



Excellence Reliance Innovation

Functional Servicing Report

Outdoor Storage and Warehouse

518, 520, 522, 524 Tiffin Street, City of Barrie, Ontario

September 2024

The Jones Consulting Group Ltd.
#1-229 Mapleview Drive East, Barrie ON L4N 0W5

PIO-21060 (70)



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Disclaimer

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Functional Servicing Report

Outdoor Storage and Warehouse

518-524 Tiffin Street (Pioneer Pools), City of Barrie, Ontario

1. Introduction

1.1. Appointment

The Jones Consulting Group Ltd. (TJCG) was retained by Pioneer Family Pools (Client) to provide engineering services for a proposed development consisting of an inventory storage yard and existing warehouse building on the property located at 518, 520, 522, & 524 Tiffin Street, City of Barrie (City).

This *Functional Servicing Report* (FSR) has been prepared in support of the *Site Plan Control* applications and demonstrates how the lands will be graded and serviced by the surrounding municipal infrastructure.

In particular, this report examines the property's servicing in relation to:

- Stormwater Management & Servicing;
- Sanitary Servicing;
- Water Servicing;
- Grading;
- Vehicular Movements & Traffic, and;
- Utilities.

1.2. Property Description

The subject property can be described as rectangular shape and approximately 0.494 hectares (ha) in size. The subject property is legally described as Part of Lot 25, Concession 7, Geographic Township of Vespra, City of Barrie. A copy of the subject lands proposed *Site Plan* prepared The Jones Consulting Group, Ltd., dated July, 2024, has been attached in **Appendix A**.

The location of the site is 518, 520, 522, & 524 Tiffin Street, City of Barrie. The properties front Tiffin Street which intersects Dunlop Street West (CR90) to the west and Ferndale Drive to the east. The



property is surrounded by existing General Industrial lands to the south, single detached dwelling to the east and vacant land to the north and west. The location of the subject property is shown below in **Figure 1**.

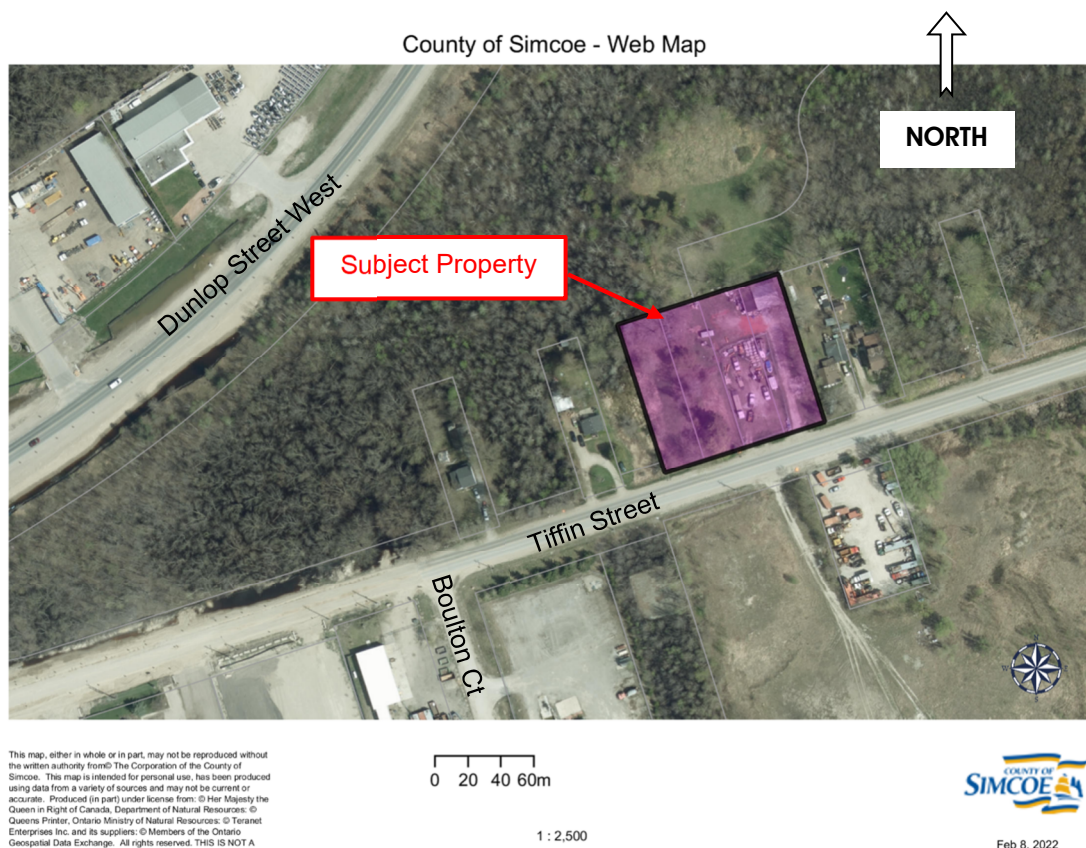


Figure 1 - Site Location Plan

The site topography ranges in elevation from a maximum elevation of 235.30 meters along the north property line of the site to a minimum elevation of 234.19 meters at the southwest of the site and 234.20 meters at the southeast side of the property. The subject lands are generally described as draining from the north to the south, dividing the flow with approximately one third of the flow reaching the southeast corner and roadside ditch flowing east and the remaining two thirds flowing to the southwest corner and Tiffin Street roadside ditch flowing west. Existing slopes range from 0.3% to 3%.



The *Agricultural Information Atlas* (AgMaps) prepared by the *Ontario Ministry of Agriculture, Food and Rural Affairs* (OMAFRA) shows the site generally consisting of Urban soil (UR) with a historical inclusion in the Muck soil group (M). The Muck soils are noted to have very poor drainage characteristics. These soils belong predominately to the Group B of the SCS Hydrological Soils Group Classification System. A copy of the map has been attached in **Appendix A**.

1.3. Existing and Proposed Land Use

The lands are currently used for two purposes: vacant lands in the west two lots and industrial uses in the east two lots, as surface storage. There are two existing structures on the property, surrounded by gravel surfaces and grass areas.

The site is currently designated as Environmental Protection in the City's Official Plan (OP), with General Industrial Lands bordering along the east side and General Commercial along the northwest side. The property is currently zoned Environmental Protection (EP) in the City's Zoning By-Law.

The proposed development will remove the existing structure near the northwest corner, with the northeast structure remaining as warehouse space. The site will consist of mainly gravel surface storage areas with an asphalt drive and parking area adjacent to the warehouse, as well as open space and stormwater management lands along the property boundaries. For further detail, refer to the proposed *Site Plan* prepared by The Jones Consulting Group, Ltd., dated July 10, 2024, which has been included in **Appendix A**.

1.4. Overview of Municipal Infrastructure

1.1.1 Stormwater Servicing

Currently, there are existing storm ditches along Tiffin Street which capture the flow from the site. There is a high point along the property frontage with approximately one third of the water flowing to the east and the remaining two thirds flowing to the west. It is assumed that this water makes its way to the Bear Creek Wetland on the south side of Tiffin Street. Stormwater management facilities will be provided to support development of the subject lands.

The proposed stormwater management facilities will be designed and constructed in accordance with the latest standards issued by the City of Barrie, Lake Simcoe Region Conservation Authority (LSRCA), and Ministry of Environment, Conservation and Parks (MECP).



Surface SWM facilities are proposed through the use of Low Impact Development (LID) controls along the perimeter of the site to meet Runoff Volume Control Targets (RVCT) and provide quality control through infiltration and filtration of stormwater runoff.

1.1.2 Water Servicing

Currently, there is an existing 300mm water supply along Tiffin Street with a hydrant located along the subject property frontage.

The subject property is not proposing to connect to the water service as the building is intended to be used as warehouse space with no occupation during the workday.

1.1.3 Sanitary Servicing

There is an existing 600mm sanitary sewer along Tiffin Street.

The subject property is not proposing to connect to the sanitary system given the intended use of the existing building as a warehouse without temporary or permanent occupancy.

1.1.4 Road Network

The subject properties currently have a combined three entrances (two single and one double). It is proposed to eliminate one of those entrances resulting in two (2) gated entrances near the east and west property boundaries. The proposed internal road network makes provisions to provide adequate parking while maintaining access to the existing building and providing access to the storage areas.

1.5. Geotechnical Investigation and Reports

Analysis of the site's subsurface soils and groundwater conditions was initiated by GEI Consultants (GEI) in January 2022 to provide geotechnical recommendations for the site's construction requirements based on observed test pit and piezometer data. The investigation included the advancement of four (4) test pits to depths of approx. 3.0 meters below the existing ground surface.

The *Hydrogeological and Geotechnical Investigation prepared by GEI Consulting Engineers and Scientists (Geotechnical Report)* indicates that the site consists of a layer of fill approximately 0.5m in depth overlaying a layer of peat approximately 1.0m thick with a layer of sand underneath that, to the full depth of the test pits. The infiltration rate of the soil was estimated using grain size distribution and it was determined that the sand is permeable but due to the high water table, LID



facilities utilizing infiltration are not favourable. A copy of the *Hydrogeological and Geotechnical Investigation – Proposed Outdoor Storage Development – 518, 520, 522 and 524 Tiffin Street, Barrie, Ontario* prepared by GEI Consulting Engineers and Scientists, prepared by Cambium Inc., dated March 2022, has been submitted under separate cover for reference.

1.6. Supporting Documents

The following documents have been referenced in the preparation of this report:

- Ministry of the Environment (MOE), Stormwater Management Planning and Design Manual, March 2003;
- City of Barrie Drinking Water Infrastructure Design Standard, 2024;
- Lake Simcoe Region Conservation Authority Stormwater Technical Guidelines for Stormwater Management Submissions, April 2022;
- Hydrogeological and Geotechnical Investigation – Proposed Outdoor Storage Development, 518, 520, 522 and 524 Tiffin Street, Barrie, Ontario, GEI Consulting engineering and Scientists, March 4, 2022
- Low Impact Development Stormwater Management Planning & Design Guide Wiki, Sustainable Technologies Evaluation Program, 2021;
- Ministry of Transportation, Drainage Management Manual, February 2008;
- Soils Map of Simcoe County, Ontario, Soil Survey Report No. 29;

2. Stormwater Management

A *Stormwater Management Report* that reviews the existing and proposed drainage conditions of the site has been prepared by TJCG. It is submitted under separate cover however it should be read in conjunction with this report.

A review of online mapping has determined that the subject property is within the LSRCA regulation limits. A map of the site and overlaid regulation limits has been included in **Appendix B** for reference.



2.1. Stormwater Management Design Criteria

The stormwater management plan is intended to provide an environmentally sound approach to stormwater and drainage issues. The issues can be divided generally into five categories: runoff volume control, stormwater quality control, stormwater quantity control, water balance, and erosion & sediment control.

The following stormwater runoff control criteria have been established for the subject property:

- Due to the elevation constraints of the site, the minor system will consist of overland flow to the filtration swales along the perimeter of the property.
- Major system (overland flow) will be designed to safely convey regulatory event run-off to the designated outlets;
- Quantity control of stormwater runoff through on-site storage will be provided to reduce post development peak flows for the 2- through 100-year storm events to downstream;
- Runoff Volume Controls shall implement best management practices to infiltrate/filtrate runoff from the area of the site;
- Quality control of stormwater run-off will be provided in accordance with the “Enhanced” level of protection stipulated by the Ministry of Environment;
- Provide best efforts Nutrient Management to reduce post-development Phosphorus loads, and;
- Maintain or exceed existing annual water balance characteristics by promoting infiltration, where possible.

2.2. Erosion & Sediment Control

The proposed works will require an *Erosion and Sediment Control (ESC) Plan* in order to provide adequate protection of downstream receiver systems throughout construction. The proposed ESC works will include the construction and staging requirements of the development.

During construction, the majority of the topsoil will be removed from the grassed areas, approximately half of the site. 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 overland flow routes 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, including double silt fence along the downstream site boundary.
- 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 material that may be transported off site.
- Construction during dryer 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.
- A weekly monitoring program to ensure all ESC measures are in place and not damaged by vandalism or significant weather events.

Through proper implementation of the detailed erosion and sediment control measures, off-site impacts are expected to be minimized during the construction phase of the project.

3. Water Servicing

3.1. Existing Water Supply System

Record information provided by the City of Barrie confirm the existing water supply system is to the south of the site contained within the Tiffin Street right-of-way and is comprised of 300 mm dia. pipes and appurtenances.

City of Barrie records indicate two single 19mm diameter copper water services to 524 and 518 Tiffin Street. City of Barrie standards permit a single service to each development. Removal of the second service is to be considered during detailed design.

The existing watermain provides fire protection for the subject property, as well as the existing commercial/industrial buildings to the east and south.



Refer to the City of Barrie record drawings included in **Appendix A** for more details.

3.2. Proposed Water Demands

The development is not proposing to connect to the water system and as such, the following calculations are for fire protection purposes. These calculations include the flow that would be generated from a light industrial site the size of the subject property.

An allowance of 35 m³/ha/day has been used for the total site area to represent light industrial demands. Based on this use, the *Average Daily Flow (ADF)* is determined to be 17,255 L/d or 0.199 L/s.

The development's fire flow rates are estimated based on Table 8.1 of the *MOE Design Guidelines for Drinking Water Systems (2008)* and the *City of Barrie Design Guidelines for Drinking-Water Systems 2008*.

Based on the equivalent population of 77 people (35m³/ha/day x 0.494ha / 225 L/day/capita), the suggested fire flow rate based on MOE guidelines is 38 L/s for a duration of 2 hours. The fire flow criteria as set out by the City of Barrie indicates that a minimum flow of 333 L/s is required. Alternatively, a detailed assessment of required fire flows in accordance with the Fire Underwriters Survey may be utilized based on site specific development conditions. Since the City of Barrie criteria is more stringent, it will be the governing standard.

3.3. Water Design Flows

As outlined above, the Average Daily Flow (ADF) is determined to be 17,255 L/d or 0.199 L/s. In order to determine the appropriate water distribution design flows for the Maximum Daily Demand (MDD) and Peak Hour Demand (PHD), the ADF is multiplied by greater of City's and MECP's standard peaking factors. The peaking factors and corresponding flows are summarized below:

Design Criteria:

- *Average Daily Demand (ADD) = 35 m³/ha/day (City of Barrie Standards, 2021)*
- *Peak Hour Demand Factor (PHD) = 4.0 (MOE Drinking Water Guideline, 2008)*
- *Max. Day Demand Factor (MDD) = 2.75 (MOE Drinking Water Guideline, 2008)*
- *Min. Hour Demand Factor (MHD) = 0.40 (MOE Drinking Water Guideline, 2008)*
- *Fire Flow – Industrial = 333 L/s or as calculated by FUS (City of Barrie Standards, 2021)*



The Water Supply for Public Fire Protection; Fire Underwriter's Survey (FUS 1999) was applied to the existing building to determine the required fire flow as the development does not propose any new buildings. This calculation is based on the building area and the risk it poses to surrounding buildings. In an effort to be conservative, the following assumptions were made:

- occupancy contents were assumed to be at the highest risk – rapid burning
- no sprinkler system is installed
- the exposure to surrounding properties is assumed to be the property line except in the case of the southern exposure where the building on the property to the east is closer
 - North: 0.0m
 - East: 0.0m
 - South: 33.0m
 - West: 55.3m
- the exposure risk is assumed to be at the maximum level in each direction.

An estimate of the fire flow required is given by the following formula:

$$F = 220C\sqrt{A}$$

This estimate is then adjusted for the risk factor associated with the contents of the building. The remaining calculations are based on the contents value to arrive at a Final Adjusted Fire Flow.

Fire Flow:

$$F = 220 \times \sqrt{A}$$

$$F = 220 \times \sqrt{226}$$

$$F = 83 \text{ L/s}$$

Occupancy Contents:

$$F_{oc} = F \times [\text{Occupancy contents factor}]$$

$$F_{oc} = 83 \times 25\% \text{ increase}$$

$$F_{oc} = 20.75 \text{ L/s}$$

$$F_{oc} = 103.75 \text{ L/s}$$

Sprinkler System:

$$F_{ss} = F \times [\text{Sprinkler factor}]$$

$$F_{ss} = 103.75 \times 0\%$$



$$F_{ss} = 0$$

Exposure:

$$F_e = F \times [\text{Exposure factor}]$$

$$F_e = 103.75 \times 55\% \text{ increase}$$

$$F_e = 167 \text{ L/s}$$

This results in a Final Adjusted Fire Flow requirement of 167 L/s.

Refer to **Appendix C** for a drawing of the measurements and detailed calculations.

Peak Hour Demand:

$$Q = \text{Area} \times \text{ADD} \times \text{PHD}$$

$$Q = (0.494 \text{ ha} \times 35 \text{ m}^3/\text{ha}/\text{day} \times 1,000 \text{ L/m}^3 \times 4.0) / 86,400 \text{ s/day}$$

$$Q = 0.800 \text{ L/s}$$

Minimum Hour Demand:

$$Q = \text{Area} \times \text{ADD} \times \text{MHD}$$

$$Q = (0.494 \text{ ha} \times 35 \text{ m}^3/\text{ha}/\text{day} \times 1,000 \text{ L/m}^3 \times 0.40) / 86,400 \text{ s/day}$$

$$Q = 0.0800 \text{ L/s}$$

Max. Day Demand:

$$Q = \text{Area} \times \text{ADD} \times \text{MDD} + \text{FF}$$

$$Q = (0.494 \text{ ha} \times 35 \text{ m}^3/\text{ha}/\text{day} \times 1,000 \text{ L/m}^3 \times 2.75) / 86,400 \text{ s/day} + 167 \text{ L/s}$$

$$Q = 167.55 \text{ L/s}$$

3.4. Water Distribution System Analysis

The City and MECP require that the proposed water servicing be designed to ensure the minimum operating pressures and flows are maintained at all times throughout the system. A fire flow test was completed by Vipond Fire Protection on April 5th, 2022, the results of which are included in **Appendix C**. The results of the fire flow test, and estimated system capacity are as follows:

Flow Test Results:

- Static Pressure = 60 psi (Vipond)



- Residual Pressure = 56 psi (Vipond, Test #3)
- Allowable Pressure = 20 psi (MOE Drinking Water Guideline, 2008)
- Flow = 1306 GPM (Vipond, Test #3)

System Capacity:

$$QA = QT \times \sqrt{[ha / ht]}$$

$$Q = 1306 \text{ GPM} \times \sqrt{[(60 \text{ psi} - 20 \text{ psi}) / (60 \text{ psi} - 56 \text{ psi})]}$$

$$Q = 4,129 \text{ GPM (260.5 L/s)}$$

The calculations demonstrate the existing system has sufficient capacity to meet the Fire Flow requirements under the Maximum Day Demand scenario for the property.

The existing municipal fire hydrant located along the frontage of the property is within the minimum 90m of the building face, at approximately 61m from the face of the existing building to remain.

4. Sanitary Servicing

4.1. Existing Sanitary Sewer System

There is an existing 600mm sanitary sewer located in the Tiffin Street ROW. It is not proposed that the subject site connect to the sanitary system.

