the termination depth of Borehole 20.

Detailed descriptions of the encountered subsurface conditions are presented on the Borehole Logs, comprising Figures 1 to 24, inclusive. The revealed stratigraphy is plotted on the Subsurface Profile, Drawing No. 2 to 4. The engineering properties of the disclosed soils are discussed herein.

4.1 Topsoil

A layer of topsoil, approximately 30 cm to 35 cm in thickness, was encountered at the ground surface of Boreholes 1, 2, 19 and 20. Thicker topsoil may be encountered in treed area or localized low-lying areas beyond the borehole locations.

4.2 Pavement Structure

Boreholes 6, 16, 18, 22, 24 were carried out on the asphalt pavement, which consists of a layer of asphalt, approximately 30 mm to 100 mm in thickness, and a layer of granular fill, approximately 280 to 450 mm in thickness.

Other boreholes were carried out on unpaved gravel surface, having a layer of granular fill with thickness ranging from 150 mm to 600 mm.

4.3 Earth Fill

Beneath the surface cover, a layer of earth fill was contacted in Boreholes 1, 4, 5, 8, 9, 11, 13, 15, 16, 18, 22, 23, and 24, extending to a depth of 0.8 to 2.0 m below the ground surface. The fill consists of a mixture of silty clay and sandy silt with gravel, organics and topsoil inclusions. Shale fragments were occasionally found within the earth fill.

The recorded 'N' values range from 10 to 45, with a median of 20 blows per 30 cm of penetration, showing that the fill was likely placed with quality control, and that the surface of the fill may have been weakened by weathering at places.

The natural water content values of the fill samples range from 3% to 45%, with a median of 12%, indicating the fill is in damped to moist conditions. Higher moisture values may depict the presence of topsoil/organics or trapped precipitation in the fill.

One must be aware that the samples retrieved from the borehole may not be truly representative of the geotechnical and environmental quality of the earth fill. The extent of the fill and the quality of the fill can be assessed by laboratory testing and/or test pits if necessary.

4.4 Sandy Silt Till

A layer of sandy silt till deposit was contacted at various depth of Boreholes 14, 18 and 19. The till consists of a mixture of clay and gravel, with silt and sand being the dominant fraction.

The recorded 'N' values range from 3 to 100, with a median of 20 blows per 30 cm of penetration, indicating the sandy silt till is very loose to very dense, being generally compact in relative density. The low 'N' values were encountered near the ground surface, indicating that the ground surface is either disturbed and/or weakened by weathering.

The natural water content values range from 7% to 22%, with a median of 13%, indicating that the sandy silt till is generally in moist condition.

The engineering properties of the till deposit are given below:

- High frost susceptibility and low water erodibility.
- The till will be relatively stable in steep excavation; however, prolonged exposure may lead weathering of the sand and silt layers within the till, which may cause localized sloughing.

4.5 Silty Clay Till

The silty clay till deposit was contacted within the investigated depths of all boreholes except Borehole 15. Localized silt and sand layers were occasionally contacted in the lower stratigraphy of the till deposit. The silty clay till consists of a random mixture of particle sizes with clay or silt being the dominant fraction. Grain size analyses were performed on 3 representative samples; and the results are plotted on Figures 25.

Atterberg Limits test was also completed on one (1) sample of the silty clay till. The resulting Liquid Limit and Plastic Limit are 35% and 19% respectively, showing that the silty clay till is medium in plasticity. The natural water content values ranged from 7% to 25% with a median of 19%, showing generally moist condition.

The recorded 'N' values of the soil samples range from 11 to over 100, with a median of 24 blows per 30 cm of penetration, indicating that the silty clay till is stiff to hard, being generally very stiff in consistency.

The engineering properties of the silty clay till are given below:

- High frost susceptibility and high soil-adfreezing potential.
- Low water erodibility.
- In excavation, the silty clay till will generally be stable in relatively steep cuts; however, the silt and sand seams or layers may slough under prolonged exposure.

4.6 Silty Clay

Similar to the silty clay till, the native silty clay stratum was contacted at various depths in most of the boreholes. Grain size analyses were performed on 3 representative samples; and the results are plotted on Figures 26.

The recorded 'N' values range from 10 to 36, with a median of 20 blows per 30 cm of penetration, indicating the silty clay is stiff to hard, being generally very stiff in consistency.

Atterberg Limits test was completed on one (1) sample of the silty clay. The resulting Liquid Limit and Plastic Limit are 40% and 20% respectively, showing that the silty clay is medium in plasticity. The natural water content values range from 13% to 29%, with a median of 23%, indicating that the silty clay is generally in a moist condition.

The engineering properties of silty clay are listed below:

- High frost susceptibility and low water erodibility.
- The clay will be relatively stable in steep excavation; however, shrinkage cracks may develop under prolonged exposure, which may lead to localized sheet collapses

4.7 Silt

A layer of silt deposit was contacted beneath the silty clay till in Borehole 4 extending to a depth from 2.6 m to 4.1 m below the ground surface.

The recorded 'N' value is 28 blows per 30 cm of penetration, indicating the silt is compact in relative density. The natural water content value is 20%, indicating that the silt is generally in a very moist condition.

The engineering properties of silt are listed below:

- High frost susceptibility, with high soil-adfreezing potential.
- High water erodibility; the fine particles are susceptible to migration through small openings, particularly under seepage pressure.
- The shear strength is derived from internal friction and is soil density dependent. Due to their dilatancy, the strength of the wet silts is susceptible to impact disturbance; i.e. the disturbance will induce a build-up of pore pressure within the soil mantle, resulting in soil dilation and a reduction in shear strength.
- In excavation, the silt will slowly slump, run with groundwater seepage, and boil under a piezometric head of 0.4 m.

4.8 Shale

Weathered shale was observed at the lower stratigraphy within the investigated depth of Borehole 20.

The recorded 'N' value is over 50 blows per 15 cm of penetration, indicating the shale is being generally very dense in relative density. The natural water content value is 6%.

The quality and strength of the shale, are however, not determined as they are not part of the scope of work.

5.0 GROUNDWATER CONDITION

Upon completion of borehole drilling, groundwater was not evident in all boreholes except for Boreholes 4, 11, 17 and 24, where the recorded groundwater level ranged from 3.1 to 4.9 m below prevailing ground surface.

On August 18, 2023, approximately 2 weeks after well installation, groundwater level was measured from the monitoring wells. The findings were summarized in Table 1.

Table 1- Groundwater Level from Monitoring Wells

BH/MW No.	Ground Elevation (m)	Well Depth (m)	Measured Groundwater on August 18, 2023	
			Depth (m)	Elevation (m)
1	237.6	6.1	Dry	231.5
2	237.2	6.3	6.1	231.1
5	236.0	6.1	4.5	231.5
7	233.6	5.9	1.8	231.8
8	233.8	6.1	0.6	233.2
9	231.5	6.1	5.2	226.3
10	233.2	6.2	3.7	229.5
11	232.4	6.2	1.0	231.4
13	233.4	6.1	0.5	232.9
19	229.6	6.1	5.3	224.3
20	227.9	5.9	5.5	222.4
21	230.9	6.1	0.7	230.2
22	231.0	6.1	1.5	229.5

Groundwater level from the monitoring wells was recorded at the depths ranging from 0.5 to 6.1 m below the prevailing ground surface, or between El. 222.4 m and El. 236.3 m, which is subject to seasonal fluctuations. Detailed groundwater condition within the investigated area will be discussed in the hydrogeological report, under separate cover.

6.0 DISCUSSION AND RECOMMENDATIONS

The investigation has disclosed that beneath the pavement structure and a layer of earth fill or a topsoil veneer, the site is underlain by strata of silty clay and silty clay till with localized sandy silt till, silt and weathered shale layers.

Groundwater level from the monitoring wells was recorded at the depths ranging from 0.5 to 6.1 m below the prevailing ground surface, or between El. 222.4 m and El. 236.3 m, which is subject to seasonal fluctuations.

It is understood that the subject site will be utilized for industrial purposes. Details of the developments, however, are not available for review at the time of the report preparation. The geotechnical findings warranting special consideration for the proposed development are presented below:

1. The topsoil must be stripped for site development. It can only be reused in the landscaped area. Otherwise, it must be removed off-site.
2. The cavity of any demolished structure must be properly backfilled with compacted inorganic soil prior to site grading. All debris must be removed off-site.
3. The existing earth fill and granular fill consisted excessive amount of recycled material, which is considered unsuitable for supporting any structures sensitive to movement. It must be subexcavated, sorted free of organics and other deleterious material before reusing for structural backfill or engineered fill construction. If they cannot be segregated, they must be removed off site.
4. Where the site will be graded with additional fill, the earth fill can be constructed in an engineered manner for foundation, slab-on-grade, site services and pavement construction.
5. While detailed design is not available for review, it is anticipated that the site will be constructed with single-storey slab-on-grade industrial buildings. These buildings can be supported on conventional spread and strip footings, founded on the engineered fill and/or sound native soils. The foundation subgrade must be inspected by a geotechnical engineer before pouring the concrete foundation.
6. A Class ‘B’ bedding, consisting of compacted 19-mm Crusher-Run Limestone (CRL) or equivalent, is recommended for the construction of the underground services. The service pipes must consist of leak-proof joints, or the joints must be wrapped with a waterproof membrane.
7. Any excavation must be carried out in accordance with the O.Reg. 213/91.

The recommendations appropriate for the project are presented herein. One must be aware that the subsurface conditions may vary. Should this become apparent during construction, a geotechnical engineer must be consulted to determine whether the following recommendations require revision.

6.1 Site Preparation

Topsoil must be stripped for site development and can be used for landscaping purpose only. Any surplus must be removed off-site. The existing structures must be demolished and the cavities should be properly backfilled with inorganic soil, compacted to engineered fill specifications.

The existing earth fill is not suitable for supporting the proposed structures at its current state. It must be subexcavated, sorted free of organics and properly compacted to engineered fill specifications.

Where the site will be re-graded with additional fill, the fill can be constructed as engineered fill for foundation, site services and pavement construction. The engineering requirements for a certifiable fill are presented below:

1. The exposed subgrade must be inspected and proof-rolled prior to any fill placement. Badly weathered soil should be sorted free of organics or deleterious material, if any, aerated prior to reuse for engineered fill construction.
2. Inorganic soils must be used, and they must be uniformly compacted in 20 cm thick lifts to at least 98% SPDD up to the proposed finished grade. The soil moisture must be properly controlled near the optimum. If the foundations are to be built soon after the fill placement, the densification process for the engineered fill must be increased to 100% SPDD.
3. If the engineered fill is compacted with the water content on the wet side of the optimum, the underground services and pavement construction should not begin until the pore pressure within the fill mantle has completely dissipated. This must be further assessed at the time of the engineered fill construction.
4. If imported fill is to be used, it should be inorganic soils, free of deleterious or any material with environmental issue (contamination). Any potential imported earth fill from off site must be reviewed for geotechnical and environmental quality by the appropriate personnel as authorized by the developer or agency, before it is hauled to the site.
5. The engineered fill must not be placed during the period where freezing ambient temperatures occur either persistently or intermittently. This is to ensure that the fill is

free of frozen soils, ice and snow. If the engineered fill is to be left over the winter months, adequate earth cover, or equivalent, must be provided for protection against frost action.

6. The fill operation must be supervised and monitored in full time basis by a technician under the direction of a geotechnical engineer.
7. The engineered fill envelope and finished elevations must be clearly and accurately defined in the field, and they must be precisely documented.
8. Any excavation carried out in certified engineered fill must be reported to the geotechnical consultant who supervised the fill replacement in order to document the locations of the excavation and/or to supervise reinstatement of the excavated areas to engineered fill status. If construction on the engineered fill does not commence within a period of 2 years from the date of certification, the condition of the engineered fill must be assessed for re-certification.
9. Foundations founded on the engineered fill must be reinforced and should be designed by a structural engineer to allow distribution of stress induced by the abrupt differential settlement (about 20 mm) in the engineered fill.
10. The foundation and underground services subgrade must be inspected by the geotechnical consulting firm that supervised the engineered fill placement. This is to ensure that the foundations and service pipes are placed within the engineered fill envelope, and the integrity of the fill has not been compromised by interim construction, environmental degradation and/or disturbance by the footing excavation.

6.2 **Foundations**

The proposed structures can be supported by conventional spread and strip footings, founded on engineered fill or sound native soil stratum. The recommended bearing pressures for the design of conventional footings are presented below.

- Maximum Soil Bearing Pressure at Serviceability Limit State (SLS) = 150 kPa
- Factored Ultimate Bearing Pressure at Ultimate Limit State (ULS) = 250 kPa

The total and differential settlements of the footings designed using bearing pressure at SLS are estimated to be 25 mm and 20 mm, respectively.

The foundation subgrade should be inspected by the geotechnical engineer or a senior geotechnical technician to ensure that the revealed conditions are compatible with the foundation design requirements.

Higher soil bearing pressures may be available for foundation design, subject to review of the site grading plan, which is currently not available for review.

Foundations exposed to weathering and in unheated areas must have at least 1.2 m of earth cover for frost protection, or must be properly insulated.

The building foundation should meet the requirements specified in the latest Ontario Building Code and the structures should be designed to resist an earthquake force using Site Classification 'D' (stiff soil).

The foundation walls must be backfilled with free-draining, non frost susceptible granular material, compacted to 98% SPDD, in lifts no more than 200 mm in thickness. Alternatively, where inorganic soil is used for foundation wall backfill, the foundation walls must be shielded with a polyethylene slip membrane extending to the frost penetration depth.

6.3 Slab-On-Grade Construction

The subgrade for slab-on-grade construction must be constructed on sound native soil or properly compacted engineered fill. The subgrade should be inspected and assessed by proof-rolling. Any loose subgrade identified should be subexcavated and replaced with inorganic material, compacted to at least 98% SPDD, in lifts no more than 20 cm in thickness.

The concrete slab should be constructed on a granular base of minimum 200 mm thick, consisting of 19-mm Crusher- Run Limestone (CRL), or equivalent, compacted to 100% SPDD. A Modulus of Subgrade Reaction of 25 MPa/m can be used for the design of the slab-on-grade.

The exterior grading around the structure must be such that it directs runoff away from the structure.

6.4 Truck Loading Docks

In the loading dock area, the subgrade soil will be subject to freezing temperature. It is recommended that the backfill behind the loading dock should consist of non-frost susceptible granular material and a 50-mm thick rigid foam insulation should be placed behind the concrete walls exposed to freezing. The foundation walls at the truck loading docks should be designed as a retaining structure using the soil parameters presented in Section 6.8 of this report.

Concrete apron is recommended at the truck loading area and ramp. The apron should be constructed on a compacted granular bedding, 300 mm in thickness, consisting of 19-mm CRL, or equivalent. Perforated subdrain may be used to drain the subsurface water around the concrete pad to prevent any excessive seasonal ground movement.

6.5 Underground Services

The subgrade for underground services should consist of native soil or compacted inorganic earth fill. Where weathered or soft soils are encountered, these materials must be subexcavated and replaced with properly compacted bedding material.

A Class 'B' bedding, consisting of compacted 19-mm CRL, is recommended for the construction of the underground services. The joints connecting into manholes and catch basins should be leak-proof or wrapped with an appropriate waterproof membrane to prevent subgrade migration.

In order to prevent pipe floatation when the sewer trench is deluged with water, a soil cover with a thickness equal to the diameter of the pipe should be in place at all times after completion of the pipe installation. Openings to subdrains and catch basins should be shielded with a fabric filter to prevent blockage by silting.

All metal fittings for the underground services should be protected against soil corrosion. In determining the mode of protection, an estimated electrical resistivity of the disclosed soil can be used. This should be confirmed by testing the soil along the pipe alignment at the time of services construction and must meet the minimum requirement as specified by the municipality.

6.6 Trench Backfilling and Excavated Areas

The in-situ inorganic soils are suitable for use as trench backfill. However, wet soils, if any, should be aerated prior to placement of backfill and compaction. The backfill in the trenches and excavated areas should be compacted to at least 95% SPDD. In the zone within 1.0 m below the pavement subgrade and slab-on-grade, the material should be compacted to at least 98% SPDD with the water content 2% to 3% drier than the optimum. The lift of each backfill layer should either be limited to a thickness of 20 cm, or the thickness should be determined by test strips.

The narrow trenches should be cut at 1 vertical:2 or + horizontal so that the backfill can be effectively compacted. Otherwise, soil arching will prevent the achievement of proper compaction. In normal construction practice, the problem areas of ground settlement largely occur adjacent to manholes, catch basins, service crossings, foundation walls and columns. In areas which are inaccessible to a heavy compactor, sand backfill should be used and compacted using light equipment.

6.7 Pavement Design

The recommended pavement design is presented in Table 2.

Table Error! Bookmark not defined. - Pavement Design

Course	Thickness (mm)	OPS Specifications
Asphalt Surface	40	HL3
Asphalt Binder - Light-Duty Parking - Collector and Heavy-Duty	 65 110	HL8
Granular Base	150	Granular 'A' or equivalent
Granular Sub-base - Light-Duty Parking - Collector and Heavy-Duty	 350 450	Granular 'B' or equivalent

It is necessary to provide a stable and uniform subgrade for the pavement structure. In preparation of the pavement subgrade after fine grading, the subgrade should be free of incompetent soil and it should be proof-rolled in the presence of a geotechnical technician. Any soft spot identified should be subexcavated and replaced by properly compacted inorganic earth fill. The subgrade within the 1.0 m zone below the pavement subgrade should be compacted to at least 98% SPDD with the water content 2% to 3% drier than the optimum.

All the granular bases should be compacted to 100% SPDD.

The pavement subgrade will suffer a strength regression if water is allowed to infiltrate prior to paving. The following measures should therefore be incorporated into the construction and road design:

- If the pavement is to be constructed during the wet season and extremely soft subgrade occurs, the granular sub-base may require thickening. This can be further assessed during construction.

- Along the perimeter where surface runoff may drain onto the pavement, or water may seep into the granular base, a swale or intercept subdrain system should be installed to prevent infiltrating precipitation from seeping into the granular bases (since this may inflict frost damage on the flexible pavement).
- Subdrains consisting of filter-wrapped weepers should be installed in the subgrade along the perimeter of the pavement and the low spots and they should be connected to the catch basins or storm manholes in the paved areas. The subdrains should be placed at least 0.3 m below the subgrade level and backfilled with free-draining granular material.

6.8 Soil Parameters

The recommended soil parameters for the project design are presented in Table 3.

Table Error! Bookmark not defined. - Soil Parameters

Unit Weight and Bulk Factor	**Bulk Unit Weight (kN/m^3)**	**Estimated Bulk Factor**	
		Loose	**Compacted**
Earth Fill	21.0	1.30	0.98
Silty Clay Till/Sandy Silt Till	22.0	1.33	1.03
Silty Clay/Silt	21.0	1.30	1.00
Shale	24.0	1.40	1.15
Lateral Earth Pressure Coefficients	**Active K_a**	**At Rest K_o**	**Passive K_p**
Compacted Earth Fill/Silty Clay	0.39	0.56	2.56
Silty Clay Till/Sandy Silt Till/Silt	0.33	0.50	3.00
Shale	0.17	0.29	5.83
Estimated Coefficients of Permeability (K) and Percolation Time (T)		**K (cm/sec)**	**T (min/cm)**
Silty Clay/Silty Clay Till		10^{-7}	Over 80
Sandy Silt Till		10^{-6} to 10^{-7}	Over 50
Estimated Electrical Resistivities			
Silty Clay/Silty Clay Till		3000 to 3500 ohm.cm	
Sandy Silt Till		4500 ohm.cm	
Silt		4000 ohm.cm	

Coefficients of Friction	
Between Concrete and Granular Base	0.50
Between Concrete and Sound Native Soil	0.35

6.9 Excavation

Excavation should be carried out in accordance with Ontario Regulation 213/91. The types of soils are classified in Table 4.

Table 2 - Classification of Soils for Excavation

Material	Type
Silty Clay, Silty Clay Till, Sandy Silt Till, Weathered Shale	2
Earth Fill and Drained Silt	3
Saturated Silt, if any	4

Due to low permeability of the till strata, any groundwater seepage can be removed by conventional pumps from sumps.

Prospective contractors may be asked to assess the in-situ subsurface conditions for soil cuts by digging test pits to at least 0.5 m below the intended bottom of excavation. These test pits should be allowed to remain open for a few hours to assess the trenching conditions.

7.0 LIMITATIONS OF REPORT

This report was prepared by Soil Engineers Ltd., for the account of 6086 Mayfield Inc., 6230 Mayfield Inc.,2652876 Ontario Limited and Airport 12151 Inc., and for review by the designated consultants, financial institutions and government agencies. Use of this report is subject to the conditions and limitations of the contractual agreement.

The material in the report reflects the judgement of Daric Yang, B.A.Sc. and Kin Fung Li, P.Eng., and in light of the information available to it at the time of preparation. Any use which a Third Party makes of this report, or any reliance on decisions to be made based on it, is the responsibility of such Third Parties. Soil Engineers Ltd. accepts no responsibility for damages, if any, suffered by any Third Party as a result of decisions made or actions based on this report.

SOIL ENGINEERS LTD.

Daric Yang, B.A.Sc.

Kin Fung Li, P.Eng.

DY/KL

LIST OF ABBREVIATIONS AND DESCRIPTION OF TERMS

The abbreviations and terms commonly employed on the borehole logs and figures, and in the text of the report, are as follows:

SAMPLE TYPES

AS Auger sample
CS Chunk sample
DO Drive open (split spoon)
DS Denison type sample
FS Foil sample
RC Rock core (with size and percentage recovery)
ST Slotted tube
TO Thin-walled, open
TP Thin-walled, piston
WS Wash sample

PENETRATION RESISTANCE

Dynamic Cone Penetration Resistance:

A continuous profile showing the number of blows for each foot of penetration of a 2-inch diameter, 90° point cone driven by a 140-pound hammer falling 30 inches.

Plotted as '—●—'

Standard Penetration Resistance or 'N' Value:

The number of blows of a 140-pound hammer falling 30 inches required to advance a 2-inch O.D. drive open sampler one foot into undisturbed soil.

Plotted as '○'

WH Sampler advanced by static weight
PH Sampler advanced by hydraulic pressure
PM Sampler advanced by manual pressure
NP No penetration

SOIL DESCRIPTION

Cohesionless Soils:

'N' (blows/ft)	Relative Density
0 to 4	very loose
4 to 10	loose
10 to 30	compact
30 to 50	dense
over 50	very dense

Cohesive Soils:

Undrained Shear Strength (ksf)	'N' (blows/ft)	Consistency
less than 0.25	0 to 2	very soft
0.25 to 0.50	2 to 4	soft
0.50 to 1.0	4 to 8	firm
1.0 to 2.0	8 to 16	stiff
2.0 to 4.0	16 to 32	very stiff
over 4.0	over 32	hard

Method of Determination of Undrained Shear Strength of Cohesive Soils:

x 0.0 Field vane test in borehole; the number denotes the sensitivity to remoulding

△ Laboratory vane test

☐ Compression test in laboratory

For a saturated cohesive soil, the undrained shear strength is taken as one half of the undrained compressive strength

METRIC CONVERSION FACTORS

1 ft = 0.3048 metres
1lb = 0.454 kg
1 inch = 25.4 mm
1ksf = 47.88 kPa

JOB NO.: 2307-S067

LOG OF BOREHOLE: 1

FIGURE NO.: 1

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 9, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
237.5	Ground Surface							
0.0	**30 cm TOPSOIL**	1	DO	14	0		45	
	EARTH FILL Dark brown, silty clay occ. organic and topsoil inclusions	2	DO	10	1		22	
235.7		3	DO	14			23	
1.8					2			
	Brown, very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	4	DO	18			23	
		5	DO	18	3		23	
233.2					4			
4.3	Grey, stiff **SILTY CLAY** occ. gravel	6	DO	8	5		28	
		7	DO	10	6		29	
					7			
229.4		8	DO	12	8		28	
8.1	**END OF BOREHOLE**							
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 m to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				9			Dry on Completion
					10			

JOB NO.: 2307-S067

LOG OF BOREHOLE: 10

FIGURE NO.: 10

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 8, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
233.2	Ground Surface							
0.0	**250 mm Granular Fill**	1	DO	6	0		18	
	Brown, firm to very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers — Weathered	2	DO	18	1		18	
	Sandy silt till layers	3	DO	20	2		14	
231.0								
2.2	Very stiff **SILTY CLAY** occ. gravel	4	DO	26	2		19	
		5	DO	22	3		24	
	Brown / Grey				4			
		6	DO	16	5		26	
		7	DO	20	6		25	
226.6								
6.6	**END OF BOREHOLE**				7			
	Installed 50 mm Ø monitoring well to 6.2 m completed with 3.1 m screen Sand backfill from 2.5 m to 6.2 m Bentonite seal from 0.0 m to 2.5 m Provided with a momument steel casing				8			
					9			
					10			Dry on Completion

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 11

FIGURE NO.: 11

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 4, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
232.4	Ground Surface							
0.0	**550 mm Granular Fill**	1	DO	42	0		7	
	EARTH FILL Dark brown, silty clay with some sand occ. topsoil and rootlets	2	DO	15	1		23	
230.9								
0.8	Very stiff to hard **SILTY CLAY** occ. gravel	3	DO	32	2		20	
		4	DO	31			21	
		5	DO	32	3		24	
	Brown / Grey				4			
		6	DO	17	5		25	
226.8								
5.6	Grey, very stiff **SILTY CLAY TILL** some sand, a trace of gravel	7	DO	29	6		18	
225.8								
6.6	**END OF BOREHOLE**				7			
	Installed 50 mm Ø monitoring well to 6.2 m completed with 3.1 m screen Sand backfill from 2.5 m to 6.2 m Bentonite seal from 0.0 m to 2.5 m Provided with a momument steel casing				8			
					9			
					10			

W.L. @ El. 228.1 m on completion

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 12

FIGURE NO.: 12

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 8, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
234.0	Ground Surface							
0.0	**400 mm Granular Fill**	1	DO	28	0		4	
	Weathered							
	Brown, very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	2	DO	26	1		20	
		3	DO	22	2		18	
		4	DO	24			23	
230.7		5	DO	21	3		23	
3.3	Very stiff **SILTY CLAY** occ. gravel				4			
		6	DO	16	5		25	
	Brown Grey				6			
227.4		7	DO	18			23	
6.6	**END OF BOREHOLE**				7			Dry on Completion
					8			
					9			
					10			

JOB NO.: 2307-S067

LOG OF BOREHOLE: 13

FIGURE NO.: 13

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 8, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
233.4	Ground Surface							
0.0	**600 mm Granular Fill**	1	DO	32	0		5	
	EARTH FILL Brown, sandy silt with traces of clay and gravel, occ. rootlets							
232.4 / 1.0		2	DO	10	1		17	
	Brown, very stiff **SILTY CLAY** a trace of gravel	3	DO	22	2		19	
		4	DO	24			21	
		5	DO	20	3		22	
228.3 / 5.1		6	DO	16	4 5		24	
	Grey, very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	7	DO	20	6		14	
226.8 / 6.6	**END OF BOREHOLE**				7 8 9 10			

Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen
Sand backfill from 2.4 m to 6.1 m
Bentonite seal from 0.0 m to 2.4 m
Provided with a momument steel casing

Dry on Completion

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 14

FIGURE NO.: 14

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 4, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
231.4	Ground Surface							
0.0	**360 mm Granular Fill**	1	DO	29	0		7	
	Brown, compact — Weathered **SANDY SILT TILL** some clay to clayey, a trace of gravel	2	DO	17	1		21	
		3	DO	26	2		12	
229.1								
2.3		4	DO	28			21	
	Very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	5	DO	20	3		20	
	— — Brown / Grey				4			
	— — Sandy	6	DO	24	5		13	
		7	DO	26	6		20	
224.8								
6.6	**END OF BOREHOLE**				7			
					8			
					9			
					10			

Dry on Completion

JOB NO.: 2307-S067

LOG OF BOREHOLE: 15

FIGURE NO.: 15

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 4, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
232.3	Ground Surface							
0.0	**400 mm Granular Fill**	1	DO	30	0		5	
	EARTH FILL Brown to grey, silty clay mixed with gravel	2	DO	18	1		18	
230.8								
0.8	Sandy	3	DO	22	2		13	
	Stiff to very stiff **SILTY CLAY** occ. gravel	4	DO	21			22	
		5	DO	20	3		24	
	Brown / Grey	6	DO	11	4		22	
226.8					5			
5.5	Grey, very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	7	DO	18	6		19	
225.7								
6.6	**END OF BOREHOLE**				7			
					8			
					9			
					10			

Dry on Completion

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 16

FIGURE NO.: 16

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 4, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
231.1	Ground Surface							
0.0	**50 mm Asphalt** **450 mm Granular Fill**	1	DO	34	0		6	
230.1 1.0	**EARTH FILL** Dark brown, silty clay mixed with organics and topsoil	2	DO	18	1		19	
	Bown, very stiff to hard **SILTY CLAY** occ. gravel	3	DO	20	2		21	
	Silty clay till layers	4	DO	34			16	
226.9		5	DO	28	3		19	
4.2	Grey, very stiff **SILTY CLAY TILL** some sand to sandy, a trace of gravel	6	DO	22	4 5		18	
225.6 5.5	Grey, very stiff **SILTY CLAY** occ. gravel	7	DO	21	6		23	
224.5 6.6	**END OF BOREHOLE**				7 8 9 10			Dry on Completion

JOB NO.: 2307-S067

LOG OF BOREHOLE: 17

FIGURE NO.: 17

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 4, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
232.3	Ground Surface							
0.0	**450 mm Granular Fill**	1	DO	30	0		8	
	Weathered	2	AS	13	1		22	
	Stiff to very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	3	DO	22	2		22	
		4	DO	18			23	
	Sandy silt till layers	5	DO	28	3		13	▽ W.L. @ El. 229.2 m on completion
	Brown Grey				4			
		6	DO	11	5		15	
226.8 5.5	Grey, very stiff **SILTY CLAY** a trace of gravel	7	DO	20	6		23	
225.7 6.6	**END OF BOREHOLE**				7 8 9 10			

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 18

FIGURE NO.: 18

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 4, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
231.7	Ground Surface							
0.0	**50 mm Asphalt** **450 mm Granular Fill**	1	DO	38	0		6	
	EARTH FILL Brown to grey, silty clay mixed with rootlets and organics							
230.7 1.0		2	DO	22	1		19	
	Sandy Brown, stiff to hard **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	3	DO	26			11	
		4	DO	32	2		19	
		5	DO	26	3		22	
		6	DO	12	4		15	
226.2 5.5	Grey, very dense **SANDY SILT TILL** traces of clay and gravel occ. cobbles and boulders				5			
225.3		7	DO	50/15	6		7	
6.4	**END OF BOREHOLE**				7			
					8			
					9			
					10			

Dry on Completion

JOB NO.: 2307-S067

LOG OF BOREHOLE: 19

FIGURE NO.: 19

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 9, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
229.6	Ground Surface							
0.0	**35 cm TOPSOIL**	1	DO	3	0		22	
	Brown, compact — Weathered **SANDY SILT TILL** clayey, a trace of gravel occ. cobbles and boulders	2	DO	18	1		14	
		3	DO	16	2		13	
229.7		4	DO	22			13	
2.6	Very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers Brown / Grey	5	DO	22	3		19	
		6	DO	20	4		19	
		7	DO	26	5		17	
225.7					6			
6.6	**END OF BOREHOLE**				7			
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 m to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				8			
					9			
					10			

Dry on Completion

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 2

FIGURE NO.: 2

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 9, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
237.2	Ground Surface							
0.0	**30 cm TOPSOIL**	1	DO	7	0		38	
	Brown, firm to very stiff **SILTY CLAY TILL** Weathered a trace of gravel, occ. sand seams and layers	2	DO	22	1		14	
		3	DO	28	2		14	
234.7		4	DO	16			24	
2.5	Grey, stiff to very stiff **SILTY CLAY** occ. gravel	5	DO	11	3		25	
		6	AS	13	4 5		27	Dry on Completion
230.6		7	DO	16	6		28	
6.6	**END OF BOREHOLE**				7 8 9 10			

Installed 50 mm Ø monitoring well to 6.3 m
completed with 3.1 m screen
Sand backfill from 2.6 m to 6.3 m
Bentonite seal from 0.0 m to 2.6 m
Provided with a momument steel casing

JOB NO.: 2307-S067

LOG OF BOREHOLE: 20

FIGURE NO.: 20

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 9, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
227.9	Ground Surface							
0.0	**35 cm TOPSOIL**	1	DO	12	0		17	
	Weathered Brown, stiff to very stiff **SILTY CLAY** occ. gravel, topsoil and rootlets	2	DO	22	1		18	
		3	DO	26	2		20	
225.6								
2.3		4	DO	32			14	
	Brown Grey Very stiff to hard **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	5	DO	25	3		12	
	Clay-shale reversion	6	DO	54	4 5		10	Dry on Completion
222.4								
5.5	Grey, very dense **SHALE**							
221.7	weathered	7	DO	50/15	6		6	
6.3	**END OF BOREHOLE**				7 8 9 10			

Installed 50 mm Ø monitoring well to 5.9 m
completed with 3.1 m screen
Sand backfill from 2.3 m to 5.9 m
Bentonite seal from 0.0 m to 2.3 m
Provided with a momument steel casing

JOB NO.: 2307-S067

LOG OF BOREHOLE: 21

FIGURE NO.: 21

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 3, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
230.9	Ground Surface							
0.0	**300 mm Granular Fill**	1	DO	7	0		16	
	Weathered Stiff to hard **SILTY CLAY TILL** a trace of gravel occ. sand seams and rootlets	2	DO	16	1		20	
		3	DO	29	2		19	
		4	DO	24			11	
		5	DO	22	3		19	
	Brown Grey				4			
		6	DO	16	5		21	
					6			
224.3		7	DO	46			18	
6.6	**END OF BOREHOLE** Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 m to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				7 8 9 10			Dry on Completion

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 22

FIGURE NO.: 22

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 3, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
231.0	Ground Surface							
0.0	**80 mm Asphalt** **250 mm Granular Fill**	1	DO	14	0		8	
	EARTH FILL Dark brown to grey, sandy silt occ. organic and rootlet inclusion, shale fragments	2	DO	16	1		9	
229.5								
1.5	Occ.rootlets	3	DO	16	2		24	
	Very stiff to hard **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	4	DO	28			19	
		5	DO	30	3		19	
	Brown / Grey				4			
	Sand layer	6	DO	22	5		13	
	Clay-shale reversion	7	DO	50/8	6		9	
224.7								
6.3	**END OF BOREHOLE**				7			
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 m to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				8			
					9			
					10			

Dry on Completion

JOB NO.: 2307-S067

LOG OF BOREHOLE: 23

FIGURE NO.: 23

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 3, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
232.4	Ground Surface							
0.0	**300 mm Granular Fill**	1	DO	40	0		3	
	EARTH FILL Brown, sandy silt	2	AS	28	1		15	
230.9								
1.5	Very stiff to hard **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	3	DO	40	2		15	
	Sandy silt till layer	4	DO	36			10	
		5	DO	36	3		18	
		6	DO	28	4		12	
	Brown Grey				5			
	Occ.shale fragments	7	DO	50/15	6		21	
226.0								
6.4	**END OF BOREHOLE**				7			
					8			
					9			
					10			

WATER LEVEL: Dry on Completion

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 24

FIGURE NO.: 24

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 3, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
233.3	Ground Surface							
0.0	**30 mm Asphalt** **400 mm Granular Fill**	1	DO	42	0		5	
	EARTH FILL Dark brown, silty clay, some sand	2	DO	12	1		12	
232.2 1.1		3	DO	30	2		22	
	Very stiff to hard **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	4	DO	32			20	
		5	DO	42	3		20	▽ W.L. @ El. 230.1 m on completion
	Brown / Grey				4			
		6	DO	30	5		17	
		7	DO	30	6		19	
226.7 6.6	**END OF BOREHOLE**				7			
					8			
					9			
					10			

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 3

FIGURE NO.: 3

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 2, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
236.7	Ground Surface							
0.0	**280 mm Granular Fill**	1	DO	11	0		4	
	Weathered Brown, very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	2	DO	22	1		19	
		3	DO	30	2		19	
234.4								
2.3	Stiff to very stiff **SILTY CLAY** occ. gravel	4	DO	20			23	
		5	DO	16	3		25	
	Brown Grey				4			
		6	DO	14	5		26	
					6			
230.1		7	DO	14			28	
6.6	**END OF BOREHOLE**				7			
					8			
					9			
					10			

Dry on Completion

JOB NO.: 2307-S067

LOG OF BOREHOLE: 4

FIGURE NO.: 4

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 2, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
236.6	Ground Surface							
0.0	**150 mm Granular Fill**	1	DO	40	0		3	
	EARTH FILL Dark grey, silty clay with sand and gravel	2	DO	16	1		17	
234.8		3A	DO	21			15	
1.8	Brown, very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	3B			2		19	
234.0		4	DO	17			19	
2.6	Brown, compact **SILT** a trace to some clay	5	DO	28	3		20	
232.5					4			
4.1	Grey, very stiff **SILTY CLAY** occ. gravel	6	DO	16	5		25	▽ W.L. @ El. 231.7 m on completion
230.0		7	DO	19	6		26	
6.6	**END OF BOREHOLE**				7			
					8			
					9			
					10			

JOB NO.: 2307-S067

LOG OF BOREHOLE: 5

FIGURE NO.: 5

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 2, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
236.0	Ground Surface							
0.0	**150 mm Granular Fill**	1	DO	41	0		4	
	EARTH FILL Dark brown, silty clay with gravel occ. shale fragments	2	DO	15	1		23	
		3	DO	18	2		19	
234.0 2.0	Very stiff to hard **SILTY CLAY** occ. gravel and sand seams	4	DO	36	2		21	
		5	DO	26	3		19	
	Brown / Grey	6	DO	22	4 5		25	Dry on Completion
229.4		7	DO	22	6		23	
6.6	**END OF BOREHOLE** Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 m to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a flush mount casing				7 8 9 10			

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 6

FIGURE NO.: 6

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 2, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
235.7	Ground Surface							
0.0	**100 mm Asphalt** **200 mm Granular Fill**	1	DO	37	0		4	
	Brown, very stiff — Weathered **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	2	DO	22	1		7	
		3	DO	28	2		21	
233.4								
2.3		4	DO	20			24	
	Stiff to very stiff **SILTY CLAY** occ. gravel	5	DO	22	3		25	
	— — Brown / Grey	6	DO	14	4 5		27	
229.1		7	DO	16	6		27	
6.6	**END OF BOREHOLE**				7 8 9 10			Dry on Completion

Soil Engineers Ltd.

JOB NO.: 2307-S067

LOG OF BOREHOLE: 7

FIGURE NO.: 7

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 2, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
233.5	Ground Surface							
0.0	**250 mm Granular Fill**	1	DO	30	0		7	
	Weathered							
	Very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	2	DO	18	1		15	
		3	DO	28	2		17	
		4	DO	28			21	
		5	DO	28	3		21	
	Brown Grey				4			
		6	DO	18	5		20	
		7	DO	20	6		19	
226.9								
6.6	**END OF BOREHOLE**				7			
	Installed 50 mm Ø monitoring well to 5.9 m completed with 3.1 m screen Sand backfill from 2.3 m to 5.9 m Bentonite seal from 0.0 m to 2.3 m Provided with a momument steel casing				8			Dry on Completion
					9			
					10			

JOB NO.: 2307-S067

LOG OF BOREHOLE: 8

FIGURE NO.: 8

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 3, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
233.8	Ground Surface							
0.0	**360 mm Granular Fill**	1	DO	22	0		9	
232.8	**EARTH FILL** Dark brown, silty clay mixed with topsoil							
1.0		2	DO	11	1		24	
	Very stiff to hard **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	3	DO	22	2		21	
		4	DO	26			17	
	Sandy silt layers	5	DO	30	3		15	
		6	DO	26	5		21	
	Brown Grey	7	DO	56	6		8	Dry on Completion
227.2								
6.6	**END OF BOREHOLE**				7			
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 m to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a flush mount casing				8			
					9			
					10			

JOB NO.: 2307-S067

LOG OF BOREHOLE: 9

FIGURE NO.: 9

PROJECT DESCRIPTION: Proposed Industrial and Commercial Development

METHOD OF BORING: Soild Flight Augers

PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

DRILLING DATE: August 8, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
231.5	Ground Surface							
0.0	**500 mm Granular Fill**	1	DO	23	0		12	
	EARTH FILL Brown, sandy silt, trace clay	2	DO	10	1		18	
230.0								
1.5	Brown, very stiff to hard **SILTY CLAY** occ. gravel	3	DO	22	2		21	
		4	DO	32			22	
		5	DO	21	3		25	
227.5								
4.0	Grey, very stiff **SILTY CLAY TILL** a trace of gravel, occ. sand seams and layers	6	DO	18	5		11	
		7	DO	20	6		11	
224.9								
6.6	**END OF BOREHOLE**				7			
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 m to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a flush mount casing				8			Dry on Completion
					9			
					10			

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

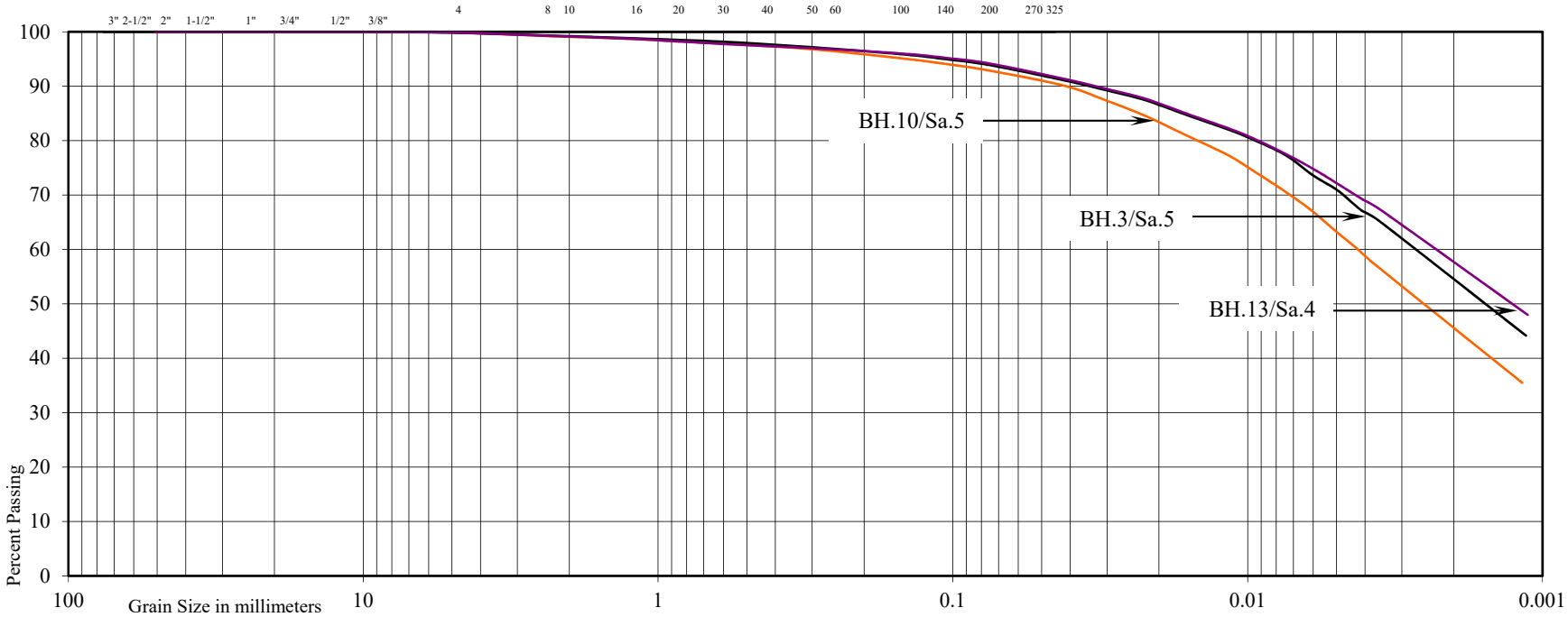
Reference No: 2307-S067

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Industrial Development

Location: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

Borehole No:	3	10	13
Sample No:	5	5	4
Depth (m):	1.5	3.0	2.3
Elevation (m):	235.2	230.2	231.1

BH./Sa.	3/5	10/5	13/4
Liquid Limit (%) =	-	-	-
Plastic Limit (%) =	-	-	-
Plasticity Index (%) =	-	-	-
Moisture Content (%) =	19	24	21
Estimated Permeability (cm./sec.) =	10^{-7}	10^{-7}	10^{-7}

Classification of Sample [& Group Symbol]: SILTY CLAY, a trace of sand

Figure: 25

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

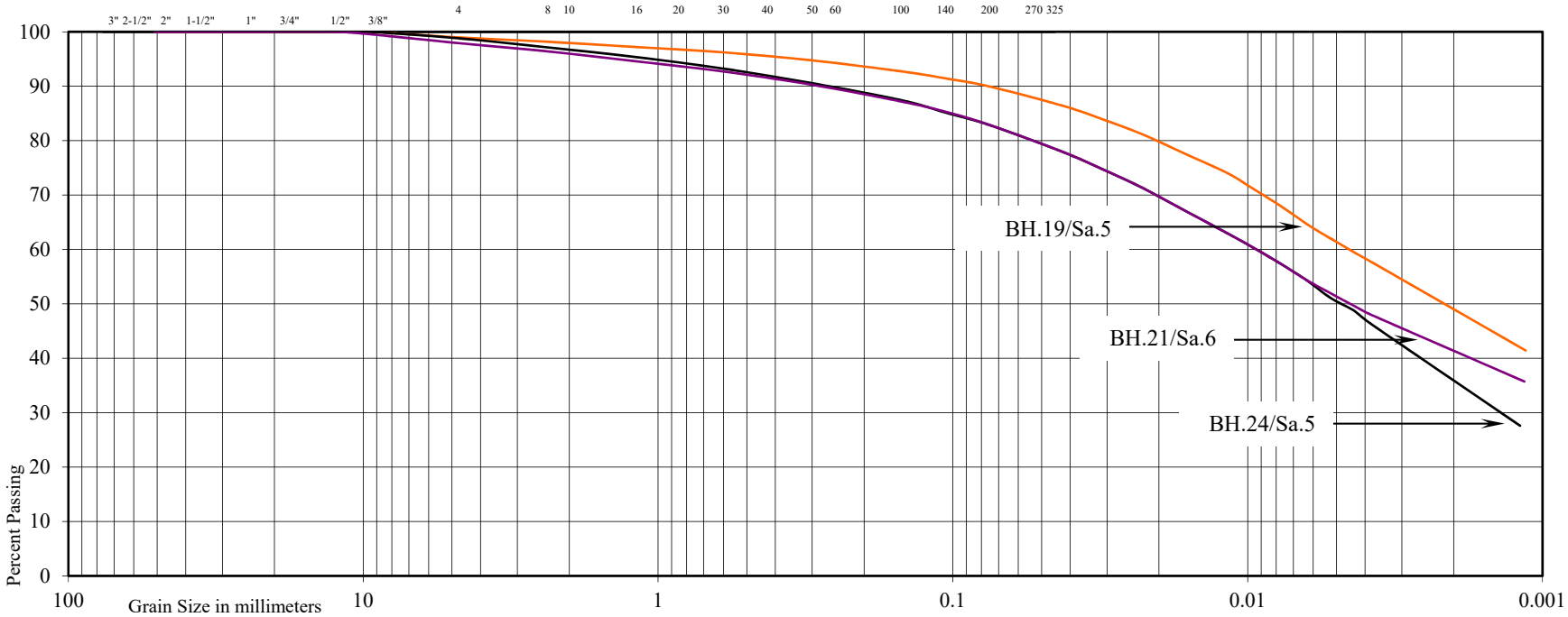
Reference No: 2307-S067

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Industrial Development

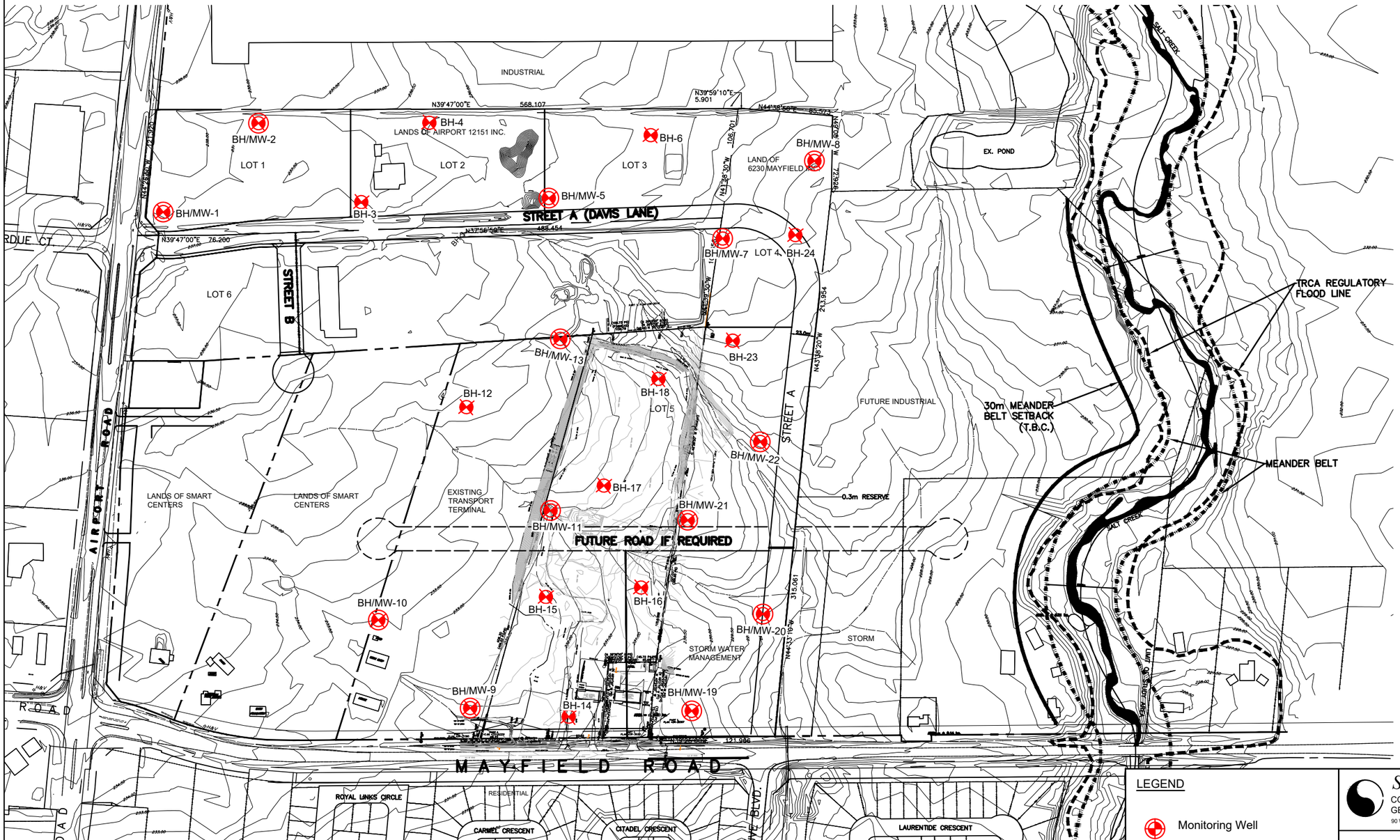
Location: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

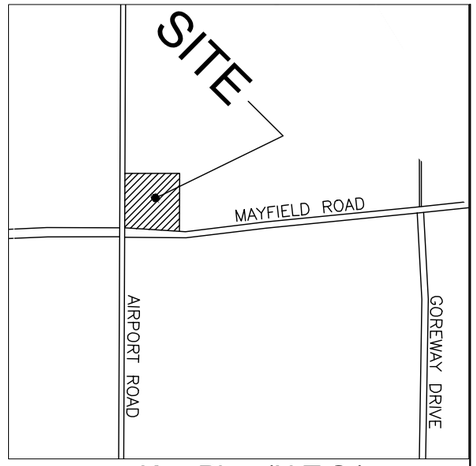
Borehole No:	19	21	24
Sample No:	5	6	5
Depth (m):	3.0	4.6	3.0
Elevation (m):	226.6	226.3	230.3

BH./Sa.	19/5	21/6	24/5
Liquid Limit (%) =	-	35	-
Plastic Limit (%) =	-	19	-
Plasticity Index (%) =	-	16	-
Moisture Content (%) =	19	21	20
Estimated Permeability (cm./sec.) =	10^{-7}	10^{-7}	10^{-7}

Classification of Sample [& Group Symbol]: SILTY CLAY TILL, a trace some sand, a trace of gravel

Figure: 26





Key Plan (N.T.S.)

LEGEND

- Monitoring Well
- Borehole

Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL | ENVIRONMENTAL | HYDROGEOLOGICAL | BUILDING SCIENCE
90 WEST BEAVER CREEK ROAD, SUITE #100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

BOREHOLE AND MONITORING WELL LOCATION PLAN

SITE: 6086, 6186, 6230 Mayfield Road And 12151 Airport Road, Town of Caledon

DESIGNED BY: PHM	**CHECKED BY:** KL	**DWG NO.:** 1	
SCALE: 1:4000	**REF. NO.:** 2307-S067	**DATE:** September 2023	**REV**

Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL | ENVIRONMENTAL | HYDROGEOLOGICAL | BUILDING SCIENCE

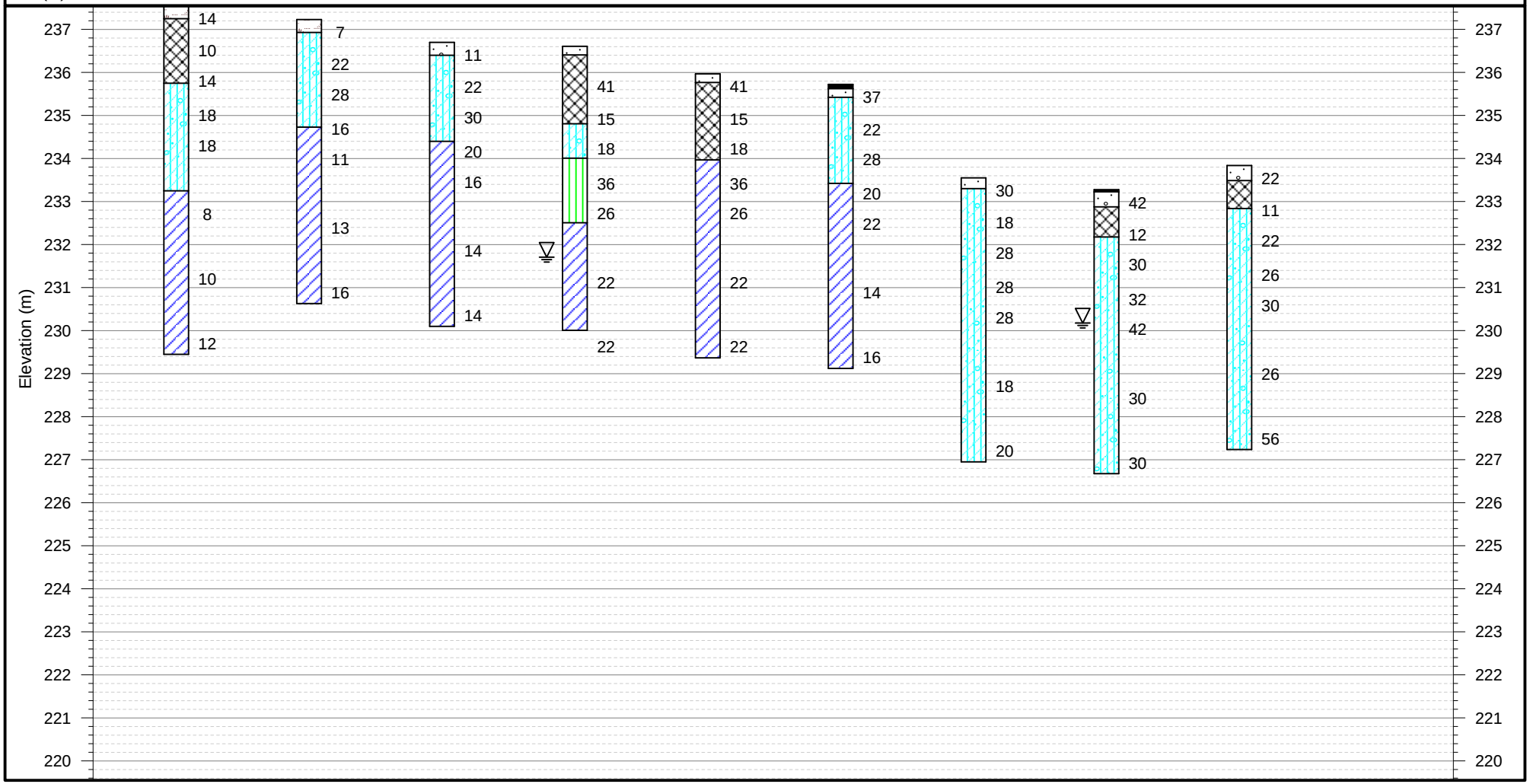
SUBSURFACE PROFILE
DRAWING NO. 2
SCALE: AS SHOWN

JOB NO.: 2307-S067
REPORT DATE: September, 2023
PROJECT DESCRIPTION: Proposed Industrial and Commercial Development
PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

LEGEND

ASPHALT | GRANULAR | SILTY CLAY | TOPSOIL
FILL | SILT | SILTY CLAY TILL

WATER LEVEL (END OF DRILLING)



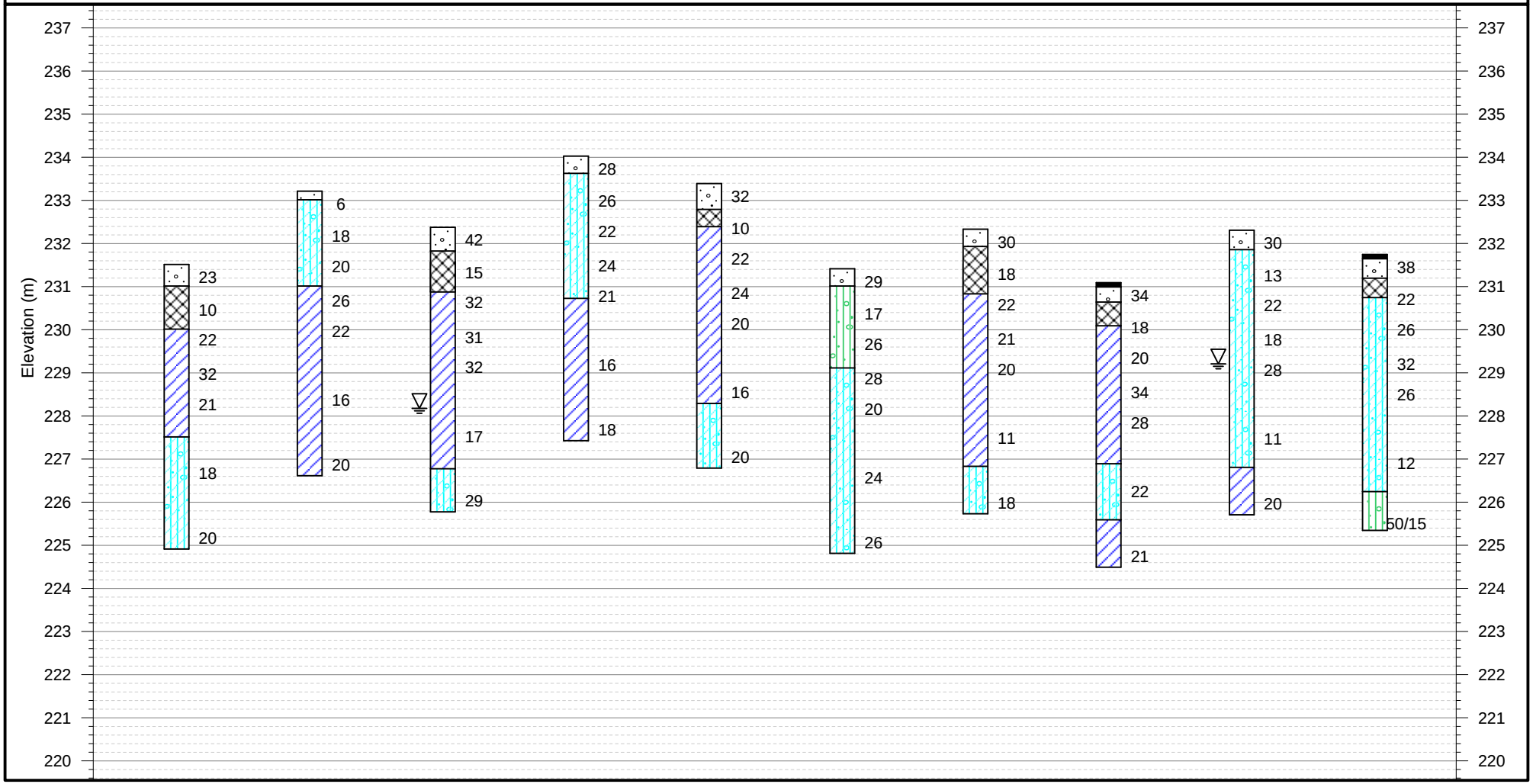
Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL | ENVIRONMENTAL | HYDROGEOLOGICAL | BUILDING SCIENCE

SUBSURFACE PROFILE
DRAWING NO. 3
SCALE: AS SHOWN

JOB NO.: 2307-S067
REPORT DATE: September, 2023
PROJECT DESCRIPTION: Proposed Industrial and Commercial Development
PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

LEGEND

ASPHALT | GRANULAR | SILTY CLAY | SILTY CLAY TILL
FILL | SANDY SILT TILL
WATER LEVEL (END OF DRILLING)



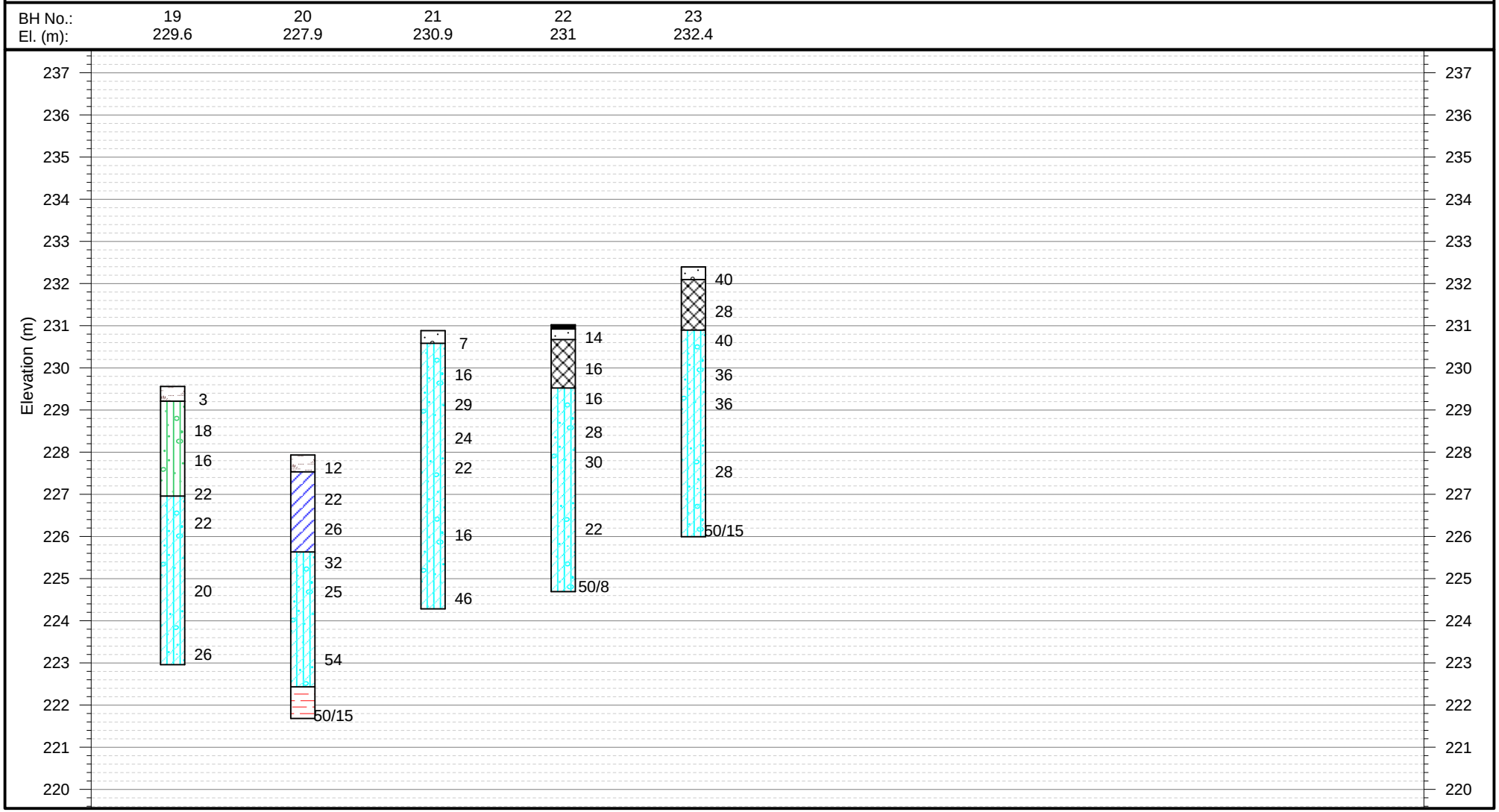
Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL | ENVIRONMENTAL | HYDROGEOLOGICAL | BUILDING SCIENCE

SUBSURFACE PROFILE
DRAWING NO. 4
SCALE: AS SHOWN

JOB NO.: 2307-S067
REPORT DATE: September, 2023
PROJECT DESCRIPTION: Proposed Industrial and Commercial Development
PROJECT LOCATION: 6086, 6186, 6230 Mayfield Road and 12151 Airport Road, Town of Caledon

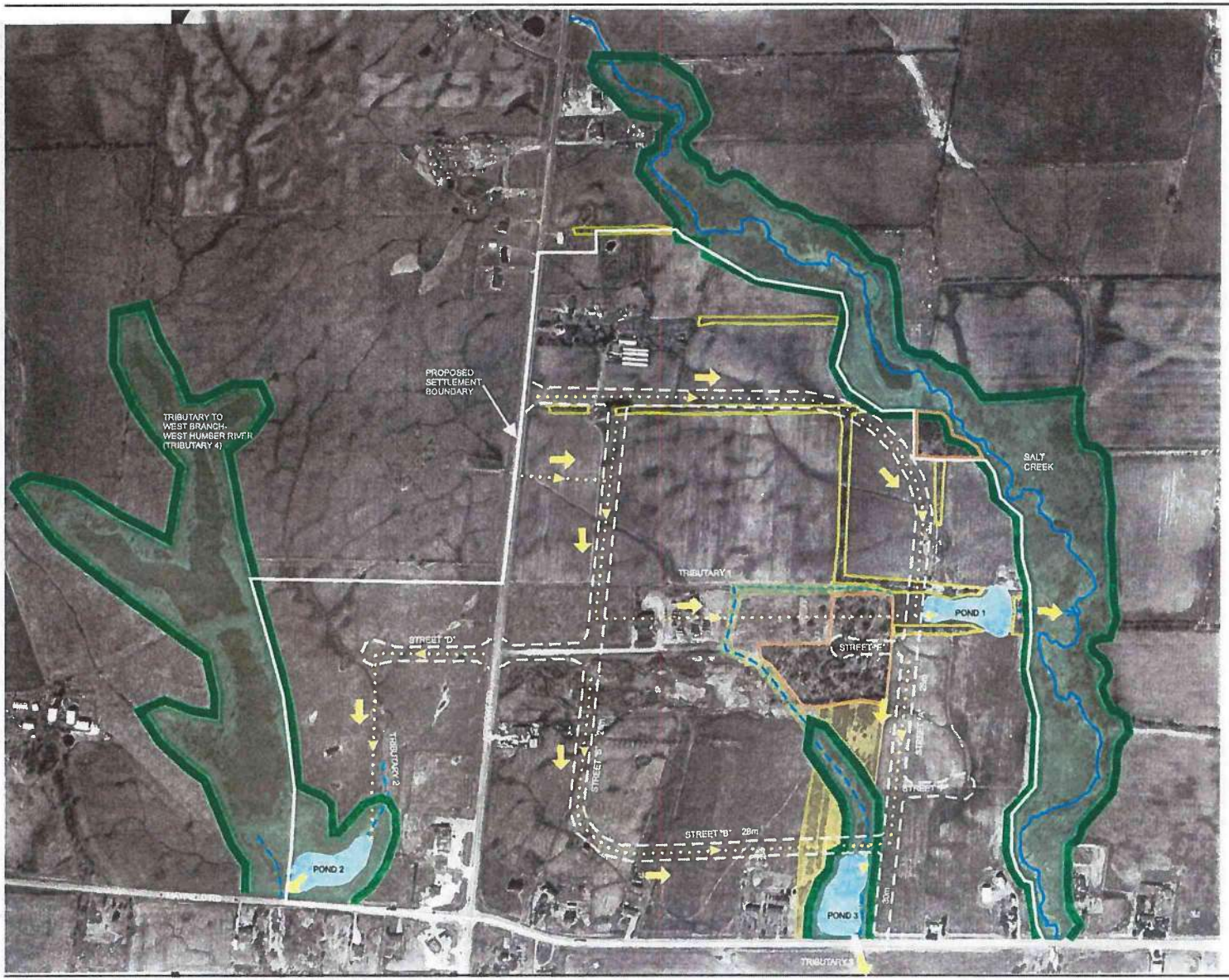
LEGEND

ASPHALT | GRANULAR | SHALE | SILTY CLAY TILL
FILL | SANDY SILT TILL | SILTY CLAY | TOPSOIL
WATER LEVEL (END OF DRILLING)



Appendix A.4

Stormwater Management Information



LEGEND

- Intermittent Warmwater Stream
- Environmental Policy Area (EPA)
- Ecological Buffer
- Tributary Enhancement Opportunities
- Fencerow Protection Opportunities
- Tableland Ecological Enhancement Opportunities
- Tree Preservation Opportunities
- Proposed Stormwater Management Pond with potential wetland elements
- Minor Drainage System
- Major Drainage System

100 0 100 200

SCALE

AGRA Earth & Environmental

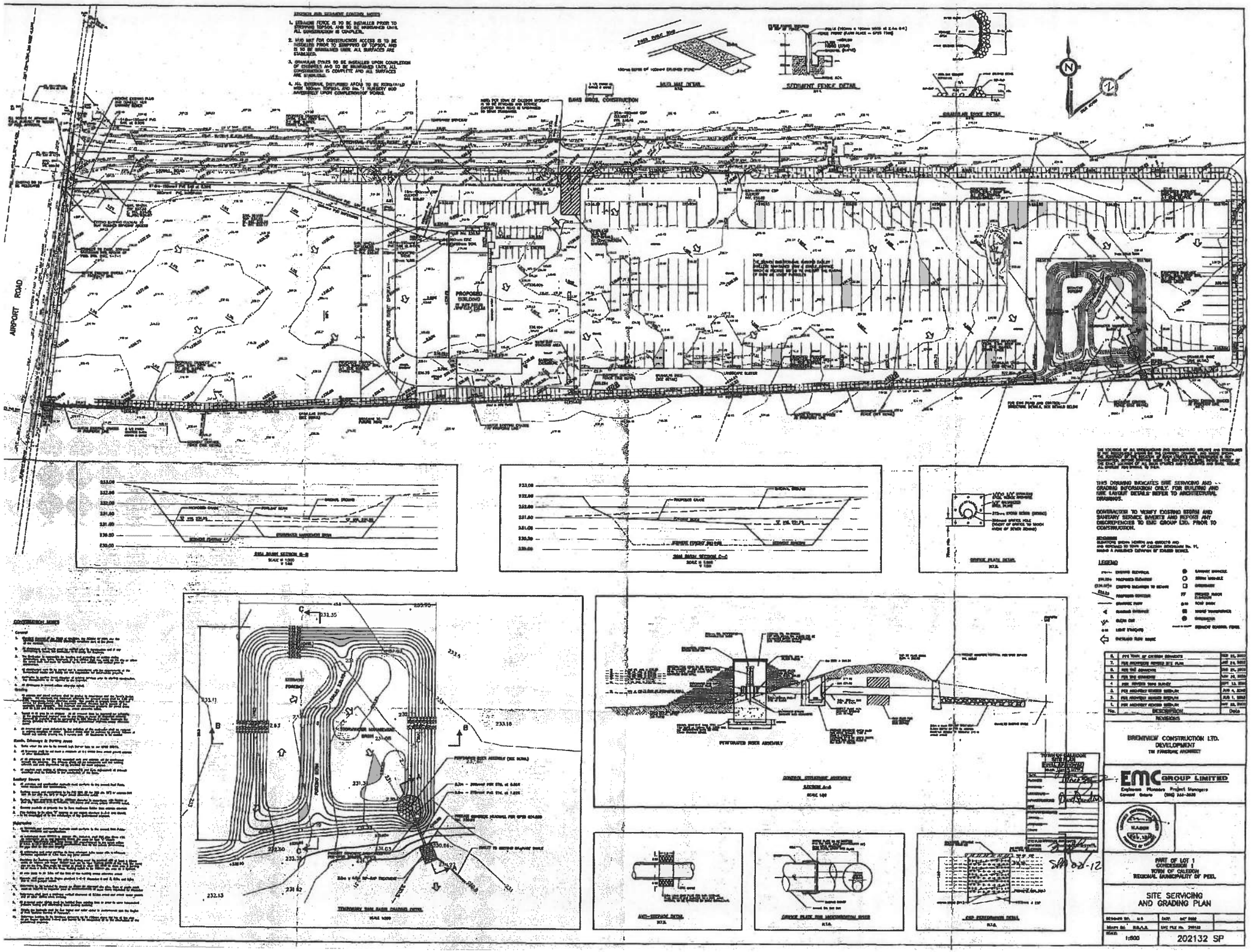
Giffels Associates Limited

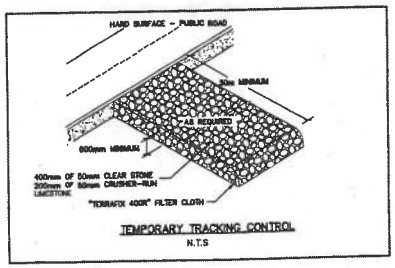
CONTRACT

TOWN OF CALEDON

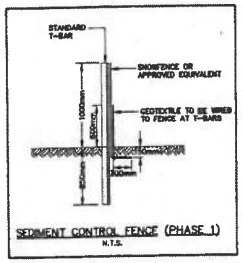
TULLAMORE SECONDARY PLANNING AREA ENVIRONMENTAL MANAGEMENT PLAN

		SCALE AS SHOWN	
PROJECT NUMBER TC 06152		DATE DECEMBER 1999	
VENDOR DWG No SERVICING.CDR	CLIENT DWG No FIGURE 5.2	SHEET No 1 OF 1	REV 0

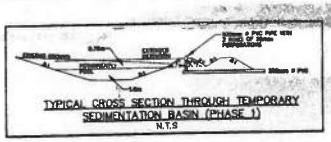

AIRPORT ROAD
PROPOSED BUILDING
EXISTING FUTURE BUILDING
SEDIMENT FENCE DETAIL
MUD MAT DETAIL
GRANULAR DYKE DETAIL
SWALE DETAIL
SERVICE PLATE DETAIL
TEMPORARY SWM BASIN GRADING DETAIL
PERFORATED RISER ASSEMBLY
ANTI-SEEPAGE DETAIL
SERVICE PLATE SWM INFORMATION DETAIL
CBMH DETAIL
LEGEND
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
BRENTVIEW CONSTRUCTION LTD.
DEVELOPMENT
EMC GROUP LIMITED
PART OF LOT 1
CONCESSION 1
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
SITE SERVICING
AND GRADING PLAN
1:500
202132 SP



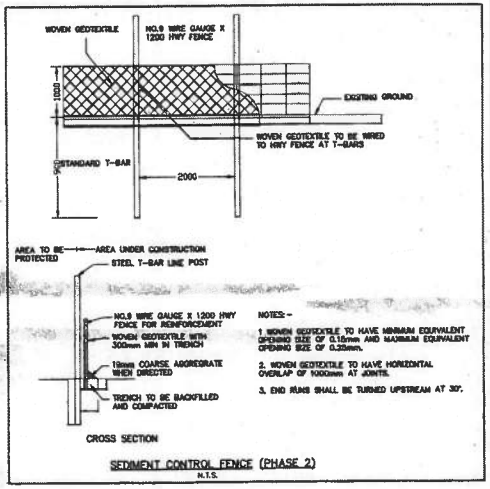
TEMPORARY TRACKING CONTROL
N.T.S



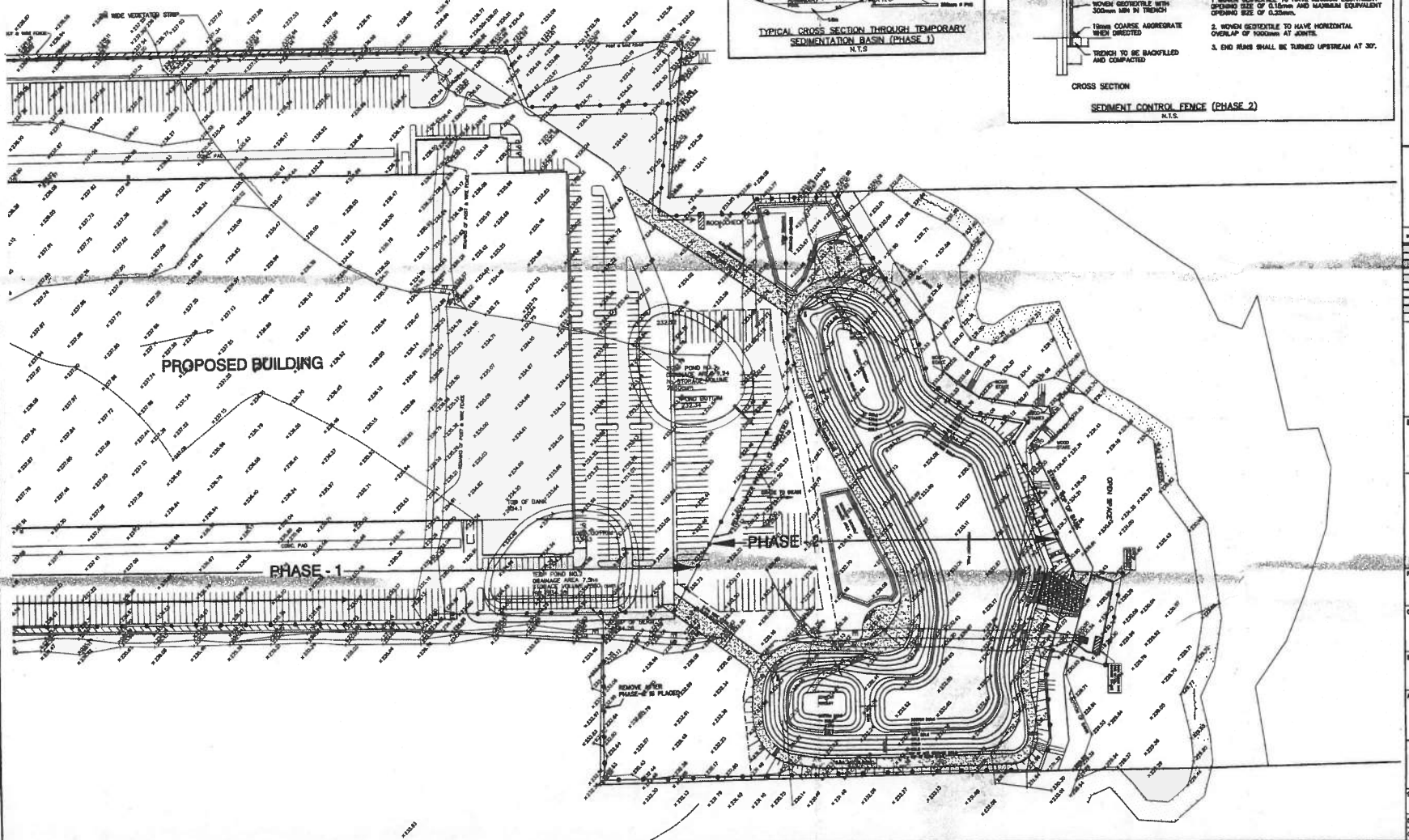
SEDIMENT CONTROL FENCE (PHASE 1)
N.T.S.



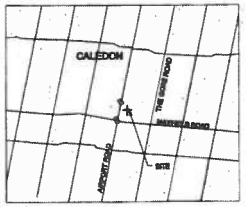
TYPICAL CROSS SECTION THROUGH TEMPORARY SEDIMENTATION BASIN (PHASE 1)
N.T.S



SEDIMENT CONTROL FENCE (PHASE 2)
N.T.S.



KEY MAP



GENERAL NOTES

1. ALL WORK SHALL BE CARRIED OUT IN COMPLIANCE WITH THE APPLICABLE HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.

   ALL WORKS AND MATERIALS TO CONFORM WITH CURRENT ADDRESS OF THE ENGINEERING & SURVEY OF STANDARD, CITY OF HAMILTON, AND PROVINCIAL STANDARDS AND SPECIFICATIONS.

2. THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE CARRIED DURING THE PERIOD OF THIS CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH ALL OTHER CONTRACTORS AND PRESENT CONSTRUCTION COMPLETES.

3. THE INFORMATION SHOWN FOR EXISTING UTILITIES WAS PROVIDED BY OTHERS. THE INFORMATION IS SHOWN FOR GENERAL INFORMATION ONLY AND THE ACCURACY OR COMPLETION OF THE PROVIDED INFORMATION HAS NOT BEEN CONFIRMED BY CounterPoint. EACH CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. ALL EXISTING UTILITIES MUST BE LOCATED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. ANY VARIANCE IS TO BE IMMEDIATELY REPORTED TO THE ENGINEER. LOST TIME DUE TO FAILURE OF THE CONTRACTOR TO CONFIRM UTILITY LOCATIONS AND NOTIFY THE ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT THE CONTRACTOR'S EXPENSE.