Refer to the City of Barrie record drawings included in **Appendix A** for more details.

5. Transportation & Vehicular Movements

5.1. External Road Network

The City of Barrie Official Plan Schedule 'D' Roads Plan classifies Tiffin Street as an arterial road. A copy of Schedule 'D' has been attached in **Appendix A**.

A five (5.0) meter road widening dedication to the City of Barrie is provided for across the site's entire frontage.



5.2. Proposed Site Entrance & Internal Road Network

The Site Plan proposes that the development be accessed via two (2) entrances. The proposed entrances will be to Tiffin Street along the subject site's southern boundary.

The subject site will consist of an internal asphalt roadway to the warehouse building as well as parking area, and a gravel storage area to the west of the roadway and building.

Refer to the Site Plan, dated April 4, 2022, attached in **Appendix A** for the proposed entrance locations, access road widths, storage areas and parking.

6. Site Grading

The proposed grading will conform to the City of Barrie's *Storm Drainage and Stormwater Management Policies and Design Guidelines*. The grading design is such the site will drain into enhanced swales at the southeast corner and along the northern and western property lines, and through an underdrain system prior to discharging into the roadside ditches along Tiffin Street. It is proposed to follow the existing drainage patterns where the eastern third of the property drains to the southeast corner and the remainder of the site drains to the west.

The grading is constrained by the elevation of the existing building and the outfall ditches along Tiffin Street as well as the high groundwater. As a result, the site's grading options are limited. The design takes these constraints into account and provides a grading plan that meets the desired drainage results.

The preliminary grading plan is shown on **Drawing SG-1** and included **Appendix D** for reference.

7. Secondary Utilities

The utility providers for the development include Enbridge Gas, Alectra Utilities, Bell Canada and Rogers Cable. There are no proposed changes to the secondary utility services as a result of the development.



8. Conclusions & Recommendations

This Functional Servicing Report read in conjunction with the civil engineering drawings demonstrates the proposed development can be properly graded and serviced with respect to municipal services and utilities. It is recommended that the approval authorities support the applications for Site Plan Control based on the following:

- The construction of a stormwater management strategy in the form of filtration swales to collect, store, infiltrate (if possible) and convey storm drainage, as outlined in **Section 2**;
- The utilization of filtration swales to achieve the site plan specific water balance and nutrient management criteria;
- The confirmation of adequate fire protection as outlined in **Section 3**;
- The provision of full movement vehicular access from the proposed site accesses to Tiffin Street, as outlined in **Section 5**
- The provision of Site Grading to allow sheet flow to the filtration swales and prevent flooding in trapped lows given the grading constraints resulting from the existing building elevation, groundwater elevations, and flat nature of the site, as outlined in **Section 6**; and,
- The coordination of Utility Infrastructure to prevent service disruptions to the site and surrounding properties during construction as outlined in **Section 7**.

Through proper execution of the site servicing described herein and on the accompanying drawings, it is evident that the proposed development can become a functional part of the City of Barrie.

All of which is respectfully submitted,

THE JONES CONSULTING GROUP LTD.

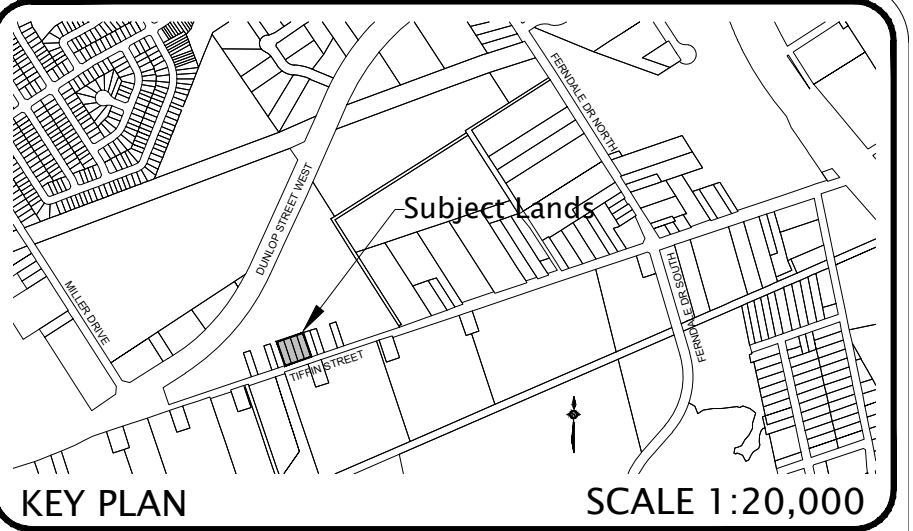
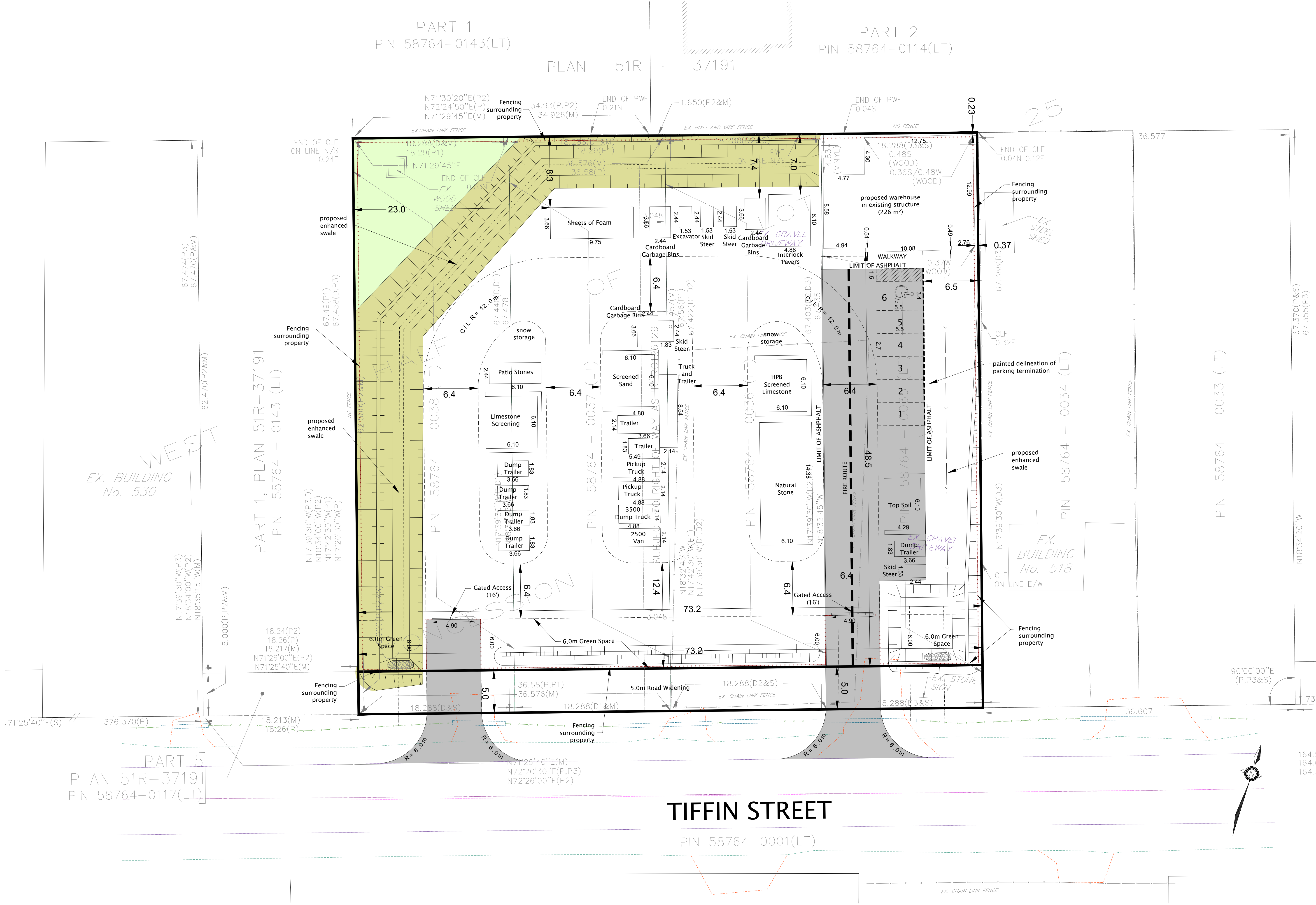


Appendix A

Planning & External Information

- Site Plan – PIO-21060 – CP 4
- AgMaps (OMAFRA) / Soil Map of Simcoe County, Report No. 29 of the Ontario Soil Survey Excerpt
- City of Barrie Official Plan – Schedule 'D'
- City of Barrie record drawings – Dunlop St. West/ Miller Dr. Tiffin St. Watermain (Phase 1),
 - Drawing 2006-030-007
 - Drawing 2006-030-008
 - Drawing 2006-030-009
 - Drawing 2006-030-010
 - Drawing 2006-030-011

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Site Plan
Municipally Known as
518, 520, 522, & 524 Tiffin Street
Part of West Half of Lot 25,
Concession 7
(Geographic Township of Vespra)
City of Barrie
County of Simcoe, 2024

Subject Lands 4934.5 m²

Zoning Table 7.3 - General Industrial (GI) Exception

Lot Area (min.)	Required	Provided
700 m ²	4934.5 m ²	4934.5 m ²
Lot Frontage (min.)	30 m	73.2 m
Front Yard (min.)	7 m	48.5 m
Side Yard (min.)	3 m	0.37 m (existing structure)
Rear Yard (min.)	7 m	0.23 m (existing structure)
Lot Coverage (max.)	60 % / 2,960.7 m ²	5 % / 226 m ²

Subject Lands 4934.5 m²

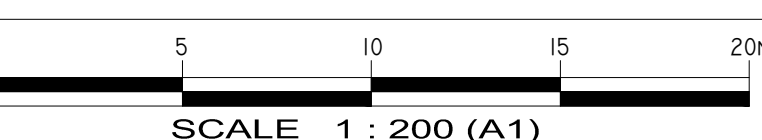
Zoning Table 4.6 - parking standards:

	Required	Provided
Warehouse - 1 space per 1000 m ² gfa	1 Space	1 Space
Outdoor Storage - 1 space per 1000 m ² of lot area	5 Spaces	5 Spaces
Total	6 Spaces	m6 Spaces

Barrier Free Parking 4.6.4 - Required Parking 5 to 25 spaces
= 1 Type A space (3.4m width + 1.5m access aisle)

Loading Spaces 4.7
Gross Floor Area 0 m² - 999 m² = 0 loading spaces required

- Limit of Asphalt
- Restoration Area
- SWM Swale (to be naturalized)
- Fire Route



PIONEER FAMILY POOLS BARRIE INC.
CONCEPT PLAN



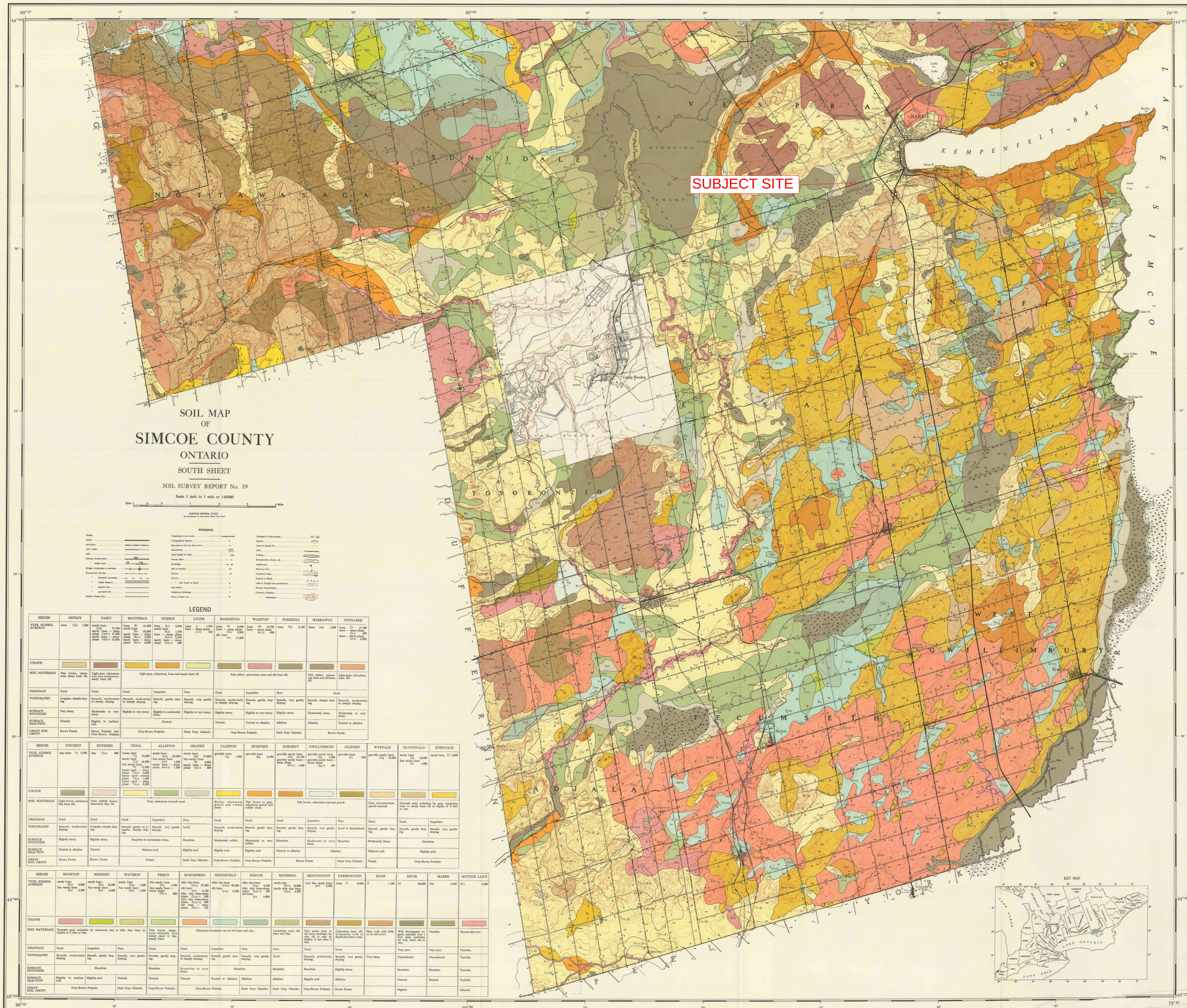
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Checked By: BC
Project No.: PIO-21060
Drawn By: m.c.r.
Drawing Name: PIO-21060-CP-12.dwg



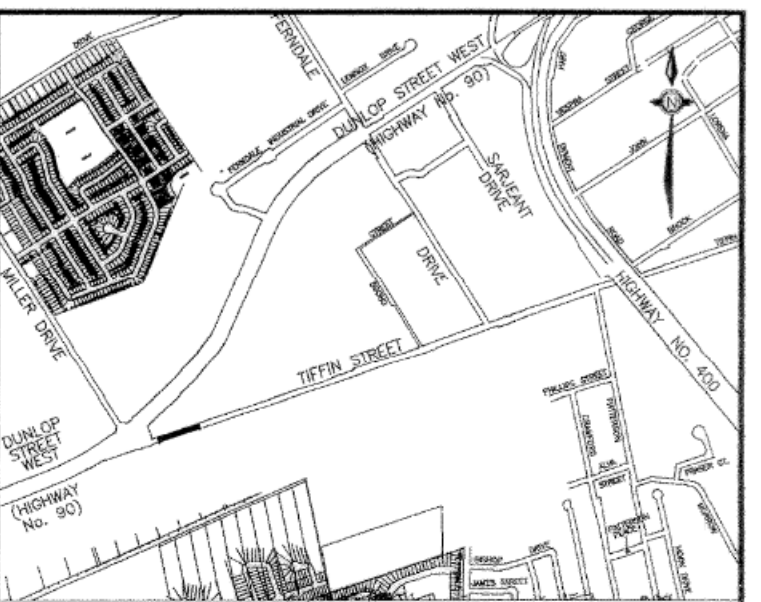
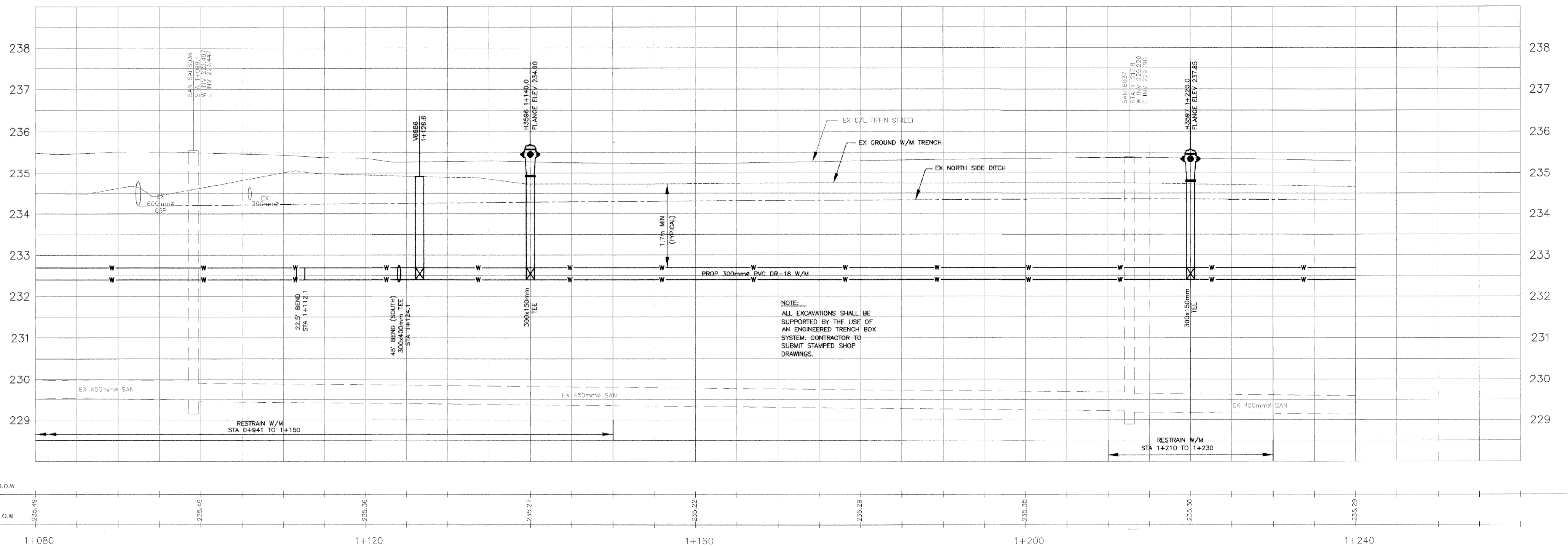
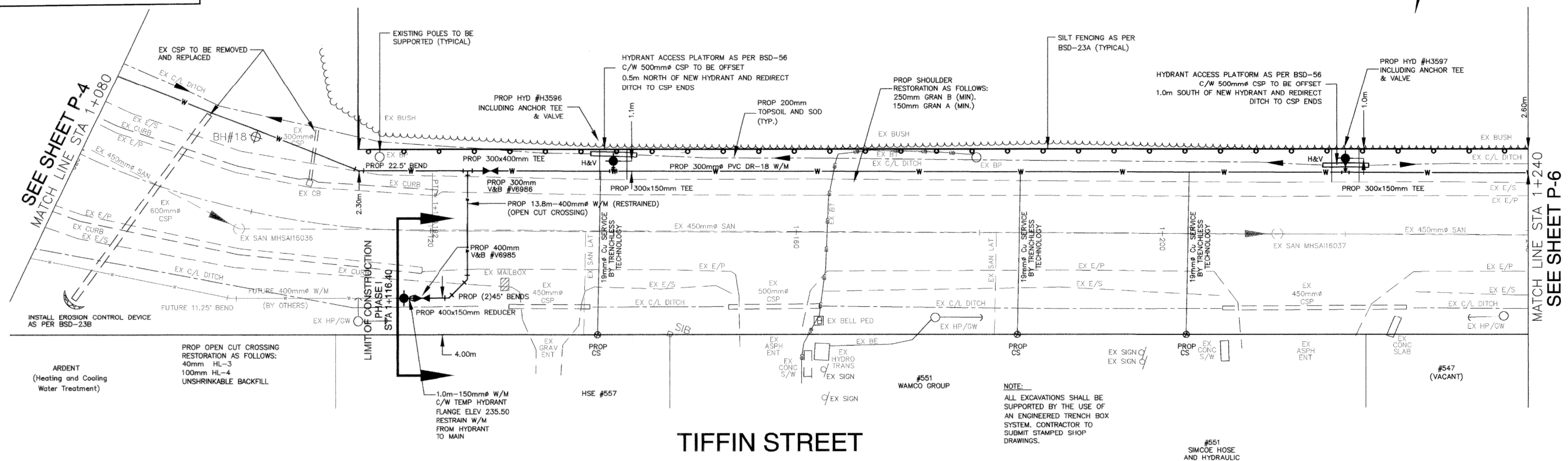
DATE	DESCRIPTION	DRAWN
AUG. 24, 2022	SHOW 6m LANDSCAPE STRIP AFTER WIDENING AS PER COB COMMENT	m.c.r.
SEPT. 8, 2022	UPDATE SITE PLAN TO ADJUSTED LANDSCAPE STRIP	m.c.r.
SEPT. 13, 2022	CHANGES TO REFLECT WETLAND ON ADJACENT LANDS	m.c.r.
MARCH 16, 2023	CHANGES TO REFLECT ENG CHANGES	m.c.r.
APRIL 3, 2023	CHANGES TO REFLECT ENV. CONSULTANT CHANGES	m.c.r.
APRIL 13, 2023	ADD FIRE ROUTE	m.c.r.
MAY 28, 2024	CHANGES TO FIRE ROUTE	m.c.r.
JUNE 27, 2024	CHANGES AS PER CITY COMMENTS	m.c.r.
JULY 10, 2024	CHANGES AS PER COMMENTS	m.c.r.

PIONEER FAMILY POOLS BARRIE INC.
CITY OF BARRIE





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KEY PLAN

NTS

THE CONTRACTOR SHALL REINSTATE ALL DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER.

SPRINGS, GRAN, BRICK OR CONC MATERIALS SHALL MATCH EXISTING MATERIAL DEPTHS AND GRADES.

ANY DISTURBED EX ROADWAY SHOULDER OR ASPHALT SHALL BE REINSTATE AS PER CITY OF BARRIE STANDARDS.

ANY DISTURBED GRASSED AREAS SHALL BE REINSTATE WITH 200mm SELECT TOPSOIL AND SOD AND SHALL MATCH EXISTING GRADES.

ANY EX CULVERTS REMOVED SHALL BE SALVAGED OR REPLACED AND REINSTATE AS PER CITY OF BARRIE STANDARDS AND AT EXISTING GRADES.

ANY EX SIGNS AND MAILBOXES REMOVED SHALL BE SALVAGED OR REPLACED AND REINSTATE AS PER CITY OF BARRIE STANDARDS.

ANY EX FENCING DISTURBED SHALL BE SALVAGED OR REPLACED AND REINSTATE AS PER CITY OF BARRIE STANDARDS.

ALL UTILITIES NEAR THE EXCAVATION SHALL BE SUPPORTED AS REQUIRED BY THE CITY STANDARDS AND THE RESPECTIVE UTILITIES COMPANY CONCERNED.

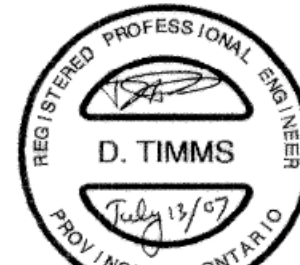
THE CONTRACTOR SHALL MAINTAIN TWO WAY PUBLIC VEHICULAR TRAFFIC FLOW AT ALL TIMES.

PROPOSED
ELEV. @ E R.O.W

EXISTING
ELEV. @ C R.O.W

CHAINAGE

GENERAL NOTES



BENCH MARKS

[illegible]

NO.	REVISIONS	DATE	APPROVED
3	AS PER CITY COMMENTS JULY 04/07	JULY/07	MW
2	UPDATE UTILITIES AS PER SUE INFO	JUNE/07	MW
1	AS PER CITY COMMENTS SEPT 07/06	SEPT/06	RG/MW

CITY OF BARRIE
APPROVED

DATE. *July 16 1971*
R. W. McArthur, Jr.
 DIRECTOR OF ENGINEERING

DUNLOP ST. WEST/
MILLER DR./ TIFFIN ST.
WATERMAIN (PHASE I)

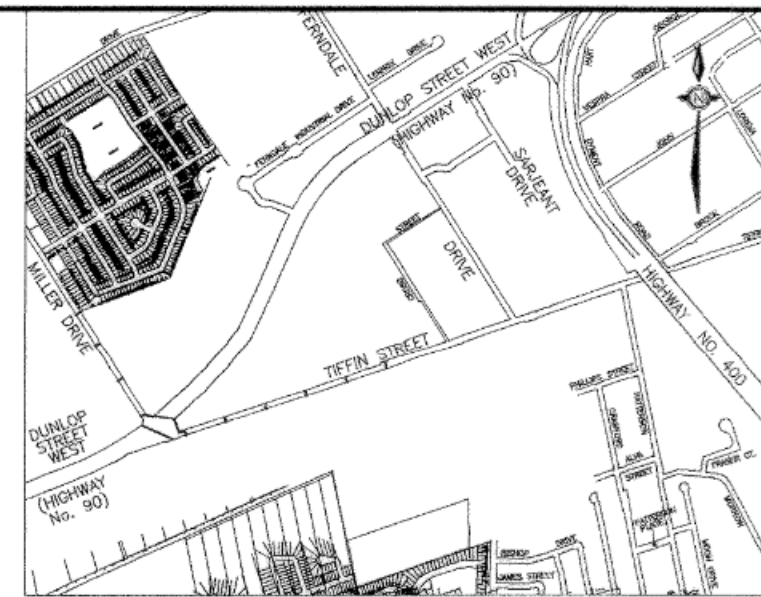
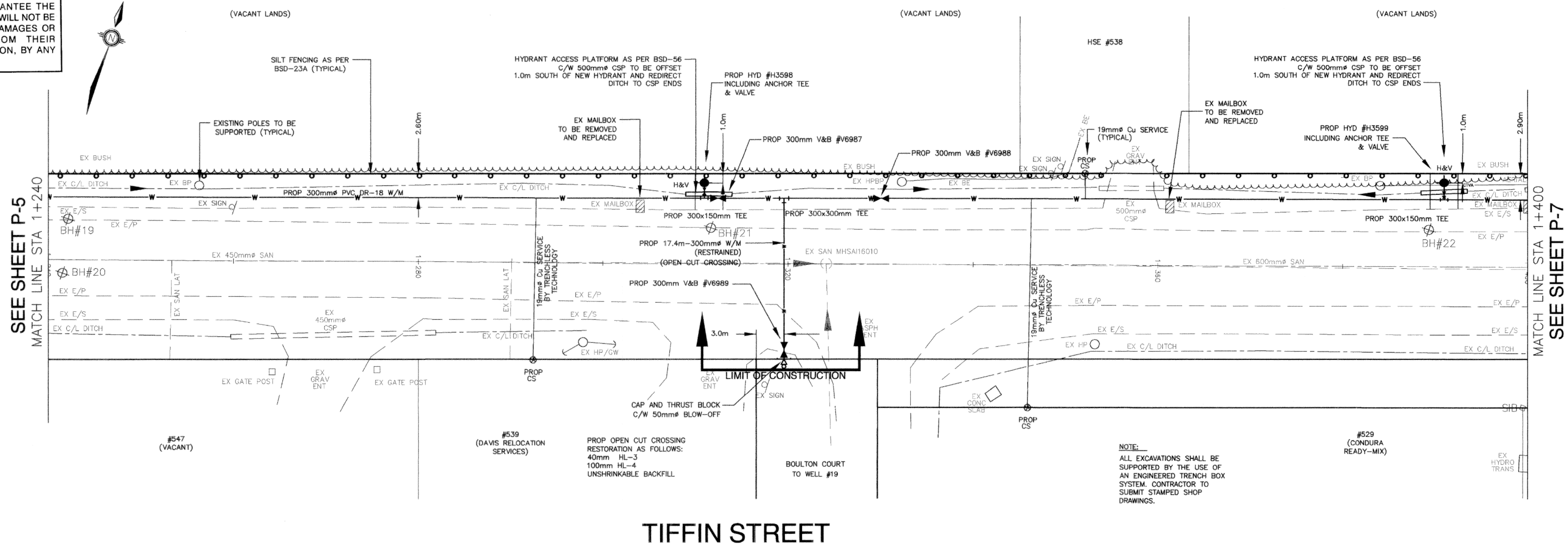
TIFFIN STREET
STA 1+080 TO STA 1+240

CITY of BARRIE
ENGINEERING DEPARTMENT

SCALE HOR. 1:250		VERT. 1:50		DRAWING NO. 2006-30
DESIGN	M. WERBY	DRAWN	M. WERBY	
REVIEWED	R. GROVES	DATE	AUGUST / 06	SHEET NO. PP-5

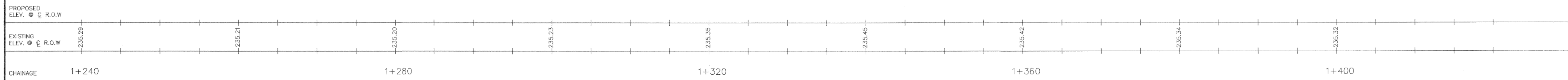
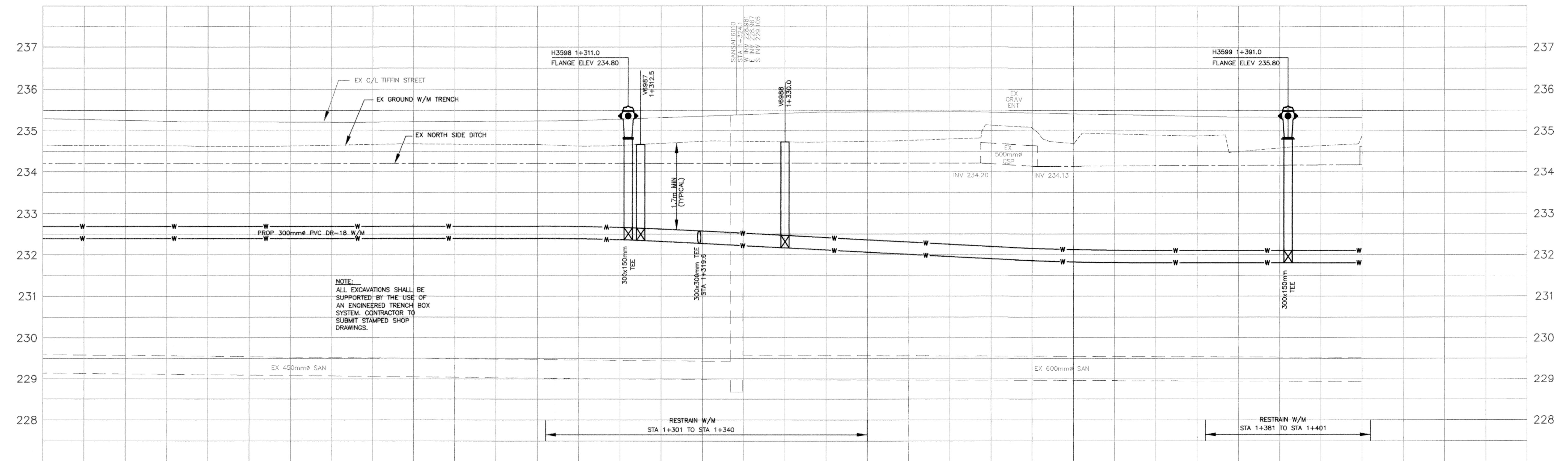
2006-030-007

THE INFORMATION PRESENTED HAS BEEN PREPARED FOR DEPARTMENT USE ONLY. THE CITY OF BARRIE, ITS EMPLOYEES OR AGENTS, DO NOT UNDERTAKE TO GUARANTEE THE VALIDITY OF THE CONTENTS AND WILL NOT BE LIABLE FOR ANY CLAIMS FOR DAMAGES OR LOSS OF USE ARISING FROM THEIR APPLICATION OR INTERPRETATION, BY ANY PARTY.



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TIFFIN STREET



GENERAL NOTES

engineers architects planners
Totten Sims Hubicki Associates (1997) Limited

10 High Street
Barrie, Ontario
LAN 1W1
TEL: 705-721-9222
FAX: 705-734-0764
www.tsh.ca

D. TIMMS
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

BENCH MARKS

BENCHMARK: 0011984/121
SERVICE: CANTONMENT STATION OVER HIGHWAY 403
ELEVATION: 232.008
HORIZONTAL CONTROL #1:
BARRIE: 450mm ϕ SAN
HORIZONTAL CONTROL #2:
BARRIE: 450mm ϕ SAN
HORIZONTAL CONTROL #3:
BARRIE: 450mm ϕ SAN

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CITY OF BARRIE
APPROVED

DATE: July 10, 2007
R. W. M. A. P. Eng
DIRECTOR OF ENGINEERING

DUNLOP ST. WEST/
MILLER DR./ TIFFIN ST.
WATERMAIN (PHASE I)

TIFFIN STREET
STA 1+240 TO STA 1+400

CITY OF BARRIE
ENGINEERING DEPARTMENT

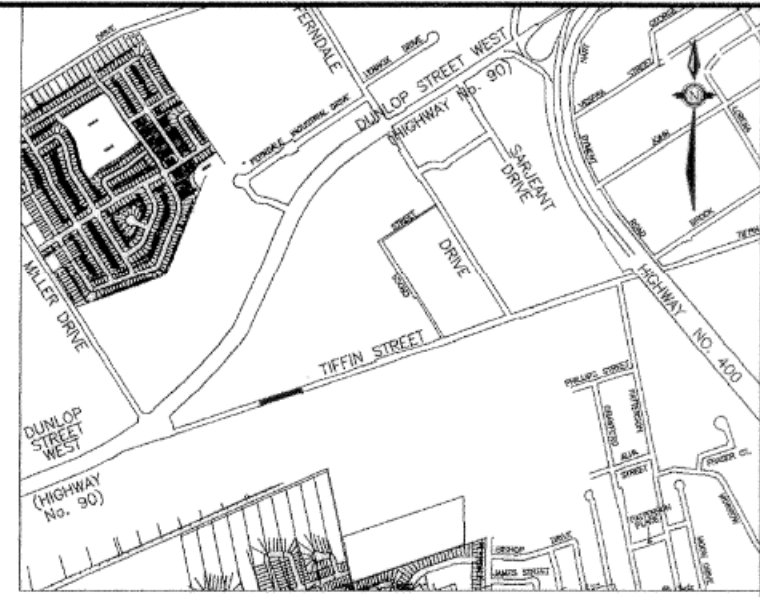
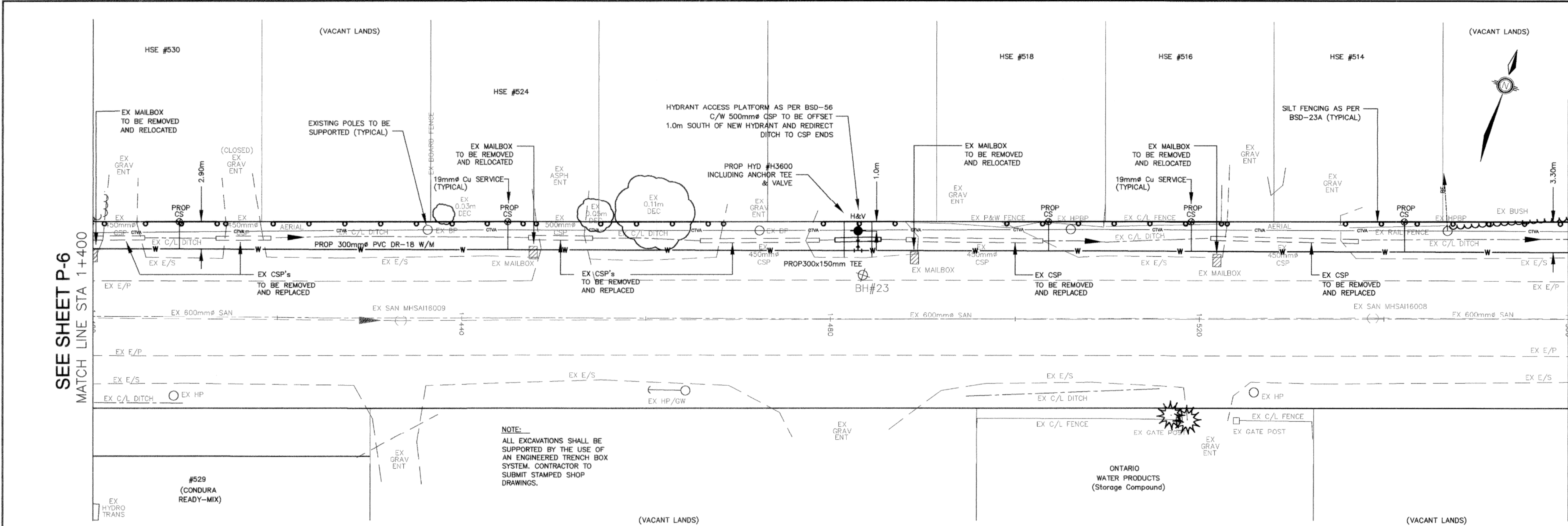
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DESIGN M. WERBY
REVIEWED R. GROVES