4. THIS PLAN SHOULD BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS PLANS. ANY DISCREPANCIES SHALL BE CLARIFIED PRIOR TO CONSTRUCTION. INFORMATION RELATED TO DIMENSIONS FOR PRIVATE ROAD, PARKING, CURBING, BUILDING LOCATION AND SETBACKS SHALL BE TAKEN FROM THE SITE PLAN PREPARED BY THE ARBARCH GROUP.

5. ALL DIMENSIONS AND ELEVATIONS TO BE VERIFIED PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES FOUND PRIOR TO OR DURING CONSTRUCTION SHALL BE CLARIFIED WITH THE ENGINEER.

LEGEND

- PROTECTION AND SILT FENCE (PHASE 1)
- PROTECTION AND SILT FENCE (PHASE 2)
- 2.0m UNDISTURBED STRIP
- INTERCEPTOR DITCH
- DRAINAGE DIVIDE

NO.	BY	DATE	REVISION	CHK'D	APP'D
3	MS/JP	29/07	TRCA 3rd APPROVAL SUBMISSION		
2	MS/JP	31/08	TRCA 2nd APPROVAL SUBMISSION		
1	MM/JP	06/05	APPROVAL SUBMISSION		

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO.

DATE: _____ APPROVED BY: _____
H. MUNTZ, P.ENG.
Town Engineer

BENCH MARK:

R. G. MORRISON
100063903
PROVINCE OF ONTARIO

PROJECT NAME
TULLAMORE BUSINESS PARK

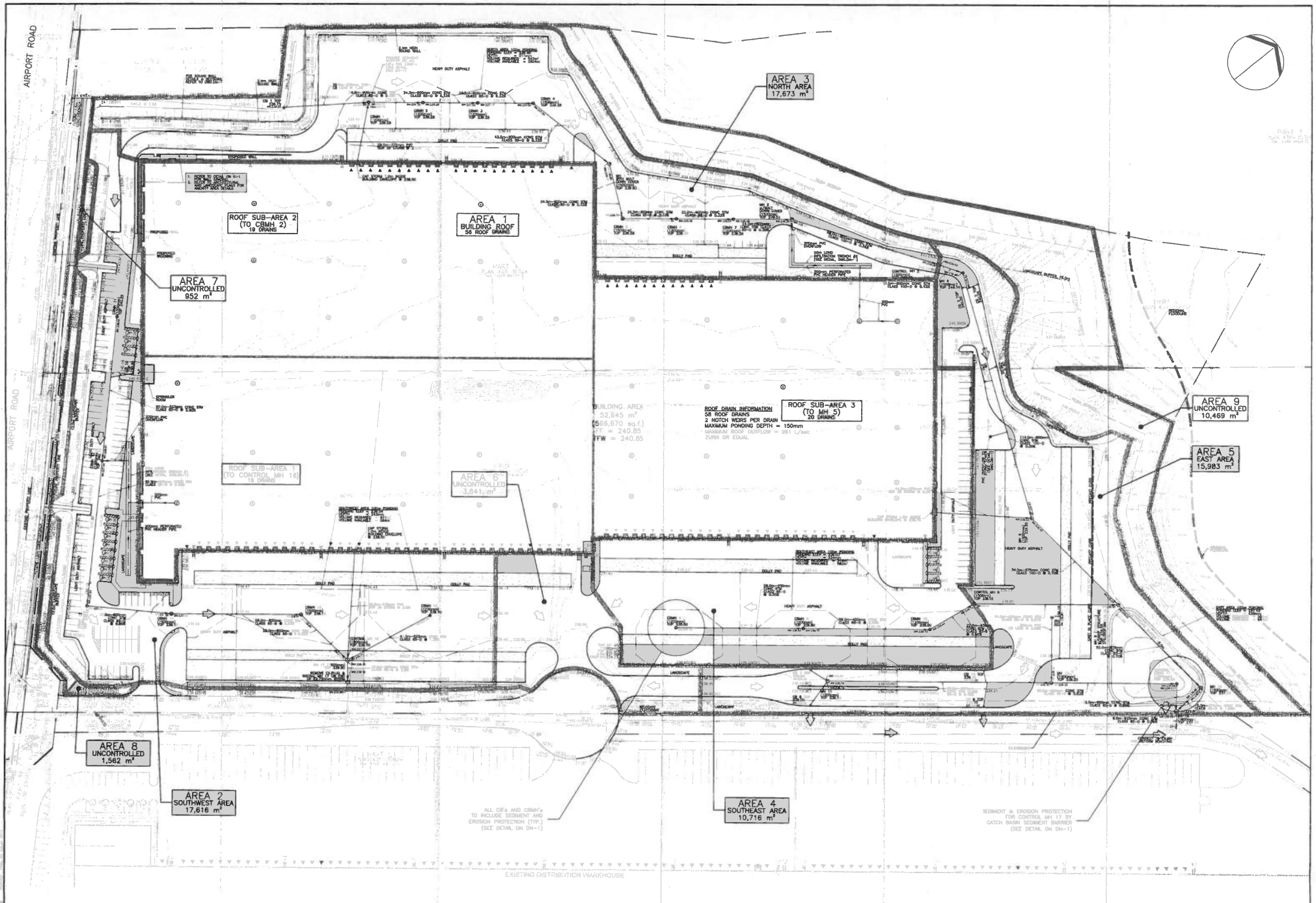
CONSULTANT
counterpoint ENGINEERING

SITE LOCATION:
MAYFIELD – AIRPORT ROAD
REGION OF PEEL SP-2005-055

APPLICANT:
THE CORPORATION OF THE
TOWN OF CALEDON

EROSION AND SEDIMENT CONTROL PLAN
PHASE-2

SCALE: 1:1000
PROJECT No. 05257
DESIGNED BY: CFU
DRAWN BY: JY
CHECKED BY: RM
DATE: JUNE/05
DRAWING No. 8-ESC



Hopewell Development

TOWN OF CALEDON

AIRPORT ROAD DISTRIBUTION FACILITY

12333 AIRPORT ROAD

BENCHMARK

LEGEND

REVISIONS

No.	BY	DATE	DESCRIPTION	CHK'D
5.	JL	2012/07/04	ISSUED FOR SITE PLAN APPROVAL	B.S.
3.	JL	2012/10/17	ISSUED FOR TENDER	B.S.
5.	JL	2012/11/12	REVISED AS PER AGENCY COMMENTS	B.S.
4.	JL	2012/11/12	ISSUED FOR POST TENDER ADDENDUM	B.S.
5.	JL	2013/03/15	ISSUED FOR 3RD SPA SUBMISSION	B.S.
4.	JL	2013/03/28	ISSUED FOR CONSTRUCTION	B.S.
3.	JL	2013/05/03	STORM SEWER INVERTS REVISED (MH7-CBMH11)	B.S.
2.	JL	2013/05/03	[illegible]	B.S.
1.	JL	2013/08/13	ISSUED FOR S.P. SUBMISSION	B.S.

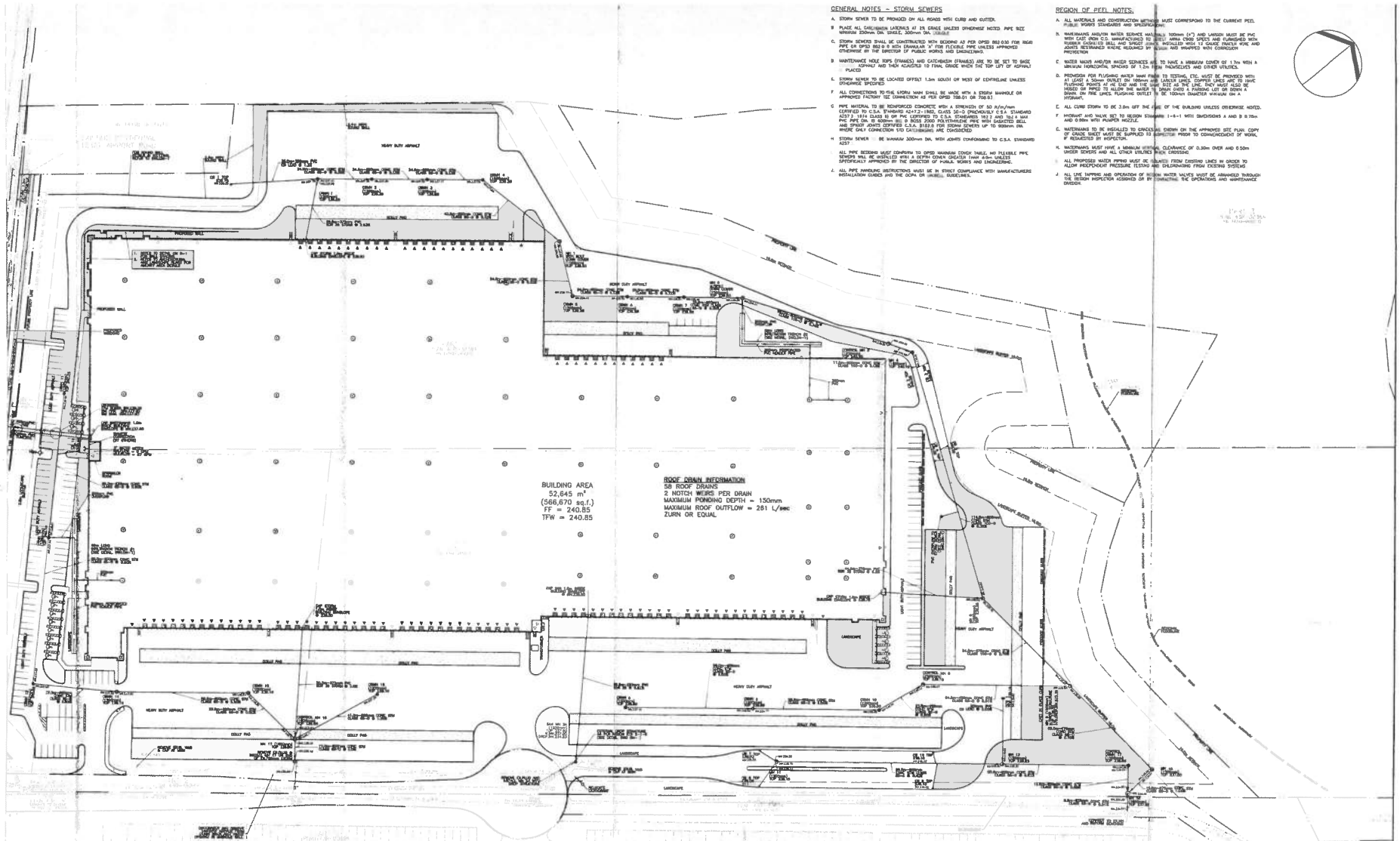
JSW+ associates

SITE

SHEET TITLE: STORM DRAINAGE AREA PLAN

SITE PLAN No.	SP#-12-66
APPLICATION No.	C-471880
DESIGNED BY:	B.S.
DRAWN BY:	JL
CHECKED BY:	B.S.
PROJECT No.	12-30
SCALE:	1:500
DATE ISSUED:	JULY 2012

SHEET No. STM-1



TOWN OF CALEDON

AIRPORT ROAD DISTRIBUTION FACILITY

12333 AIRPORT ROAD

BENCHMARK

ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM MINISTRY OF TRANSPORTATION BENCHMARK No. 0508-B726026 HAVING AN ELEVATION OF 251.24m

LEGEND

- 277.36 — PROPOSED SPOT ELEVATION
- 277.38(TW) — TOP OF WALL ELEVATION
- 277.38(BW) — BOTTOM OF WALL ELEVATION
- 277.38(TS) — TOP OF SWM ELEVATION
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED SINGLE CATCHBASIN
- PROPOSED DOUBLE CATCHBASIN
- PROPOSED HYDRANT & VALVE
- PROPOSED VALVE & BOX
- PROPOSED DIRECTION OF FLOW
- EXISTING SPOT ELEVATION
- EXISTING MANHOLE
- EXISTING SINGLE CATCHBASIN
- EXISTING HYDRANT
- EXISTING VALVE & CHAMBER/BOX
- EXISTING UTILITY POLE
- PROPOSED SWM POND
- EMERGENCY OVERLAND FLOW ROUTE

REVISIONS

No	BY	DATE	DESCRIPTION	CHKD
1.	JL	2012/07/04	ISSUED FOR SITE PLAN APPROVAL	B.S.
2.	JL	2012/10/17	ISSUED FOR TENDER	B.S.
3.	JL	2012/11/12	REVISED AS PER AGENCY COMMENTS	B.S.
4.	JL	2012/11/13	ISSUED FOR POST TENDER ADDENDUM	B.S.
5.	JL	2012/03/16	ISSUED FOR 3RD SPA SUBMISSION	B.S.
6.	JL	2013/03/28	ISSUED FOR CONSTRUCTION	B.S.
7.	JL	2013/04/08	STORM SEWER #MH13 REVISED (MH17-OBMH11)	B.S.
8.	JL	2013/05/03	AS PER REGION COMMENTS	B.S.
9.	JL	2013/05/13	ISSUED FOR 4TH SPA SUBMISSION	B.S.

JSW+ associates

ENGINEER'S STAMP

LOCATION PLAN

SITE SERVICING PLAN

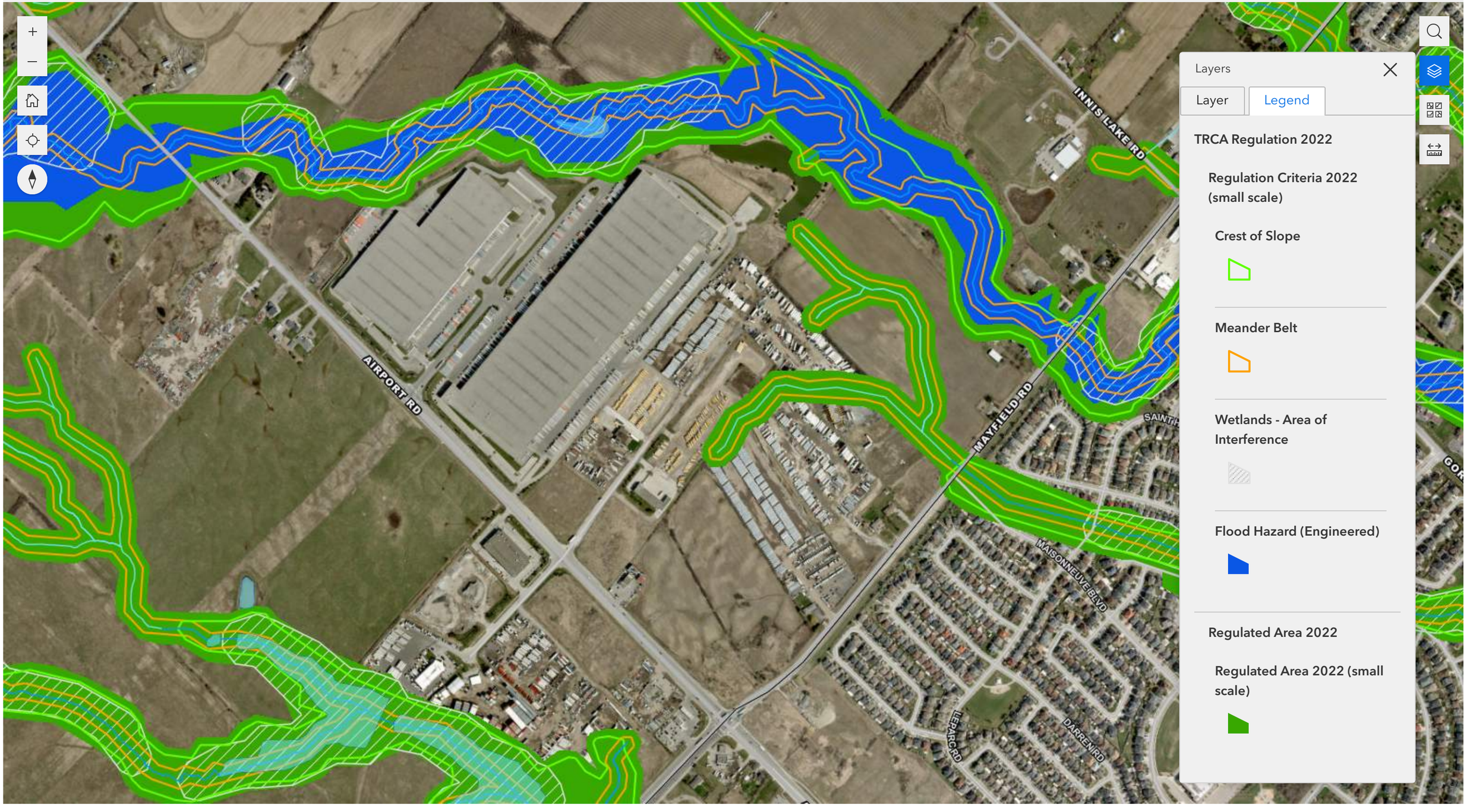
SITE PLAN No: SPA-12-66
APPLICATION No: C-4316BD

DESIGNED BY: B.S. DRAWN BY: JL

CHECKED BY: B.S. PROJECT No.: 12-30

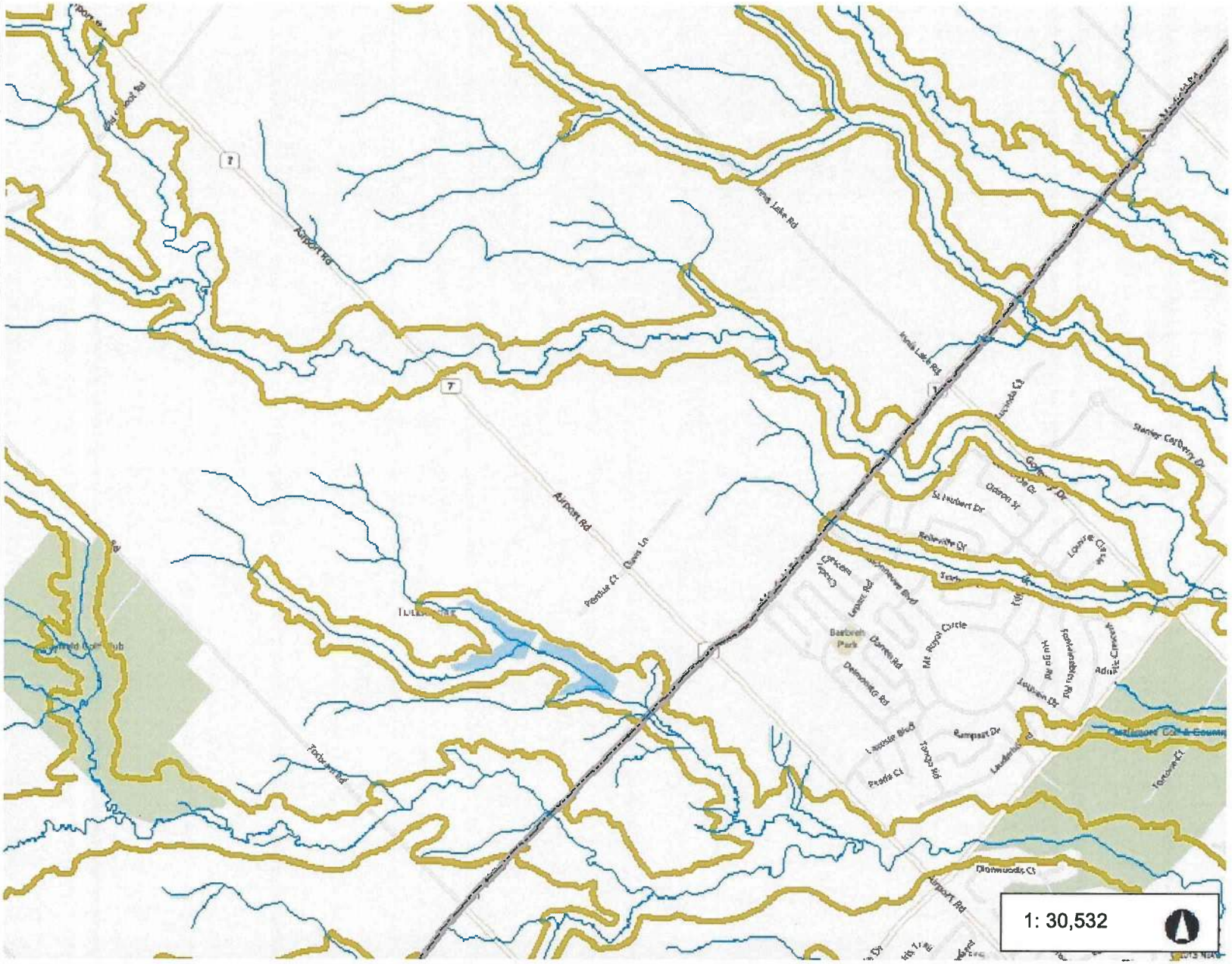
S-1

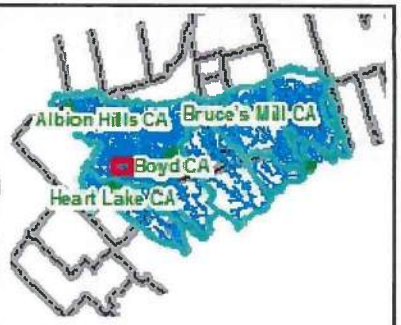
TRCA Regulation Mapping



Peel Region, Maxar | TRCA | Ministry of Natural Resources and Forestry Position name Land Information Ontario - Support Point of contact: Party who can be contacted for acquiring knowledge about or acquisition of the resource Voice: 1 (705) 7551878 Electronic mail… Powered by Esri

TRCA Map Output





Legend

- Conservation Areas
- WatershedBoundary
- Rivers / Stream
- Municipal Boundary
- Regulation Limits

Notes

1: 30,532

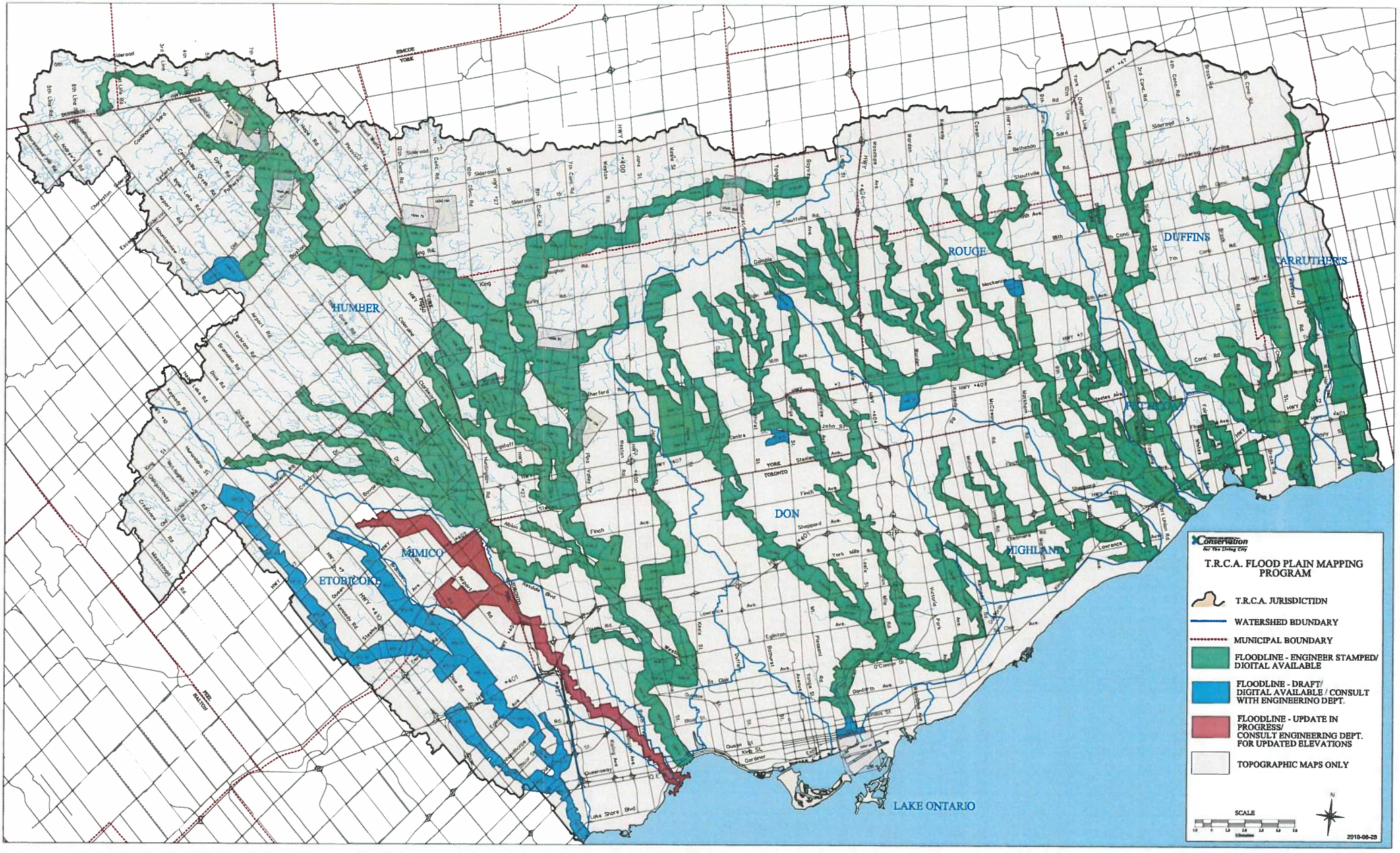
1.0 0 0.48 1.0 Miles

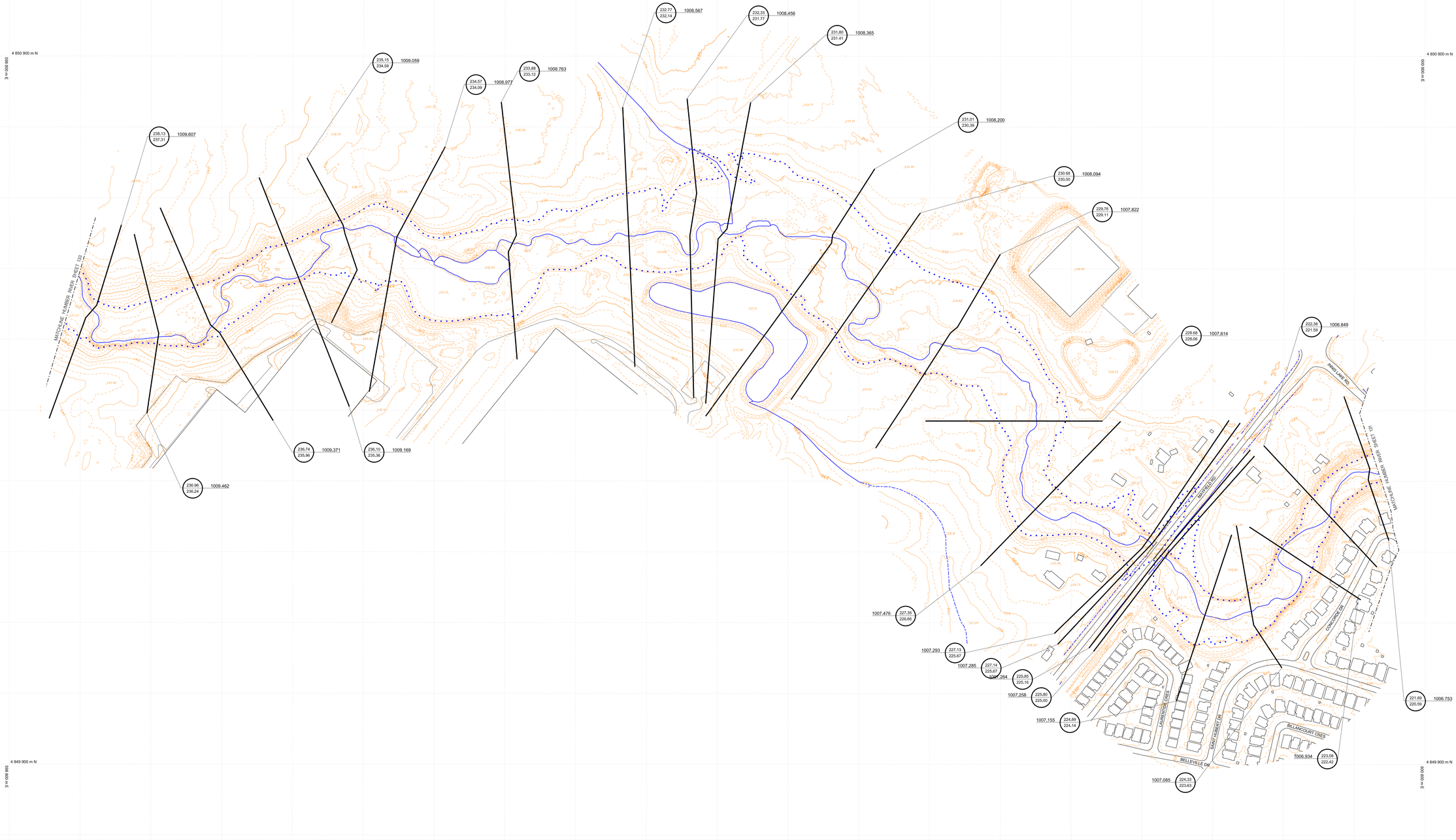
WGS_1984_Web_Mercator_Auxiliary_Sphere

© Toronto Region Conservation Authority

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION


HUMBER
ROUGE
DUFFINS
CARRUTHERS
DON
MIMICO
ETOBICOKE
HIGHLAND
LAKE ONTARIO
T.R.C.A. FLOOD PLAIN MAPPING PROGRAM
T.R.C.A. JURISDICTION
WATERSHED BOUNDARY
MUNICIPAL BOUNDARY
FLOODLINE - ENGINEER STAMPED/ DIGITAL AVAILABLE
FLOODLINE - DRAFT/ DIGITAL AVAILABLE / CONSULT WITH ENGINEERING DEPT.
FLOODLINE - UPDATE IN PROGRESS/ CONSULT ENGINEERING DEPT. FOR UPDATED ELEVATIONS
TOPOGRAPHIC MAPS ONLY
SCALE
2010-06-28



REVISIONS

NO.	DESCRIPTION	BY	DATE

LEGEND
Cross-Section Label
Cross-Section Leader Line
Regional Flood Elevation (m)
Cross-Section Number 14.060
100 Year Flood Elevation (m) 172.00 / 172.00
Cross-Section Length
REGULATORY FLOOD ELEVATION IS THE HIGHER OF THE TWO ELEVATIONS DISPLAYED

LEGEND

- Contour Index
- Contour 1 metre
- Contour 0.5 metre
- Contour Label (100)
- Spot Elevation (100.10)
- Road
- Parking Lot / Large Driveway
- Rail Line
- Bridge / Large Culvert
- Water Feature
- Ditch
- Marsh
- Building
- Regulatory Flood Line

The elevation data on this map was produced by TRCA from a DEM with 1.0 m grid resolution. The DEM was created using mass points with a vertical accuracy tolerance of +/- 0.10m RMSE on hard flat surfaces. The mass points were collected using LiDAR flown in 2014 by Airborne Imaging.
Downstream of Mayfield Rd.:
The planimetric data on this map was acquired from the City of Brampton Open Data Catalogue in 2017. The vintage of the data may not match with the elevation dataset and is for reference only.
Upstream of Mayfield Rd.:
The planimetric data on this map was compiled from a variety of sources of different vintage and may not match with the elevation dataset. This data is for reference only.
Building footprints were acquired from Peel Region in 2017.
The vertical datum is mean sea level as established by the Geodetic Survey of Canada, CGVD 1928-1978 Ontario Adjusted Version
The horizontal datum is North American Datum 1983, U.T.M. 6° projection Zone 17, Central Meridian 81° W
Grid Interval 100 metres.

PLEASE NOTE:
FLOODLINE ELEVATIONS ARE SUBJECT TO CHANGE DUE TO REVISED INFORMATION.

Elevation Data provided by:

AIRBORNE IMAGING
A Clean Harbors Company

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T:(416) 987 8161 / 905.940.8161 F:905.940.2064

PLEASE NOTE:
THE PROFESSIONAL ENGINEER'S STAMP DENOTES THE FLOOD LINE AND ASSOCIATED DATA ONLY AS SHOWN HEREON UNLESS OTHERWISE NOTED

LICENSED PROFESSIONAL ENGINEER
O.F. SANDERS
PROVINCE OF ONTARIO

FLOOD PLAIN MAPPING PROGRAM

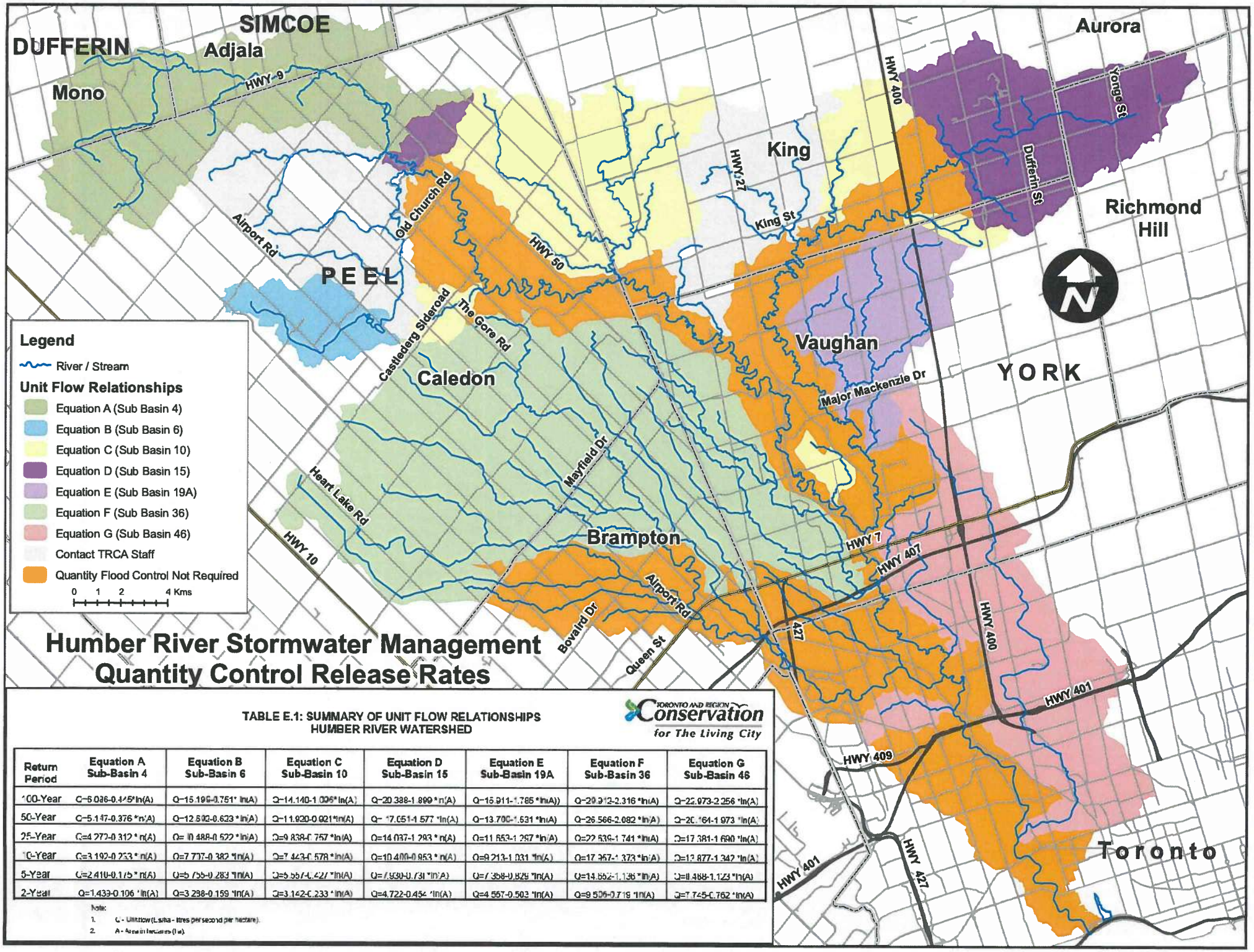
FLOODLINE APPROVED DATE: 2018-05-18

Toronto and Region Conservation for The Living City
5 Shoreham Drive Downsview Ontario M3N 1S4 (416) 661-6600

Scale 1:12000
100 Metres 0 100 200 Metres
200 Feet 0 200 400 600 800 1000 Feet

HUMBER RIVER

SHEET No. 132



Humber River Stormwater Management Quantity Control Release Rates

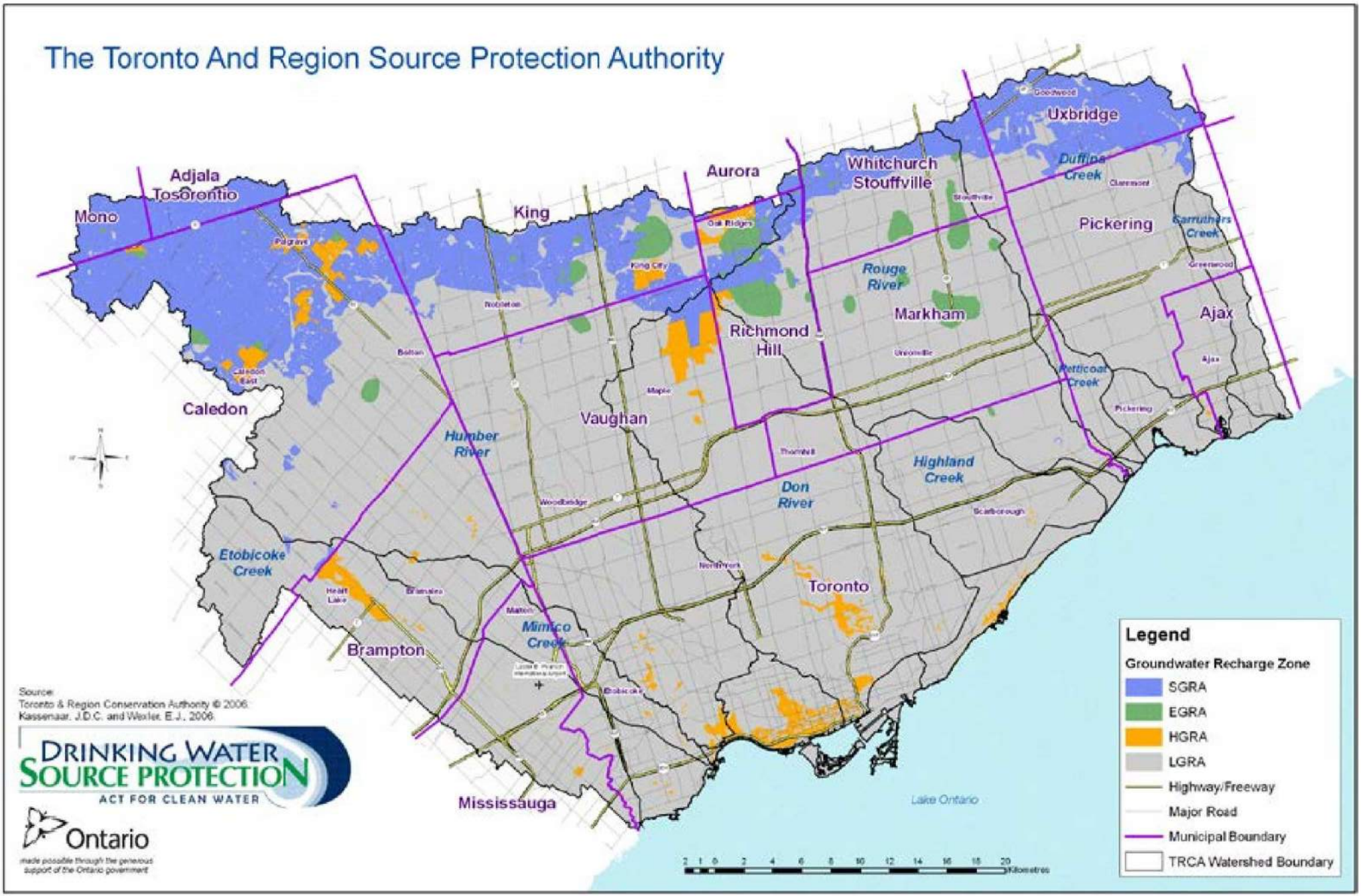
TABLE E.1: SUMMARY OF UNIT FLOW RELATIONSHIPS
HUMBER RIVER WATERSHED

Toronto and Region Conservation for The Living City

Return Period	Equation A Sub-Basin 4	Equation B Sub-Basin 6	Equation C Sub-Basin 10	Equation D Sub-Basin 15	Equation E Sub-Basin 19A	Equation F Sub-Basin 36	Equation G Sub-Basin 46
100-Year	Q=6.036-0.475*ln(A)	Q=15.196-0.751* ln(A)	Q=14.140-1.006*ln(A)	Q=20.388-1.899 *ln(A)	Q=15.911-1.785 *ln(A))	Q=29.912-2.316 *ln(A)	Q=22.973-2.256 *ln(A)
50-Year	Q=5.147-0.376 *ln(A)	Q=12.592-0.623 *ln(A)	Q=11.920-0.921*ln(A)	Q= 17.051-1.577 *ln(A)	Q=13.700-1.531 *ln(A)	Q=26.566-2.082 *ln(A)	Q=20.164-1.973 *ln(A)
25-Year	Q=4.272-0.312 *ln(A)	Q= 10.488-0.522 *ln(A)	Q=9.838-0.757 *ln(A)	Q=14.037-1.293 * n(A)	Q=11.653-1.297 *ln(A)	Q=22.639-1.741 *ln(A)	Q=17.381-1.690 *ln(A)
10-Year	Q=3.192-0.233 * n(A)	Q=7.737-0.382 *ln(A)	Q=7.443-0.578 *ln(A)	Q=10.400-0.953 * n(A)	Q=9.213-1.031 *ln(A)	Q=17.357-1.373 *ln(A)	Q=13.877-1.342 *ln(A)
5-Year	Q=2.410-0.175 * n(A)	Q=5.756-0.283 *ln(A)	Q=5.554-0.427 *ln(A)	Q=7.930-0.731 *ln(A)	Q=7.358-0.829 *ln(A)	Q=14.552-1.136 *ln(A)	Q=11.468-1.123 *ln(A)
2-Year	Q=1.433-0.106 *ln(A)	Q=3.298-0.159 *ln(A)	Q=3.142-0.233 * ln(A)	Q=4.722-0.454 *ln(A)	Q=4.567-0.503 *ln(A)	Q=9.506-0.719 *ln(A)	Q=7.745-0.762 *ln(A)

Note:
1. Q - Unit flow (L/s/ha - litres per second per hectare).
2. A - Area in hectares (ha).

Figure C 10: Recharge Area Classification



Appendix A.5

Water and Wastewater (Sanitary) Maps, Standards and Design Criteria

LOCATION	FROM M.H.	TO M.H.	Land Use	AREA (ha)	DENSITY (ppha)	POPULATION	CUMULATIVE AREA	CUMULATIVE POPULATION	Peaking Factor	CALCULATED SEWAGE FLOW	SEWAGE FLOW (TABLE)	INFILTRATION FLOW	FOUNDATION DRAIN	TOTAL FLOW	LENGTH (m)	PIPE DIAMETER (mm)	GRADIENT (%)	CAPACITY (m^3/sec)	VELOCITY (m/sec)	Surplus Capacity
							ha	no		m3/s	m3/s	m3/s	m3/s	m3/s	m	mm	%	cm/s	m/s	cm/s
WEST CATCHMENT 102 - Draining to Airport Road at Davis Lane - 750mm dia. sewer																				
			Pres. Ind.		70										1	250	0.35	0.0352		0.03519
			Hwy. Comm.	11.98	50	598.75	11.975	598.75	3.93	0.00825	0.01300	0.00311		**0.01611**	1	250	0.35	0.0352	0.7168	0.01907
			Gen. Ind.	5.75	70	402.542	17.726	1001.29	3.80	0.01333	0.01300	0.00150		**0.01450**	1	250	0.35	0.0352	0.7168	0.02069
			Roads	1.23				1001.29	3.80	0.01333	0.01300	0.00032		**0.01332**	1	250	0.35	0.0352	0.7168	0.02187
Totals				18.95		1,001.29						0.00493		**0.01826**						
EAST CATCHMENT 101 - Draining to Mayfield Road at Maisonneuve Blvd - 250mm dia. sewer																				
			Hwy. Comm.		50				4.50						1	250	0.35	0.0352		0.03519
			Pres. Ind.	5.20	70	364.1642	5.2023	364.164	4.04	0.00516	0.01300	0.00135		**0.01435**	1	250	0.35	0.0352	0.7168	0.02084
			Gen. Ind.	21.82	70	1527.544	27.024	1891.71	3.60	0.0239	0.02280	0.00567		**0.02847**	1	250	0.35	0.0352	0.7168	0.00671
			Roads	3.05				1891.71	3.60	0.0239	0.02280	0.00079		**0.02359**	1	250	0.35	0.0352	0.7168	0.01160
			Ponds and EP	4.16				1891.71	3.60	0.0239	0.02280	0.00108		**0.02388**	1	250	0.35	0.0352	0.7168	0.01131
Totals				34.23		1,891.71						0.00890		**0.03280**						

Drainage Area Plan No. SAN-1
Consultant The Jones Consulting Group Ltd.
Subdivision Tullamore Secondary Planning Area
Sheet 1 of 1
Project No. CAL-13304

Region of Peel
Working for you

STD. DWG. 2-5-1

Sewer Flow Numbers Taken From STD. DWG. 2-5-2

Date
Rev.
Date Feb-25
Approved

q	302.8 l/cap/day
infiltration	0.2 l/s/ha
peaking factor	m=1+14/(4+(p/1000)1/2)
Mmax	4.5
sewage flow	Q=(P*q*M)/86400

2. DESIGN FLOWS

Design calculations for sanitary sewer systems shall be completed on Standard Drawing 2-5-1 (appended hereto).

2.1. Population Equivalents based on Land Use

Residential

Population equivalent densities are to be calculated based upon the following criteria:

Density	Pop./Hectare
Single family (greater than 10m frontage)	50 persons/hectare
Single family (less than 10m frontage)	70 persons/hectare
Semi-detached	70 persons/hectare
Row dwellings	175 persons/hectare
Apartments	475 persons/hectare

Apartments

If the proposed population equivalent is greater than 475 persons/hectare, based on a rate of 2.7 people per unit (ppu), then the calculated population equivalent shall be used for design.

$$\frac{2.7 \text{ ppu} \times (\#\text{ units})}{\text{area}} = \text{pop/hectare}$$

Standard Drawing 2-5-2 (appended hereto) lists domestic sewage flows versus population including a peaking factor.

Industrial

For light industrial areas, use an equivalent population of 70 persons per hectare. Refer to Standard Drawing 2-5-2 for sanitary sewage flows. Individual studies are to be made for special industries and major industrial areas.

Commercial

For commercial areas, use an equivalent population of 50 persons per hectare. Refer to Standard Drawing 2-5-2 for sanitary sewage flows.

Individual studies are to be made for infill commercial development, redevelopment, land use intensification and areas where the equivalent population will be greater than 50 persons per hectare.

Institutional

- Equivalent population per site as follows:
- Junior Public Schools
  1/3 x number of students (600 students minimum)
- Senior Public Schools
  ½ x number of students (900 students minimum)
- Secondary Schools
  2/3 x number of students (1,500 students minimum)
- Hospitals
  Apply a population equivalent of 3 persons per bed.

2.2. Peak Sanitary Flow Factor

The peak sanitary flows in Standard Drawing 2-5-2 were derived by applying the ratio established by the Harmon Formula to the average day sanitary flows as follows:

$$M = 1 + \frac{14}{4 + p^{0.5}}$$

where: M = ratio of peak flow to average flow
P = the tributary equivalent population in thousands

2.3. Infiltration

Except for unusual circumstances, the infiltration portion of sewage flow shall be 0.0002 m^3/sec/ha for all types of land use. This factor applies to the gross area of all lands.

When designing sewers that accept flows from an area developed more than twenty five (25) years ago, or where evidence indicates, an additional allowance shall be made for foundation drains equal to 0.08 litres/sec/foundation drain (0.00008 m^3/sec/drain).

Additional allowance for maintenance hole inflow: 0.00028 m^3/sec/mh or equivalent of 0.000028 m^3/sec/m of sewer length shall be included.

2.4. Design Flows

- Design flows shall be based upon the equivalent population from Standard Drawing 2-5-2 (peaking factor included). To this figure an infiltration allowance is added based upon the gross area. See section 2.3 above.

- Minimum sewer pipe grades to be as per Standard Drawing 2-5-4.

6. PIPE DEPTH, LOCATION AND BEDDING

6.1. Pipe Depth

The obvert of the sewer shall be a minimum of 2.5 m below the centre line of the road allowance. Where this is not possible, minimum basement elevations of 1.0 m above the sanitary pipe obvert are to be shown on the profile drawing, lot grading plans, and general underground servicing plan. These elevations are to be included in the Servicing Agreement. In commercial areas, the sewer obvert shall be a minimum of 3.5 m below the centre line of the road allowance where possible. In valleys, the sewer obvert shall be a minimum 1.4 m below the creek bottom. A permit from the Conservation Authority is required for creek crossing.

In all cases the proposed sanitary sewers shall be installed at sufficient depth to service lands external to the site as determined by the Region of Peel. Special design consideration for water tight joints is to be applied when pipe is buried to a depth where significant hydrostatic pressures are anticipated.

The Consulting Engineer shall support the selection of the type of pipe to be used with detailed design calculations, when requested.

6.2. Location

The sanitary sewer shall be located 1.50 m north or east of the centreline of the road allowance unless conflicts with other utilities require a revised location. Curvilinear sewer alignments may be permitted for large diameter sewers only, provided it is parallel to the road centreline and compensation is provided for head losses due to curvature.

A 2.0 m horizontal separation between the sanitary sewer and storm sewer (barrel to barrel) will be permitted to allow for common trench construction as long as the inverts of both sewers are at the same relative elevation. Should the sewer inverts vary by more than 1.0 m, a 3.0 m horizontal separation shall be maintained.

Note: Allowance to be made for minimum basement elevation where storm sewers obvert impacts the serviceability of adjacent lands.

6.3. Bedding

Sanitary sewers shall be installed with bedding as per Standard Drawing 2-3-1. The sieve analysis for granular bedding materials can be seen in the standard drawings.

Population	Peak Flow (m^3/sec)	Population	Peak Flow (m^3/sec)	Population	Peak Flow (m^3/sec)
1000	0.0130	4750	0.0542	13000	0.1292
1050	0.0139	5000	0.0569	14000	0.1376
1100	0.0145	5250	0.0594	15000	0.1459
1150	0.0151	5500	0.0618	16000	0.1540
1200	0.0157	5750	0.0640	17000	0.1620
1300	0.0169	6000	0.0666	18000	0.1700
1400	0.0181	6250	0.0691	19000	0.1779
1500	0.0193	6500	0.0710	20000	0.1857
1600	0.0204	6750	0.0737	25000	0.2236
1700	0.0217	7000	0.0762	30000	0.2601
1800	0.0228	7250	0.0784	35000	0.2955
1900	0.0239	7500	0.0809	40000	0.3298
2000	0.0251	7750	0.0830	45000	0.3634
2200	0.0273	8000	0.0854	50000	0.3963
2400	0.0296	8250	0.0878	55000	0.4286
2600	0.0318	8500	0.0898	60000	0.4603
2800	0.0340	8750	0.0922	65000	0.4915
3000	0.0361	9000	0.0945	70000	0.5224
3250	0.0387	9250	0.0968	75000	0.5528
3500	0.0415	9500	0.0981	80000	0.5828
3750	0.0441	9750	0.1010	85000	0.6126
4000	0.0467	10000	0.1033	90000	0.6420
4250	0.0492	11000	0.1120	95000	0.6711
4500	0.0518	12000	0.1210	100000	0.7000

Notes:
1. Domestic sewage flows are based upon a unit sewage flow of 302.8 Lpcd.
2. The flows in the above table include the Harmon Peaking Factor.
3. Domestic sewage flow for less than 1000 persons shall be 0.013m^3/sec.
4. Domestic sewage flow for greater than 100,000 persons shall be 7.0×10^{-6} m^3/sec per capita.
5. Lpcd = Litres per capita per day 1 Litre = 0.001 $metre^3$

Region of Peel
Working for you

Date: June 2005 Rev: 1

Approved:

SEWAGE FLOWS
(EXCLUDING INFILTRATION)

STD. DWG. 2-5-2

Table 3-2: Typical Water Demands for Selected Commercial and Institutional Users

COMMERCIAL AND INSTITUTIONAL USE	WATER USE (DAILY AVERAGE)
Shopping Centres (based on total floor area)	2500-5000 L/(m^2·day) [60-120 USgal/(ft^2·day)]
Hospitals	900-1800 L/(bed·day) [240-480 USgal/(bed·day)]
Schools	70-140 L/(student·day) [20-40 USgal/(student·day)]
Travel Trailer Parks (min.with separate hook-ups)	340 L/(space·day) [90 USgal/(space·day)] 800 L/(space·day) [210 USgal/(space·day)]
Campgrounds	225-570 L/(campsite·day) [60-150 USgal/(campsite·day)]
Mobile Home Parks	1000 L/(space·day) [260 USgal/(space·day)]
Motels	150-200 L/(bed-space·day) [40-50 USgal/(bed-space·day)]
Hotels	225 L/(bed-space·day) [60 USgal/(bed-space·day)]

3.4.4 Industrial Water Demands

Industrial water demands are often expressed in terms of water requirements per gross hectare of industrial development when the type of industry is unknown (e.g., new industrial parks). These demands will vary greatly with the type of industry, but common allowances for industrial areas range from 35 m^3/(ha·d) [3740 USgal/(acre·d)] for light industry to 55 m^3/(ha·d) [5880 USgal/(acre·d)] for heavy industry. These are average daily demands. Peak usage rates will generally be 2 to 4 times the average rate depending on factors such as the type of industry and production schedule.

When the type of industry is known, discussions should be held with representatives of the industry to determine water requirements.

3.4.5 Demand Considerations for Systems Serving Fewer than 500 People

3.4.5.1 Household (Interior) Water Demands & Peaking Factors

As a minimum, the water supply/treatment facility should be designed to meet the projected maximum daily flow requirement of the service area with peak hourly, outdoor use and fire demands met from storage. Where it is possible to

HOUSING TYPE	DENSITY (PERSON/UNIT)
Small Apartment (less than or equal to 1 bedroom)	1.7 person/unit

If the proposed population equivalent for apartments is greater than 475 persons/hectare, then the population equivalent used for design shall be calculated based on a density of 2.7 persons per unit (ppu) using the equation below.

$$\frac{2.7ppu \times No.Units}{Area} = persons/hectare$$

2.1.2. Industrial, Commercial, and Institutional (ICI)

For light industrial areas, the Designer is to use an equivalent population of 70 persons per hectare. Individual studies will be required for special industries and major industrial areas.

For commercial areas, the equivalent population of 50 persons per hectare shall be used in the absence of known information.

Individual studies are to be undertaken for infill commercial development, redevelopment, land use intensification and areas where the equivalent population will be greater than 50 persons per hectare.

For institutional land uses, the equivalent populations shall be calculated as follows:

- Junior Public Schools: 1/3 × number of students (600 students minimum)
- Senior Public Schools: 1/2 × number of students (900 students minimum)
- Secondary Schools: 2/3 × number of students (1500 students minimum)
- Hospitals: Apply a population equivalent of 3 persons per bed

2.2. Daily Per Capita Sanitary Flow

The daily per capita sanitary flow shall be 285 liters per capita per day (L/cap/day). Where land use type is known, the flows shall be based on the following:

- Residential – 290 L/cap/day
- Non-Residential – 270 L/emp/day

2.3. Average Dry Weather Flow

Equivalent population shall be used to calculate the Average Dry Weather Flow (ADWF). The ADWF for each sanitary sewer reach (maintenance hole to maintenance hole) shall be determined by multiplying the total accumulated equivalent population contributing to that reach by the Daily per Capita Sanitary Flow as shown below:

Average Dry Weather Flow (ADWF) = Daily per Capita Flow × Equivalent Population.

2.4. Peaking Factor

The Peaking Factor (PF) is the ratio of peak dry weather flow to average dry weather flow. The Harmon Formula shall be used to determine peaking factors as shown below:

$$PF = 1 + \frac{14}{4 + \left(\frac{P}{1000}\right)^{0.5}}$$

Where: PF = Peaking Factor, ratio of peak dry weather flow to average dry weather flow
P = Tributary equivalent population

The peaking factor shall be limited to a minimum of 2.0 and a maximum of 4.0.

2.5. Extraneous Flow (Infiltration and Inflow)

The extraneous flow (infiltration and inflow), $Q_{I\&I}$, is used as an allowance to account for any infiltration and inflow that makes its way into the wastewater system over the lifespan of the infrastructure. The following sections and formulae are to be used to determine the infiltration and inflow flow:

$$Q_{I\&I} = R_{I\&I} \times A$$

Where: $Q_{I\&I}$ = Extraneous Flow, includes both Inflow and Infiltration (L/s)
$R_{I\&I}$ = Inflow and Infiltration Rate (L/s/ha) – see Sections 2.5.1 and 2.5.2
A = Tributary Gross Area (ha)

2.5.1. Greenfield Growth Areas

The infiltration and infiltration portion of sewage flow shall be 0.26 L/s/ha for all types of land use. This factor applies to the gross area of all lands. If and where necessary, the Region shall provide additional guidance based on hydraulic modelling results, other known information and will govern if a discrepancy exists.

For maintenance holes located in low-lying areas and/or subject to flooding, the Region may at its discretion require an additional inflow allowance of 0.28 L/s per maintenance hole.

2.5.2. Existing Areas

The Designer is to reference available flow monitoring results or the best, most recent information to establish inflow/infiltration flows in an existing service area. Failing that, the

inflow and infiltration portion of sewage flow shall be 0.26 L/s/ha for all types of land use. This factor applies to the gross area of all lands.

When designing sanitary sewers in existing areas, the Region reserves the right to have existing flows validated using its all-pipe hydraulic model to confirm sizing of new sanitary sewers.

For maintenance holes located in low-lying areas and/or subject to flooding, the Region may at its discretion require an additional inflow allowance of 0.28 L/s per maintenance hole.

2.6. Design Flow Determination

The design flow is the sum of the average dry weather flow, ADWF, which has been adjusted with the peaking factor, PF, and the extraneous flow (inflow and infiltration) allowance, $Q_{I\&I}$, as outlined in the following equation:

$$Q_{des} = PWWF = PDWF + Q_{I\&I} = (ADWF\ x\ PF) + Q_{I\&I}$$

Where: Q_{des} = Design Flow (L/s)

PWWF = Peak Wet Weather Flow (L/s) =PDWF + $Q_{I\&I}$

PDWF = Peak Dry Weather Flow (L/s) = ADWF × PF

ADWF = Average Dry Weather Flow (L/s)

PF = Peaking Factor (Ratio of Peak Dry Weather Flow to Average Dry Weather Flow)

$Q_{I\&I}$ = Extraneous Flow; Inflow and Infiltration (L/s)

2.7. Sanitary Sewer Hydraulic Modelling

The Designer is responsible to ensure that based on existing flow data and through the performance of hydraulic modeling, that the design shall not cause the exceedance of capacity or level of service of the incoming our outgoing existing sanitary system or will not cause system surcharge, basement flooding or risk of a spill to the environment. The Region reserves the right to validate existing flows in the system using the Region's all-pipe hydraulic model.

2.8. Bypass Pumping Design Flows

The Designer is to refer to the most up to date version of the Region's "Sewer Shutdown and Bypass Requirements" guideline documents for Consultants, Contractors, and the Region.

For forcemain bypassing requirements, the most up to date version of the 'Sewage Pump Station and Forcemain Shutdown and Bypass Requirements' guideline documents for Consultants, Contractors, and the Region are to be referenced.

2.9. Specialized Hydraulics

2.9.1. Froude Number

To validate the design flows calculated using Manning's Formula, the following Froude number equation shall be used:

$$F = \frac{V}{(gD)^{0.5}}$$

Where: F = Froude number

F= 1, critical flow

F > 1, supercritical flow (fast, rapid flow)

F < 1, subcritical flow (slow, calm flow)

D = Hydraulic depth (m), $\frac{A}{T}$

A = Cross-sectional area of flow (m^2)

T = Top width of free flow surface (m)

V = Flow velocity (m/s)

g = Gravitational Acceleration Constant,9.81 (m/s^2)

The Designer is to ensure that subcritical flows (F<1) are used to the greatest extent possible in design to minimize potential for turbulent flow or hydraulic jump.

2.9.2. Specialized Structures

In the event supercritical flow or deep drops (> 5 m) are anticipated, specialized structures will be required. Refer to Section 7.

3. Mainline Gravity Sanitary Sewer

3.1. Flow Velocities

The Designer must provide supporting calculations to demonstrate that, minimum velocity, maximum velocity and minimum grade are maintained to ensure correct operation of the sanitary sewer.

The flow velocities shall be determined by Manning's Formula:

$$V = \frac{Q_{des}}{A}$$

Where: V = Flow velocity (m/s)
Q_{des} = Design Flow (m^3/s); 1 m^3/s = 1,000 L/s
A = Cross sectional area of flow (m^2)

3.1.1. Minimum Velocity

The minimum velocity shall not be less than 0.75 m/s at design flow.

3.1.2. Maximum Velocity

The maximum flow velocity shall not be greater than 3.0 m/s with the pipe flowing full.

3.1.3. Minimum Grade

All sanitary sewers shall be designed and sloped to achieve self scour / cleansing and the minimum velocity as outlined in Section 3.1.1. The last leg of sewer shall have a minimum grade of 1.00%

Designs shall also avoid steep sewer grades that may cause additional issues such as development of supercritical flows that will off gas when flow drops back to subcritical.

3.1.4. Flow Ratio

In general, mainline sanitary sewers shall be sized to convey the projected peak wet weather flow. The flow ratio of peak wet weather flow to full flow capacity (Q_{des}/Q_f) is not to exceed 0.7 as shown in the formula below.

$$Q_r = \frac{Q_{des}}{Q_f} \leq 0.7$$

Where: Q_r = Flow Ratio - ratio of peak wet weather flow to full flow capacity
Q_{des} = Design Flow, under projected peak wet weather flow

Q_f = Pipe full flow capacity

3.2. Pipe Size and Material

3.2.1. Pipe Sizing

Pipes shall be designed to a size which is sufficient to handle the sanitary peak wet weather flow. To determine pipe size and capacity, Manning's Formula shall be used as shown in the equation presented below.

$$Q = \frac{A}{n} R^{2/3} S^{1/2}$$

Where: Q = Design Flow (m^3/s)

n = Coefficient of Roughness

R = Hydraulic Radius $\left(\frac{A_F}{P_w}\right)$

A_F = Area of pipe Flowing Full

P_W = Wetted Perimeter

S = Slope (m/m)

A = Cross-Section Area of Pipe (m^2)

The coefficient of roughness (n) for all pipes shall be 0.013. The minimum pipe size shall be 200 mm diameter and must meet and maintain minimum velocities as outlined in Section 3.1.1.

3.2.2. Pipe Classification

3.2.2.1. Pressure Classification

Pipes shall be classified by pressure, based on Table 3-1 below.

Table 3-1 Gravity Sanitary Sewer – Pipe Size and Classification

PIPE SIZE	CLASSIFICATION
200 mm to 525 mm[1]	Non-Pressure Designed
600 mm and above	Pressure Designed[2]

[1] On a case-by-case basis, design constraints may require pipes to be pressure designed at the discretion of the Region.

[2] For pipes 600 mm and above, hydrostatic field testing to 345 kPa (50 psi) will be required see Section **Error! Reference source not found.**.

3.2.2.2. Major Trunk (Primary Collection) System

Major trunk sanitary sewers equal to or larger than 750 mm diameter dedicated to the conveyance of wastewater between local trunk sanitary sewers and wastewater treatment plants.

3.2.2.3. Sub-Trunk (Local Trunk Collection) System

Pipes 375 mm to 675 mm in diameter used to convey wastewater from local sanitary sewers to major trunk sanitary sewers.

3.2.2.4. Local Collection System

200 mm to 300 mm in diameter used to collect wastewater from individual service laterals to either sub-trunk and/or major trunk sanitary sewers.

3.2.3. Pipe Material

The Designer shall select appropriate pipe materials for gravity sanitary sewer applications, based on the matrix presented in Table 3-2 and Table 3-3. The Designer shall consider alternative pipe materials and gasket materials in areas with high hydrocarbons.

Table 3-2 Gravity Main Sanitary Sewer – Pipe Materials and Size Matrix (up to 525 mm)

MATERIAL	MAIN SIZE DIAMETER[1]	PIPE TYPE	JOINT TYPE	STANDARDS / SPECIFICATIONS	ADDITIONAL REQUIREMENTS
Non – Pressure Tested Pipe – Gravity Applications					
Polyvinyl Chloride (PVC)	200 mm to 525 mm	Flexible	Rubber gasket bell and spigot	CSA B182.2; ASTM D3034	
High Density Polyethylene (HDPE)	200 mm to 525 mm	Flexible	Welded (butt fused)	CSA B182.6; ASTM F714	Shall only be used for trenchless applications (new construction and/or rehabilitation)
Reinforced Concrete Pipe (RCP)[2, 3]	300 mm to 525 mm	Rigid	Rubber gasket bell and spigot	CSA A257 Series	

[1] All pipe sizes are internal pipe diameter.

[2] Reinforced concrete pipes without protective lining shall not be used in ICI area and/or areas prone to H_2S generation.

[3] Refer to Section 3.2.4 for Region approved concrete protective liners.

Table 3-3 Gravity Main Sanitary Sewer – Pipe Materials and Size Matrix (600 mm and above)

MATERIAL	MAIN SIZE DIAMETER[1]	PIPE TYPE	JOINT TYPE	STANDARDS / SPECIFICATIONS	ADDITIONAL REQUIREMENTS
Pressure Tested Pipe – Gravity Applications					
Concrete Pressure Pipe (AWWA C30*X*)[2,3,4]	600 mm and above	Rigid	Rubber gasket, steel bell and spigot	AWWA C301; AWWA C303	Min. pressure 50psi (345kPa). Complete with approved protective lining[2]
	900 mm and above	Rigid	Rubber gasket, steel bell and spigot	AWWA C300; AWWA C302[3]	
Fibreglass Reinforced Pipe (GRP) – -**Pressure Pipe System**	600 mm and above	Flexible	Rubber gaskets and coupling / sleeve	AWWA C950; ASTM D3754	Min. pressure 50psi (345kPa); Min. pipe stiffness 46psi (317kPa) Pipe joint and pipe to chamber connection shall be designed to be watertight and meet the sanitary pressure design requirements

[1] All pipe sizes are internal pipe diameter.

[2] Refer to Section 3.2.4 for Region approved concrete protective liners.

[3] The Designer is to consider all testing requirements with special attention to pipe component pressure restrictions before specifying AWWA C302 pipes.

[4] All joints shall be internally grouted/pointed per manufacture's recommendation for all AWWA 30*X* series pipes prior to completing in field protective lining requirements at joint assemblies.

For pipes 600 mm and greater in diameter, alternative materials will be considered by the Region at its sole discretion on a case-by-case basis and as required to meet project specific design requirements. Consideration of alternative pipe materials will only be given if existing approved pipe materials do not meet project specific design requirements. Alternative pipe material may also be considered if it can be adequately proven that an alternative material meets or exceeds all specific design requirements and provides the Region a net benefit/improvement over and above the current approved materials regarding asset performance, price, improved constructability, or any other project attributes that the Region deems appropriate.

When proposing alternative materials, the Designer shall provide all the necessary documentation, Comparison Matrix, and calculations required for the Region to fully assess the proposed alternative pipe material. The Comparison Matrix shall include the typical material

and the proposed material utilizing the same criteria for both. The criteria shall include but not limited to the following:

- Product Specifications and/or Data Sheets including maximum field test and/or operating pressures, dead and live load thresholds, pipe dimensions (including tolerances), H2S corrosion resistance, yield strength, compressive strength, tensile strength, etc.
- Joint watertightness (including orientation)
- Installation procedures
- Testing methodology in accordance with Region's testing requirements
- Notation of the CSA, AWWA, and/or ASTM Standards that the products are designed, produced, and tested to
- Physical characteristics (yield strength, compressive strength
- Unit Cost ($/metre length)
- Procurement/turnaround time
- Repair methods and procedures
- Type of maintenance hole and connection methods
- Any other data requested by the Region

On pipe connections 600mm and greater, designers shall be responsible for designing any new connection to any new and/or existing structures. Designers shall note that use of the 2-5 series STD DWG's, (non-pressure design), or 2-7 series STD DWG's (pressure design/ ridged) are not applicable to flexible pipe materials not listed above. The designer shall implement the intent of the 2-7 series STD DWG's inclusive of differential settlement.

Final written approval for the use of these alternative materials must be provided by the Region's Director of Engineering. The decision to approve the request for alternative pipe materials shall be at the sole discretion of the Region.

3.2.4. Protective Liners

Protective liners shall be installed on the interior of concrete pipes (reinforced concrete and AWWA C30*X*) and structures as either physically (embedded) bonded or chemically bonded. The Designer shall choose a liner that provides internal corrosion protection, long-term adhesion to the host pipe, and is watertight. The pipe with the installed protective lining shall not have an increase coefficient of roughness than the host pipe and the Designer shall consider the lining's effect on system hydraulic and operational requirements.

The Designer shall determine the appropriateness of the chosen protective liner based on installation requirements, pipe size, hydrostatic pressures and warranty requirements of the

Par 3 For individual commercial and institutional uses the following sewage flow rates are commonly used for design. Where a range is stated the lower figure is the minimum requirement.

	Sewage Flows[2] (Avg. Daily)
Shopping Centres	- 2500-5000 L/1000 m^2.day (based on total floor area) (50-100 gpd/1000 ft^2)
Hospitals	- 900-1800 L/bed.day (200-400 gpd/bed)
Schools	- 70-140 L/student.day (15 to 30 gpd/student)
Campgrounds	- 225-570 L/campsite.day (50 to 125 gpd/campsite)

Par 4 The peaking factors applicable for sewage flows from individual establishments will be similar to the peak water usage rates discussed in Section 2.1.1.2 of the "Guidelines for the Design of Water Distribution Systems".

2 5.1.3 Industrial Sewage Flows

Par 1 Peak sewage flow rates from industrial areas vary greatly with the extent of the area, the types of industries present, the provision of in-plant treatment or regulation of flows, the presence of cooling waters in the sanitary sewer system, etc.

[2]Unit sewage flow rates exclusive of infiltration.

Due to the occasional presence of individual industrial water supplies, the rates of water supply from municipal systems into industrial areas will not always be indicative of the sanitary sewage flows to be expected. Conversely, the discharge of good quality cooling water, originally derived from municipal supplies, into storm sewers or surface water courses, may result in lower flows in sanitary sewers than would be expected based on municipal water usage.

Par 2 The calculation of design sewage flow rates for industrial areas is, therefore, difficult. Careful control over the type of industry permitted in new areas is perhaps the most acceptable way to approach the problem. In this way, a reasonable allowance can be made for peak industrial sewage flows for an area and then the industries permitted to locate in the area can be carefully monitored to ensure that the overall allowances are not exceeded. Industries with the potential to discharge sewage at higher than the accepted rate could either be barred from the area, or be required to provide flow equalization and/or off-peak discharge facilities.

Par 3 Some typical sewage flow allowances for industrial areas are 35 m^3/hectare.day (3000 gpad) for light industry, and 55 m^3/hectare.day (5000 gpad) for

heavy industry. These are average flow rates and the peak sewage flow rates vary with the size of the industrial area as shown in Appendix B.

Par 4 See Appendix A for Guidelines on Industrial Sewage Flow Allowances for Provincially-financed projects.

2.5.1.4 Extraneous Sewage Flows

Par 1 When designing sanitary sewer systems, allowances must be made for the leakage of groundwater into the sewers and building sewer connections (infiltration) and for other extraneous water entering the sewers from such sources as leakage through manhole covers, foundation drains, roof downspouts, etc.

Par 2 Due to the extremely high peak flows that can result from roof downspouts, they should not, in any circumstance, be connected directly, or indirectly via foundation drains, to sanitary sewers. The Ministry of the Environment also discourages the connection of foundation drains to sanitary sewers. Studies which have been conducted by the Ministry show that flows from this source can result in gross overloading of sewers, pumping stations and sewage treatment plants for extended periods of time. The Ministry recommends that foundation drainage be directed either to the surface of the ground or into a storm sewer system,

Jim Parker

From: Motala, Imran <Imran.Motala@peelregion.ca>
Sent: Thursday, November 19, 2015 6:07 PM
To: Jim Parker
Cc: Polga, Miriam; 'Geoff Hebbert'; Mohammed, Junior; Germaine, Lynne
Subject: RE: CAL-13304-Tullamore Secondary Planning Area Request for Information

Follow Up Flag: Follow up
Flag Status: Flagged

Jim;

I think it will be worthwhile to sit down with you as we have a good idea on how this area will be serviced. We have also provided you previously with information related to this area (fire flow test etc.) and we will do the modeling so that the servicing strategy is well aligned with our Master Plan.

I will ask Junior from our development engineering to co-ordinate a meeting.

Thanks

-----Original Message-----
From: Motala, Imran
Sent: November 18, 2015 9:17 PM
To: Germaine, Lynne; JParker@jonesconsulting.com
Cc: Polga, Miriam
Subject: Re: CAL-13304-Tullamore Secondary Planning Area Request for Information

Jim,

We have done some preliminary analysis for this area and will get back to you with the information.

We will develop the water & wastewater servicing scheme for this area as well as do the hydraulic modelling to support the secondary plan development.

Thanks,

Imran Motala
Program Manager
Water & Wastewater Program Planning

> On Nov 17, 2015, at 10:46 AM, Germaine, Lynne <Lynne.Germaine@peelregion.ca> wrote:
>
> <JParker@jonesconsulting.com>

Jim Parker

From: Dean, Nadeem <Nadeem.Dean@peelregion.ca>
Sent: Monday, March 17, 2014 3:20 PM
To: Jim Parker
Cc: Mitra, Soyuz; Motala, Imran
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information
Attachments: CountrysideVillage_WW_Info_Mar172014.pdf

Hi Jim

Below are comments for wastewater servicing:

1. The lands east of Airport Road and north of Mayfield Road do fall within the drainage area of the existing 750mm Trunk Sewer along Airport Road.
    a. Wastewater servicing study for Tullamore Secondary Plan Area would determine the final drainage based on the topography of the lands to be serviced and the depth of the Airport Road Sewer.
2. The lands west of Airport Road and north of Mayfield Road fall within the drainage area of future proposed sewers planned for construction in 2015 and 2016 (please go to the below link to access the 2014 DC wastewater map to information). The future sewers have been sized to service 153Ha lands from North of Mayfield Road and West of Airport Road.
    a. The sewer sizing and schedule of construction may change based on the annual infrastructure review process.

2014 Wastewater DC Map Link: http://www.peelregion.ca/corpserv/stratplan/2014/pdf/wastewater.pdf
2014 Water DC Map link: http://www.peelregion.ca/corpserv/stratplan/2014/pdf/WATER_DC.pdf

Let me know if you need further clarification.

Thanks

Nadeem

From: Motala, Imran
Sent: March 6, 2014 3:19 PM
To: 'Jim Parker'
Cc: Mitra, Soyuz; Dean, Nadeem
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Jim;

I have asked my staff copied on the email to look in to this for you.

Regards,

Imran

From: Jim Parker [mailto:JParker@jonesconsulting.com]
Sent: March 6, 2014 11:16 AM
To: Motala, Imran
Subject: FW: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Good morning Imran,

Can you please assist with my request to Gino below? I'm looking for water and wastewater information for the Tullamore area. He said that you may be able to direct me to the correct staff to obtain the necessary info.

Thanks for your help and let me know if you have any questions,

Jim Parker, P. Eng.

From: Dela Cruz, Gino [mailto:Gino.DelaCruz@peelregion.ca]
Sent: Friday, February 28, 2014 10:21 AM
To: Jim Parker
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Hi Jim,

I'm not sure who you should be speaking with for the information you requested but I would start with the Water group at Peel. I believe you already have a contact which would be my first call – Imran Motala.

Regards,

P. Gino Dela Cruz, P.Eng.
Project Manager, Infrastructure Programming & Studies
Transportation Division, Public Works, Region of Peel
10 Peel Centre Dr., Suite B 4th Floor, Brampton, ON L6T 4B9
Tel: (905)791-7800, ext. 7805 Fax: (905)791-1442

From: Jim Parker [mailto:JParker@jonesconsulting.com]
Sent: February 26, 2014 4:56 PM
To: Dela Cruz, Gino
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Hi Gino,

Do you know who I should speak with to get a copy of the Region's water and wastewater supply catchment area maps / plans for the Tullamore and surrounding area? Specifically I'm looking for the Airport Road and Mayfield Road trunk sewer and water catchment plans. I believe that the Tullamore area is located in the water pressure zone 6 and the Tullamore Reservoir and Pumping Station is east of the site on Innis Lake Road (Line 2).

I've attached a copy of the Region's Water – Wastewater map (outdated) and the Mayfield West open house panels which schematically show the existing and future infrastructure for the area. I have copies of the Region's P&P drawings for Airport Road and Mayfield Road which show the most current as-built data but I don't have any of the background studies to show the lands to be services by the infrastructure. I've attached a couple of the P&P's for reference; the drawings show a 750mm dia. trunk sewer in Airport Road and two transmission watermains in Mayfield Road.

Let me know if you need any additional information.

Thanks again for your help,

Jim Parker, P. Eng.

From: Dela Cruz, Gino [mailto:Gino.DelaCruz@peelregion.ca]
Sent: Tuesday, February 25, 2014 3:32 PM
To: Jim Parker
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Hi Jim,

As requested, the ESR pdf files are in the process of being uploaded to the site you provided – it should be available in the next few minutes.

Regards,

P. Gino Dela Cruz, P.Eng.
Project Manager, Infrastructure Programming & Studies
Transportation Division, Public Works, Region of Peel
10 Peel Centre Dr., Suite B 4th Floor, Brampton, ON L6T 4B9
Tel: (905)791-7800, ext. 7805 Fax: (905)791-1442

From: Jim Parker [mailto:JParker@jonesconsulting.com]
Sent: February 25, 2014 11:31 AM
To: Dela Cruz, Gino
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Good morning Gino,

As per our previous conversation held in December 2013, can you please provide a copy of the full EA for Mayfield Road between Airport Road and Coleraine Drive? I've included a link to our upload site below. You originally provide a copy of the drainage (2.8), P2A and P3A excerpts.

https://www.filesanywhere.com/Dropbox/db.aspx?v=897263895b66b6b670ae

We have been awarded the Tullamore Secondary Plan project; we are just waiting for the signed contract agreement from the Town to get the final go ahead. I've attached a copy of Geoff Hebbert's email to the Region requesting permission to their data.

Let me know if you have any questions.

Thanks for your help,

Jim Parker, P. Eng.

From: Dela Cruz, Gino [mailto:Gino.DelaCruz@peelregion.ca]
Sent: Friday, December 13, 2013 4:37 PM
To: Jim Parker
Subject: FW: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Last one – 2of2.

P. Gino Dela Cruz, P.Eng.
Project Manager, Infrastructure Programming & Studies
Transportation Division, Public Works, Region of Peel
10 Peel Centre Dr., Suite B 4th Floor, Brampton, ON L6T 4B9
Tel: (905)791-7800, ext. 7805 Fax: (905)791-1442

From: Dela Cruz, Gino
Sent: December 13, 2013 4:30 PM
To: 'jparker@jonesconsulting.com'
Cc: Montouto, Jose
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Hi Jim,

The Region recently completed the EA for Mayfield Road between Airport Road and Coleraine Drive – see Notice of Study Completion here: http://www.peelregion.ca/news/notices/2013/notice-130417.htm

With regards to your specific questions, I have attached some excerpts from the ESR document that may be helpful. Note that the EA and preliminary design was completed for the ultimate widening of Mayfield Road to 6 lanes. Currently, our Roads-Design and Construction group at the Region is in the initial stages of undertaking the detailed design for the interim widening of Mayfield Road from 2 to 4 lanes.

If you would like the full copy of the ESR, please send me access to your ftp site so I can upload the files. Including all appendices, the files are over 1GB.

Let me know if you have any questions.

Regards,
Gino

P. Gino Dela Cruz, P.Eng.
Project Manager, Infrastructure Programming & Studies
Transportation Division, Public Works, Region of Peel
10 Peel Centre Dr., Suite B 4th Floor, Brampton, ON L6T 4B9
Tel: (905)791-7800, ext. 7805 Fax: (905)791-1442

From: Jim Parker [mailto:]
Sent: December 10, 2013 4:02 PM
To: Montouto, Jose
Subject: FW: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Good afternoon Jose,

As per Hashim's email below, I'm looking for existing culvert crossing information along Mayfield Road. Specifically, at the:

- Culvert on the east side of Airport Road, at Maisonneuve Boulevard (existing CSP round culvert) and
- For the culvert approx. 350m to the east of Maisonneuve Road (open bottom concrete arch culvert)

Does the Region have plans for these structures?

Thanks for your help,

Jim Parker, P. Eng.

From: Hamdani, Hashim Ali [mailto:HashimAli.Hamdani@peelregion.ca]
Sent: Tuesday, December 10, 2013 3:18 PM
To: Jim Parker; Cramer, Karen; Motala, Imran
Cc: Laing, Rick; Montouto, Jose
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Hi Jim,

This is in response to your e-mail below regarding the Region's background information for the Tullamore Secondary Plan Are Servicing Study and Detailed Design project.

Please be advised that the Region has the following planned Regional road widening projects in the area:

1. Mayfield Road widening from 2 to 4 lanes from Airport Road to Bramalea Road in the year 2015; and
2. Mayfield Road widening from 2 to 4 lanes from Airport Road to The Gore Road in the year 2018.

Please contact Rick Laing, Supervisor, Traffic Signals and Systems at 905-791-7800 extension 7859 for Traffic Signal wiring diagrams and please contact Jose Montouto, Project Manager at 905-791-7800 extension 7813 for culvert crossing information at Mayfield Road on the east side of Airport Road at Maisonneuve Boulevard.

Should you have any questions or concerns, please do not hesitate to contact me at your earliest convenience.