DATE: AUGUST / 06

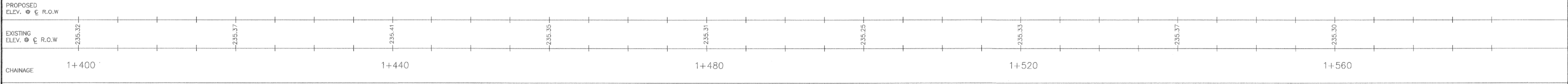
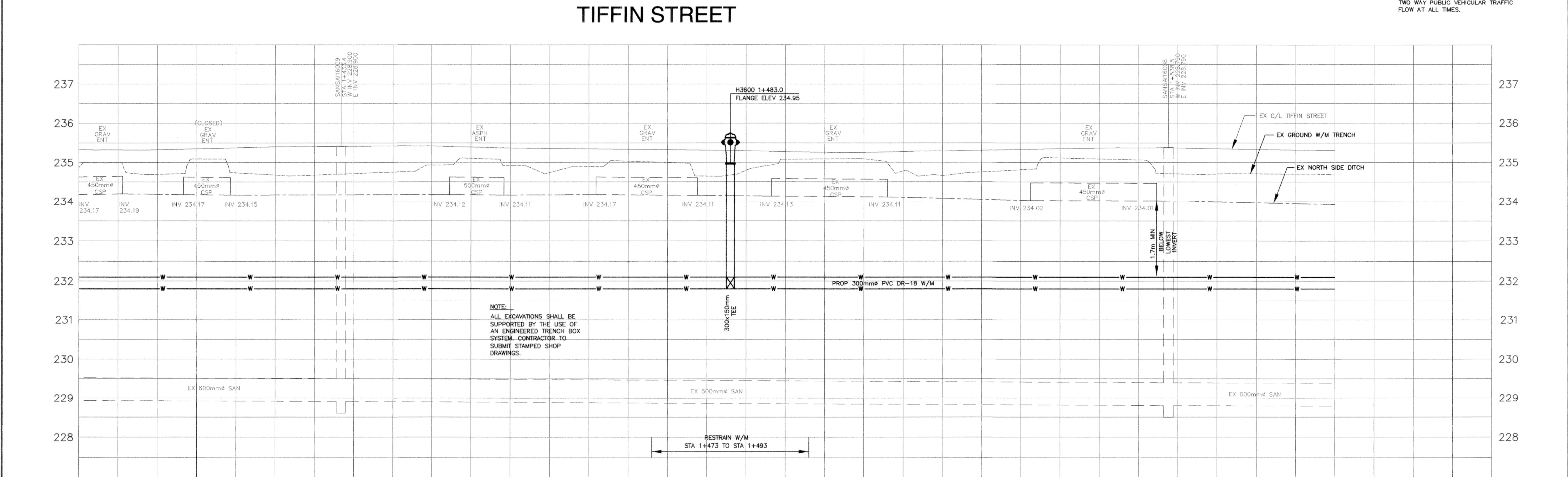
DRAWING NO. 2006-30
SHEET NO. PP-6

2006-030-008

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GENERAL NOTES

DH
engineers
architects
planners
Totten Sims Hubicki Associates (1997) Limited

10 High Street
Barrie, Ontario
LAN 1W1
TEL: 705-721-9222
FAX: 705-734-0764
www.tsh.ca

BENCH MARKS

BENCHMARK: 0011984U121
BENCH MARK: 0011984U121
BENCH MARK: 0011984U121
BENCH MARK: 0011984U121

NO. REVISIONS DATE APPROVED

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2	UPDATE UTILITIES AS PER SUE INFO	JUNE/07	MW
1	AS PER CITY COMMENTS SEPT 07/06	SEPT/06	RG/MW

CITY OF BARRIE
APPROVED

DATE: July 16/07
R. Groves, Director of Engineering

DUNLOP ST. WEST/
MILLER DR./ TIFFIN ST.
WATERMAIN (PHASE I)

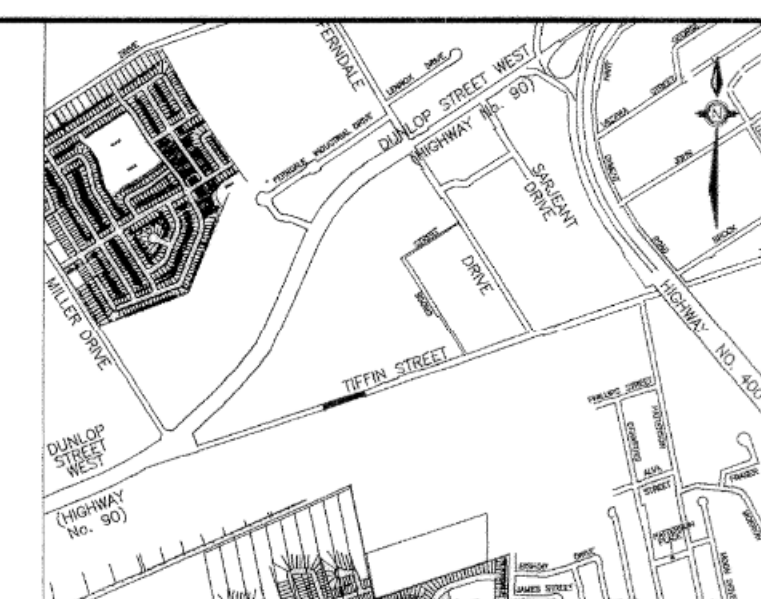
TIFFIN STREET
STA 1+400 TO STA 1+560

CITY OF BARRIE
ENGINEERING DEPARTMENT

SCALE HOR. 1:250 VERT. 1:50
DESIGN M. WERBY
DRAWN M. WERBY
REVIEWED R. GROVES
DATE AUGUST / 06

DRAWING NO. 2006-30
SHEET NO. PP-7

2006-030-009

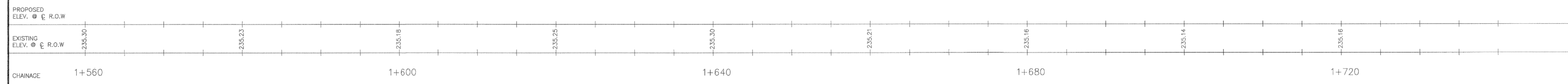


NTS

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TIFFIN STREET

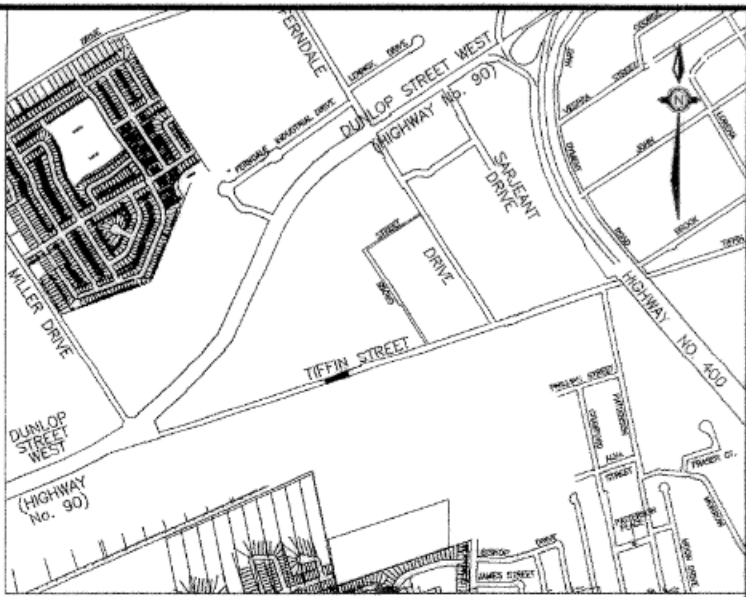


GENERAL NOTES:	 TSH engineers architects planners 10 High Street Barrie, Ontario L4N 1W1 TEL: 705-721-9222 FAX: 705-734-0764 www.tsh.ca Totten Sims Hubicki Associates (1997) Limited	 REGISTERED PROFESSIONAL ENGINEER D. TIMMS Feb 9/3/07 PROVINCE OF ONTARIO	BENCH MARKS: BENCHMARK: 0011984U121 BRIDGE CARRYING DUNLOP STREET OVER HIGHWAY 400. ELEVATION: 101.00 METERS TO THE EAST FACE OF WEST WALL. DISTANCE SOUTH OF BRIDGE: 24.00 METERS TO THE WEST END OF WEST SIDE OF PAVEMENT GRADE ABOVE VERTICAL CURVE. ELEVATION: 232.039	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO.</th> <th style="width: 45%;">REVISIONS</th> <th style="width: 15%;">DATE</th> <th style="width: 35%;">APPROVED</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>AS PER CITY COMMENTS JULY 04/07</td> <td>JULY/07</td> <td>MW</td> </tr> <tr> <td>2</td> <td>UPDATE UTILITIES AS PER SUE INFO</td> <td>JUNE/07</td> <td>MW</td> </tr> <tr> <td>1</td> <td>AS PER CITY COMMENTS SEPT 07/06</td> <td>SEPT/06</td> <td>RSG/MW</td> </tr> </tbody> </table>	NO.	REVISIONS	DATE	APPROVED					3	AS PER CITY COMMENTS JULY 04/07	JULY/07	MW	2	UPDATE UTILITIES AS PER SUE INFO	JUNE/07	MW	1	AS PER CITY COMMENTS SEPT 07/06	SEPT/06	RSG/MW	CITY OF BARRIE APPROVED DATE: July 16/07.. <i>[Signature]</i> Alderman, DIRECTOR OF ENGINEERING	DUNLOP ST. WEST/ MILLER DR./ TIFFIN ST. WATERMAIN (PHASE I) TIFFIN STREET STA 1+560 TO STA 1+720	 CITY of BARRIE ENGINEERING DEPARTMENT <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>SCALE HOR. 1:250</td> <td>VERT. 1:50</td> <td>DRAWING NO. 2006-30</td> </tr> <tr> <td>DESIGN M. WERBY</td> <td>DRAWN M.WERBY</td> <td>SHEET NO. PP-8</td> </tr> <tr> <td>REVISED R.GROVES</td> <td>DATE AUGUST / 06</td> <td></td> </tr> </table>	SCALE HOR. 1:250	VERT. 1:50	DRAWING NO. 2006-30	DESIGN M. WERBY	DRAWN M.WERBY	SHEET NO. PP-8	REVISED R.GROVES	DATE AUGUST / 06	
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REVISED R.GROVES	DATE AUGUST / 06																																			

2006-030-010

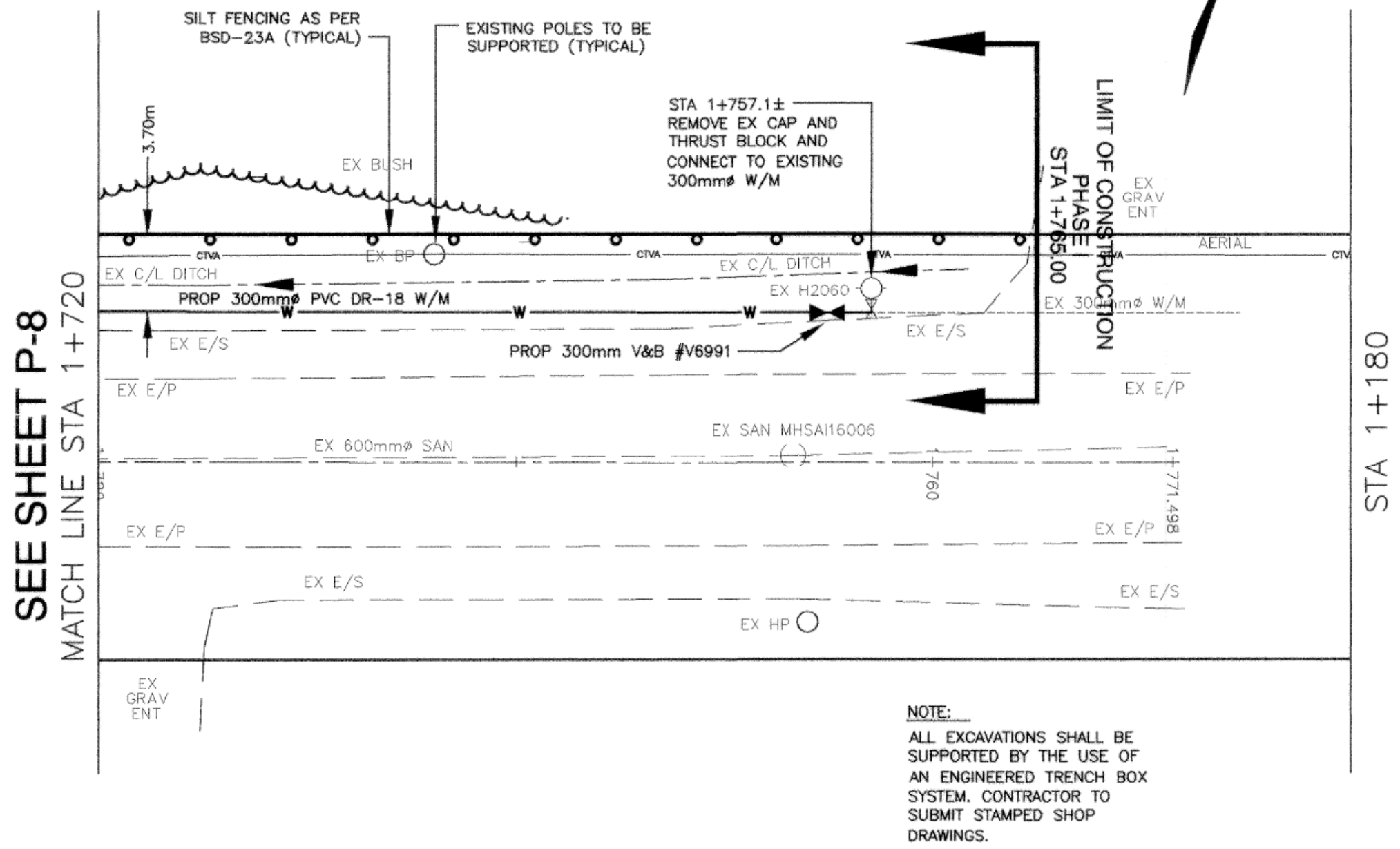
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Project Name: Tiffin St. / Miller Dr.		Subsurface Utility Engineers		TEST HOLE DATA		N W E S							
Project No.: 7203850247		UTILITY ENGINEERS											
Client Project No.:		Location:											
Location:		DATE: 28/06/2007											
City/Prov.: Battle, Ontario						Checked By: JB							
Utility Type				Utility Material									
BE Buried Electric	CATV Cable Television	ST Steel	Polyvinyl Chloride	CP Concrete Pipe	Concrete Pipe								
G Gas	FM Fono Main	PVC Ductile Iron Pipe	CP Corrugated Metal Pipe	CC Concrete Cap	CC Concrete Cap								
BT Buried Telephone	RW Reclaimed Water	CP Clay Pipe	FG Fiberglass	CD Concrete Duct	CD Concrete Duct								
FOC Fibre Optic Cable	SL Street Light	PE Polyethylene Pipe	AC Asbestos Cement (Transite)	CP Concrete Pressure Pipe	CP Concrete Pressure Pipe								
W Water	TS Traffic Signal	CI Cast Iron	DBC Direct Buried Cable	UNK Unknown	UNK Unknown								
SAN Sanitary	EXP Exploratory												
STM Storm	UNK Unknown												
Notes				Surface Type									
T represents the top of the utility				A Asphalt Interlock									
B represents the bottom of the utility				NG Natural Ground									
Units are in metric													
TH No.	TH Date (m/d/y)	Utility Type	Utility Material	Utility Size (Nom.)	Ref. Point Elev.	Bottom of Utility Elev.	Top of Utility Elev.	Manual Depth	Cross Sectional View	Utility Direction	Utility Depth	Surface Type	Permit Thickness
				mm.				B T					mm.
1	05-29-07	BT	CD	600	235.730	234.220	234.560	1.51 1.17		▲ 			



KEY PLAN
NTS

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(VACANT LANDS)

TIFFIN STREET



PROPOSED
ELEV. @ R.O.W

EXISTING
ELEV. @ R.O.W

CHAINAGE

GENERAL NOTES

WH
engineers
architects
planners
Totten Sims Hubicki Associates (1997) Limited



BENCH MARKS

BENCH-MARK: 0011884/121
BRIDGE CAPPING DUNLOP STREET OVER HIGHWAY 400.
MARK SET HORIZONTALLY IN EAST FACE OF WEST WALL
14.4M SOUTH OF SOUTHWEST CORNER OF WINGWALL
0.1M SOUTH OF CURB AND DE. DIVISION. 2.1M WEST
ELEVATION: 232.039
HORIZONTAL CONTROL #1:
REARERS ARE GROUND BEARINGS AND REFER TO THE CONTROL MERIDIAN
IN FIG. 17 (AND 80) AND ARE OBTAINED FROM OBSERVATION ON WING
CONTROL MONUMENT #21310010 (N=4911361.388, E=400050.365)
DISTANCES SHOWN HEREIN ARE SLOPED DISTANCES AND CAN BE
CONVERTED TO GRID DISTANCES BY MULTIPLYING BY THE COMBINED
SCALE FACTOR OF 0.99999997
HORIZONTAL CONTROL #2:
REARERS ARE GROUND BEARINGS AND REFER TO THE CONTROL MERIDIAN
IN FIG. 17 (AND 80) AND ARE OBTAINED FROM OBSERVATION ON WING
CONTROL MONUMENT #21310010 (N=4911361.388, E=400050.365)
DISTANCES SHOWN HEREIN ARE SLOPED DISTANCES AND CAN BE
CONVERTED TO GRID DISTANCES BY MULTIPLYING BY THE COMBINED
SCALE FACTOR OF 0.99999997

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CITY OF BARRIE
APPROVED

DATE: July 16/07
R. Groves, Jr. M. Werby, J. Bay
DIRECTOR OF ENGINEERING

DUNLOP ST. WEST/
MILLER DR./ TIFFIN ST.
WATERMAIN (PHASE I)

TIFFIN STREET
STA 1+720 TO STA 1+780



CITY of BARRIE
ENGINEERING DEPARTMENT

SCALE: HOR. 1:250	VERT. 1:50	DRAWING NO. 2006-30
DESIGN M. WERBY	DRAWN M. WERBY	SHEET NO. PP-9
REVIEWED R. GROVES	DATE AUGUST / 06	

2006-030-011



Appendix B

Stormwater Management Information

- Lake Simcoe Region Conservation Authority – Map showing regulated area



Lake Simcoe Region
conservation authority

LSRCA Regulated Area

Features

- LSRCA Watershed Boundary
- Lake Simcoe
- Watercourse
- Regulated Area Boundary
- Regulated Area

Road Labels

Roads

- Hwy 400 Series
- Highway, Arterials
- Local Road

Railway



Subject Site

Printed On:
4/8/2022

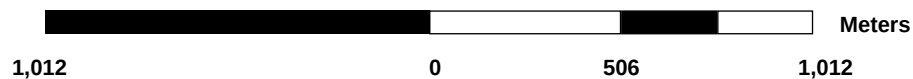


WGS_1984_Web_Mercator_
Auxiliary_Sphere

Mapped By: NWB

This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources. While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes from an interactive web mapping site. LSRCA GIS Services DRAFT printed 2022. © LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2022. All Rights Reserved. The following data sets of Assessment Parcel, Roads, Upper & Lower Tier Municipalities, Wetlands are © Queens Printer for Ontario. Reproduced with Permission, 2022. The Current Regulation Limit and Boundary data sets are derived products from several datasets. Orthophotography 2002, 2005, 2007-2009, 2011-2021, © First Base Solutions, Inc.

Scale 1: 19,924





Appendix C

Water Servicing Information

- Hydrant Flow Test Results
- Drawing SG-1 with measurements to adjacent buildings / property lines
- Fire Underwriter's Survey Fire Flow Requirement Calculations

FLOW TEST RESULTS



DATE : APRIL 5, 2022 TIME VALVE OPENED : 12:00 PM

TIME LAST VALVE CLOSED : 12:20 PM

LOCATION : 518 TIFFIN

BARRIE

ONTARIO

TEST BY : LEN.K-ETHAN.B

NAME OF CITY OPERATOR : CAM NEWITT



STATIC PRESSURE : 60 PSI

SIZE OF UNDERGROUND MAIN : 300mm

TEST NO.	NO. OF NOZZLES	NOZZLE DIAMETER (INCHES)	DISCHARGE CO-EFFICIENT	RESIDUAL PRESSURE (PSI)	PITOT PRESSURE (PSI)	DISCHARGE (U.S.GPM)
1	1	1-3/4	0.995	59	38	549
2	1	2-1/2	0.90	58	18	716
3	2	2-1/2	0.90	56	15	1306



518 TIFFIN

BARRIE

ONTARIO

BY : LEN.K/ETHAN.B

OFFICE : BARRIE

TEST BY : VIPOND & PUC

DATE : APRIL 5, 2022

STATIC:

60 PSI

RESIDUAL:

59 PSI

FLOW:

@ 549 GPM

TEST#1

TEST#2

TEST#3

58 PSI

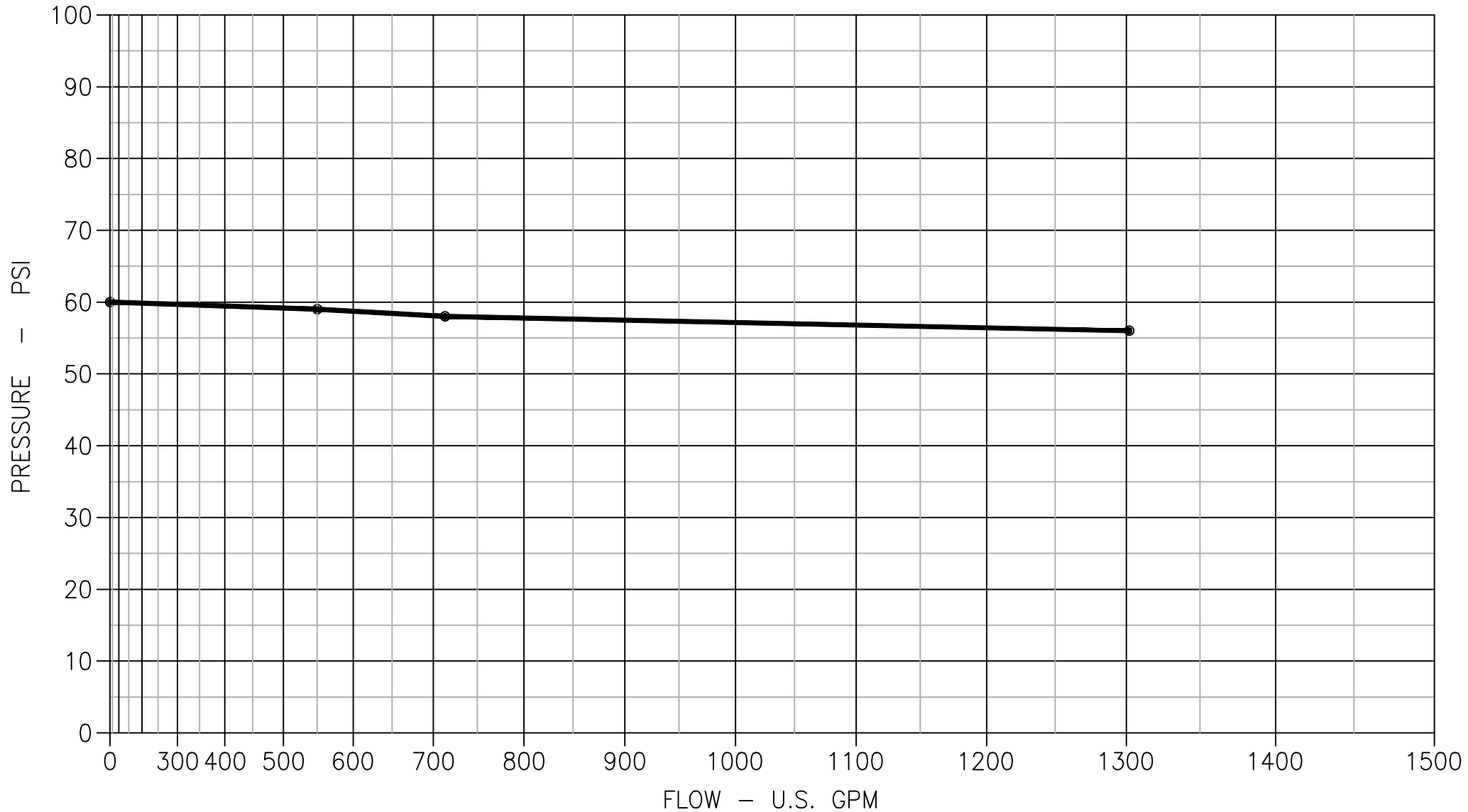
56 PSI

@

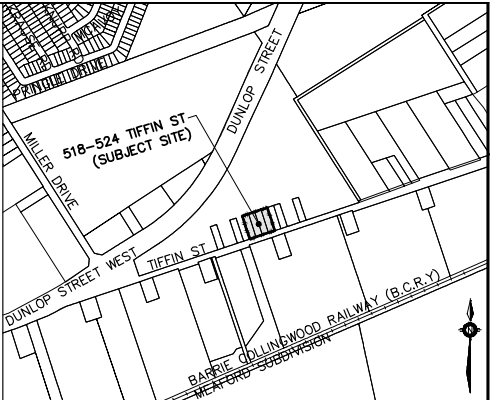
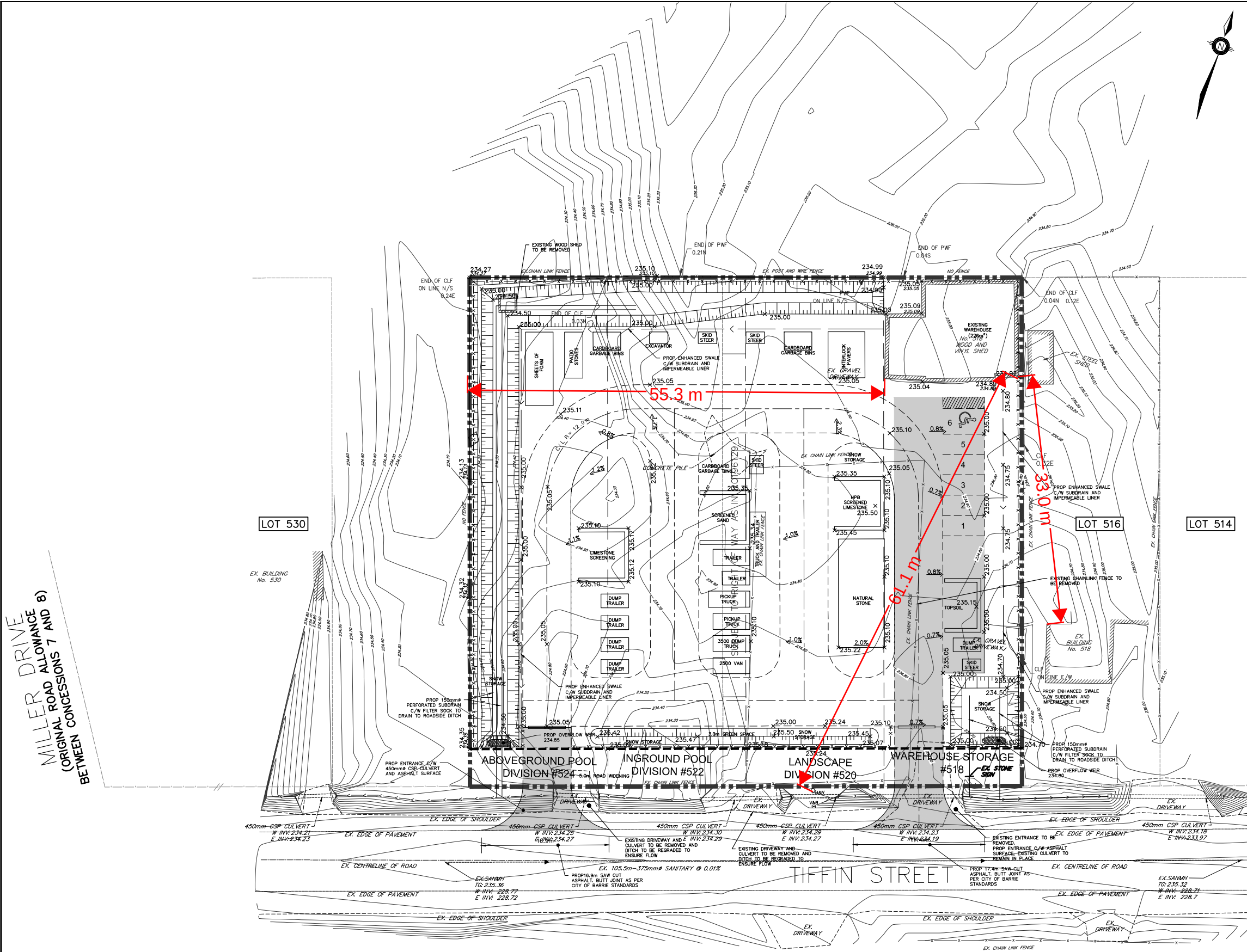
@

716 GPM

1306 GPM



G:\Eng_3D\PIO-21060\Design_Dwg\PIO-21060_Base.dwg Layout:GRADING Plotted Apr 08, 2022 @ 3:36pm by Jhompson The Jones Consulting Group Ltd.



KEY PLAN
NTS

LEGEND

BENCHMARK:
VERTICAL CONTROL: CONCRETE BRIDGE CARRYING HWY 400 OVER TIFFIN STREET, 1.2 KM NORTH OF HWY 400 AND HWY 27 (ESSA RD) INTERCHANGE AND 1.2 KM SOUTH OF HWY 400 AND RD (DUNLOP ST) INTERCHANGE. TABLET IS SET HORIZONTALLY IN EAST FACE OF NORTH CONTOUR ON N.E. CORNER, 18m BELOW TOP OF COPING AND 7.3m EAST OF CENTERLINE OF HWY 400 NORTHBOUND LANE
ELEV: 239.923

2.	OPA AND ZBA SUBMISSION	APR 2022	NWB	
1.	EXISTING SURVEY	DEC 2021	NWB	
NO.	REVISIONS	DATE	INITIAL	

518-524 TIFFIN STREET
BARRIE, ONTARIO

Fire Flow Assessment

JONES
CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

880 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W5
P. 709.784.2682
F. 705.784.1966

DESIGN	VBS	DATE	FEB 2022
DRAWN	VBS	PROJECT	DWG. Nº
CHECKED	NWB	PIO-21060	

	Project:	Pioneer Pools		Date:	April 2022	
	File No.:	PIO-21060		Designed:	NB	
	Subject:	Building - Fire Flow Calculations		Checked:	JJ	
	Revisions:					

Fire flow demands for the FUS method is based on information and guidance provided in Part 2 of the "Water Supply for Public Protection" (Fire Underwriters Survey, 1999)

An estimate of the fire flow required is given by the following formula:

$$F = 220C\sqrt{A}$$

where:

F = the required fire flow in litres per minute (Rounded to nearest 1000 L/min)

C = coefficient related to the type of construction

= 1.5 for wood frame construction (structure essentially all combustible).

= 1.0 for ordinary construction (brick or other masonry walls, combustible floor and interior)

= 0.8 for non-combustible construction (unprotected metal structural components, masonry or metal walls)

= 0.6 for fire-resistive construction (fully protected frame, floors, roof)

Note: For types of construction that do not fall within the categories given, coefficients shall not be greater than 1.5 nor less than 0.6 and may be determined by interpolation between consecutive construction types as listed above

A = Total floor area in square meters (including all storeys, but excluding basements at least 50% below grade) in the building being considered.

Adjustments to the calculated fire flow can be made based on occupancy, sprinkler protection and exposure to other structures. The table below summarizes the adjustments made to the basic fire flow demand.

Building	GFA (m²)	C	(1) Fire Flow "F"		(2) Occupancy Contents		(3) Sprinkler		(4) Exposure		Final Adjustment	
			(L/min)	(L/s)	%	Adjusted Fire Flow (L/min)	%	Adjustment (L/min)	%	Adjustment (L/min)	Fire Flow	
											(L/min)	(L/s)
S1	226	1.5	5,000	83	25	6,250	0	0	55.00	3,438	10,000	167

Note: Based on Architectural drawings prepared by ISM Architects Inc., dated April 2018.

(2) Occupancy Contents

Non-Combustible	-25%
Limited Combustible	-15%
Combustible	No Charge
Free Burning	15%
Rapid Burning	25%

(3) Sprinkler

30% credit for adequately designed system per NFPA 13. Additional 10% if water supply standard for both the system and fire department hose lines required. Additional credit of up to 10% given for a fully supervised system.

(4) Exposure

0 to 3m	25%
3.1 to 10m	20%
10.1 to 20m	15%
20.1 to 30m	10%
30.1 to 45m	5%

Max charge percentage is outlined above. Max should only be used if exposed building meets all of the following conditions:

- Same or poorer type of construction than fire building
- Same or greater height than the fire building
- Contains unprotected exposed openings
- Unsprinklered

(each true condition accounts for 1/4 of the max charge percentage)

Calculations :

(1) Basic Required Fire Flow (F) = 83 L/s

(2) Building Occupancy Contents = 25 % Increase

(3) Sprinkler System Credit = 0 % No Charge

(4) Exposure to building = 55.00 % Increase [See Calculation Below]

	Dist. (m)	Max Charge %	Adjusted Charge %	Notes:
North	0.0	25	25.00	Conditions a), c) and d) are True; Assign 3/4 of Max Charge Conditions a), b), c) and d) are True; Assign 4/4 of Max Charge Exposure greater than 45m; No Charge Assigned Conditions a), c) and d) are True; Assign 3/4 of Max Charge
South	32.0	5	5.00	
East	0.0	25	25.00	
West	50.0	0	0.00	
Total:			55.00	

Final Adjusted Fire Flow

= Adjustment Flow from (2) + Sprinkler Adjustment (3) + Exposure Adjustment (4)

= 10000 L/min or 167 L/s



Appendix D

Civil Engineering Drawings

- TITLE TITLE PAGE
- GN-1 GENERAL NOTES
- ESC-1 EROSION AND SEDIMENT CONTROL PLAN
- ESC-2 EROSION AND SEDIMENT CONTROL DETAILS
- STM-1 PRE-DEVELOPMENT STORM DRAINAGE AREA PLAN
- STM-2 POST-DEVELOPMENT STORM DRAINAGE AREA PLAN
- SG-1 GRADING PLAN
- SS-1 SITE SERVICING PLAN
- CS-1 LID CROSS-SECTION PLAN
- PM-1 PAVMENT MARKING AND SIGNAGE PLAN
- DET-1 STANDARD DETAILS

PIONEER FAMILY POOLS INC.
518-524 TIFFIN STREET, CITY OF BARRIE

PLAN OF SURVEY OF PART OF WEST HALF OF LOT 25,
CONCESSION 7 (GEOGRAPHIC TOWNSHIP OF VESPRA)
CITY OF BARRIE
COUNTY OF SIMCOE

CITY OF BARRIE FILE No.: D28-025-2024

THE JONES CONSULTING GROUP LTD. DRAWING LIST

GN-1	GENERAL NOTES
ESC-1	EROSION AND SEDIMENT CONTROL PLAN
ESC-2	EROSION AND SEDIMENT CONTROL DETAILS
STM-1	PRE-DEVELOPMENT DRAINAGE AREA PLAN
STM-2	POST-DEVELOPMENT DRAINAGE AREA PLAN
SG-1	SITE GRADING PLAN
SS-1	SITE SERVICING PLAN
CS-1	LID CROSS-SECTION PLAN
PM-1	PAVEMENT MARKING AND SIGNAGE PLAN
DET-1	STANDARD DETAILS

MUNICIPALITY:

CITY OF BARRIE
70 COLLIER STREET (BOX 400)
BARRIE, ON L4M 4T5
PH. 705.726.4242
FAX 705.739.4243

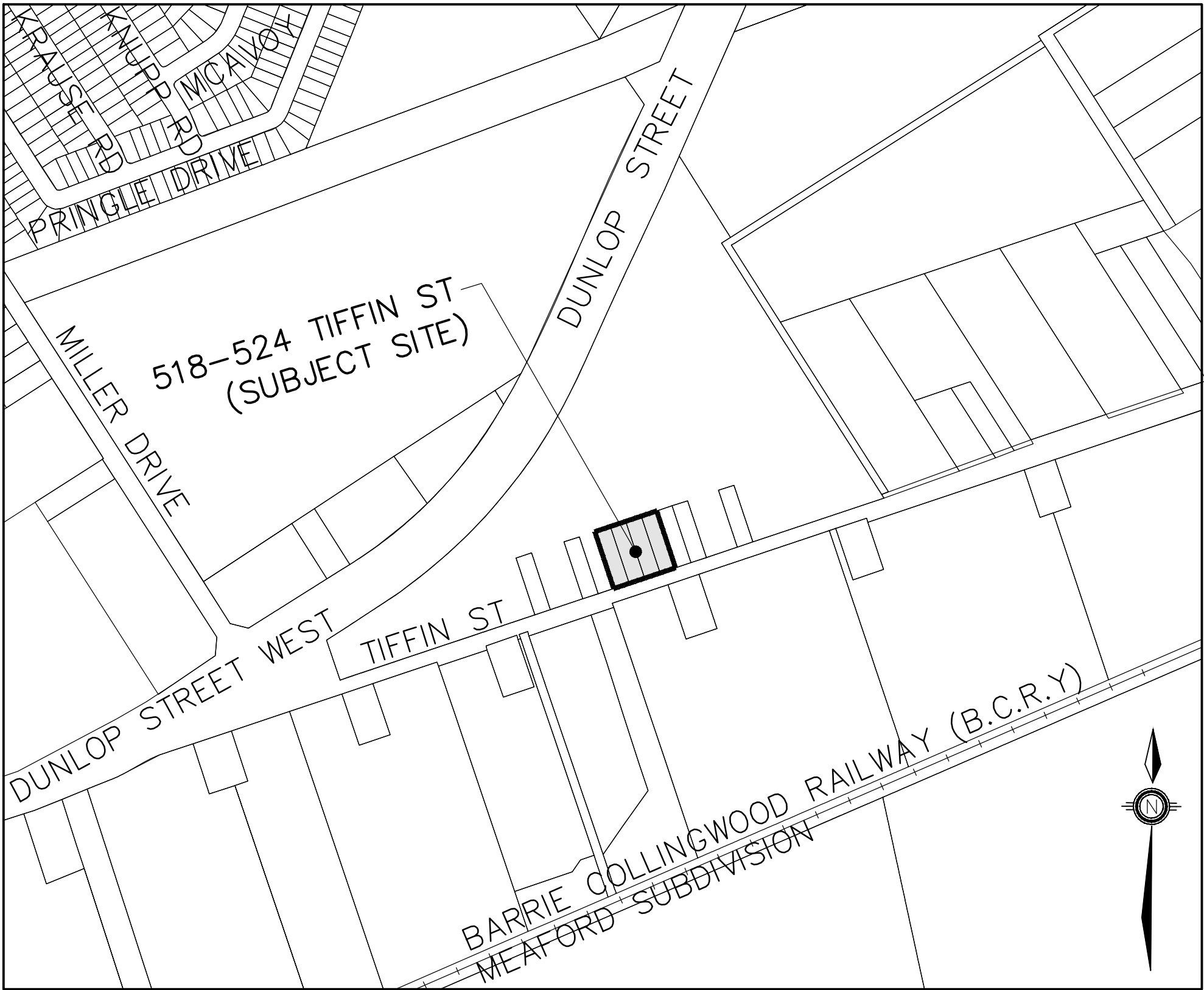
CLIENT:

PIONEER FAMILY POOLS INC.
42 ANNE STREET SOUTH
BARRIE, ONTARIO L4N 2C9

DEVELOPER'S ENGINEER:



229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056



KEYPLAN (NTS)

G:\Eng_3D\PIO-21060\Design\Drawings\PIO-21060_Little and General Notes.dwg Layout:GN-1 Plotted Sep 24, 2024 @ 2:38pm by cpgagnon The Jones Consulting Group Ltd.