Yours truly,

Hashim Ali Hamdani
Technical Analyst
Traffic Development
Transportation Division
Public Works

Tel: (905) 791-7800 extension 7852
Fax: (905) 791-1442
E-mail: hashimali.hamdani@peelregion.ca

From: Jim Parker [mailto:jparker@jonesconsulting.com]
Sent: December 10, 2013 12:12 PM
To: Cramer, Karen; Motala, Imran; Hamdani, Hashim Ali
Subject: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Good afternoon Karen, Imran and Hashim,

Our office is working on a proposal for the Town of Caledon **Tullamore Secondary Plan Area Servicing Study and Detailed Design** project and where hoping to get a copy of the Regions background information for the area. I have provided a location plan below. The Secondary Plan Area is located in the southern limit of Caledon (Mayfield Road is the Caledon / Brampton divide), along the north side of Mayfield Road, straddling Airport Road (majority of the site is located on the east side of Airport Road). A full size plan is included on the attached (last page).

The Region's water supply and treatment plan is located on Innis Lake Road just to the east of the secondary plan area. Does the Region have any sanitary and water supply / catchment area maps for the area? Or any plan and profile drawings for the roads surrounding the area?

There are existing traffic signals at the intersections of Airport Road and Mayfield Road and at Airport Road and the road that boarders the large white commercial building's northern limit. Does the Region have wiring diagrams for these intersections?

There are a number of culvert crossing at Mayfield Road along the areas southern limit. If the Region could provide any info for the two (2) culverts on the east side of Airport Road, at Maisonneuve Boulevard (existing CSP round culvert) and for the one approx. 350m to the east (open bottom concrete arch culvert) that would be great.

Have there been any studies completed for the streams / watercourses / municipal ditches or drains in the area to identify their environmental significance?

Are there any known planned Regional road improvements or road works for the area?

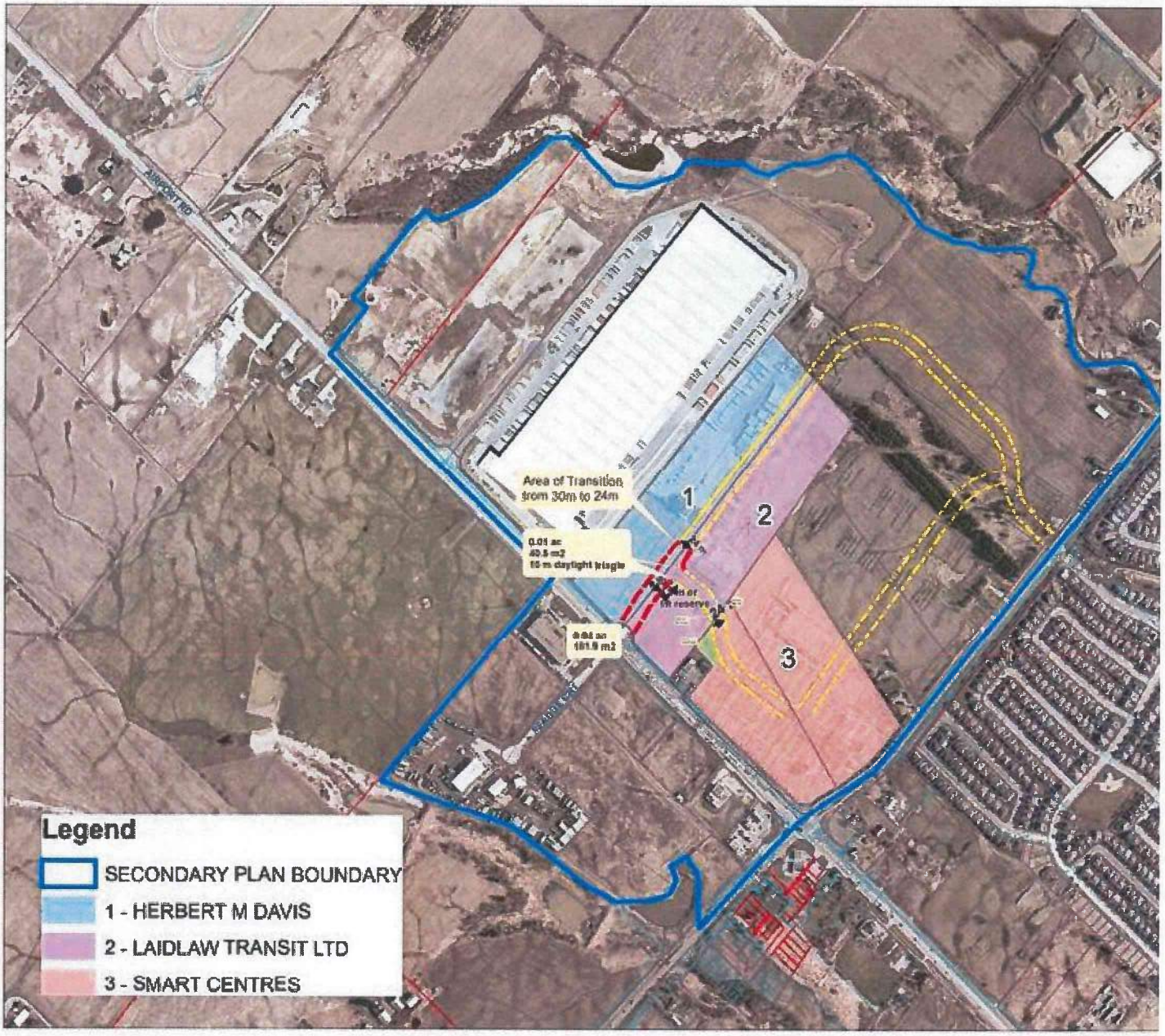
Thank you very much for your help,

Let me know if have any questions,

Jim Parker, P. Eng.
Project Engineer

The Jones Consulting Group Ltd.
229 Mapleview Drive East, Unit 1 Barrie, ON L4N 0W5
Phone (705) 734-2538 ext 291 Fax (705) 734-1056
Email jparker@jonesconsulting.com

JONES
CONSULTING GROUP LTD.
PLANNERS & ENGINEERS



Jim Parker

From: Mitra, Soyuz <Soyuz.Mitra@peelregion.ca>
Sent: Tuesday, March 18, 2014 1:27 PM
To: Jim Parker
Subject: RE: CAL-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design, Request for GIs and Water Information

Jim,

I have forwarded your request to our GIS team.

Zone 6 Top Water Level: 297.2m
Serviceable Elevation range for Zone 6: 227.3 to 259.1m

Regarding hydraulic capacity, normally the equivalent population numbers for the plan area is provided to the Region and the Region comments based on the existing system and future works. So in this case the region will wait for the numbers to be provided before we can comment. We do not provide any capacity information regarding our system without population numbers or projected demands.

The three consultants on our roster who can help with your hydraulic analysis needs:

Aecom (Benny Wan – benny.wan@aecom.com)
CH2MHill (Simon Lau – simon.lau@CH2M.com)
Geoadvice (Werner de Schaetzen – werner@geoadvice.com)

Thanks

Soyuz Mitra P.Eng.
Water Modeling Specialist
Tel. (905)791-7800 ext. 4550

From: Jim Parker [mailto:JParker@jonesconsulting.com]
Sent: March 18, 2014 11:14 AM
To: Mitra, Soyuz
Subject: RE: CAL-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design, Request for GIs and Water Information

Good morning Soyuz,

As per our recent phone conversation, can you please provide copies of the Region's GIS data for the Tullamore Secondary Plan Area? I don't know the extent of the Region's information, but if possible can you provide the following data / layers:

- Watermains, hydrants, chambers, laterals
- Wastewater sewers, manholes, laterals
- Storm sewers including culverts
- Property legal information including Row limits, easements
- Roads including sidewalks, curbs, signs, traffic signals, centre line, lane paintings lines, medians
- Ditches, grading toe of slope and top of bank
- Utilities including underground and overhead hydro, hand wells, ducts
- Buildings
- Boulevard trees, plantings
- Regulation limits for the TRCA and environmental protected limits
- Drainage channels, creeks/rivers

Also, can you please provide any general information that is available for the Region's water pressure zone 6, including:

- Elevation range servicing limits
- Water supply confirmed and unconfirmed hydraulic reserve capacity

Can you please provide the contact details for the consultants responsible for addressing detail pressure and flow model inquiries?

Thanks for your help and let me know if you have any questions.

Jim Parker, P. Eng.

From: Dean, Nadeem [mailto:Nadeem.Dean@peelregion.ca]
Sent: Monday, March 17, 2014 3:20 PM
To: Jim Parker
Cc: Mitra, Soyuz; Motala, Imran
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Hi Jim

Below are comments for wastewater servicing:

1. The lands east of Airport Road and north of Mayfield Road do fall within the drainage area of the existing 750mm Trunk Sewer along Airport Road.

    a. Wastewater servicing study for Tullamore Secondary Plan Area would determine the final drainage based on the topography of the lands to be serviced and the depth of the Airport Road Sewer.

2. The lands west of Airport Road and north of Mayfield Road fall within the drainage area of future proposed sewers planned for construction in 2015 and 2016 (please go to the below link to access the 2014 DC wastewater map to information). The future sewers have been sized to service 153Ha lands from North of Mayfield Road and West of Airport Road.

    a. The sewer sizing and schedule of construction may change based on the annual infrastructure review process.

    2014 Wastewater DC Map Link: http://www.peelregion.ca/corpserv/stratplan/2014/pdf/wastewater.pdf
    2014 Water DC Map link: http://www.peelregion.ca/corpserv/stratplan/2014/pdf/WATER_DC.pdf

Let me know if you need further clarification.

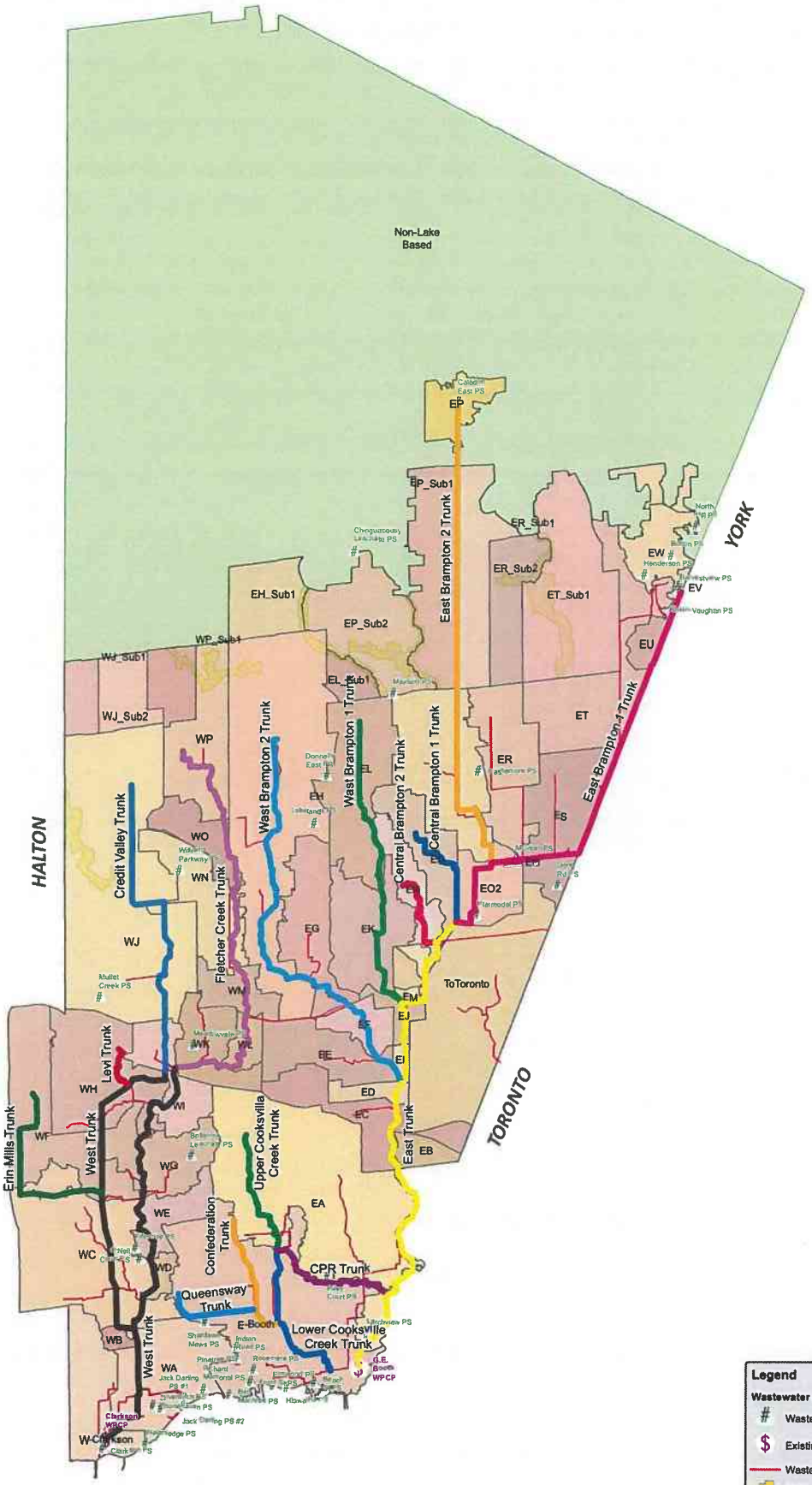
Thanks

Nadeem

From: Motala, Imran
Sent: March 6, 2014 3:19 PM
To: 'Jim Parker'
Cc: Mitra, Soyuz; Dean, Nadeem
Subject: RE: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Request for Information

Jim;

I have asked my staff copied on the email to look in to this for you.



Region of Peel
Working for you

2013 Water end Wastewater Master Plan for the Lake Based System

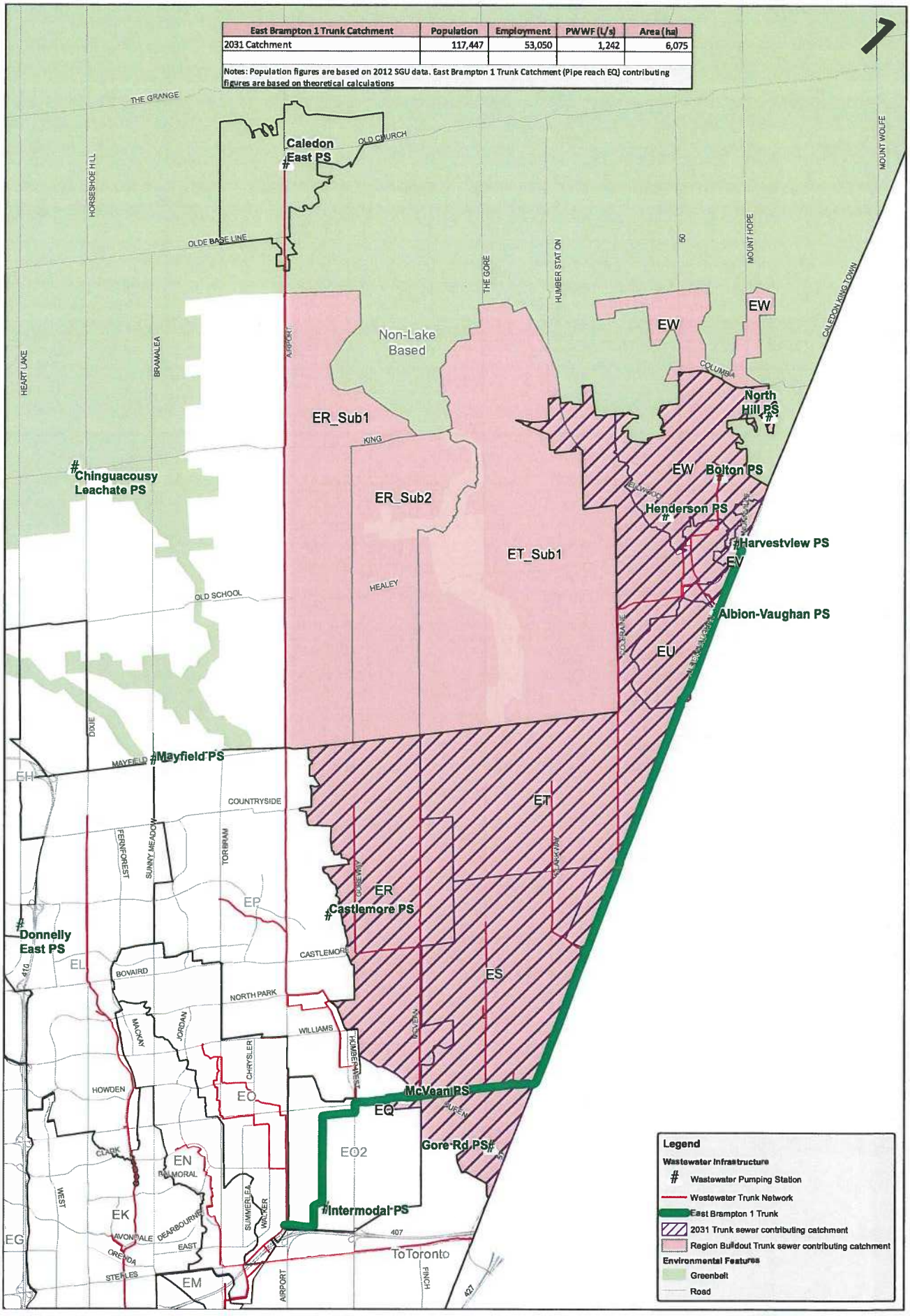
Peel Region - Sheet 3
Trunk Catchment System Map

BluePlan AECOM

1:175,000
60216517-236-WW

East Brampton 1 Trunk Catchment	Population	Employment	PWWF (L/s)	Area (ha)
2031 Catchment	117,447	53,050	1,242	6,075

Notes: Population figures are based on 2012 SGU data. East Brampton 1 Trunk Catchment (Pipe reach EQ) contributing figures are based on theoretical calculations



Region of Peel
Working for you

2013 W and WW Master Plan
for the Lake Based System

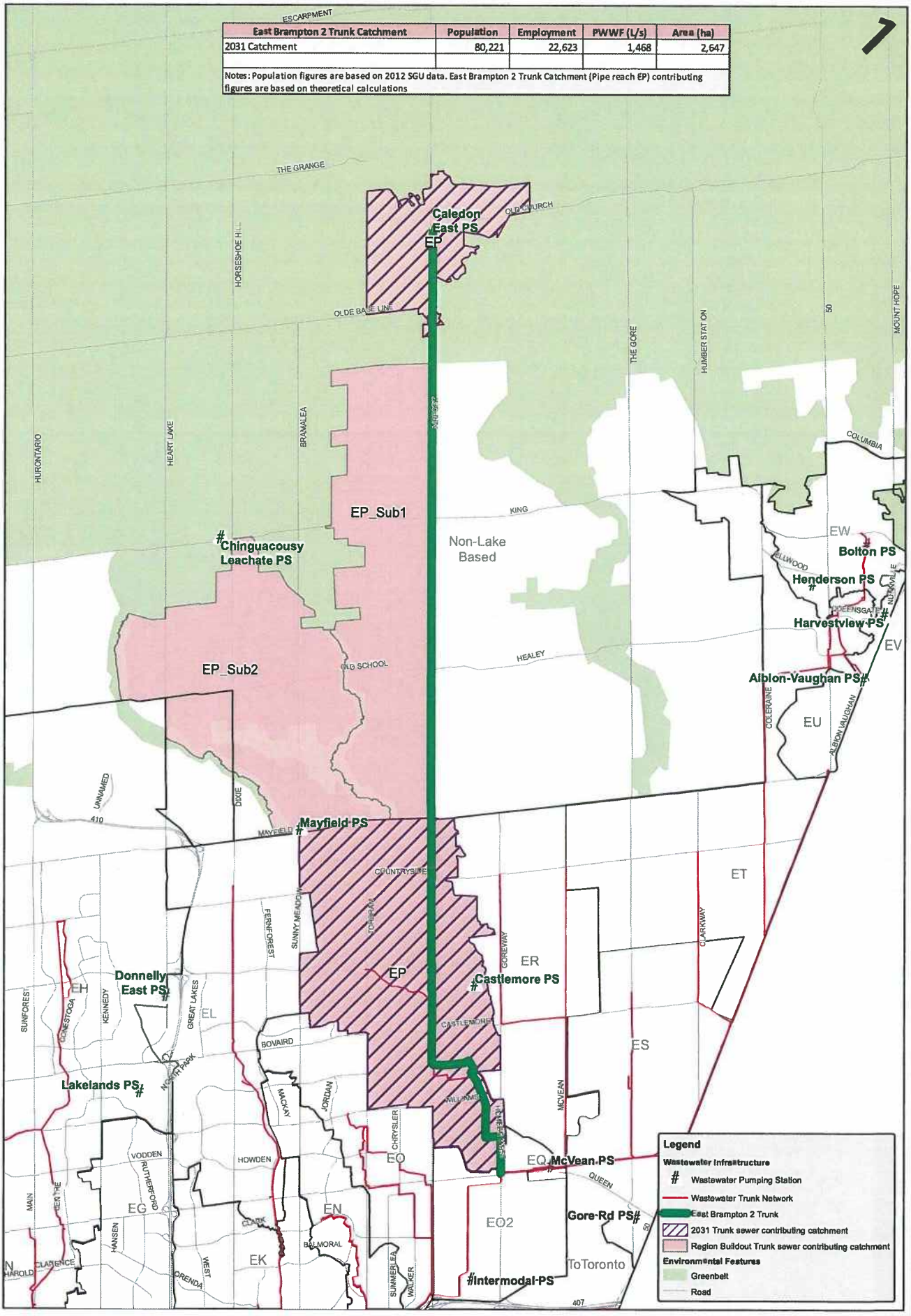
Peel Region - Sheet 14
East Brampton 1 Trunk (E1)

BluePlan AECOM

March 2014
1:70,000
60216517-238-WW

East Brampton 2 Trunk Catchment	Population	Employment	PWWF (L/s)	Area (ha)
2031 Catchment	80,221	22,623	1,468	2,647

Notes: Population figures are based on 2012 SGU data. East Brampton 2 Trunk Catchment (Pipe reach EP) contributing figures are based on theoretical calculations



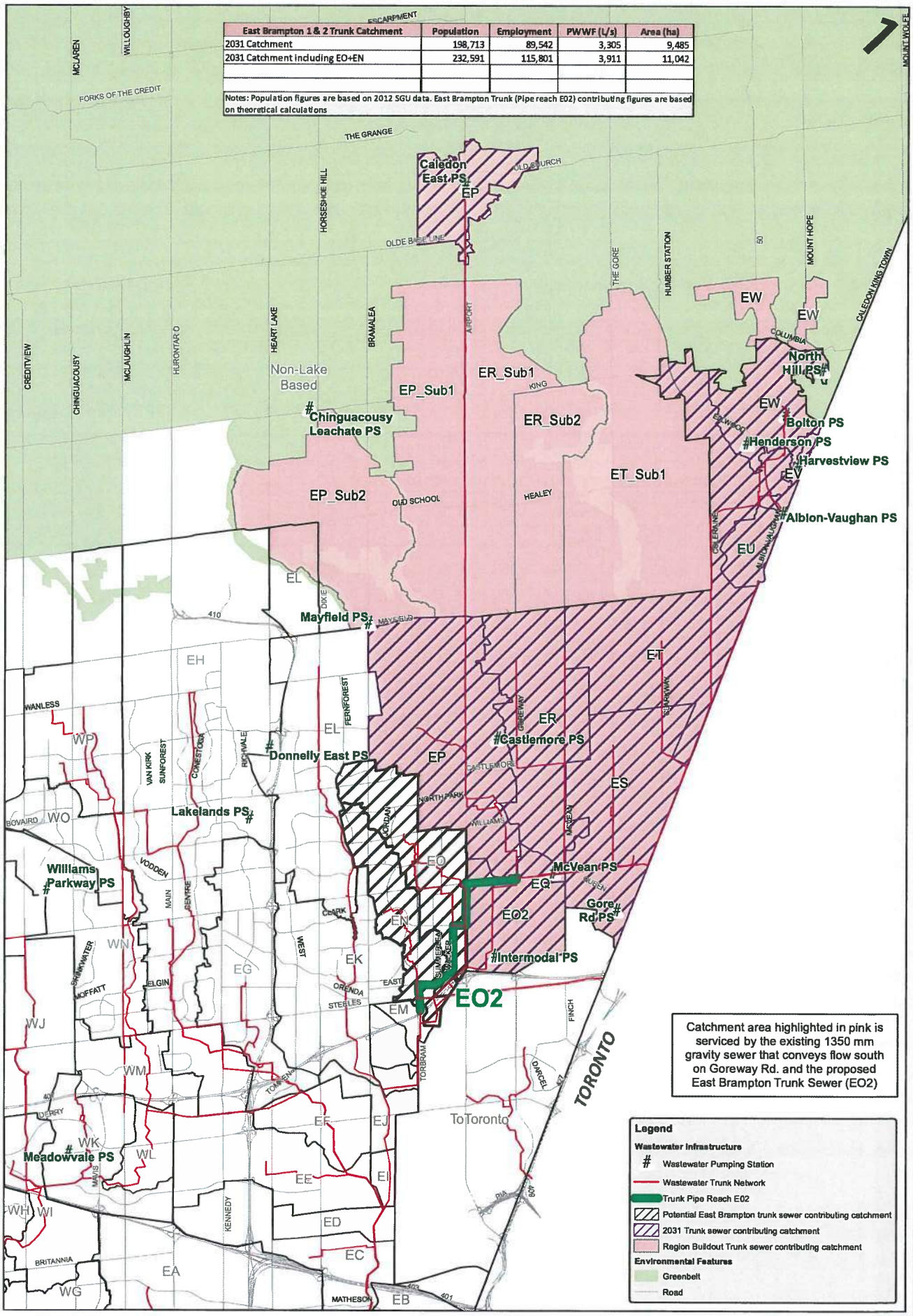
Region of Peel
Working for you

2013 W and WW Master Plan
for the Lake Based System

Peel Region - Sheet 15
East Brampton 2 Trunk (E2)

BluePlan AECOM

March 2014
1:70,000
60216517-237-WW



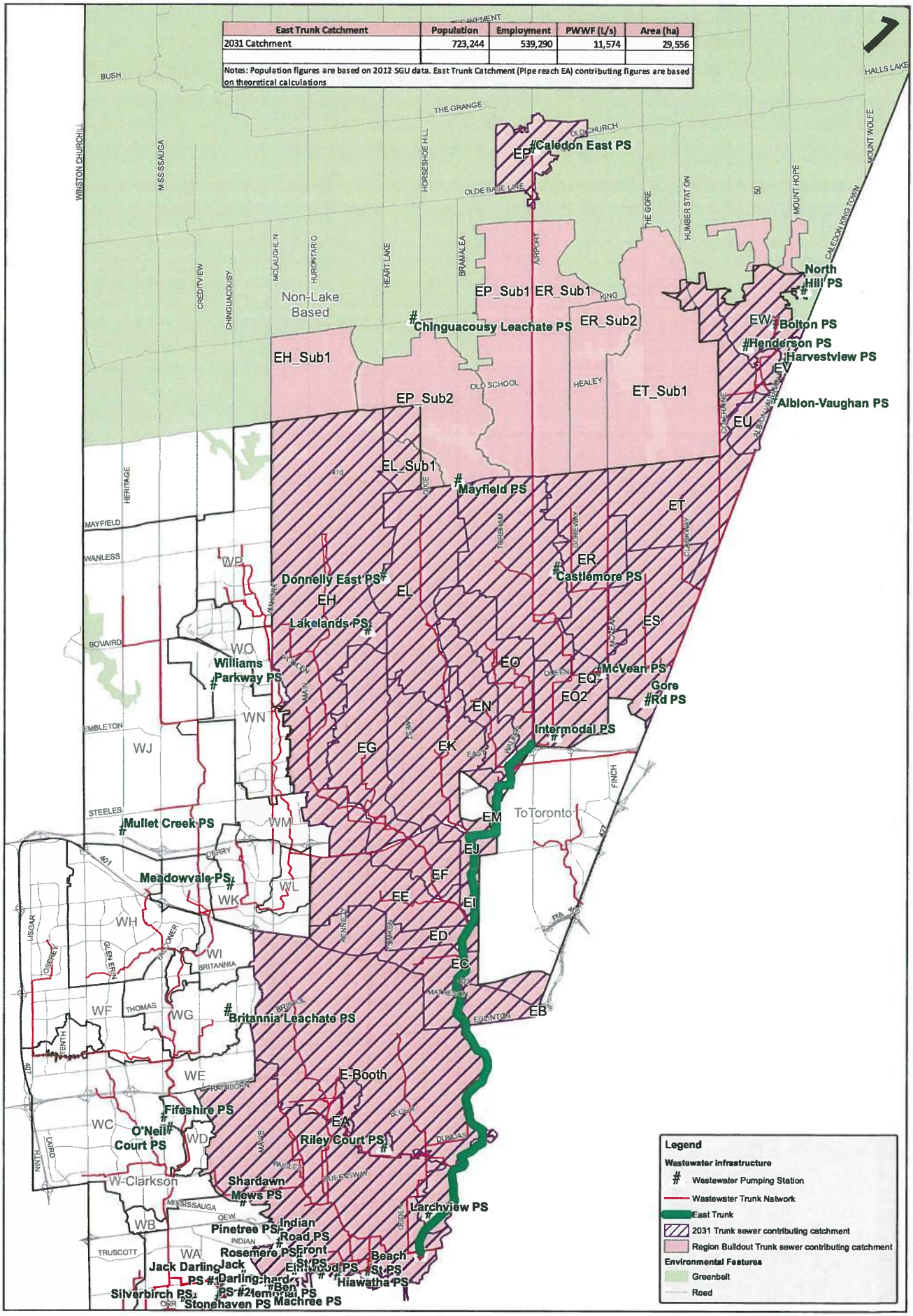
Region of Peel
Working for you

2013 W and WW Master Plan
for the Lake Based System

Peel Region - Sheet 18
East Brampton Trunk Sewer Twinning
(Pipe Reach EO2)

BluePlan AECOM

March 2014
1:95,000
60216517-235-WW



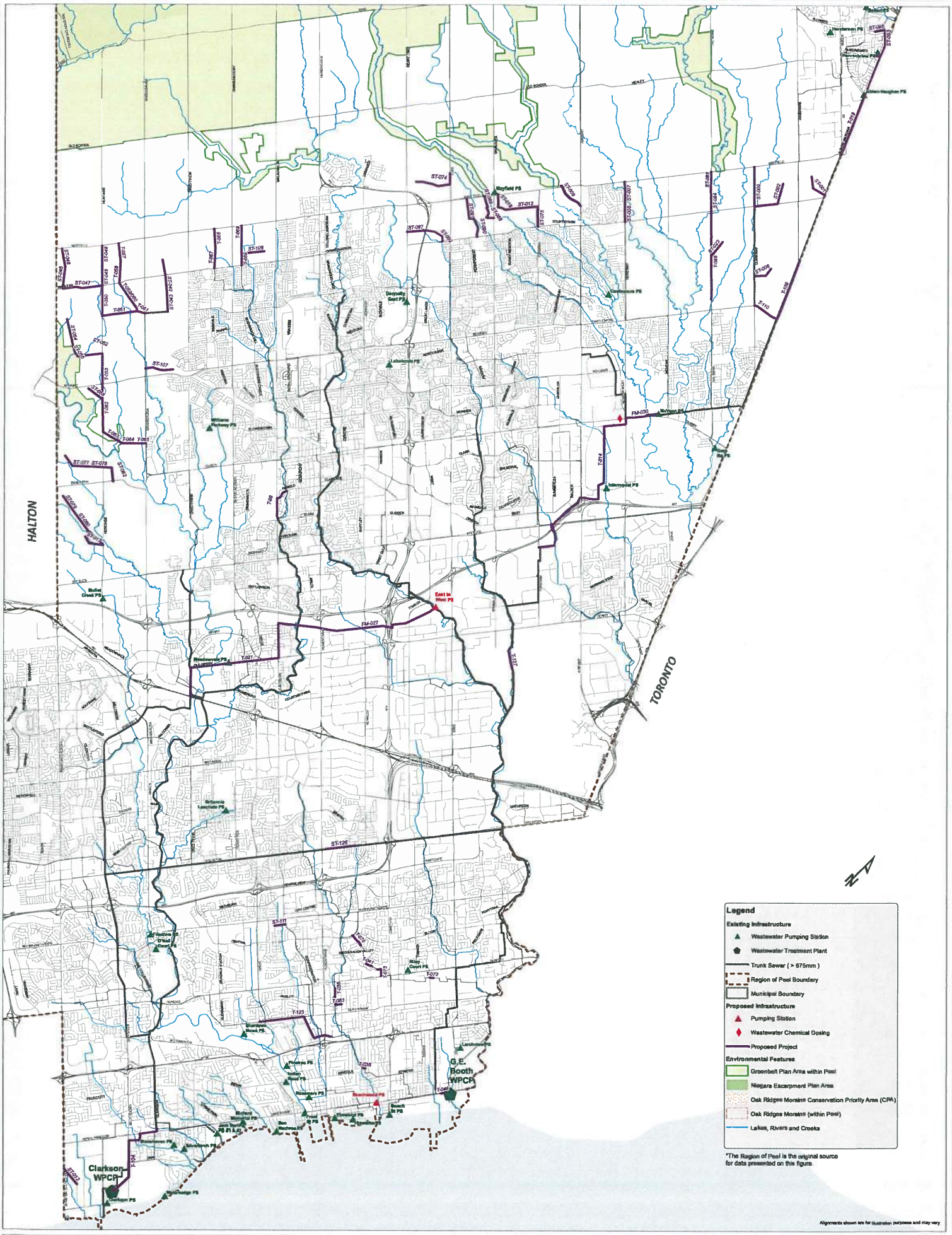
Region of Peel
Working for you

2013 W and WW Master Plan
for the Lake Based System

Peel Region - Sheet 21
East Trunk (E7)

BluePlan AECOM

March 2014
1:125,000
60216517-243-WW

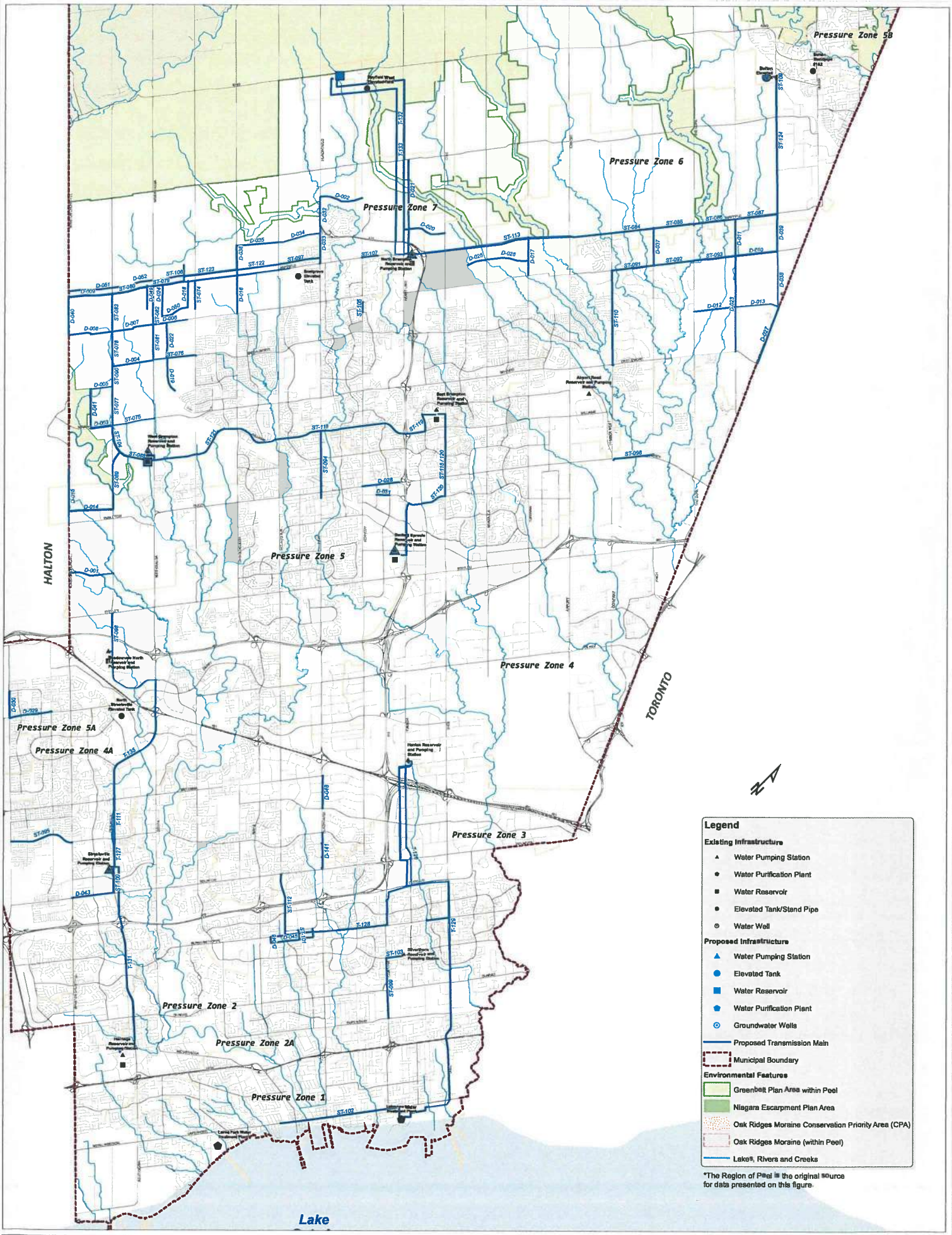


Region of Peel
Working for you

2013 Water and Wastewater Master Plan for the Lake-Based systems

Appendix 4I
Wastewater Capital Plan Projects

BluePlan AECOM



Region of Peel
Working for you

2013 Water and Wastewater Master Plan for the Lake-Based systems

Appendix 3G
Water Capital Plan Projects

BluePlan AECOM

Mar 27, 2014
1:37,307
60216517-40-w

2 Water System Policy and Criteria

2.1 Design Criteria

The guiding principle for the design criteria is to ensure that demand projections are accurately predicted with an appropriate level of safety and risk management. This principle ensures that the infrastructure has sufficient capacity to meet the servicing requirements and that the timing of key infrastructure does not compromise operation of the facilities or impede approved and planned growth.

The development of design criteria is an element that has been reviewed during each master plan update and, as a result, has evolved over the years. As such, an analysis of water design criteria was completed as part of the study to ensure that the projected water demands are accurate and reflect new trends to support decision making for the sizing and timing of future infrastructure. This analysis is included in Appendix 3C.

Table 3.1 summarizes the current Region of Peel water design criteria used at a master planning level.

Table 3.1 Water design criteria for growth within the lake-based water system

Type of Development	Average Day Demand	Maximum Day Factor	Peak Hour Factor
Residential	280 L/person/day	2.0	3.0
Employment	280 L/employee/day	1.4	3.0

Historical data demonstrate that average day flows equate to 280 L/cap/d for residential development. Based on the format of planning projections received from the Region of Peel, it is considered appropriate to utilize the employment (ICI) design criteria as a function of employees. Based on employment land criteria for lot coverage and employee density, it was determined that using an employment density of 48 employees/ha, the employment consumption rate equates to 280 L/emp/d.

The rated capacity of a water treatment plant is defined as the maximum daily flow that the works is approved to treat. Water treatment capacity is based on meeting maximum day water demand requirements with an additional factor for in-facility uses such as filter backwashing.

A review and sensitivity analysis of various methodologies for projecting future water demands was undertaken to determine the most appropriate methodology for the 2013 Master Plan.

The approach moving forward is based on establishing a yearly starting point, calculated from historical flow data, and projecting growth demands from this starting point going forward. Projected water demands will be determined using the planning data for residential and non-residential users and applying the design criteria.

2 Wastewater System Policy and Criteria

2.1 Design Criteria

An overall guiding principle for design criteria is to ensure that flow projections are adequately predicted with an appropriate level of safety and risk management. This principle ensures that infrastructure has sufficient capacity to meet the servicing requirements and that the timing of key infrastructure does not compromise operation of the facilities or impede planned and approved growth.

Design criteria are reviewed during each Master Plan update and have, as a result, evolved over the years. As such, an analysis of wastewater design criteria was completed as part of this study to ensure that projected wastewater flows are accurate and reflect new trends to support decision making for the sizing and timing of future infrastructure including pipes and facilities. This study forms part of the report and is found in Appendix 4C.

2.1.1 Wastewater Treatment Facilities

The rated capacity of a wastewater treatment facility (WWTF) is defined as the average daily flow that the facility has been approved to treat. Average day flow and loadings typically include an average level of extraneous flow. However, the biological treatment processes at the plant should be designed to meet effluent quality requirements over a range of flows including peak flows[2]. The Region of Peel's WWTFs are designed for a maximum day factor of 1.75 above the average day (or rated) capacity. Both average day and maximum day flows have been considered in the 2013 Master Plan.

For the purpose of reviewing the rated capacity of the treatment facilities against expected flows, the average day flow projections were used. This comparison determines if the plants will require re-rating prior to 2031. For the purpose of reviewing the capacity of the treatment plants for maximum day flows, maximum day flow projections were used.

The use of a 2010 Starting Point allows an accurate baseline flow to be established. The Starting Point methodology uses total measured plant flow and existing population and employment to generate a five-year rolling average of per capita demand. The average per capita demand is multiplied by the existing population and employment to obtain the starting point average day flow. Future population and employment growth is multiplied by the design criteria and added to the starting point to obtain the flow projections for each year within the Master Plan planning horizon.

The current criteria are considered to be sufficient for master planning purposes and will allow for wetter than average years without excessive over- design. For the 2013 Master Plan, it is recommended that the following design criteria be used to determine average day flows for the treatment facilities, shown in Table 4.1.

[2] *MOE Design Guidelines for Sewage Works. MOE, 2008.*

Table 4.1 Wastewater design criteria for growth within the lake-based system

Type of Development	Average Day Demand
Residential	302.8 L/person/day
Employment	302.8 L/person/day
Five-year rolling average used to define a total plant average day starting point flow of 579 ML/d	

It is recommended that the criteria are revisited during future Master Plan updates.

The following design criteria were used to determine maximum day flow:

- A five-year rolling average of historical peaking factors can be applied to the projected average day flows to calculate future maximum day flows.
- For more detailed analysis that is required, the calibrated model can be used to predict maximum day flow based on design storm events (e.g., 1-in-5-year, 1-in-10-year, etc.) and compared with observed data. These comparisons will allow an informed decision to be made with respect to upgrades required to meet various levels of service for maximum day capacities.

Appendix 4C contains a comprehensive analysis of the wastewater design criteria.

Plant expansions are recommended when the projected average day flow reaches 90 per cent of the plant capacity. This criterion is based on current Region of Peel wastewater design standards.

2.1.2 Sewage Pumping Stations

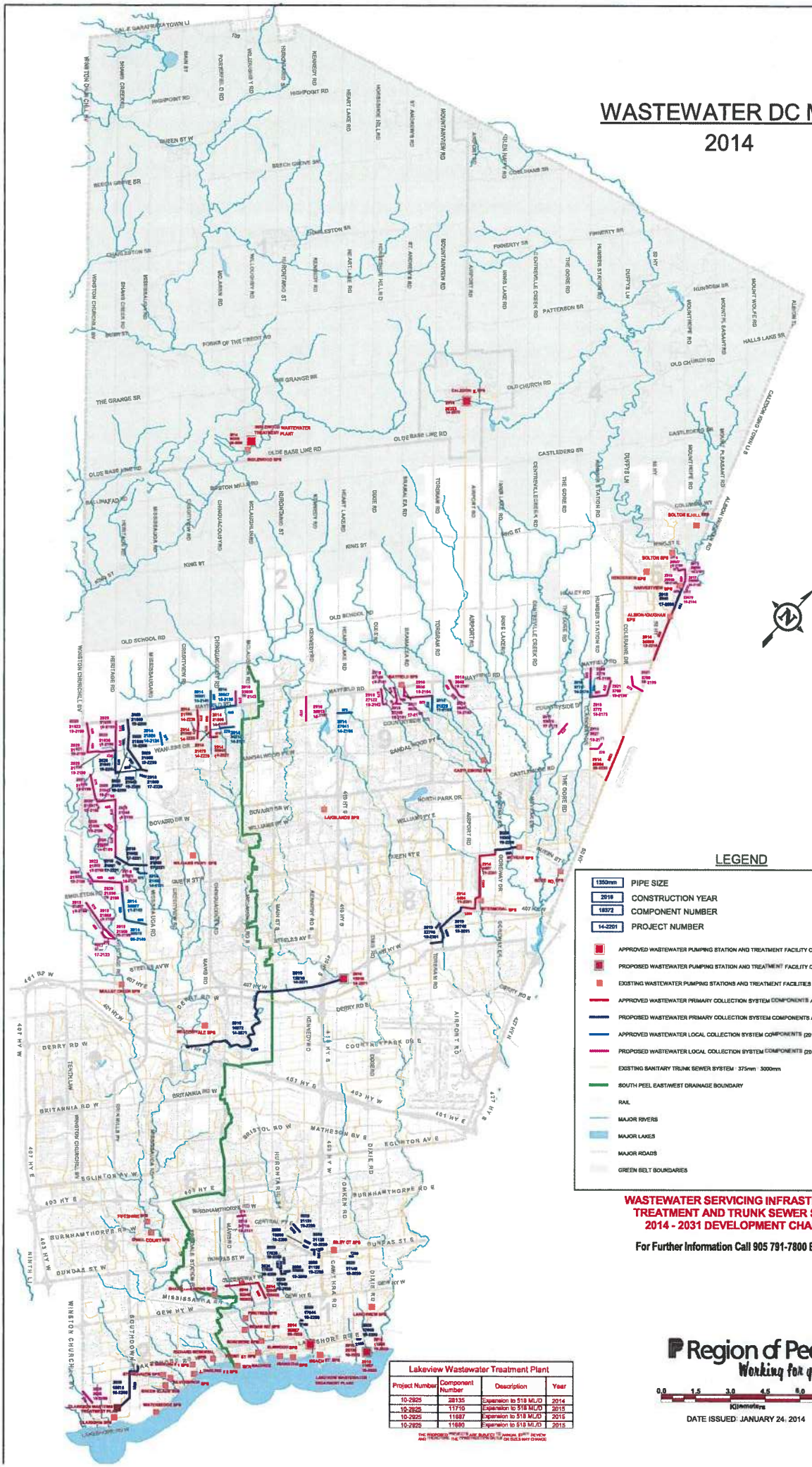
The Region of Peel's *Wastewater Pumping Station Design Standards*[3] define three categories of sewage pumping stations by typical flow range. Trunk pumping stations, analyzed within the scope of the Master Plan, generally fall into "Design Style III – Large WWPS", which is applicable to pumping stations with a typical flow range of greater than 100 L/s. These pumping stations require a minimum 1-hour, and preferably 2-hour, wet well storage capacity based on peak wet weather flow. The Style III station should have three or more pumps (including one standby), which use Variable Frequency Drives (VFDs) or soft starters. For all categories, the station's firm capacity is defined as the pumping capacity with the largest pump out of service. The station's firm capacity is sized to handle the peak wet weather flow.

There are six trunk sewage pumping stations in the Region's lake-based wastewater collection system. Where available, existing measured flows have been used to define a 2013 Starting Point peak wet weather flow to the station. Additional flows due to growth have then been added based on the Region's design criteria.

Where existing measured flows were not available, calculated flows were used based on schematic or model results. The InfoWorksCS model (further described in Section 3.2) results have been used to supplement this information. However, it should be noted that the model was not specifically calibrated at

[3] *Public Works – Wastewater Division – Wastewater Pumping Station Design Standards Version 7. Region of Peel, February 2012.*

WASTEWATER DC MAP
2014



WASTEWATER SERVICING INFRASTRUCTURE
TREATMENT AND TRUNK SEWER SYSTEM
2014 - 2031 DEVELOPMENT CHARGES

For Further Information Call 905 791-7800 Ext. 4066

Lakeview Wastewater Treatment Plant			
Project Number	Component Number	Description	Year
10-2925	28135	Expansion to 518 ML/D	2014
10-2925	11710	Expansion to 518 ML/D	2015
10-2925	11687	Expansion to 518 ML/D	2015
10-2925	11680	Expansion to 518 ML/D	2015

THE PROPOSED PROJECTS ARE SUBJECT TO ANNUAL BUDGET REVIEW AND THEREFORE THE TIMING/SCOPE OF ONE OR MORE MAY CHANGE

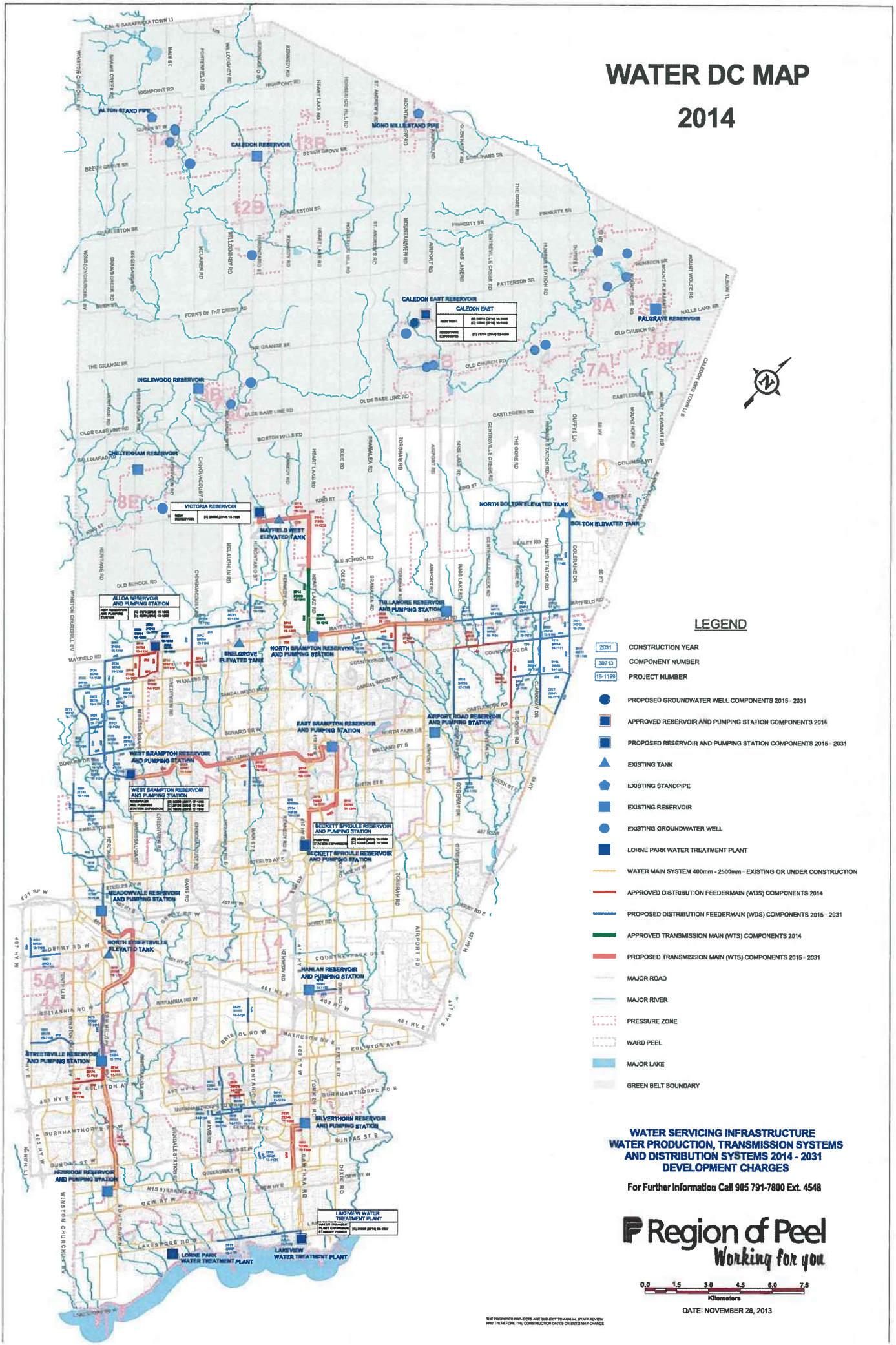
Region of Peel
Working for you

0.0 1.5 3.0 4.5 6.0 7.5
Kilometers

DATE ISSUED: JANUARY 24, 2014

WATER DC MAP

2014



WATER SERVICING INFRASTRUCTURE
WATER PRODUCTION, TRANSMISSION SYSTEMS
AND DISTRIBUTION SYSTEMS 2014 - 2031
DEVELOPMENT CHARGES

For Further Information Call 905 791-7800 Ext. 4548

Region of Peel
Working for you

0.0 1.5 3.0 4.5 6.0 7.5
Kilometers

DATE: NOVEMBER 28, 2013

THE PROPOSED PROJECTS ARE SUBJECT TO ANNUAL STAFF REVIEW AND THEREFORE THE CONSTRUCTION DATES OR SIZE MAY CHANGE

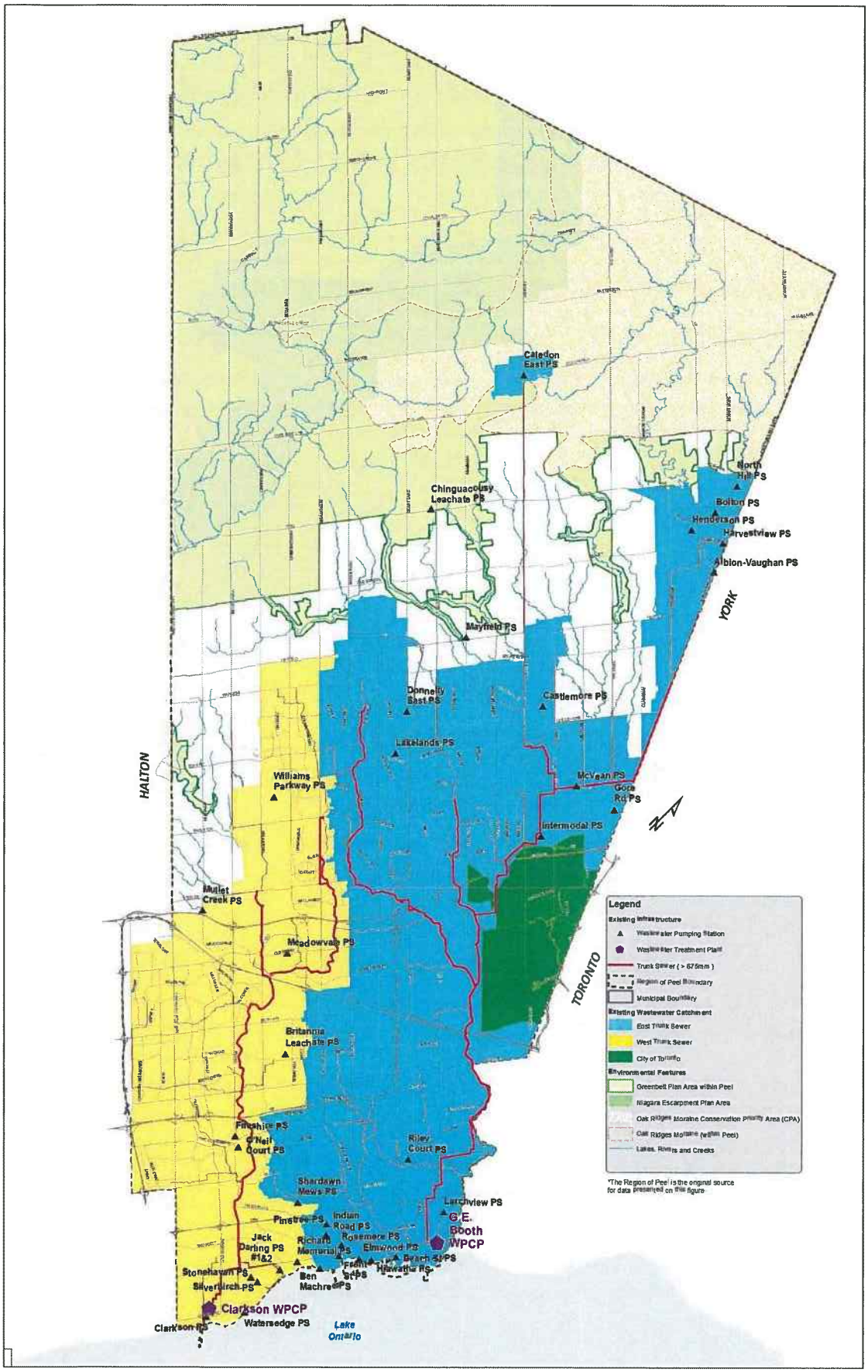


Figure 4.2 Existing Lake-Based Wastewater Collection System

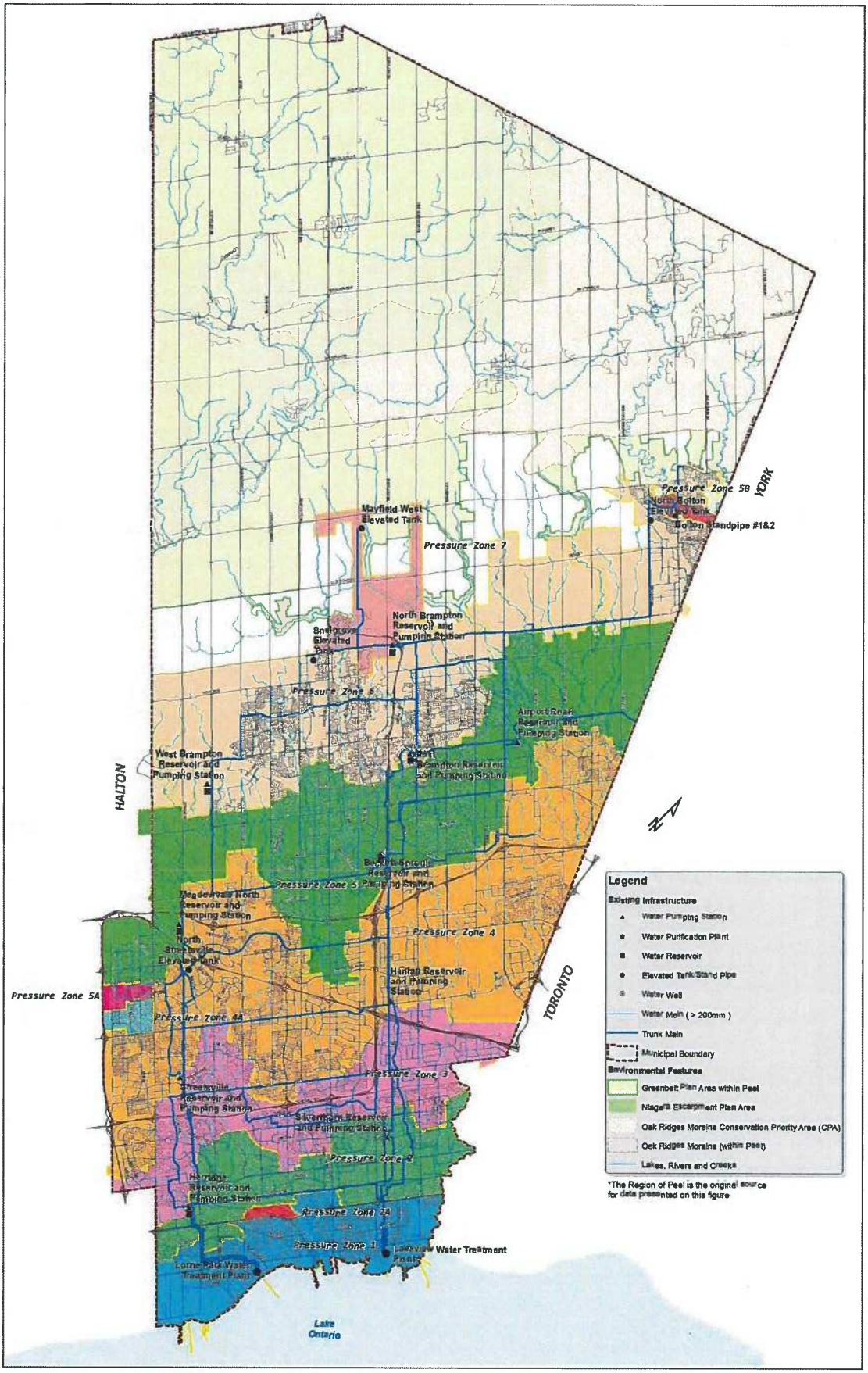
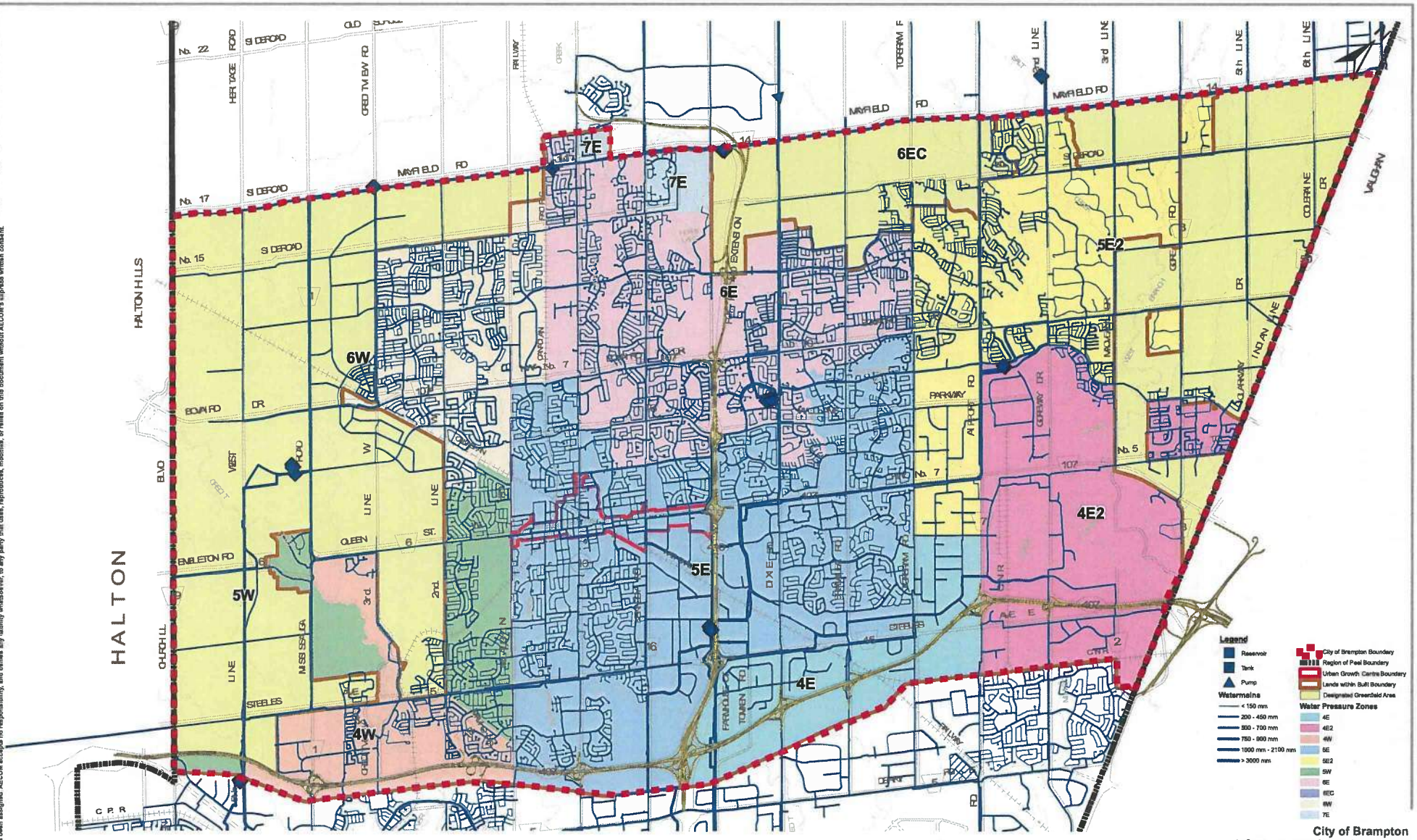


Figure 3.2 Existing Region of Peel Lake-Based Water Transmission System



CONFIDENTIAL - DRAFT

AECOM

City of Brampton
Infrastructure Capacity Review

Figure 8
Water Distribution System

April 2009
N.T.S.

ISS/REV: AECOM_MASTER_ISS/REV
FILE: 4020-012-00-Water_System_(Figure_8).mxd
USER: naumannd
DATE: 04/07/2009 1:23 pm
B SIZE 11" x 17" (279.4mm x 431.8mm)
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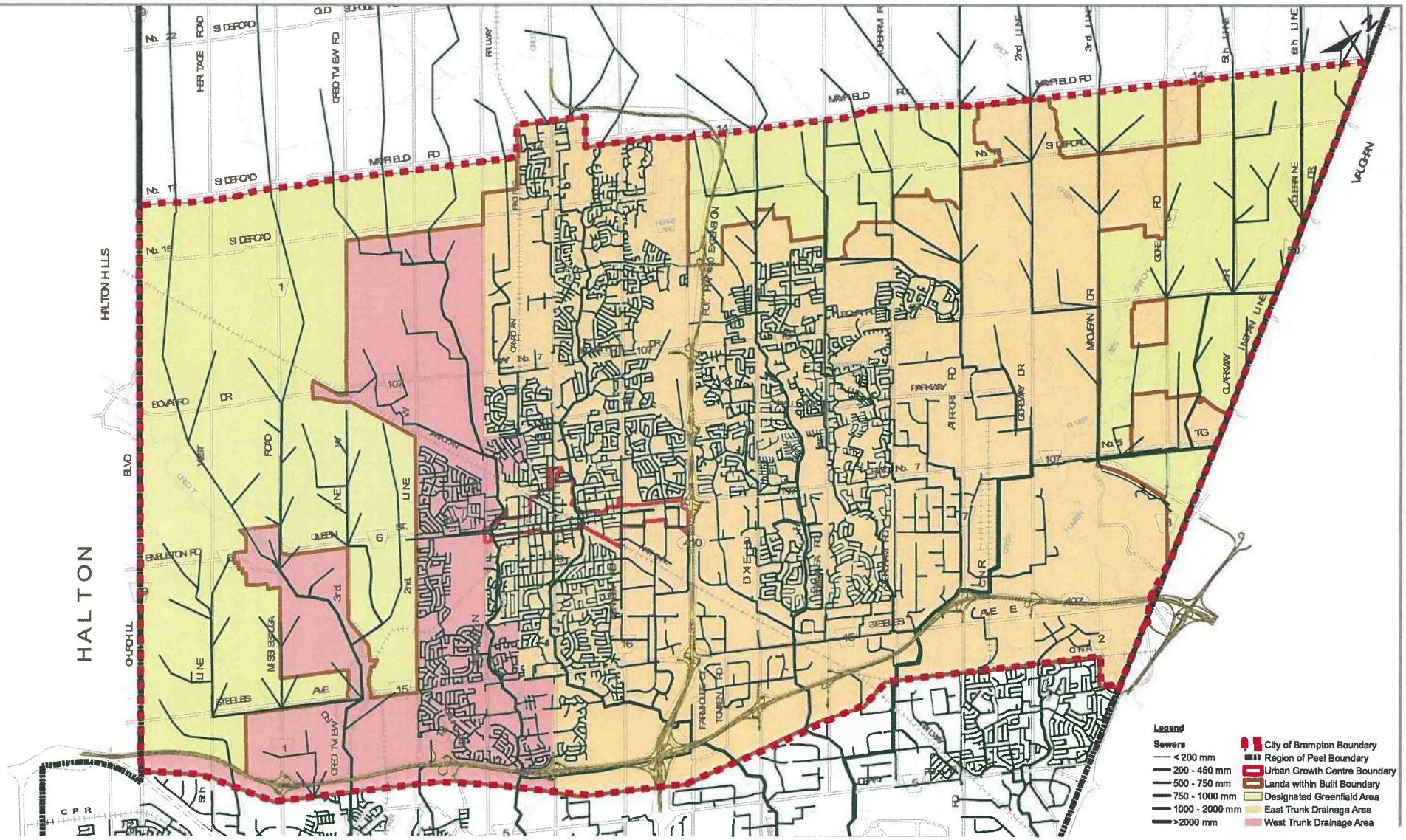

ISS/REV: AECOM_MASTER_ISS/REV
FILE: 4020-012-00-WW_System_(Figure 9).mxd
USER: naumennd
DATE: 04/07/2009 1:23 pm
B SIZE 11" x 17" (279.4mm x 431.8mm)
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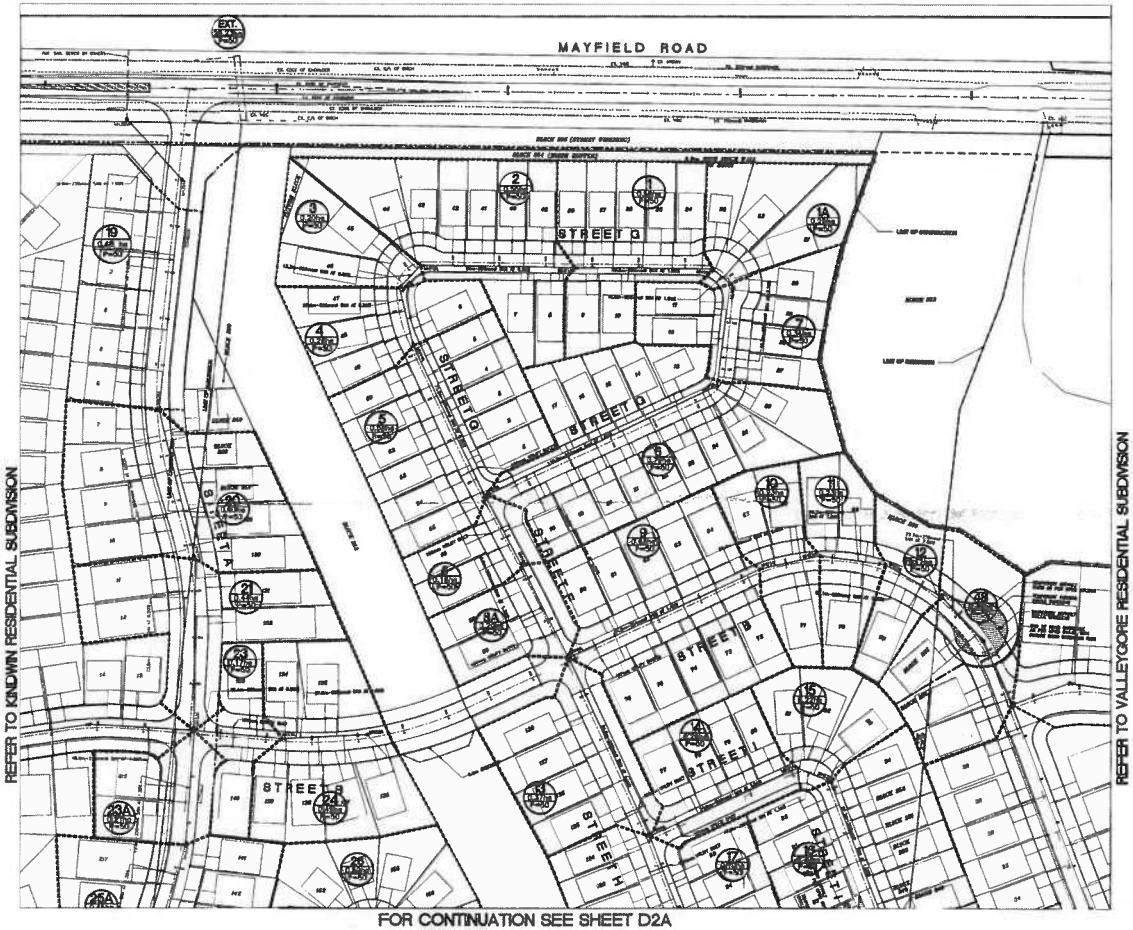
AECOM

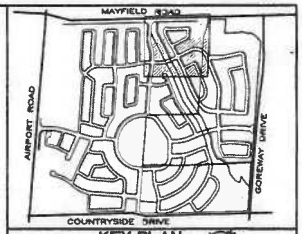
City of Brampton
Infrastructure Capacity Review

Figure 9
Wastewater Collection System

April 2009
N.T.S.



FOR CONTINUATION SEE SHEET D2A



KEY PLAN
N.T.S.

LEGEND

- MH 9A — SANITARY MANHOLE
- SANITARY DOUBLE SERVICE CONNECTION
- SANITARY SINGLE SERVICE CONNECTION
- 10 / 0.34 ha / P=50 — DENOTES AREA NUMBER; DENOTES AREA IN HECTARES; DENOTES POPULATION PER HECTARE
- SANITARY DRAINAGE AREA BOUNDARY

REFER TO SHEET No. M1 FOR GENERAL NOTES.

BENCHMARK INFO:

BENCHMARK No. M1 - 129
ELEVATION = 229.117m

LOCATED ON A ONE AND 1/2 STOREY BRICK DWELLING AT THE SOUTHEAST CORNER OF MAYFIELD ROAD AND GOREWAY DRIVE. TABLET IS SET 4.58m SW/LY OF NORTHWEST CORNER OF FOUNDATION AT GROUND LEVEL.

SUBMISSION					
1st	—	Date	31.10.02	Pre-Serv	Date
2nd	—	Date	27.01.03	Interim	Date
3rd	—	Date		Final	Date

No.	By	Date	Revision	Checked

REGION OF PEEL
OFFICE COPY

CITY OF BRAMPTON
WORKS AND TRANSPORTATION
COMMISSIONER OF WORKS AND TRANSPORTATION: A. S. Woodham, P. Eng.

F. A. SIDDIQI — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO
R. V. SANTOS — REGISTERED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

CANDEVCON LIMITED
CONSULTING ENGINEERS AND PLANNERS
TEL (905) 794-9339 FAX (905) 794-9811

PROJECT NUMBER 202046

HIGHLANDS OF CASTLEMORE
NORTH CASTLEMORE DEVELOPMENTS INC.
RESIDENTIAL SUBDIVISION

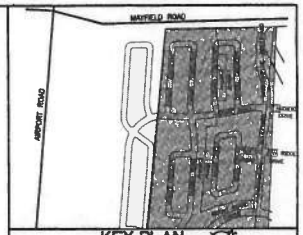
SANITARY DRAINAGE AREA PLAN
PART-1

21T-00-059

Surveyed:	Date:	Contract No:	
Drawn By: C.R.M.	Checked By: R.S.	Drawing No.	Sheet No. D.2
Designed By: F.S.	Checked By: D.K.H.		
Scale V: H: 1:1000	Date: JULY 12th, 2002		

RECEIVED
JAN 27 2003
CANDEVCON LIMITED

\\JOBS-SERVER\CDC-11\jobs\202046 NORTH CASTLEMORE\Dwg-Sub-3\202046-P1.dwg



KEY PLAN
N.T.S.

LEGEND

CB	SINGLE CATCHBASIN
RLCB	REAR LOT CATCHBASIN
DCB	DOUBLE CATCHBASIN
MH #	STORM MANHOLE
MH SA	SANITARY MANHOLE
VAB	VALVE & BOX
HYD & V.	HYDRANT & VALVE
	PROPOSED DOUBLE SERVICE CONNECTION
	PROPOSED SINGLE SERVICE CONNECTION
177	SINGLE DETACHED DWELLING

ISSUED
NOV 2 5 2003
CANDEVCON LIMITED

REFER TO SHEET No. M1 FOR GENERAL NOTES.

BENCHMARK INFO

BENCHMARK No. N1 – 128
ELEVATION = 228.117m

LOCATED ON A ONE AND 1/2 STOREY, BRICK DWELLING, AT THE SOUTHEAST CORNER OF MAYFIELD ROAD AND GOREWAY DRIVE. TABLET IS SET 0.38m SOUTH OF NORTHWEST CORNER OF FOUNDATION AT GROUND LEVEL.

SUBMISSION			
1st — Date		Pre-Serv — Date	
2nd — Date		Interim — Date	
3rd — X — Date	18.12.03	Final — Date	

No.	By	Date	Revision	Checked
1	R.K.N.	11.07.03	DRAWING SUBMIT OF CONSTRUCTION REVISED DRAWING ORIGINALLY APPROVED ON APRIL 30th, 2003 FOR UNDERGROUND SERVICES ONLY	

CITY OF BRAMPTON
PLANNING, DESIGN AND DEVELOPMENT
DIRECTION OF ENGINEERING AND DEVELOPMENT R.A. EMB, P. ENG.

CANDEVCON LIMITED
CONSULTING ENGINEERS AND PLANNERS
TEL. (905) 794-2022 FAX (905) 794-0911

PROJECT NUMBER 202063

HIGHLANDS OF CASTLEMORE
KINDWIN DEVELOPMENT CORPORATION
RESIDENTIAL SUBDIVISION

COMPOSITE PLAN
UNDERGROUND SERVICES

21T-01-025B

Surveyed:	Date:	Contract No:	
Drawn By: C.R.M.	Checked By: R.S.	Drawing No.	Sheet No. G2B
Designed By: F.S.	Checked By: D.K.H.		
Scale 'V': H: 1:1000	Date: OCT. 6th 2003		

PROJECT STATISTICS

1. WATERMAIN LENGTH = 3317m
2. SANITARY SEWER LENGTH = 3310m
3. NUMBER OF WATER SERVICES = 320
4. NUMBER OF HYDRANTS = 23
5. NUMBER OF SANITARY MH'S= 57
5. NUMBER OF STM MH'S= 57
7. STM SEWER LENGTH = 3343m
8. ROAD LENGTH = 3185m

LOTS OVER 600m²
25mmø WATER SERVICE CONNECTIONS FOR CITADEL CRES. , CARMEL CRES. MOUNT ROYAL CIRCLE & MAISONNEUVE BLVD.

LOTS UNDER 600m²
20mmø WATER SERVICE CONNECTIONS FOR LEPARC RD , SOFITEL RD , REGIS CIRCLE DARREN RD & VERNET CRES.

NOTE:
ALL CB'S TO HAVE SCEPTER ICD TYPE 'A' (10.8 L/s)
ALL DCB'S TO HAVE SCEPTER ICD TYPE 'C' (36.8 L/s)

B-18

Feb 10 03
3rd sub | Pre-servicing

SANITARY SEWER DESIGN SHEET

SHEET 1		OF 12													29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.		CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (I)	Flow (2)	low (1+	(m)	(mm)		Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)				%	(m3/s)	(m/s)
KINDWIN WEST																	
STREET B	MH25A	MH24A	0	0.2	50	10	0.2	10	0.013	0.00004	0.01304	58.4	250		1.00%	0.059	1.21
STREET B	MH24A	MH23A	11	0.39	50	20	0.59	30	0.013	0.00012	0.013118	54	250		0.50%	0.042	0.86
STREET B	MH23A	MH22A	12	0.41	50	21	1	50	0.013	0.00020	0.0132	54.1	250		0.50%	0.042	0.86
STREET B	MH22A	MH21A	13	0.2	50	10	1.2	60	0.013	0.00024	0.01324	54.6	250		0.75%	0.051	1.05
STREET A	MH21A	MH35A	28	0.07	50	4	1.27	64	0.013	0.00025	0.013254	26.3	250		0.50%	0.042	0.86
STREET A	MH20A	MH11A	5	0.52	50	26	1.79	90	0.013	0.00036	0.013358	42.4	250		0.50%	0.042	0.86
STREET A	MH19A	MH18A	NA	0	50	0	1.79	90	0.013	0.00036	0.013358	13.9	250		0.50%	0.042	0.86
STREET F	MH16A	MH17A	27	0.29	50	14	14.79	740	0.013	0.00296	0.015958	78.9	250		0.50%	0.042	0.86
STREET F	MH17A	MH16A	28	0.18	50	9	14.97	749	0.013	0.00299	0.015994	40.8	250		0.50%	0.042	0.86
STREET C	MH65A	MH64A	8	0.43	50	22	0.43	22	0.013	0.00009	0.013086	54.2	250		2.00%	0.084	1.71
STREET C	MH64A	MH63A	9	0.2	50	10	0.63	32	0.013	0.00013	0.013126	14.2	250		2.00%	0.084	1.71
STREET A	MH63A	MH62A	7	0.67	50	34	1.3	65	0.013	0.00026	0.01326	101.2	250		0.75%	0.051	1.05
STREET C	MH62A	MH61A	2	0.56	50	28	1.86	65	0.013	0.00037	0.013372	79	250		0.75%	0.051	1.05
STREET C	MH61A	MH16A	5	0.52	50	26	2.38	119	0.013	0.00048	0.013478	38.5	250		0.95%	0.058	1.18
STREET C	MH65A	MH66A	1	0.77	50	19	0.77	39	0.013	0.00015	0.013154	104.4	250		1.10%	0.062	1.27
STREET C	MH64A	MH67A	2	0.63	50	19	1.4	70	0.013	0.00028	0.01328	120	250		1.00%	0.059	1.21
STREET A	MH67A	MH68A	3,4,EXT	8.76	50	438	10.16	99	0.013	0.00203	0.015032	28.4	250		1.00%	0.059	1.21
STREET A	MH68A	MH16A	4A	0.38	50	9	10.34	517	0.013	0.00207	0.015068	46.1	250		1.00%	0.059	1.21
STREET G	MH70A	MH69A	30	0.5	50	25	0.5	25	0.013	0.00010	0.0131	59.4	250		1.00%	0.059	1.21
STREET G	MH67A	MH11A	29	0.17	50	9	0.67	34	0.013	0.00013	0.013134	33.4	250		0.50%	0.042	0.86
STREET G	MH11A	MH16A	29A	0.09	50	5	0.59	30	0.013	0.00012	0.013118	31.8	250		0.50%	0.042	0.86
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:							
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202063							

LICENSED PROFESSIONAL ENGINEER
F. A. SIDDIQI
29/Jan/03
PROVINCE OF ONTARIO

SANITARY SEWER DESIGN SHEET

SHEET 2		OF 12												29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.	CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (1)	Flow (2)	low (1+	(m)	(mm)	Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)			%	(m3/s)	(m/s)
STREET G	MH70A	MH71A	31	0.21	50	11	0.21	11	0.013	0.00004	0.013042	117	250	1.20%	0.065	1.33
STREET G	MH71A	MH72A	31A	0.21	50	11	0.42	21	0.013	0.00004	0.013084	10.4	250	1.40%	0.070	1.43
STREET G	MH72A	MH73A		0	50	0	0.42	21	0.013	0.00008	0.013084	38.5	250	0.88%	0.055	1.12
STREET G	MH73A	MH13A		0	50	0	0.42	21	0.013	0.00008	0.013084	15.9	250	0.80%	0.055	1.08
STREET F	MH16A	MH15A	33	0.89	50	35	16.25	813	0.013	0.00325	0.01625	100	250	0.50%	0.042	0.86
STREET F	MH15A	MH14A	32	0.65	50	28	16.8	840	0.013	0.00336	0.01636	83.7	250	0.50%	0.042	0.86
STREET F	MH14A	MH13A	31A	0.2	50	10	17	850	0.013	0.00340	0.0164	20	250	0.50%	0.042	1.88
SOUTH OF KINOWIN WEST																
STREET J (Easement)	MH13A	MH12A	FUTURE	0.4	50	20	17.82	891	0.013	0.00356	0.016564	37.9	250	0.50%	0.042	0.86
STREET J(Easement)	MH12A	MH11A	FUTURE	0.4	50	20	18.22	911	0.013	0.00364	0.016644	37.3	250	0.50%	0.042	0.86
STREET J(Easement)	MH11A	MH10A	FUTURE	0.4	50	20	18.62	931	0.013	0.00372	0.016724	34.3	250	0.50%	0.042	0.86
STREET J(Easement)	MH10A	MH9A	FUTURE	0.4	50	20	19.02	951	0.013	0.00380	0.016804	32 9	250	0.50%	0.042	0.86
Street A (Part of Kinchrin)	MH54A	MH78A	FUTURE	0.4	50	20	0.4	20	0.013	0.00008	0.01308	34.5	250	1.00%	0.059	1.21
Street A	MH78A	MH2EA	FUTURE	0.4	50	20	0.8	40	0.013	0.00016	0.01316	42.6	250	0.50%	0 042	0.86
Street A	MH2EA	MH3EA	FUTURE	0.4	50	20	1.2	60	0.013	0.00024	0.01324	40.3	250	0.50%	0.042	0.86
Street A	MH3EA	MH4EA	FUTURE	0.4	50	20	1.6	80	0.013	0.00032	0.01332	37.4	250	0.50%	0.042	0.86
Street A	MH4EA	MH5EA	FUTURE	0 4	50	20	2	100	0.013	0.00040	0.0134	27.3	250	0 50%	0.042	0.86
Street A	MH5EA	MH9	FUTURE	0.4	50	20	2.4	120	0.013	0.00048	0 01348	44.9	250	0.50%	0 042	0.86
STREET A(Easement)	MH9A	MH8A	FUTURE	0.4	50	20	21.82	1091	0.014	0.00448	0.018364	78.3	250	0.50%	0.042	0.86
STREET A(Easement)	MH8A	MH7A	FUTURE	0.4	50	20	22.22	1111	0.015	0.00444	0.019444	98	250	0.50%	0.042	0.86
STREET A(Easement)	MH7A	MH6A	FUTURE	0.4	50	20	22.62	1131	0.015	0.00452	0.019524	94.8	250	0.40%	0.032	0.77
STREET B(Easement)	MH6A	MH5A	FUTURE	0.4	50	20	23.02	1151	0.013	0.00460	0.019604	57.1	250	0.40%	0.038	0.77
STREET B(Easement)	MH5A	MH4A	EXTERNAL	13 2	50	660	36.22	1811	0.0229	0.00724	0.030144	54.3	250	0.40%	0.061	0.87
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:						
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202063						

SANITARY SEWER DESIGN SHEET														29-Jan-03		
SHEET 3		OF 12												CHECKED BY:		D.K.H
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.	Gradient	Capacity	Velocity
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (l)	Flow (2)	low (1+	(m)	(mm)	%	(m3/s)	(m/s)
									(m3/s)	(m3/s)	(m3/s)					
STREET C(Easement)	MH4A	MH3A	FUTURE	0.4	50	20	36.62	1831	0.0232	0.00732	0.030524	34.2	300	0.40%	0.061	0.87
STREET C(Easement)	MH3A	MH2A	FUTURE	0.4	50	20	37.02	1851	0.0234	0.00740	0.030804	46	300	0.40%	0.061	0.87
STREET C(Easement)	MH2A	MH1A	FUTURE	0.4	50	19	37.42	1871	0.02368	0.00748	0.031184	100	300	0.40%	0.061	0.87
AIRPORT RD(Easement)	MH1A	MHEX	FUTURE	0.4	50	20	37.82	1891	0.0239	0.00756	0.031464	73.5	300	0.40%	0.061	0.87
KINDWIN EAST																
STREET B	MH25A	MH26A	17	0.37	50	19	0.37	19	0.013	0.00007	0.013074	53.2	250	1.00%	0.059	1.21
STREET B	MH26A	MH27A	18	0.26	50	13	0.63	32	0.013	0.00013	0.013126	14.3	250	1.00%	0.059	1.21
STREET I	MH27A	MH28A	16	0.52	50	26	1.15	58	0.013	0.00023	0.01323	60	250	1.00%	0.059	1.21
STREET B	MH34A	MH29A	15	0.36	50	18	1.51	76	0.013	0.00030	0.013302	52.7	250	0.75%	0.051	1.05
STREET B	MH27A	MH30A	14	0.29	50	15	1.8	90	0.013	0.00036	0.01336	43.4	250	0.75%	0.051	1.05
STREET B	MH30A	MH31A		0	50	0	1.8	90	0.013	0.00036	0.01336	27.1	250	0.75%	0.051	1.03
STREET I	MH21A	MH51A	25	0.47	50	19	0.47	24	0.013	0.00009	0.013094	68.4	250	2.10%	0.086	1.76
					50											
STREET A	MH29A	MH32A	16	0.36	50	18	2.63	132	0.013	0.00053	0.013528	43.7	250	1.40%	0.070	1.43
STREET A	MH29A	MH31A	22	0.18	50	26	2.81	141	0.013	0.00056	0.013562	45	250	1.40%	0.070	1.43
STREET I	MH33A	MH38A	23.a	0.21	50	11	25.91	1296	0.016	0.00518	0.021182	49.8	250	1.80%	0.068	1.33
STREET I	MH34A	MH31A	43.a	0.31	50	16	26.22	1315	0.016	0.00524	0.023244	50.7	250	1.30%	0.068	1.43
STREET I	MH31A	MH40A	45.a	0.08	50	4	26.3	1315	0.016	0.00526	0.02326	40.3	390	1.40%	0.070	1.43
External area				20.23												
STREET I	MH36AA	MH36A		20.71	50	1036	20.71	1036	0.014	0.00414	0.018142	35	250	1.00%	0.059	1.21
STREET I	MH36A	MH35A	19	0.48	50	24	21.19	1060	0.014	0.00424	0.018238	100	250	0.50%	0.042	0.87
STREET I	MH51A	MH34A	20	0.6	50	30	21.79	1090	0.016	0.00436	0.018356	66.7	250	0.50%	0.042	0.87
STREET I	MH34A	MH33A	21	0.44	50	22	22.23	1112	0.016	0.00445	0.019449	73.8	250	0.50%	0.042	0.86
STREET I	MH50A	MH40A	46.a	0.42	50	21	0.42	21	0.013	0.00008	0.013084	100	250	1.00%	0.059	1.21
STREET I	MH50	MH51A	47.a	0.32	50	19	0.37	18	0.013	0.00006	0.013064	82.8	250	1.50%	0.073	1.48
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:						
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202063						

SANITARY SEWER DESIGN SHEET

SHEET 4		OF 12													29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.		CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (1)	Flow (2)	low (1+	(m)	(mm)		Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)				%	(m3/s)	(m/s)
STREET E	MH46A	MH46A	35	0.7	50	35	0.7	35	0.013	0.00014	0.01314	72.2	250		1.00%	0.059	1.21
STREET E	MH46A	MH47A	38	0.23	50	12	0.93	47	0.013	0.00018	0.013186	10.7	250		0.50%	0.042	0.86
STREET E	MH47A	MH48A	37	0.31	50	16	1.24	82	0.013	0.00025	0.013248	56.5	250		0.50%	0.042	0.86
STREET E	MH48A	MH49A	38	0.08	50	4	1.32	86	0.013	0.00026	0.013264	14.3	250		0.50%	0.042	0.86
STREET E	MH49A	MH41A	39	0.72	50	36	2.04	102	0.013	0.00041	0.013408	110.9	250		0.50%	0.042	0.86
STREET D	MH41A	MH45A	44	0.41	50	21	3.87	194	0.013	0.00077	0.013774	75.2	250		0.50%	0.042	0.86
STREET E	MH45A	MH44A	34	0.73	50	37	0.73	37	0.013	0.00015	0.013148	98.6	250		1.00%	0.059	1.21
STREET E	MH44A	MH43A	41	0.25	50	13	0.98	49	0.013	0.00020	0.013196	52.2	250		0.80%	0.053	1.08
STREET E	MH43A	MH42A	42	0.21	50	11	1.19	60	0.013	0.00024	0.013238	17	250		0.50%	0.042	0.86
STREET E	MH42A	MH41A	40	0.23	50	12	1.42	71	0.013	0.00028	0.013284	42.2	250		0.50%	0.042	0.86
STREET H	MH54A	MH53A	50	0.24	50	12	0.24	12	0.013	0.00005	0.013048	30.3	250		1.50%	0.073	1.48
STREET H	MH53A	MH52A	49	0.12	50	6	0.36	18	0.013	0.00007	0.013072	33.9	250		1.50%	0.073	1.48
STREET H	MH52A	MH51A	48	0.18	50	9	0.54	27	0.013	0.00011	0.013106	33.5	250		1.50%	0.073	1.48
END KINDWIN EAST																	
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:							
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202063							

SANITARY SEWER DESIGN SHEET

SHEET 5		OF 12													29-Jan-03	CHECKED BY:	D.K.H
LOCATION	from MH	to MH	Area No.	Area (ha)	Density (ppha)	Population (Equivalent)	Cumulative Area (ha)	Cumulative Population	Sewage Flow (l) (m3/s)	Infiltration Flow (2) (m3/s)	Total low (1+ (m3/s)	Length (m)	Pipe Dia. (mm)	Gradient %	Capacity (m3/s)	Velocity (m/s)
GORE MAY (EDDILEE)																
STREET G	MH17A	MH10A	1A	0.29	50	15	0.29	15	0.013	0.00006	0.013058	10	250	1.50%	0.073	1.48
STREET G	MH10A	MH11A	1	0.58	50	29	0.58	29	0.013	0.00012	0.013116	59.8	250	1.50%	0.073	1.48
STREET G	MH11A	MH12A	2	0.55	50	28	1.13	57	0.013	0.00023	0.013226	66	250	0.50%	0.042	0.86
STREET G	MH12A	MH13A	3	0.2	50	10	1.33	67	0.013	0.00027	0.013266	13.3	250	0.60%	0.042	0.94
STREET G	MH13A	MH14A	4	0.26	50	13	1.59	80	0.013	0.00032	0.013318	25.6	250	0.50%	0.042	0.86
STREET G	MH14A	MH15A	5	0.56	50	29	2.17	109	0.013	0.00043	0.013434	71.8	250	0.50%	0.042	0.86
STREET G	MH17A	MH18A	7	0.34	50	17	0.34	17	0.013	0.00007	0.013068	44	250	2.10%	0.086	1.76
STREET G	MH18A	MH15A	6	0.79	50	40	1.13	57	0.013	0.00023	0.013226	110	250	3.00%	0.059	1.21
STREET F	MH18A	MH18A	8	0.16	50	6	3.46	173	0.013	0.00069	0.013692	34.8	250	1.30%	0.042	1.38
STREET F	MH15A	MH19A	8A	0.2	50	10	3.66	183	0.013	0.00073	0.013732	44	250	1.30%	0.066	1.38
STREET B	MH23A	MH22A	11	0.23	50	12	0.23	12	0.013	0.00005	0.013058	28.7	250	2.00%	0.084	1.71
STREET B	MH22A	MH21A	10	0.23	50	12	0.23	23	0.013	0.00009	0.013092	26.6	250	2.00%	0.084	1.71
STREET B	MH21A	MH19A	9	0.68	50	44	1.34	67	0.013	0.00027	0.013268	91	250	1.40%	0.070	1.43
STREET H	MH19A	MH20A	14	0.37	50	19	5.37	269	0.013	0.00107	0.014074	84.8	250	0.90%	0.056	1.15
GORE MAY (EDDILEE)																
STREET I	MH24A	MH25A	14	0.29	50	15	0.29	15	0.013	0.00006	0.013058	70	250	3.00%	0.103	2.10
STREET H	MH20A	MH25A	14	0.7	50	35	6.23	318	0.013	0.00127	0.014272	90	250	0.50%	0.042	0.86
STREET H	MH25A	MH26A	18	0.77	50	39	7.13	357	0.013	0.00143	0.014428	78.6	250	0.60%	0.042	0.86
STREET H	MH26A	MH53A	20	0.43	50	22	7.56	378	0.013	0.00151	0.014512	59.8	250	0.54%	0.044	0.89
			END EDDILEE /BEGIN VALLEY GORE													
STREET I	MH24A	MH27A	15	0.22	50	11	0.22	11	0.013	0.00004	0.013044	15.5	250	1.15%	0.064	1.30
STREET I	MH27A	MH49A	16	0.77	50	39	0.99	260	0.013	0.00020	0.013198	87.1	250	1.00%	0.059	1.21
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:						
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202062						

SANITARY SEWER DESIGN SHEET

SHEET 6		OF 12													29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.		CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (1)	Flow (2)	low (1+	(m)	(mm)		Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)				%	(m3/s)	(m/s)
START EDEE LEE																	
STREET C (external from Kindwin added)	MH40A	MH1A	29	0.49	50	25	31.08	1554	0.0199	0.00622	0.026118	72.7	250		1.20%	0.065	1.33
STREET C	MH1A	MH2A	28	0.28	50	14	31.36	1568	0.02	0.00627	0.026272	51	250		0.50%	0.042	0.86
STREET D	MH4A	MH3A	26	0.52	50	26	0.52	26	0.013	0.00010	0.013104	29	250		1.00%	0.059	1.21
STREET D	MH3A	MH2A	28	0.35	50	18	0.87	44	0.013	0.00017	0.013174	23.5	250		0.50%	0.042	0.86
STREET	MH2A	MH5A	34	0.65	50	33	32.88	1644	0.021	0.00658	0.027576	92.1	250		0.83%	0.047	0.96
STREET E	MH8A	MH7A	35	0.21	50	11	0.21	11	0.013	0.00004	0.013042	21.3	250		1.00%	0.059	1.21
STREET E	MH7A	MH6A	32	0.18	50	0	0.39	20	0.013	0.00008	0.013078	12.1	250		1.00%	0.059	1.21
STREET E	MH6A	MH5A	33	0.54	50	27	0.93	47	0.013	0.00019	0.013186	76.6	250		1.00%	0.059	1.21
STREET D	MH5A	MH28A	37	0.39	50	20	34.2	1710	0.0219	0.00684	0.02864	58	250		0.50%	0.042	0.86
STREET D	MH28A	MH111A	39	0.63	50	32	34.83	1742	0.0222	0.00697	0.029166	84.7	250		0.50%	0.042	0.86
STREET B	MH29A	MH17A	24	0.49	50	25	0.40	26	0.013	0.00010	0.013098	37	250		1.00%	0.059	1.21
STREET B	MH17A	MH33A	23	0.17	50	9	0.66	33	0.013	0.00013	0.013132	38.4	250		0.50%	0.042	0.86
STREET E	MH8A	MH9A	36	0.34	50	17	0.34	17	0.013	0.00007	0.013068	46.8	250		1.00%	0.059	1.21
STREET E	MH9A	MH110	38	0.25	50	13	0.59	30	0.013	0.00012	0.013118	33.2	250		0.85%	0.055	1.12
MAY GORE ENDS																	
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:							
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202062/202046							

SANITARY SEWER DESIGN SHEET

SHEET 7		OF 12													29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.		CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (I)	Flow (2)	low (1+	(m)	(mm)		Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)				%	(m3/s)	(m/s)
START VALLEY GORE																	
STREET K	MH81A	MH74A	41	0.12	50	6	0.96	49	0.013	0.00020	0.013196	29.7	250		0.65%	0.048	0.98
STREET K	MH74A	MH75A	40	0.26	50	13	1.24	62	0.013	0.00025	0.013248	32.6	250		0.65%	0.048	0.98
STREET K	MH75A	MH76A	1	0.32	50	16	1.56	78	0.013	0.00031	0.013312	47.6	250		0.65%	0.048	0.98
STREET K	MH76A	MH77A	2	0.45	50	23	2.01	101	0.013	0.00040	0.013402	89.5	250		0.65%	0.048	0.98
STREET K	MH77A	MH78A	3	0.2	50	10	2.21	111	0.013	0.00044	0.013442	29.6	250		0.65%	0.048	0.98
STREET K	MH78A	MH78A	School block	3	116.2	349	5.21	459	0.013	0.00104	0.014042	83.5	250		0.50%	0.042	0.86
STREET K	MH114A	MH113A	ext	0.21	50	11	0.21	11	0.013	0.00004	0.013042	23.2	250		1.00%	0.059	1.21
STREET K	MH113A	MH112A	6	0.28	50	14	0.49	25	0.013	0.00010	0.013098	27.3	250		0.50%	0.042	0.86
STREET K	MH112A	MH78A		0	50	0	0.49	25	0.013	0.00010	0.013098	30.6	250		0.50%	0.042	0.86
STREET L	MH78A	MH80A	5	0.31	50	16	6.01	499	0.013	0.00120	0.014202	49.8	250		1.00%	0.059	1.21
STREET L	MH80A	MH81A	6	0.21	50	11	6.22	510	0.013	0.00124	0.014244	39.3	250		1.00%	0.059	1.21
STREET M	MH101A	MH100A	7	0.37	50	19	0.37	19	0.013	0.00007	0.013074	34.8	250		1.00%	0.059	1.21
STREET M	MH100A	MH81A	11	0.25	50	13	0.62	31	0.013	0.00012	0.013124	40.4	250		0.50%	0.042	0.86
STREET L	MH81A	MH82A	10	0.25	50	13	7.09	553	0.013	0.00142	0.014416	34.6	250		0.50%	0.042	0.86
STREET L	MH82A	MH83A	12	0.7	50	35	7.78	588	0.013	0.00156	0.014556	97.5	250		0.50%	0.042	0.86
STREET L	MH83A	MH84A	14	0.13	50	7	7.92	595	0.013	0.00158	0.014584	16.7	250		1.37%	0.070	1.42
STREET L	MH84A	MH85A	13	0.21	50	11	47.71	2584	0.0313	0.00954	0.040842	47.5	250		0.59%	0.046	0.93
STREET L	MH85A	MH86A	13A	0.21	50	11	47.92	2595	0.0314	0.00958	0.040984	45.9	250		0.50%	0.042	0.86
STREET D	MH28A	MH99A	11A	0.53	50	27	0.53	27	0.013	0.00011	0.013106	46.8	250		1.00%	0.059	1.21
STREET N	MH98A	MH99A	12A	0.26	50	13	0.79	40	0.013	0.00016	0.013158	39	250		1.50%	0.073	1.48
STREET N	MH99A	MH117A		0	50	0	0.79	40	0.013	0.00016	0.013158	33.7	250		2.00%	0.084	1.71
STREET N	MH117A	MH86A		0	50	0	0.79	40	0.013	0.00016	0.013158	16.7	250		3.00%	0.103	2.10
END OF VALLEY GORE																	
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:							
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202062							

SANITARY SEWER DESIGN SHEET

SHEET 8		OF 12													29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.		CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (1)	Flow (2)	low (1+	(m)	(mm)		Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)				%	(m3/s)	(m/s)
VALLEY GORE START																	
STREET D	MH111A	MH107A	43	0.33	50	17	35.16	1758	0.0212	0.00703	0.028232	39.6	250		0.50%	0.042	0.86
STREET J	MH110	MH108A	15	0.58	50	18	1.15	56	0.013	0.00023	0.01323	78.5	250		0.85%	0.055	1.12
STREET J	MH108A	MH108A	42A	0.25	50	18	1.4	70	0.013	0.00028	0.01328	11	250		0.80%	0.053	1.08
STREET J	MH108A	MH107A	42B	0.2	50	33	1.6	80	0.013	0.00032	0.01332	87.2	250		0.85%	0.055	1.12
STREET H	MH107A	MH106A	18	0.42	50	21	37.48	1859	0.0233	0.00744	0.030736	51.1	250		0.50%	0.042	0.86
STREET H	MH106A	MH104A	15	0.3	50	15	37.48	1874	0.0234	0.00750	0.030898	49.6	360		0.50%	0.042	0.86
STREET A	MH78A	MH102A	4	0.26	50	11	0.26	13	0.013	0.00005	0.013052	48	250		0.80%	0.053	1.08
STREET A	MH102A	MH103A	4	0.44	50	22	0.7	35	0.013	0.00014	0.01314	51.9	360		0.90%	0.056	1.15
STREET A	MH102A	MH104A	16	0.48	50	24	1.18	59	0.013	0.00024	0.013236	71.8	250		0.80%	0.053	1 08
STREET A	MH104A	MH105A	15	0.29	50	15	38.95	1948	0.024	0.00779	0.03179	45.8	250		0.50%	0.042	0.86
EASEMENT	MH105A	MH115A	NA	0.21	50	18	35.16	1958	0.0242	0.00783	0.032032	47.4	250		0.50%	0.042	0.86
EASEMENT	MH115A	MH116A	NA	0.21	50	11	39.37	1969	0.0243	0.00787	0.032174	41.4	250		0.50%	0.042	0.86
EASEMENT	MH116A	MH84	NA	0.21	50	11	39.58	1979	0.0244	0.00792	0.032316	21.5	360		0.50%	0.088	0.86
					50												
VALLEY GORE EAST PART					50												
STREET B	MH23A	MH29A	12	0.17	50	9	0.17	9	0.013	0.00003	0.013034	28.1	250		2.50%	0.094	1.92
STREET B	MH27A	MH26A	43	0.2	50	0	0.37	19	0.013	0.00007	0.013074	25.7	250		2.00%	0.084	1.71
STREET B	MH26A	MH25A	48A	0.19	50	10	0.56	28	0.013	0.00011	0.013112	33.3	250		1.80%	0 080	1.63
STREET B	MH25A	MH24A	53	0.75	50	38	2.41	121	0.013	0.00048	0.013482	100	250		1.00%	0.053	1.21
STREET B	MH24A	MH23A	52	0.56	50	19	2.97	149	0.013	0.00059	0.013594	66	250		0.95%	0.058	1.18
STREET B	MH23A	MH22A	15	0.43	50	22	3.4	170	0.013	0.00068	0.01368	38.2	250		0.95%	0.058	1.18
STREET B	MH22A	MH21A	50	0.23	50	12	3.63	182	0.013	0.00073	0.013728	39.7	360		1.00%	0.059	1.21
STREET B	MH21A	MH20A	47	0.92	50	46	4.55	228	0.013	0.00091	0.01391	104.6	250		1.30%	0.042	0.86
STREET C	MH41A	MH42A	55	0.66	50	33	0.66	33	0.013	0.00013	0.013132	60	250		0.03%	0.059	1.21
STREET C	MH42A	MH43A	15	0.44	50	22	1.1	55	0.013	0.00022	0.01322	44	250		0.80%	0.042	0.86
STREET C	MH43A	MH25A		0	50	0	1.1	55	0.013	0.00022	0.01332	25.5	250		0.50%	0.042	0.86
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:							
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202062							

SANITARY SEWER DESIGN SHEET

SHEET 9		OF 12													29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.		CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (1)	Flow (2)	low (1+	(m)	(mm)		Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)				%	(m3/s)	(m/s)
STREET C	MH41A	MH40A	38	0.67	50	34	0.67	34	0.013	0.00013	0.013134	82	250		1.00%	0.059	1.21
STREET C	MH43A	MH39A	57	0.17	50	9	0.84	42	0.013	0.00048	0.013168	16.8	250		0.80%	0.053	1.08
STREET C	MH39A	MH38A	57	0.26	50	26	1.1	55	0.013	0.00022	0.01322	33.5	250		0.80%	0.053	1.08
STREET C	MH38A	MH37A	59	0.34	50	19	1.48	74	0.013	0.00030	0.013296	42.6	250		0.80%	0.053	1 08
STREET C	MH37A	MH44A	38	0.67	50	34	0.67	34	0.013	0.00013	0.013134	106.4	250		1.00%	0.059	1.21
STREET C	MH44A	MH41A	37	0.4	50	20	1.07	54	0.013	0.00048	0.013214	54.3	250		0.75%	0.051	1.05
STREET C	MH45A	MH46A	36	1.13	50	57	2.2	110	0.013	0.00044	0.01344	120	250		0 80%	0 046	0.94
STREET C	MH46A	MH47A	35	0.27	50	14	2.47	124	0.013	0.00049	0.013494	13.2	260		0.60%	0.065	0.94
STREET C	MH47A	MH30A	36	0.51	50	26	2.98	149	0.013	0.00062	0.013596	74.4	250		0.85%	0.065	1.12
STREET I-	MH31A	MH36A	39	0.34	50	26	2.03	102	0.013	0.00041	0.013406	90.9	250		1.00%	0.059	1.21
STREET D	MH36A	MH35A	40	0.34	50	17	2.37	119	0.013	0.00047	0.013474	9.9	250		0.75%	0.051	1.05
STREET D	MH35A	MH34A	41	0.23	50	12	2.6	130	0.013	0.00052	0.01352	41.9	250		0.75%	0.051	1 05
STREET D	MH34A	MH33A	42	0.34	50	26	2.93	147	0.013	0.00059	0.013586	32.6	260		0.70%	0.050	1.01
STREET E	MH33A	MH32A	48	0.41	50	26	3.34	167	0.013	0.00067	0.013668	43.3	260		0.65%	0.048	0.98
STREET D	MH32A	MH31A	57	0.28	50	14	3.62	181	0.013	0.00072	0.013724	41.4	250		0.65%	0.048	0.98
STREET D	MH31A	MH30A	46	0.77	50	39	4.39	220	0.013	0.00088	0.013878	97	250		0.70%	0.042	0.86
STREET C	MH30A	MH48A	46	0.34	50	17	7.71	386	0.013	0.00154	0.014542	67	250		0.50%	0.042	0.86
STREET C	MH48A	MH20A		0	50	0	7.71	526	0 013	0.00154	0.014542	22.9	250		0.50%	0.042	0.86
STREET I	MH48A	MH50A	57	0.6	50	30	1.59	80	0.013	0.00032	0.013318	79.3	250		1.00%	0.059	1.21
STREET I	MH50A	MH51A	47A	0.2	50	10	1.79	90	0.013	0.00036	0.013358	99.9	250		1.20%	0.065	1.33
STREET C	MH51A	MH52A	48	0.6	50	30	2.39	120	0.013	0.00048	0.013479	23	250		1.50%	0.073	1.48
STREET I	MH52A	MH53A		0	50	0	2.39	120	0.013	0.00048	0.013478	45.8	250		1.50%	0.073	1.48
STREET E	MH53A	MH29A	45C	0.44	50	22	10.39	520	0.013	0.00208	0.015078	45.9	250		1.00%	0.059	1.21
STREET E	MH29A	MH28A	49	0.44	50	22	10.83	542	0.013	0.00848	0.015166	37.7	250		0.75%	0.051	1.05
STREET E	MH28A	MH20A	57	0.37	50	19	11.2	560	0.013	0.00224	0.01524	63	250		0.78%	0.051	1.05
STREET G	MH20A	MH19A	23	0.21	50	11	19.12	956	0.013	0.00382	0.016824	110.2	250		0.75%	0.051	1.05
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:							
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202062							

SANITARY SEWER DESIGN SHEET

SHEET 10		OF 12												29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.	CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (1)	Flow (2)	low (1+	(m)	(mm)	Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)			%	(m3/s)	(m/s)
STREET A	MH18A	MH17A	33	0.83	50	42	0.83	42	0.013	0.00017	0.013186	85.7	250	1.00%	0.059	1.21
STREET A	MH17A	MH16A	32	0.71	50	36	1.54	77	0.013	0.00031	0.013308	85	250	0.50%	0.042	0.86
STREET A	MH16A	MH19A	24	0.24	50	12	1.78	89	0.013	0.00036	0.013356	44.9	250	1.10%	0.062	1.27
STREET A	MH15A	MH14A	22	0.6	50	30	0.6	30	0.013	0.00012	0.01312	53.2	250	1.50%	0.073	1.48
STREET A	MH14A	MH18A		0	50	0	0.6	30	0.013	0.00012	0.01312	17.6	250	0.50%	0.042	0.86
STREET G	MH19A	MH5A	21	0.37	50	18	21.87	1094	0.014	0.00437	0.018374	89.4	250	0.67%	0.048	0.99
STREET G	MH9A	MH8A	NA	0	50	0	0	0	0.013	0.00000	0.013	11.8	250	1.00%	0.059	1.21
STREET G	MH8A	MH7A	30	0.7	50	35	0.7	35	0.013	0.00014	0.01314	88.3	250	0.50%	0.042	0.86
STREET G	MH7A	MH6A	31	0.41	50	21	1.11	56	0.013	0.00022	0.013222	44.4	250	0.50%	0.042	0.86
STREET G	MH6A	MH5A	25	0.38	50	19	1.49	75	0.013	0.00030	0.013298	48.6	250	1.15%	0.064	1.30
STREET G	MH9A	MH10A	29	0.36	50	18	0.36	18	0.013	0.00007	0.013072	66.7	250	1.00%	0.059	1.21
STREET G	MH10A	MH11A	NA	0	50	0	0.36	18	0.013	0.00007	0.013072	12.6	250	1.00%	0.059	1.21
STREET G	MH11A	MH12A	28	0.33	50	17	0.69	35	0.013	0.00014	0.013138	34.1	250	1.00%	0.059	1.21
STREET G	MH12A	MH13A	27	0.55	50	28	1.24	92	0.013	0.00025	0.013248	73.3	250	0.85%	0.055	1.12
STREET G	MH13A	MH2A	26	0.26	50	13	1.5	75	0.013	0.00030	0.0133	33.4	250	0.55%	0.044	0.90
STREET G	MH2A	MH3A	NA	0	50	0	1.5	75	0.013	0.00030	0.0133	13.2	250	0.50%	0.042	0.86
STREET G	MH5A	MH4A	20	0.13	50	7	23.48	1175	0.015	0.00470	0.019698	36.6	250	0.50%	0.042	0.86
STREET G	MH4A	MH3A	19	0.33	50	17	23.82	1191	0.015	0.00479	0.019784	45.9	250	0.70%	0.050	1.01
EASEMENT	MH3A	MH87AEX	NA	0	50	0	25.32	1266	0.016	0.00506	0.021064	89.5	250	0.77%	0.052	1.06
END OF VALLEY GORE EAST PART																
CANDEVCON LIMITED										DRAINAGE AREA PLAN NO.:						
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: 202062						

SANITARY SEWER DESIGN SHEET

SHEET 11		OF 12												29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.	CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (1)	Flow (2)	low (1+	(m)	(mm)	Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)			%	(m3/s)	(m/s)
FUTURE TO COUNTRY BROOK																
Street A	MH5EA	MH6EA	Future	0.4	50	20	0.4	40	0.013	0.00008	0.01308	47.6	250	0.50%	0.042	0.86
Street A	MH6EA	MH7EA	Future	0.4	50	20	0.8	40	0.013	0.00016	0.01316	51.4	250	1.00%	0.059	1.21
Street A	MH7EA	MH8EA	Future	0.4	50	20	1.2	60	0.013	0.00024	0.01324	44	250	1.00%	0.059	1.21
Street A	MH8EA	MH9EA	Future	0.4	50	20	1.6	80	0.013	0.00032	0.01332	42.9	250	1.00%	0.059	1.21
Street A	MH9A	MH10EA	Future	0.4	50	20	2	200	0.013	0.00040	0.0134	49.7	250	0.50%	0.059	1.21
Street A	MH10EA	MH11EA	Future	0.4	50	20	2.4	120	0.013	0.00048	0.01348	42.3	250	1.00%	0.059	1.21
Street A	MH11EA	MH17A	Future	0.4	50	20	2.8	140	0.013	0.00056	0.01356	85.5	250	1.30%	0.068	1.38
Street A	MH	MH18A	Future	0.4	50	20	0.4	20	0.013	0.00008	0.01308	29.1	250	1.00%	0.059	1.21
Street A	MH18A	MH17A	Future	0.4	50	20	0.8	40	0.013	0.00016	0.01316	44.2	250	0.50%	0.042	0.86
Street B	MH17A	MH16A	Future	0.4	50	20	4	200	0.013	0.00080	0.0138	62.6	250	0.50%	0.042	0.86
Street B	MH16A	MH15A	Future	0.4	50	20	4.4	220	0.013	0.00088	0.01388	33.3	250	0.50%	0.042	0.86
Street C	MH 101A	MH22A	Future	0.4	50	20	0.4	20	0.013	0.00008	0.01308	39.5	250	1.00%	0.059	1.21
Street C	MH22A	MH21A	Future	0.4	50	20	0.8	40	0.013	0.00016	0.01316	40.3	250	0.50%	0.042	0.86
Street C	MH21A	MH20A	Future	0.4	50	20	1.2	60	0.013	0.00024	0.01324	37.1	250	0.50%	0.042	0.86
Street C	MH20A	MH19A	Future	0.4	50	20	1.6	80	0.013	0.00032	0.01332	50.8	250	0.50%	0.042	0.86
Street C	MH19A	MH15A	Future	0.4	50	20	2	100	0.013	0.00040	0.0134	29.8	250	0.50%	0.042	0.86
Street C	MH15A	MH15A	Future	0.4	50	20	2.4	280	0.013	0.00048	0.01348	13.2	250	0.50%	0.042	0.86
Street B	MH15A	MH14A	Future	0.4	50	20	6.8	340	0.013	0.00136	0.01436	55.9	250	0.50%	0.042	0.88
Street B	MH14A	MH15A	Future	0.4	50	20	7.2	360	0.013	0.00144	0.01444	40	250	0.50%	0.042	0.88
Street D	MH28A	MH27A	Future	0.4	50	20	0.4	20	0.013	0.00008	0.01308	35.1	250	1.00%	0.059	1.21
Street D	MH27A	MH26A	Future	0.4	50	20	0.8	40	0.013	0.00016	0.01316	37	250	0.50%	0.042	0.86
Street D	MH26A	MH25A	Future	0.4	50	20	1.2	60	0.013	0.00024	0.01324	47.2	250	0.50%	0.042	0.86
Street D	MH25A	MH24A	Future	0.4	50	20	1.6	80	0.013	0.00032	0.01332	44.4	250	0.50%	0.042	0.86
Street D	MH24A	MH23A	Future	0.4	50	20	2	100	0.013	0.00040	0.0134	81.1	250	0.50%	0.042	0.86
Street D	MH23A	MH13A	Future	0.4	50	20	2.4	120	0.013	0.00048	0.01348	44.2	250	0.50%	0.042	0.86
Street D	MH13A	MH12A	Future	0.4	50	20	10	500	0.013	0.00200	0.015	68.4	250	0.50%	0.042	0.86
Street D(Future subdivision added	MH12A	MH11A	Future+Extern	15.5	50	775	25.5	1275	0.016	0.00510	0.0211	13.5	250	0.50%	0.042	0.86
Street D	MH11A	MH10A	Future	0.4	50	20	25.9	1295	0.016	0.00518	0.02118	45	250	0.50%	0.042	0.86
Street D	MH10A	MH9A	Future	0.4	50	20	26.3	1315	0.013	0.00526	0.02326	45	250	0.50%	0.042	0.86

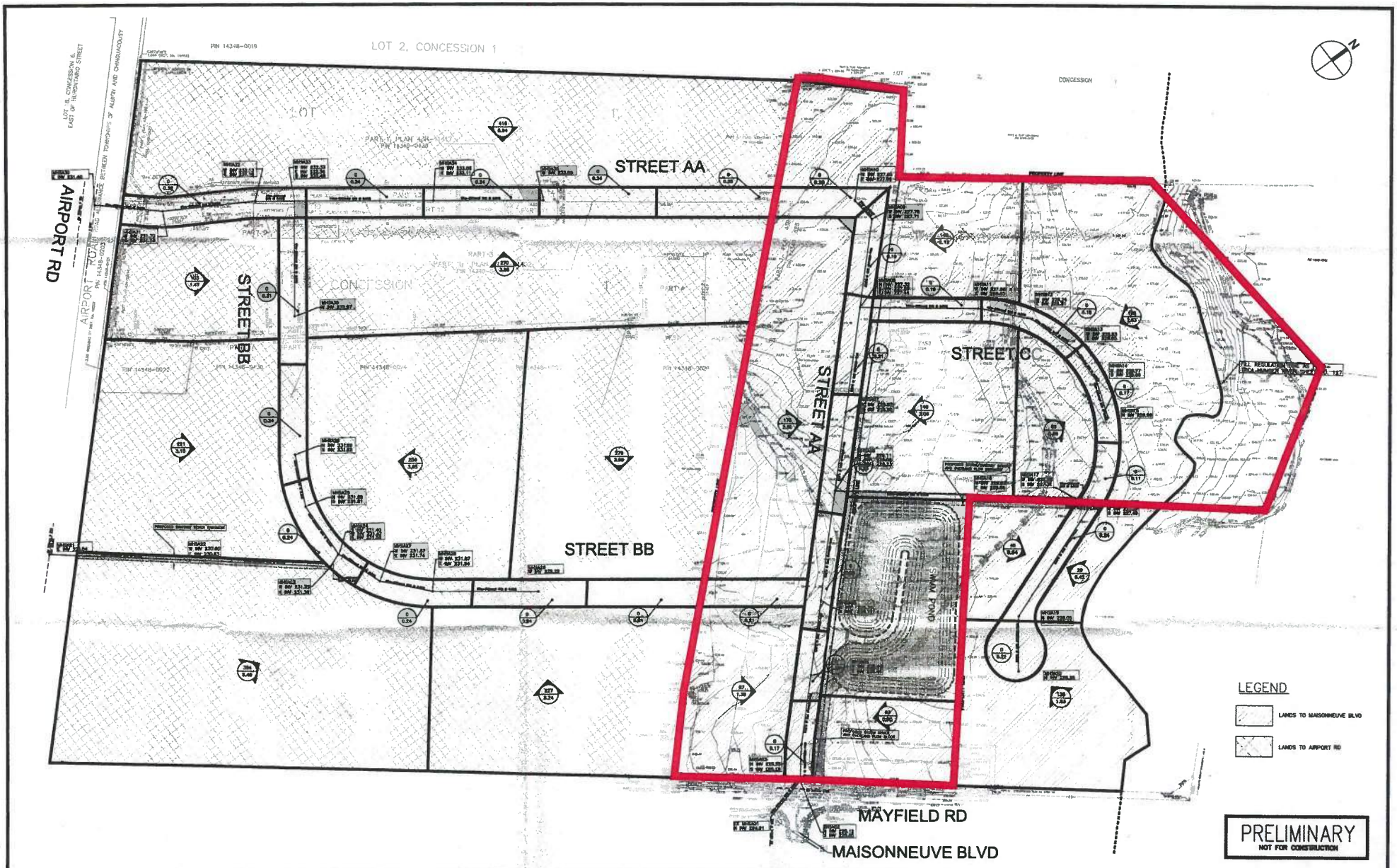
CANDEVCON LIMITED

CONSULTING ENGINEERS AND PLANNERS

PROJECT NO.: North vales of Castlemore

SANITARY SEWER DESIGN SHEET

SHEET 12		OF 12												29-Jan-03		
LOCATION	from	to	Area	Area	Density	Population	Cumulative	Cumulative	Sewage	Infiltration	Total	Length	Pipe Dia.	CHECKED BY:		D.K.H
	MH	MH	No.	(ha)	(ppha)	(Equivalent)	Area (ha)	Population	Flow (I)	Flow (Q)	flow (I+	(m)	(mm)	Gradient	Capacity	Velocity
									(m3/s)	(m3/s)	(m3/s)			%	(m3/s)	(m/s)
COUNTRY BROOK																
STREET O	MH86A	MH87A	Future	0.4	50	20	49.11	2954	0.032	0.00982	0.041822	12	300	0.60%	0.075	1.06
STREET O	MH87A	MH88A	Future+ACRO	0.4	50	20	74.83	3949	0.0457	0.01497	0.060566	29.9	300	0.50%	0.068	0.97
STREET O	MH88A	MH89A	Future	0.4	50	20	75.23	3969	0.0459	0.01505	0.060946	49.1	300	0.50%	0.068	0.97
Street D	MH31	MH89A	Future	0.4	50	20	0.4	20	0.013	0.00008	0.01308	53.1	250	1.00%	0.059	1.21
STREET O(area from valley gore	MH89A	MH90A	Future	0.4	50	20	76.03	4000	0.046	0.01521	0.061206	42	300	0.50%	0.068	0.97
STREET O	MH90A	MH91A	Future	0.4	50	20	76.43	4020	0.0466	0.01529	0.061888	23.9	300	0.50%	0.068	0.97
STREET O	MH91A	MH92A	Future	0.4	50	20	76.83	4040	0.0468	0.01537	0.062166	24.4	300	0.50%	0.068	0.97
STREET O	MH92A	MH93A	Future	0.4	50	20	77.23	4060	0.047	0.01545	0.062446	24.3	300	0.50%	0.068	0.97
STREET O	MH93A	MH94A	Future	0.4	50	20	77.63	4080	0.0473	0.01553	0.062826	38.4	300	0.50%	0.068	0.97
STREET O	MH94A	MH95A	Future	0.4	50	20	78.03	4100	0.0475	0.01561	0.063106	56.5	300	0.50%	0.068	0.97
STREET O	MH95A	MH96A	Future	0.4	50	20	78.43	4120	0.0478	0.01569	0.063486	57.5	300	0.50%	0.068	0.97
STREET O	External	MH96A	0	0	50	0	29.5	1475	0.019	0.00590	0.02490	17.8	250	1.00%	0.059	1.21
EASEMENT	MH96A	MHY	Future	0.4	50	20	108.33	5615	0.05181	0.02167	0.063476	22.1	300	1.00%	0.097	1.37
EASEMENT	MHY	MHR	Future		50	0	108.33	5615	0.05181	0.02167	0.063476	22.3	300	1.00%	0.097	1.37
END OF COUNTRY BROOK FROM NORTH EAST																
Street D	MH9A	MH8A	Future	0.4	50	20	26.7	1335	0.018	0.00534	0.02334	77.6	250	0.50%	0.042	0.86
Street D	MH8A	MH7A	Future	0.4	50	20	27.1	1355	0.018	0.00542	0.02342	45.2	250	0.50%	0.042	0.86
Street D	MH31	MH89A	Future	0.4	50	20	0.4	20	0.013	0.00008	0.01308	53.1	250	1.00%	0.059	1.21
Street D	MH31	MH30A	Future	0.4	50	20	0.4	20	0.013	0.00008	0.01308	49.3	250	1.00%	0.059	1.21
Street D	MH30A	MH29A	Future	0.4	50	20	0.8	40	0.013	0.00018	0.01318	43	250	0.60%	0.046	0.94
Street D	MH29A	MH7A	Future	0.4	50	20	1.2	60	0.013	0.00024	0.01324	50.9	250	0.60%	0.046	0.94
Street D	MH7A	MH6A	Future	0.4	50	20	28.7	1435	0.018	0.00574	0.02474	71.5	250	0.50%	0.042	0.86
Street D	MH6A	MH5A	Future	0.4	50	20	29.1	1455	0.019	0.00582	0.02482	25.4	250	1.00%	0.059	1.21
Street D	MH5A	MH4A	Future	0.4	50	20	29.5	1475	0.019	0.00590	0.0249	17.8	250	1.00%	0.059	1.21
EASEMENT	MH4A	MHY	Future	0.4	50	20	108.33	5615	0.0631	0.02167	0.08477	22.1	300	1.00%	0.097	1.37
EASEMENT	MHY	MHR	Future		50	0	108.33	5618	0.0631	0.02167	0.084786	22.3	300	1.00%	0.097	1.37
End of Country Brook																
Flow based on population Equalant of 70 for Future areas west of Country Brook and North of Mayfield Rd=20.23+15.5+36.8							108.33	6339	0.07008	0.02167	0.0917				0.097	
CANDEVCON LIMITED																
CONSULTING ENGINEERS AND PLANNERS										PROJECT NO.: North vales of Castlemore						



No.	Date	Revisions	By	Signed
10				
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3				
2	FEB 05/08	REISSUED	DF	
1	JUL 31/08	ISSUED	DF	

Information

Seal:

Seal:

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Toronto, Ontario
Canada M5V 1V6
Tel (416)596-1930
FAX(416)596-0644

Tullamore
INDUSTRIAL SUBDIVISION

SANITARY DRAINAGE AREA PLAN

Design:	MG	Drawn:	DF	Checked:	MG	20809
Scales:	1:1500 0 15 30 45 60 m			Date: JUN, 2008	Drawing Number	DR-04

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Region of Peel
Working for you

300 water main on Mayfield Road east/west

Engineering and Construction
Public Works

To: Tom Slomke **Date:** November 20, 2006

From: Orest Jacyla **Subject:** Functional Servicing Report
Tullamore Industrial Area,
Town of Caledon

ct: **Our File:** C-4

We acknowledge receipt of the above Functional Servicing Report from your Department and confirm that we have no objections to same, subject to the following comments:

Watermain

IBI Group was retained by Centurion Homes Ltd. and Vac Developments Ltd. (the proponents) to investigate water and sanitary servicing for the Tullamore Industrial Area in the Town of Caledon, Ward 4. This memorandum provides the Region's comments with regards to water servicing for the proposed development.

The Tullamore Industrial Area, which is part of the Tullamore Secondary Plan Area, is located on the north side of Mayfield Road east of Airport Road. The total area of the site, which is zoned for industrial development, is 19 ha of which the development blocks total an area of 11.9 ha.

Water Demand

Based on a population density of 70 persons/ha and Region of Peel design criteria, the average day, maximum day, and peak hour demands for the development are as follows:

- Average day demand = 11.9 ha x 70 persons/ha x 300 L/cap.d = 2.9 L/s
- Maximum day demand = 2.9 L/s x 2.0 = 5.8 L/s
- Peak hour demand = 2.9 L/s x 3.0 = 8.7 L/s

Using MOE design guidelines (i.e., average day demand of 302.8 L/cap.d and a peaking factor of 4.13) the consultant arrived at an average day demand of 2.9 L/s and a peak hour demand of 12.1 L/s. To be conservative, Region staff has used the consultant's estimation of water demand.

Existing Water Infrastructure

The Tullamore Industrial Area is located near the bottom of Pressure Zone 6 with elevations between 227 and 235 metres. Existing water infrastructure includes a 200-mm/300-mm water

main on the north side of Mayfield Road, a 750-mm transmission main on the south side of Mayfield Road, and a 300-mm water main on the east side of Airport Road. As per Region of Peel design criteria, industrial developments must be serviced by 300-mm water mains or larger.

It should be noted that the Region has recently completed the construction of 200-mm water mains on Healey Road, The Gore Road and Humber Station Road and a 300-mm water main on Mayfield Road between Coleraine Drive and Humber Station Road. These new water mains will provide a feed from the Bolton Elevated Tank to areas of Zone 6 west of Bolton and will mitigate existing low pressure problems.

The residual pressure in the 200-mm/300-mm water main at Mayfield Road and Maisoneuve Boulevard is 103, 96 and 85 psi under average day, maximum day and peak hour demands, respectively. Applying the water demands for the Tullamore Industrial Area reveals that the residual pressure at this intersection would be 102, 94 and 81 psi under average day, maximum day and peak hour conditions, respectively. The lowest pressure in Zone 6 would be 36 psi under peak hour conditions on Airport Road north of Healey Road. It should be noted that this area currently experiences low pressures.

It is expected that the HGL across Zone 6 will be further improved after the Tullamore Reservoir and Pumping Station is commissioned in 2010.

Interim and Ultimate Servicing

Water servicing for the Tullamore Industrial Area would be provided primarily from the 200-mm/300-mm water main on Mayfield Road. However, to provide security of supply the internal water mains would need to be looped to the 300-mm water main on Airport Road. At present the primary sources of water for this development would be the North Brampton Reservoir and Pumping Station and the Bolton Elevated Tank.

In 2008, the Region plans to begin construction of a new reservoir and pumping station at Mayfield Road and Innis Lake Road that will provide additional pumping capacity for Zone 5 and Zone 6. The Tullamore Reservoir and Pumping Station would be the primary source of water for this development once it is commissioned in 2010.

The water main on Mayfield Road between Innis Lake Road and Maisoneuve Boulevard, which would be the primary feed to the development, only has a diameter of 200 mm. To satisfy the Region of Peel design criteria specifying a minimum pipe diameter of 300 mm for industrial developments, the proponent would be required to replace this water main with a 300-mm water main. The length of the water main that would need to be replaced is 704 metres.

Water Servicing Internal to the Site

Based on the proposed road patterns within the Tullamore Secondary Plan Area, there is access to the 300-mm water main on Airport Road and to the 200-mm/300-mm water main on Mayfield Road. However, access to Airport Road requires crossing lands outside of the Tullamore Industrial Area (i.e., the neighbouring development to the west). This situation may make looping of water mains difficult in the interim and may require delaying the development until

the neighbouring developments are ready to proceed. It should be noted that all internal water mains must have a diameter of 300 mm or larger to satisfy Region of Peel design criteria.

Conclusions

Based on a desktop analysis, Region staff has concluded that there is available capacity in the Zone 6 distribution system to provide water servicing to the Tullamore Industrial Area. In the interim, this development would be supplied from the North Brampton Reservoir and Pumping Station and the Bolton Elevated Tank. Ultimately, this development would be serviced from the Tullamore Reservoir and Pumping Station, which is scheduled to be commissioned in 2010.

To satisfy the Region of Peel design criteria specifying a minimum pipe diameter of 300 mm for industrial developments, the proponent would be required to replace the 200-mm water main on Mayfield Road between Innis Lake Road and Maisoneuve Boulevard with a 300-mm water main. The length of the water main that would need to be replaced is 704 metres.

Sanitary Sewer

Background

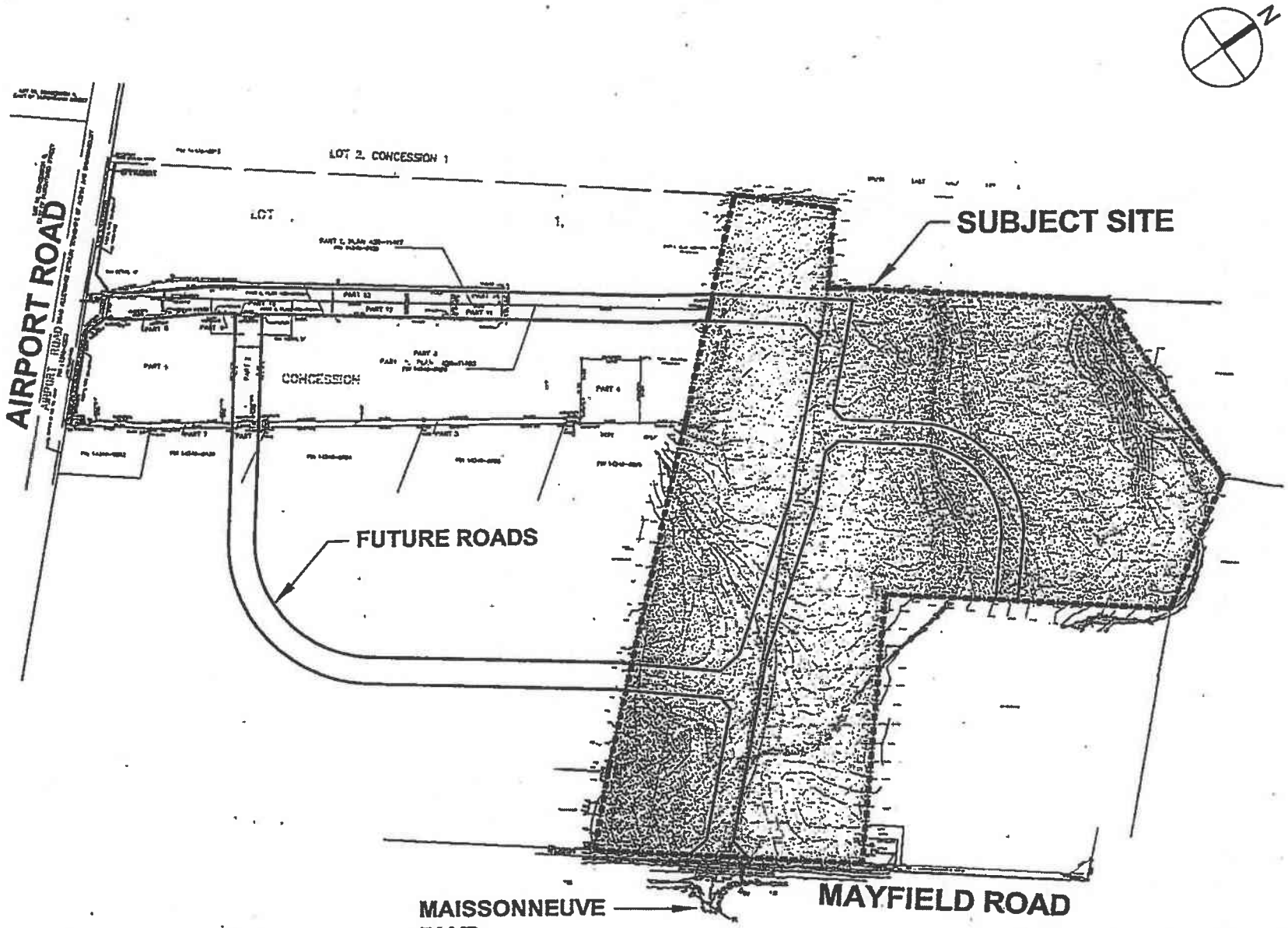
The IBI Group have proposed development block over 19 ha. Area, for their clients VAC Developments and Centurion Homes, with peak sanitary flows of 13 l/s.

Results

The proposed lands have been included in the drainage area for sewer along Maisonneuve Blvd. and flows were included in the design of the sanitary drainage system south of Mayfield Road.

I trust the above to be satisfactory. If you require clarification or additional information, please don't hesitate to contact me at extension 7809.

Orest Jacyla, P. Eng.
Project Manager
Engineering and Infrastructure Planning
Engineering and Construction



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IBI

Project Title: TULLAMORE INDUSTRIAL AREA

Drawing Title: SITE LOCATION PLAN

Sheet No.: EXHIBIT 1

Appendix A.6

Grading Design Standards

determined by the Town on a site specific basis. Signs are to conform to the Town's standard and shall be supplied and installed by the developer.

1.4.10.4. Maintenance Costs

The maintenance costs represent the costs to ensure the proper operation, longevity and aesthetic functioning of the stormwater control measures. The necessary tasks to achieve these objectives include sediment removal, trash removal, maintenance of the vegetation and inspections of the inlet and outlet. The Consulting Engineer shall provide a report to the Town detailing maintenance recommendations based on the approved stormwater management plan. The report shall include the following recommendations:

- Inspection of all structures and how frequently (minimum of once annually);
- Removal of all sediments and how frequently;
- Method of re-stabilizing of all disturbed areas;
- Sediments to be tested to determine method of disposal;
- Effluent sampling protocol.

The required maintenance interval and unit price for each of the required maintenance activities shall be in accordance with the "Ministry of Environment Stormwater Management Planning and Design Manual" (March 2003, or as amended).

1.5. Roadways

1.5.1. Road Works

Asphalt roadways complete with concrete curbs and gutters designed and constructed in accordance with the most recent requirements and specifications of the Town and the Ontario Provincial Standards are required on all road allowances within the plan of subdivision. The balance of the road allowance not occupied by the roadway, driveways, splash pad or sidewalks shall be graded, top soiled and sodded (estate subdivisions may be seeded where appropriate) to the satisfaction of the Town.

1.5.2. Geometric Design

1.5.2.1. Roadways

Roadway geometric design will be in accordance with the Town of Caledon Geometric Design Standards and Road Sections as outlined in Town Standard Drawings.

A traffic distribution analysis is needed for all applications; this is in addition to a traffic impact study, if one is required. This analysis is to be completed by a qualified traffic engineer and the analysis must indicate the estimated two-way AADT for *all road sections* (road sections are segments of roadway between intersections) within the plan of subdivision. Several decisions are based on AADT and Engineering Services Department needs this information to properly process an application.

Road widths and Right-of-Ways are to be in accordance with the most recent Town of Caledon Standards (see Table 1.2):

TABLE 1.2
TOWN OF CALEDON
GEOMETRIC ROAD DESIGN STANDARDS

	ADT	Posted Speed (km/h)	Hor. Curve Rad. (m)	Vert. Curve (Min. k)		Road Grade		Grade at Intersections		R.O.W Width (m)	Pav't Width (m)	Inter-section Angle	Cul-de-sac	
				Sag	Crest	Max. (%)	Min. (%)	Stop	Through				Radius Pav (m)	Max Grade
Local Residential	<1000	50	90	12	8	6.0%	0.75%	2.0%	3.0%	18	7.9	85->95	15	3.0%
Local Industrial	<1000	50	115	18	15	4.0%	0.75%	2.0%	3.0%	22.5	10.4	85->95	20	3.0%
Residential Collector	1000 to 3000	60	130	18	15	6.0%	0.75%	2.0%	3.0%	20	8.9	85->95	N/A	N/A
Industrial Collector	1000 to 3000	70	190	25	25	6.0%	0.75%	2.0%	3.0%	26	13.9	85->95	N/A	N/A
Arterial	> 6000	80	250	30	35	6.0%	0.75%	2.0%	3.0%	30	7.0-15.0	85->95	N/A	N/A

1. Climb Lane	Add where grade is more than 4%
2. Widen R.O.W.	Through Intersection as Required
3. Hor. Curve Radii	Given at Centerline
4. Max. Cul-de-sac	150m Without Emergency Access
5. Dual Carriageway	Where 2nd. Access Not Available
6. Min. Fire Route	6.1m for One Way Traffic 9.0m for Two Way Traffic
7. Min. Lane Width	3.8m for Through of Right Turn 3.25m for Left Turn 2.5m for Curb Side Parking
8. Min. Sight Distance	30.0m for industrial driveway setback
9. Corner Lot Rad.	5.0m Min. Property Radius
10. Cul de Sac	Min. 0.75% Grade at Gutter
11. Driveway Grade	2.0% Min. 6.0% Max. 4.0% Preferred
12. Vertical Curves	When there are grade changes in excess of 1.5%
13. Minimum Intersection Curve Radii (measured at Edge of Pavement)	
• Arterial to Residential Collector	12.0m
• Arterial to Industrial Collector	15.0m
• Industrial Collector to Residential Collector	15.0m
• Industrial Collector to Local Industrial	15.0m
• Local Industrial to Local Industrial	15.0m
• Residential Collector to Local Residential	10.0m
• Local Residential to Local Residential	10.0m
• Residential Road to Laneway	10.0m

1.5.2.2. Rear Lanes

The function of rear lanes is to provide vehicular access to parking garages/areas located to the rear of a house/development that have frontages on another public street.

Rear lanes shall be in accordance with the Town of Caledon Standard Drawing 200 and shall have 5.4m of paved surface for an 8.0m ROW. Double loaded driveways to be avoided where possible.

Storm sewers shall be required along the length of the rear lanes, but all other municipal infrastructure is prohibited along rear lanes. Catch basins shall be spaced a maximum of 100m apart.

Streetlight easements are required where streetlights are located on private property for maintenance purposes.

Install an asphalt or concrete strip (as directed by the Town) from the back of curb to the property line, where residential rear yards abut laneways.

1.5.2.3. Driveway Entrances

Driveway entrances and drop curbs shall be in accordance with the Town of Caledon Standard Drawing 402 and the most recent standard drawings for this purpose.

Special designs are required for commercial, industrial and industrial commercial driveways, dependent on the expected use and anticipated loads.

All new residential driveways must be paved with two (2) lifts; one (1) lift to a minimum 40mm HL8 and one (1) lift to a minimum 40mm HL3 from the curb to the property line on a base of a minimum of 150mm granular 'A' or 150mm of 19mm crusher run limestone. In Rural Estate subdivisions the driveway is to be paved a minimum of 1.0m behind the curb to provide support for the curb. In Estate Residential subdivisions, paving of driveway entrances may not be required for final assumption if the lot has not yet been developed.

Boulevard driveway slopes should be a maximum of 6% and a minimum of 2% wherever possible. Town policy will dictate the widths of curb depressions for driveways.

A minimum 0.6m separation at the curb shall be provided between driveways. Joint driveways are permitted in Semi-detached and Townhouse type developments. All driveway locations are to be indicated on the Aboveground General Plan and the Composite Utility Plan.

A minimum clearance distance of 1.0m is required between the edge of the driveway and a utility structure or hydrant.

1.5.2.4. Road Patterns

All new streets shall have regard for the following:

1. All new Town streets shall provide access, where possible, from two connecting directions to every private property, with qualified exception as shown in point 3 below. Connecting pedestrian ways may be required by secondary plan policy, despite exceptions for streets.

2. Existing non-conforming streets are permitted to continue as an exception:
   a. Unless indicated otherwise by secondary planning process, or
   b. Where infrastructure has been configured for continuity, or
   c. The access is required to bring adjacent development into conformity.

3. An exception to 1 may be considered where:
   a. The second access is only available in future development – in which case such access should be planned for and pre-serviced with a temporary cul-de-sac, or
   b. Extenuating natural topographic features prevent the reasonable design of road and related services in connecting patterns, or
   c. Environmental Policy Areas or other environmentally regulated areas prevent second access, or
   d. The necessary lands cannot be acquired, or
   e. A one-way street or link is accepted as a preferred traffic solution, or
   f. The Director s of Engineering Services, Planning & Development and Fire & Emergency Services shall make the determination of whether an application is eligible for one of the exemptions. The proponent may be required to submit documentation to support an exemption.

4. Where a terminal road is permitted under 3 it must not exceed an average annual daily traffic (AADT) of 400 or a gradient of 4%.

5. Proposed patterns for lands around significant intersections should develop road patterns, which support reasonable alternate emergency routes around the intersection. Such intersections are identified to be intersections of streets of a collector/arterial nature:
   a. Alternate routes can be laid over private lands by way of permanent easements for unobstructed vehicular access in favour of the Town. These easements must be maintained in good condition, and kept clear of obstruction, by the Owner.
   b. Points of local commercial and/or institutional interest which front on arterial roads should have secondary access to/from the adjacent local and/or collector road pattern. Exemptions may be required or considered with regards to historical development patterns and land use compatibility.

1.5.2.5. Special Road Designs

Special road designs not covered by the Town of Caledon Standards, shall conform with the most recent provisions of the geometric design standards manual and urban street geometrics, as adopted by the Transportation Association of Canada (TAC).

Special designs will be required in high density residential, commercial and industrial areas.

Pavement design shall be in accordance with the most recent Town of Caledon Standards and the Ontario Provincial Standards Drawings and Specifications.

Complete mechanical analyses of the proposed sub-grade are to be taken at a minimum of 150m intervals along proposed roads. On small sites a minimum of two mechanical analyses will be required.

1.5.2.6. Pavement Design (Roadways)

A soil analysis must be conducted by a recognized and licensed Geotechnical Engineering Firm that is acceptable to the Town of Caledon. The proposed road designs, along with copies of the soil analysis will be submitted to the Town.

Note:

The minimum thickness of asphalt and granular material make-up shall be designed in accordance with applicable Town Standard Drawings.

In all cases:

- Base course of asphalt:
  - Local Roads- O.P.S.S. HL8
  - Arterial, Collector & Industrial Roads - O.P.S.S. HDBC

- Wearing course of asphalt:
  - Local Roads - O.P.S.S. HL3
  - Industrial Roads & Collector Roads - O.P.S.S. HL3 HS
  - Arterial Roads – HL1

- Asphalt job mix designs, approved by the Owner's Geotechnical Engineering consultant, shall be submitted to the Town for review a minimum of 5 working days prior to the commencement of paving for review.

- O.P.S.S. Granular 'A' and Granular 'B' materials are to be used in roadway construction in the Town of Caledon as per the Geotechnical Consultant.

- Crusher Run materials are an acceptable alternative to the approved O.P.S.S. Granular 'A' and Granular 'B' materials for the use in roadway construction.

- Roadways containing four or more paved lanes require an increase to the curb lane roadway pavement specification:

- Binder course (base) asphalt under the bus route or curb lane must be increased by 50mm.

- Four lane roadways, bus routes and industrial roads require the base course asphalt to be Heavy Duty Binder Course (H.D.B.C.), OPSS.MUNI 1150 and the wearing course shall be HL 3 HS.

C.4.3 VERTICAL CURVES

C.4.3.1 Function

The function of a vertical curve is to provide a smooth transition between adjacent grades.

C.4.3.2 Form and Properties

The form of curve used for vertical curves is a parabola positioned so that the axis is vertical. Crest vertical curves are those between two tangent sections in which either a positive grade is followed by a negative grade, a positive grade is followed by a lesser positive grade, or a negative grade is followed by a steeper negative grade. Sag vertical curves are those in which a negative grade is followed by a positive grade, a negative grade is followed by a lesser negative grade, or a positive grade is followed by a steeper grade.

One of the properties of the parabola is that the rate of change of grade with respect to length is constant. For this reason sight distance available to a driver travelling on a crest curve is constant throughout the length of the curve. This is one of the reasons for the use of the parabola for vertical curves. A second advantage of the parabolic curve is that its calculation is much simpler than a circular curve or any other curve that might be considered.

C.4.3.3 Designation

Figure C4-1 shows the basic properties of a vertical curve.

For a given curve K is a constant and is used to designate the size of the curve. K is the length of a section of curve measured horizontally over which there is a 1% change of gradient. K is therefore a measure of the flatness of a curve, the larger the K value the flatter the curve, in the same way that radius is a measure of the flatness of a circular curve. For crest curves K is negative, and for sag curves K is positive. K is equal to L, the length of the curve measured horizontally, divided by, Δ_G the change of gradient over the length of curve; $K = L / \Delta_G$

In design, standard K vertical curves should be selected from one of the values shown in Table C4-5.

C.4.3.4 Measurement of Stopping Sight Distance On Crest Curves

The method of calculating minimum stopping sight distance is discussed in Section C.2.3, and design values for each of the standard design speeds are shown in Table C2-1. At the instant an object comes into view on a crest curve, the line of sight from the driver's eye to the top of the object is tangential to the curve. To ensure that minimum stopping sight distance is provided, the curve should be sufficiently flat so that the distance from the driver to the object is at least equal to minimum stopping sight distance. The minimum value for K therefore, is a function of minimum stopping sight distance, the height of the driver's eye and the height of the object above the pavement.

The height of the driver's eye above the pavement is dependent on the driver's physique and the car model driven. A Ministry study of cars registered in Canada for the three years 1971, 1972 and 1973 indicated that a value of 1.05 m was representative of passenger vehicles for those model years. A sebsequent study carried out by the United States Federal Highway Administration resulted in the same recommendation. This value is adopted, therefore, for design.

The most common object a vehicle has to stop for is another vehicle ahead on the road and, therefore, for a height of object the legislative minimum height of taillight of 0.38 m is adopted.

Figure C4-2 illustrates the relationship between stopping sight distance, S, value for parabolic crest curve, K, height of object, h_2 and height of eye, h_1.

Where the length of curve exceeds the stopping sight distance, K is given by the expression:

$$K = \frac{S^2}{200h_1 \ (1+\sqrt{h_2/h_1})^2}$$

Minimum Design values for each of the design speeds are shown in Table C4-6.

Where the stopping sight distance exceeds the length of curve, K is given by the Expression:

$$K = \frac{2S}{\Delta_G} - \frac{200h_1}{\Delta_G^2} \quad (1+\sqrt{h_2/h_1})^2$$

and the design should be checked by graphical means to ensure that minimum stopping sight distance is maintained. This may be done by use of the sight distance template discussed in Section C.6.1.3.

Table C4-5
K - STANDARD VERTICAL CURVE VALUES

4	5	8	10	12	15	18	20	25	30	35	40	45
50	60	70	80	90	100	120	150	180	200	230	250	300

Table C4-8
SAG CURVATURE, COMFORT

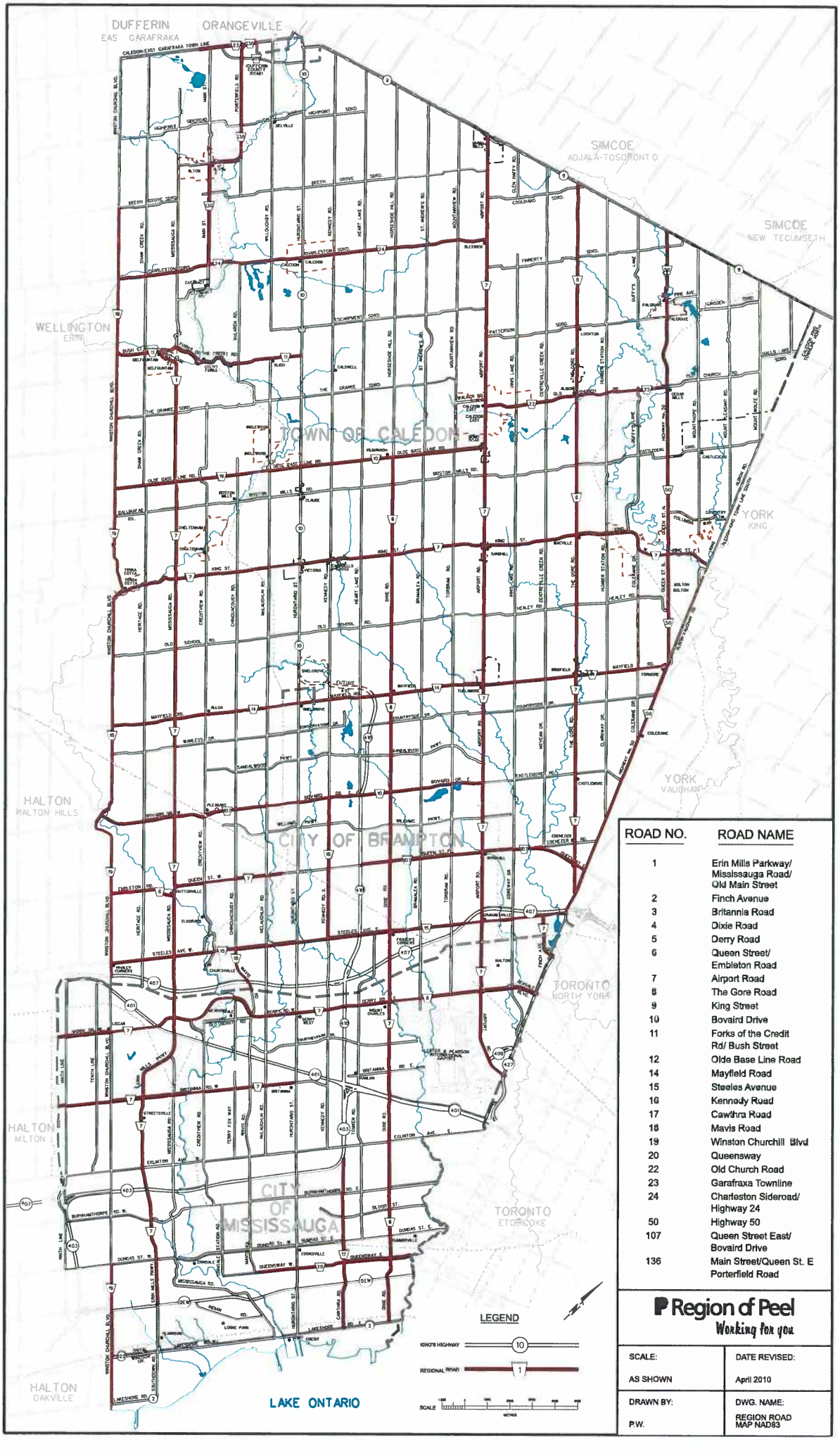
Design Speed km/h	40	50	60	70	80	90	100	110	120
Minimum sag vertical curvature K, comfort criterion	4	5	8	12	15	20	25	25	30

Table C4-9
PASSING SIGHT DISTANCE AND CURVATURE

Design Speed km/h	50	60	70	80	90	100	110	120
Minimum passing sight distance m	350	400	475	525	600	650	725	775
Minimum crest vertical curvature, K	120	180	250	300	400	450	550	650

Appendix A.7

Traffic Information



ROAD NO.	ROAD NAME
1	Erin Mills Parkway/ Mississauga Road/ Old Main Street
2	Finch Avenue
3	Britannia Road
4	Dixie Road
5	Derry Road
6	Queen Street/ Embleton Road
7	Airport Road
8	The Gore Road
9	King Street
10	Bovaird Drive
11	Forks of the Credit Rd/ Bush Street
12	Olde Base Line Road
14	Mayfield Road
15	Steeles Avenue
16	Kennedy Road
17	Cawthra Road
18	Mavis Road
19	Winston Churchill Blvd
20	Queensway
22	Old Church Road
23	Garafraxa Townline
24	Charleston Sideroad/ Highway 24
50	Highway 50
107	Queen Street East/ Bovaird Drive
136	Main Street/Queen St. E Porterfield Road

Region of Peel
Working for you

SCALE:	DATE REVISED:
AS SHOWN	April 2010
DRAWN BY:	DWG. NAME:
P.W.	REGION ROAD MAP NAD83

December 16, 2024

Riepma Consultants Inc.
220 Kempenfelt Drive
Barrie ON L4M 1C4

Attention: Mr. Clarence Riepma, P.Eng., MES, RPP, MCIP

Re: Proposed Tullamore Industrial Development
6086, 6186, 6026, 6230 Mayfield & 12151 Airport Road
Town of Caledon, Regional Municipality of Peel
Traffic Addendum Letter

CGE Consulting is pleased to submit the following Traffic Addendum for the proposed Tullamore Industrial Development located at 6086, 6186, 6026, and 6230 Mayfield Road, and 12151 Airport Road in the Town of Caledon, Regional Municipality of Peel.

On behalf of the applicant, Riepma Consultants Inc., CGE Consulting acknowledges the receipt of the Town and Region's traffic-related comments, dated July 29, 2024, provided in **Appendix A**. These comments pertain to the transportation study submitted on March 24, 2023.

1.0 Site Plan Review

Based on the site plan prepared by Riepma Consultants Inc., dated July 2024, the development property encompasses approximately 18.88 hectares (ha) and is situated at the northeast corner of the intersection of Airport Road (Regional Road 7) and Mayfield Road (Regional Road 14). The proposed vehicular access points include:

- A full-movement access across from Maisonneuve Blvd,
- A full-movement access to Airport Road, and
- A right-in/right-out access to Mayfield Road.

The proposed development site plan is provided in **Appendix B**.

2.0 The Town of Caledon Comments, Transportation (July 12, 2024)

Comment #54
Please note that a Terms of Reference (TOR) was not distributed to reviewing agencies before the submission of your application. It is highly recommended that a TOR be circulated to all relevant agencies prior to any initial submissions in the future. This practice is crucial as it helps establish a clearly defined scope of work from the outset, thereby aiming to minimize the number and extent of comments and revisions needed

during the review process. By doing so, we can ensure a smoother, more efficient review and approval process for your project.

Response
Acknowledged.

Comment #55
The 'Transportation Study' is acknowledged as preliminary, prepared prior to the completion of a detailed Traffic Impact Study (TIS). Consequently, all comments provided at this stage are provisional and subject to revision upon thorough review of the forthcoming TIS. It is important to emphasize that the preliminary nature of the current study means that further analysis and refinement are expected. Detailed assessments, data, and findings from the comprehensive TIS will be crucial in forming a more definitive evaluation and addressing any potential issues identified in the initial review.

Response
Acknowledged.

Comment #56
Given that the subject site borders a Regional Road, decisions regarding access location and spacing are deferred to the Region of Peel. The Region's input and approval will be necessary to determine the most appropriate access points and spacing for the site, taking into account regional traffic patterns and safety requirements.

Response
The Regional Municipality of Peel has provided comments, which have been addressed as part of this traffic addendum.

Comment #57
In Figure 1, the site labeled 12117 Airport Road appears to be landlocked between the subject site and the Smart Centre Site. This raises concerns about future accessibility for the landlocked site. It is essential to address how access will be provided to this site to ensure proper connectivity and avoid potential issues related to land use and traffic flow. Please include an explanation of the planned access routes for this site in future reports, including any proposed roadways, easements, or other means of ensuring that the site is not isolated and remains accessible for its intended use. This information is crucial for a comprehensive understanding of the overall site plan and its impact on the surrounding area.

Response
Acknowledged. 12117 Airport Road has access to Davis Lane and will continue to maintain access over the existing Town owned lands.

Comment #58
Section 4 outlines the benefits of effective Transportation Demand Management (TDM) strategies and provides examples of typical TDM measures. However, some of these measures, such as High-Occupancy Vehicle (HOV) lanes in existing rights-of-way for

buses, taxis, and cars with three or more occupants, and the application of incident management systems and Intelligent Transportation System (ITS) innovations, are not relevant to the subject site. It is recommended that future Traffic Studies include specific TDM strategies tailored to the proposed site.

Response
Acknowledged. The future transportation study will provide a detailed discussion on the relevant transportation demand management (TDM) strategies applicable to the site and its surrounding road network.

Comment #59
Sections 6 and 7 present trip generation data for the subject site and other relevant sites. It is recommended that additional details be provided on the methodology used for these calculations. This should include, but not be limited to, specifying whether equations or average rates were used, and whether net floor area or gross floor area was considered in the calculations.

Response
Acknowledged. The trip generation rates have been determined using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition.

For Lot 1 (land use code 820), the fitted curve trip rate was applied, while for Lots 2-6 (land use code 130), the average rate was used to estimate the site's generated trips. These selections were based on the highest trip generation rates to represent worst-case scenarios.

The estimated trips provide a high-level approximation. More detailed estimates, based on the gross floor area and additional information, will be provided once further details become available.

Comment #60
The study mentions that the proposed site and other sites will generate 646 and 760 two-way trips during the AM and PM peak hours, respectively. However, the report lacks any analysis to confirm whether the roadways can accommodate this additional traffic. The "Planning Justification Report" dated December 2023 (Updated January 2024) asserts that the Traffic Study prepared by CGE concludes that the traffic generated by the proposed site can be accommodated on the existing road network. The traffic study does not confirm that the additional traffic can be accommodated; it simply notes that there will be an increase in traffic.

Response
Acknowledged. A detailed transportation impact study will be submitted, which will include intersection traffic operation analyses for the AM and PM peak hours under existing, future background, and future total traffic conditions. The study will provide recommendations for traffic mitigation measures based on the results of these analyses.

Comment #61

Note that Transportation Engineering reserves the right for additional comments based on a revised submission. Transportation Engineering requests that the Traffic Consultant provide a response with the re-submission package clearly reiterating the Town's comments in order and including details of how each comment has been addressed.

Response

Acknowledged.

3.0 THE REGIONAL MUNICIPALITY OF PEEL COMMENTS, TRAFFIC DEVELOPMENT (JULY 29, 2024)

Comment #1

The Region in theory is in support of three accesses to the site, one being across from Maisonneuve Blvd on Mayfield Road, one being the upgrade and use of Davis Lane on Airport Road, and one being a new right-in/right-out access on Mayfield Road, exact location to be determined.

Response

Acknowledged.

Comment #2

The new fourth leg of the Mayfield Road and Maisonneuve Blvd. intersection should include a westbound right hand turn lanes, eastbound right and left turn lanes; all turning movements should be captured with auxiliary turn lanes; signals warrant analysis/assessment is required for our review.

Response

Acknowledged. The conceptual design of the intersection is shown in **Figure 1**, with the overall layout plan provided in **Appendix C**. The design includes a westbound right-turn lane and an eastbound left-turn lane, as per the Region's comments. A signal warrant assessment for the intersection will be included in a future transportation impact study.

Figure 1 Mayfield Road and Maisonneuve Blvd. intersection Conceptual Design

Comment #3

The new right-in/right-out access onto Mayfield Road will require an auxiliary right turn lane, which shall meet minimum TAC standards. Spacing from other intersections to be shown on Site Plan.

Response

Acknowledged. The conceptual design of the right-in/right-out access onto Mayfield Road is shown in **Figure 2**, with the overall layout plan provided in **Appendix C**. The design includes an auxiliary right-turn lane into the site, and the intersection spacing complies with the Region's spacing requirements.

Figure 2 Right-in/Right-out Access and Mayfield Road intersection Conceptual Design

Comment #4
If the right-in/right-out access is approved, it will need to be physically restricted by a centre median.

Response
Acknowledged. The conceptual design includes a median to restrict southbound and eastbound left-turn movements. These provisions will be included in the subdivision agreement, which will be executed by the parties prior to plan registration.

Comment #5
The Airport Road and Davis Lane intersection will require a Traffic Signals Warrant Assessment for our review.

Response
Acknowledged. A traffic signal warrant assessment for the intersection will be included in a future transportation impact study.

Comment #6
Pedestrian infrastructure may be required to be constructed or upgraded as part of the Site Plan or subdivision.

Response
Acknowledged. This will be included as part of the subdivision agreement to be executed by the parties prior to plan registration.

Comment #7
The Region requests that a functional design be included as part of the next submission which addresses auxiliary turn lane requirements and geometrics for both intersections and new access, The Region also requires a truck turning template in that package for review and comment. To note: The Region has a Capital Project in the vicinity; road widening along Airport Road, from Mayfield Road to King Street, the Project Manager is Olek Garbos and should be contacted for further details.

Response
Acknowledged. Those details will be included in a future transportation impact study including truck and emergency services AutoTurn maneuvering diagrams.

Yours truly,

CGE TRANSPORTATION CONSULTING

Casey Ge, P.Eng.
President

APPENDIX A *– The Town of Caledon and Peel Region Comments*
APPENDIX B *– Proposed Development Site Plan*
APPENDIX C *– Overall Layout Plan*

Appendix A

The Town of Caledon and Peel Region Comments

TOWN OF CALEDON

DRAFT - July 12, 2024 Sent Via Email

Clare Riepma
Riepma Consultants Inc.
220 Kempenfelt Drive
Barrie ON L4M 1C4

Dear Clare Riepma:

SUBJECT: Pre-Consultation - Draft Plan of Subdivision
Riepma Consultations Inc. on behalf of the landowners 12151 Airport Road, 6086, 6186, 6206, and 6230 Mayfield Road Town of Caledon.
Part of Lot 1, Concession 1 (Albion)
File Numbers: DART 21T-23003C

Further to the first submission received on December 8, 2023, February 12, 2024, March 15, 2024, March 21, 2024, April 5, 2024 and fee received on February 21, 2024, please find all comments below for your review and action.