GENERAL NOTES			
1. DRAWINGS			
A. ALL DRAWINGS SHALL BE PRODUCED IN ACCORDANCE WITH CURRENT CITY OF BARRIE STANDARDS & SYMBOLS FOR PLAN & PROFILE DRAWINGS, GENERAL SERVICE PLANS AND LOT GRADING PLANS.			
2. MEASUREMENTS			
A. ALL DIMENSIONS ARE IN METRES, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETRES, UNLESS SPECIFIED OTHERWISE.			
3. GENERAL			
A. ALL WORK SHALL BE IN ACCORDANCE WITH CURRENT CITY OF BARRIE STANDARD DRAWINGS (BSD) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).			
B. ORDER OF PRECEDENCE OF STANDARD DRAWINGS IS FIRSTLY CITY OF BARRIE STANDARD DRAWINGS (BSD) AND SECONDLY ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).			
C. LOCATION OF EXISTING SERVICES ARE NOT GUARANTEED. THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.			
D. A ROAD OCCUPANCY PERMIT IS REQUIRED FROM THE ROADS AND PARKS OPERATIONS BRANCH PRIOR TO THE COMMENCEMENT OF WORK WITHIN ANY CITY RIGHT-OF-WAY.			
E. A SITE ALTERATION PERMIT IS REQUIRED FROM THE ENGINEERING DEPARTMENT PRIOR TO THE COMMENCEMENT OF ANY EARTH WORKS ON THE SITE.			
F. NATIVE MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.			
G. GRANULAR MATERIAL, USED FOR BACKFILL, SHALL BE PLACED IN LAYERS 150mm IN DEPTH MAXIMUM AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.			
H. ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE CITY ENGINEERING DEPARTMENT.			
I. ALL SILT CONTROL AND EROSION PROTECTION DEVICES ARE TO BE IN PLACE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETE AND THE GRASS HAS ESTABLISHED GROWTH, SUBJECT TO APPROVAL BY THE CITY ENGINEERING DEPARTMENT.			
	Development General Notes	REV No. 5	DATE: APR 2023 SCALE: N.T.S.
		G200B	

STORM SEWER			
A. STORM SEWER TO BE PROVIDED ON ALL ROADS WITH CURB AND GUTTER.			
B. PLACE ALL CATCH BASIN LATERALS AT 2% GRADE UNLESS OTHERWISE NOTED. PIPE SIZE MINIMUM 250mm DIA. SINGLE - 300mm DIA. DOUBLE.			
C. STORM SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD-802.010 (GRAN. 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES AND OPSD-802.030 OR 802.031 CLASS B (GRAN. 'A' BEDDING MATERIAL) FOR RIGID PIPE UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF ENGINEERING.			
D. MAINTENANCE HOLE TOPS (FRAMES) AND CATCH BASIN (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT GRADE AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED. ALL ADJUSTMENT WILL BE ACCORDANCE WITH 850-N2.			
E. STORM SEWER TO BE LOCATED OFFSET 3.0m SOUTH OR EAST OF CENTRELINE UNLESS OTHERWISE SPECIFIED.			
F. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD-708.01 OR 708.03.			
G. PIPE MATERIAL TO BE REINFORCED CONCRETE WITH A MINIMUM STRENGTH OF 50 N/m ² mm CERTIFIED TO C.S.A. STANDARD A247.2-1982, CLASS 50-D (PREVIOUSLY C.S.A. STANDARD A257.2-1974, CLASS II) OR PVC CERTIFIED TO C.S.A. STANDARDS 182.2 AND 182.4.			
H. STORM SEWER TO BE MINIMUM 300mm DIAMETER WITH JOINTS CONFORMING TO C.S.A. STANDARD A257.3.			
I. ALL PIPE BEDDING MUST CONFORM TO OPSD, MAXIMUM COVER TABLE. NO FLEXIBLE PIPE SEWERS WILL BE INSTALLED WITH A DEPTH OF COVER GREATER THAN 6 METRES UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF ENGINEERING.			
J. ALL PIPE HANDLING INSTALLATIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE O.C.P.A. OR UNIBELL GUIDELINES.			
K. SUMP PUMP DISCHARGE PIPING IN BOULEVARD: IN THE EVENT OF OVERACTIVE SUMP PUMP ACTIVITY, A 150mm DIAMETER PVC DR-28 SEWER MAY BE INSTALLED, WHEN SO DIRECTED BY THE DIRECTOR OF ENGINEERING, ALONG THE FRONTAGES OF DESIGNATED LOTS, WITH AN OFFSET OF 0.6m FROM BACK OF CURB. THIS SEWER IS TO BE CAPPED AT THE UPSTREAM END AND IS TO OUTLET INTO THE NEAREST CATCHBASIN DOWNSTREAM. DEPTH OF SEWER IS TO BE EQUAL TO SUBDRAIN DEPTH. NOT TO BE DIRECTLY CONNECTED TO FOUNDATION DRAINS.			
	Storm Sewers General Notes	REV No. 5	DATE: APR 2023 SCALE: N.T.S.
		D788	

EROSION CONTROL NOTES

- THE ACCOMPANYING PLANS SET OUT THE MEASURES THAT WILL BE TAKEN BY THE DEVELOPER AND ITS CONTRACTORS TO CONTROL DOWNSTREAM SEDIMENT TO THE LOWEST LEVEL PRACTICALLY ACHIEVABLE. THE CONDITIONS AND TECHNIQUES SET OUT ON ARE TO BE FOLLOWED UNLESS APPROVED OTHERWISE BY THE CONTRACT ADMINISTRATOR, CONSERVATION AUTHORITY AND/OR MUNICIPALITY.
- ALL TEMPORARY SILT CONTROL AND EROSION PROTECTION DEVICES (I.E. SILT FENCING, DRAINAGE SWALES, ROCK CHECK DAMS, SEDIMENT BASIN, GRAVEL ACCESS PAD, ETC.) SHALL BE CONSTRUCTED PRIOR TO COMMENCEMENT OF SITE WORKS AND SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETE AND THE GRASS HAS ESTABLISHED GROWTH, SUBJECT TO APPROVAL BY THE CITY ENGINEERING DEPARTMENT.
- ALL SEDIMENTATION CONTROL MEASURES ARE TO BE INSPECTED REGULARLY (MINIMUM WEEKLY), AS WELL AS AFTER EVERY RAINFALL EVENT AND ANY DAMAGED SILT CONTROL AND EROSION PROTECTION DEVICES SHALL BE PROMPTLY REPAIRED OR REPLACED BY THE CONTRACTOR.
- THE CONTRACTOR MUST USE MATERIALS, CONSTRUCTION PRACTICES, AND MITIGATION TECHNIQUES IN ORDER TO PREVENT THE UNAUTHORIZED HARMFUL ALTERATION, DISRUPTION OR DESTRUCTION OF VEGETATION OR THE IMPAIRMENT OF WATER QUALITY.
- THE CONTRACTOR SHALL BE PREPARED FOR UNEXPECTED CONDITIONS AND ACCORDINGLY HAVE STOCKPILED MATERIALS ON SITE FOR NECESSARY REPAIRS AS A RESULT OF FAILED OR INADEQUATE CONTROL MEASURES.
- AREAS WITHOUT STABLE GROUND COVER SHALL BE PROTECTED WITH SILTATION CONTROL FENCING, STRAW MULCH, ETC, AND MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION HAS BECOME ESTABLISHED IN THE SUBSEQUENT GROWING SEASON.
- ALL EXPOSED SOIL MUST BE GRADED TO A STABLE SLOPE AND TREATED AS QUICKLY AS POSSIBLE TO PREVENT EROSION AND SEDIMENT FROM LEAVING THE SITE. ALL AREA STRIPPED OF VEGETATIVE COVER FOR LONGER THAN 30 DAYS SHALL BE TOPSOILED AND SEEDED AT THE DIRECTION OF THE ENGINEER.
- ALL SITE DRAINAGE TO OUTLET VIA SHEET DRAINAGE, BERMS OR SWALES (AS NECESSARY) TO FACILITATE THE COMPLETION OF GRADING WORKS. THE CONTRACTOR SHALL CONSTRUCT ANY ADDITIONAL SWALES OR BERMS THAT MAY BE NECESSARY TO DIRECT RUN-OFF IN A CONTROLLED MANNER OF SUITABLE QUALITY.
- ALL CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE SITE FROM PROPOSED CONSTRUCTION ACCESS VIA THE GRAVEL ACCESS PAD.
- ANY DEWATERING WASTE SHALL BE DISCHARGED TO A VEGETATED AREA AT LEAST 30m FROM ANY WATERCOURSE AND FILTERED. FILTERING METHODS MUST BE APPROVED BY THE SITE INSPECTOR.
- TECHNIQUES FOR EROSION AND SEDIMENT CONTROLS ARE TO ADHERE TO ACCEPTED ENGINEERING PRACTICE AND MUNICIPAL, CONSERVATION AUTHORITY AND ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR SHALL OBTAIN A CURRENT COPY AND BECOME FAMILIAR WITH OPSS 805; CONSTRUCTION SPECIFICATION FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES, AS WELL AS APPLICABLE MUNICIPAL STANDARDS AND/OR APPROVAL AGENCY STANDARDS.
- THE CONTRACTOR MAY CONSIDER ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES, SUCH MEASURES MUST BE PRESENTED IN WRITING FOR APPROVAL BY THE CONTRACT ADMINISTRATOR AND MUST BE APPROVED IN WRITING BY THE APPLICABLE APPROVAL AGENCIES.
- REFER TO DRAWINGS EP-1 TO EP-2 FOR ADDITIONAL INFORMATION.

GRADING NOTES

- ALL DISTURBED AREAS TO BE RESTORED TO EXISTING CONDITIONS OR BETTER. GRASSED LANDSCAPE AREAS TO RECEIVE A MIN. 200mm DEPTH OF TOPSOIL AND SOD IMMEDIATELY FOLLOWING COMPLETION OF GRADING.
- ALL SLOPES ALONG BERMS AND DITCHES TO BE MAXIMUM SLOPES OF 3:1, UNLESS OTHERWISE NOTED.

ENGINEERING NOTES

UNLESS OTHERWISE NOTED ON THE DRAWINGS, THE FOLLOWING REQUIREMENTS SHALL APPLY TO THE WORKS.

- ALL MEASUREMENTS FOR THIS PROJECT ARE IN METERS, EXCEPT PIPE DIAMETERS WHICH IS IN MILLIMETRES, UNLESS OTHERWISE NOTED. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- ALL MECHANICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, RULES AND REGULATIONS, TO MEET THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION AND TO MEET THE DESIGN INTENT.
- ALL WORK AND MATERIALS WITHIN THE PROPERTY BOUNDARIES SHALL CONFORM TO THE LATEST EDITION OF THE ONTARIO BUILDING CODE, WHERE THERE IS A CONFLICT BETWEEN THE FOLLOWING NOTES AND SPECIFICATIONS AND THE ONTARIO BUILDING CODE, THE DECISION OF THE CHIEF BUILDING OFFICIAL WILL GOVERN.
- INFORMATION ON EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY UTILITY LOCATES PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL INFORM THE SITE (PROJECT) MANAGER A MINIMUM 24 HOURS IN ADVANCE OF HIS INTENTION TO COMMENCE WORK. CONTRACTOR SHALL AT ALL TIMES, PROVIDE SUITABLE BARRICADES AND FLAGGING PROTECTION IN ACCORDANCE WITH THE MINISTRY OF LABOUR PRACTICES, AND OCCUPATIONAL HEALTH AND SAFETY ACT.
- THESE NOTES ARE GENERAL IN NATURE; FOR SPECIFIC DETAILS REFER TO CITY OF BARRIE AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.
- SEWER PIPE MATERIAL (IF APPLICABLE): -POLYVINYL CHLORIDE PIPE SHALL CONFORM TO CSA-B-182.1 AND CSA-B-182.2 WITH BELL AND SPIGOT RUBBER GASKETED JOINTS COMPLYING WITH CSA-B182.2 AND CSA-B182.3. SANITARY PIPE SHALL BE SDR-35 AND ALL SANITARY SERVICE LATERALS TO BE SDR-28.
- SEWER BEDDING WILL CONFORM TO O.P.S.D. 802.030 FOR RIGID PIPE INSTALLATION AND O.P.S.D. 802.010 FOR FLEXIBLE PIPE INSTALLATION. NATIVE MATERIAL USED FOR BACKFILL SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
- ALL TRENCHES ARE TO BE BACKFILLED WITH NATIVE MATERIAL AND COMPACTED TO AT LEAST 95% STANDARD PROCTOR DENSITY OR AS PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. IN ADDITION, ALL STRUCTURES WITHIN TRAVELLED PORTION OF THE ROAD & PARKING AREAS SHALL HAVE NATIVE 1:4 FROST TAPERS FROM FROST LINE TO SUBGRADE.
- MANHOLES:
-STEPS SHALL BE ALUMINUM ALLOY O.P.S.D. 405.010 SOLID CIRCULAR ALUMINUM OR APPROVED EQUAL.
-FRAMES AND COVERS SHALL BE DOMINION WHEEL FOUNDRIES DESIGN STD. 579 OR APPROVED EQUAL AND SHALL CONFORM TO O.P.S.D. 401.010 TYPE 'A'.
-SANITARY MANHOLES ARE TO HAVE CORE AND SEAL GASKETS ON ALL PIPE CONNECTIONS. 1200 DIAMETER MANHOLES - O.P.S.D. 701.010
-MANHOLE BENCHING SHALL EXTEND TO PIPE OVERT AND SHALL BE IN ACCORDANCE WITH DETAILS SHOWN AS PER OPSD 1004.010 -SAFETY PLATFORMS SHALL BE AS PER OPSD 404.020.
- ROAD MAKE-UP: (REFER TO GEOTECHNICAL INVESTIGATION REPORT PREPARED BY GEI CONSULTANTS DATED MARCH 4, 2022)

LIGHT DUTY
-40mm HL3 (OPSS 1150) WITH PG 58-28 ASPHALT CEMENT SURFACE COURSE ASPHALTIC CONCRETE
-50mm HL8 (OPSS 1150) WITH PG 58-28 ASPHALT CEMENT BINDER COURSE ASPHALTIC CONCRETE
-150mm OPSS GRANULAR "A" BASE COURSE
-300mm OPSS GRANULAR "B" SUBBASE COURSE

HEAVY DUTY
-40mm HL3 (OPSS 1150) WITH PG 58-28 ASPHALT CEMENT SURFACE COURSE ASPHALTIC CONCRETE
-70mm HL8 (OPSS 1150) WITH PG 58-28 ASPHALT CEMENT BINDER COURSE ASPHALTIC CONCRETE
-150mm OPSS GRANULAR "A" BASE COURSE
-450mm OPSS GRANULAR "B" SUBBASE COURSE

LEGAL AND TOPOGRAPHICAL
LEGAL AND TOPOGRAPHICAL INFORMATION TAKEN FROM RUDY MAK
FILE No. 15586Topo
LOT 9 REGISTERED PLAN 51M-378, CITY OF BARRIE, COUNTY OF SIMCOE.

BENCHMARK:
VERTICAL CONTROL #1: CONCRETE BRIDGE CARRYING HWY 400 OVER TIFFIN STREET, 1.2 KM NORTH OF HWY 400 AND HWY 27 (ESSA RD) INTERCHANGE AND 1.2 KM SOUTH OF HWY 400 AND 80 (DUNDAS ST) INTERCHANGE. TABLET IS SET HORIZONTALLY IN EAST FACE OF NORTH CURBLINE ON N.E. CORNER, 180m BELOW TOP OF CURBING AND 7.3m EAST OF CENTERLINE OF HWY 400 NORTHBORND LANE. ELEV. 232.053
VERTICAL CONTROL #2: PROVISIONAL DESCRIPTION PROVISION BARRIE BRIDGE CARRYING ACCESS TO HIGHWAY NO. 40 WEST TO AVOID FOR NORTHBORND TRAFFIC OVER HIGHWAY NO. 400. TABLET SET HORIZONTALLY IN EAST FACE OF WEST WALL, 18.4 M NORTH OF SOUTHEAST CORNER, 24 CM ABOVE ELEV. 232.038
HORIZONTAL CONTROL #1: BARRIE - CONCRETE PER ON SOUTHWEST SIDE OF TIFFIN STREET, APPROXIMATELY 45 M NORTHWEST OF LANEWAY TO RESIDENCE, 2.8 M SOUTHEAST OF A "ONE WAY DO NOT ENTER" SIGN, 4.8 M NORTHWEST OF A DIAMOND SHAPED CHECKERBOARD TRAFFIC SIGN, 6.6 M SOUTH OF CATCH BASIN BETWEEN TIFFIN STREET AND EXIT RAMP FROM HIGHWAY NO. 20 TO TIFFIN STREET, TABLET IN TOP, ESTABLISHED BY TOPOGRAPHICAL SURVEY.
HORIZONTAL CONTROL #2: LOCATED ON THE NORTH SIDE OF TIFFIN STREET AT PATTERSON ROAD BETWEEN THE CURB LINE AND THE SIDEWALK AT THE END OF A HYDRO ANCHOR, NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.