Proposal

The subject lands are designated as Prestige Industrial and General Industrial within the Tullamore Land Use Area (Schedule N in the Town's Official Plan). The applicant has submitted a draft plan of subdivision application to create blocks to facilitate the construction of the proposed collector road network, stormwater management facility, and other necessary blocks, to allow for the Holding Symbol (H) to be lifted for these lands.

Comments

Town of Caledon, Planning Department, Development Planning

Draft Plan of Subdivision

1. All lot lines for different blocks or lots are faint and hard to read. Please provide a draft plan without the topographic layer, only for the lands part of this subdivision application.
2. Please remove the land use labels (e.g. "Lands of Smart Centers" & "Existing transport Terminal". Many of the uses referred to are not permitted and are not included on draft plans.
3. Please put the road in a separate block.
4. The lands required for the road from Lot 1 needs to be in a separate block.
5. Separate blocks are required for daylight triangles to be conveyed to the Town and/or Region.
6. A reserve is required for lots that front Mayfield Road and Airport Road (please discuss with the Region).
7. The land use schedule needs to be revised to list all blocks, lots, reserves, roads, etc, and the area of each.

46. The value of the development land shall be determined as of the day before the day the approval of the plan of subdivision.

Town of Caledon, Planning Department, Landscape

Please note that all items pertaining to the conditions of draft plan approval listed below are in addition to the Town's typical draft plan conditions and development standards. Parks & Natural Heritage (Landscape) has reviewed the 1st submission for the draft plan of subdivision for prestige Industrial and General Industrial uses and detailed comments have been provided below:

General Comments

47. These comments may be modified to coordinate with the Natural Heritage comments when they are available.

Draft Plan of Subdivision

48. No comments at this time.

Arborist's Report & Tree Inventory

49. Please provide an Arborist Report and Tree Preservation Plan as per the Town of Caledon Terms of Reference for Arborist Reports, Tree Preservation Plans, and Tableland Tree Removal Compensation, 2023. The scope is to include all trees within 6m of the proposed limit of disturbance, including those on adjacent properties. The inventory of existing trees needs to include surveyed elevations at root flare as well for all trees to be retained. Please revise for the next submission The Terms of Reference can be found at the following link: https://www.caledon.ca/en/town-services/landscape-requirements.aspx#Planning-and-Design
50. The Tree Preservation Plan is to include Town of Caledon standard tree preservation notes and details on the Tree Preservation Plan (Refer to standard design details #606, 710, and 711, which can be found at the following link: Standards, Policies and Guidelines - Town of Caledon).
51. Please indicate the work zone/limit of disturbance (including the limits of the grading) on the Tree Preservation Plan and include any trees within 6m of the limit of disturbance (including construction access and equipment/material storage areas) or that will be impacted by the development. All trees on adjacent properties within 6m of the property line will need to be included in the Tree Preservation Plan and adequately preserved and protected.
52. Please show the Erosion & Sediment Control (ESC) fencing on the TPP. Where the Tree Protection Fencing follows the same path as ESC fencing, they can be combined in a complimentary manner that does not impede the function of each other. Please label the Tree Protection Fencing accordingly.
53. If any trees larger than 10cm DBH are proposed to be removed as a part of this project, tree compensation will be required. Please provide a Tree Compensation Planting Plan showing the proposed locations for all compensation trees. This can be combined with the TPP.

Town of Caledon, Transportation

DRAFT

54. Please note that a Terms of Reference (TOR) was not distributed to reviewing agencies before the submission of your application. It is highly recommended that a TOR be circulated to all relevant agencies prior to any initial submissions in the future. This practice is crucial as it helps establish a clearly defined scope of work from the outset, thereby aiming to minimize the number and extent of comments and revisions needed during the review process. By doing so, we can ensure a smoother, more efficient review and approval process for your project.
55. The 'Transportation Study' is acknowledged as preliminary, prepared prior to the completion of a detailed Traffic Impact Study (TIS). Consequently, all comments provided at this stage are provisional and subject to revision upon thorough review of the forthcoming TIS. It is important to emphasize that the preliminary nature of the current study means that further analysis and refinement are expected. Detailed assessments, data, and findings from the comprehensive TIS will be crucial in forming a more definitive evaluation and addressing any potential issues identified in the initial review.
56. Given that the subject site borders a Regional Road, decisions regarding access location and spacing are deferred to the Region of Peel. The Region's input and approval will be necessary to determine the most appropriate access points and spacing for the site, taking into account regional traffic patterns and safety requirements.
57. In Figure 1, the site labeled 12117 Airport Road appears to be landlocked between the subject site and the Smart Centre Site. This raises concerns about future accessibility for the landlocked site. It is essential to address how access will be provided to this site to ensure proper connectivity and avoid potential issues related to land use and traffic flow. Please include an explanation of the planned access routes for this site in future reports, including any proposed roadways, easements, or other means of ensuring that the site is not isolated and remains accessible for its intended use. This information is crucial for a comprehensive understanding of the overall site plan and its impact on the surrounding area.
58. Section 4 outlines the benefits of effective Transportation Demand Management (TDM) strategies and provides examples of typical TDM measures. However, some of these measures, such as High-Occupancy Vehicle (HOV) lanes in existing rights-of-way for buses, taxis, and cars with three or more occupants, and the application of incident management systems and Intelligent Transportation System (ITS) innovations, are not relevant to the subject site. It is recommended that future Traffic Studies include specific TDM strategies tailored to the proposed site.
59. Sections 6 and 7 present trip generation data for the subject site and other relevant sites. It is recommended that additional details be provided on the methodology used for these calculations. This should include, but not be limited to, specifying whether equations or average rates were used, and whether net floor area or gross floor area was considered in the calculations.
60. The study mentions that the proposed site and other sites will generate 646 and 760 two-way trips during the AM and PM peak hours, respectively. However, the report lacks any analysis to confirm whether the roadways can accommodate this additional traffic. The "Planning Justification Report" dated December 2023 (Updated January 2024) asserts that the Traffic Study prepared by CGE concludes that the traffic generated by the proposed site can be accommodated on the existing road network. The traffic study does not confirm that the additional traffic can be accommodated; it simply notes that there will be an increase in traffic.

61. Note that Transportation Engineering reserves the right for additional comments based on a revised submission. Transportation Engineering requests that the Traffic Consultant provide a response with the re-submission package clearly reiterating the Town's comments in order and including details for how each comment has been addressed.

Town of Caledon, Energy and Environment

62. On May 21st, Town Council adopted new Green Development Standards, which will come into effect July 1, 2024 for new applications. At this time applicants are strongly encouraged to adhere to the approved GDS metrics, however until the effective date applicants are required to submit a Green Development Standards Brief explaining the sustainability features proposed for the site. This Brief can be in the form of a narrative responding to each of the three theme areas outlined in the GDS. The approved metrics can be found here; further details and supporting materials will be uploaded to the Town's website in the coming weeks.

Town of Caledon, Finance Department, Finance

Development Charges Comments

63. If the proposed developments (draft plan of subdivision to facilitate the construction of several buildings for industrial purposes) were to proceed as planned, the taxable assessment value of the properties are likely to change, to reflect the developments that would have taken place.
64. If the proposed developments are processed through site plan applications, the industrial buildings will be subject to Development Charges at the Non-Residential (Industrial) rates that will be in effect on the dates when the site plan applications are deemed complete (the application completion dates).
65. Development Charges at the Non-Residential (Industrial) rates are currently:
    c. Town of Caledon: $96.12 per m² of new or added industrial floor space.
    d. Region of Peel: $221.01 per m² of new or added industrial floor space.
    e. Education: $9.69 per m² of new or added industrial floor space.
66. Interest on Development Charges will apply for the period starting one day after the application completion date, through to the date on which those charges will be received by the Town, or on the expiry of 24 months after the application approval date. For the purposes of clarity, note that the calculation of Development Charges at 'frozen rates' will commence on the application completion date, while the payment period for those rates will run from the date of application approval date for 24 months, after which, 'frozen rates' will end.
67. For the purposes of Development Charges, the term 'industrial floor space' should comply with the definition of an 'industrial building', as outlined in the Town's By-law No. 2019-31, or as amended. If compliance is not met, then the Non-Residential (Other) rates will apply.

Town of Caledon, Fire Services

Comments to be addressed within future site plan applications:

68. Indicate fire access route on the site plan.
69. Show fire access route signs as per the By-Law 2015-58.
70. Show location of fire department connections and distance to hydrants.

DRAFT

Region of Peel
working with you

Public Works

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Brampton, ON
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tel: 905-791-7800

peelregion.ca

July 29, 2024

Tanjot Bal
Senior Planner, Development and Design
Planning and Development Department
Town of Caledon
6311 Old Church Road,
Caledon ON, L7C 1J6

Re: **DART Draft Plan of Subdivision Application to facilitate the conditions of the Tullamore Secondary Plan**

Riepma Consultants Inc. on behalf of the landowners
12151 Airport Road, 6086, 6186, 6206 and 6230 Mayfield Road
Part Lot 1, Concession 1
DART-21T-23003C

Region of Peel Planning Authority

In accordance with Bill 185 which received Royal Assent on June 6, 2024, as of July 1, 2024, the Region has become an upper tier municipality without planning responsibilities. As such, lower-tier municipalities have assumed planning policy and approval responsibilities of the regional municipality, including primary responsibility for all planning in their geographies, except for matters requiring provincial approval. Per section 70.13(2), the Region's official plan will be deemed to constitute the official plan of the Town of Caledon, and conformity will still be required until such time as Caledon amends Peel's Official Plan and approval is provided by the Province. Therefore on July 1, 2024, the current Region of Peel Official Plan became the Town of Caledon Official Plan and shall be implemented by the Town of Caledon.

Beyond July 1, 2024, the Region's mandate will continue to include the provision of hard and soft services to the community, including but not limited to servicing, transportation, waste management, affordable housing, health services, emergency services, etc. To this end the Region will continue to have an interest in community building to ensure the efficient, financially sustainable and effective delivery of infrastructure and services.

Traffic Development

Access/Study Requirements

The Region is in receipt of a TIS for 21T-23003C, the study must be revised to address the below comments:

- The Region in theory is in support of three accesses to the site, one being across from Maisonneuve Blvd on Mayfield Road, one being the upgrade and use of Davis Lane on Airport Road, and one being a new right-in/right-out access on Mayfield Road, exact location to be determined.
- The new fourth leg of the Mayfield Road and Maisonneuve Blvd. intersection should include a westbound right hand turn lanes, eastbound right and left turn lanes; all turning movements should be captured with auxiliary turn lanes; signals warrant analysis/assessment is required for our review.

Region of Peel
working with you

Public Works

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peelregion.ca

- The new right-in/right-out access onto Mayfield Road will require an auxiliary right turn lane, which shall meet minimum TAC standards. Spacing from other intersections to be shown on Site Plan.
- If the right-in/right-out access is approved, it will need to be physically restricted by a centre median.
- The Airport Road and Davis Lane intersection will require a Traffic Signals Warrant Assessment for our review.
- Pedestrian infrastructure may be required to be constructed or upgraded as part of the Site Plan or subdivision.
- The Region requests that a functional design be included as part of the next submission which addresses auxiliary turn lane requirements and geometrics for both intersections and new access, The Region also requires a truck turning template in that package for review and comment.
    - To note: The Region has a Capital Project in the vicinity; road widening along Airport Road, from Mayfield Road to King Street, the Project Manager is Olek Garbos and should be contacted for further details.

Property Requirements

- The Region requests the gratuitous dedication of lands to meet the Regional Official Plan requirement for Regional Road 14 (Mayfield Road) which has a mid-block right-of-way of 50 metres, 25 metres from the centreline of the road allowance, within 245 metres of intersections additional property as per the Official Plan requirement will be required, 55.5 metres, for a single left turn lane intersection configuration (27.75 metres) from the centreline of Mayfield Road, to protect for the provision of but not limited to: utilities, sidewalks, multiuse pathways and transit bay/shelters;
- The Region requests the gratuitous dedication of lands to meet the Regional Official Plan requirement for Regional Road 7 (Airport Road) which has a right of way of 50.5 metres, for a single left turn lane intersection configuration (25.25 metres) from the centreline of Airport Road, within 245 meters of an intersection to protect for the provision of but not limited to: utilities, sidewalks, multiuse pathways and transit bay/shelters;
- The Region will require the gratuitous dedication of two 15x15 metre daylight triangles at the intersections of both Airport Road & Davis Lane and Mayfield Road & Maisonneuve Blvd.
- The Region will require the gratuitous dedication of a 0.3 metre reserve along the frontage Regional Road 7 (Airport Road) & Regional Road 14 (Mayfield Road) behind the property line and daylight triangles, except at any approved access point;
- The applicant is required to gratuitously dedicate these lands to the Region, free and clear of all encumbrances. All costs associated with the transfer are the responsibility of the applicant. The applicant must provide the Region with the necessary title documents and reference plan(s) to confirm the Regions right-of-way;
- A draft reference plan will be required for our review and approval prior to the plans being deposited. All costs associated with preparation of plans and the transfer of the lands will be solely at the expense of the applicant.

Landscaping/Encroachments

- Landscaping, signs, fences, cranes, gateway features or any other encroachments are not permitted within the Region's easements and/or Right of Way limits.

Region of Peel
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Public Works

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peelregion.ca

- Cranes will not be permitted to swing over a Regional Road unless a crane swing licence has been granted.

Engineering Requirements

- A detailed engineering submission of road and access works will be required for our review and comment, designed, stamped and signed by a Licensed Ontario Professional Engineer. The engineering submission **MUST** include the removals, new construction and grading, typical sections and pavement markings and signing drawings. All works within Region of Peel's right of way must be designed in accordance to the Public Works, "Design Criteria and Development Procedures Manual" and "Material Specifications and Standard Drawings Manual";
- The Owner shall submit to the Region a detailed cost estimate, stamped and signed by a Licensed Ontario Professional Engineer, of the proposed road and access works within the Regional right of way;
- Securities shall be submitted in the form of either a letter of credit or certified cheque, in the amount of 100% of the approved estimated cost of road and access works along Regional Road 7 (Airport Road) and Regional Road 14 (Mayfield Road);
- A 10.8% engineering and inspection fee shall be paid to the Region based on the approved estimated cost of road and access works (minimum $1,724.41);
- The Owner will be required to submit the following prior to commencement of works within the Region's right-of-way:
    - Completed Road Occupancy Permit and a permit fee as per the Region's user fees and charges By-law;
    - Completed Notice to Commence Work ;
    - Provide proof of insurance with the Region of Peel added to the certificate as an additional insured with $5 million minimum from the Contractor;
    - Please note that any proposed construction within the Region of Peel's right of way is pending PUCC approval (minimum six week process). Please note that PUCC circulation requirements have recently changed. We require PDF version of the full drawing set it is to be sent via email, and cannot exceed 10MB per email.
- All costs associated with the design and construction of road and access works will be 100% paid by the Owner;

Standards, Specifications, and Submission Requirements

Please review the Public Works Design, Specifications & Procedures Manuals, and the Region of Peel's Standard Drawings which can be found at the following links. Digital copies can be provided upon request.

- Linear Infrastructure – Site Plan Process: Public Works Design, Specifications & Procedures Manual - Linear Infrastructure - Site Plan Process - Revised November 2009 (peelregion.ca)
- Public Works Design, Specifications and Procedures Manual: Design, standards specification and procedures - Region of Peel (peelregion.ca)
- Public Works Design, Specifications and Procedures Manual – Linear Infrastructure: Public Works - Design, Specifications & Procedures Manual - Linear Infrastructure - CAD Submission Requirements - Capital Works - June 2015 (peelregion.ca)
- Public Works CAD Submission Requirements – Development: Microsoft Word - Development Submission Requirements Manual - Nov2017.docx (brampton.ca)

Region of Peel
working with you

Public Works

10 Peel Centre Dr.
Suite B
Brampton, ON
L6T 4B9
tel: 905-791-7800

peelregion.ca

- Standard Drawings - Roads & Traffic: Roads and traffic - standards drawings - Region of Peel (peelregion.ca)

Development Engineering:

Functional Servicing

- The Region has reviewed the FSR prepared by Jones Consulting Group LTD. The proposed services align with the Region's servicing strategy in the area. The report has been sent for detailed modelling.

Storm Water Management Comments

- The Region is in receipt of the SWMR prepared by Jones Consulting Group LTD. The report has been assigned for review, comments will be provided under separate cover.

Sanitary Sewer Facilities

- Municipal sanitary sewer facilities consist of a 750mm sanitary sewer on Airport Road and a 250mm sewers on Maisonneuve Blvd.
- A Functional Servicing Report (FSR) showing proposed sanitary sewer servicing plans for the development will be required for review and approval by the Region prior to the engineering submission.
- External easements and construction will be required.

Water Facilities

- The lands are located within Water Pressure Zone 6.
- Municipal water supply infrastructure consists of a 300mm watermain on Airport Road and 750/300/200mm watermains on Mayfield Road.
- A Functional Servicing Report (FSR) showing proposed watermain servicing plans for the development will be required for review and approval by the Region prior to the engineering submission.
- External easements and construction will be required.

Region Roads

- The proposed development abuts Mayfield Road (Regional Road #14) and Airport Road (Regional Road #7).
- The Developer will be required to gratuitously dedicate, free and clear of all encumbrances and to the satisfaction of the Region, road widenings pursuant to the Region's Official Plan along Regional Roads.
- Region of Peel will not permit any changes to grading within Regional ROWs along the frontage of proposed development.
- No lots or blocks shall have direct access to the Regional roads. Any future access shall be in accordance with The Region Access Control By-law.
- Under no circumstances should the flow of storm water from the development be diverted into the Regional right of ways (by pipe or channel).
- The Developer shall submit to the Region
    - Storm Drainage Study Report to determine and demonstrate, that there is no adverse effect of the proposal on the existing structures and drainage along the Regional road;
    - Traffic Impact Study (TIS) detailing the impact of the Development on the Regional road network and identifying any mitigation measures.

Region of Peel
working with you

Public Works

10 Peel Centre Dr.
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Brampton, ON
L6T 4B9
tel: 905-791-7800

peelregion.ca

General

- All costs associated with servicing proposed development will be at the applicant's expense.
- Applicant will be required to enter into applicable Development Agreement with appropriate agencies.

Environmental Site Assessment Comments

- All four (4) of the reports concluded that a Phase Two ESA was required to investigate the areas of potential environmental concern (APECs) identified in the Phase One ESA. As such, we will need to be provided with those reports (Phase Two ESA) prior to providing our fulsome review. If the Phase Two ESA has not been completed, we recommend the workplan be provided to us for review.

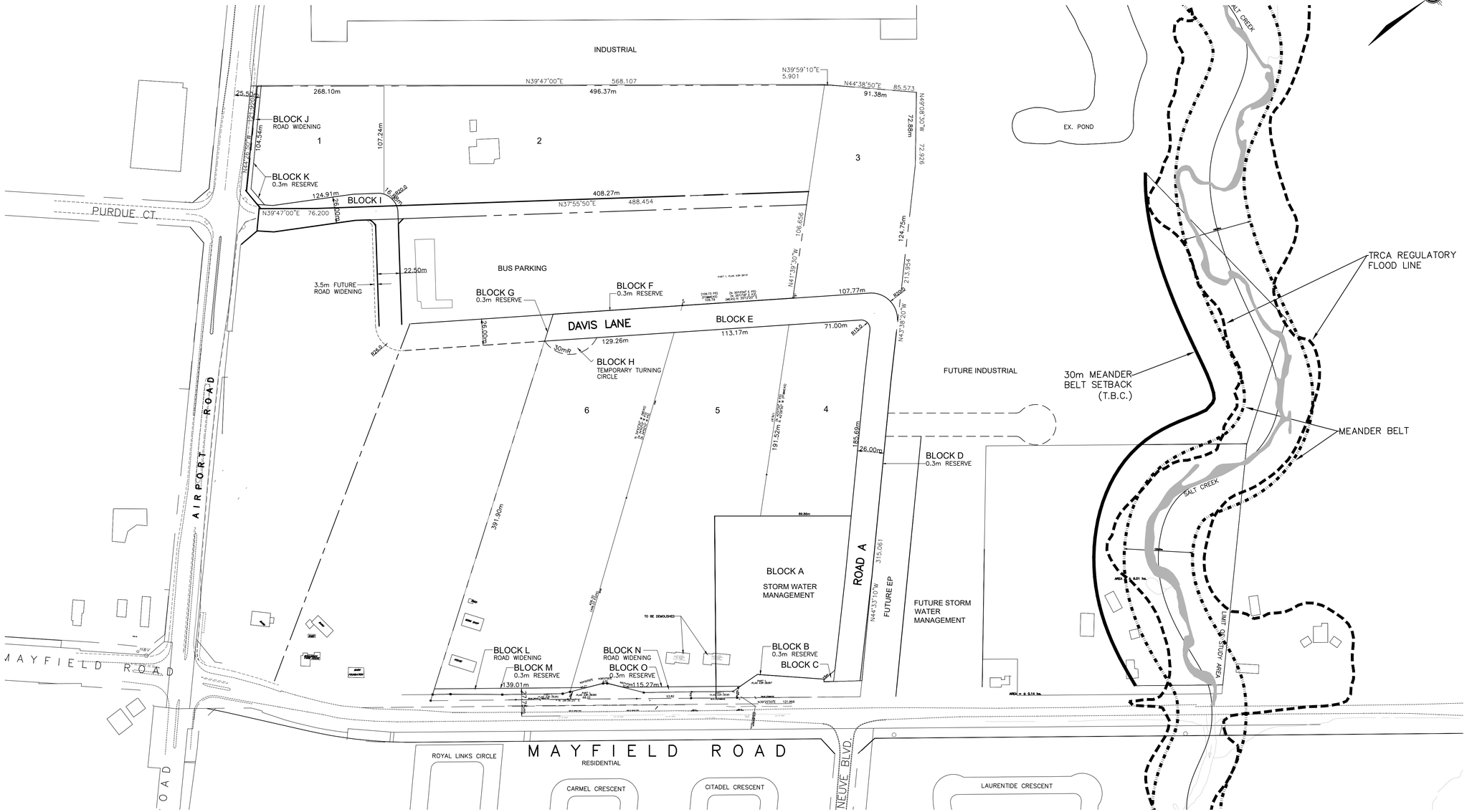
Concluding Comments

For further questions or concerns please contact the undersigned at 905-791-7800, extension 7921, or by email at: dylan.prowse@peelregion.ca

Dylan Prowse,
Intermediate Planner, Development Services

Appendix B

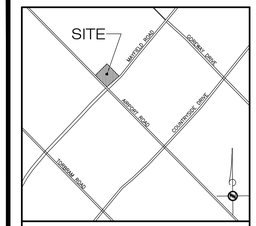
Proposed Development Draft Site Plan



LAND USE SCHEDULE

BLOCK A	SWM POND	21,391.5m²	2.14ha
BLOCK B	ROAD WIDENING	1,058.7m²	0.11ha
BLOCK C	DAYLIGHT TRIANGLE	115.3m²	0.01ha
BLOCK D	0.3m RESERVE	112.5m²	0.01ha
BLOCK E	ROAD 'A'	18,421.2m²	1.84ha
BLOCK F	0.3m RESERVE	71.3m²	0.01ha
BLOCK G	0.3m RESERVE	8.4m²	0.00ha
BLOCK H	TEMPORARY TURNING CIRCLE	543.6m²	0.05ha
BLOCK I	ROAD 'A'	1,193.8m²	0.12ha
BLOCK J	ROAD WIDENING	467.0m²	0.05ha
BLOCK K	0.3m RESERVE	36.9m²	0.00ha
BLOCK L	ROAD WIDENING	337.9m²	0.03ha
BLOCK M	0.3m RESERVE	39.5m²	0.00ha
BLOCK N	ROAD WIDENING	519.2m²	0.05ha
BLOCK O	0.3m RESERVE	76.2m²	0.01ha
TOTAL AREA		44,393.0m²	4.43ha

BLOCK 1	COMMERCIAL	14,626.3m²	1.46ha
BLOCK 2	INDUSTRIAL	47,926.4m²	4.79ha
BLOCK 3	INDUSTRIAL	20,883.3m²	2.09ha
BLOCK 4	INDUSTRIAL	16,297.7m²	1.63ha
BLOCK 5	INDUSTRIAL	42,583.3m²	4.26ha
BLOCK 6	INDUSTRIAL	46,522.1m²	4.65ha
TOTAL AREA		188,839.1m²	18.88ha
TOTAL AREA OF LAND			23.127ha



KEY PLAN

SECTION 51, PLANNING ACT, ADDITIONAL INFORMATION

A) AS SHOWN ON PLAN
B) AS SHOWN ON PLAN
C) AS SHOWN ON PLAN
D) AS SHOWN IN SCHEDULE OF LAND USE
E) AS SHOWN ON PLAN
F) AS SHOWN ON PLAN
G) AS SHOWN ON PLAN
H) AVAILABLE
I) LOAM
J) AS SHOWN ON PLAN
K) ALL MUNICIPAL SERVICES AVAILABLE
L) AS SHOWN ON PLAN

SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS HAVE BEEN ACCURATELY AND CORRECTLY SHOWN

SIGNED:_____ DATED:_____

OWNER'S CERTIFICATE

I AUTHORIZE RIEPMA CONSULTANTS INC. TO SUBMIT THIS DRAFT PLAN ON MY BEHALF

OWNER: AIRPORT 12151 INC.

SIGNED:_____ DATED:_____
AIRPORT 12151 INC.

OWNER'S CERTIFICATE

I AUTHORIZE RIEPMA CONSULTANTS INC. TO SUBMIT THIS DRAFT PLAN ON MY BEHALF

OWNER: 6230 MAYFIELD INC.

SIGNED:_____ DATED:_____
6230 MAYFIELD INC.

OWNER'S CERTIFICATE

I AUTHORIZE RIEPMA CONSULTANTS INC. TO SUBMIT THIS DRAFT PLAN ON MY BEHALF

OWNER: 6206 MAYFIELD INC.

SIGNED:_____ DATED:_____
6206 MAYFIELD INC.

OWNER'S CERTIFICATE

I AUTHORIZE RIEPMA CONSULTANTS INC. TO SUBMIT THIS DRAFT PLAN ON MY BEHALF

OWNER: 2652876 ONTARIO LTD.

SIGNED:_____ DATED:_____
2652876 ONTARIO LTD.

OWNER'S CERTIFICATE

I AUTHORIZE RIEPMA CONSULTANTS INC. TO SUBMIT THIS DRAFT PLAN ON MY BEHALF

OWNER: 6086 MAYFIELD INC.

SIGNED:_____ DATED:_____
6086 MAYFIELD INC.

DATE	DESCRIPTION	CHECKED BY
14/8/24	REVISED FOR SECOND SUBMISSION	DN
19/1/24	REVISED FOR SUBMISSION	DN

REVISIONS

Riepma CONSULTANTS INC.

220 Kempenfelt Drive
Barrie, Ontario
L4M 1C4

416-346-8258
www.riepma.ca
riepma@riepma.ca

Project Title

TULLAMORE SUBDIVISION

Drawing

DRAFT PLAN

Date: July 2024	Issued
Job Number: 2107	Drawn By: D.N.
Scale: 1:2000	Checked By: C.R.
Sheet Number	DP.1

Appendix C

Overall Layout Plan

CGE TRANSPORTATION CONSULTING

TULLAMORE SUBDIVISION

OVERALL LAYOUT PLAN

Date: December 2024

Revised:

Drawing No.: LA-01

Scale:

Project North

Posted Speed – Mayfield Road

Source: Google Maps

Transportation Association of Canada (TAC) Guidelines - Right Turn

Suggested taper and parallel lengths are shown in **Table 9.14.2** and illustrated in **Figure 9.14.4**. Adjustments for intersections on curves are discussed in **Section 18.8**.

Table 9.14.2: Right-Turn Taper with Parallel Deceleration Lane Design

Design Speed (km/h)	Taper Ratio[a] Design Domain	Radius for Reverse[a] Curves (m)	Parallel Lane Length[b] Design Domain
50	11:1–17:1	90–150	35–75
60	14:1–17:1	150	40–90
70	17:1–20:1	150–220	50–110
80[c]	17:1–24:1	150–300	60–130

Notes:
a) Taper may be straight line or may be symmetrical reverse curves; length is derived from design values calculated for a 3 s lane change criterion for the appropriate operating speed.
b) Additional parallel lane length may be required for storage.
c) For higher design speeds, refer to **Chapter 10**.

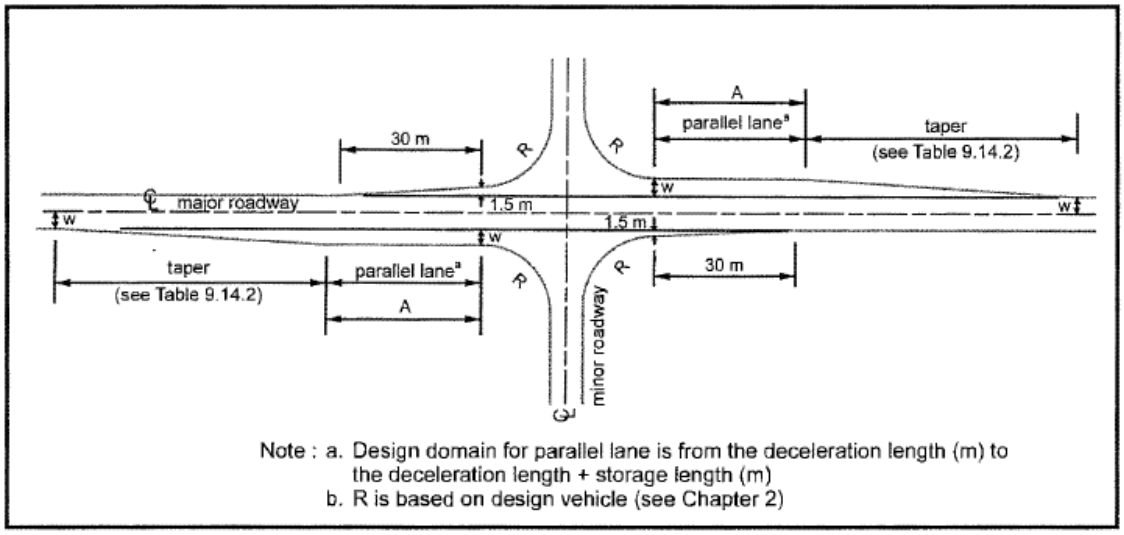


Figure 9.14.3: Right-Turn with Parallel Deceleration Lane Design

Site Access 1 opposite Maisonneuve Blvd
Full access movement

Site Access 2
Right in/right-out access with provision of Median

Site Access 3 opposite Ourdue Court
Existing configuration

March 24, 2023

Riepma Consultants Inc.
220 Kempenfelt Drive
Barrie ON L4M 1C4

Attention: Mr. Clarence Riepma, P.Eng., MES, RPP, MCIP

Re: Proposed Tullamore Industrial Development
6086, 6186, 6026, 6230 Mayfield & 12151 Airport Road
Town of Caledon, Regional Municipality of Peel
Transportation Study

1.0 Introduction/Site Description

This transportation study presents a high-level assessment of the proposed industrial Draft Plan of Subdivision from a traffic standpoint with respect to the anticipated impacts of the proposed Draft Plan at the adjacent roadways. It should be noted that this is a transportation study reflecting the early planning stages of the development of the draft plan and is being prepared in advance of the site Traffic Impact Study (TIS) and Functional Internal Traffic Study (FITS).

The development property is 18.179 hectares (ha) in size and is located at the northeast corner of the intersection of Airport Road (Regional Road 7) and Mayfield Road (Regional Road 14), in the Town of Caledon, the Regional Municipality of Peel. The location is illustrated in **Figure 1**.

As shown in **Figure 2**, it is proposed to develop the land with 6 lots:

- Lot 1 Highway Commercial (Current Zoning: CH-480-H13)
- Lots 2, 3, 5 & 6 Prestige Industrial (Current Zoning: MP-482-H13)
- Lot 4 Serviced Industrial (Current Zoning: MS-483-H13)

The purpose of this study is to provide a review of the proposed draft plan regarding the road network and traffic flow. Based on the permitted land use table provided by the Town of Caledon Zoning, the following uses are currently permitted:

CH – Highway Commercial (Lot 1)

- *Animal Hospital*
- *Clinic*
- *Drive-Through Service Facility*
- *Dwelling, Accessory*
- *Dwelling Unit, Accessory*

- *Farmers' Market*
- *Financial Institution*
- *Fitness Centre*
- *Hotel*
- *Motel*
- *Motor Vehicle Gas Bar*
- *Motor Vehicle Rental Establishment*
- *Motor Vehicle Repair Facility*
- *Motor Vehicle Sales Establishment*
- *Motor Vehicle Service Centre*
- *Motor Vehicle Used Sales Establishment*
- *Open Storage Area, Accessory*
- *Parking Area, Commercial*
- *Place of Assembly*
- *Place of Entertainment*
- *Private Club*
- *Restaurant*
- *Retail Store*

MP – Prestige industrial (Lots 2, 3, 5 and 6)

- *Business office*
- *Cannabis-Related Indoor-Use*
- *Dry Cleaning or Laundry Plant*
- *Equipment Storage Building*
- *Factory Outlet*
- *Financial Institution*
- *Gasoline Pump Island, Accessory*
- *Industrial Hemp-Related Indoor-Use*
- *Industrial Use*
- *Light Equipment Rental Establishment*
- *Maintenance Garage, Accessory*
- *Merchandise Service Shop*
- *Place of Assembly*
- *Place of Worship*
- *Research Establishment*
- *Restaurant*
- *Retail Store, Accessory*
- *Training Facility*
- *Warehouse*
- *Warehouse, Public Self-Storage*
- *Warehouse, Wholesale*

MS – Serviced industrial (Lot 4)

- *Adult Video Store*
- *Bulk Storage Facility*
- *Cannabis-Related Indoor-Use*
- *Contractor's Facility*
- *Dry Cleaning or Laundry*
- *Equipment Storage Building*
- *Factory Outlet*
- *Gasoline Pump Island, Accessory*
- *Industrial Hemp-Related Indoor-Use*
- *Industrial Use*
- *Light Equipment Rental Establishment*
- *Maintenance Garage, Accessory*
- *Merchandise Service Shop*
- *Motor Vehicle Body Shop*
- *Motor Vehicle Compound*
- *Motor Vehicle Gas Bar*
- *Motor Vehicle Repair Facility*
- *Motor Vehicle Towing Facility*
- *Open Storage Area, Accessory*
- *Outside Display or Sales Area, Accessory*
- *Research Establishment*
- *Restaurant*
- *Retail Store, Accessory*
- *Transportation Depot*
- *Warehouse*
- *Warehouse, Public Self-Storage*
- *Warehouse, Wholesale*

The Zoning excerpts are included in **Appendix A.**

The exact uses for each lot are unknown at this point and will be dependent on the local demand including subsequent Site Plan Control applications. Once more land use information for each lot becomes available, as mentioned, a site plan application will be applied for and at that time a more detailed traffic impact study will be provided.

For this high-level transportation study, we will assume that lots 2 – 6 are under "Industrial Park" category, and lot 1 is under "Shopping Centre" with the Institute of Transportation Engineer's trip generation handbook, 11th Edition. This assumption is because the permitted uses are predominantly of industrial and commercial nature.

For this study, we will consider one full-moves access to Airport Road and two accesses to Mayfield Road one (1) full-moves and one (1) right in/right out. The access on Airport will be the existing Davis Lane. The full-moves access to Mayfield Road will be aligned

with Maisonneuve Blvd to the south, and the right in/right out access will be approximately 225 metres, as per the minimum spacing requirement outlined in the Region of Peel's Characterization Study (RCS) guidelines, east of the proposed right in/right out access to the Smart Centre site. Note, this Transportation Study and the Smart Centre Transportation Impact Study and Demand Management Plan are complementing each other to address the traffic impacts and site accesses to the various developments located within this quadrant.

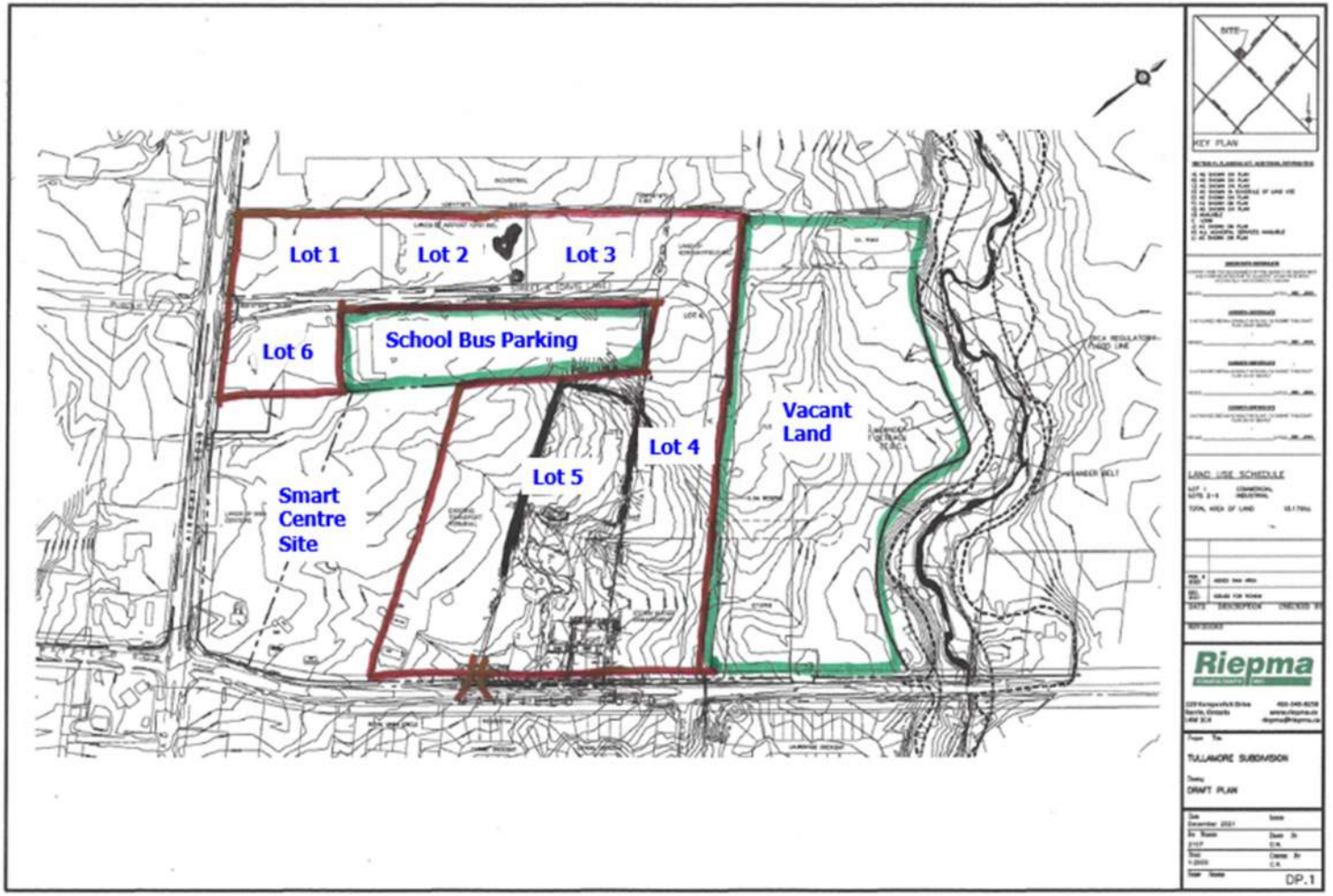
The proposed functional design of the site accesses will be provided during the site plan application stage.

The proposed access to Airport Road (Davis Lane/Perdue Court) is located approximately 450 metres north of the intersection of Airport Road and Mayfield Road. The proposed access to Mayfield Road opposite Maisonneuve Blvd is located approximately 650 metres east of the intersection of Airport Road and Mayfield Rod.

Figure 1 Site Location

Source: Google Maps

Figure 2 Draft Plan



An Updated Plan Will Be Provided Once Finalized

2.0 Existing Conditions

2.1 Existing Road Network

The subject property fronts onto Airport Road (Regional Road 7) and Mayfield Road (Regional Road 14) in the Town of Caledon, the Regional Municipality of Peel. The existing road network, lane configuration and existing traffic control for the study area are shown in **Figure 3**. The details are described below:

- **Airport Road (Regional Road 7)** is a north-south arterial roadway under the jurisdiction of the Regional Municipality of Peel. It has 4 general purpose lanes (2 lanes per direction) urban cross-section, and it maintains a posted speed limit of 60 km/h in the vicinity of the subject site. A multi-use path is provided on the east side.

- **Mayfield Road (Regional Road 14)** is an east-west arterial roadway under the jurisdiction of the Regional Municipality of Peel. It has 2 general purpose lanes rural cross-section and maintains a posted speed limit of 60 km/h in the vicinity of the site. The road has wide shoulders on both sides that can be utilized by pedestrian and cyclists.

- **Perdue Court** is an east-west industrial roadway under the jurisdiction of the Town of Caledon. The road has a rural cross-section with unposted speed limit of 50 km/h. There is a sidewalk on the north side from Airport Road to its western terminus. There are stopping restrictions on both sides of the road.

- **Maisonneuve Blvd** is a north-south collector roadway under the jurisdiction of the Town of Caledon. The road has an urban cross-section with curbs and gutters and has a posted speed limit of 50 km/h. Sidewalks are provided on both sides of the road. On-street parking is allowed on both sides of the road.

2.2 Planned Road Improvement

Based on the Regional Municipality of Peel's 2019 Long Range Transportation Plan and 2021 Capital Program, Mayfield Road is expected to be widened east of Airport Road from two to six lanes in 2023. This will complement the recently completed widening west of Airport Road.

Figure 3 Existing Lane Configurations

Source: Town of Caledon Interactive Map

3.0 Existing Transit Service

The subject site is located at the border of the City of Brampton and The Town of Caledon. It is currently served by the City of Brampton Transit Service.

- Within the Town of Caledon there isn't available transit to serve the site, however with the Community of Bolton, the Town has retained the services of Voyago to

provide local transit service. It is recommended the Town of Caledon expand the transit service to the site as land uses expand across the Mayfield Road corridor

- GO Transit provides bus service to the Regional Road 50/Mayfield Road Park and Ride located on the southwest corner of the intersection of Regional Road 50/Albion Vaughan Road-Mayfield Road. The following routes are operated by GO Transit:

    - Bus Route 38 (Bolton) operates between HWY 50 at Colombia Way Downtown Bolton, and the Malton GO Station. Service is provided Monday to Friday only, from 4:12 PM to 6:42 PM (2hrs and 30min). Headways are approximately 50 minutes during peak hours. This route is approximately 8 km from the subject site.

- City of Brampton Bus Route 30 (Airport South) provides service mainly in the north-south directions along Airport Road. The route has 40 stops departing from 12203 Airport Road (approximately 1.0 km north of the subject site) and ending in Westwood Mall Terminal, Service starts operating at 12:11 AM and ends at 11:42 PM seven days a week.

- City of Brampton Bus Roue 31 (McVean North) provides service between The Gore Road and ending in Squire Elis Drive (Approximately 1.5 km east of the site). The service starts operating at 12:00 AM and ends at 10:53 PM seven days a week.

Existing transit facilities are illustrated in **Figure 4**.

Figure 4 Existing Transit Bus Service

Source: City of Brampton Transit Service Maps

4.0 Transportation Demand Management

Transportation Demand Management (TDM) refers to a variety of strategies to reduce congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system. TDM strategies have multiple benefits including the following:

- Reduced auto-related emissions to improve air quality.
- Decreased traffic congestion to reduce travel time.
- Increased travel options for businesses and commuters.
- Reduced personal transportation costs and energy consumptions.

The combined benefits listed above will assist in creating a more active and livable community through improvements to overall active transportation facilities for the residents, businesses, and the surrounding community.

Typical TDM measures include:

- Carpool/vanpool ride sharing, with emergency ride home;
- High-occupancy vehicle (HOV) lanes in existing rights-of-way for bus, taxis, and cars with three or more occupants;
- Bicycle and pedestrian programs;

- Promotion of public transit, including employer transit fare incentives;
- Parking supply and management strategies;
- Use of “smart card” technology and other advances in the pricing and marketing of transportation services;
- Establishment of Transportation Management Associations (TMAs) in employment areas and car-sharing organizations in residential areas;
- Programs to promote flexible working hours and telecommuting; and,
- Application of incident management systems and Intelligent Transportation System (ITS) innovations.

The combined benefits listed above will assist in creating a more active and livable community through improvements to overall active transportation facilities for the employers, employees, businesses, and the surrounding area.

5.0 Active Transportation

Sidewalk and separated bicycle infrastructure is not provided on Mayfield Road. Airport Road has a multi-use path along the east side fronting the subject site, where pedestrian and cyclists can safely utilize. Pedestrians and cyclists are expected to utilize the gravel shoulders or share the travelled roadways with vehicles on Mayfield Road. It is recommended that a sidewalk and/or multi-use path be provided on the north side of Mayfield Road along the subject site frontage.

A review of the Town of Caledon Trails and Cycling Routes Map didn’t identify any existing cycling or trail facilities on the study area roadways. The City of Brampton 2022 Cycling Map is illustrating a multi-use path along Airport Road that extends further north of Mayfield Road in the Town of Caledon. Additionally, there is a recreational trail in the vicinity of the site that is available for use. Existing cycling and trail facilities are illustrated in **Figure 5**.

The walk phases incorporated into the signal timing plan for the Airport Road and Mayfield Road intersection are push button actuated for pedestrians to cross the four legs of the intersection. Pedestrian signal heads are provided for each approach crossing.

Figure 5 Existing Cycling and Trail Facilities

Source: City of Brampton Cycling and Trail Maps

6.0 Site Generated Traffic and Turning Lane Review

Trip generation rates have been determined from the Institute of Transportation Engineer's (ITE) *Trip Generation Manual, 11th Edition*. Based on the proposed land use of 6 lots (Lot 1 commercial and Loa 2 – 6 industrial), the applicable ITE land use category for Lot 1 is "Shopping Centre" (LUC 820), and for Lots 2 – 6 is "Industrial Park" (LUC 130). This land use compiles multiple industrial uses in a single area as defined by the ITE land use definitions.

To take a conservative approach to the trip generation, we have ignored the impact of any transit modal split for the proposed traffic generation. Also, the ITE Manual provides methodology for determining the number of internal trips generated at a multi-use development. Internal trips are made within the site without use of external roads. To be conservative, we have ignored the impact an internal trip reduction.

Table 1 summarizes the total peak hours site trip generation for the proposed development.

Table 1 Proposed Site Trip Generation

Lot #	Gross Floor Area (ha)	Land Coverage	Net Area (ha)	Net Area (m^2)	Net Area (ft^2)	Land Use Code	Weekday AM Peak Hour			Weekday PM Peak Hour		
							In	Out	Total	In	Out	Total
1	1.486	25%	0.372	3,720	40,041.75	820	97	60	157	140	152	292
2 - 6	16.693		4.173	41,730	449,177.98	130	124	29	153	34	119	153
Total	**18.179**		**4.545**	**45,450**	**489,219.73**		**221**	**89**	**310**	**174**	**271**	**445**

Based on the foregoing, the development proposal is anticipated to generate 310 two-way trips (221 in and 89 out) during the weekday morning peak hour and 191 two-way trips (174 in and 271 out) during the afternoon peak hour.

The proposed site trip distribution will be based on the information from the 2016 Transportation Tomorrow Survey (TTS) for Town of Caledon Ward 4 and existing road network in the vicinity of the site. The relevant excerpts from the 2016 TTS report are provided in **Appendix B**.

7.0 Other Sites Generated Traffic

7.1 Smart Centre Site (6034 Mayfield Road)

This site is located on the northeast quadrant of Airport Road and Mayfield Road. There are three proposed accesses to the site (one (1) right in/right out to Mayfield Road, one (1) right in/right out and one (1) full-moves access to Airport Road). Based on the Transportation Impact Study and Demand Management Plan prepared by WSP on July 29, 2021, there will be 142 two-way trips (125 in and 17 out) during the weekday morning peak hour and 109 two-way trips (14 in and 95 out) during the afternoon peak hour. Excerpts from the WSP report are provided in **Appendix C**.

7.2 Trucking Company and School Bus Parking Area (12117 Airport Road)

This site is also located on the northeast quadrant of Airport Road and Mayfield Road. Currently this site has an established transport business and parking area that is occupied by school buses. It is zoned MP – Prestige industrial in the Town Zoning Map and has an area of approximately 39,800 m^2 (428,403.60 ft^2).

7.3 Residential Home (6340 Mayfield Road)

This site is located east of the proposed site and is occupied by a single dwelling residential unit. It is zoned MP – Prestige industrial in the Town Zoning Map and has an area of approximately 185,320 m^2 (1,994,767.9 ft^2).

Table 2 summarizes the overall peak hour traffic for the proposed site and Smart Centre Site trip generation.

Table 2 Proposed Site and Other Site Trip Generation

	Lot #	Land Use Code	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
Proposed Site	1	820	97	60	157	140	152	292
	2 - 6	130	124	29	153	34	119	153
	Total		**221**	**89**	**310**	**174**	**271**	**445**
Other Sites	**Smart Centre**	110	109	15	124	14	95	109
	12117 Airport Road	130	36	6	42	8	28	36
	6340 Mayfield Road	130	137	33	170	37	133	170
	Total Trips		**503**	**143**	**646**	**233**	**527**	**760**

Based on land use provided, the development proposal and the other sites are anticipated to generate 646 two-way trips (503 in and 143 out) during the weekday morning peak hour and 760 two-way trips (233 in and 527 out) during the afternoon peak hour.

8.0 Right Turn and Left Turn Requirements (Auxiliary Lane Placement)

Ministry of Transportation (MTO) design criteria indicate that right turn lanes should be considered when the turning volume is anticipated to exceed 60 vehicles per hour at an unsignalized intersection. Based on the projected traffic volumes, right turn lane will be required at the future site accesses on Airport Road and Mayfield Road.

Additionally, the Region of Peel's Characterization Study (RCS) for access management elements indicates under **Chapter 5.0 – Section 5.4** – **Auxiliary Lane Placement** the need for right turn and left turn lanes for new developments. Based on the proposed site that includes both commercial and industrial uses and the number of projected vehicular trips from the proposed site and the neighbouring Smart Centre site, auxiliary right and left turns will be required. The relevant excerpts from the RCS report are provided in **Appendix D**.

The addition of auxiliary lanes will provide space for vehicle deceleration and storage for right and/or left turns from regional roads at their points of access as well as a refuge for turning vehicles. These lanes improve capacity and safety on the major roads by removing slowing or stopped vehicles from through lanes with higher speed traffic.

9.0 Sightline Analysis

Both Airport Road and Mayfield Road have a posted speed limit of 60 km/h. Based on the Ministry of Transportation of Ontario (MTO) geometric design standards, the minimum stopping distance for design speed of 80 km/h (posted speed limit of 60 km/h + 20 km/h)

is 135 metres. This requirement provides sufficient distance for an approaching vehicle to observe a stationary hazard in the road (such as a vehicle stopped at an intersection waiting to complete a turn) and bring their vehicle to a complete stop prior to the hazard.

A review of the available sight distance for the projected accesses onto Airport Road and Mayfield Road was completed as part of this traffic analysis. The sight distance north and south on Airport Road and east and west on Mayfield Road is well over 200 meters in all directions which is significantly greater than the minimum stopping sight distance requirements as identified in **Table E3.1** of the Ministry of Transportation Chapter E "At-Grade Intersections" Design Guidelines for a design speed of 80km/h (135 metres).
It is apparent that there are adequate sight distances along Airport Road and Mayfield Road for motorists to do their left/right turns safely.

Table E3-1
Minimum Stopping Sight Distance

Design Speed, km/h	20	30	40	50	60	70	80	90	100	110
Minimum Stopping Sight Distance, m	20	30	45	65	85	110	135	160	185	215

10.0 Conclusions and Recommendations

- The land uses proposed within each Draft Plan Block will be determined at the Site Plan Application stage; however, the proposed development is anticipated to include commercial (Lot 1) and industrial (Lot 2 – 6). A total of 6 separate development lots are anticipated with a total gross floor area (GFA) of 4.545 hectare (25% of the 18.179-hectare land coverage), which equates to 45,450 square metres (489,220 square feet).

- The proposed development will require one (1) full-moves accesses on Airport Road (Davis Lane/Perdue Court), and two (2) accesses to Mayfield Road one (1) full-moves opposite Maisonneuve Blvd and one (1) right in/right out.

- The sight distance available for future proposed site accesses on Airport Road and Mayfield Road meets the MTO minimum sight stopping distance

requirements for an 80km/h design speed (Posted speed limit of 60 km/h + 20 km/h).

- The proposed development and the other sites are anticipated to generate 646 two-way trips (503 in and 143 out) during the weekday morning peak hour and 760 two-way trips (233 in and 527 out) during the afternoon peak hour, respectively.

- Right turn lanes and left turn lanes at the accesses on Airport Road and Mayfield Road will be required based on the Region of Peel's Characterization Study (RCS) for access management guidelines.

- Several Transportation Demand Management opportunities and strategies are to be introduced to discourage single-occupant vehicle use within the study area.

- Sidewalk on the north side of Mayfield Road in the vicinity of the site will be required to support pedestrian connections,

Should you have any questions regarding this study, please do not hesitate to contact the undersigned.

Yours truly,

CGE TRANSPORTATION CONSULTING

Casey Ge, P.Eng.

President

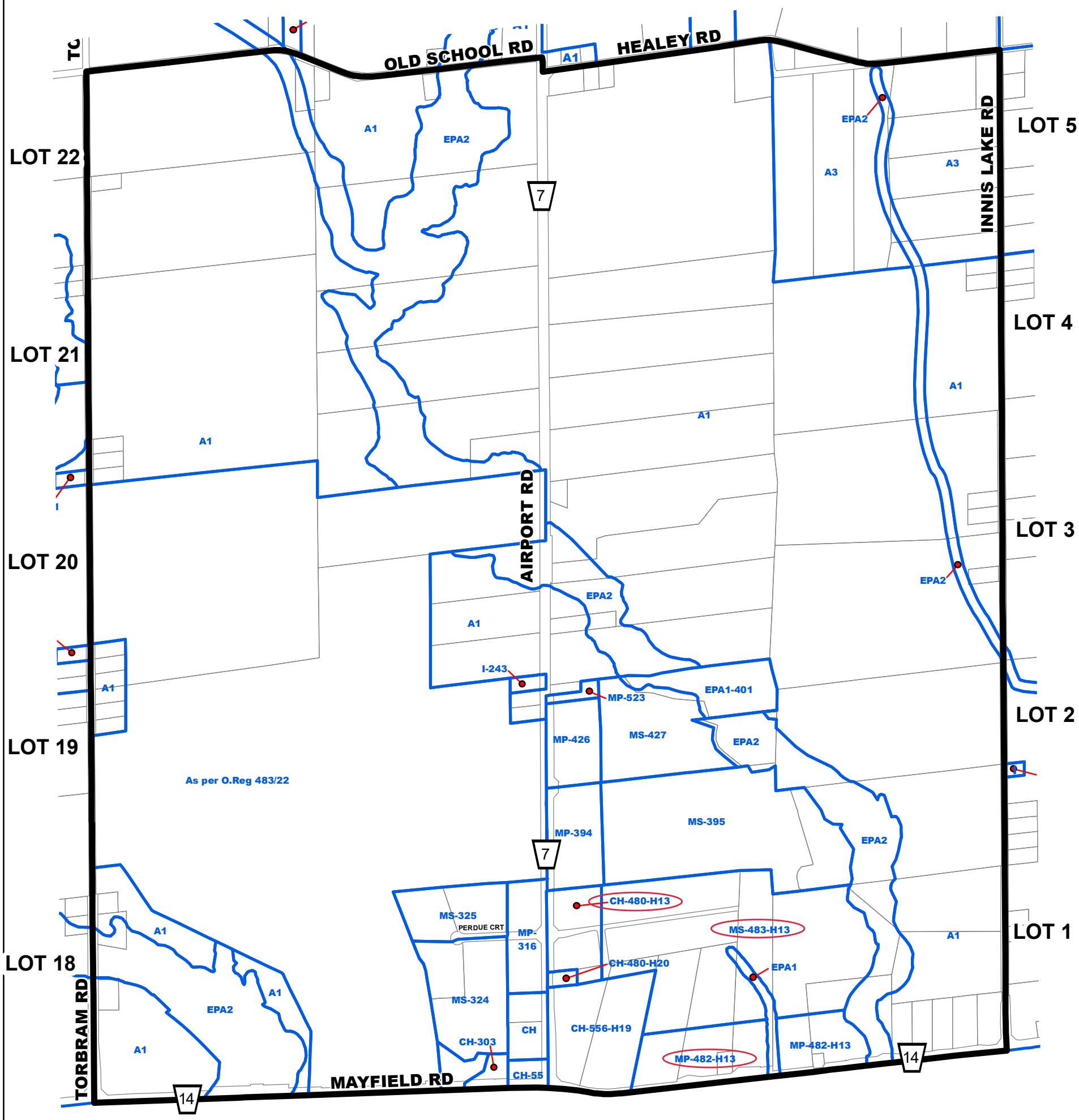
Appendix A	***Town of Caledon Zoning excerpts***
Appendix B	***2016 Transportation Tomorrow Survey Report***
Appendix C	***WSP – Transportation Impact Study and Demand Management Plan Excerpts***
Appendix D	***Region of Peel's Characterization Study Excerpts***

Appendix A

Town of Caledon Zoning Excerpts

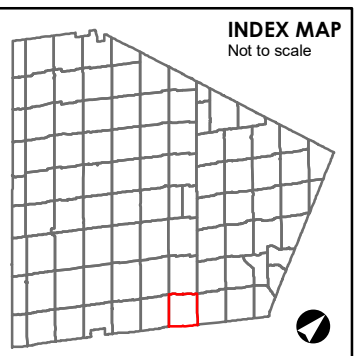
CON. 6 E.H.S. (CHING)

CON. 1 (ALB)



This copy is provided for convenience only. If necessary, the original may be referred to in the office of the Town Clerk.

INDEX MAP
Not to scale



A2 ZONE SYMBOL

A2-### ZONE SYMBOL
Note: Number of suffixes represent Exceptions which can be looked up in the Exceptions section of the By-law.

ZONE BOUNDARY

STRUCTURAL ENVELOPE MAP

NIAGARA ESCARPMENT DEVELOPMENT CONTROL AREA
Lands lying within the Development Control area pursuant to the Niagara Planning and Development Act are subject to permit requirements under Ontario Regulations 685/50, as amended.

OAK RIDGES MORAINE CONSERVATION PLAN AREA BOUNDARY

WELLHEAD PROTECTION AREA BOUNDARY
WP-2 WP-5 WP-10 WP-25
Zone Maps amended to indicate the 2, 5, 10, and 25 year Wellhead Protection Areas.

The base data on this map is provided for convenience only. The Town of Caledon is not responsible for any deficiency or inaccuracy in the base data, and will not accept any liability whatsoever therefor. The reporduction of the base data, in whole or in part, by any means is prohibited without the prior written permission of the Town of Caledon.

BY-LAW 2006-50
ZONE MAP 4
SCHEDULE "A"
0 137.5 275 550 m
TOWN OF CALEDON

Date: 3 April 2006
Revised: November 29, 2022

File: S:\POLICY SECTION\GIS\zoning_bylaw\2015_mxd

4

SECTION 7
COMMERCIAL ZONES

7.1 GENERAL PROHIBITION

No *person* shall, within any **Commercial *Zone***, use any land, or erect, *alter*, enlarge, use or maintain any *building* or *structure* for any *use* other than as permitted in **Table 7.1** of Subsection 7.2 and in accordance with the standards contained in **Table 7.2** of Subsection 7.3, the General Provisions contained in Section 4 and the Parking, Loading & Delivery Standards contained in Section 5.

7.2 PERMITTED USES

Uses permitted in a **Commercial *Zone*** are noted by the symbol '✓' in the column applicable to that *Zone* and corresponding with the row for a specific permitted *use* in **Table 7.1**. A number(s) following the symbol '✓' , *zone* heading or identified permitted *use*, indicates that one or more conditions apply to the *use* noted or, in some cases, to the entire *Zone*. Conditions are listed below the Permitted Use Table, **Table 7.1**.

The **Commercial *Zones*** established by this By-law are as follows:

CC **Core Commercial**
CCV **Village Core Commercial**
C **General Commercial**
CN **Neighbourhood Commercial**
CV **Village Commercial**
CH **Highway Commercial**
CHB **Bolton Highway Commercial**
CHV **Village Highway Commercial**
CT **Tourist Camp Commercial**

TABLE 7.1

	ZONE								
USE	**CC**	**CCV (12)**	**C**	**CN**	**CV**	**CH**	**CHV**	**CHB**	**CT**
Animal Hospital	✓		✓		✓	✓	✓	✓	
Art Gallery	✓	✓			✓				
Artist Studio & Gallery	✓	✓			✓				
Bakery		✓							
Boarding House	✓								
Building, Apartment		✓							
Business Office	✓	✓	✓	✓	✓			✓	
Clinic	✓	✓	✓	✓	✓	✓	✓		

Convenience Store	✓(4)	✓(4)	✓(4)	✓(4)	✓(4)				
Drive-Through Service Facility			✓ (13)			✓ (13)	✓ (13)	✓ (13)	
Dry Cleaning or Laundry Outlet	✓	✓	✓	✓	✓				
Dwelling, Accessory					✓ (9) (11)	✓ (10) (11)	✓ (10) (11)		✓
Dwelling, Common Element Townhouse		✓							
Dwelling, Freehold Townhouse		✓							
Dwelling, Townhouse		✓							
Dwelling Unit		✓							
Dwelling Unit, Accessory	✓ (7) (8)				✓ (7) (9)	✓ (7) (10)	✓(7)		✓(7)
Factory Outlet								✓	
Farmers' Market		✓			✓	✓	✓	✓	
Financial Institution	✓	✓	✓	✓	✓	✓	✓	✓	
Fitness Centre	✓	✓	✓	✓	✓	✓	✓	✓	
Funeral Home	✓		✓		✓				
Grocery Store		✓	✓ (5)						
Hotel	✓	✓	✓			✓	✓	✓	
Industrial Use								✓	
Laundromat	✓	✓	✓	✓	✓				
Merchandise Service Shop	✓	✓	✓		✓			✓	
Motel	✓		✓			✓	✓	✓	
Motor Vehicle Gas Bar					✓	✓	✓	✓	
Motor Vehicle Rental Establishment					✓	✓	✓	✓	
Motor Vehicle Repair Facility					✓	✓	✓	✓	
Motor Vehicle Sales Establishment					✓	✓	✓	✓	
Motor Vehicle Service Centre					✓	✓	✓	✓	
Motor Vehicle Used Sales Establishment					✓	✓	✓	✓	
Open Storage Area, Accessory						✓	✓	✓ (14)	

Outside Display or Sales Area, Accessory								✓	
Parking Area, Commercial	✓	✓	✓	✓	✓	✓	✓	✓	
Parking Area, Municipal	✓	✓							
Personal Service Shop	✓	✓	✓	✓	✓				
Place of Assembly	✓	✓	✓		✓	✓	✓	✓	
Place of Entertainment	✓	✓	✓		✓ **(1)**	✓	✓ **(1)**	✓	
Private Club	✓	✓	✓	✓	✓	✓	✓	✓	
Research Establishment								✓	
Restaurant	✓	✓	✓	✓	✓	✓	✓	✓	
Retail Store	✓	✓	✓	✓	✓ **(6)**	✓ **(6)**	✓ **(6)**		
Retail Store, Accessory								✓ **(2)**	
Sales, Service and Repair Shop	✓	✓	✓	✓	✓				
Tourist Camp									✓
Training Facility	✓	✓	✓		✓			✓	
Video Outlet/Rental Store	✓ **(3)**	✓	✓ **(3)**	✓ **(3)**	✓ **(3)**				
Warehouse								✓	
Warehouse, Public Self-Storage								✓	
Warehouse, Wholesale								✓	

Footnotes For Table 7.1

(1) Excluding a cinema or theatre.

(2) An *accessory retail store* shall not exceed 93 m^2 *net floor area*.

(3) A *video outlet/rental store* shall not exceed 185 m^2 *net floor area*.

(4) *Convenience store* not to exceed a maximum 160 m^2 *net floor area*.

(5) *Grocery store* not to exceed a maximum 1100 m^2 *net floor area*.

(6) A *retail store* shall not exceed 925 m^2 *net floor area* per *building.*

(7) Unit size not to exceed 15% of commercial *net floor area*.

(8) **CC *Zone*** permits a *boarding house* as well as 3 *accessory dwelling units* per commercial establishment.

(9) **CV *Zone*** permits both 1 a*ccessory dwelling* and 1 a*ccessory dwelling unit* per establishment.

(10) **CH *Zone*** and **CHV *Zone*** permit a maximum of 1 a*ccessory dwelling* or 1 a*ccessory dwelling unit* per establishment.

(11) *Accessory dwelling* size shall be governed by the applicable *lot* coverage and *yard* requirements.

(12) CCV Zone – The following provisions shall apply to any building abutting Kennedy Road or Dougall Avenue:

i. Only commercial uses shall be permitted on the first storey;
ii. Only dwelling units, business offices and hotel uses shall be permitted on storeys above the first storey;
iii. Entrances and lobbies used to service those uses listed in (ii) above shall be permitted on the first storey.

(13) Subject to compliance with Section 4.9, *drive-through service facilities* shall only be permitted in the Settlement Areas of Bolton and Mayfield West, and in Tullamore, Victoria, Sandhill, and Caledon Village only in existing commercial zones along Hurontario Street (Highway 10) and Charleston Sideroad (Regional Road 24).

(14) *Open Storage Area, Accessory* shall not be permitted with an *Industrial Use*

7.3 ZONE STANDARDS

No *person* shall, within any Commercial *Zone*, use any *lot* or erect, *alter*, use any *building* or *structure* except in accordance with the following *zone* provisions as set out in **Table 7.2**. A number(s) following the *zone* standard, *zone* heading or description of the standard, indicates an additional *Zone* requirement. These additional standards are listed at the end of **Table 7.2**.

TABLE 7.2

	ZONES								
STANDARD	**CC**	**CCV (12)**	**C**	**CN**	**CV**	**CH**	**CHV**	**CHB (7)**	**CT**
***Lot Area* (Minima):**	275 m^2	N/A	0.8ha	2,000 m^2	2,000 m^2				8,000 m^2
Motor Vehicle Service Centre						2,000 m^2	2,000 m^2	2,000 m^2	
Motel						2,750 m^2	2,750 m^2		

Hotel or M*otel*								2,750 m^2	
Other *uses* on *unserviced lot*						2,040 m^2	2,040 m^2	2,040 m^2	
Other *uses* on *partially serviced* lot						1,390 m^2	1,390 m^2	1,390 m^2	
Other *uses* on *fully serviced lot*						460 m^2	460 m^2	460 m^2	
***Lot Frontages* (Minima)**	Nil	9m	30m	30m	30m				45m
Motor Vehicle Service Centre, Hotel or Motel						40m	40m	40m	
Other *uses* on *fully serviced lot*						9m	9m	9m	
Other *uses* on any other *lot*						30m	30m	30m	
***Building Area* (Maximum)**	75%	N/A	25%	30%	25%	30%	30%	30%	25%
Building Setback (Minimum)									9m **(8)**
Front Yard		**(9)**							
Minimum	Nil	0.3m	15m	9m	9m	18m	18m	18m	
Maximum		2m							
Exterior Side Yard		**(11)**							
Minimum	Nil	0.3m	15m	9m	9m	18m	18m	18m	
Maximum		2m							
***Rear Yard* (Minima)**	6m	6m							
From a *rear lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*			19.5 m			10.5m	10.5m	10.5m	
From a *rear lot line* abutting a Residential *zone*				9m	10.5m				
From any other *rear lot line*			15m	6m	7.5m	7.5m	7.5m	7.5m	
***Interior Side Yard* (Minima)**		**(11)**							
From an *interior side lot line*	1.5m	3m		9m	4.5m				

abutting a Residential *zone*									
From an *interior side lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*			12m			10.5m	10.5m	10.5m	
From any other *interior side lot line*	Nil	Nil	7.5m	6m	3m	7.5m	7.5m	7.5m	
***Motor Vehicle Gas Bar Setback* (Minima)**									
From any *lot line*					4.5m **(6)**	6m **(6)**	6m **(6)**	6m **(6)**	
From any *sight triangle*					3m **(6)**	3m **(6)**	3m **(6)**	3m **(6)**	
Building Height									
Minimum									
Maximum	10.5m		10.5 m	10.5m	10.5m	10.5m	10.5m	10.5m	10.5m
Main Building (Minimum)		7.5m							
Main Building (Maximum)		15m							
***Landscaping Area* (Minimum)**	Nil	Nil	10%		20%	20%	20%	20%	30%
***Gross Floor Area* (Maxima)**									
Retail Store	465 m^2				925 m^2	925 m^2	925 m^2		
Retail Store, Accessory								93 m^2	
***Planting Strip Widths* (Minima):**		1.5m	4.5m	3m	3m	3m	3m	6m	6m
Along an *interior side lot line*	1.5m								
Along a *rear lot line*	3m								
***Planting Strip* Location**	**(1)**	**(10)**	**(2)**	**(1)**	**(1)**	**(3)**	**(3)**	**(3)**	**(4)**
***Play Facility Area* (Minimum)**									4%
***Play Facility* Location**									6m **(5)**

***Driveway Setbacks* (Minima)**		1.5m	4.5m						6m
From a *lot line* abutting a Residential *Zone*	1.5m			1.5m	4.5m	4.5m			
From a *lot line* abutting a Residential *zone* or a *lot* containing a Residential Use							4.5m	6m	
From any other *lot line*	Nil			Nil	1.5m	1.5m	1.5m	1.5m	
***Parking Space Setback* (Minima)**									
From any *street line*	1.5m	3m	1.5m	3m	1.5m	1.5m	1.5m	6m	
From any *lot line* abutting a Residential *zone*	4.5m	3m		4.5m	4.5m				
From any *lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*			4.5m			4.5m	4.5m		
From any other *lot line*		1.5m						1.5m	
From any *lot line*									6m

Footnotes for Table 7.2

(1) **CC *Zone*, CN *Zone*, CV *Zone*** – A *planting strip* shall be required along any portion of a *rear lot line* and any portion of an *interior side lot line* which abuts a Residential *Zone*.

(2) **C *Zone*** - A *planting strip* shall be required along any of a *rear lot line* and any portion of an *interior side lot line* which abut a Residential *Zone* or which abuts a *lot* containing a Residential *use*.

(3) **CH *Zone*, CHV *Zone*, CHB *Zone*** – A *planting strip* shall be required along any *front lot line* and any *exterior lot line* and along any portion of a *rear lot line* and any portion of an *interior side lot line* which abut a Residential *Zone* or which abut a lot containing a Residential *use.*

(4) **CT *Zone*** – A *planting strip* shall be required along every *lot line* except that no *planting strip* shall be required for a length of 15m along a *front lot line* between a *tourist camp* management office and a *street*.

(5) **CT *Zone*** – No part of any *play facility* shall be located closer to any *lot line* than 6m

(6) *Motor Vehicle Gas Bar setback* – Where a *motor vehicle gas bar* includes a canopy or roof structure, the required *setback* shall be measured to the nearest part of the canopy or roof structure.

(7) **CHB *Zone*** – The following performance standards shall apply to a *Factory Outlet, Industrial Use*, *Merchandise Service Shop*, and a *Warehouse*:

(i) *Lot Area* (minimum):	925m^2
(ii) *Lot Frontage* (minimum):	30m
(iii) *Building Area* (maximum):	50%
(iv) *Yard, Front* (minimum):	
- from *lot line* abutting Residential *zone*	20m
- from any other *front lot line*	18m
(v) *Yard, Rear* (minimum):	
- from *lot line* abutting Residential *zone*	15m
- from *lot line* abutting provincial highway	18m
- from any other *rear lot line*	7.5m
(vi) *Yard, Interior Side* (minimum):	
- from *side lot line* abutting a Residential *zone* or *lot* containing Residential *use*	15m
- any other *side lot line*	7.5m
(vii) *Floor Area, Net*	
- *Factory Outlet*	20% of *net floor area* of permitted *industrial use* to which it is *accessory*

(8) **CT *Zone*** – *Building* Separations (minima):

Between tourist vehicles	6m
(i) Between tourist vehicle and Management office	9m
(ii) Between tourist vehicle and Recreation building	12m
(iii) Between *main building* and Detached *accessory building*	2m
(iv) Between detached *accessory buildings*	1m

(9) CCV *Zone* – Within the CCV Zo*ne*, with the exception of driveways and pedestrian walkways, lands abutting Kennedy Road or Dougall Avenue shall be developed with a continuous *building* face.

(10) CCV *Zone* – A *planting strip* shall be required along each *street line* adjacent to a *parking area*.

(11) CCV *Zone* – The minimum setback for any type of first *storey* residential *use* shall be 3m.

(12) CCV *Zone* – Within the CCV *Zone* the following special standards shall apply:

(i) For Holding Provisions see CCV-H15 in Subsection 13.3;

(ii) For the purpose of this *zone*, each of the two parcels of land located on the north and south sides of Dougall Ave. west of Kennedy Road shall each be deemed to be one *lot*, regardless of the number of *buildings* constructed thereon and regardless of any subdivision thereof by any means. Further the *lot line* abutting Dougall Ave. shall be considered to be the *front lot line*.

(iii) Notwithstanding any other provision of this By-law, no *building* or *structure* or part thereof and no chimney, pilaster or similar ornamental *structure* or part thereof and no *patio* or *porch* or part thereof and no machinery or equipment or part thereof and no fence, sidewalk or walkway or part thereof shall be located in any part of a *yard* that is subject to a registered easement;

(iv) Notwithstanding Section 5.4.2 and 5.4.4 only one *delivery space* shall be required on the *lot* described in Section 12(ii) above.

(v) The minimum off street parking requirement for any commercial *use* shall be 1 *parking space* per 34m2 of *gross floor area* or portion thereof.

(vi) The minimum off street parking requirement for any *apartment building* shall be 1.25 *parking spaces* per *dwelling unit* plus the requirement for any commercial *use* as noted in (v) above.

(vii) For the purpose of this *zone*, Section 4.36 with respect to *Sight Triangles* shall not apply.

(viii) In addition to the requirements of Section 4.4, air conditioners or heat pumps shall not be located in the *front yard* or *exterior side yard*.

(ix) For the purpose of this *zone, Building Height* shall be calculated using the vertical distance measured from the average elevation of the established grade at the front of such *building* to the median level between eaves and ridge on a gable, gambrel or hip roof.

(x) For the purpose of this *zone*, Established Grade, with reference to a *building*, shall be calculated using the average elevation of the finished surface of the ground where it meets the exterior of the front of such *building*.

SECTION 8
INDUSTRIAL ZONES

8.1 GENERAL PROHIBITION

No *person* shall, within any **Industrial *Zone***, use any land, or erect, *alter*, enlarge, use or maintain any *building* or *structure* for any *use* other than as permitted in **Table 8.1** of Subsection 8.2 and in accordance with the standards contained in **Table 8.2** of Subsection 8.3, the General Provisions contained in Section 4 and the Parking, Loading & Delivery Standards contained in Section 5.

8.2 PERMITTED USES

Uses permitted in an **Industrial *Zone*** are noted by the symbol '✓' in the column applicable to that *Zone* and corresponding with the row for a specific permitted *use* in **Table 8.1**. A number(s) following the symbol '✓' , *zone* heading or identified permitted *use*, indicates that one or more conditions apply to the *use* noted or, in some cases, to the entire *Zone*. Conditions are listed below the Permitted Use Table, **Table 8.1**.

The **Industrial *Zones*** established by this By-law are as follows:

MP **Prestige Industrial**
MS **Serviced Industrial**
MU **Unserviced Industrial**
MA **Airport Industrial**
MX **Extractive Industrial**
MD **Waste Management**

TABLE 8.1

	ZONE					
USE	**MP**	**MS**	**MU**	**MA**	**MX**	**MD**
Adult Video Store		✓				
Airport				✓		
Bulk Storage Facility		✓	✓			
Business Office	✓					
Cannabis-Related Use-Indoor	✓ **(3)**	✓ **(3)**				
Contractor's Facility		✓	✓			
Dry Cleaning or Laundry Plant	✓	✓				
Equipment Storage Building	✓	✓	✓			
Factory Outlet	✓	✓	✓			
Farm					✓	
Financial Institution	✓ **(2)**					
Gasoline Pump Island, Accessory	✓	✓	✓	✓		

Gravel Pit					✓	
Industrial Hemp-Related Use-Indoor	✓ (3)	✓ (3)				
Industrial Use	✓	✓	✓			
Light Equipment Rental Establishment	✓	✓				
Maintenance Garage, Accessory	✓	✓	✓			
Merchandise Service Shop	✓	✓	✓			
Motor Vehicle Body Shop		✓	✓			
Motor Vehicle Compound		✓	✓			
Motor Vehicle Gas Bar		✓				
Motor Vehicle Repair Facility		✓	✓			
Motor Vehicle Towing Facility		✓	✓			
Open Storage Area, Accessory		✓	✓	✓	✓	
Outside Display or Sales Area, Accessory		✓	✓			
Place of Assembly	✓					
Place of Worship	✓					
Quarry					✓	
Research Establishment	✓	✓				
Restaurant	✓ (2)	✓ (2)		✓ (2)		
Retail Store, Accessory	✓ (1)	✓ (1)				
Sanitary Landfill Site						✓
Sewage Treatment Facility						✓
Training Facility	✓					
Transportation Depot		✓	✓			
Warehouse	✓	✓	✓			
Warehouse, Public Self-Storage	✓	✓	✓			
Warehouse, Wholesale	✓	✓	✓			
Waste Processing Facility						✓
Waste Transfer Facility						✓

Footnotes for Table 8.1

(1) Must comply with Section 8.4.1

(2) Must comply with Section 8.4.2

(3) Must comply with Section 4.7 Cannabis or Industrial Hemp Uses.

8.3 ZONE STANDARDS

No *person* shall, within any **Industrial *Zone***, use any *lot* or erect, *alter*, use any *building* or *structure* except in accordance with the following *zone* provisions. A number(s) following the *zone* standard, *zone* heading or description of the standard, indicates an additional *Zone* requirement. These additional standards are listed at the end of *Table 8.2*.

TABLE 8.2

	ZONE					
STANDARD	**MP**	**MS**	**MU**	**MA**	**MX**	**MD**
***Lot Areas* (Minima):**	925 m^2	925 m^2	4,000 m^2	Nil	1ha	
Sanitary landfill site						4ha
Other Non-Residential *uses*						1ha
***Lot Frontage* (Minimum)**	30m	30m	50m	30m	10m	10m
***Building Area* (Minimum)**						
For a *Transportation Depot*		10% **(22) (23)**	10% **(22) (23)**			
***Building Area* (Maximum)**	50%	50% **(22)**	10% **(22)**	**(9)**	900 m^2	
Sanitary landfill site						180m^2
Sewage treatment facility						20%
Other Non-Residential *uses*						35%
***Yards* (Minima)**	**(14)**	**(14) (24)**	15m **(24)**		**(15)**	
From a *lot line* abutting a *zone* other than an Industrial *zone*				30m		
From any other *lot line*				21m		
***Front Yards* (Minima)**					30m	18m
From a *front lot line* abutting a Residential *zone*	20m					
From a *front lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*		20m				
From a *front lot line* abutting a Provincial Highway	14m					
From any other *front lot line*	9m	9m				
***Exterior Side Yards* (Minima)**					30m	18m
From an *exterior side lot line* abutting a Residential *zone*	15m					
From an *exterior side lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*		15m				
From an *exterior side lot line* abutting a Provincial Highway	14m					

From any other *exterior side lot line*	7.5m	7.5m				
Rear Yards (Minima)						
From a *rear lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*		15m				
From a *rear lot line* abutting a Residential *zone*	15m				90m	
From a *rear lot line* abutting a Provincial Highway	14m					
From a *rear lot line* abutting a *zone* other than an MD or MX *Zone*						15m
From any other *rear lot line*	7.5m	7.5m			30m	3m
***Interior Side Yards* (Minima)**						
From an *interior side lot line* abutting a *zone* other than an MD or MX *Zone*						15m
From any other *lot line*						3m
From an *interior side lot line* abutting a Residential *zone*					90m	
From any other *interior side lot line*	**(1)**	**(5)**			30m	
From an *interior side lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*	15m	15m				
***Gasoline Pump Island, Accessory* Setbacks (Minima)**				30m **(11) (16)**		
From any *street line*	**(21)**	6m **(16)**	6m **(16)**			
From any other *lot line*	4.5m **(16)**	4.5m **(16)**	4.5m **(16)**			
Excavation Setbacks (Minima)						
From any *lot line*					15m	
From any *street line*					30m	
***Accessory Open Storage Area* Setbacks (Minima)**		**(19) (24)**	**(20) (24)**			
From any *lot* line which abuts a Residential *zone*					90m	
From any other *lot line*					30m	
***Accessory Outside Sales* or *Display Area* Setback (Minimum)**						
From any *street line*		9m				
***Building Heights* (Maxima)**	18m	12.2m	12.2m		25m	12.2m
Residential *buildings*				10.5 m		
Non-Residential *Building*				12.2 m		
***Landscaping Area* (Minimum)**	10% **(13)**	10%	10%		5%	25%
***Net Floor Area* (Maxima)**						
Factory Outlet	20%	20%				

	(3)	**(6)**				
An indoor Sales Display Area associated with a W*holesale Warehouse*	33% **(4)**					
***Planting Strip Width* (Minimum):**	6 m	6 m	3 m	15 m	15 m	7.5 m
***Planting Strip* Location**	**(2) (17) (18)**	**(7) (17) (18)**	**(8)**	**(10)**	**(10)**	**(12)**
Landfill Area *Setbacks* (Minima)						
From any *street line*						30 m
From any *lot line* which abuts a *zone* other than an MD or MX *Zone*						90 m
***Driveway Setbacks* (Minima)**		**(24)**	**(24)**			
From a *lot line* abutting a Residential *zone*	4.5m					
Where a *driveway* forms part of a mutual *driveway* on an adjacent *lot*	Nil					
From any other *lot line*	1.5m	1.5m	1.5m	3m	3m	3m
From a *lot line* abutting a Residential *zone* or a *lot* containing a Residential use		4.5m	4.5m			
From a *lot line* abutting a *zone* other than an Industrial *zone*				9m		
From a *lot line* abutting a *zone* other than an MX or MD *zone*					9m	9.5m
***Parking Space Setbacks* (Minima)**		**(24)**	**(24)**			
From any front *lot line*	6m	6m				
From any other *lot line*	3m	3m				
From any *street line*			1.5m	3m	3m	3m
From any *lot line* abutting a Residential *zone* or a *lot* containing a Residential *use*			4.5m		9m	
From any *lot line* abutting a *zone* other than an Industrial *zone*				9m		
From any *lot line* abutting a *zone* other than an MD or MX *zone*						9m

Footnotes For Table 8.2

(1) **MP** *Zone* – Minimum *interior side yard* from any other *interior side lot line* shall be 3m on one side, 6m on other side

(2) **MP** *Zone* – A *planting strip* shall be required along each *front lot line* and each *exterior side lot line* and along any portion of a rear *lot line*, which abuts a Residential *zone* line or a *lot* containing a Residential *use*, and along any portion of an *interior side lot line* which abuts a Residential *zone* or a *lot* containing a Residential *use*.

(3) **MP** *Zone* – The maximum *net floor area* of a *factory outlet* shall be 20% of the *net floor area* of the *industrial facility* to which it is *accessory*.

(4) **MP** *Zone* – The maximum *net floor area* of a sales display area associated with a *wholesale warehouse use* shall be 33% of the total *net floor area*.

(5) **MS** *Zone* – The minimum *interior side yard* from any other *interior side lot line* shall be 3m on one side; 6m on other side.

(6) **MS** *Zone* – The maximum *net floor area* of a *factory outlet* shall be 20% of the *gross floor area* of the *industrial use* to which it is accessory.

(7) **MS** *Zone* – A *planting strip* shall be required along each *front lot line*.

(8) **MU** *Zone* – A *planting strip* shall be required along any portion of a *rear lot line* and any portion of an *interior side lot line* which abuts a Residential *zone* or which abuts a *lot* containing a Residential *use*.

(9) **MA** *Zone* – The maximum *building area* shall be the lesser of 5%; or 0.4 hectares.

(10) **MA** *Zone***, MX** *Zone* – A *planting strip* shall be required along each *front lot line*. A *planting strip* shall also be required along any portion of a *rear lot line* and any portion of an *interior side lot line* which abut a Residential *zone*.

(11) **MA** *Zone* – No *accessory gasoline pump island* shall be located closer to any *lot line* than 30m.

(12) **MD** *Zone* – A *planting strip* shall be required along any portion of a *rear lot line* and any portion of an *interior side lot line* which abut a *zone* other than an **MD** or **MX** *zone*.

(13) **MP** *Zone* - The required minimum *Landscaping Area* for a *corner lot* shall be 12.5%

(14) **MP** *Zone*, **MS** *Zone* - Notwithstanding any *building setback* provisions to the contrary, no *building setback* shall be required from any portion of a *lot line* which abuts a railroad right-of-way.

(15) **MX** *Zone* - Notwithstanding any *building setback* provisions to the contrary, no *building setback* shall be required from any portion of a *lot line* which abuts a railroad right-of-way or abuts another *lot* in an **MX** *Zone*.

(16) **MP** *Zone***, MS** *Zone,* **MU** *Zone,* **MA** *Zone - Accessory Gasoline Pump Island Setback* – Where an *Accessory Gasoline Pump Island* includes a canopy or roof *structure*, the required *setback* shall be measured to the nearest part of the canopy or roof *structure*.

(17) **MP** and **MS** *Zone* – In addition to the *Planting Strip* Widths and Locations noted in **Table 8.2**, the following provisions shall also apply:

(i) Minimum width abutting an arterial road or Provincial Highway 9.0m

(ii) Minimum width where truck *parking* or *loading spaces* are provided adjacent to an arterial road or Provincial Highway 12.0m

(iii) Minimum width required on all *interior side yards* except where there is a mutual *driveway* along an *interior side lot line*. 1.5m

(18) **MP** and **MS** *Zone* – Tullamore Industrial Commercial Secondary Plan Area– A *planting strip* along an arterial road shall be a minimum of 12m, and a *planting strip* for all internal roads within the Tullamore Industrial Commercial Secondary Plan Area shall be a minimum of 8 m.

(19) No open storage area shall be located:

(i) In a *front yard* or *exterior side yard*; or
(ii) Closer than 6 metres to any *lot line* unless a chain-link fence, at least 1.8 metres high, is constructed along that *lot line*.

(20) No open storage area shall be located:

(i) in a *front yard* or an *exterior side yard*; or
(ii) in a *rear yard* adjacent to a *rear lot line* of such *lot* which abuts a Residential *zone* or abuts a *lot* containing a Residential *use*; or
(iii) in a *side yard* adjacent to an *interior side lot line* of such *lot* which abuts a Residential *zone* or abuts a *lot* containing a Residential *use*; or
(iv) closer than 6 metres to any *lot line* if combustible materials are stored there.

(21) No accessory gasoline pump island shall be permitted in a *front yard* or in an *exterior side yard*.

(22) **MS** and **MU** *Zones* – Section 4.2.5 shall not apply to *transportation depots.*

(23) **MS** and **MU** *Zones* – For the purpose of calculating the minimum *building area*, it shall mean that portion of the *lot area* excluding any *landscaping area* permitted to be covered by one or more *building envelope.*

(24) **MS** and **MU** *Zones* – No parking, storing or staging for a *transportation depot* shall be located:

i) in a *front yard* or an *exterior side yard*; or

ii) in a *rear yard* adjacent to a *rear lot line* of such *lot* which abuts a residential *zone* or abuts a *lot* containing a Residential *use*; or

iii) in a *side yard* adjacent to an *interior side lot line* of such *lot* which abuts a Residential *zone* or abuts a *lot* containing a Residential *use.*

8.4 SPECIAL PROVISIONS AND STANDARDS FOR INDUSTRIAL ZONES

8.4.1 *Retail Store, Accessory* shall comply with the following provisions:

a) An *Accessory Retail Store* shall only be permitted as accessory to a permitted *industrial use* and for the retail sale and/or display of products manufactured or assembled on the *premises*;
b) An *Accessory Retail Store* shall only be located on the ground floor of the *building* in which the *industrial use* is located;
c) The area devoted to an *accessory retail store* shall not exceed 500 m^2 or 15% of the total *gross floor area* devoted to the *industrial use*, whichever is less; and
d) An *Accessory Retail Store* may be permitted in a free-standing *building* located on the same lot as a permitted *industrial use*, provided that the total *net floor area* of the *Accessory Retail Store* does not exceed 300 m^2.

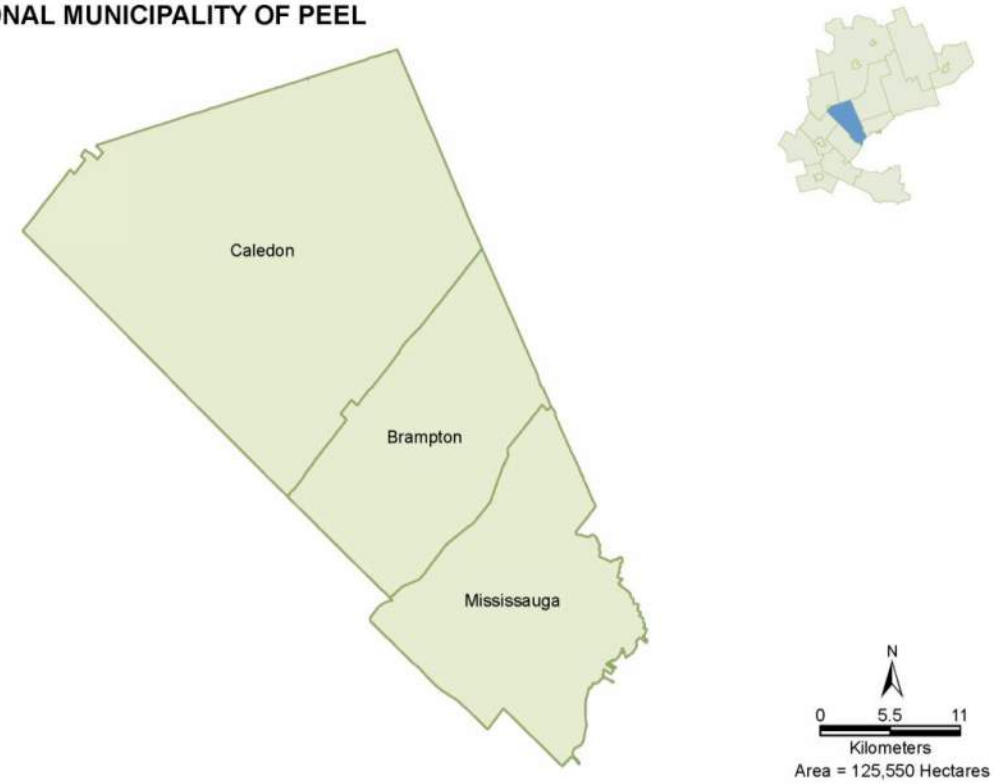
8.4.2 *Financial Institution* and/or *Restaurant* shall comply with the following provisions:

a) The area devoted to the *Financial Institution* or *Restaurant* shall not exceed 15% of the total *gross floor area* of all *buildings* on a *lot*, to a maximum of 500 m^2.

Appendix B

2016 Transportation Tomorrow Survey Report

REGIONAL MUNICIPALITY OF PEEL



REGIONAL MUNICIPALITY OF PEEL

HOUSEHOLD CHARACTERISTICS

Households	Dwelling Type			Household Size					Number of Available Vehicles					Household Averages				
	House	Townhouse	Apartment	1	2	3	4	5+	0	1	2	3	4+	Persons	Workers	Drivers	Vehicles	Trips/Day
430,100	59%	13%	28%	16%	24%	19%	22%	19%	7%	36%	42%	12%	4%	3.1	1.7	2.1	1.7	5.8

POPULATION CHARACTERISTICS

Population	Age							Daily Trips per Person (age 11+)	Daily Work Trips per Worker	Population	Employment Type			Student	Licensed	Transit Pass
	0-10	11-15	16-25	26-45	46-64	65+	Median				Full Time	Part Time	At Home			
										Male						
										663,700	46%	7%	3%	25%	69%	20%
1,352,100	13%	7%	14%	28%	26%	12%	37.9	2.1	0.75	Female						
										688,500	33%	10%	3%	24%	61%	23%

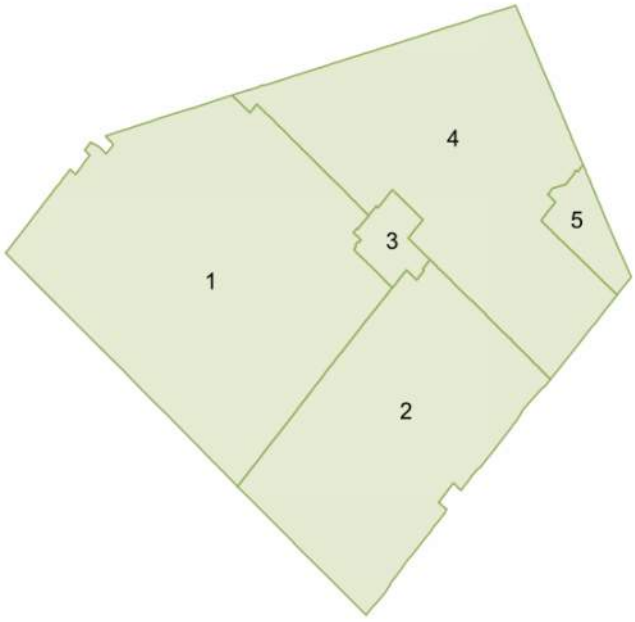
TRIPS MADE BY RESIDENTS OF REGIONAL MUNICIPALITY OF PEEL

Time Period	Trips	% 24hr	Trip Purpose				Mode of Travel						Median Trip Length (km)			
			HB-W	HB-S	HB-D	N-HB	Driver	Pass.	Transit	GO Train	Walk & Cycle	Other	Driver	Pass.	Transit	GO Train
6-9 AM	660,200	26.5%	47%	22%	23%	9%	63%	13%	8%	4%	8%	5%	8.9	3.4	10.4	27.7
24 Hrs	2,495,400		37%	13%	37%	13%	67%	14%	8%	2%	6%	3%	7.3	4.5	8.7	27.6

TRIPS MADE TO REGIONAL MUNICIPALITY OF PEEL BY RESIDENTS OF THE TTS AREA

Time Period	Trips	% 24 hr	Trip Purpose				Mode of Travel						Median Trip Length (km)			
			Work	School	Home	Other	Driver	Pass.	Transit	GO Train	Walk & Cycle	Other	Driver	Pass.	Transit	GO Train
6-9 AM	644,200	26.1%	54%	20%	7%	19%	68%	13%	6%	0%	8%	5%	9.6	3.3	6.9	19.1
24 Hrs	2,464,600		24%	6%	44%	26%	69%	14%	7%	1%	6%	3%	7.6	4.4	7.5	27.3

TOWN OF CALEDON



TOWN OF CALEDON

HOUSEHOLD CHARACTERISTICS

Households	Dwelling Type			Household Size					Number of Available Vehicles					Household Averages				
	House	Townhouse	Apartment	1	2	3	4	5+	0	1	2	3	4+	Persons	Workers	Drivers	Vehicles	Trips/Day
21,200	89%	7%	4%	12%	29%	19%	25%	15%	1%	18%	49%	20%	12%	3.1	1.9	2.3	2.3	6.0

POPULATION CHARACTERISTICS

Population	Age							Daily Trips per Person (age 11+)	Daily Work Trips per Worker	Population	Employment Type			Student	Licensed	Transit Pass
	0-10	11-15	16-25	26-45	46-64	65+	Median				Full Time	Part Time	At Home			
										Male						
										32,600	49%	6%	3%	23%	74%	4%
										Female						
65,600	13%	8%	13%	24%	29%	12%	40.3	2.2	0.74	33,000	36%	10%	6%	23%	71%	6%

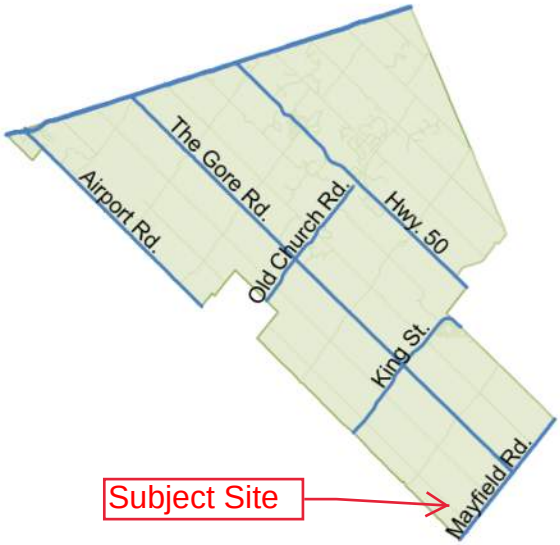
TRIPS MADE BY RESIDENTS OF TOWN OF CALEDON

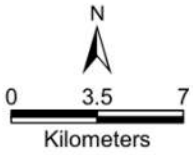
Time Period	Trips	% 24hr	Trip Purpose				Mode of Travel						Median Trip Length (km)			
			HB-W	HB-S	HB-D	N-HB	Driver	Pass.	Transit	GO Train	Walk & Cycle	Other	Driver	Pass.	Transit	GO Train
6-9 AM	32,500	25.6%	55%	22%	16%	7%	73%	10%	1%	1%	3%	12%	18.9	9.5	31.2	38.0
24 Hrs	127,000		37%	13%	35%	15%	77%	12%	1%	0%	3%	6%	15.4	11.8	19.9	38.0

TRIPS MADE TO TOWN OF CALEDON BY RESIDENTS OF THE TTS AREA

Time Period	Trips	% 24 hr	Trip Purpose				Mode of Travel						Median Trip Length (km)			
			Work	School	Home	Other	Driver	Pass.	Transit	GO Train	Walk & Cycle	Other	Driver	Pass.	Transit	GO Train
6-9 AM	25,700	24.2%	51%	30%	4%	15%	65%	13%	1%	*	4%	17%	12.8	7.4	7.1	*
24 Hrs	106,200		20%	8%	51%	21%	74%	13%	1%	0%	3%	8%	13.6	9.6	9.8	38.0

TOWN OF CALEDON
WARD 4





WARD 4

HOUSEHOLD CHARACTERISTICS

Households	Dwelling Type			Household Size					Number of Available Vehicles					Household Averages				
	House	Townhouse	Apartment	1	2	3	4	5+	0	1	2	3	4+	Persons	Workers	Drivers	Vehicles	Trips/Day
4,700	94%	5%	1%	10%	33%	17%	25%	15%	1%	16%	43%	25%	15%	3.2	2.0	2.4	2.5	6.4

POPULATION CHARACTERISTICS

Population	Age							Daily Trips per Person (age 11+)	Daily Work Trips per Worker	Population	Employment Type			Student	Licensed	Transit Pass
	0-10	11-15	16-25	26-45	46-64	65+	Median				Full Time	Part Time	At Home			
										Male						
										7,300	49%	8%	4%	24%	78%	3%
										Female						
14,900	10%	9%	14%	23%	30%	14%	41.7	2.2	0.72	7,600	36%	9%	7%	25%	72%	4%

TRIPS MADE BY RESIDENTS OF TOWN OF CALEDON - WARD 4

Time Period	Trips	% 24hr	Trip Purpose				Mode of Travel						Median Trip Length (km)			
			HB-W	HB-S	HB-D	N-HB	Driver	Pass.	Transit	GO Train	Walk & Cycle	Other	Driver	Pass.	Transit	GO Train
6-9 AM	7,600	25.6%	53%	21%	17%	9%	72%	11%	*	0%	1%	14%	21.3	29.4	*	48.7
24 Hrs	29,900		36%	14%	35%	15%	79%	12%	1%	0%	1%	7%	16.7	15.0	19.9	48.7

TRIPS MADE TO TOWN OF CALEDON - WARD 4 - BY RESIDENTS OF THE TTS AREA

Time Period	Trips	% 24 hr	Trip Purpose				Mode of Travel						Median Trip Length (km)			
			Work	School	Home	Other	Driver	Pass.	Transit	GO Train	Walk & Cycle	Other	Driver	Pass.	Transit	GO Train
6-9 AM	3,500	18.1%	45%	37%	5%	13%	60%	11%	*	*	9%	21%	18.6	9.5	*	*
24 Hrs	19,400		14%	7%	66%	13%	75%	12%	*	0%	3%	9%	16.6	12.6	*	48.7

Appendix C

WSP – Transportation Impact Study and Demand Management Plan Excerpts

TOWN OF CALEDON
PLANNING
RECEIVED
July 30, 2021

AIRFIELD DEVELOPMENTS INC. & AIRFIELD II DEVELOPMENTS INC.

6034 MAYFIELD ROAD

TRANSPORTATION IMPACT STUDY AND DEMAND MANAGEMENT PLAN

JULY 29, 2021

wsp

Figure 1.1

Site Location and Context

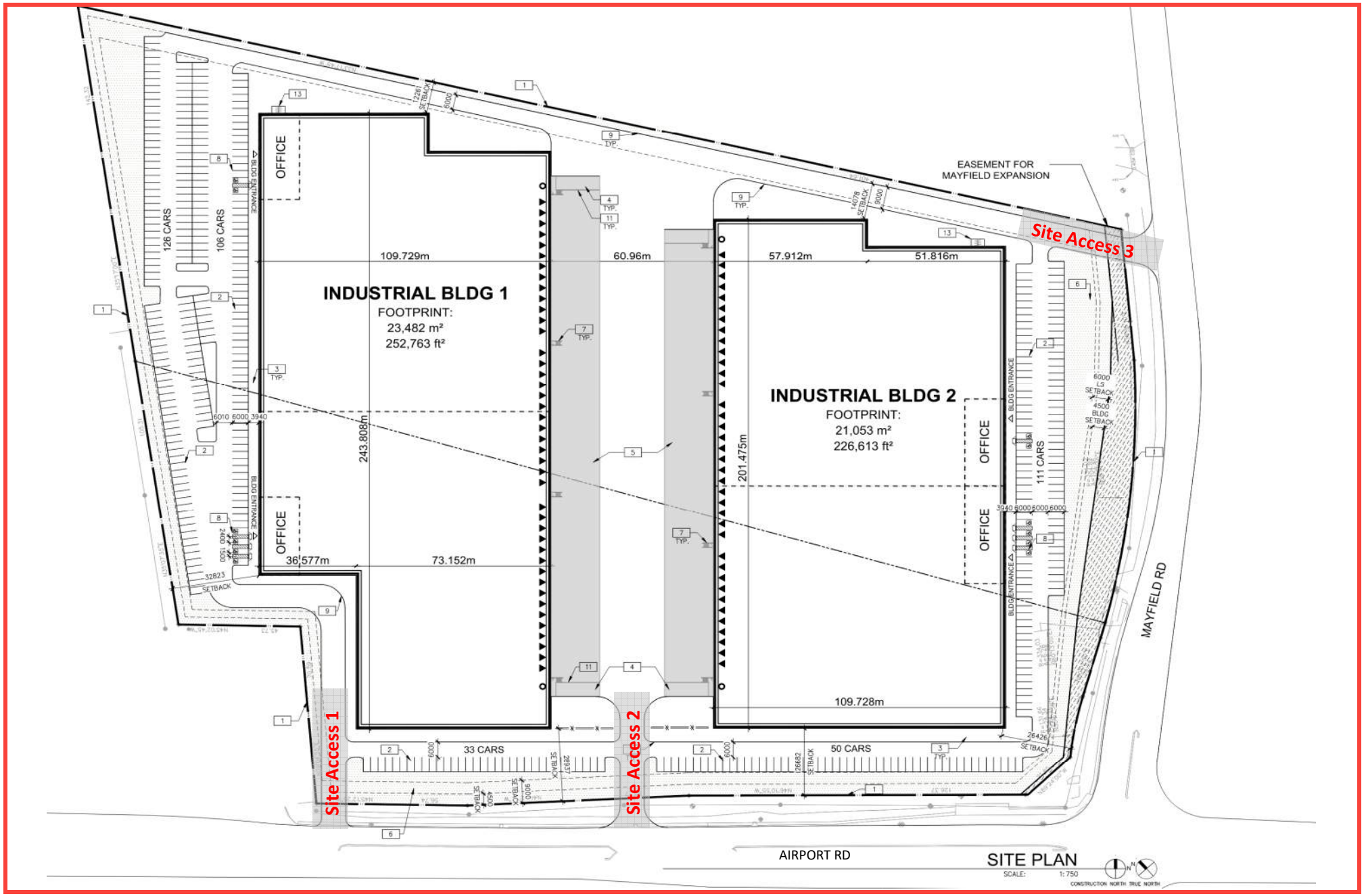


Figure 1.2

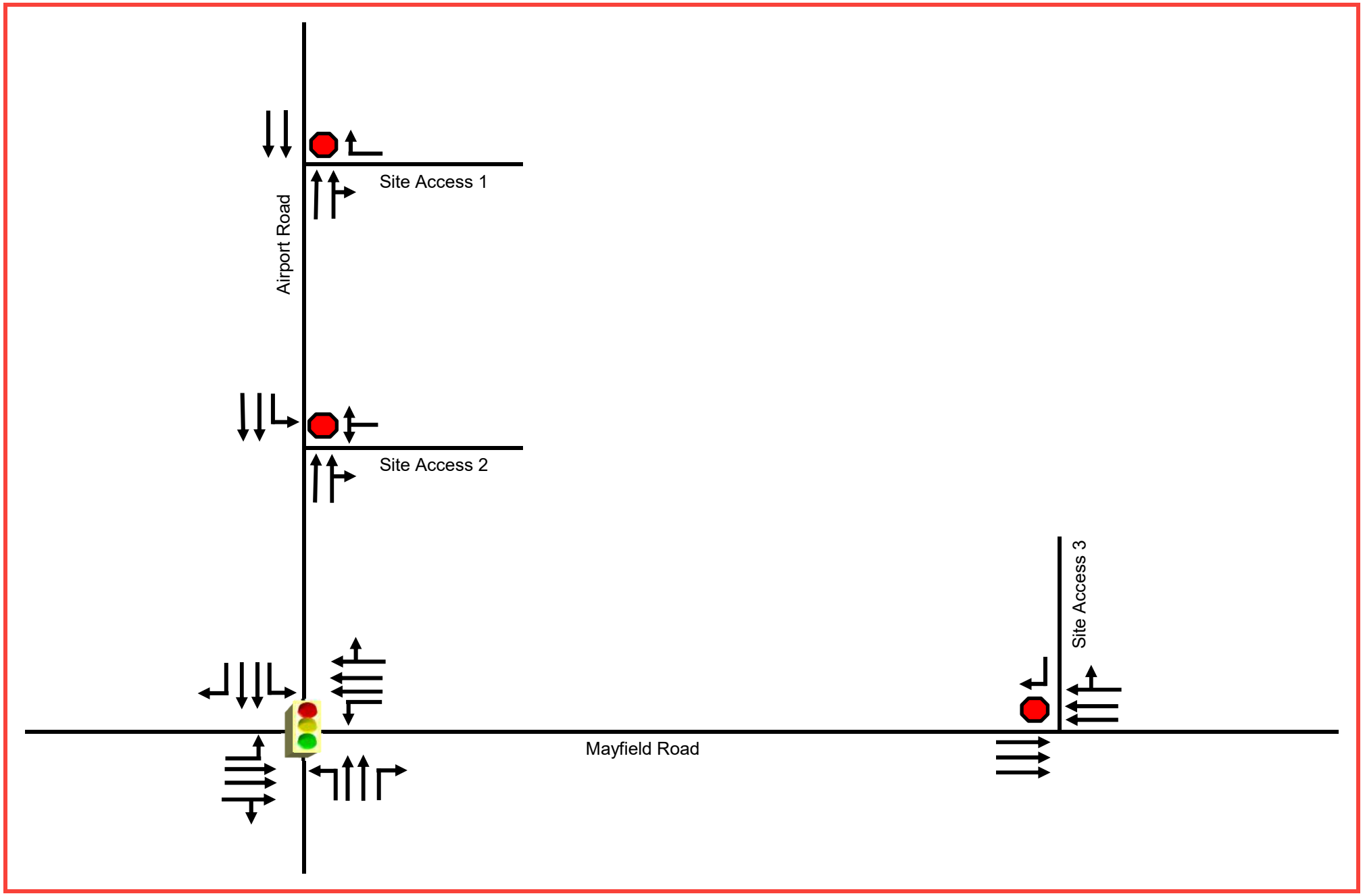
Proposed
Site Plan

4 SITE-GENERATED TRAFFIC

4.1 SITE ACCESSES

At full buildout, the proposed development will feature three vehicular driveways connecting to Airport Road and Mayfield Road as illustrated in the site plan (Figure 1.2). Site accesses 1 and 3 will operate as right-in/right-out access while site access 2 will operate with full-moves. For site access 2, WSP is proposing a southbound left-turn auxiliary lane with, in accordance with Transportation Association of Canada guidelines, a storage length of 77 metres and a taper of 60 metres. All three site accesses are proposed to be stop-controlled.

The lane configurations under future total conditions are illustrated in **Figure 4.1**.



Legend

Turning Movement

Signalized Intersection

Stop-Controlled Approach

Figure 4.1

Future Total Lane Configurations

4.2 TRIP GENERATION

The trips generated by the proposed development during the weekday a.m. and p.m. peak hours were estimated using the trip generation equations outlined in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*. As both warehouse and general industrial uses are currently being contemplated for the development, trip generation estimates using the ITE Land Use Codes 150 (Warehousing) and 110 (General Light Industrial) are compared in **Table 4.1**. Since, as shown in the table, general industrial uses are expected to generate a greater number of peak hour trips, the trip generation estimate for this use was conservatively adopted for this study.

It should be noted that these equations include both vehicle and truck trips to the development; truck trips were assumed to account for 13% of total peak hour trips based on truck trip generation information available from the ITE.

Based on Transportation Tomorrow Survey (TTS) 2016 data for employment trips to/from zones 3014, 3015, 3441, and 3442, it was determined that there was very minimal use of non-auto modes of travel. As such, no mode share adjustments were applied to the ITE-derived trips.

Table 4.1: Site Generated Trips

ITE Land Use (Code)		Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		In	Out	Total	In	Out	Total
Warehousing (150)	Equation (X=1000 ft²)	T = 0.12 X + 25.32			T = 0.12 X + 27.82		
	Directional Splits	77%	23%	100%	27%	73%	100%
	Trips (479,375 ft²)	**64**	**19**	**83**	**23**	**62**	**85**
General Light Industrial (110)	Equation (X=1000 ft²)	Ln(T) = 0.74 Ln(X) + 0.39			Ln(T) = 0.69 Ln(X) + 0.43		
	Directional Splits	88%	12%	100%	13%	87%	100%
	Trips (479,375 ft²)	**125**	**17**	**142**	**14**	**95**	**109**
	Vehicle Trips (87%)	109	15	124	12	83	95
	Truck Trips (13%)	16	2	18	2	12	14

As presented above, the proposed development is forecasted to generate **142 and 109 total trips** during the a.m. and p.m. peak hours, respectively.

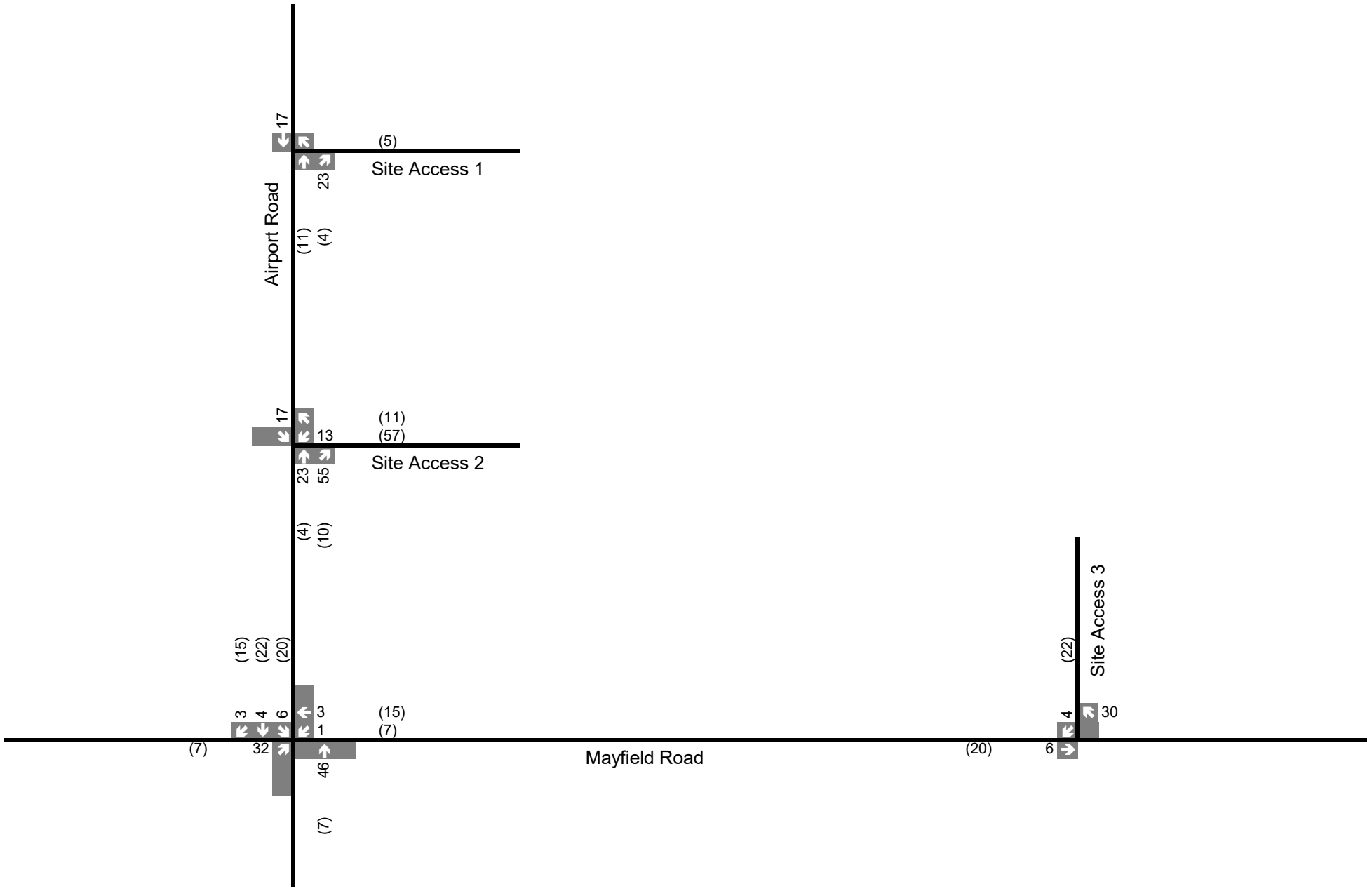
4.3 TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution and assignment of the site-generated trips was derived from the TTS data and assigned to the gateways based on local road network and land use considerations. The overall trip distribution is shown in **Table 4.2.**

Table 4.2: Trip Distribution

Gateway Direction	AM Inbound	AM Outbound	PM Inbound	PM Outbound
North	14%	0%	0%	17%
West	26%	34%	50%	31%
South	37%	34%	50%	31%
East	24%	32%	0%	20%

Figure 4.2 illustrates the resulting site traffic volumes for future horizon years.



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4.2

Site Generated Traffic Volumes

Appendix D

Region of Peel's Characterization Study Excerpts

5.0 Access Management Elements

5.1 Access Management Approach

In developing the spacing for access connections, the traffic operation objectives of continuous movement of all types of modes (traffic service), reduction of conflict points when possible between pedestrians, cyclists, and motorists (traffic safety), and efficient access to adjacent properties must be our primary purpose. However, successful urban places are not created through good traffic operations alone but are dependent upon the principles and objectives of land use planning. For this reason, both traffic operations objectives and current practices together with land use planning principles and the expectation of development were used to formulate an access management approach for the Region of Peel.

A large consideration of land use planning in the Region of Peel is the understanding that population growth will dramatically impact our communities through urbanization, intensification and development. Of course some of our rural places, particularly within the greenbelt will remain largely unchanged; however we can reasonably predict and should plan for the influx of development throughout Peel. To align more effectively with the Growth Secretariat's direction through Places to Grow and to support urbanization in specific locations, all spacing connection guidance should also consider the evolution of transitioning land uses over time. For this reason *Table 2: Median Opening Spacing*, was developed with this premise and the underlying assumption of development over time. The table reads left to right following the established transect model of land uses with the Rural type evolving to the Urban or Rural Main Street road types.

Access Control Workshop - Day 2

Access Management Elements

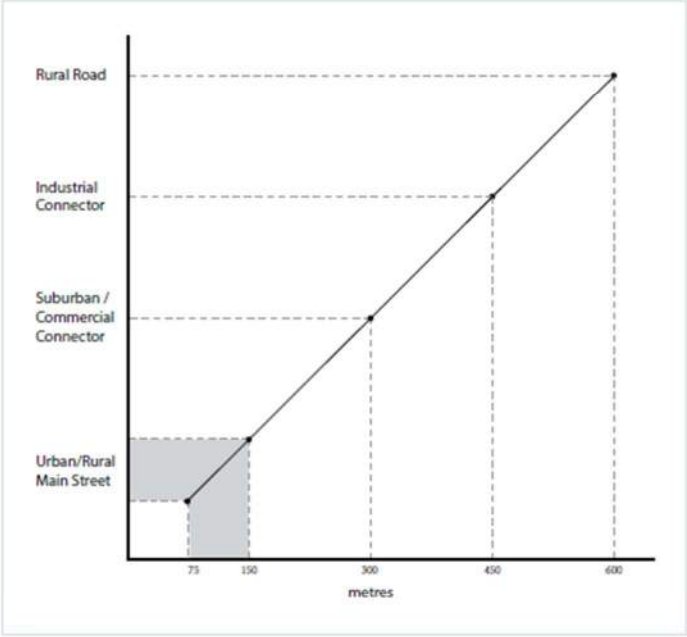


Figure 23: Access Spacings – Rural to Urban Transition
Source: Region of Peel

As highlighted in the Current Practices Review (Chapter 3), there is limited detailed guidance that considers development over time when regulating intersection spacing. In the absence of a complete and established set of detailed specifications, our approach was to consider the elements of successful urban places throughout the world and in Peel as identified earlier through the discussion on block dimensions (Chapter 1). Communities that offer walkable, compact, dense design begin with block dimensions in the range of 75m to 130m on the narrow end of the block face and between 150m and 200m along the wide end of the block face as established. The Urban Main Street criteria establish 150m for intersection spacing in an urban environment. The table continues by either halving this for partial access (Full to Left-In and Full to Right-In/Right-Out) or doubling it to 300m as in the case of the Suburban Connector. The graph below illustrates the decreasing spacing between intersections as land uses evolve over time and require reduced intersection spacing.

Inherent in this approach is the assumption that Commercial Connectors, such as Mississauga Road are the most likely of the road types to develop into Urban Main Streets and that Suburban Connectors with residential uses between commercial nodes will evolve more slowly over time.

5.1.1 Intersection Spacing

The need for new public streets intersecting the Region's arterials is predictable, given the growth of trip origins (homes) and destinations (commercial and employment space) along the arterial corridors, and the need to provide armatures of local streets for this growth. The creation of new

local streets is a municipal prerogative, while the location and design of their connection to arterials is a joint initiative of both the Region and Area Municipalities.

Where most new public streets require a full median opening for a full movement intersection with an arterial, the appropriate spacing between existing intersections is given as the *Full to Full* entry in *Table 1*. The *Full to Full* criteria vary significantly according to arterial characterization type. For three arterial types (Rural, Commercial Connector and Industrial Connector, their large spacing reflects an emphasis on minimizing vehicle delay within these corridors. This is consistent with both the historical and current practice of traffic control signal spacing of 300m–450m to allow for effective progression on the arterial road (see Access Management Practices Matrix). By contrast, for three other arterial characterization types (Rural Main Street, Urban Main Street and Suburban Connector) their small intersection spacing reflects the street and block pattern of urban activity centres and rural village centres. Lower spacings of 200m–215m are not only used in current municipal access management practice, but are also prescribed in traffic control spacings where traffic control signal coordination is not being considered. Further lower spacings of 150m for full movement accesses are generally accepted at unsignalized intersections/accesses only, and are only recommended where queues do not extend past 150m from the nearest signalized intersection.

For the Rural Road type, typically located in undeveloped areas (refer to Road Typologies Matrix), increased intersection spacing minimizes the number of public street intersections. For the connector road types, typically serving areas with industrial and commercial destinations, these spacings anticipate a limited increase in the number of public street connections. For the Main Street road types (both Rural and Urban) the spacings for public street intersections shift emphasis away from limiting the number of access connections and focus instead on forming a more dense pattern of local street connections where possible.

5.2 Access Management Rationale

The Region considers specific intersection spacing requirements based on land use character and transportation function for different contexts along Regional Roads. The rationale for the spacing shown in *Tables 2* and *3* by road type are as follows:

Rural Road – 600 metres

- Preservation of arterial function.
- Fewer stops desired in rural environmental.
- Larger/agricultural land parcels necessitating less frequent access.
- Minimal conflict points.
- Lowest pedestrian activity requiring fewer crossings.
- May evolve into other road types but may remain the unchanged (if in greenbelt, etc).
- Horizontal and vertical curves may limit intersection opportunities.
- Limited (inter-regional) transit requiring fewer stops.
- Preserves constant operating speed with fewer conflict points reduces acceleration and deceleration thus less noise, pollution and delay especially for large transport vehicles

Access Management Elements

Industrial Connector – 450 metres

- Preservation of arterial function.
- Fewer stops desired to reduce stopping and starting delays of large vehicles.
- Allows for effective signal optimization for trucks.
- Higher percentage of long vehicles requiring longer storage for larger vehicles and longer taper distances.
- Large lot sizes for warehouse and other industrial uses.
- Pedestrian activity higher (employees/transit riders) and thus crossing needs at intersections are more frequent than for Rural Roads.
- Existing conditions may present challenges for cyclists as vulnerable road users.
- Minimal conflict points.
- Primarily inter-regional travel with emphasis on connectivity to 400 series highways.
- Greater transit needs than on a Rural Road.
- Both inter and intra-regional travel.
- Balancing demand at intersections results in reduced emissions.
- Controls platooning making it easier to achieve good progression on higher saturated roads with mixed types of traffic.
- Preserves constant operating speed and helps to gain controlled progression, results in less deceleration and acceleration, less noise and pollution.

Suburban Connector – 300 metres

- Preservation of arterial function.
- More frequent stops than the Rural Road and Industrial Connector categories.
- Both inter and intra regional travel.
- Supports Goods Movement with cross section dimensions (specifically lane widths and turning radii).
- Fewer truck turning movements than the Industrial Connector.
- More pedestrians and cyclists than the Industrial Connector.
- More distribution points requiring more intersections and fewer turning movements from arterial to arterial (less protected phasing required).
- Transit supportive requiring more frequent stops than Rural and Industrial Connector road types.
- Consistent with both the historical and current practice of traffic control signal spacing to allow for effective progression on the arterial (See Access Management Practices Matrix).
- Controls platooning making it easier to achieve good progression on higher saturated roads with mixed types of traffic.
- Preserves constant operating speed and helps to gain controlled progression, results in less deceleration and acceleration, less noise and pollution.

Commercial Connector – 300 metres

- Preservation of arterial function.
- More frequent stops than the Rural Road and Industrial Connector categories.
- Both inter and intra-regional travel.
- Supports Goods Movement with cross section dimensions (specifically lane widths and turning radii).

Access Management Elements

- Fewer truck turning movements than the Industrial Connector.
- More pedestrians and cyclists than the Industrial Connector and possibly the Suburban Connector as a result of employment lands.
- More distribution points requiring more intersections and fewer turning movements from arterial to arterial (less protected phasing required).
- Transit supportive requiring more frequent stops than Rural and Industrial Connector road types.
- Consistent with both the historical and current practice of traffic control signal spacing to allow for effective progression on the arterial
- More frequent stops/turning movements than Rural, Industrial and Suburban due to commercial nodes of activity requiring reduced partial access points.
- More conflict points as a result of the greater land use intensities and decreased partial intersection spacing.
- Slower operating speed.
- Controls platooning making it easier to achieve good progression on higher saturated roads with mixed types of traffic.
- Preserves constant operating speed and helps to gain controlled progression, results in less deceleration and acceleration, less noise and pollution.

Rural Main Street – 150 metres

- Preservation of arterial function in a Main Street environment (urban center).
- Inter regional Transit.
- Increased demand for turning movements.
- Increased pedestrian and cycling activities.
- Lower volumes, less queuing.
- Lower speeds.
- Smaller lot size requiring increased access points.
- Shorter signal cycles.
- Can accommodate more stops as a result of the shorter signal cycles.
- Fewer turning movements resulting in reduced need for auxiliary lanes.

Urban Main Street – 150 metres

- Preservation of arterial function in a main street environment.
- Inter-regional Transit.
- Increased demand for turning movements resulting in more distributed turning points to alleviate pressure on main intersections.
- Decreased queuing.
- Connected street network.
- When a connected network exists, more access is realized by properties other than those fronting an arterial resulting in increased economic opportunity for land owners. Businesses no longer require access off the arterial to be successful.
- Shorter signal cycles.
- Can accommodate more stops as a result of the shorter signal cycles.
- Increased pedestrian and cycling activities.
- High transit activity requiring more frequent stops.

5.3 Access Connection Spacing

5.3.1 Median Opening Spacing

Controlling access along a divided roadway through openings in the median is among the most effective and readily available of access management actions available for Regional Roads. Median access does not have to be provided for individual properties but rather can be configured, at the direction of the Region, to focus turning movements at appropriate locations, to limit locations for conflicting (i.e. left-turn) movements and to establish points at which important access such as future public streets or major private driveways should be located. The Region's Active Transportation Plan can be referred to for pavement markings and other treatments recommended for the safe crossing of pedestrians and cyclists at access connections.

Three types of median openings are identified *(Table 2)*:

- Full-movement median opening at public street intersections and/or private driveways. (Full to Full)
- Partial-movement opening (Left-In/Right-In/Right-Out to Left-In/Right-In/Right-Out) allowing left turns to be made from the arterial road into a property, but preventing the counterpart left turn from the access onto the managed arterial road. (Full to Left-In/Right-In/Right)

The spacing of these types of median openings on each of the six Regional Road types identified in the RCS are given in *Table 2: Median Opening Spacing*.

For the Rural Road type, typically located in undeveloped areas, median opening spacings minimize the number of median openings (Note: Rural Roads do not typically have medians). For the Connector road types, typically serving areas with industrial and commercial destinations, median opening spacing criteria limit them to important destinations or combinations of such connections. For the Main Street road types (both rural and urban) mid-block median openings are undesirable, being either redundant or even incompatible with the closely-spaced public street intersections and small blocks that exist or are planned for such areas.

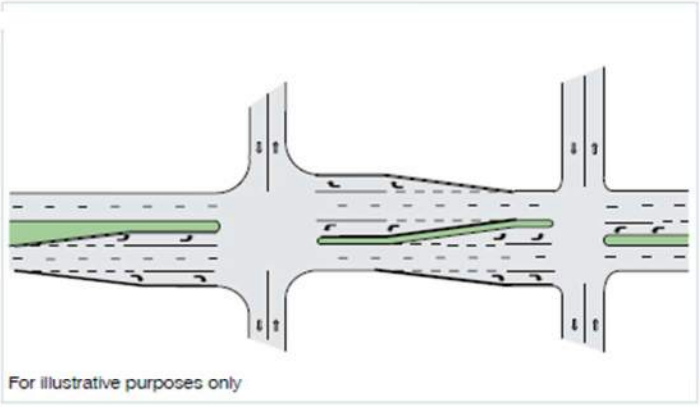


Figure 24: Median Opening Spacing – Full to Full
Source: Walter Kulash based on Access Control Diagrams provided by Region of Peel

Access Management Elements

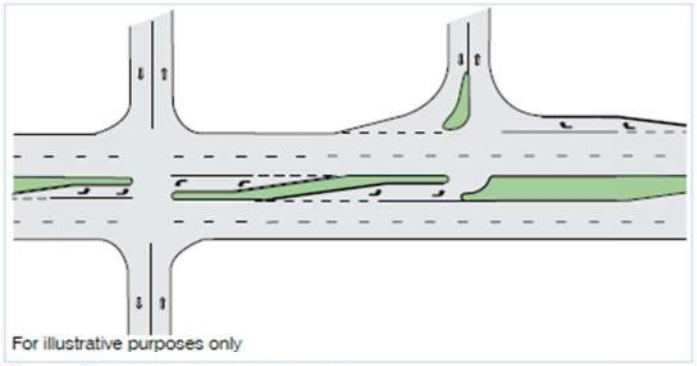


Figure 25: Median Opening Spacing – Full to Left-In/Right-In/Right-Out

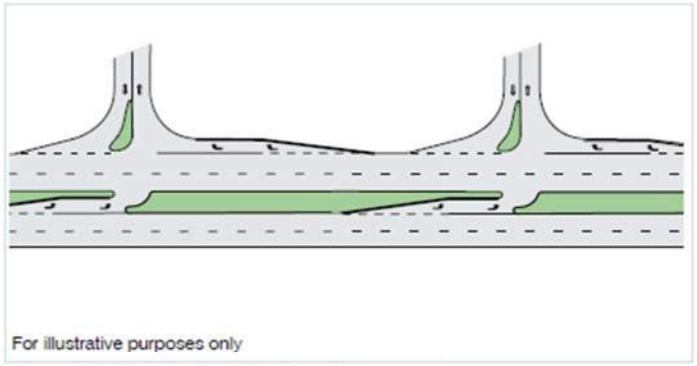


Figure 26: Median Opening Spacing – Left-In/Right-In/Right-Out to Left-In/Right-In/Right-Out

Sources: Walter Kulash based on Access Control Diagrams provided by Region of Peel

Minimum Spacing Between (metres)	Rural Road	Industrial Connector	Suburban Connector	Commercial Connector	Rural Main Street	Urban Main Street
Full to Full	600	450	300	300	150	150
Full to Left-In/Right-In/Right-Out	ISR	225	150	150	75	75
Left-In/Right-In/Right-Out to Left-In/Right-In/Right-Out	ISR	225	150	150	75	75

Table 2: Median Opening Spacing

NOTE: Spacing measured between curb extension to curb extension. (See Figures 24-26)
All spacings and access points to be verified by a Transportation Impact Assessment and/or sightline analysis.

LEGEND: ISR: Individual Site Review

Source: All Tables were developed in consultation with the Region of Peel and are based on governing documents and professional judgment.

5.3.2 Right-In/Right-Out Spacing

The number of accesses and their possible locations are largely dictated by (1) the need to provide reasonable access to public roads for all properties and (2) the size and shape of these properties. Within these dictates, access spacing criteria can minimize the number of access and influence their location.

For the Rural Road type, typically located in undeveloped areas, access spacing criteria can limit accesses to existing (large) spacing. For the Connector road types, typically serving areas with industrial and commercial destinations, access spacing criteria can foster joint access by adjacent properties and lay the foundation for future public streets or service roads. For Main Street road types, (both rural and urban) accesses are undesirable, being at odds with the village, urban street fronts that exist, or are planned for such areas.

Along with access spacing criteria, the whole range of roadway network building actions can greatly reduce the number of accesses needed, and also influence their location.

Access spacing is categorized according to four distances from Right-In/Right-Out access to:

- Full median openings (Full to Right-In/Right-Out).
- Partial median openings (Full to Left-In/Right-In/Right-Out)
- Right-In/Right-Out to Right-In/Right-Out.
- Right-In Only to Right-Out Only.

The spacing of accesses on each of the six road types identified in the RCS are given in *Table 3: Right-In/Right-Out Spacing*. Restricted access spacing of 75m is a generally accepted municipal access management practice on more urban or Main Street roadways, while the 100m spacing is consistent with current municipal practice for divided arterials and commuter roads.

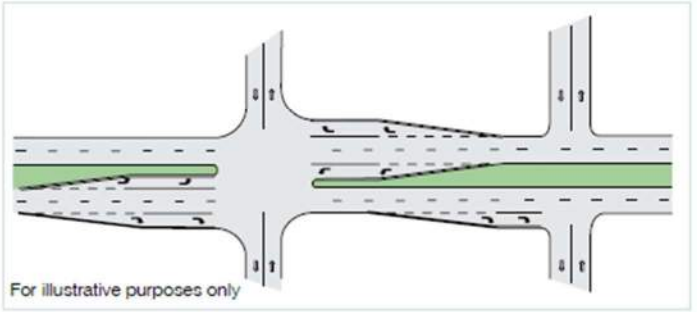


Figure 27: Full to Right-In/Right-Out with Median

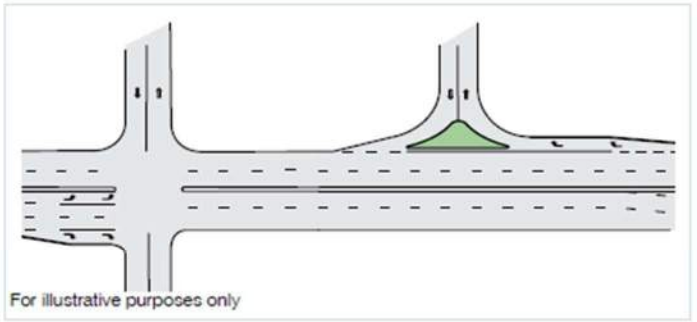
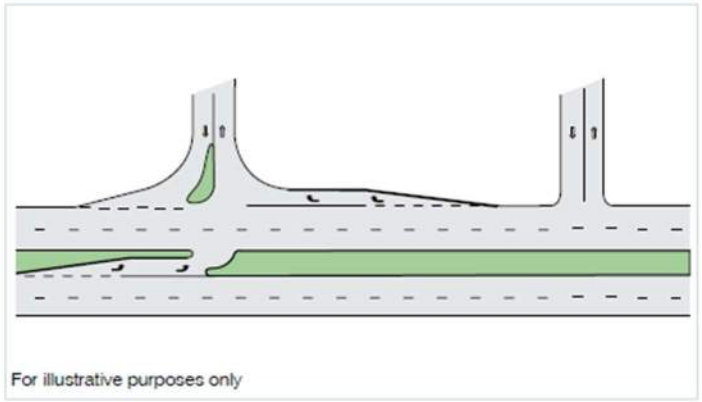


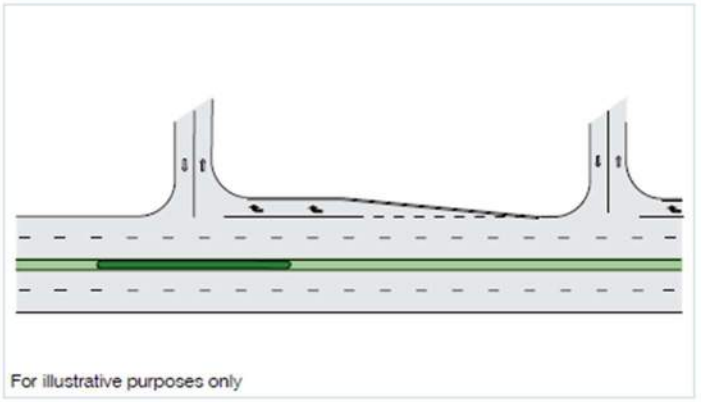
Figure 28: Full to Right-In/Right-Out with Divisional Island
Sources: Walter Kulash based on Access Control Diagrams provided by Region of Peel

Access Management Elements



For illustrative purposes only

Figure 29: Left-In/Right-In/Right-Out to Right-In/Right-Out



For illustrative purposes only

Figure 30: Right-In/Right-Out to Right-In/Right-Out

Sources: Walter Kulash based on Access Control Diagrams provided by Region of Peel

Minimum Spacing Between (metres)	Rural Road	Industrial Connector	Suburban Connector	Commercial Connector	Rural Main Street	Urban Main Street
Full to Right-In/Right-Out	75 or max lot frontage	100	75	100	75	75
Left-in/Right-In/Right-Out to Right-In/Right-Out	ISR	100	75	100	ISR	ISR
Right-In/Right-Out to Right-In/Right-Out	ISR	100	75	100	ISR	ISR

Table 3: Right-In/Right-Out Spacing

NOTES: Spacing measured between curb extension to curb extension. (See Figures 27-30)

LEGEND: ISR: Individual Site Review

All spacings and access points to be verified by a Transportation Impact Assessment and/or sightline analysis.

Source: All Tables were developed in consultation with the Region of Peel and are based on governing documents and professional judgment.

5.4 Auxiliary Lane Placement

Guidance for providing auxiliary turn lanes (left turn and right turn) at access connection points are summarized in *Table 4: Auxiliary Lane Placement*. A screening process for an access that, per this document, qualifies as a right-in/right-out access only is provided in *Table 5*, and detailed requirements for restriction and auxiliary lanes based on traffic volume impacts.

5.5 Traffic Volumes for Accesses, Median Openings, and Auxiliary Lanes

In addition to the spacing criteria for median openings *(Table 2)* and accesses *(Table 3)* which apply to the arterial, the Region has proposed a traffic volume-based response addressing the need for access, auxiliary lanes and the encumbrance of land title with requirements for access limitation and provision of auxiliary lanes. This guidance, along with the Transportation Impact Assessments, provide opportunities for advancing a number of access management planning activities:

- Identifying the need for auxiliary lanes.
- Identifying the need for, and type of median opening or physical restriction (e.g. divisional island).
- Analyzing impact of U-turns on nearby intersections.
- Suggesting ways to shift some of the traffic to other streets.
- Suggesting a path toward a highly connected network
- Establishing if a traffic control device is warranted.

Access Connection	Turn Lane Type	Rural Road	Industrial Connector	Suburban Connector	Commercial Connector	Rural Main Street	Urban Main Street
Full Movement Intersection	R	Cond	Yes	Cond	Cond	Cond	Cond
	L	Cond	Yes	Yes	Yes	Cond	Cond
Left-in Median Opening and Right-In/Right-Out	R	Cond	Yes	Cond	Cond	Cond	Cond
	L	Cond	Yes	Yes	Yes	Cond	Cond
Driveway	*See Volume Thresholds for Access Control – Table 5*						

Table 4: Auxiliary Lane Placement

NOTE: These spacings may not be achievable due to limited frontage of land parcels or proximity to intersections.

LEGEND: Cond: Conditional, based on results of a Transportation Impact Assessment.
L: Left Turn Lane R: Right Turn Lane

Access Management Elements

New Development			
	Low Impact less than 60 veh/hr peak hour	Medium Impact 60-100 veh/hr peak hour	High Impact over 100 veh/hr peak hour
Physical Access Restriction	N/A	N/A	Yes
Auxillary Lane(s) Requirement	N/A	Yes, if supported by Regional staff and TIA	Yes
Access Restriction on Title	N/A*	Yes	Yes
Auxillary Lane(s) Requirements on Title	N/A	Yes	Yes
Re-Development/Intensification			
	Low Impact less than 60 veh/hr peak hour	Medium Impact 60-100 veh/hr peak hour	High Impact over 100 veh/hr peak hour
Physical Access Restriction	N/A	N/A	Yes
Auxillary Lane(s) Requirement	N/A	N/A	Yes
Access Restriction on Title	N/A*	Yes	Yes
Auxillary Lane(s) Requirements on Title	N/A	Yes	Yes

Table 5: Volume Thresholds for Access Control

* Not Applicable in Rural Road conditions.

Source: All Tables were developed in consultation with the Region of Peel and are based on governing documents and professional judgment.

5.6 Design Criteria for Access

Design criteria for access are summarized in the following table and the four supporting diagrams:

- Table 6: Design Criteria for Access.
- Figure 31: Typical Layout for Right-In/ Right-Out Access (with Median Island).
- Figure 32: Typical Layout for Right-In/ Right-Out Access (without Median Island).
- Figure 33: Typical Layout for Full Moves Median Opening.
- Figure 34: Typical Layout for Left-In, Right-In/Right-Out Access.

Design Criteria (metres)		Rural Road	Industrial Connector	Suburban Connector	Commercial Connector	Rural Main Street	Urban Main Street
Access Width (AW)		ISR	9.0 min	9.0 min	9.0 min	ISR	ISR
Access Throat Length (TL)		ISR	i	i	i	ISR	ISR
Corner Radius, Min (CR)		5.0***	9.0***	9.0***	9.0***	5.0***	5.0***
Median Barrier Length, Min (BL)		30.0*	30.0*	30.0*	30.0*	N/A	N/A
Left Turn Lane Transition (LT)		TAC	TAC	TAC	TAC	TAC	TAC
Left Turn Lane Storage, Min (LS)		30.0	30.0/vol	30.0/vol	30.0/vol	30.0	30.0
Right Turn Lane Transition (RT)		TAC	TAC	TAC	TAC	N/A	N/A
Right Turn Lane Storage, Min (RS)		30.0/vol	30.0/vol	30.0/vol	30.0/vol	N/A	N/A
Auxiliary Lane Width, Min (AW)	L	3.5 **	3.5**	3.5**	3.5**	3.5**	3.5**
	R	3.25***	3.25***	3.25***	3.25***	3.25***	3.25***
Pedestrians		Design of all accesses must consider pedestrians and the continuity of existing or planned Active Transportation facilities.					

Table 6: Design Criteria for Access

NOTES: * 30m on either side of access control as per current by-law.
** Match through-lane if less or determined based on design vehicle needs.
*** Pending Design Vehicle Needs.
i) Conditional based on needs as identified in Transportation Impact Assessment or at the discretion of the Region. Minimum 30m from curb, except for single residential lots.

LEGEND: TAC: Transition length based on design speed of roadway utilizing the TAC Manual and geometric design standards.
Vol: Determined based on projected turning volumes ISR: Individual Sight Review
N/A: Not Applicable L: Left Turn R: Right Turn

Access Management Elements

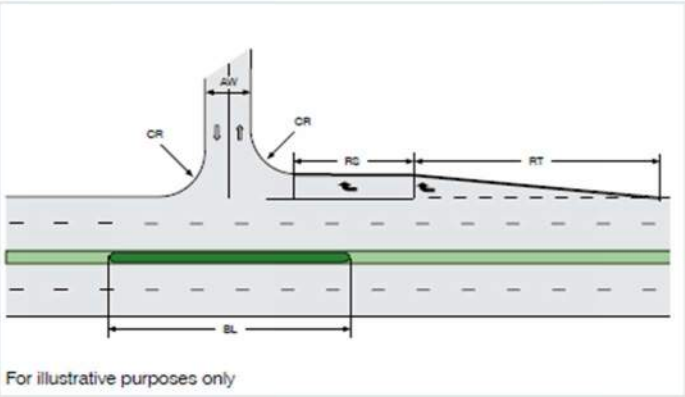


Figure 31: Typical Layout for Right-In/Right-Out Access with Median Island

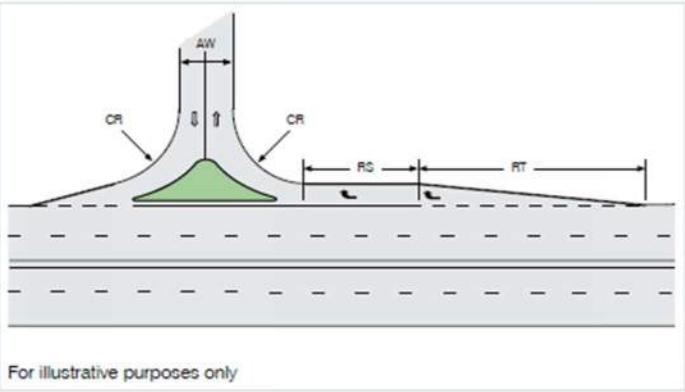


Figure 32: Typical Layout for Right-In/Right-Out Access without Median Island

NOTE: Please see Table 6 for definition of acronyms.
Sources: Walter Kulash based on Access Control Diagrams provided by Region of Peel.

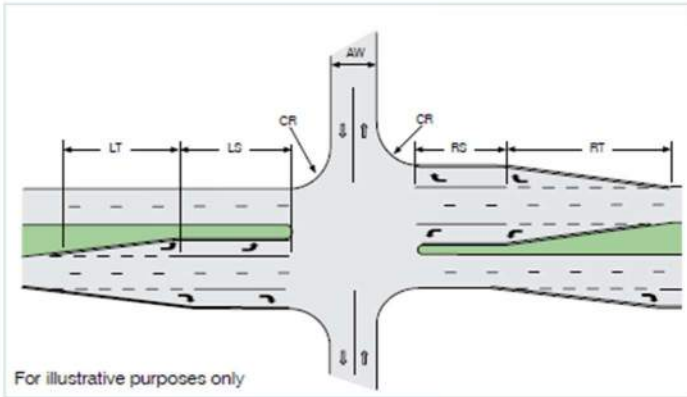


Figure 33: Typical Layout for Full Moves Median Opening

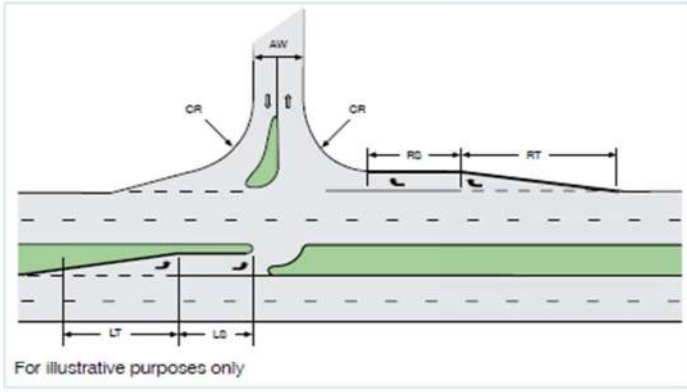


Figure 34: Typical Layout for Left-In plus Right-In/Right-Out Access

5.7 Additional Spacing Considerations

5.7.1 Traffic Control Device Spacing

The need for traffic control devices (stop control, signalization or roundabouts) is largely determined by thresholds of traffic volumes approaching the controlled intersection, evaluated for automobiles and pedestrians, as specified in the Transportation Impact Assessment. Consequently, it is not realistic to simply apply minimum-distance criteria to directly control the spacing of traffic control devices. Rather, their spacing is indirectly controlled through: (1) the spacing of median openings and (2) traffic volumes on the arterial and access at such median opening.

Access Control Workshop - Day 2

As discussed in Chapter 3, traditional access management measures associated with spacing were developed around traffic control signal coordination. Depending on design speed, any spacing lower than 300m–415m was considered to disrupt corridor progression, thereby resulting in poorer service levels for traffic.

Most Regional Roads stand to benefit from spacing between traffic control devices that is as large as possible, thereby minimizing their negative impacts (delay resulting from vehicle acceleration/deceleration) on traffic flow. Where traffic control devices are needed at new accesses their negative impacts can be greatly offset by maximizing the connectivity of the new access, so that the it absorbs and disperses some of the traffic elsewhere otherwise rather than simply adding a new source of delay along the arterial. Where applicable, roundabouts will be considered as a complimentary measure to minimize conflict movements at accesses, as those entering or exiting a partial moves access can circulate through the roundabout at the nearby intersection as a means of performing the required left turn.

5.7.2 U-Turn Locations

Mid-Block U-Turns

Provision for U-turns at mid-block locations (i.e., other than at intersections) are a valuable access management measure in support of restriction of property access to right-in/right-out driveways. Mid-block U-turns, in both their spacing and design elements, are similar to partial median openings (left-in, right-in/right-out). Mid-block U-turn locations can reasonably be expected to evolve into future partial access or even full intersections.

U-Turns at Intersections

U-turns at signalized intersections, while frequently associated with access management practice, are not themselves an access management action. Rather, U-turns are a consequence of restrictions on left turns causing drivers to overshoot their intended destination access, then to make the U-turn and return to the destination, followed by a right turn at the right in/right out access.

In general, it is compatible with good access management practice to simply allow U-turns at the first signalized intersection downstream of the driver's intended destination access. Accommodating U-turns in this manner minimizes the increment of the travel added to the arterial by the turn restriction, and avoids the aggravation, to motorists, of having to negotiate more than one signalized intersection in order to make their U-turn.

U-turns nearly always require a protected left turn traffic control signal indication, as likely as not adding to the critical approach volume at a signalized intersection, and thereby consuming some of the traffic control signal's capacity. As signalized intersections approach their capacity, the increment of total delay caused by even small volumes of U-turns (say 50 – 60 hourly) becomes significant.

The most effective approach to excessive volumes of U-turns at traffic control signals is the accommodation of property access through a well-connected network of local streets properly spaced along the arterial. Further, these cross streets should be connected to cross-access easements permitting much of the needed property access to be supplied by local streets intersecting the arterial, rather than on a limited number of accesses directly connecting to the arterial. While the Region recognizes that relying on u-turns as an access management measure is not desirable, they will be considered in unique cases where appropriate and can be safely accommodated to minimize conflict movements.

Access Control Workshop - Day 2

Appendix A.8

Utility, Traffic Signal and Street Lighting Information and Standards

Jim Parker

From: Jim Parker
Sent: Tuesday, December 10, 2013 11:56 AM
To: 'Mark-Ups@enbridge.com'
Subject: FW: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Town of Caledon, Enbridge Information
Attachments: RFP 2013-85, DOCUMENT (Complete).pdf

Good afternoon,

Our office is working on a proposal for the Town of Caledon **Tullamore Secondary Plan Area Servicing Study and Detailed Design** project and where hoping to get a copy of the Enbridge tile mapping for the area. I have provided a location plan below.

The site is located along the north side of Mayfield Road, straddling Airport Road (majority of the site is located on the east side of Airport Road). A full size plan is included on the attached (last page).

Let me know if have any questions,

Thanks for your help,

Jim Parker, P. Eng.
Project Engineer
The Jones Consulting Group Ltd.
229 Mapleview Drive East, Unit 1 Barrie, ON L4N 0W5
Phone (705) 734-2538 ext 291 Fax (705) 734-1056
Email jparker@jonesconsulting.com

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PLANNERS & ENGINEERS

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500 Consumers Rd.
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www.enbridge.com/gas

Tel 416-495-5160 or 1866 326-2924
Fax 416-758-4374
markups@enbridge.com

ENBRIDGE

EGD File Number: 10204553

Re: P-13304-Tullamore Secondary Plan Area Servicing Study and Detailed Design RFP, Town of Caledon, Enbridge Information

☒ **GENERAL LOCATION**

- Please refer to the attached drawings for information on our existing or proposed gas plant.
- The depth of the existing gas plant cannot be confirmed.
- Test Holes are required to determine actual depth of gas plant. Depth of gas plant in test holes is not indicative of gas plant depth at all locations. Fittings with reduced depth may be attached to the top of gas plant between test holes.
- The information provided is for **GENERAL LOCATION ONLY**. You must re-submit your detailed drawings for sign off by Enbridge Gas Distribution Inc.

☐ **NO-CONFLICT-**

- We have **NO OBJECTION** to your proposed plant as indicated. Please refer to the attached drawings for information on our existing or proposed gas plant. GAS MAINS MUST BE FIELD LOCATED. Before digging, please call ONTARIO ONE CALL. 5 day in advance at 1-800-400-2255 for free gas locates service.
- See **"Third Party Requirements"** booklet for definitions, requirements & contact information.
- Test Holes are required to determine actual depth where infrastructure crosses gas plant.
- Depth of gas plant in test holes is not indicative of gas plant depth at all locations.

☐ **CONFLICT**

- We have an **OBJECTION** to your proposed plant as indicated. Please refer to the attached drawings for information on our existing or proposed gas plant. Review your proposal and make changes to your plant to satisfy these requirements.
- See **"Third Party Requirements"** booklet for definitions, requirements & contact information.
- If relocation of our plant is required, contact Manager of Special Projects:

☐	Toronto Region:	Dennis Stolfi	416-758-7943	dennis.stolfi@enbridge.com
☐	Central Region West	Jamie Comper	905-458-2166	jamie.comper@enbridge.com
☐	Central Region East	Mike Miller	905-927-3300	mike.miller@enbridge.com
☐	Niagara Region	Rhonda Nicholson	905-641-4815	rhonda.nicholson@enbridge.com
☐	Eastern Region Ottawa	Farzeen Rizvi	613-748-6768	farzeen.rizvi@enbridge.com

☐ **NEB PERMIT REQUIRED**

- An application form needs to be filed when crossing or working within 30 m of the right-off-way of the NEB regulated natural gas pipeline.
- Find enclosed booklet containing information and permit application form.
- If you want to discuss NEB permit process contact the Enbridge Gas Distribution Land Dept.: 416-753-6929

☐ **VITAL MAIN**

- You are working within 3 m of a Vital Main Pipeline. A representative of the company must be contacted three (3) days prior to commencement of work. A member of our field force must be present while excavation of the main takes place and prior to backfilling. Please contact the Enbridge Gas Distribution Damage Prevention Dept: 1(866) 922-3622.
- See **"Third Party Requirements"** booklet for definitions, requirements & contact information.

For Enbridge Internal Use:

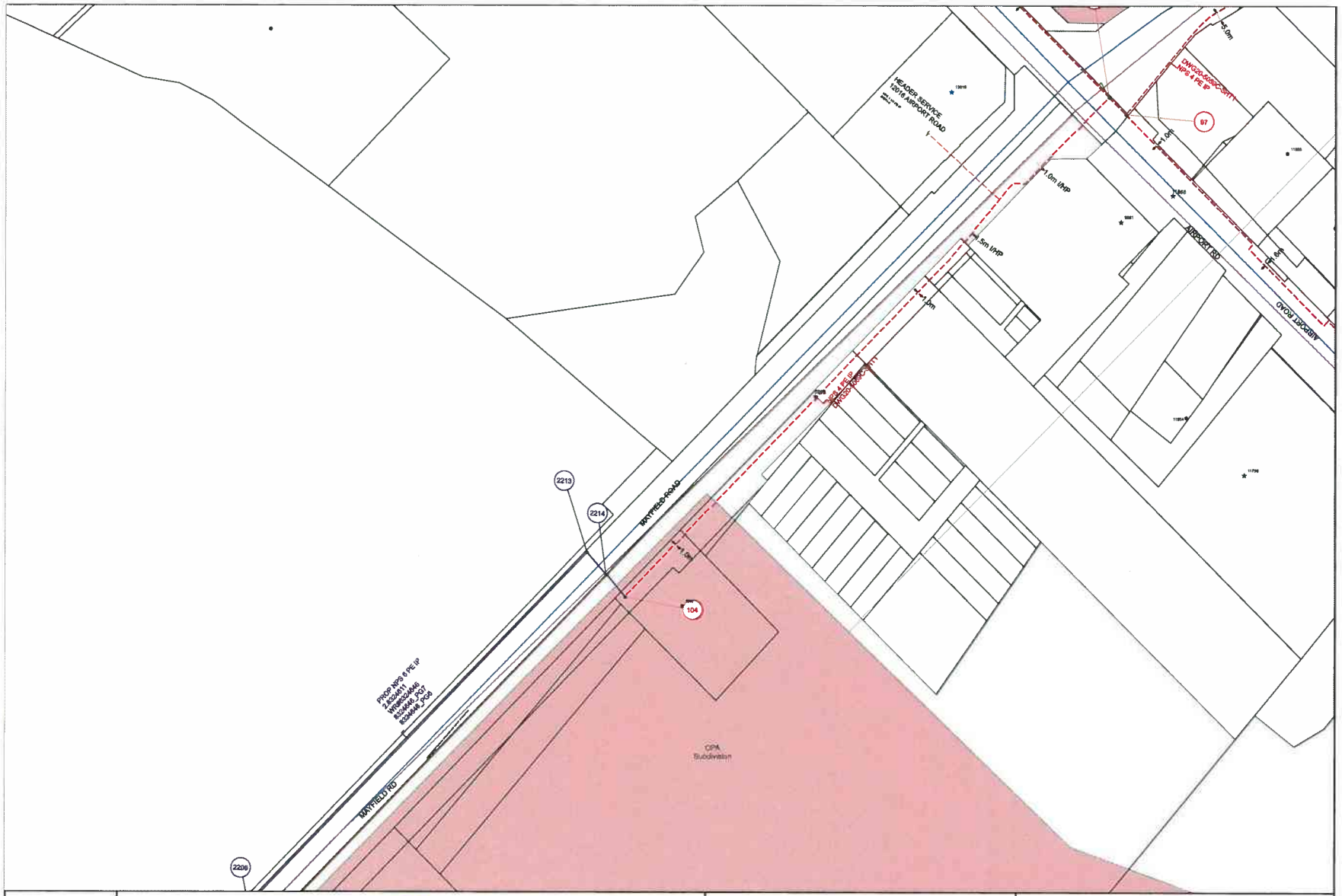
☐ **ENGINEERING COORDINATION REQUIRED**

☐ **EXCAVATION, REPAVING OR GRADING - SPECIAL PROJECTS REVIEW REQUIRED**

Kind Regards,

samir.patel@enbridge.com

Digitally signed by samir.patel@enbridge.com
DN: cn=samir.patel@enbridge.com
Date: 2014.01.09 13:22:48 -05'00'



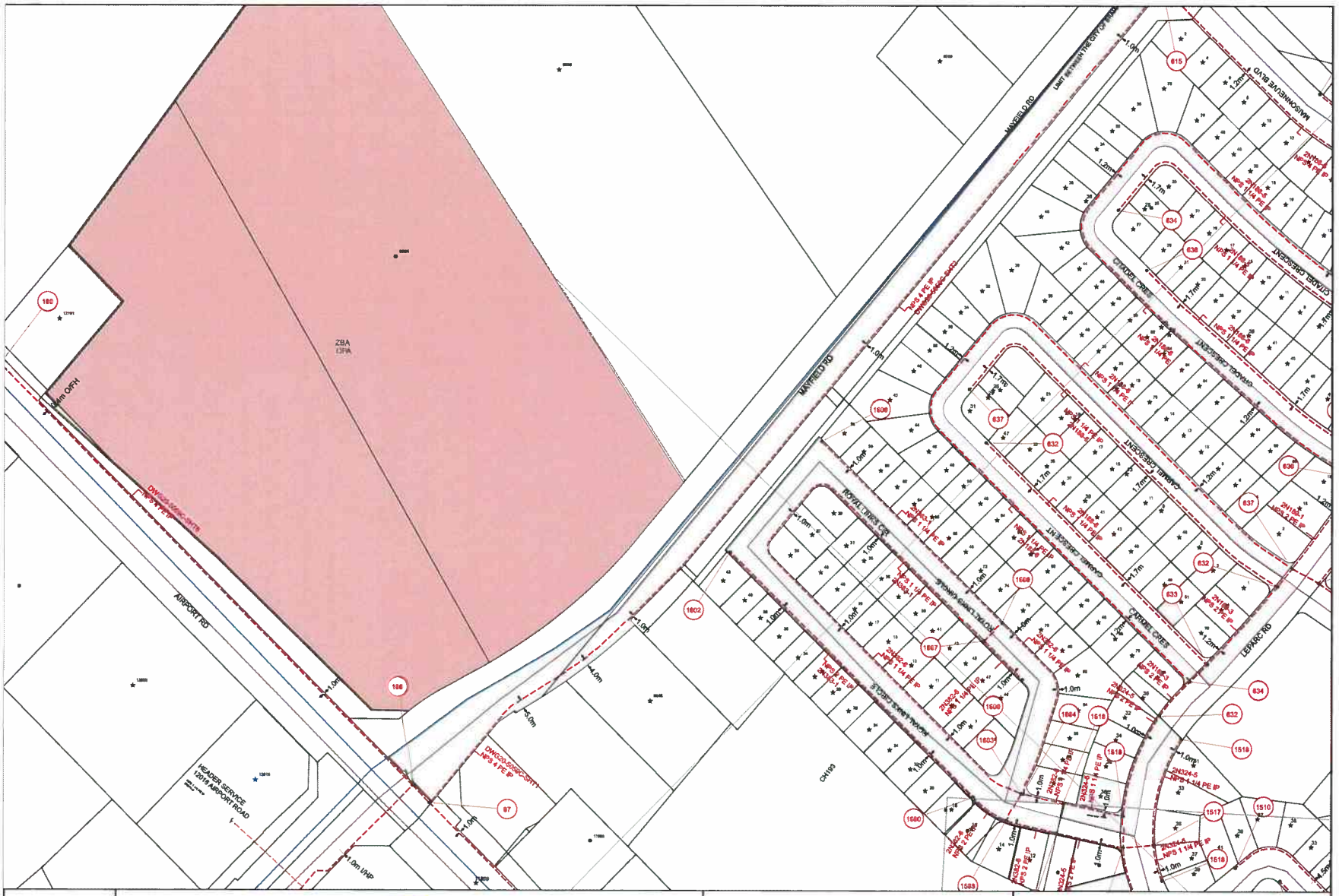
N

ENBRIDGE

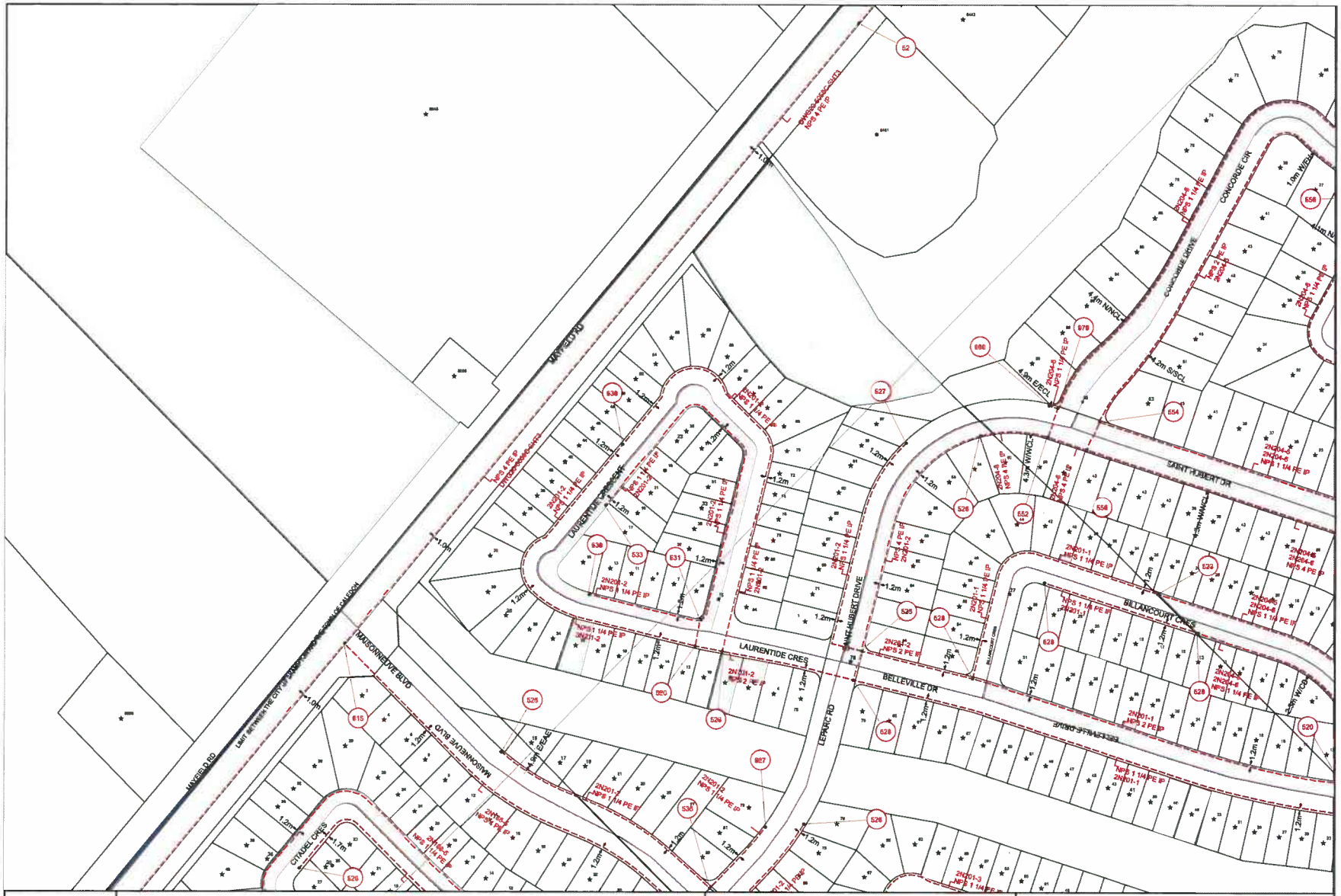
Plotted By: Samir Patel

Date Plotted: 1/9/2014 1:06:04 PM

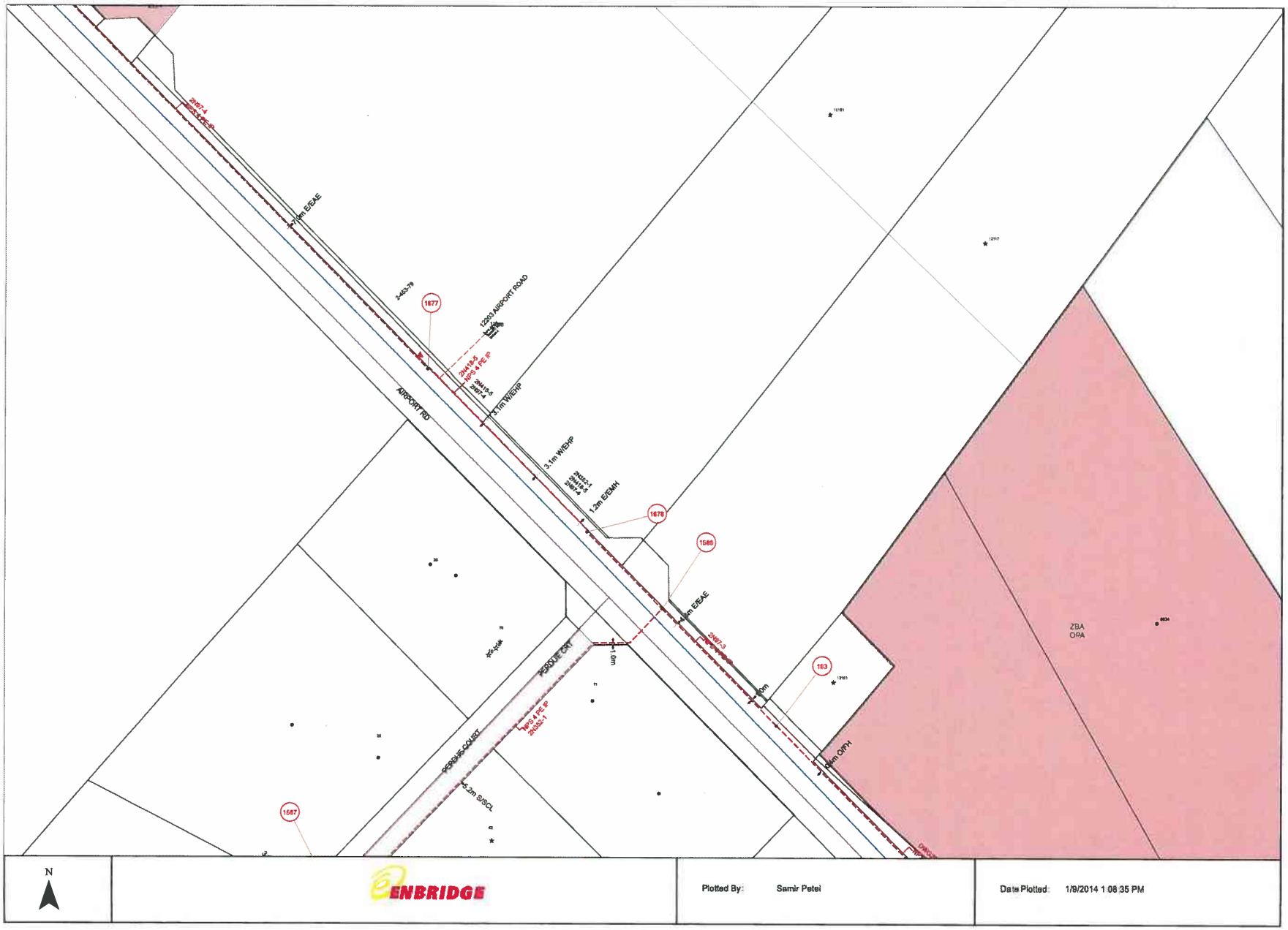
Note : Map is not to scale.