1.	THIRD SUBMISSION	SEP 2024	JWJ	
NO.	REVISIONS	DATE	INITIAL	



PIONEER FAMILY POOLS INC.
518-524 TIFFIN STREET
BARRIE, ONTARIO

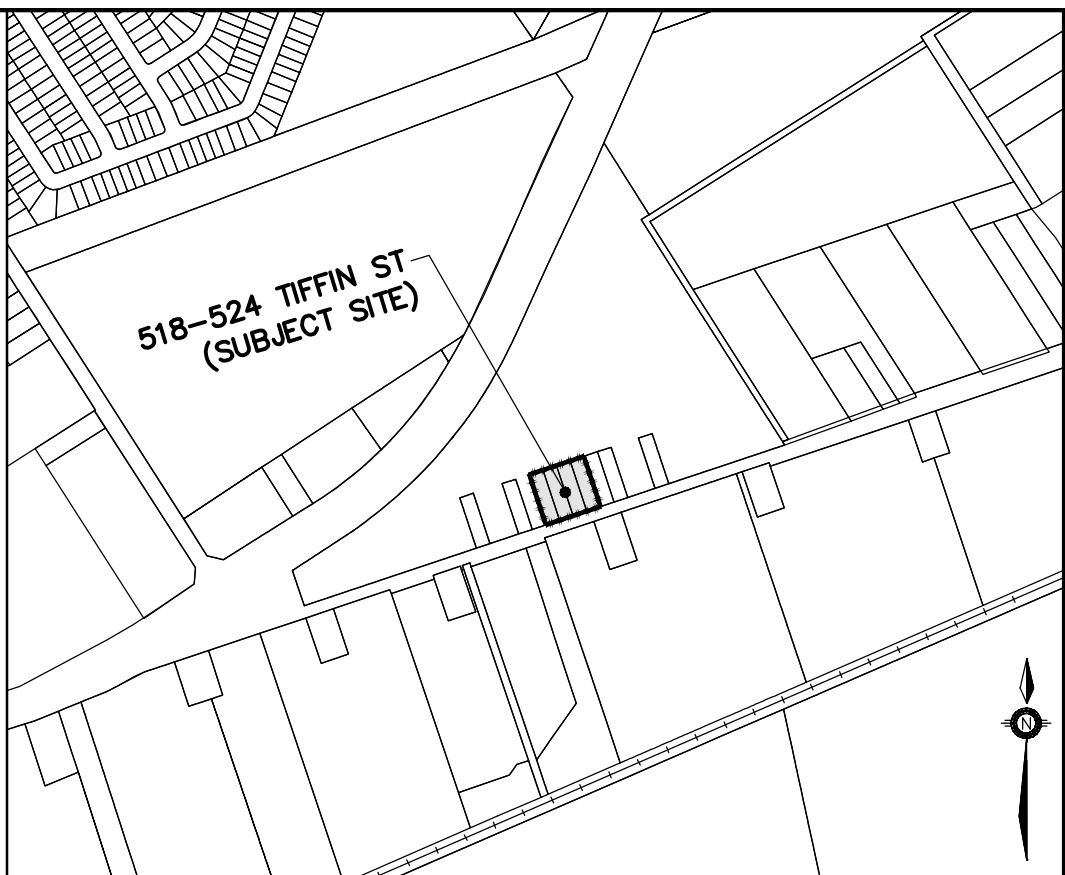
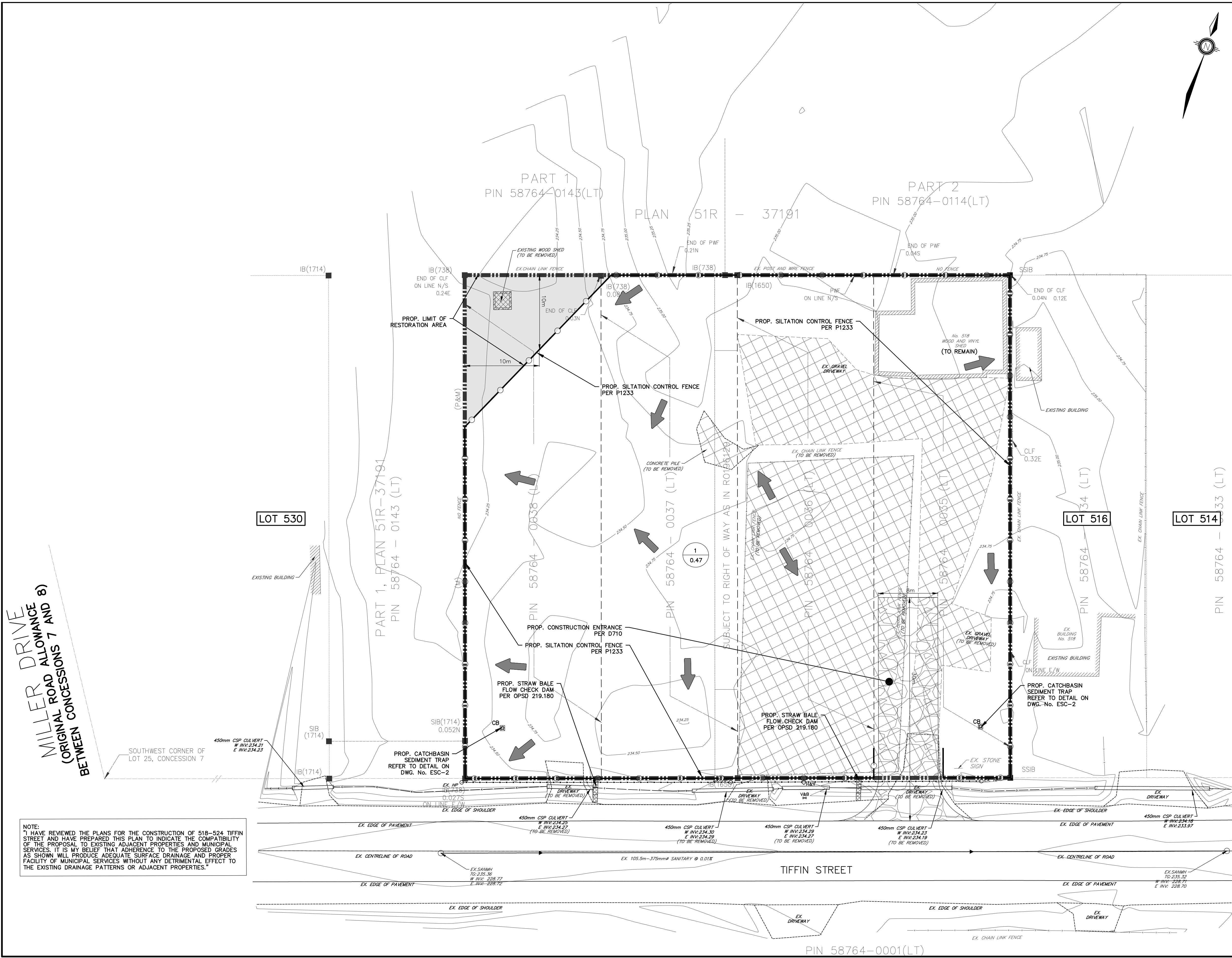
GENERAL NOTES



229 Mapleview Dr. E. Unit 1
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F. 705.734.1058

DESIGN	CG	SCALE: NTS	DATE	JULY 2024
DRAWN	CG	PROJECT	DWG. NO	
CHECKED	JWJ	PIO-21060	GN-1	

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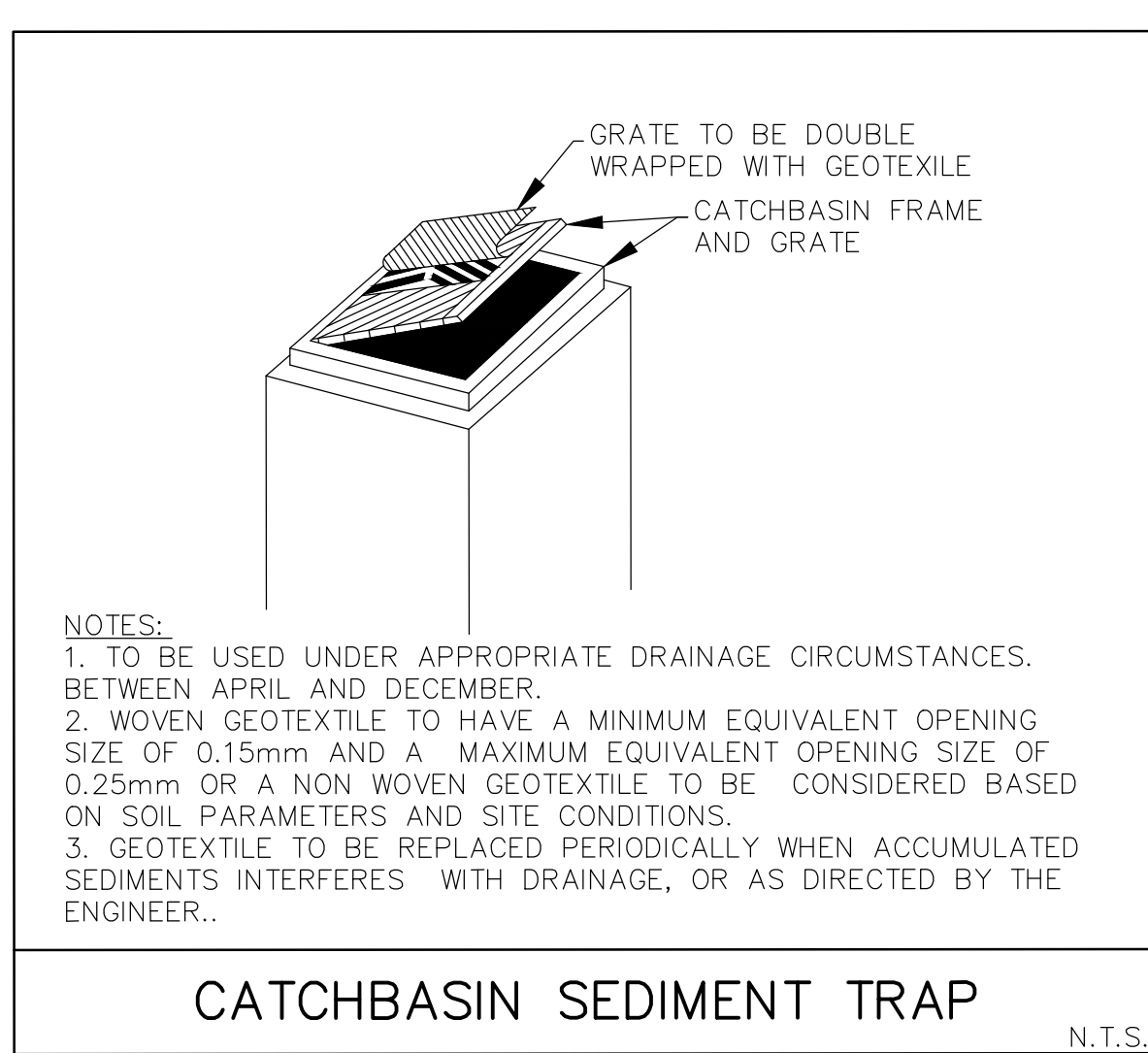
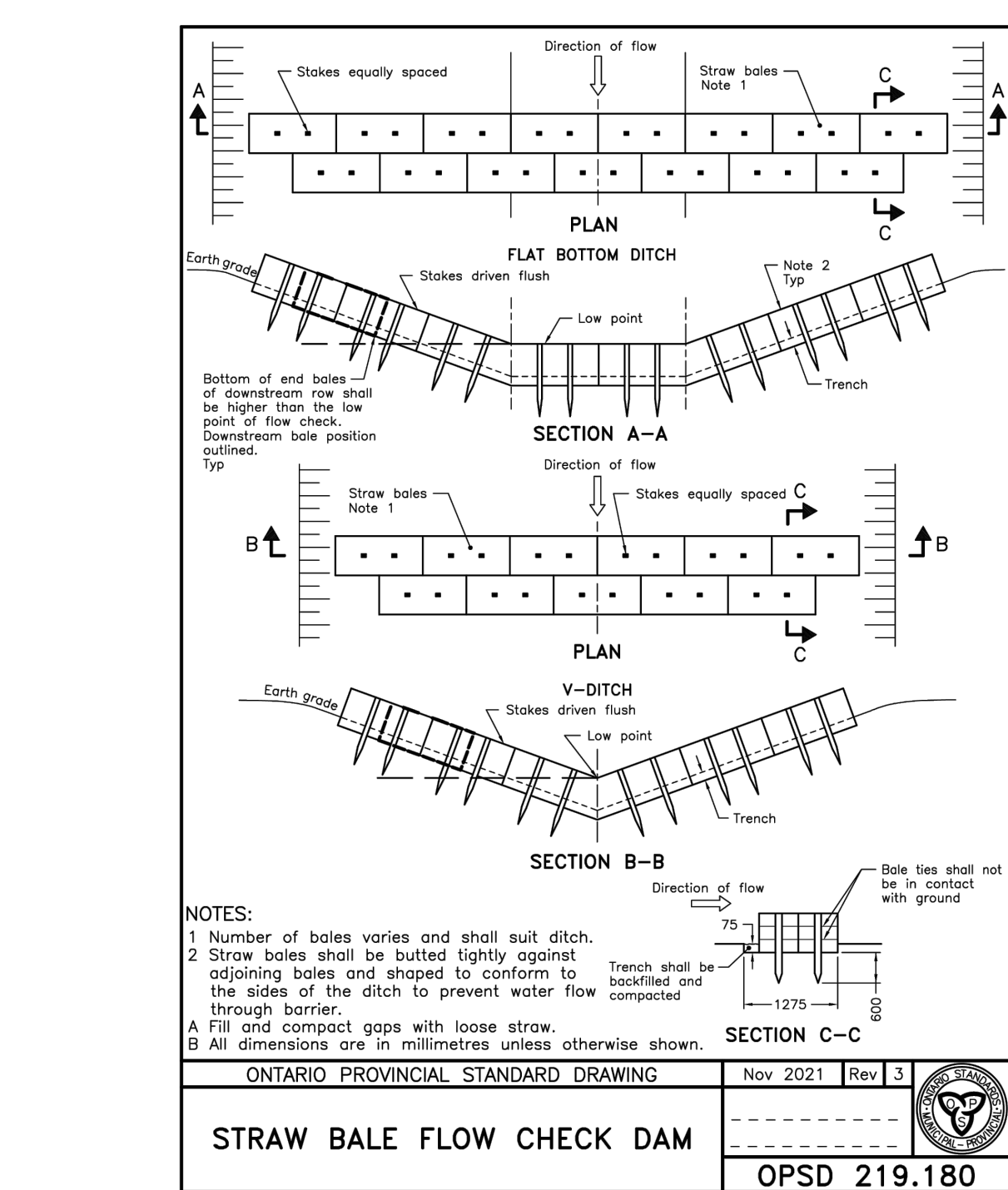
KEY PLAN
NTS

LEGEND

- EX. PROPERTY LINE
- EX. LOT LINE
- EX. CONTOUR AND ELEVATION
- EX. HYDRANT AND VALVE
- EX. VALVE
- EX. DITCH
- CATCHMENT ID NUMBER
- AREA (ha.)
- PROP. CONSTRUCTION ENTRANCE
- PROP. SILTATION CONTROL FENCE
- PROP. STRAW BALE
- PROP. CATCHBASIN SEDIMENT TRAP
- EX. OVERLAND FLOW DIRECTION
- LIMIT OF RESTORATION AREA
- AREA OF REMOVALS

NOTE:
I HAVE REVIEWED THE PLANS FOR THE CONSTRUCTION OF 518-524 TIFFIN STREET AND HAVE PREPARED THIS PLAN TO INDICATE THE COMPATIBILITY OF THE PROPOSAL TO EXISTING ADJACENT PROPERTIES AND MUNICIPAL SERVICES. IT IS MY BELIEF THAT ADHERENCE TO THE PROPOSED GRADES AS SHOWN WILL PRODUCE ADEQUATE SURFACE DRAINAGE AND PROPER FACILITY OF MUNICIPAL SERVICES WITHOUT ANY DETRIMENTAL EFFECT TO THE EXISTING DRAINAGE PATTERNS OR ADJACENT PROPERTIES.

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1. THE ACCOMPANYING PLANS SET OUT THE MEASURES THAT WILL BE TAKEN BY THE DEVELOPER AND ITS CONTRACTORS TO CONTROL DOWNSTREAM SEDIMENT TO PREVENT EROSION AND TO CONTROL EROSION OF THE EXISTING EROSION CONTROL TECHNIQUES SET OUT ARE TO BE FOLLOWED UNLESS APPROVED OTHERWISE BY THE CONTRACT ADMINISTRATOR, CONSERVATION AUTHORITY AND/OR MUNICIPALITY.
2. ALL TEMPORARY SILT CONTROL AND EROSION PROTECTION DEVICES (I.E. SILT FENCING, DRAINAGE SWALES, ROCK CHECK DAMS, SEDIMENT BASIN, GRAVEL FILTERS, AND ETC.) SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE SITE WORKS AND SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETE AND THE GRASS HAS ESTABLISHED GROWTH, AND ALL SEDIMENTATION CONTROL MEASURES ARE TO BE INSPECTED REGULARLY (MINIMUM WEEKLY), AS WELL AS AFTER EVERY RAINFALL EVENT AND ANY DAMAGE TO SILT CONTROL DEVICES SHALL BE REPAIRED IMMEDIATELY AND PROMPTLY REPAIRED OR REPLACED BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL FOLLOW ALL BEST MANAGEMENT PRACTICES, AND MITIGATION TECHNIQUES IN ORDER TO PREVENT THE UNAUTHORIZED HARMFUL ALTERATION, DISRUPTION OR DESTRUCTION OF VEGETATION OR THE IMPAIRMENT OF THE QUALITY OF THE RECEIVING WATER BODY.
4. THE CONTRACTOR SHALL BE PREPARED FOR UNEXPECTED CONDITIONS AND ACCORDINGLY HAVE STOCKPILED MATERIALS ON SITE FOR NECESSARY REPAIRS AND TO BE THE RESULT OF UNEXPECTED CONDITIONS.
5. AREAS WITHOUT STABLE GROUND COVER SHALL BE PROTECTED WITH SILTATION CONTROL FENCING, STRAW MULCH, ETC. AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF CONSTRUCTION AND THROUGHOUT THE WINTER SEASON.
6. EXPOSED SOIL MUST BE GRADED TO A STABLE SLOPE AND TREATED AS QUICKLY AS POSSIBLE TO PREVENT EROSION AND SEDIMENT FROM LEAVING THE SITE. ALL AREA STRIPPED OF VEGETATIVE COVER FOR LONGER THAN 30 DAYS MUST BE TOPSOILED AND REVEGETATED WITHIN 90 DAYS OF COMPLETION.
7. ALL SITE DRAINAGE TO OUTLET VIA SHEET DRAINAGE, BERMS OR SWALES (AS NECESSARY) TO FACILITATE THE COMPLETION OF GRADING WORKS. THE CONTRACTOR SHALL CONSIDER THE PROTECTION OF SWALES AND DRAINAGE THAT MAY BE NECESSARY TO DIRECT RUN-OFF IN A CONTROLLED MANNER FROM PROPOSED QUALITY.
8. CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE SITE FROM SUTABLE CONSTRUCTION ACCESS VIA THE GRAVEL ACCESS PAD.
9. ANY DEWATERING WASTE SHALL BE DISCHARGED TO A VEGETATED AREA AT LEAST 100 METERS FROM ANY WATER BODY. DRAINAGE DRAINING METHODS MUST BE APPROVED BY THE SITE INSPECTOR.
10. TECHNIQUES FOR PROPOSED SEDIMENTATION CONTROLS ARE TO ADHERE TO BEST MANAGEMENT PRACTICES, AS SET OUT IN THE MUNICIPAL CONSERVATION AUTHORITY AND ONTARIO PROVISIONAL STANDARD SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE CONSERVATION AUTHORITY WITH OPSB 805; CONSTRUCTION SPECIFICATION FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES, AS WELL AS APPLICABLE MUNICIPAL STANDARDS.
11. APPROVAL OF THE CONSTRUCTION PLAN SHALL BE OBTAINED FROM THE CONTRACTOR. THE CONTRACTOR MAY CONSIDER ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES, SUCH MEASURES MUST BE PRESENTED IN WRITING FOR APPROVAL BY THE CONTRACT ADMINISTRATOR AND MUST BE APPROVED IN WRITING BY THE APPLICABLE APPROVAL AGENCIES.