Note : Map is not to scale.



Note : Map is not to scale.



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ENBRIDGE

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Date Plotted: 1/9/2014 1:08:35 PM

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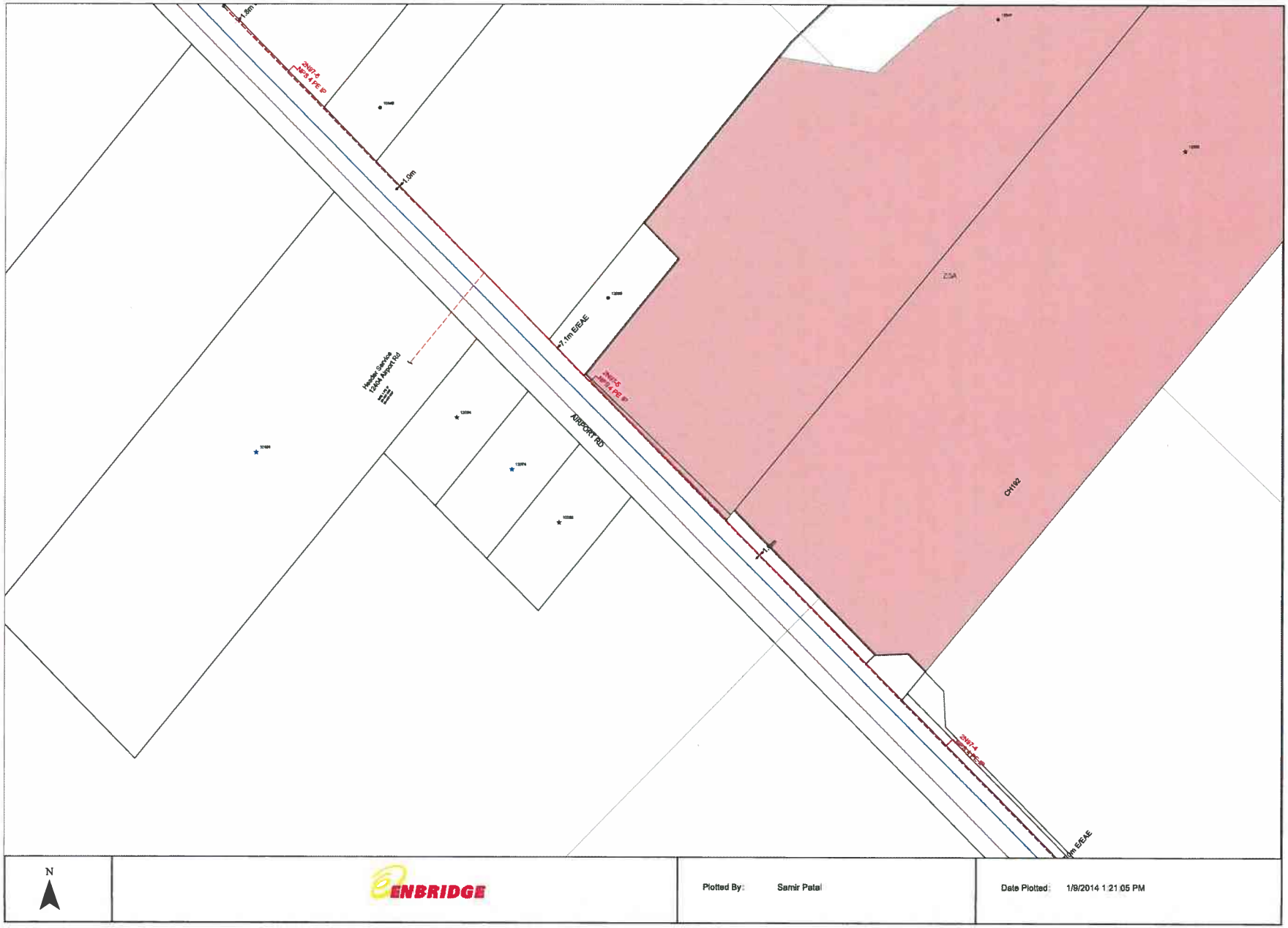


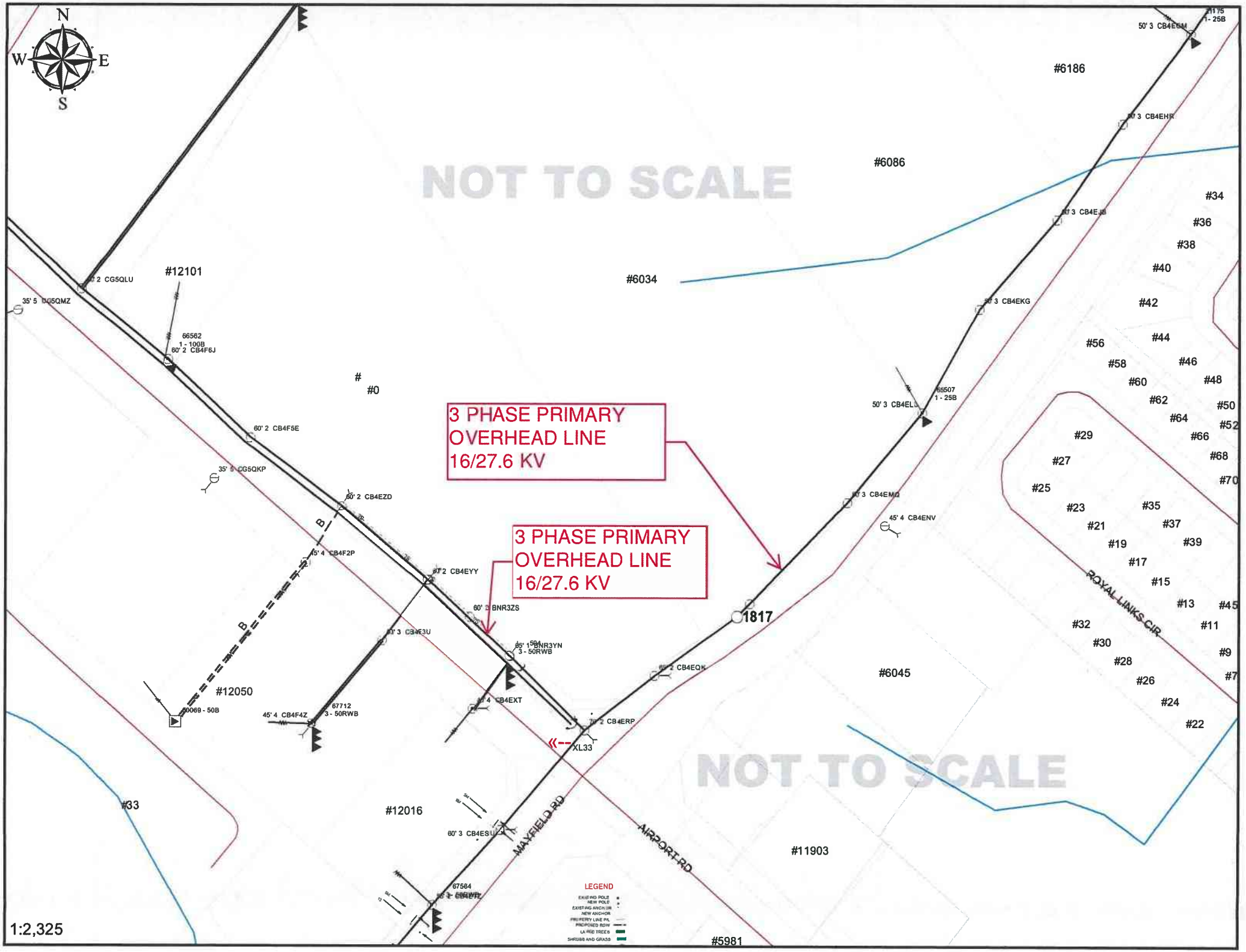
Note : Map is not to scale.

Jim Parker

From: Maurice.Williams@HydroOne.com
Sent: Thursday, December 18, 2014 11:32 AM
To: Jim Parker
Subject: -Tullamore Secondary Plan Area, Request for Information Case Ref: SA3121283X
Attachments: Untitled.pdf

Hi Jim
Please see attached drawing showing Hydro One infrastructure in the location specified, please the drawing is not to scale

Maurice Williams B.Eng
Area Distribution Eng.Tech.
Bolton OPS T53
Office 9058939326 ext 88933710
Fax 905 893 7992
Email Maurice.Williams@HydroOne.com


N
W
E
S
NOT TO SCALE
3 PHASE PRIMARY OVERHEAD LINE 16/27.6 KV
3 PHASE PRIMARY OVERHEAD LINE 16/27.6 KV
#12101
#12050
#12016
#6186
#6086
#6034
#6045
#11903
#5981
#33
#0
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#11
#9
#7
#35
#37
#39
1817
XL33
ROYAL LINKS CIR
MAYFIELD RD
AIRPORT RD
LEGEND
1:2,325

Jim Parker

From: Sacun, Kevin <Kevin.Sacun@netricom.com>
Sent: Tuesday, December 24, 2013 9:04 AM
To: Jim Parker
Subject: Bell Markup - MU 42237 - Area on N/E of Mayfield Rd and Airport Rd
Attachments: MU 42237.docx; MU 42237.dwg

Hi Jim,

Please see the attached drawing & sign off sheet for the location requested.

If you have any concerns do not hesitate to contact me.

Thanks,

Kevin Sacun
CAD Technician

NETRICOM

200 Town Centre Blvd, Suite 300
Markham, Ontario L3R 8G5
Office : 905-470-2112 ext 40253 | 1 (855) 255-8938
Fax : 905-470-8956
E-mail : kevin.sacun@netricom.com

Bell Canada Municipal Operations Centre - C/O NETRICOM INC.
200 Town Centre Blvd., Suite #300
Markham, Ontario L3R 8G5
Ph: (905) 470-2112 Fax: (905) 460-8956

APPLICATION FOR PLANT LOCATION AND CONSENT

Applicant: The Jones Consulting Group Ltd.
Mark Up #:42237
Applicant Ref #: P-13304
Location: Area on N/E of Mayfield Rd and Airport Rd
SwitchingCenter/NNX: BRAMPTON-WALKER DR/458 BRAMPTON HURONTARIO/840 BOLTON/857
Date Received From Applicant: 2013-12-24
Marked By: KEVIN S.

APPLICATION FOR PLANT LOCATION AND REQUEST

- [x] **Existing and/or proposed Bell Canada underground plant are indicated on the attached plan**
- [ ] **Our records show no existing and / or proposed underground plant within 2m of your proposed installation**
- [ ] **Conflict indicated**
- [ ] **Meets with our approval**
- [x] **Not for PUCC approval - Mark up only**
- [x] **If within 1 metre of Bell plant, hand dig**

REMARKS: Call for locates 1.800.400.2255. Maintain clearance of 0.6m. Hand dig when crossing Bell plant.

PROCEDURES TO FOLLOW:

1. **Request locates prior to construction 1-800-400-2255**
2. **If exact location and depth are critical - test pits are recommended**
3. **Bell Canada plant location information is approximate**
4. **If the location of your proposed design changes, it will be necessary to re-apply**
5. **Permits expire six(6) months from approval date**

Signature:
KEVIN SACUN

Date:
DEC. 24, 2013

PLEASE NOTE:
THIS DRAWING IS FOR PLANNING PURPOSES ONLY - NOT FOR PERMITS OR FINAL CONSTRUCTION. BELL CANADA PLANT LOCATION IS APPROXIMATE.

BELL CANADA
Municipal Operations Department
Floor 5 Blue, 100 Borough Drive
Scarborough, Ontario, M1P 4W2
Ph. 416-296-5929

This plan or drawing & the property of Bell Canada and the copyright of which is owned by Bell Canada. This plan or drawing may not be copied or used by others without the written consent of Bell Canada, which may be withheld at Bell Canada's sole discretion.

Bell Canada Legend Info

- Existing Conduit
- Existing Buried Cable
- Existing Manhole
- Existing Bell Pole
- Existing Pedestal

CALL FOR LOCATES
1-800-400-2255

HAND DIG
If within 1m of Bell plant

HAND DIG
when crossing Bell plant

Maintain clearance of 0.6m

If further details required
You must acquire Locates or Test Pits

NETRICOM
203 TOWN CENTRE BLVD, SUITE 203
MARKHAM, ONT, CANADA L3R 8G6
TEL: (905) 479-8110
FAX: (905) 479-8858

Dwg # - 1

Mark Up # - 42237

Designer - KEVIN S.

1.10. Traffic Signals

Traffic Signals are to be designed on individual site-specific bases and must conform to Region of Peel Standards. The signals shall include *Opticom* Pre-emption Devices as per Region of Peel Standards

1.11. Street Lighting

Streetlights are to be designed by an Electrical Consultant and installed along all streets and most public walkways in accordance with the most recent lighting requirements and Town of Caledon's Outdoor Lighting Standard Manual (2018) *(Appendix A)*. Electrical work is to be designed, certified, and constructed in accordance with the most recent requirements and specifications of the Town and Hydro One.

All street lighting poles shall have a one foot stripe located 1.5m above the ground identifying the wattage of the luminaire from the ground.

1.11.1. Lighting Levels and Uniformity Ratio

Street lighting shall be supplied and installed on all streets and pedestrian walkway blocks in the subdivision as per the Town of Caledon's Outdoor Lighting Standard Manual (2018) (Appendix A).

Estate Residential development lighting shall be based on an average pole spacing of 100 meters and at key locations such as intersections, horizontal and vertical curves.

1.11.2. Approval and Construction

Approval of plans for street lighting must be obtained from the Planning and Development Department. The Developer must guarantee and maintain the lighting until assumption of the development. The Developer is required to provide an extra pole for every 50 required in a subdivision.

1.11.3. Energization

Approval by the Electrical Safety Authority (ESA) is required before any street lighting will be energized and assumed into the Town's streetlight inventory. The Developer must guarantee and maintain the lighting until Assumption. Payment of initial energization fees and ongoing streetlight energy charges will be the responsibility of the Developer in accordance with the Subdivision Agreement.

Energization of streetlights occurs once the subdivision has been registered. Once registered, the Developer will submit a completed *"New Subdivision Street Light Connection Questionnaire",* to the Town's Analyst, Capital Assets with the following information:

- Streetlight Connection Summary and Load Calculator
- Electrical Safety Authority – Certificate of Inspection

Town of Caledon staff will forward all information to Hydro One Business Centre requesting a New Connection.

Hydro One will coordinate the site visit in order to complete the *Electronic Layout* for each transformer. Once site visits have been completed and Hydro One provides Town with the "*5 Steps to Critical Connection Package"*, staff will sign the package and submit payment to Hydro One.

1.12. Residential Lot Drainage and Sodding

1.12.1. General

The Owner shall endeavor to retain all topsoil on site; the Topsoil Management Report shall address how much topsoil is located on the site and where the topsoil will be placed at what depths. Written permission from the Town is required to remove any topsoil from the site.

Lots, including drainage ditches and swales, as well as road boulevards are to be completely topsoiled and sodded with 300mm of topsoil for lot or boulevard grading and 600mm of topsoil for stormwater management facilities (to a maximum depth of 1.0 meters) and No. 1 Nursery Sod. Rural Estate residential lots rear yards may be seeded on a site-specific basis (except areas such as front yards/boulevards, septic systems, ditches, swales, slopes and tile beds which must be sodded).

- Grade areas to:
  - Provide proper surface drainage and maximum usable land area.
  - Preserve existing trees where possible.
  - Direct flows away from houses;

- Minimum yard slope shall be 2.0% for split lots and walkouts and 3.0% for back to front side swale drainage;

- Minimum driveway slope 2.0% and all driveways must slope away from the dwelling;

- Maximum driveway slope 6.0% (from standard sidewalk location);

- Maximum slope between houses in any direction:
  - 4 horizontal: 1 vertical for urban areas, use steps and/or retaining walls or low maintenance landscaping if this requirement cannot be met.

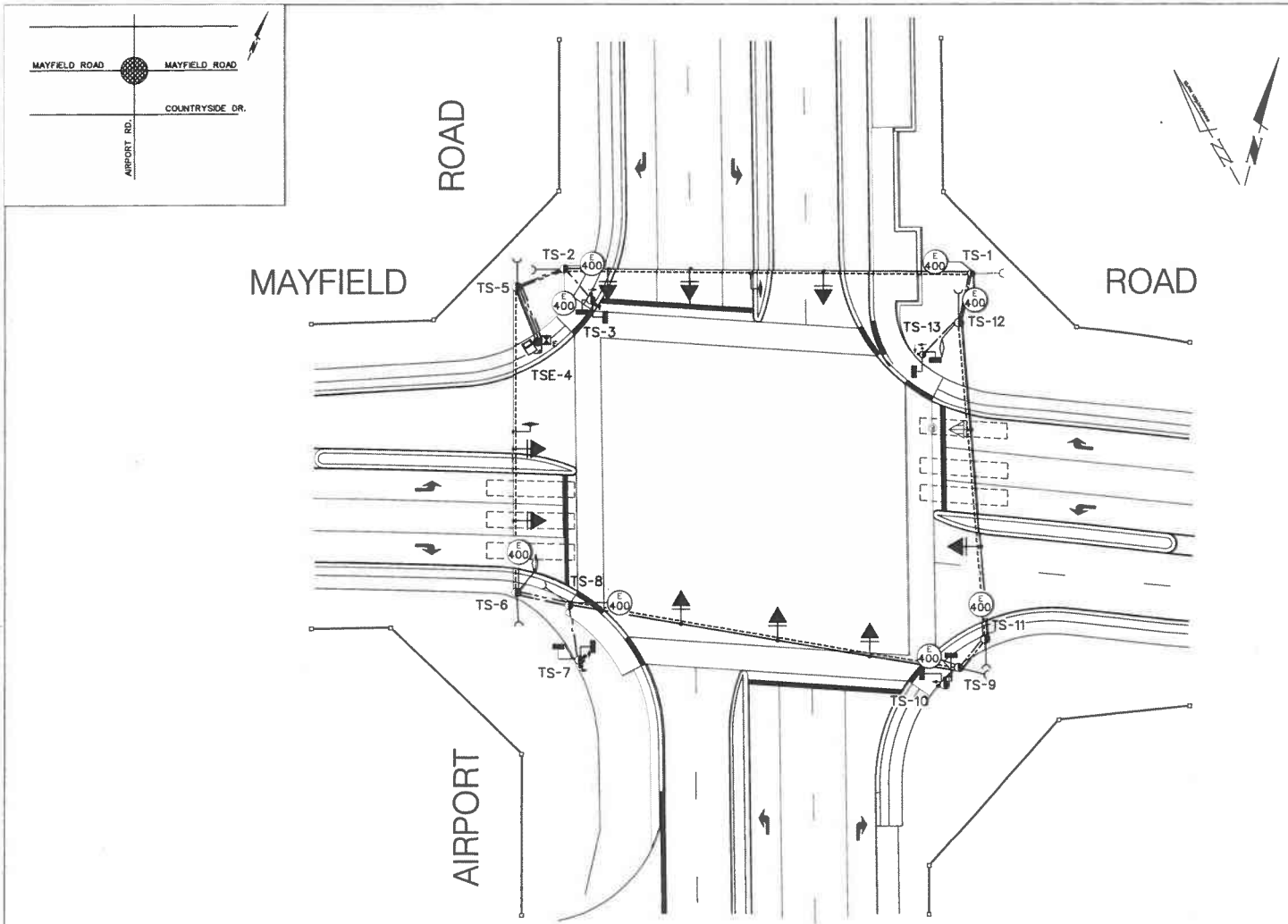
- Provide a 0.6m gently sloping area (at 2.0%) away from the house on at least one side of the building where side yard setback permits. (Usually the garage side or side door entrance.);

- A minimum of 100mm of clear stone rather than topsoil and sod is required for combined side yards between two buildings which are 1.80m or less. If the combined side yard on the other side of the same building is 2.4m or more, then back-to-front drainage may be considered through that side.

TABLE 3.10 STREET LIGHTING GUIDE

	R.O.W. Width (m)	Pav't Width (m)	S/L Pole Offset From P/L (m)	Offset From Edge of Pav't (m)	Illumination Req't	Luminaire Mounting Height (m)	Bracket Size (m)	Luminaire Wattage (HPS)	Distribution Type	Spacing (m)	
										Minimum	Maximum
Local Residential	18	7.9	3.4	1.85	2 Lux @ 6:1	7.0	2.4	70	Cut-off Optics	55	60
Local Industrial	22.5	10.4	4.4	1.85	6 Lux @ 3:1	7.0	2.4	150	Cut-off Optics	55	60
Residential Collector	26	9.0	4.15/3.65	1.85	6 Lux @ 6:1	7.0	2.4	100	Cut-off Optics	55	60
Industrial Collector	26	13.9	4.4	1.85	6 Lux @ 6:1	7.0	2.4	150	Cut-off Optics	55	60
Full Services 1,000-12,000	26	9.8	5.0	1.85	6 Lux @ 3:1	7.0	2.4	150	Cut-off Optics	45	60
Part Services 1,000-12,000	26	9.8	5.0	1.85	4 Lux @ 3:1	7.0	2.4	100	Cut-off Optics	55	60
4 Lanes 12,000-30,000	30	10.4	5.0	1.85	6 Lux @ 3:1	7.0	3.0	150	Cut-off Optics	55	60
Walkway	3.0	2.5			2 Lux @ 6:1	7.0	2.4	70	Cut-off Optics		

* ROW - Right of Way
Pav't - Pavement
S/L - Streetlight
P/L - Property Line



REVISIONS		
DATE	DETAILS	INIT.
JULY 2010	INSTALLATION OF NEW 8 PHASES CONTROLLER WITH E/B P.P LT.	

LEGEND

LAYOUT DIAGRAM

- EXISTING 600X600mm ELECTRIC MAINTENANCE CHAMBER
- PROPOSED 800X800mm ELECTRIC MAINTENANCE CHAMBER
- EXISTING 400mm I.D. TYPE I HANDWELL
- PROPOSED 460mm I.D. TYPE I HANDWELL
- EXISTING 300mm I.D. TYPE II HANDWELL
- PROPOSED 600mm I.D. TYPE II HANDWELL
- COMMENCEMENT OF NEW CONDUIT RUN
- EXISTING CONDUIT
- (2X75) UNDERGROUND RIGID P.V.C. DUCTS (SCEPTER OR EQUAL) NUMBER AND SIZE AS SHOWN
- QUADRAPOLE LOOP DETECTOR
- PROPOSED VEHICLE LOOP DETECTOR WITH LEAD (TO SCALE)
- EXISTING VEHICLE LOOP DETECTOR WITH LEAD (TO SCALE)
- FIRE PREEMPTION DETECTOR HEAD
- HIGHWAY SIGNAL HEAD WITH BACKBOARD AND MAST ARM
- AS PER SIGNAL HEAD CHART THE NUMBER INDICATES TYPE OF SIGNAL HEAD WITH BACKBOARD AND MAST ARM
- HIGHWAY SIGNAL HEAD WITH BACKBOARD SUPPORTED BY DOUBLE SPAN WIRE
- HIGHWAY SIGNAL HEAD COVERED FOR STAGING
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN COUNTDOWN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON WITH SYMBOLIZED SIGN
- EXISTING CONCRETE POLE
- EXISTING STEEL POLE
- EXISTING WOOD POLE
- NEW OR RELOCATED STEEL POLE
- NEW OR RELOCATED WOOD POLE
- NEW OR RELOCATED CONCRETE POLE
- GROUND ELECTRODE (ROD)
- E 250 LUMINAIRE WITH BRACKET (WATTAGE AS SHOWN) FOR EXISTING USE "E", FOR PROPOSED USE "P"
- BASE MOUNTED CONTROLLER AND CABINET (EXISTING)
- SECONDARY SUPPLY FACILITIES - POLE MOUNTED
- POWER SERVICE PEDESTAL
- TS-● TRAFFIC SIGNAL POLE IDENTIFICATION
- PROPOSED GALVANIZED STEEL BACK GUY WITH ANCHOR
- EXISTING GALVANIZED STEEL BACK GUY WITH ANCHOR
- PROPERTY LINE
- CURB
- CURB WITH DEPRESSION
- TRAFFIC SIGNAL CABLES (OVERHEAD)
- POWER FEED CABLE (OVERHEAD)
- TRAFFIC SIGNAL CABLES (OVERHEAD) ON SPAN WIRES
- RUN WIRES OVERHEAD WITH MESSENGER CABLE
- ROLL THROUGH CURB
- OVERHEAD VEHICLE DETECTOR
- TRAFFIC SIGNS

Rb-28 & Wa-33L SIGNS ON ALL CENTRE ISLAND ENDS
Wa-33LR SIGNS ON ALL RIGHT TURN ISLAND ENDS
Rb-41 SIGNS FOR ALL DUAL LEFT TURN LANES (BY-LAW)
Rb-81 SIGNS FOR ALL ② SIGNAL HEADS
Rb-102 SIGNS FOR ALL NON FREE FLOW RIGHT TURN LANES (BY-LAW)
Rb-12 (150X28) PED PUSH BUTTON SIGN FOR ALL PED BUTTON
Rb-8A WHERE NO CROSSWALK PROVIDED (BY-LAW)
Wa-6LR or Wa-10BLR at all "T" INTERSECTIONS

SYMBOLS CROSSED OUT WITH AN X INDICATES FOR REMOVAL.

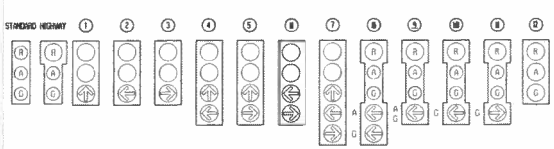
- —B— BELL LINE IN CONDUIT
- B BELL PEDESTAL
- SPREAD SPECTRUM RADIO ANTENNA

NOTE:
THE SIZE OF CONDUIT REQUIRED FROM HANDHOLE/HANDWELL TO THE SIGNAL POLE SHALL BE 1X75MM, UNLESS A LUMINAIRE IS REQUIRED THEN 2X75MM SHALL BE INSTALLED.

LAYOUTS ARE SCHEMATIC ONLY, LOCATIONS FOR ALL STRUCTURES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER OR DESIGNATE

SCALE 5m 0 5 10 15m

TYPES OF SIGNAL HEADS WITH BACKBOARD



⑧ ⑨ AMBER ARROW MUST BE USED IN A PROTECTED/PERMISSIVE SIMULTANEOUS LEFT TURN OPERATION.

NOTE: FOR SPECIAL ARROW HEADS ⑧, ⑨, ⑩ AND ⑪, 20 cm AMBER LENES AND 20 cm GREEN LENSES.

LENS SIZE
- 30 cm Lens.
- 20 cm Lens.

ALL SIGNALS TO BE L.E.D.

TRAFFIC SIGNAL CONTROLLER PHASING

#1	NIL
#2	Airport Rd. - S/B
#3	Mayfield Rd. - E/B P.P LT.
#4	Mayfield Rd. - W/B
#5	NIL
#6	Airport Rd. - N/B
#7	NIL
#8	Mayfield Rd. - E/B

SIGNAL POLE, MAST ARM AND SIGNAL HEAD DETAILS

POLE No.	POLE TYPE	x HEIGHT ABOVE GROUND POLE HEIGHT (mm)	MAST ARM OR BRACKET LENGTH (mm)	SIGNAL HEAD MOUNT HEIGHT (mm)	SIGNAL HEAD DIRECTION	SIGNAL HEAD TYPE	BACKBOARD	REMARKS
TS-1-2	WOOD	13 200	SPAN WIRE	6 000	N/B PRIMARY	HWY	YES	400W HPS LTG/2.4m
TS-1-2	WOOD	13 200	SPAN WIRE	6 000	N/B SECONDARY	HWY	YES	2x400W HPS LTG, PRE-EMPTION
TS-1-2	WOOD	13 200	SPAN WIRE	6 000	N/B AUXILIARY	HWY	YES	
TS-3	WOOD	3 700	400	2 750	PEDESTRIAN	-	-	150x150x5000 POST, PB
TS-3	WOOD	3 700	400	2 750	PEDESTRIAN	-	-	150x150x5000 POST, PB
TSE-4	WOOD	-	-	-	-	-	-	POWER SUPPLY (EXISTING)
TS-5-8	WOOD	13 200	SPAN WIRE	6 000	W/B PRIMARY	HWY	YES	PRE-EMPTION
TS-5-8	WOOD	13 200	SPAN WIRE	6 000	W/B SECONDARY	HWY	YES	400W HPS LTG/2.4m MICROWAVE DETECTOR
TS-7	WOOD	3 700	400	2 750	PEDESTRIAN	-	-	150x150x5000 POST, PB
TS-7	WOOD	3 700	400	2 750	PEDESTRIAN	-	-	150x150x5000 POST, PB
TS-8-9	WOOD	13 200	SPAN WIRE	6 000	S/B PRIMARY	HWY	YES	400W HPS LTG/2.4m
TS-8-9	WOOD	10 500	SPAN WIRE	6 000	S/B SECONDARY	HWY	YES	-
TS-8-9	WOOD	10 500	SPAN WIRE	6 000	S/B AUXILIARY	HWY	YES	-
TS-10	WOOD	3 700	400	2 750	PEDESTRIAN	-	-	150x150x5000 POST, PB
TS-10	WOOD	3 700	400	2 750	PEDESTRIAN	-	-	150x150x5000 POST, PB
TS-11-12	WOOD	13 200	SPAN WIRE	6 000	E/B PRIMARY	HWY	YES	2x400W HPS LTG/2.4m
TS-11-12	WOOD	13 200	SPAN WIRE	6 000	E/B SECONDARY	TYPE ②	YES	REMOVE HWY HEAD & INSTALL ② HEAD
TS-13	WOOD	3 700	400	2 750	PEDESTRIAN	-	-	150x150x5000 POST, PB
TS-13	WOOD	3 700	400	2 750	PEDESTRIAN	-	-	150x150x5000 POST, PB

Designed By — JULY 23, 2010

Checked By

Approved By — Jul. 23/10

THE REGIONAL MUNICIPALITY OF PEEL

SIGNAL INSTALLATION APPROVED AS PER SECTION 144(31) H.T.A.,RSO 1990:

APPROVED

APPROVAL DATE: July 23, 2010

Region of Peel
Working for you

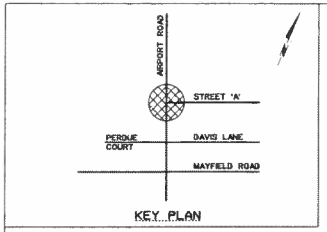
TRAFFIC CONTROL SIGNAL INSTALLATION
AERIAL

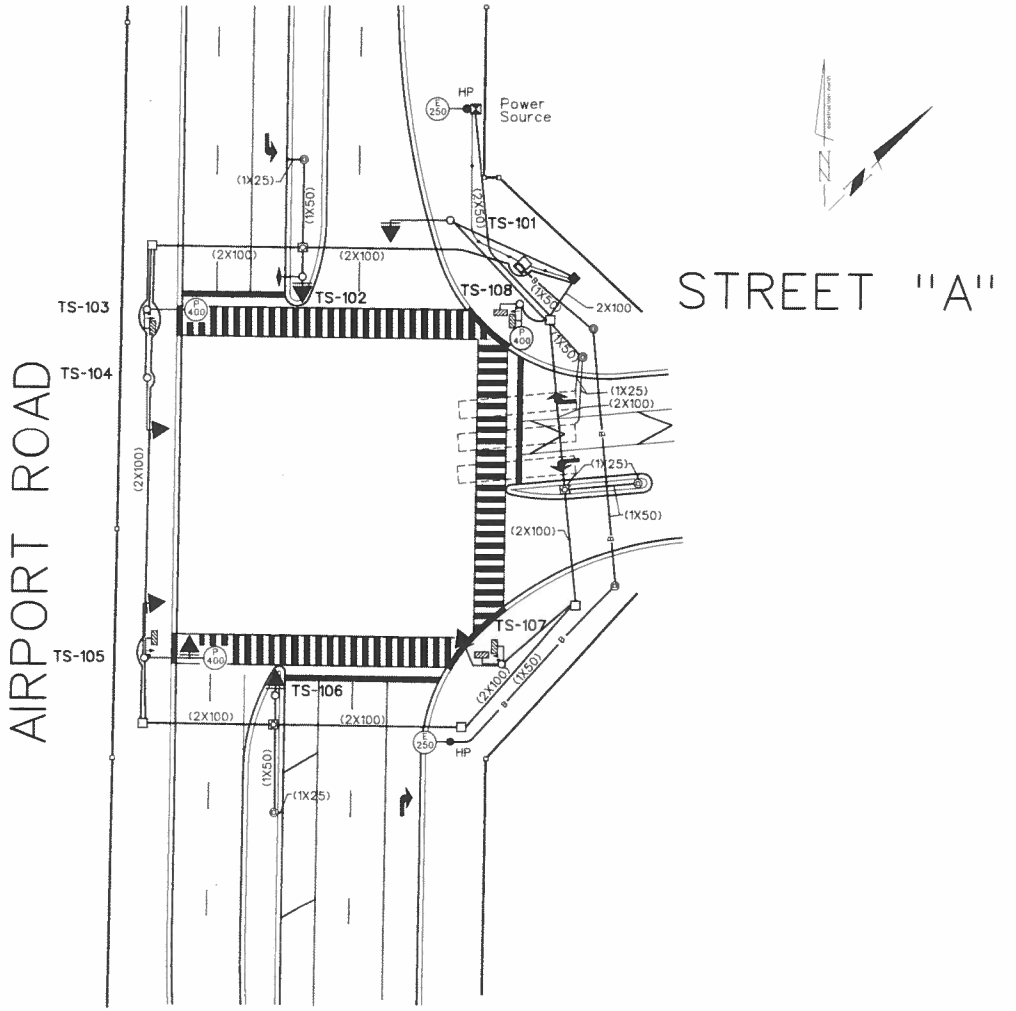
AIRPORT ROAD AT MAYFIELD ROAD

TRI # 00717433	AREA C4, C5		PROJECT NO. 10-4405
	DRAWN BY JR		
DATE JULY 2010	SHEET 1 OF 1		PLAN NO. 40667

TRI #00717433.5

TRI #00717433.5





REVISIONS

DATE	DETAILS	INIT.
Aug. 2010	As s. 1a	

LEGEND

LAYOUT DIAGRAM

- EXISTING 600X600mm ELECTRIC MAINTENANCE CHAMBER
- PROPOSED 600X800mm ELECTRIC MAINTENANCE CHAMBER
- EXISTING 460mm I.D. TYPE I HANDWELL
- PROPOSED 460mm I.D. TYPE I HANDWELL
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- PROPOSED VEHICLE LOOP DETECTOR WITH LEAD (TO SCALE)
- EXISTING VEHICLE LOOP DETECTOR WITH LEAD (TO SCALE)
- VIDEO DETECTION ZONE
- FIRE PREEMPTION DETECTOR HEAD
- HIGHWAY SIGNAL HEAD WITH BACKBOARD AND MAST ARM
- AS PER SIGNAL HEAD CHART THE NUMBER INDICATES TYPE OF SIGNAL HEAD WITH BACKBOARD AND MAST ARM
- HIGHWAY SIGNAL HEAD WITH BACKBOARD SUPPORTED BY DOUBLE SPAN WIRE
- HIGHWAY SIGNAL HEAD COVERED FOR STAGING
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN COUNTDOWN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON WITH SYMBOLIZED SIGN
- EXISTING CONCRETE POLE
- EXISTING STEEL POLE
- EXISTING WOOD POLE
- NEW OR RELOCATED STEEL POLE
- NEW OR RELOCATED WOOD POLE
- NEW OR RELOCATED CONCRETE POLE
- (E 250) LUMINAIRE WITH BRACKET (WATTAGE AS SHOWN) FOR EXISTING USE "E", FOR PROPOSED USE "P"
- BASE MOUNTED CONTROLLER AND CABINET (EXISTING)
- BASE MOUNTED CONTROLLER AND CABINET (PROPOSED)
- POWER SERVICE PEDESTAL
- TS-● TRAFFIC SIGNAL POLE IDENTIFICATION
- PROPOSED GALVANIZED STEEL BACK GUY WITH ANCHOR
- EXISTING GALVANIZED STEEL BACK GUY WITH ANCHOR
- PROPERTY LINE
- CURB
- CURB WITH DEPRESSION
- TRAFFIC SIGNAL CABLES (OVERHEAD)
- POWER FEED CABLE (OVERHEAD)
- TRAFFIC SIGNAL CABLES (OVERHEAD) ON SPAN WIRES
- RUN WIRES OVERHEAD WITH MESSENGER CABLE
- ROLL THROUGH CURB
- OVERHEAD VEHICLE DETECTOR
- OVERHEAD VIDEO VEHICLE DETECTOR
- TRAFFIC SIGNS

Rb-23 & Wa-33L SIGNS ON ALL CENTRE ISLAND ENDS
Wa-33LR SIGNS ON ALL RIGHT TURN ISLAND ENDS
Rb-41 SIGNS FOR ALL DUAL LEFT TURN LANES (BY-LAW)
Rb-81 SIGNS FOR ALL (2) SIGNAL HEADS
Ra-102 SIGNS FOR ALL NON FREE FLOW RIGHT TURN LANES (BY-LAW)
Ra-12 (15X30) PED PUSH BUTTON SIGN FOR ALL PED BUTTON
Ra-9A WHERE NO CROSSWALK PROVIDED (BY-LAW)
Wa-8LR or Wa-108LR at all " T " INTERSECTIONS
SYMBOLS CROSSED OUT WITH AN X INDICATES FOR REMOVAL.

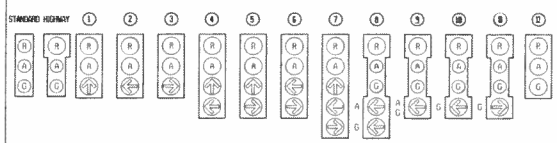
- —B— BELL LINE IN CONDUIT
- BELL PEDESTAL
- SPREAD SPECTRUM RADIO ANTENNA

NOTE:
THE SIZE OF CONDUIT REQUIRED FROM MANHOLE/HANDWELL TO THE SIGNAL POLE SHALL BE 1X75mm UNLESS A LUMINAIRE IS REQUIRED THEN 2X75mm SHALL BE INSTALLED

LAYOUTS ARE SCHEMATIC ONLY LOCATIONS FOR ALL STRUCTURES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER OR DESIGNATE.

5m 0 5 10 15m SCALE

TYPES OF SIGNAL HEADS WITH BACKBOARD



(9) (C) AMBER ARROW MUST BE USED IN A PROTECTED/PERMISSIVE SIMULTANEOUS LEFT TURN OPERATION.

NOTE: FOR SPECIAL ARROW HEADS (9), (9), (10) AND (11), 20 cm AMBER LENSES AND 20 cm GREEN LENSES.

LENS SIZE
- ○ 30 cm Lens
- ○ 20 cm Lens

ALL SIGNALS TO BE L.E.D.

TRAFFIC SIGNAL CONTROLLER PHASING

#1
#2 N-B
#3
#4 W-B
#5
#6 S-B
#7
#8

SIGNAL POLE, MAST ARM AND SIGNAL HEAD DETAILS

POLE No.	POLE TYPE	POLE HEIGHT (mm)	MAST ARM OR BRACKET LENGTH (mm)	SIGNAL HEAD MOUNT HEIGHT (mm)	SIGNAL HEAD DIRECTION	SIGNAL HEAD TYPE	BACKBOARD	REMARKS
TS101	8520	6 100	6 100	5 303	N/B PRIMARY	HWY	YES	-
TS102	8520	6 100	400	5 000	N/B SECONDARY	HWY	YES	PRE-EMPTION DETECTOR
TS103	8545	13 700	400	2 759	PEDESTRIAN	-	-	W/B C/W SIGN 400W HPS/2.4m
TS104	8620	6 100	5 500	5 000	W/B PRIMARY	HWY	YES	-
TS105	8545	13 700	4 600	5 000	W/B SECONDARY	HWY	YES	-
TS105	8545	13 700	4 600	5 000	S/B PRIMARY	HWY	YES	400W HPS/2.4m
TS105	8545	13 700	400	2 750	PEDESTRIAN	-	-	PUSHBUTTON C/W SIGN
TS106	8520	6 100	400	5 000	S/B SECONDARY	HWY	YES	-
TS107	8620	6 100	3 000	5 000	S/B AUXILIARY	HWY	YES	-
TS107	8620	6 100	400	2 750	PEDESTRIAN	-	-	-
TS107	8620	6 100	400	2 750	PEDESTRIAN	-	-	PUSHBUTTON C/W SIGN
TS108	8545	13 700	400	2 750	PEDESTRIAN	-	-	400W HPS/2.4m
TS108	8545	13 700	400	2 750	PEDESTRIAN	-	-	PUSHBUTTON C/W SIGN

Sept 24, 2010
Checked By

R. Laing Sept. 24/10
Approved By

Designed By

S. E. GROSS
2008-12
PROFESSIONAL ENGINEER

THE REGIONAL MUNICIPALITY OF PEEL

SIGNAL INSTALLATION APPROVED AS PER SECTION 144(31) H.T.A., RSO 1990:
APPROVED

APPROVAL DATE: SEPT. 24, 2010

Region of Peel
Working for you

TRAFFIC CONTROL SIGNAL INSTALLATION

AIRPORT ROAD @ STREET "A"

TRI #	00716361	AREA	C-4	PROJECT NO.	03-4040
		DRAWN BY	T.U.		
DATE	AUG. 2010	SHEET	1 OF 1	PLAN NO.	38057-D

TRI/REV #00718361-2

Appendix B

Functional Servicing Drawings

- CP-1 Concept Plan
- LU-1 Existing Land Use Plan
- GEN-1 Existing Servicing Plan
- GEN-2 General Servicing Plan
- STM-1 Pre-Development Storm Drainage Plan
- STM-2 Post-Development Storm Drainage Plan
- STM-3 Post-Development Storm Sub-Catchment Drainage Plan
- SAN-1 Sanitary Drainage Plan
- LG-1 Grading Plan
- ESC-1 Erosion and Sediment Control Plan
- PP-1 and PP-2 Plan and Profiles
- PND-1 Stormwater Management Pond 1 and 2 Plan View
- PND-2 Stormwater Management Pond 1 (West) Profile A-A and Profile B-B
- PND-3 Stormwater Management Pond 2 (East) Profile C-C and Profile D-D
- SWM-1 Conceptual LID Plan

LEGEND

- LIMIT OF DRAFT PLAN OF SUBDIVISION
- LIMIT OF STUDY AREA
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- LIMIT OF TOWN OWNED LAND
- 233.00 EXISTING CONTOURS
- EXISTING DRAINAGE DITCH/SWALE
- EXISTING EDGE OF ASPHALT/GRAVEL
- EXISTING DRIVEWAY ENTRANCE FOR 12151 & 12117 AIRPORT ROAD
- TRCA REGULATORY FLOODLINE
- SALT CREEK MEANDER BELT
- 30m MEANDER BELT SETBACK

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRFIELD DEVELOPMENTS INC.
c/o KIRST PRO SHOPPING CENTRES
700 APPLEWOOD CRESCENT, SUITE 100
VAUGHAN, ONTARIO, L4K 5X3
ATTN: EMILY FOUKHTMAN

AIRPORT ROAD

PURDUE CT.

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION

BLOCK 1
1.468 ha.

PROPERTY # 1
12151 AIRPORT ROAD

BLOCK 2
4.800 ha.

CURRENTLY OWNED TOWN LANDS.
EX. DAVIS LANE LEGAL LINE WORK TAKEN FROM PLAN 43R-36141,
PLAN OF SURVEY PART OF LOT 1, CONCESSION 1, TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL.
PREPARED BY SCHAEFFER DZALDOV BENNETT LTD., DATED SEPT. 30, 2014.

LIMIT OF DRAFT PLAN OF SUBDIVISION

BLOCK 8 0.107 ha.
BLOCK 9 0.253 ha.

BLOCK 111
0.274 ha.

PROPERTY # 3
AIRPORT ROAD

BLOCK 101
1.363 ha.

PROPERTY # 2
12117 AIRPORT ROAD
BLOCK 102
4.416 ha.

EX. POND

BLOCK 3
2.108 ha.

PROP. EASEMENT FOR 12151 AIRPORT ROAD STORM AND SANITARY SERVICING AND MAJOR OVERLAND FLOW

LIMIT OF DRAFT PLAN OF SUBDIVISION

26.0m R.O.W. PER CALEDON STANDARD No. 211

STREET A (DAVIS LANE) LIMIT OF DRAFT PLAN OF SUBDIVISION

PROPERTY # 4
12101 AIRPORT ROAD

BLOCK 103
0.312 ha.

BLOCK 112
0.047 ha.

BLOCK 113
0.373 ha.

BLOCK 10
0.336 ha.

BLOCK 11
0.292 ha.

BLOCK 9.A
TEMPORARY TURNING CIRCLE
(PER STANDARD No.217)

EX. CHANNEL

BLOCK 6
1.785 ha.

BLOCK 4
4.655 ha.

BLOCK 5
4.079 ha.

BLOCK 12 STREET A (DAVIS LANE)
1.201 ha.

BLOCK 105
5.095 ha.

PROPERTY # 8
6186 MAYFIELD ROAD

PROPERTY # 9
6230 MAYFIELD ROAD

BLOCK 104
3.737 ha.

PROPERTY # 5
0 AIRPORT ROAD

PROPERTY # 6
6034 MAYFIELD ROAD

PROPERTY # 7
6086 MAYFIELD ROAD

SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.)
PROPOSED OPA AND ZBA TO HIGHWAY COMMERCIAL FOR TWO (2) INDUSTRIAL BUILDINGS AND PARKING

LIMIT OF DRAFT PLAN OF SUBDIVISION

FUT. CHANNEL (253m LENGTH)

BLOCK 15
0.445 ha.

S.W.M. POND 1
2.14 ha

PROPERTY # 11
6206 MAYFIELD ROAD
BLOCK 14
1.469 ha.

BLOCK 7
0.253 ha.

BLOCK 13
0.219 ha.

MAYFIELD ROAD

BLOCK 116
0.192 ha.

LIMIT OF STUDY AREA

LIMIT OF DRAFT PLAN OF SUBDIVISION

BLOCK 16
0.121 ha.

BLOCK 17
0.101 ha.

BLOCK 18
0.067 ha.

BLOCK 19
0.083 ha.

BLOCK 20
0.023 ha.

FUTURE EDGE OF R.O.W.
ROYAL LINKS CIRCLE

AIRPORT ROAD

CARMEL CRESCENT

CITADEL CRESCENT

CASTLEMORE NORTH SECONDARY PLAN
CITY OF BRAMPTON

MAISONNEUVE BLVD.

BLOCK 110
0.686 ha.

BLOCK 115
1.153 ha.

FUT. S.W.M. POND 2
1.133 ha

FUT. 35m ENVIRONMENTAL BLOCK

FUT. DRAINAGE EASEMENT

BLOCK 107
0.775 ha.

PROPERTY # 13
6340 MAYFIELD ROAD
BLOCK 108
3.104 ha.

FUT. STREET B

BLOCK 114
0.519 ha.

PROPERTY # 12
6296 MAYFIELD ROAD

BLOCK 109
0.095 ha.

BLOCK 119
0.048 ha.

STORM POND AFTER ROADS

LIMIT OF STUDY AREA

BLOCK 117
0.030 ha.

BLOCK 118
0.094 ha.

BLOCK 120
0.727 ha.

MAYFIELD ROAD

FUTURE EDGE OF R.O.W.

FUT. CULVERT

LAURENTIDE CRESCENT

EX. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

35m

LIMIT OF STUDY AREA

FUT. DRAINAGE EASEMENT

EX. POND

SALT CREEK

TRCA REGULATORY (FSR SUBMISSION)

MEANDER BELT 2022

TRCA REGULATORY FLOOD LINE 2022

BLOCK 106
6.903 ha.

PROPERTY # 10
MAYFIELD ROAD

INDUSTRIAL CUL-DE-SAC TYPE A PER CALEDON STANDARD No. 215

30m MEANDER BELT SETBACK (T.B.C.) (LIMIT OF DEVELOPMENT LANDS)

BLOCK 21
1.695 ha.

MEANDER BELT (FSR SUBMISSION)

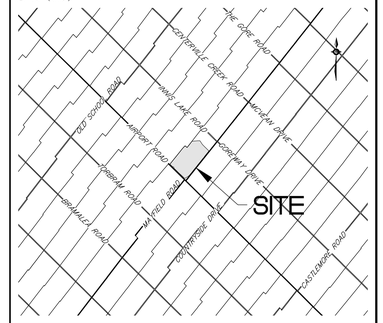
SALT CREEK

BLOCK 22
2.727 ha.

67.66m

LIMIT OF STUDY AREA

KEY MAP (N.T.S.)



GENERAL NOTES

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2. EXISTING PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LAND USE STATISTICS

PHASE 1

	PROPERTY	AREA (ha)											
		1	2	3	4	5	6	7	8	9	10	11	12	13
RESIDENTIAL	BLOCK 1	1.468												
	BLOCK 2	4.800												
	BLOCK 3									2.108				
	BLOCK 4							4.655						
	BLOCK 5								4.079					
	BLOCK 6									1.785				
	BLOCK 7											0.253		
	BLOCK 8	0.107												
	BLOCK 9		0.253											
	BLOCK 10							0.336						
	BLOCK 11								0.292					
	BLOCK 12											1.201		
	BLOCK 13												0.219	
	BLOCK 14									1.469				
	BLOCK 15								0.445					
	BLOCK 16							0.121						
	BLOCK 17									0.101				
	BLOCK 18									0.067				
	BLOCK 19									0.083				
	BLOCK 20									0.023				
	Total Lot Area (ha.)	6.375	0.500	0.233	0.000	0.000	0.000	5.112	4.816	4.620	0.000	0.332	0.000	0.000
	Percent Developable Land	100%		0%				85%	83%	58%		17%		

FUTURE

	PROPERTY	AREA (ha)											
		1	2	3	4	5	6	7	8	9	10	11	12	13
RESIDENTIAL	BLOCK 101			1.363										
	BLOCK 102		4.416											
	BLOCK 103				0.312									
	BLOCK 104					3.737								
	BLOCK 105						5.095							
	BLOCK 106									6.903				
	BLOCK 107									0.775				1.104
	BLOCK 108													3.104
	BLOCK 109												0.095	
	BLOCK 110									0.686				
	BLOCK 111		0.274											
	BLOCK 112				0.047									
	BLOCK 113					0.373								
	BLOCK 114										0.519			
	BLOCK 115											1.139		
	BLOCK 116					0.192								
	BLOCK 117										0.030			
	BLOCK 118										0.094			
	BLOCK 119										0.048			
	BLOCK 120										0.727			0.137
	BLOCK 121													0.048
	Total Lot Area (ha.)	0.000	4.416	1.657	0.312	3.676	5.095	1.468	0.000	0.000	10.335	0.000	0.095	3.293
	Percent Developable Land		100%	83%	100%	58%	53%				79%		90%	83%

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JJP	2024-03	DRAFT PLAN SUBMISSION		
1	JJP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

CONCEPT PLAN

SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	CP-1
CHECKED BY: JP	DATE: AUG. 2022		

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TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRPORT ROAD

PURDUE CT.

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION

STREET A (DAVIS LANE)

LIMIT OF DRAFT PLAN OF SUBDIVISION

EX. POND

STREET A (DAVIS LANE)

LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF STUDY AREA

LIMIT OF DRAFT PLAN OF SUBDIVISION

STREET A (DAVIS LANE)

STREET B

EXISTING CHANNEL

EXISTING ENVIRONMENTAL CORRIDOR

PROPOSED CHANNEL (253m LENGTH)

PROPOSED 35m ENVIRONMENTAL BLOCK

S.W.M. POND 1

S.W.M. POND 2

EX. POND

LIMIT OF STUDY AREA

SALT CREEK

TRCA REGULATORY (FSR SUBMISSION)

30m MEANDER BELT SETBACK (TO BE CONFIRMED)

83.64m

30m MEANDER BELT SETBACK (T.B.C.)

MEANDER BELT (FSR SUBMISSION)

SALT CREEK

47.46m

LIMIT OF STUDY AREA

LIMIT OF STUDY AREA

LIMIT OF DRAFT PLAN OF SUBDIVISION

REFER TO OPA 239

MAYFIELD ROAD

PROPOSED CULVERT

MAYFIELD ROAD

AIRPORT ROAD

ROYAL LINKS CIRCLE

CARMEL CRESCENT

CITADEL CRESCENT

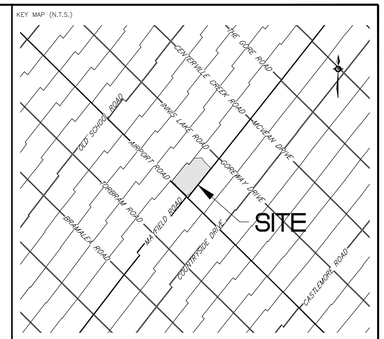
CASTLEMORE NORTH SECONDARY PLAN CITY OF BRAMPTON

MAISONNEUVE BLVD.

LAURENTIDE CRESCENT

SALT CREEK

KEY MAP (N.T.S.)



GENERAL NOTES

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2. EXISITNG PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LAND USE LEGEND

- PRESTIGE INDUSTRIAL
- GENERAL INDUSTRIAL
- HIGHWAY COMMERCIAL
- ENVIRONMENTAL POLICY AREA
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- LIMIT OF STUDY AREA
- TRCA REGION FLOODLINE
- SALT CREEK MEANDER BELT
- 30m MEANDER BELT SETBACK

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

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ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

EXISTING LAND USE PLAN

SCALE: HORIZ. N.T.S. VERT.		PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	LU-1
CHECKED BY: JP	DATE: DEC. 2015		

G:\Eng_30\CAL-13304\Design Dwgs\CAL-13304_FSR_LU-1 FEB 2025.dwg Layout:LU-1 Plotted Feb 14, 2025 @ 8:45am by kschulz The Jones Consulting Group Ltd.

MAYPORT DISTRIBUTION FACILITY
12333 AIRPORT ROAD
JOHNSON, SUSTRONK, WEINSTEIN AND ASSOCIATES
REF. No. 12-30

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRPORT ROAD

PURDUE CT.

DAVIS LANE

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION

CURRENTLY OWNED TOWN LANDS.
EX. DAVIS LANE LEGAL LINE WORK TAKEN FROM PLAN 43R-36141, PLAN OF SURVEY PART OF LOT 1, CONCESSION 1, TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL. PREPARED BY SCHAEFFER DZALDOV BENNETT LTD., DATED SEPT. 30, 2014.

EX. ASPHALT AND GRAVEL BASED ON TOWN OF CALEDON AERIAL IMAGERY, DATED 2024

LIMIT OF DRAFT PLAN OF SUBDIVISION

EX. LIMIT OF GRAVEL/ASPHALT (TYP.)

EX. 350mmø WATERMAIN

PROPERTY # 1
12151 AIRPORT ROAD
GREENWAY CARRIERS
AIRPORT 12151 INC.
EX. STORM SERVICE INV.=227.14
EX. SANITARY SERVICE INV.=TBC

EX. 150mmø SANITARY SERVICE INV. 235.53±

PROPERTY # 2
12117 AIRPORT ROAD
FATEH TRANSPORT
FORMERLY LAIDLAW TRANSIT LTD.
EMC GROUP LTD.
REF. No. 202132

EX. POND

PROPERTY # 3
PART 3, PLAN 43R-36141
PREET TRANSPORT CARRIER INC.

EX. SANITARY MH
E INV.=223.156
W INV.=223.139

PROPERTY # 4
12101 AIRPORT ROAD
MOTORWAY SALES AND SERVICE

EX. STORM SERVICE INV.=235.85

LIMIT OF STUDY AREA

PROPERTY # 5
0 AIRPORT ROAD
PART 1, PLAN 43R-34197
SMARTCENTRES

PROPERTY # 6
6034 MAYFIELD ROAD
UNDEVELOPED
SMARTCENTRES

PROPERTY # 7
6086 MAYFIELD ROAD
FALCON XPRESS
TRANSPORTATION GROUP
6086 MAYFIELD INC.

PROPERTY # 8
6186 MAYFIELD ROAD
AIRPORT-MAYFIELD PARKING
M&M CARRIERS

PROPERTY # 9
6230 MAYFIELD ROAD
PART 1, PLAN 43R-11401
ALPHA HAULERS YARD
6230 MAYFIELD INC.

PROPERTY # 10
PT LT 1, CON 1 ALBION
UNDEVELOPED

LIMIT OF DRAFT PLAN OF SUBDIVISION

PROPERTY # 11
6206 MAYFIELD ROAD

PROPERTY # 12
6296 MAYFIELD ROAD

PROPERTY # 13
6340 MAYFIELD ROAD

EX. 600mmø CULVERT

EX. 450mmø CULVERT
SW INV. 232.14
NE INV. 232.10

EX. 450mmø CULVERT
SW INV. 231.95
NE INV. 231.91

EX. 400mmø CULVERT
SW INV. 230.46
NE INV. 230.32

EX. 1200mmø CULVERT
NW INV. 229.95
NE INV. 229.83

EX. 400mmø CULVERT
SW INV. 226.76
NE INV. 226.62

EX. BRIDGE OVER SALT CREEK

MAYFIELD ROAD

ROYAL LINKS CIRCLE

EX. 400mmø CULVERT
SW INV. 230.17
NE INV. 230.30

EX. CULVERT
SW INV. 229.65
NE INV. 229.70

EX. 900mmø CULVERT

EX. CULVERT
SW INV. 228.88
NE INV. 228.85

EX. 1800x2500mm ELIPICAL CULVERT
NW OBV. 225.83
SE OBV. 225.63

CARMEL CRESCENT

CITADEL CRESCENT

LAURENTIDE CRESCENT

VALES OF CASTLEMORE NORTH
SECONDARY PLAN
CITY OF BRAMPTON

MAISONNEUVE BLVD

SALT CREEK

EX. POND

TRCA REGULATORY (FSR SUBMISSION)

MEANDER BELT 2022

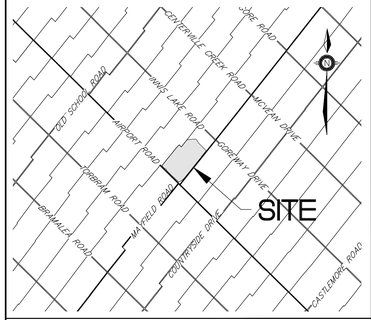
30m MEANDER BELT SETBACK (TO BE CONFIRMED)

30m MEANDER BELT SETBACK (T.B.C.)

TRCA REGULATORY FLOOD LINE 2022

MEANDER BELT (FSR SUBMISSION)

KEY MAP (N.T.S.)



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LEGEND

- LIMIT OF STUDY AREA
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- TRCA REGULATORY FLOOD LINE
- MEANDER BELT
- EXISTING DRIPLINE
- EXISTING DITCH
- EXISTING SANITARY SEWER, MANHOLE AND DIRECTION OF FLOW
- EXISTING STORM SEWER, MANHOLE AND DIRECTION OF FLOW
- EXISTING 200mmø WATERMAIN
- EXISTING 300mmø WATERMAIN
- EXISTING 750mmø WATERMAIN
- EXISTING 1050mmø WATERMAIN
- TOWN OWNED LANDS
- EXISTING GRAVEL/ASPHALT AREAS

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D.
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

EXISTING SERVICING PLAN

SCALE: HORIZ. 1:2000 VERT.

DESIGNED BY: JJH | DRAWN BY: JJH

CHECKED BY: JP | DATE: DEC 2014

PROJECT No. CAL-13304

DRAWING No. GEN-1

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_2000 NOVEMBER 2024.dwg Layout:GEN-1 Plotted: Feb. 14, 2025 @ 1:15pm by kschutz, The Jones Consulting Group Ltd.

MAYPORT DISTRIBUTION FACILITY
12333 AIRPORT ROAD
JOHNSON, SUSTRONK, WEINSTEIN AND ASSOCIATES
REF. No. 12-30

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRPORT ROAD

PURDUE CT.

DAVIS LANE

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION

CURRENTLY OWNED TOWN LANDS. EX. DAVIS LANE LEGAL LINE WORK TAKEN FROM PLAN 43R-36141, PLAN OF SURVEY PART OF LOT 1, CONCESSION 1, TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL. PREPARED BY SCHAEFFER DZALDOV BENNETT LTD., DATED SEPT. 30th 2014.

EX. ASPHALT AND GRAVEL BASED ON TOWN OF CALEDON AERIAL IMAGERY, DATED 2024

PROPERTY # 1
12151 AIRPORT ROAD
GREENWAY CARRIERS
AIRPORT 12151 INC.
EX. STORM SERVICE INV.=227.14
EX. SANITARY SERVICE INV.=TBC

PROPERTY # 2
12117 AIRPORT ROAD
FATEH TRANSPORT
FORMERLY LAIDLAW TRANSIT LTD.
EMC GROUP LTD.
REF. No. 202132
EX. 150mmø SANITARY SERVICE INV. 235.535

PROPERTY # 3
PART 3, PLAN 43R-36141
PREET TRANSPORT CARRIER INC.
EX. SANITARY MH
E INV.=223.156
W INV.=223.139

PROPERTY # 4
12101 AIRPORT ROAD
MOTORWAY SALES AND SERVICE
EX. STORM SERVICE INV.=235.85

PROPERTY # 5
0 AIRPORT ROAD
PART 1, PLAN 43R-34197
SMARTCENTRES

PROPERTY # 6
6034 MAYFIELD ROAD
UNDEVELOPED
SMARTCENTRES

PROPERTY # 7
6086 MAYFIELD ROAD
FALCON XPRESS TRANSPORTATION GROUP
6086 MAYFIELD INC.

PROPERTY # 8
6186 MAYFIELD ROAD
AIRPORT-MAYFIELD PARKING
M&M CARRIERS

PROPERTY # 9
6230 MAYFIELD ROAD
PART 1, PLAN 43R-11401
ALPHA HAULERS YARD
6230 MAYFIELD INC.

PROPERTY # 10
PT LT 1, CON 1 ALBION
UNDEVELOPED

PROPERTY # 11
6206 MAYFIELD ROAD

PROPERTY # 12
6296 MAYFIELD ROAD

PROPERTY # 13
6340 MAYFIELD ROAD

LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF STUDY AREA

EX. POND

SALT CREEK

TRCA REGULATORY (FSR SUBMISSION)

MEANDER BELT 2022

TRCA REGULATORY FLOOD LINE 2022

30m MEANDER BELT SETBACK (T.B.C.)

30m MEANDER BELT SETBACK (TO BE CONFIRMED)

MEANDER BELT (FSR SUBMISSION)

EX. BRIDGE OVER SALT CREEK

EX. 600mmø CULVERT

EX. 450mmø CULVERT SW INV. 232.14 NE INV. 232.10

EX. 400mmø CULVERT SW INV. 226.76 NE INV. 226.47

EX. 1800mmø ELLIPTICAL CULVERT NW INV. 224.70 SE INV. 224.52

EX. 1800mmø CULVERT NW INV. 224.70 SE INV. 224.52

MAYFIELD ROAD

ROYAL LINKS CIRCLE

CARMEL CRESCENT

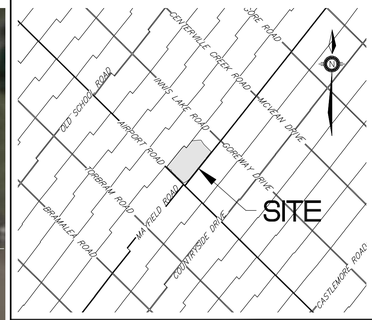
CITADEL CRESCENT

LAURENTIDE CRESCENT

VALES OF CASTLEMORE NORTH SECONDARY PLAN CITY OF BRAMPTON

MALSONNEUVE BLVD

KEY MAP (N.T.S.)



GENERAL NOTES

1. EXISTING CONTOUR INFORMATION COMPILED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
2. EXISTING PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

- LIMIT OF STUDY AREA
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- TRCA REGULATORY FLOOD LINE
- MEANDER BELT
- EXISTING DRIPLINE
- EXISTING DITCH
- EXISTING SANITARY SEWER, MANHOLE AND DIRECTION OF FLOW
- EXISTING STORM SEWER, MANHOLE AND DIRECTION OF FLOW
- EXISTING 200mmø WATERMAIN
- EXISTING 300mmø WATERMAIN
- EXISTING 750mmø WATERMAIN
- EXISTING 1050mmø WATERMAIN
- TOWN OWNED LANDS
- EXISTING GRAVEL/ASPHALT AREAS

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

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P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

EXISTING SERVICING PLAN

SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	GEN-1-A
CHECKED BY: JP	DATE: DEC 2014		

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_2000 NOVEMBER 2024.dwg, Layout:GEN-1-A Plotted: Feb 14, 2025 @ 1:29pm by kschulz The Jones Consulting Group Ltd.

MAYPORT DISTRIBUTION FACILITY
12333 AIRPORT ROAD
JOHNSON, SUSTRONK, WEINSTEIN AND ASSOCIATES
REF. No. 12-30

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRPORT ROAD

PURDUE CT.

MAYFIELD ROAD

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF STUDY AREA

BLOCK 1
BLOCK 2
BLOCK 3
BLOCK 4
BLOCK 5
BLOCK 6
BLOCK 7
BLOCK 8
BLOCK 9
BLOCK 10
BLOCK 11
BLOCK 12
BLOCK 13
BLOCK 14
BLOCK 15
BLOCK 16
BLOCK 17
BLOCK 18
BLOCK 19
BLOCK 20
BLOCK 101
BLOCK 102
BLOCK 103
BLOCK 104
BLOCK 105
BLOCK 106
BLOCK 107
BLOCK 108
BLOCK 109
BLOCK 110
BLOCK 111
BLOCK 112
BLOCK 113
BLOCK 114
BLOCK 115
BLOCK 116
BLOCK 117
BLOCK 118
BLOCK 119
BLOCK 120

STREET A (DAVIS LANE)

FUT. STREET B

EX. POND

EX. POND OUTLET =230.64

TEMP. DITCH INLET INV.=229.94

TEMPORARY TURNING CIRCLE

SALT CREEK

SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.) PROPOSED TWO (2) INDUSTRIAL BUILDINGS AND PARKING WITH PRIVATE SEWER AND WATERMAINS AND CONNECTIONS TO THE MUNICIPAL SYSTEM. REFER TO THE PRELIMINARY SITE SERVICING FIGURE (SHEET No. 4), DATED JULY 22, 2021, PREPARED BY WSP (DRAWING No. 211-07736)

THE EXISTING WATER AND SANITARY SERVICES FOR 12117 AIRPORT ROAD ARE TO BE REMOVED AND CONNECTED TO NEW ROW SERVICING WORKS AS PART OF THE FUTURE ROAD EXTENSION, BY OTHERS.

PROP. 250mmø SANITARY CONNECTION TO EX. MH, CONNECTION INV. 231.35±

EX. SANITARY MH
N INV.=230.92
S INV.=230.90

EX. 750mmø SANITARY SEWER @ 0.33%

EX. SANITARY MH 12
N INV.=230.431
S INV.=230.451

EX. 150mmø SANITARY SEWER

EX. 300mmø WATERMAIN

EX. 200mmø WATER SERVICE

EX. 750mmø SAN SEWER @ 0.4%

PROP. 250mmø SAN CONNECTION TO EX. 750mmø SAN APPROX. INVERT 230.25 (BY OTHERS)

PROP. 300mm DIAM. W/M CONNECTION TO EX. 300mmø W/M (BY OTHERS)

PROP. 300mmø W/M CONNECTION TO EX. 300mmø W/M

TEMP. STORM CONNECTION

PROP. STORM OUTLET TO EX. DITCH (BY OTHERS)

PROP. SANITARY AND WATER SERVICE CONNECTIONS

PROP. SANITARY AND STORM SERVICE CONNECTIONS

PROP. SANITARY, WATER AND STORM SERVICE CONNECTIONS

PROP. STORM OUTLET TO SEWER (MINOR) AND EX. DITCH (MAJOR)

PROP. SANITARY CONNECTION

PROP. 300mmø W/M CONNECTION TO EX. 300mmø W/M

PROP. 300mmø W/M CONNECTION TO EX. 300mmø W/M

PROP. MAJOR AND MINOR BH-15 STORM INLET FOR MAYFIELD ROAD DITCH

PROP. 300mmø W/M CONNECTION TO EX. 300mmø W/M

PROP. STORM OUTLET TO SEWER (MINOR) AND EX. DITCH (MAJOR)

PROP. SANITARY CONNECTION

EX. 1200mmø ELIC.VERT NW INV. 229.99 NE INV. 229.83

S.W.M. POND 1
2.14ha

PROP. 250mmø SAN CONNECTION TO EX. 250mmø SAN EX. INV.=224.52

PROP. 26m R.O.W. PER CALEDON STANDARD No. 211 (TYP.)

PROP. 300mmø W/M (TYP.)

PROP. SAN SEWER BH/MW-13 HWT 232.3 AUG.18/23

PROP. STM SEWER AUG.18/23

FUT. 300mmø W/M

FUT. SAN SEWER

FUT. STM SEWER

FUT. 3048mm X 1524mm BOX CULVERT

EX. 1830x2500mm ELIPICAL CUL.VERT NW OBV. 225.61 SE OBV. 225.63

PROP. 300mmø W/M CONNECTION TO FUTURE 300mmø W/M

FUT. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

FUT. S.W.M. POND 2
1.133ha

PROP. OGS FOR STM OUTLET

FUT. DRAINAGE EASEMENT

PROP. EASEMENT FOR 12151 AIRPORT ROAD STORM AND SANITARY SERVICING AND MAJOR OVERLAND FLOW

TEMP. OVERLAND FLOW SWALE & DRAINAGE EASEMENT

30m MEANDER BELT SETBACK (T.B.C.)

30m MEANDER BELT SETBACK TO BE CONFIRMED

HAZEL FLOOD LIMIT

FUT. 3RD PIPE SYSTEM

TRCA REGULATORY (FSR SUBMISSION)

MEANDER BELT 2022

TRCA REGULATORY FLOOD LINE 2022

BLOCK 21 ENVIRONMENTAL PROTECTION

MEANDER BELT (FSR SUBMISSION)

BLOCK 22 ENVIRONMENTAL PROTECTION

EX. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

ROYAL LINKS CIRCLE

CARMEL CRESCENT

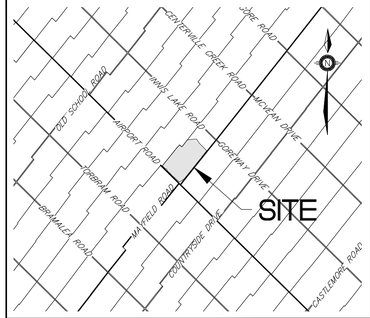
CITADEL CRESCENT

LAURENTIDE CRESCENT

MAISONNEUVE BLVD.

VALES OF CASTLEMORE NORTH SECONDARY PLAN CITY OF BRAMPTON

KEY MAP (N.T.S.)



GENERAL NOTES

1. EXISTING CONTOUR INFORMATION COMPILED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
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3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

- LIMIT OF STUDY AREA
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- TRCA REGULATORY FLOOD LINE
- MEANDER BELT
- EXISTING DRIPLINE
- EXISTING DITCH
- FUTURE DITCH
- EXISTING SANITARY SEWER, MANHOLE AND DIRECTION OF FLOW
- EXISTING STORM SEWER, MANHOLE AND DIRECTION OF FLOW
- EXISTING 200mmø WATERMAIN
- EXISTING 300mmø WATERMAIN
- EXISTING 750mmø WATERMAIN
- EXISTING 1050mmø WATERMAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED THIRD PIPE SYSTEM
- PROPOSED WATERMAIN
- PROPOSED SLOPING (3:1)

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CO., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

GENERAL SERVICING PLAN

SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	GEN-2
CHECKED BY: JP	DATE: DEC 2014		

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_2000 NOVEMBER 2024.dwg Layout:GEN-2 Plotted Feb. 14, 2025 @ 2:09pm by kschutz The Jones Consulting Group Ltd.

MAYPORT DISTRIBUTION FACILITY
12333 AIRPORT ROAD
JOHNSON, SUSTRONK, WEINSTEIN AND ASSOCIATES
REF. No. 12-30

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRPORT ROAD

SALT CREEK

EX. POND

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF STUDY AREA

LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF GRAVEL/ASPHALT (TYP.)

BLOCK 1 | BLOCK 2 | BLOCK 3 | BLOCK 4 | BLOCK 5 | BLOCK 6 | BLOCK 7 | BLOCK 8 | BLOCK 9 | BLOCK 10 | BLOCK 11 | BLOCK 12 | BLOCK 13 | BLOCK 14 | BLOCK 15 | BLOCK 16 | BLOCK 17 | BLOCK 18 | BLOCK 19 | BLOCK 20 | BLOCK 101 | BLOCK 102 | BLOCK 103 | BLOCK 104 | BLOCK 105 | BLOCK 106 | BLOCK 107 | BLOCK 108 | BLOCK 109 | BLOCK 110 | BLOCK 111 | BLOCK 112 | BLOCK 113 | BLOCK 114 | BLOCK 115 | BLOCK 116 | BLOCK 117 | BLOCK 118 | BLOCK 119 | BLOCK 120

102 | 1,001
19.0

101 | 1,892
38.6

BH/MW-1 HWT 231.5 AUG.18/23
BH/MW-2 HWT 231.1 AUG.18/23
BH/MW-5 HWT 233.5 AUG.18/23
BH/MW-6 HWT 233.2 AUG.18/23
BH/MW-7 HWT 231.8 AUG.18/23
BH/MW-9 HWT 226.3 AUG.18/23
BH/MW-10 HWT 229.5 AUG.18/23
BH/MW-11 HWT 231.4 AUG.18/23
BH/MW-19 HWT 224.3 AUG.16/23
BH/MW-20 HWT 230.9 AUG.18/23
BH/MW-21 HWT 230.2 AUG.18/23
BH/MW-22 HWT 229.5 AUG.18/23

EX. 150mmø SANITARY SEWER

PROP. 250mmø SANITARY CONNECTION TO EX. MH, CONNECTION INV. 231.35±

EX. SANITARY MH
N INV.=230.92
S INV.=230.90

EX. 750mmø SANITARY SEWER @ 0.33%

EX. SANITARY MH 12
N INV.=230.431
S INV.=230.451

EX. 150mmø SANITARY SERVICE INV. 235.53±

EX. 150mmø SANITARY SEWER

EX. SANITARY MH
E INV.=223.156
W INV.=223.139

FUT. SAN SEWER

PROP. SAN SEWER BH/MW-11 HWT 232 AUG.18/23

STREET A (DAVIS LANE)

FUT. STREET B

SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.) PROPOSED TWO (2) INDUSTRIAL BUILDINGS AND PARKING WITH PRIVATE SEWER AND WATERMAINS AND CONNECTIONS TO THE MUNICIPAL SYSTEM. REFER TO THE PRELIMINARY SITE SERVICING FIGURE (SHEET No. 4), DATED JULY 22, 2021, PREPARED BY WSP (DRAWING No. 211-07736)

OPA AND ZBLA APPLICATION TO ZONE ALL HIGHWAY COMMERCIAL

PROP. 250mmø SAN CONNECTION TO EX. 750mmø SAN APPROX. INVERT 230.25 (BY OTHERS)

EX. 750mmø SAN SEWER @ 0.4%

S.W.M. POND 1
2.14ha

PROP. SANITARY CONNECTION

EX. 1200mmø CSP/ERPT
NW INV. 229.96
NE INV. 229.83

EX. 1800x2500mm ELIPICAL CSP/ERPT
NW OBV. 225.81
SE OBV. 225.62

PROP. 250mmø SAN CONNECTION TO EX. 250mmø SAN EX. INV.224.52

EX. 250mmø SAN SEWER @ 0.92%

FUT. S.W.M. POND 2
1.133ha

FUT. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

35m

EX. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

30m MEANDER BELT SETBACK (T.B.C.)

30m MEANDER BELT SETBACK (TO BE CONFIRMED)

TRCA REGULATORY (FSR SUBMISSION)

MEANDER BELT 2022

TRCA REGULATORY FLOOD LINE 2022

BLOCK 21 ENVIRONMENTAL PROTECTION

MEANDER BELT (FSR SUBMISSION)

BLOCK 22 ENVIRONMENTAL PROTECTION

PROP. 30m ARTERIAL ROAD - 36.0m R.O.W.

ROYAL LINKS CIRCLE

CARMEL CRESCENT

CITADEL CRESCENT

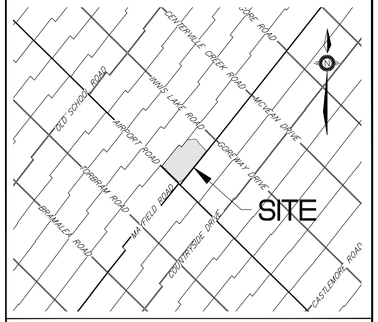
LAURENTIDE CRESCENT

MAISONNEUVE BLVD.

MAYFIELD ROAD

VALES OF CASTLEMORE NORTH SECONDARY PLAN CITY OF BRAMPTON

KEY MAP (N.T.S.)



GENERAL NOTES

1. EXISTING CONTOUR INFORMATION COMPILED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
2. EXISTING PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

- TRCA REGULATORY FLOOD LINE
- MEANDER BELT
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- SANITARY DRAINAGE BOUNDARY
- EXISTING SANITARY SEWER, MANHOLE AND DIRECTION OF FLOW
- PROPOSED SANITARY SEWER, MANHOLE AND DIRECTION OF FLOW

101 | 1899
34.37

- SANITARY AREA NUMBER
- TOTAL POPULATION
- AREA (HECTARES)
- DIRECTION OF SANITARY FLOW

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-05	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

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JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
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P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS — DATE

PROJECT NAME
TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

SANITARY DRAINAGE PLAN

SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	SAN-1
CHECKED BY: JP	DATE: DEC 2014		

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_2000 NOVEMBER 2024.dwg Layout:SAN-1 Plotted Feb 14, 2025 @ 2:27pm by kschulz The Jones Consulting Group Ltd.

MAYPORT DISTRIBUTION FACILITY
12333 AIRPORT ROAD
JOHNSON, SUSTRONK, WEINSTEIN AND ASSOCIATES
REF. No. 12-30

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.) PROPOSED TWO (2) INDUSTRIAL BUILDINGS AND PARKING WITH PRIVATE SEWER AND WATERMAINS AND CONNECTIONS TO THE MUNICIPAL SYSTEM. REFER TO THE PRELIMINARY SITE SERVICING FIGURE (SHEET No. 4), DATED JULY 22, 2021, PREPARED BY WSP (DRAWING No. 211-07736)

AIRPORT ROAD
PURDUE CT.
ROYAL LINKS CIRCLE
MAYFIELD ROAD
CARMEL CRESCENT
CITADEL CRESCENT
LAURENTIDE CRESCENT
VALES OF CASTLEMORE NORTH SECONDARY PLAN CITY OF BRAMPTON

STREET A (DAVIS LANE) 26m
STREET A (DAVIS LANE)
FUT. STREET B
MAISONNEUVE BLVD.

BLOCK 1 BLOCK 2 BLOCK 3 BLOCK 4 BLOCK 5 BLOCK 6 BLOCK 7 BLOCK 8 BLOCK 9 BLOCK 10 BLOCK 11 BLOCK 12 BLOCK 13 BLOCK 14 BLOCK 15 BLOCK 16 BLOCK 17 BLOCK 18 BLOCK 19 BLOCK 20 BLOCK 21 BLOCK 22 BLOCK 101 BLOCK 102 BLOCK 103 BLOCK 104 BLOCK 105 BLOCK 106 BLOCK 107 BLOCK 108 BLOCK 109 BLOCK 110 BLOCK 111 BLOCK 112 BLOCK 113 BLOCK 114 BLOCK 115 BLOCK 116 BLOCK 117 BLOCK 118 BLOCK 119 BLOCK 120

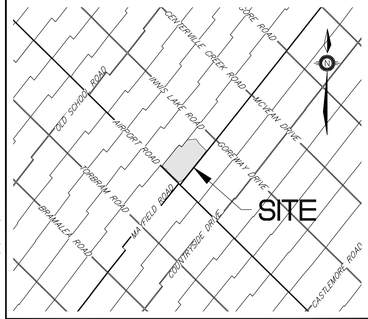
LIMIT OF STUDY AREA
LIMIT OF TOWN OWNED LANDS
EX. POND
EX. POND OUTLET =230.64
TEMPORARY TURNING CIRCLE
FUT. DRAINAGE EASEMENT
PROP. EASEMENT FOR 12151 AIRPORT ROAD STORM AND SANITARY SERVICING AND MAJOR OVERLAND FLOW
TEMP. DRAINAGE EASEMENT
PROP. OVERLAND FLOW SPILL TO ROW ELEV=231.90m
PROP. 26m R.O.W. PER CALEDON STANDARD No. 211 (TYP.)
GRADE ROAD TO MATCH EXISTING
PROP. TEMP. MATCH INTO EX. LOCATION
FUT. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR
FUT. 6.0m WIDE EMERGENCY OVERFLOW WEIR INV. 228.40
PROP. 12.0m WIDE EMERGENCY OVERFLOW WEIR INV. 226.70
MAJOR OVERLAND FLOW INLET TO SWMP
FUT. MAJOR OVERLAND FLOW INLET TO SWMP HAZEL FLOOD LIMIT
S.W.M. POND 1
FUT. S.W.M. POND 2
PROP. 3000mm(W)x1500mm(H) CONC. BOX CULVERT
EX. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

SALT CREEK
TRCA REGULATORY (FSR SUBMISSION)
MEANDER BELT 2022
TRCA REGULATORY FLOOD LINE 2022
30m MEANDER BELT SETBACK (TO BE CONFIRMED)
MEANDER BELT
BLOCK 21 ENVIRONMENTAL PROTECTION
BLOCK 22 ENVIRONMENTAL PROTECTION

BH/MW-1 HWT 231.5 AUG.18/23
BH/MW-2 HWT 231.1 AUG.18/23
BH/MW-3 HWT 233.2 AUG.18/23
BH/MW-4 HWT 231.5 AUG.18/23
BH/MW-5 HWT 231.5 AUG.18/23
BH/MW-6 HWT 229.5 AUG.18/23
BH/MW-7 HWT 231.8 AUG.18/23
BH/MW-8 HWT 229.5 AUG.18/23
BH/MW-9 HWT 228.3 AUG.18/23
BH/MW-10 HWT 229.5 AUG.18/23
BH/MW-11 HWT 231.4 AUG.18/23
BH/MW-12 HWT 230.2 AUG.18/23
BH/MW-13 HWT 232.1 AUG.18/23
BH/MW-14 HWT 229.5 AUG.18/23
BH/MW-15 HWT 229.5 AUG.18/23
BH/MW-16 HWT 229.5 AUG.18/23
BH/MW-17 HWT 229.5 AUG.18/23
BH/MW-18 HWT 229.5 AUG.18/23
BH/MW-19 HWT 228.5 AUG.18/23

Ex. 600mm CULVERT
Ex. 450mm CULVERT SW INV. 232.14 NE INV. 232.10
Ex. 450mm CULVERT SW INV. 231.95 NE INV. 231.21
Ex. 400mm CULVERT SW INV. 230.12 NE INV. 230.10
Ex. 400mm CULVERT SW INV. 230.46 NE INV. 230.32
Ex. 1200mm CULVERT SW INV. 229.36 NE INV. 229.61
Ex. CULVERT SW INV. 229.65 NE INV. 229.70
Ex. 900mm CULVERT
Ex. 1800x2600mm ELIPICAL CULVERT NW OBV. 225.81 SE OBV. 225.62
Ex. CULVERT SW INV. 228.88 NE INV. 228.85

KEY MAP (N.T.S.)



GENERAL NOTES

1. EXISTING CONTOUR INFORMATION COMPILED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
2. EXISITNG PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

- EXISTING CONTOURS
- EXISTING DRIPLINE
- EXISTING DITCH
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- LIMIT OF STUDY AREA
- TRCA REGULATORY FLOOD LINE
- SALT CREEK MEANDER BELT
- 30m MEANDER BELT SETBACK
- PROPOSED DITCH
- ×255.58 EXISTING SPOT ELEVATION
- ×231.54 PROPOSED SPOT ELEVATION
- 1.0% PROPOSED GRADIENT SLOPE
- PROPOSED SLOPING (3:1)
- OVERLAND FLOW DIRECTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JJP	2024-03	DRAFT PLAN SUBMISSION		
1	JJP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT
JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CO., B.ENG., P. ENG. DIRECTOR OF PUBLIC WORKS — DATE

PROJECT NAME
TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

GRADING PLAN

SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	LG-1
CHECKED BY: JP	DATE: DEC 2015		

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_GRADING NOVEMBER 2024.dwg Layout:LG-1 Plotted Feb 14, 2025 @ 8:29am by kschulz The Jones Consulting Group Ltd.

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRFIELD DEVELOPMENTS INC.
c/o FIRST PRO SHOPPING CENTRES
700 ANNEWOOD CRESCENT, SUITE 100
VAUGHAN, ONTARIO, L4K 5X3
ATTN: EMILY FOUKHTMAN

RITA POLSINELLI
13040 8th CONCESSION,
KING CITY, ONTARIO, L7B 1K4

AIRPORT ROAD

PURDUE CT.

MAYFIELD ROAD

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF STUDY AREA

PROPERTY # 1
12151 AIRPORT ROAD

PROPERTY # 2
12117 AIRPORT ROAD

PROPERTY # 3
AIRPORT ROAD

PROPERTY # 4
12101 AIRPORT ROAD

PROPERTY # 5
0 AIRPORT ROAD

PROPERTY # 6
6034 MAYFIELD ROAD

PROPERTY # 7
6086 MAYFIELD ROAD

PROPERTY # 8
6186 MAYFIELD ROAD

PROPERTY # 9
6230 MAYFIELD ROAD

PROPERTY # 10
MAYFIELD ROAD

PROPERTY # 11
6206 MAYFIELD ROAD

PROPERTY # 12
6296 MAYFIELD ROAD

PROPERTY # 13
6340 MAYFIELD ROAD

BLOCK 1 1.468 ha.
BLOCK 2 4.800 ha.
BLOCK 3 2.108 ha.
BLOCK 4 4.655 ha.
BLOCK 5 4.079 ha.
BLOCK 6 1.285 ha.
BLOCK 8 0.107 ha.
BLOCK 9 0.233 ha.
BLOCK 10 0.335 ha.
BLOCK 11 0.242 ha.
BLOCK 13 0.252 ha.
BLOCK 14 1.460 ha.
BLOCK 15 0.445 ha.
BLOCK 16 0.121 ha.
BLOCK 17 0.101 ha.
BLOCK 18 0.040 ha.
BLOCK 19 0.083 ha.
BLOCK 20 0.023 ha.
BLOCK 21 1.695 ha.
BLOCK 22 2.727 ha.
BLOCK 101 1.363 ha.
BLOCK 102 4.416 ha.
BLOCK 103 0.312 ha.
BLOCK 104 3.737 ha.
BLOCK 105 5.095 ha.
BLOCK 106 6.903 ha.
BLOCK 107 0.775 ha.
BLOCK 108 3.104 ha.
BLOCK 109 0.095 ha.
BLOCK 110 0.486 ha.
BLOCK 111 0.274 ha.
BLOCK 112 0.047 ha.
BLOCK 113 0.373 ha.
BLOCK 114 0.519 ha.
BLOCK 115
BLOCK 116 0.192 ha.
BLOCK 117 0.030 ha.
BLOCK 118 0.024 ha.
BLOCK 119 0.048 ha.
BLOCK 120 0.117 ha.

FUTURE PHASE
CURRENT PHASE
FUTURE PHASE

26.0m R.O.W. PER CALEDON STANDARD No. 211

FUT. INDUSTRIAL CUL-DE-SAC TYPE A PER CALEDON STANDARD No. 215

STREET A (DAVIS LANE)
STREET B

PROP. SILT FENCE AS PER TRCA DWG. No. 03

EX. CHANNEL

PROP. CHANNEL (253m LENGTH)

S.W.M. POND 1 2.14 ha

S.W.M. POND 2 1.907 ha

EX. POND

EX. POND

30m MEANDER BELT SETBACK (T.B.C.)

FUT. 35m ENVIRONMENTAL BLOCK

PROP. FUT. CULVERT

PROP. MUD MAT AS PER TRCA DWG. No. 05

FUTURE EDGE OF R.O.W.

FUTURE EDGE OF R.O.W.

ROYAL LINKS CIRCLE

CARMEL CRESCENT

CITADEL CRESCENT

LAURENTIDE CRESCENT

MAISONNEUVE BLVD.

EX. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

CASTLEMORE NORTH SECONDARY PLAN CITY OF BRAMPTON

SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.) PROPOSED OPA AND ZBA TO HIGHWAY COMMERCIAL FOR TWO (2) INDUSTRIAL BUILDINGS AND PARKING

SALT CREEK

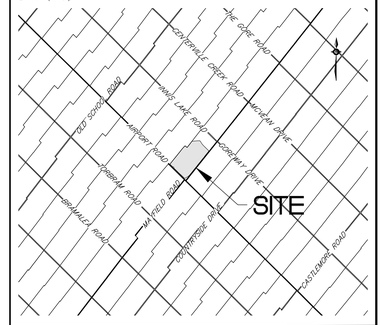
TRCA REGULATORY (FSR SUBMISSION)

MEANDER BELT 2022

TRCA REGULATORY FLOOD LINE 2022

MEANDER BELT (FSR SUBMISSION)

KEY MAP (N.T.S.)



GENERAL NOTES

1. EXISTING CONTOUR INFORMATION DERIVED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
2. EXISTING PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

- PROP. SILTATION CONTROL FENCE PER TRCA DWG. No. 03
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- LIMIT OF STUDY AREA
- TRCA REGULATORY FLOODLINE
- SALT CREEK MEANDER BELT
- 30m MEANDER BELT SETBACK

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

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Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

EROSION AND SEDIMENT CONTROL PLAN

SCALE: HORIZ. 1:2000 VERT.		PROJECT No.	CAL-13304
DESIGNED BY: KS/JP	DRAWN BY: KS	DRAWING No.	ESC-1
CHECKED BY: JP	DATE: NOV. 2023		

G:\Eng_30\CAL-13304\Design Dwgs\CAL-13304_FSR_ESC-1 FEB 2024.dwg Layout:ESC-1 Plotted Feb 14, 2025 @ 8:16am by kschulz The Jones Consulting Group Ltd.

MAYPORT DISTRIBUTION FACILITY
12333 AIRPORT ROAD
JOHNSON, SUSTRONK, WEINSTEIN AND ASSOCIATES
REF. No. 12-30

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.) PROPOSED TWO (2) INDUSTRIAL BUILDINGS AND PARKING WITH PRIVATE SEWER AND WATERMAINS AND CONNECTIONS TO THE MUNICIPAL SYSTEM. REFER TO THE PRELIMINARY SITE SERVICING FIGURE (SHEET No. 4), DATED JULY 22, 2021, PREPARED BY WSP (DRAWING No. 211-07736)

AIRPORT ROAD
PURDUE CT.
DAVIS LANE
MAYFIELD ROAD
ROYAL LINKS CIRCLE
CARMEL CRESCENT
CITADEL CRESCENT
LAURENTIDE CRESCENT
MAISONNEUVE BLVD.
VALES OF CASTLEMORE NORTH SECONDARY PLAN CITY OF BRAMPTON

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION
LIMIT OF DRAFT PLAN OF SUBDIVISION
LIMIT OF STUDY AREA

CURRENTLY OWNED TOWN LANDS. EX. DAVIS LANE LEGAL LINE WORK TAKEN FROM PLAN 43R-36141, PLAN OF SURVEY PART OF LOT 1, CONCESSION 1, TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL, PREPARED BY SCHAEFFER DZALDOV BENNETT LTD., DATED SEPT. 30, 2014.

EX. ASPHALT AND GRAVEL BASED ON TOWN OF CALEDON AERIAL IMAGERY, DATED 2024

EX. POND

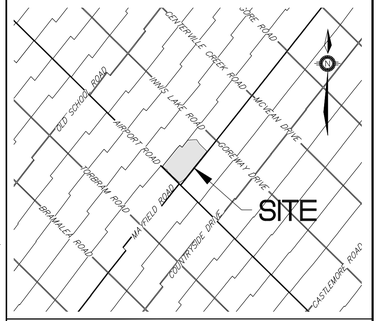
105 | 0.20 | 0.83
103 | 0.55 | 40.71
104 | 0.55 | 2.27
101 | 0.55 | 0.39
102 | 0.55 | 8.91

BH/MW-1 HWT 231.5 AUG.18/23
BH/MW-2 HWT 231.1 AUG.18/23
BH/MW-3 HWT 231.5 AUG.18/23
BH/MW-4 HWT 232.2 AUG.18/23
BH/MW-5 HWT 231.5 AUG.18/23
BH/MW-6 HWT 231.5 AUG.18/23
BH/MW-7 HWT 231.8 AUG.18/23
BH/MW-9 HWT 226.3 AUG.18/23
BH/MW-10 HWT 229.5 AUG.18/23
BH/MW-11 HWT 233.4 AUG.18/23
BH/MW-13 HWT 232.5 AUG.18/23
BH/MW-15 HWT 231.5 AUG.18/23
BH/MW-19 HWT 224.3 AUG.18/23
BH/MW-20 HWT 222.4 AUG.18/23
BH/MW-21 HWT 230.2 AUG.18/23
BH/MW-22 HWT 229.0 AUG.18/23

EX. 600mmø CULVERT
EX. 450mmø CULVERT SW INV. 232.14 NE INV. 232.10
EX. 450mmø CULVERT SW INV. 231.85 NE INV. 231.72
EX. 400mmø CULVERT SW INV. 230.46 NE INV. 230.32
EX. 1200mmø CULVERT NW INV. 229.84 NE INV. 229.60
EX. 400mmø CULVERT SW INV. 230.13 NE INV. 230.00
EX. CULVERT SW INV. 229.65 NE INV. 229.70
EX. 1800x2500mm ELLIPICAL CULVERT NW OBV. 225.61 SE OBV. 225.62
EX. CULVERT SW INV. 228.89 NE INV. 228.85
EX. 400mmø CULVERT SW INV. 226.78 NE INV. 226.42
EX. BRIDGE OVER SALT CREEK

SALT CREEK
EX. POND
LIMIT OF STUDY AREA
30m MEANDER BELT SETBACK (TO BE CONFIRMED)
TRCA REGULATORY (FSR SUBMISSION)
MEANDER BELT 2022
TRCA REGULATORY FLOOD LINE 2022
30m MEANDER BELT SETBACK (T.B.C.)
MEANDER BELT (FSR SUBMISSION)

KEY MAP (N.T.S.)



GENERAL NOTES

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3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

- EXISTING CONTOURS
- EXISTING DRIPLINE
- LIMIT OF STUDY AREA
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- TRCA REGULATORY FLOOD LINE
- MEANDER BELT
- PRE-DEVELOPMENT STORM CATCHMENT BOUNDARY
- STORM CATCHMENT NUMBER
- RUN OFF COEFFICIENT
- AREA (HECTARES)
- DIRECTION OF EXTERNAL STORM DRAINAGE
- DIRECTION OF STORM DRAINAGE
- EXISTING DITCH
- EXISTING STORM SEWER, MANHOLE AND DIRECTION OF FLOW
- TOWN OWNED LANDS
- EXISTING GRAVEL/ASPHALT AREAS

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

PRE-DEVELOPMENT
STORM DRAINAGE PLAN

SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	STM-1
CHECKED BY: JP	DATE: DEC 2014		

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_2000 NOVEMBER 2024.dwg Layout:STM-1 Plotted: Feb 14, 2025 @ 1:55pm by kschulz The Jones Consulting Group Ltd.

Block Number	Block Area (ha)	Max. Rooftop Area (ha)	Rooftop Controls (40L/s/ha)	Max. Lot Level Area (ha)	Lot Level Control (180L/s/ha)	Target Water Balance Requirements (1,274 m³/yr/ha)
1	1.47	0.44	0.0176 m³/s	1.03	0.1848 m³/s	1,869
2	4.80	2.33	0.0932 m³/s	2.47	0.4441 m³/s	6,218
3	2.11	1.05	0.0421 m³/s	1.05	0.1894 m³/s	2,682
4	4.65	2.33	0.0930 m³/s	2.33	0.4187 m³/s	5,928
5&7	4.13	2.07	0.0826 m³/s	2.07	0.3719 m³/s	5,266
6	1.78	0.89	0.0356 m³/s	0.89	0.1605 m³/s	2,272
101	1.36	0.41	0.0163 m³/s	0.95	0.1717 m³/s	1,737
102	4.42	2.20	0.0881 m³/s	2.22	0.3988 m³/s	5,630
103	0.31	0.09	0.0037 m³/s	0.22	0.0392 m³/s	396
106	6.90	3.45	0.1380 m³/s	3.45	0.6212 m³/s	8,794
107	0.78	0.39	0.0154 m³/s	0.39	0.0697 m³/s	987
108 & 109	3.20	1.60	0.0639 m³/s	1.60	0.2879 m³/s	4,076
Total Private Lands	**35.91 ha**	**17.25 ha**	**0.6901 m³/s**	**18.66 ha**	**3.3585 m³/s**	**45,855 m³/yr**

MAYPORT DISTRIBUTION FACILITY
12333 AIRPORT ROAD
JOHNSON, SUSTRONK, WEINSTEIN AND ASSOCIATES
REF. No. 12-30

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

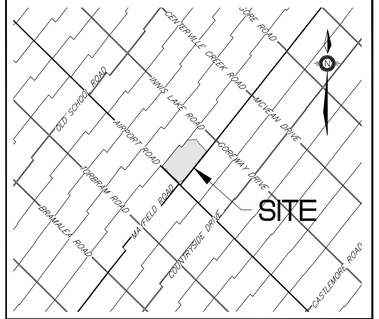
SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.) PROPOSED TWO (2) INDUSTRIAL BUILDINGS AND PARKING WITH PRIVATE SEWER AND WATERMAINS AND CONNECTIONS TO THE MUNICIPAL SYSTEM. REFER TO THE PRELIMINARY SITE SERVICING FIGURE (SHEET No. 4), DATED JULY 22, 2021, PREPARED BY WSP (DRAWING No. 211-07736)

AIRPORT ROAD
PURDUE CT.
MAYFIELD ROAD
ROYAL LINKS CIRCLE
CARMEL CRESCENT
CITADEL CRESCENT
LAURENTIDE CRESCENT
MAISONNEUVE BLVD.
VALES OF CASTLEMORE NORTH SECONDARY PLAN CITY OF BRAMPTON

STREET A (DAVIS LANE)
FUT. STREET B
SALT CREEK
EX. POND
EX. POND OUTLET =230.64
TEMP. DITCH INLET INV.=229.94
TEMP. OVERLAND FLOW SWALE & DRAINAGE EASEMENT
PROP. STORM SEWER FOR SERVICE CONNECTION
TEMP. STORM CONNECTION
FUT. STM SEWER
PROP. STM SEWER
FUT. 3RD PIPE SYSTEM
HAZEL FLOOD LIMIT
FUT. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR
EX. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR
FUT. S.W.M. POND 2 1.133ha
PROP. OGS FOR STM OUTLET
S.W.M. POND 1 2.14ha
PROP. MAJOR AND MINOR STORM INLET FOR MAYFIELD ROAD DITCH
PROP. STORM OUTLET TO SEWER (MINOR) AND EX. DITCH (MAJOR)
PROP. STORM OUTLET TO EX. DITCH (BY OTHERS)
EX. 300mmø WATERMAIN
EX. 600mmø CULVERT
EX. 450mmø CULVERT SW INV. 232.14 NE INV. 232.10
EX. 450mmø CULVERT SW INV. 231.95 NE INV. 231.71
EX. 400mmø CULVERT SW INV. 230.46 NE INV. 230.32
EX. 1200mmø CULVERT NW INV. 229.89 NE INV. 229.83
EX. 400mmø CULVERT SW INV. 230.13 NE INV. 230.00
EX. CULVERT SW INV. 229.65 NE INV. 229.70
EX. 3048mm x 1524mm BOX CULVERT
EX. 1800x2300mm ELLIPICAL CULVERT NW INV. 225.61 SE INV. 225.61
EX. CULVERT SW INV. 228.88 NE INV. 228.81
EX. 400mmø CULVERT SW INV. 226.76 NE INV. 226.41
EX. BRIDGE OVER SALT CREEK
EX. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR
TRCA REGULATORY (FSR SUBMISSION)
TRCA REGULATORY FLOOD LINE 2022
MEANDER BELT 2022
MEANDER BELT (FSR SUBMISSION)
30m MEANDER BELT SETBACK (T.B.C.)
30m MEANDER BELT SETBACK (TO BE CONFIRMED)
BLOCK 21 ENVIRONMENTAL PROTECTION
BLOCK 22 ENVIRONMENTAL PROTECTION
LIMIT OF STUDY AREA
LIMIT OF DRAFT PLAN OF SUBDIVISION

BLOCK 1 206|93 1.40
BLOCK 2 207|95 4.45
BLOCK 3 401|75 1.30
BLOCK 8
BLOCK 9
BLOCK 14
BLOCK 101 205|93 1.36
BLOCK 111
BLOCK 102 209|96 4.42
BLOCK 103 210|93 0.31
BLOCK 112
BLOCK 113
BLOCK 10
BLOCK 11 301|96 6.90
BLOCK 106
BLOCK 6 304|90 0.52
BLOCK 104 211|92 2.65
BLOCK 105
BLOCK 4
BLOCK 5 204|96 1.78
BLOCK 114
BLOCK 107 303|96 0.77
BLOCK 108 305|68 1.13
302|96 3.20
BLOCK 15
BLOCK 14 212|66 2.13
BLOCK 13
BLOCK 110
BLOCK 115
BLOCK 109
BLOCK 119
BLOCK 116
BLOCK 16
BLOCK 17
BLOCK 18
BLOCK 19
BLOCK 20
BLOCK 117
BLOCK 118
BLOCK 120
201|96 4.65
202|96 4.13
208|96 2.05
203|93 2.02
403|92 0.21
402|91 0.22
404|74 0.89

KEY MAP (N.T.S.)



GENERAL NOTES

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LEGEND

- EXISTING CONTOURS
- EXISTING DRIPLINE
- LIMIT OF STUDY AREA
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- TRCA REGULATORY FLOOD LINE
- MEANDER BELT
- POST-DEVELOPMENT STORM CATCHMENT BOUNDARY
- EXISTING STORM SEWER, MANHOLE AND DIRECTION OF FLOW
- PROPOSED STORM SEWER, MANHOLE AND DIRECTION OF FLOW
- PROPOSED THIRD PIPE SYSTEM, MANHOLE AND DIRECTION OF FLOW
- PROPOSED STORM SERVICE STUB AND DIRECTION OF FLOW
- STORM SUB CATCHMENT NUMBER
- CURVE NUMBER OR % IMPERVIOUS (18 | 0.90 / 1.24)
- AREA (HECTARES)
- DIRECTION OF EXTERNAL STORM DRAINAGE
- DIRECTION OF STORM DRAINAGE
- EXISTING DITCH
- PROPOSED DITCH
- PROPOSED SLOPING (3:1)

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

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PLANNERS & ENGINEERS
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Barrie, ON L4N 0W5
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F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

POST-DEVELOPMENT
STORM DRAINAGE PLAN

SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	STM-2
CHECKED BY: JP	DATE: DEC 2014		

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_2000 NOVEMBER 2024.dwg Layout:STM-2 Plotted: Feb 14, 2025 @ 2:12pm by kschulz. The Jones Consulting Group Ltd.

MAYPORT DISTRIBUTION FACILITY
12333 AIRPORT ROAD
JOHNSON, SUSTRONK, WEINSTEIN AND ASSOCIATES
REF. No. 12-30

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12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRPORT ROAD

PURDUE CT.

MAYFIELD ROAD

ROYAL LINKS CIRCLE

CARMEL CRESCENT

CITADEL CRESCENT

LAURENTIDE CRESCENT

VALES OF CASTLEMORE NORTH SECONDARY PLAN
CITY OF BRAMPTON

STREET A (DAVIS LANE)

STREET B

MAISONNEUVE BLVD

BLOCK 1 | BLOCK 2 | BLOCK 3 | BLOCK 4 | BLOCK 5 | BLOCK 6 | BLOCK 7 | BLOCK 8 | BLOCK 9 | BLOCK 10 | BLOCK 11 | BLOCK 12 | BLOCK 13 | BLOCK 14 | BLOCK 15 | BLOCK 16 | BLOCK 17 | BLOCK 18 | BLOCK 19 | BLOCK 20 | BLOCK 21 | BLOCK 22 | BLOCK 101 | BLOCK 102 | BLOCK 103 | BLOCK 104 | BLOCK 106 | BLOCK 107 | BLOCK 108 | BLOCK 109 | BLOCK 110 | BLOCK 111 | BLOCK 112 | BLOCK 113 | BLOCK 114 | BLOCK 115 | BLOCK 116 | BLOCK 117 | BLOCK 118 | BLOCK 119 | BLOCK 120

LIMIT OF STUDY AREA

LIMIT OF DRAFT PLAN OF SUBDIVISION

SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.) PROPOSED TWO (2) INDUSTRIAL BUILDINGS AND PARKING WITH PRIVATE SEWER AND WATERMAINS AND CONNECTIONS TO THE MUNICIPAL SYSTEM. REFER TO THE PRELIMINARY SITE SERVICING FIGURE (SHEET No. 4), DATED JULY 22, 2021, PREPARED BY WSP (DRAWING No. 211-07736)

EXT1 3.78ha EXT1A
EXT2 5.47ha EXT2A

EX. STORM SERVICE INV.=227.14
TEMP. STORM CONNECTION
PROP. STORM SEWER FOR SERVICE CONNECTION (TYP.)
TEMP. DITCH INLET INV.=229.94
TEMP. OVERLAND FLOW SWALE & DRAINAGE EASEMENT
FUT. STM SEWER
PROP. STM SEWER
EX. POND OUTLET =230.64
EX. 300mmø WATERMAIN
EX. POND
EX. LIMIT OF GRAVEL/ASPHALT (TYP.)

S.W.M. POND 1
2.14ha
PROP. MAJOR AND MINOR STORM INLET FOR MAYFIELD ROAD DITCH

FUT. S.W.M. POND 2
1.133ha
PROP. OGS FOR STM OUTLET

FUT. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

EX. 35m WIDE ENVIRONMENTAL PROTECTION CORRIDOR

HAZEL FLOOD LIMIT
FUT. 3RD PIPE SYSTEM

PROP. STORM OUTLET TO EX. DITCH (BY OTHERS)

PROP. STORM OUTLET TO SEWER (MINOR) AND EX. DITCH (MAJOR)

PROP. STORM OUTLET TO SEWER (MINOR) AND EX. DITCH (MAJOR)

EX. 450mmø CULVERT SW INV. 232.14 NE INV. 232.10

EX. 450mmø CULVERT SW INV. 231.95 NE INV. 231.73

EX. 400mmø CULVERT SW INV. 230.46 NE INV. 230.32

EX. 1200mmø RCP NW INV. 229.83 NE INV. 229.63

EX. 400mmø CULVERT SW INV. 230.13 NE INV. 230.30

EX. 600mmø CULVERT

EX. 900mmø CULVERT

EX. CULVERT SW INV. 229.65 NE INV. 229.70

FUT. 3048mm X 1524mm R. BOX CULVERT

EX. 1800x2300mm ELIPICAL CULVERT NW OBV. 225.81 SE OBV. 225.63

EX. CULVERT SW INV. 226.38 NE INV. 226.85

EX. BRIDGE OVER SALT CREEK

TRCA REGULATORY (FSR SUBMISSION)

MEANDER BELT 2022

TRCA REGULATORY FLOOD LINE 2022

30m MEANDER BELT SETBACK (T.B.C.)

30m MEANDER BELT SETBACK TO BE CONFIRMED

BLOCK 21 ENVIRONMENTAL PROTECTION

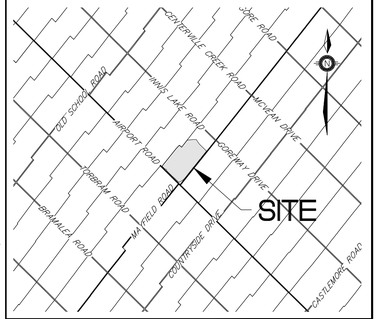
MEANDER BELT (FSR SUBMISSION)

BLOCK 22 ENVIRONMENTAL PROTECTION

SALT CREEK

BH/MW-1 HWT 231.5 AUG.18/23
BH/MW-2 HWT 231.7 AUG.18/23
BH/MW-5 HWT 231.5 AUG.18/23
BH/MW-6 HWT 233.2 AUG.18/23
BH/MW-7 HWT 231.8 AUG.18/23
BH/MW-9 HWT 226.3 AUG.18/23
BH/MW-10 HWT 229.5 AUG.18/23
BH/MW-11 HWT 231.4 AUG.18/23
BH/MW-12 HWT 232.5 AUG.18/23
BH/MW-19 HWT 224.5
BH/MW-21 HWT 230.2 AUG.18/23
BH/MW-22 HWT 229.6 AUG.18/23

KEY MAP (N.T.S.)



GENERAL NOTES
1. EXISTING CONTOUR INFORMATION COMPILED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
2. EXISTING PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010.
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

- EXISTING CONTOURS
- EXISTING DRIPLINE
- LIMIT OF STUDY AREA
- LIMIT OF DRAFT PLAN OF SUBDIVISION
- TRCA REGULATORY FLOOD LINE
- MEANDER BELT
- POST-DEVELOPMENT STORM CATCHMENT BOUNDARY
- EXISTING STORM SEWER, MANHOLE AND DIRECTION OF FLOW
- PROPOSED STORM SEWER, MANHOLE AND DIRECTION OF FLOW
- PROPOSED THIRD PIPE SYSTEM, MANHOLE AND DIRECTION OF FLOW
- PROPOSED STORM SERVICE STUB AND DIRECTION OF FLOW
- STORM SUB CATCHMENT NUMBER
- CURVE NUMBER OR % IMPERVIOUS (e.g. 18 | 0.90 / 1.24)
- AREA (HECTARES)
- DIRECTION OF EXTERNAL STORM DRAINAGE
- DIRECTION OF STORM DRAINAGE
- EXISTING DITCH
- PROPOSED DITCH
- PROPOSED SLOPING (3:1)

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JJP	2024-03	DRAFT PLAN SUBMISSION		
1	JJP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT
JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.794.2638
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CO., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS
DATE

PROJECT NAME
TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

POST-DEVELOPMENT
STORM SUB-CATCHMENT DRAINAGE PLAN

SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	STM-3
CHECKED BY: JP	DATE: DEC 2014		

G:\Eng_30\CAL-13304\Design Dwgs\CAL-13304_FSR_2000 NOVEMBER 2024.dwg Layout:STM-3, Plotted Feb 14, 2025 @ 2:22pm by kschulz The Jones Consulting Group Ltd.

TULLAMORE BUSINESS PARK (VITRANS LOGISTICS)
12203 AIRPORT ROAD
COUNTERPOINT ENGINEERING
REF. No. 05257

AIRFIELD DEVELOPMENTS INC.
c/o KIRST PRO SHOPPING CENTRES
700 ANTELWOOD TRESCENT, SUITE 100
VAUGHAN, ONTARIO, L4K 5X3
ATTN: EMILY FOUKHRAN

AIRPORT ROAD

PURDUE CT.

LIMIT OF STUDY AREA/LIMIT OF DRAFT PLAN OF SUBDIVISION

BLOCK 1

PROPERTY # 1
12151 AIRPORT ROAD

BLOCK 2

CURRENTLY OWNED TOWN LANDS.
EX. DAVIS LANE LEGAL LINE WORK
TAKEN FROM PLAN 43R-36141,
PLAN OF SURVEY PART OF LOT 1,
CONCESSION 1, TOWN OF CALEDON,
REGIONAL MUNICIPALITY OF PEEL,
PREPARED BY SCHAEFFER DZALDOV
BENNETT LTD., DATED SEPT. 30, 2014.

LIMIT OF DRAFT PLAN OF SUBDIVISION

BLOCK 3

BLOCK 8
BLOCK 9

PROPERTY # 3
AIRPORT ROAD

BLOCK 101

PROPERTY # 2
12117 AIRPORT ROAD

BLOCK 102

PROP. EASEMENT FOR
12151 AIRPORT ROAD
STORM AND SANITARY
SERVICING AND MAJOR
OVERLAND FLOW

26.0m R.O.W. PER CALEDON
STANDARD No. 211

STREET A (DAVIS LANE)

LIMIT OF DRAFT PLAN OF SUBDIVISION

BLOCK 111
BLOCK 113
BLOCK 10
BLOCK 11

EX. POND

PROPERTY # 4
12101 AIRPORT ROAD

BLOCK 103

BLOCK 112

BLOCK 9.A
TEMPORARY TURNING CIRCLE
(PER STANDARD No.217)

BLOCK 4

EX.
CHANNEL

BLOCK 5

BLOCK 6

BLOCK 12 STREET A
(DAVIS LANE)

BLOCK 105

PROPERTY # 8
6186 MAYFIELD ROAD

PROPERTY # 9
6230 MAYFIELD R

BLOCK 104

PROPERTY # 5
0 AIRPORT ROAD

PROPERTY # 6
6034 MAYFIELD ROAD

PROPERTY # 7
6086 MAYFIELD ROAD

SMARTCENTRES (ON BEHALF OF AIRFIELD DEVELOPMENTS INC. AND AIRFIELD II DEVELOPMENTS INC.)
PROPOSED OPA AND ZBA TO HIGHWAY COMMERCIAL FOR
TWO (2) INDUSTRIAL BUILDINGS AND PARKING

FUT. CHANNEL
(253m LENGTH)

BLOCK 15

S.W.M.
POND 1
2.14 ha

PROPERTY # 11
6206 MAYFIELD RO

BLOCK 14

BLOCK 7

BLOCK 13

FUT. DRAINAGE
EASEMENT

BLOCK 107

PROPERTY # 13
6340 MAYFIELD ROAD

BLOCK 108

FUT. 35m
ENVIRONMENTAL
BLOCK

BLOCK 115

FUT. S.W.M.
POND 2
1.133 ha

BLOCK 110

PROPERTY # 12
6296 MAYFIELD ROAD

BLOCK 109

BLOCK 119

STORM POND
AFTER ROADS

LIMIT OF STUDY AREA

MAYFIELD ROAD

BLOCK 116

LIMIT OF STUDY AREA

LIMIT OF DRAFT PLAN OF SUBDIVISION

BLOCK 16
BLOCK 17
BLOCK 18
BLOCK 19
BLOCK 20
BLOCK 117
BLOCK 118
BLOCK 120

MAYFIELD ROAD

FUTURE EDGE OF R.O.W.
ROYAL LINKS CIRCLE

CARMEL CRESCENT

CITADEL CRESCENT

CASTLEMORE NORTH
SECONDARY PLAN
CITY OF BRAMPTON

MAISONNEUVE BLVD.

FUTURE EDGE OF R.O.W.

FUT.
CULVERT

LAURENTIDE CRESCENT

EX. 35m WIDE
ENVIRONMENTAL
PROTECTION CORRIDOR

35m

AIRPORT ROAD

EX. POND

FUT. DRAINAGE
EASEMENT

LIMIT OF STUDY AREA

SALT CREEK

TRCA REGULATORY
(FSR SUBMISSION)

MEANDER BELT
2022

TRCA REGULATORY
FLOOD LINE 2022

BLOCK 106

PROPERTY # 10
MAYFIELD ROAD

INDUSTRIAL CUL-DE-SAC
TYPE A PER CALEDON
STANDARD No. 215

BLOCK 21

30m MEANDER
BELT SETBACK
(T.B.C.)
(LIMIT OF
DEVELOPMENT
LANDS)

BLOCK 114

FUT. STREET B

MEANDER BELT
(FSR SUBMISSION)

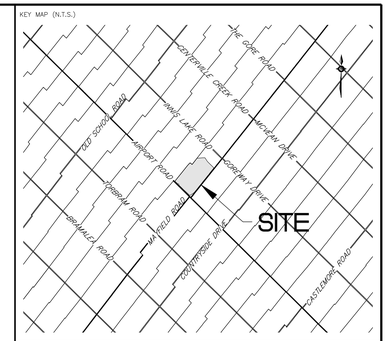
SALT CREEK

BLOCK 22

LIMIT OF STUDY AREA

MAYFIELD

KEY MAP (N.T.S.)



GENERAL NOTES

1. EXISTING CONTOUR INFORMATION DERIVED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
2. EXISTING PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010.
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

- LIMIT OF DRAFT PLAN OF SUBDIVISION
- LIMIT OF STUDY AREA
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- LIMIT OF TOWN OWNED LAND
- 233.00 EXISTING CONTOURS
- EXISTING DRAINAGE DITCH/SWALE
- EXISTING EDGE OF ASPHALT/GRAVEL
- TRCA REGULATORY FLOODLINE
- SALT CREEK MEANDER BELT
- 30m MEANDER BELT SETBACK
- POST-DEVELOPMENT STORM CATCHMENT BOUNDARY
- STORM SUB CATCHMENT NUMBER
- 119 | 75% / 0.08 CURVE NUMBER OR % IMPERVIOUS / AREA (HECTARES)

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA
FUNCTIONAL SERVICING REPORT

PUBLIC WORKS DEPARTMENT

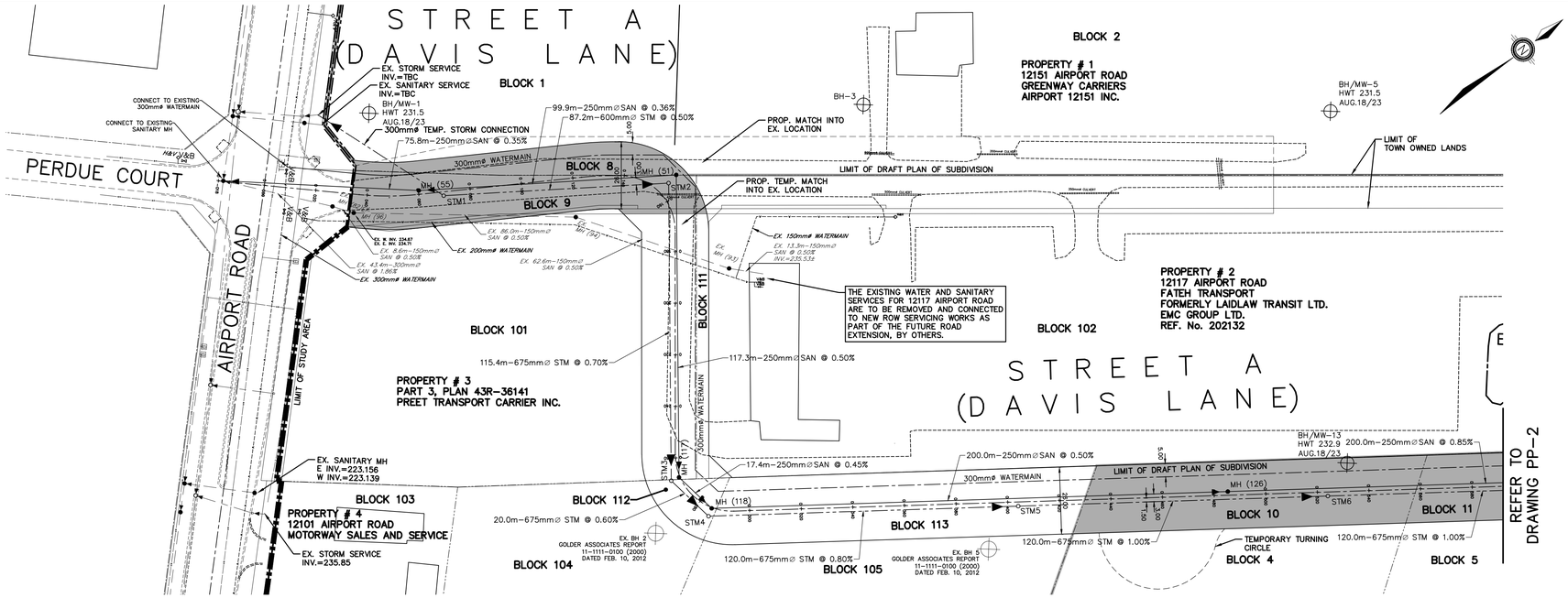
REGION OF PEEL

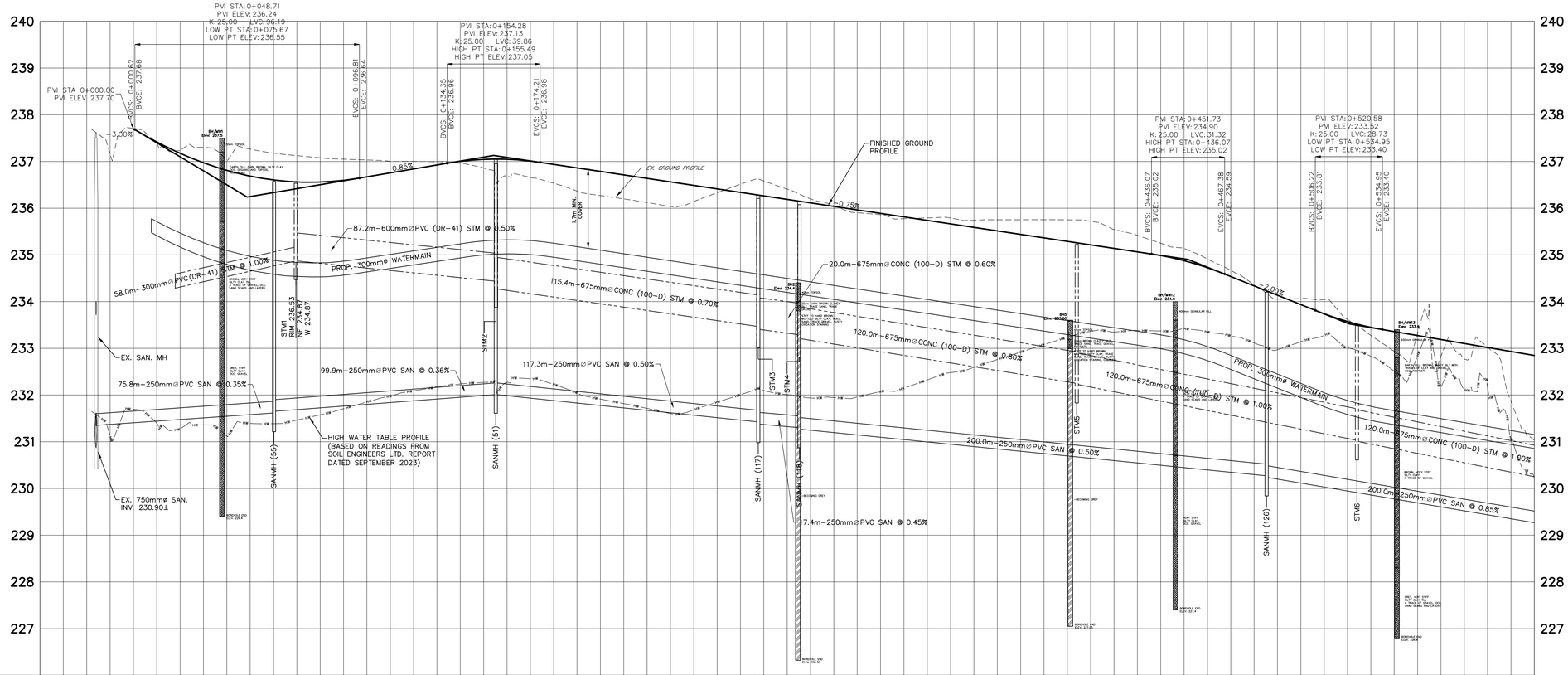
TOWN OF CALEDON

CONCEPTUAL LID PLAN

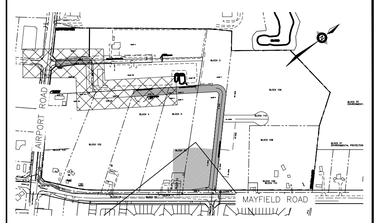
SCALE: HORIZ. 1:2000	VERT.	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	SWM-1
CHECKED BY: JP	DATE: FEB. 2025		

G:\Eng_30\CAL-13304\Design Dwgs\CAL-13304_FSR_CP-1 NOV 2024.dwg Layout:SWM-1 Plotted: Feb 14, 2025 @ 2:44pm by kschulz The Jones Consulting Group Ltd.





KEY MAP (N.T.S.)



GENERAL NOTES

LEGEND

LIMIT OF DRAFT PLAN OF SUBDIVISION

LIMIT OF STUDY AREA

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

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Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

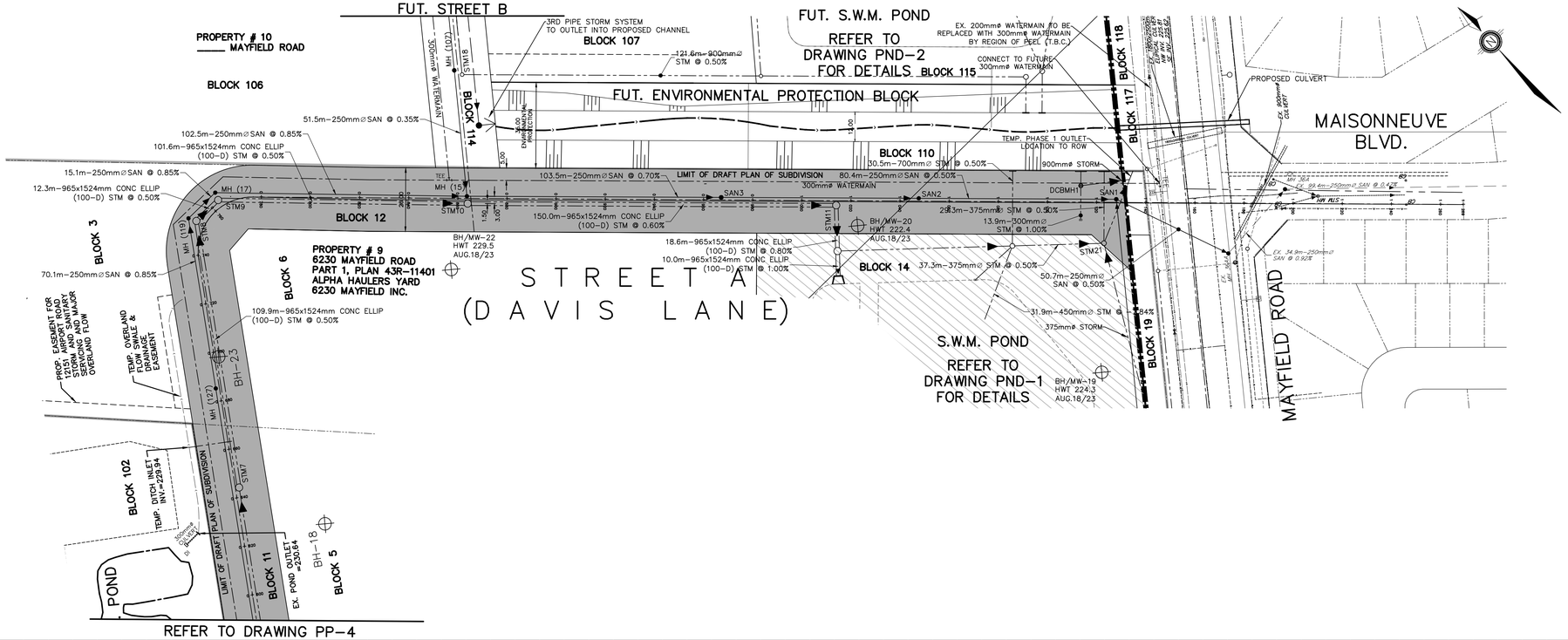
TOWN OF CALEDON

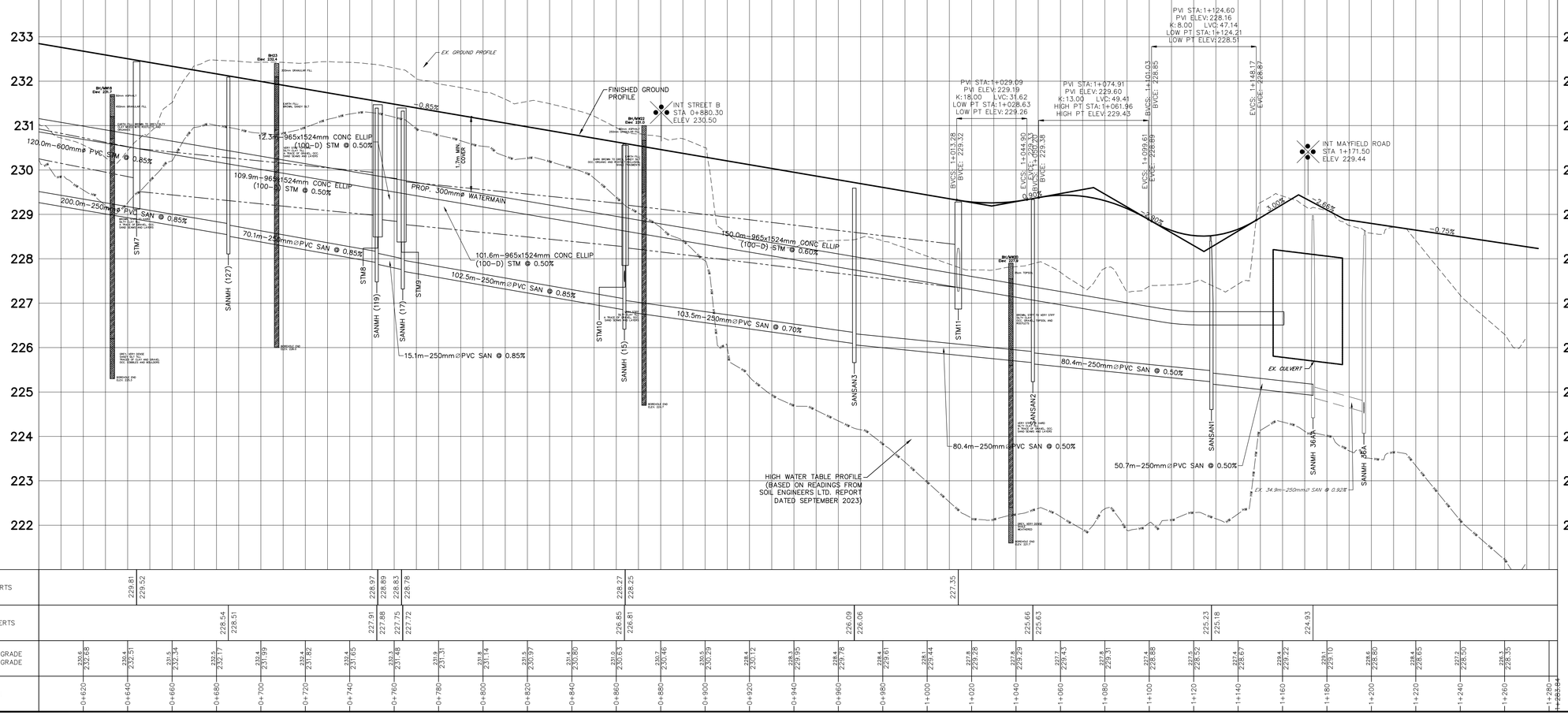
STREET A (DAVIS LANE)
PLAN AND PROFILE

STA. -0+018 TO STA. 0+600

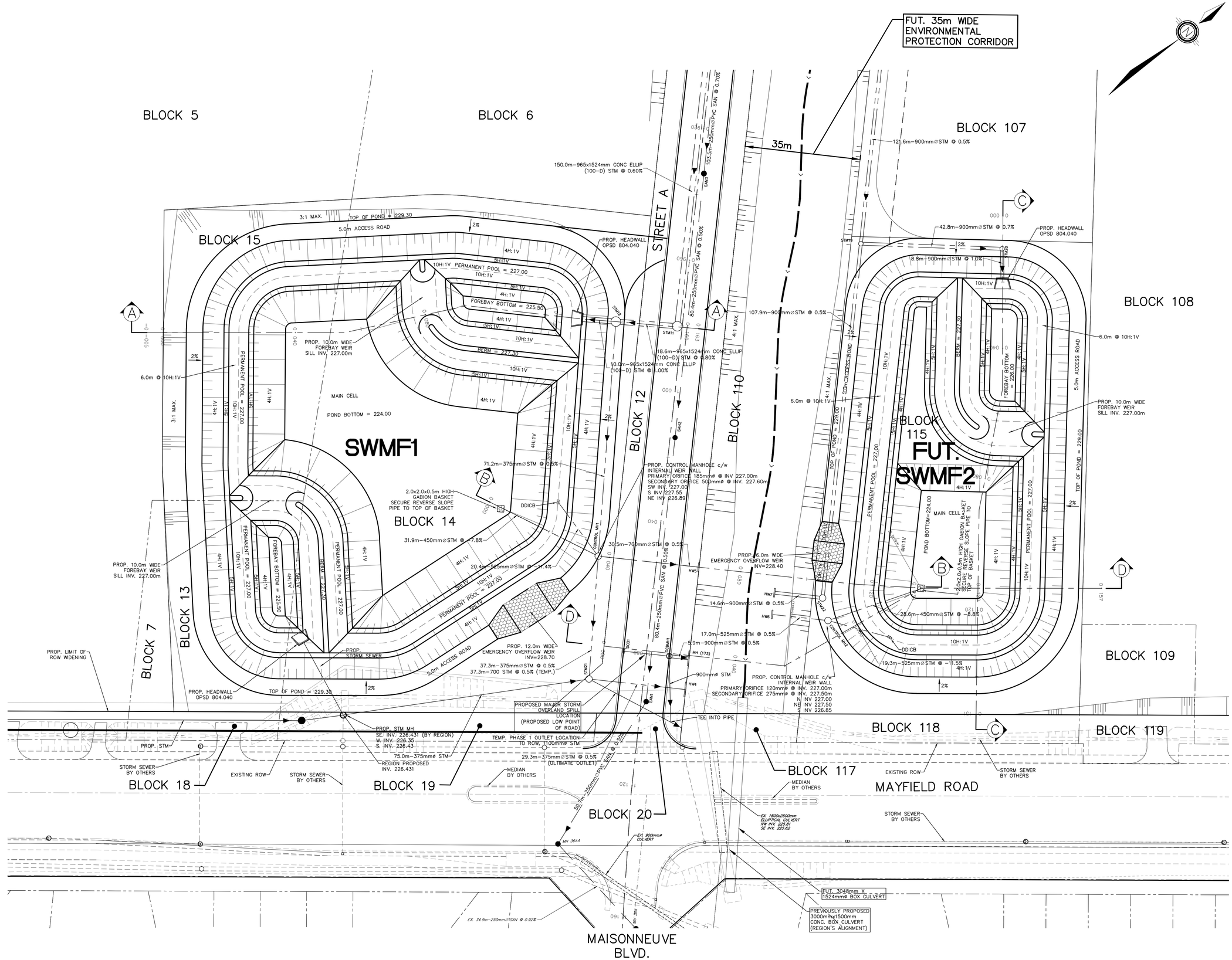
SCALE: HORIZ. 1:1000	VERT. 1:50	PROJECT No.	CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	DRAWING No.	PP-1
CHECKED BY: JP	DATE: DEC 2015		

© \\Eng_3D\CAL-13304\Design Data\CAL-13304_FSR_PP-STREET A-C NOVEMBER 2024.dwg Layout:PP-1 Plotted: Feb 14, 2025 @ 1:09pm by kschulz The Jones Consulting Group Ltd.

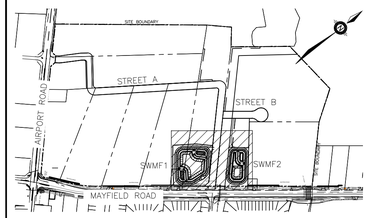

FUT. STREET B
PROPERTY # 10
MAYFIELD ROAD
BLOCK 106
3RD PIPE STORM SYSTEM TO OUTLET INTO PROPOSED CHANNEL BLOCK 107
FUT. S.W.M. POND
REFER TO DRAWING PND-2 FOR DETAILS BLOCK 115
EX. 200mmø WATERMAIN TO BE REPLACED WITH 300mmø WATERMAIN BY REGION OF PEEL (T.B.C.)
CONNECT TO FUTURE 300mmø WATERMAIN
FUT. ENVIRONMENTAL PROTECTION BLOCK
BLOCK 114
BLOCK 117
BLOCK 118
PROPOSED CULVERT
MAISONNEUVE BLVD.
TEMP. PHASE 1 OUTLET LOCATION TO ROW
BLOCK 110
LIMIT OF DRAFT PLAN OF SUBDIVISION
BLOCK 12
BLOCK 3
BLOCK 6
PROPERTY # 9
6230 MAYFIELD ROAD
PART 1, PLAN 43R-11401
ALPHA HAULERS YARD
6230 MAYFIELD INC.
STREET A
(DAVIS LANE)
BLOCK 14
S.W.M. POND
REFER TO DRAWING PND-1 FOR DETAILS
BLOCK 19
MAYFIELD ROAD
PROP. EASEMENT FOR 12151 AIRPORT ROAD STORM AND SANITARY SERVICING AND MAJOR OVERLAND FLOW
TEMP. OVERLAND FLOW SWALE & DRAINAGE EASEMENT
BLOCK 102
TEMP. DITCH INLET INV.=229.94
BLOCK 11
BLOCK 5
POND
EX. POND OUTLET =230.64
REFER TO DRAWING PP-4


EX. GROUND PROFILE
FINISHED GROUND PROFILE
INT STREET B STA 0+880.30 ELEV 230.50
INT MAYFIELD ROAD STA 1+171.50 ELEV 229.44
HIGH WATER TABLE PROFILE (BASED ON READINGS FROM SOIL ENGINEERS LTD. REPORT DATED SEPTEMBER 2023)
PROP. 300mmø WATERMAIN
EX. CULVERT
EX. 34.9m-250mmø SAN @ 0.92%
120.0m-600mmø PVC STM @ 0.85%
12.3m-965x1524mm CONC ELLIP (100-D) STM @ 0.50%
109.9m-965x1524mm CONC ELLIP (100-D) STM @ 0.50%
200.0m-250mmø PVC SAN @ 0.85%
70.1m-250mmø PVC SAN @ 0.85%
101.6m-965x1524mm CONC ELLIP (100-D) STM @ 0.50%
102.5m-250mmø PVC SAN @ 0.85%
15.1m-250mmø PVC SAN @ 0.85%
103.5m-250mmø PVC SAN @ 0.70%
150.0m-965x1524mm CONC ELLIP (100-D) STM @ 0.60%
80.4m-250mmø PVC SAN @ 0.50%
80.4m-250mmø PVC SAN @ 0.50%
50.7m-250mmø PVC SAN @ 0.50%
0.85%
3.00%
2.66%
0.75%
1.7m MIN COVER
PVI STA: 1+124.60
PVI ELEV: 228.16
K: 8.00 LVC: 47.14
LOW PT STA: 1+124.21
LOW PT ELEV: 228.51
PVI STA: 1+029.09
PVI ELEV: 229.19
K: 18.00 LVC: 31.62
LOW PT STA: 1+028.63
LOW PT ELEV: 229.26
PVI STA: 1+074.91
PVI ELEV: 229.60
K: 13.00 LVC: 49.41
HIGH PT STA: 1+061.96
HIGH PT ELEV: 229.43
BVCS: 1+013.28
BVCE: 229.32
EVCS: 1+044.90
EVCE: 229.26
BVCS: 1+087.61
BVCE: 229.60
EVCS: 1+101.03
EVCE: 228.85
EVCS: 1+148.17
EVCE: 228.67
STM7
STM8
STM9
STM10
STM11
STM21
SANMH (127)
SANMH (119)
SANMH (17)
SANMH (15)
SANSAN3
SANSAN2
SANSAN1
SANMH 36A
SANMH 35A
BH/MW3 Elev. 232.6
BH23 Elev. 232.4
BH/MW2 Elev. 231.0
BH/MW1 Elev. 229.8
BOREHOLE END ELEV. 220.0
BOREHOLE END ELEV. 223.7
BOREHOLE END ELEV. 221.7
BOREHOLE END ELEV. 221.0

| | | |



KEY MAP (N.T.S.)



GENERAL NOTES

1. EXISTING CONTOUR INFORMATION COMPILED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
2. EXISTING PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

LEGEND

FUTURE DRAINAGE CHANNEL

SECTION IDENTIFIER

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JP	2024-03	DRAFT PLAN SUBMISSION		
1	JP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

ELEVATION NOTE

ELEVATIONS ARE OF GEODETIC ORIGIN (CGVD-1928:78), AND ARE DERIVED FROM GNSS OBSERVATIONS AND NATURAL RESOURCES CANADA'S QCGEO MODEL HT2.0.

LOCAL BENCHMARK

TOP OF IRON BAR LOCATED AT SOUTHEAST CORNER OF No. 6206 BRICK BUILDING, HAVING AN ELEVATION OF 230.37 METRES.

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG. DIRECTOR OF PUBLIC WORKS — DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

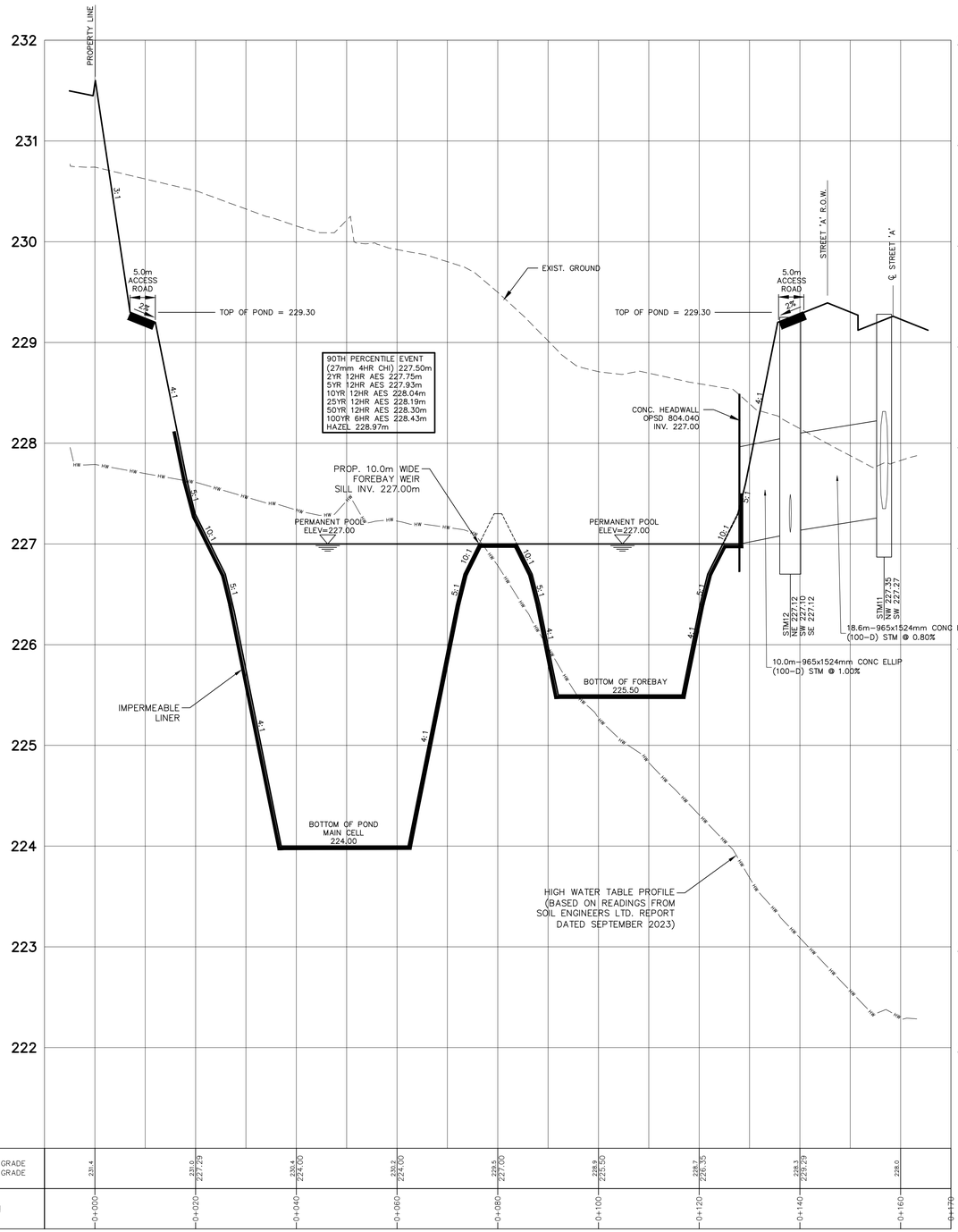
TOWN OF CALEDON

STORM WATER MANAGEMENT POND 1 & 2 PLAN VIEW

SCALE: HORIZ. 1:500	VERT. N/A	PROJECT No.	CAL-13304
DESIGNED BY: MF	DRAWN BY: JJH	FIGURE No.	PND-1
CHECKED BY: JP	DATE: DEC 2015		

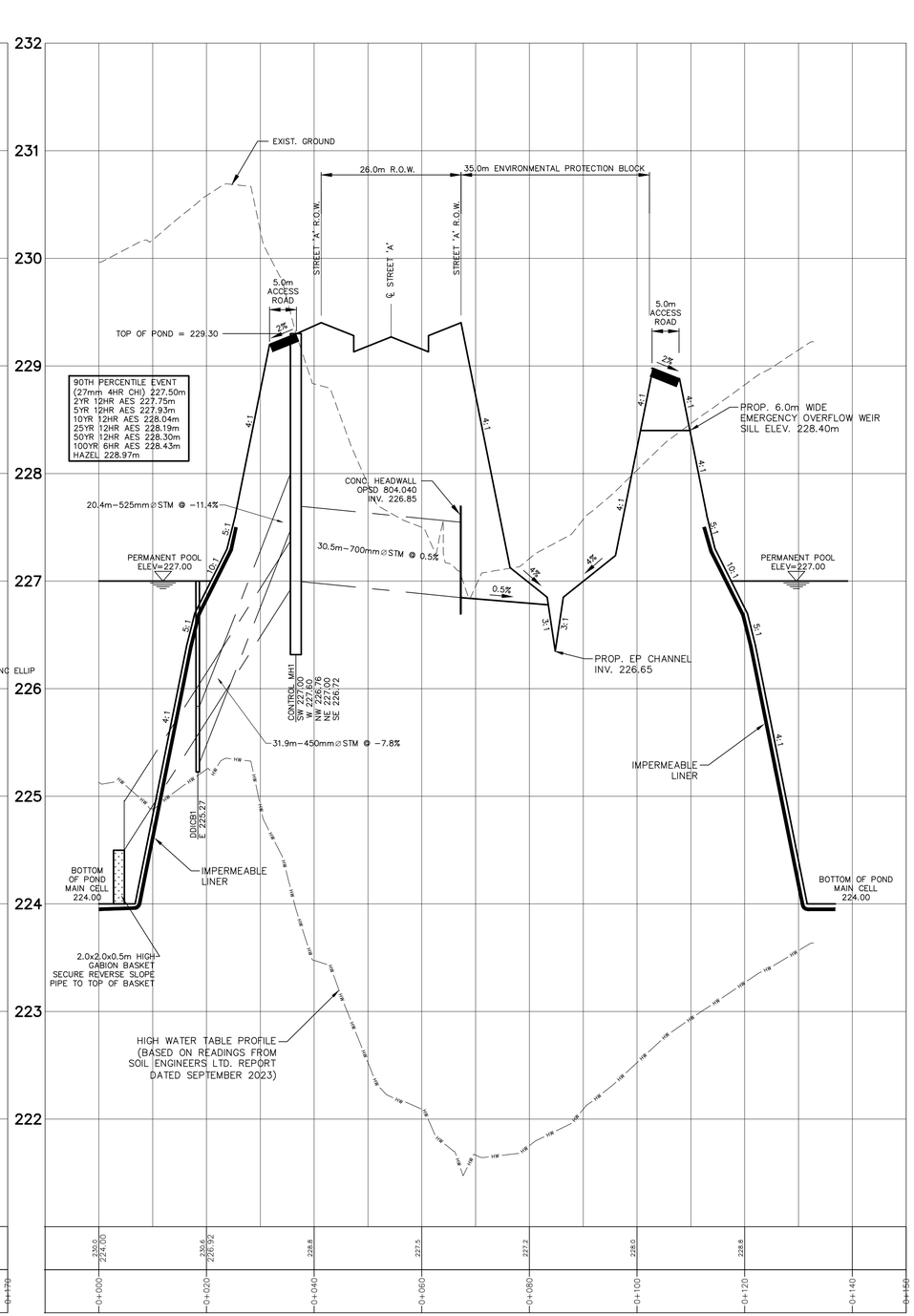
C:\Eng_30\CAL-13304\Design Dwgs\CAL-13304_FSR_PP-POND - FEB 2024.dwg Layout:PND-1 Plotted Feb 14, 2025 @ 3:31pm by Kschulz The Jones Consulting Group Ltd.

SWMF1 : SECTION A-A



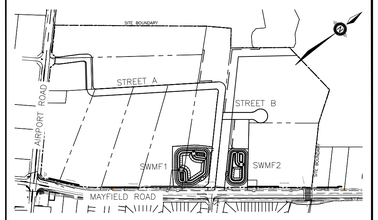
STATION	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+170
EXISTING C/L GRADE	231.4	231.0	230.4	230.2	229.5	228.9	228.7	228.3	228.0	
PROPOSED C/L GRADE		227.29	224.00	224.00	227.00	225.50	226.35	229.29		

SWMF1 : SECTION B-B



STATION	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+150
EXISTING C/L GRADE	230.0	230.6	228.8	227.5	227.2	228.0	228.8		
PROPOSED C/L GRADE	224.00	226.92							

KEY MAP (N.T.S.)



GENERAL NOTES

1. EXISTING CONTOUR INFORMATION COMPILED FROM FIRST BASE SOLUTIONS DEM SPRING 2002 AND TOPOGRAPHICAL SURVEY FROM DAVID J. PESCE SURVEYING (JULY 2011).
2. EXISTING PARCEL FABRIC DERIVED FROM FIRST BASE SOLUTIONS TERANET SPRING 2010
3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JJH	2024-03	DRAFT PLAN SUBMISSION		
1	JJH	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

ELEVATION NOTE

ELEVATIONS ARE OF GEODETIC ORIGIN (COVD-1928/76), AND ARE DERIVED FROM GNSS OBSERVATIONS AND NATURAL RESOURCES CANADA'S GEOID MODEL HT2.0.

LOCAL BENCHMARK

TOP OF IRON BAR LOCATED AT SOUTHEAST CORNER OF No. 6206 BRICK BUILDING, HAVING AN ELEVATION OF 220.37 METRES.

CONSULTANT

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG. DIRECTOR OF PUBLIC WORKS — DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

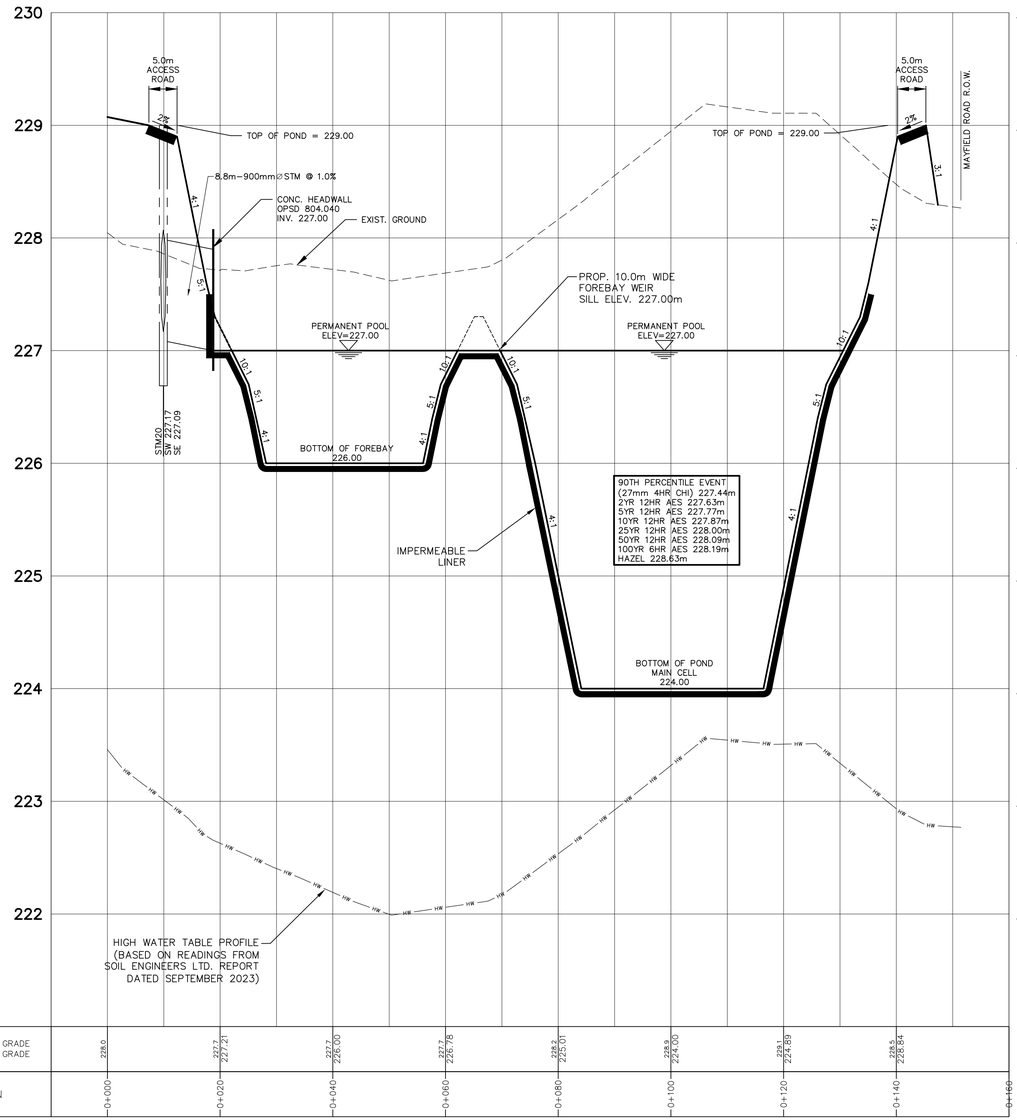
TOWN OF CALEDON

STORM WATER MANAGEMENT POND 1 (WEST)
SECTION A-A
SECTION B-B

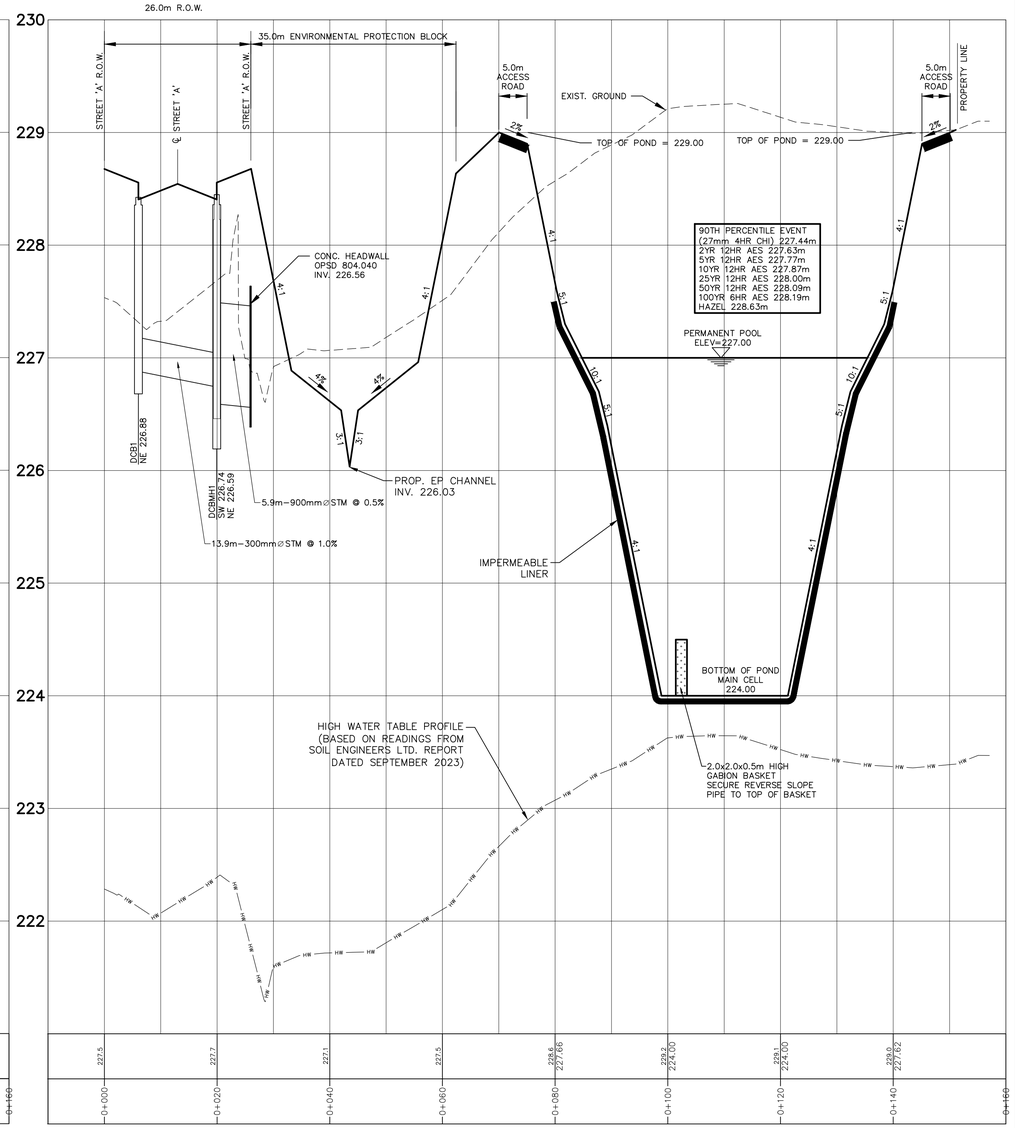
SCALE: HORIZ. 1:500	VERT. 1:25	PROJECT No. CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	FIGURE No. PND-2
CHECKED BY: JP	DATE: DEC 2015	

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_PP-POND - FEB 2024.dwg Layout:PND-2 Plotted Feb 14, 2025 @ 3:37pm by kschulz The Jones Consulting Group Ltd.

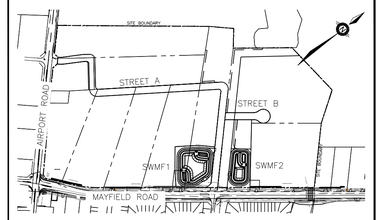
POND 2 : SECTION C-C



POND 2 : SECTION D-D



KEY MAP (N.T.S.)



GENERAL NOTES

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3. EXISTING SERVICING INFORMATION DERIVED FROM AS RECORDED DRAWINGS PROVIDED BY THE TOWN OF CALEDON AND REGION OF PEEL.

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
0	JJP	2024-03	DRAFT PLAN SUBMISSION		
1	JJP	2025-02	REVISED DRAFT PLAN SUBMISSION		

BENCH MARK:

ELEVATION NOTE

ELEVATIONS ARE OF GEODETIC ORIGIN (CGVD-1928:78), AND ARE DERIVED FROM GNSS OBSERVATIONS AND NATURAL RESOURCES CANADA'S GEOID MODEL HT2.0.

LOCAL BENCHMARK

TOP OF IRON BAR LOCATED AT SOUTHEAST CORNER OF No. 6206 BRICK BUILDING, HAVING AN ELEVATION OF 230.37 METRES.

CONSULTANT

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ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

DAVID LOVERIDGE CD., B.ENG., P. ENG.
DIRECTOR OF PUBLIC WORKS

DATE

PROJECT NAME

TULLAMORE SECONDARY PLAN AREA

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

STORM WATER MANAGEMENT POND 2 (EAST)
SECTION C-C
SECTION D-D

SCALE: HORIZ. 1:500 VERT. 1:25		PROJECT No. CAL-13304
DESIGNED BY: JJH	DRAWN BY: JJH	FIGURE No. PND-3
CHECKED BY: JP	DATE: DEC 2015	

G:\Eng_3D\CAL-13304\Design Dwgs\CAL-13304_FSR_PP-POND - FEB 2024.dwg Layout:PND-3 Plotted Feb 14, 2025 @ 3:40pm by kschulz The Jones Consulting Group Ltd.