NOTE: "I HAVE REVIEWED THE PLANS FOR THE CONSTRUCTION OF 518-524 TIFFIN STREET AND HAVE PREPARED THIS PLAN TO INDICATE THE COMPATIBILITY OF THE PROPOSAL TO EXISTING ADJACENT PROPERTIES AND MUNICIPAL SERVICES. IT IS MY BELIEF THAT ADHERENCE TO THE PROPOSED GRADES AS SHOWN WILL PRODUCE ADEQUATE SURFACE DRAINAGE AND PROPER FACILITY OF MUNICIPAL SERVICES WITHOUT ANY DETRIMENTAL EFFECT TO THE EXISTING DRAINAGE PATTERNS OR ADJACENT PROPERTIES."

1. CONSTRUCT ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES INCLUDING SILT FENCE, TREE PRESERVATION FENCE, MUD MATS, CHECK DAMS, SEDIMENT BASIN, SWALES/BERMS, ETC.
2. PROCEED WITH REMOVAL OF EXISTING CONCRETE AND ASPHALT.
3. PROCEED WITH STRIPPING AND REMOVAL OF TOPSOIL. TOPSOIL TO BE STORED ON-SITE AS REQUIRED TO FACILITATE RESTORATION OF SITE.
4. PROCEED WITH EARTH EXCAVATION AND PRE-GRASSING.
5. PROCEED WITH SITE WORKS I.E. SITE SERVICING AND SURFACE WORKS INSTALLATIONS.
6. RESTORATION OF DISTURBED AREAS.
7. REMOVAL OF SEDIMENT AND EROSION CONTROLS.

CONTINGENCY PLAN

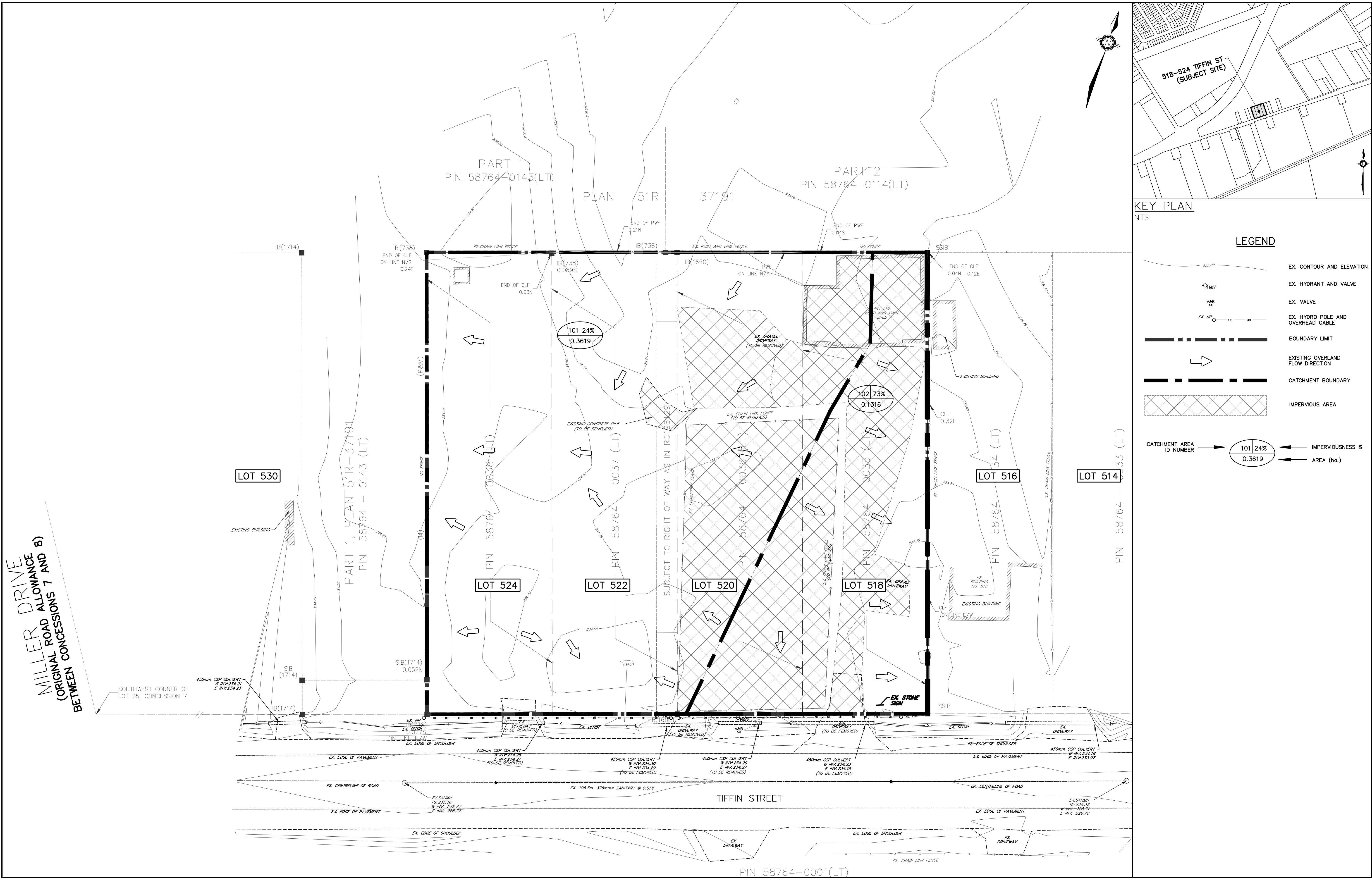
SPILL REPORTING PROCEDURES ESTABLISHED BY MOE SHALL BE USED TO REPORT UNEXPECTED DISCHARGE OF SILT, SEDIMENT OR OTHER DELETERIOUS SUBSTANCES. THE MINISTRY OF ENVIRONMENT & CLIMATE CHANGE SHALL BE NOTIFIED VIA THE SPILLS ACTION CENTRE (1-800-286-8060). IN THE EVENT OF A SPILL THE MNR SHALL BE NOTIFIED AS WELL, THE ON-CALL CITY OF BARRIE ENVIRONMENTAL OFFICER SHOULD ALSO BE NOTIFIED VIA CELL PHONE AT (705)725-3374.

IF APPROVAL AGENCIES DETERMINE THAT LONG TERM DAMAGE TO THE NATURAL ENVIRONMENT HAS OCCURRED DUE TO FAILURE OF THIS PLAN TO CONTROL SEDIMENTS, RESTORATION PLAN WILL BE DEVELOPED BY THE CONTRACTOR IN CONSULTATION AND WITH APPROVAL FROM THE APPROPRIATE AGENCIES FOR IMPLEMENTATION BY THE CONTRACTOR.

DESIGN	CG	SCALE: NTS	DATE JUL 2024
DRAWN	CG	PROJECT PIO-21060	DWG. Nº ESC-2
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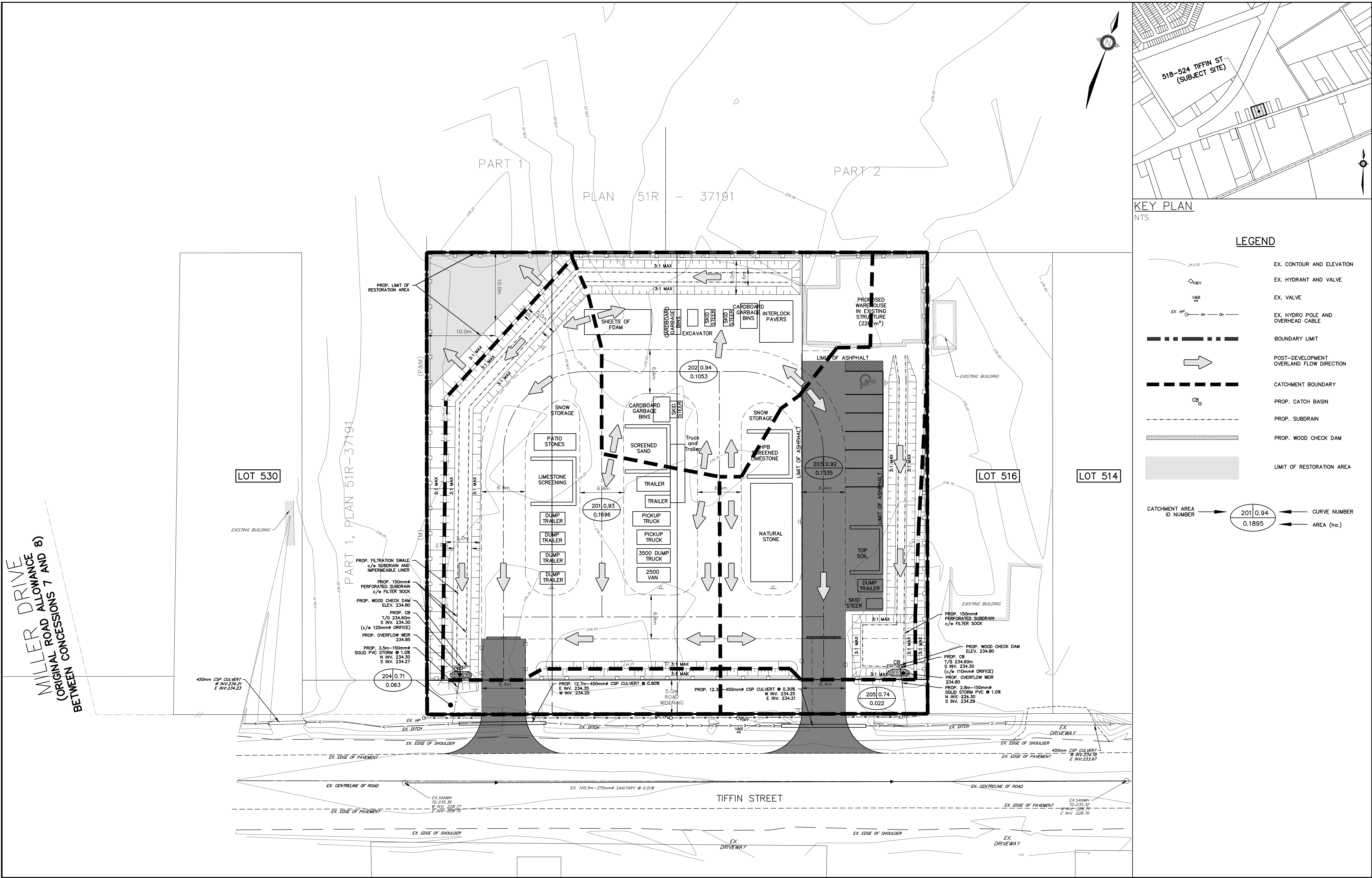
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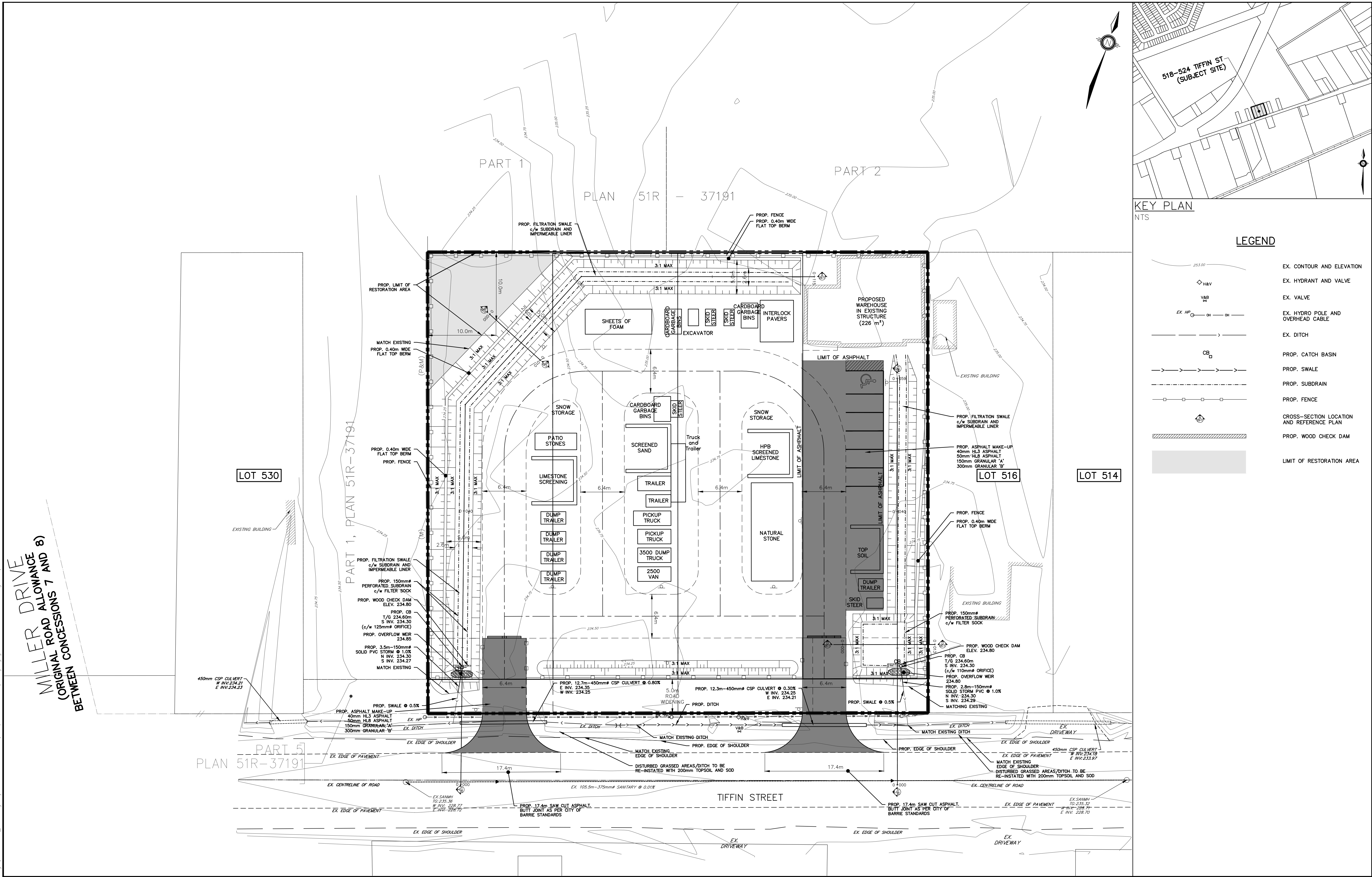
LEGAL AND TOPOGRAPHICAL				BENCHMARK:				 PIONEER FAMILY POOLS INC. 518-524 TIFFIN STREET BARRIE, ONTARIO PRE-DEVELOPMENT DRAINAGE AREA PLAN				JONES CONSULTING GROUP LTD. PLANNERS • ENGINEERS 229 Mapleview Dr. E. Unit 1 Barrie, ON L4N 0W5 P. 705.734.2538 F. 705.734.1056			
LEGAL AND TOPOGRAPHICAL INFORMATION TAKEN FROM RUDY MAK FILE No. 15586Topo. LOT 9 REGISTERED PLAN S1M-378, CITY OF BARRIE, COUNTY OF SIMCOE.				VERTICAL CONTROL #1: CONCRETE BRIDGE CARRYING HWY 400 OVER TIFFIN STREET, 1.2 KM NORTH OF HWY 400 HWY 27 INTERCHANGE AND 1.2 KM NORTH OF HWY 400 HWY 27 INTERCHANGE (KILPATRICK RD) INTERCHANGE. TABLET IS SET HORIZONTALLY IN EAST FACE OF NORTH CONCRETE ON N.E. CORNER, 180M BELOW TOP OF CURBING AND 7.3M EAST OF CENTERLINE OF HWY 400 NORTHBOUND LANE. ELEV. 232.923 VERTICAL CONTROL #2: PROVISIONAL DESCRIPTION PROVISION BARRIE BRIDGE CARRYING ACCESS TO HIGHWAY NO. 400 WEST TO AVIARY FOR NORTHBOUND TRAFFIC OVER HIGHWAY NO. 400, TABLET SET HORIZONTALLY IN EAST FACE OF WEST WALL, 18.4 M NORTH OF SOUTHEAST CORNER, 24 CM ABOVE HIGHWAY NO. 400 LEVEL. ELEV. 232.038 HORIZONTAL CONTROL #1: BARRIE - CONCRETE PIER ON SOUTHWEST SIDE OF TIFFIN STREET APPROXIMATELY 45 M NORTHWEST OF LANEWAY TO RESIDENCE, 2.8 M SOUTHWEST OF A "T" JUNCTION INTERCHANGE, TABLET IS SET HORIZONTALLY IN EAST FACE OF NORTH CONCRETE ON N.E. CORNER, 180M BELOW TOP OF CURBING AND 7.3M EAST OF CENTERLINE OF HWY 400 NORTHBOUND LANE. ELEV. 232.923 HORIZONTAL CONTROL #2: LOCATED ON THE NORTH SIDE OF TIFFIN STREET AT PATTERSON ROAD BETWEEN THE CURB LINE AND THE SIDEWALK AT THE END OF A HYDRO ANCHOR, NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.								4. THIRD SUBMISSION SEP 2024 JWI			
				3. SECOND SUBMISSION APR 2023 JWI											
				2. OPA AND ZBA SUBMISSION APR 2022 NWB											
				1. EXISTING SURVEY DEC 2021 NWB											
				NO. REVISIONS DATE INITIAL											

G:\Eng_3D\PIO-21060\Design\Drawings\PIO-21060_Base.dwg Layout:STM-2, Plotted Sep. 24, 2024 @ 4:07pm by caggon The Jones Consulting Group Ltd.



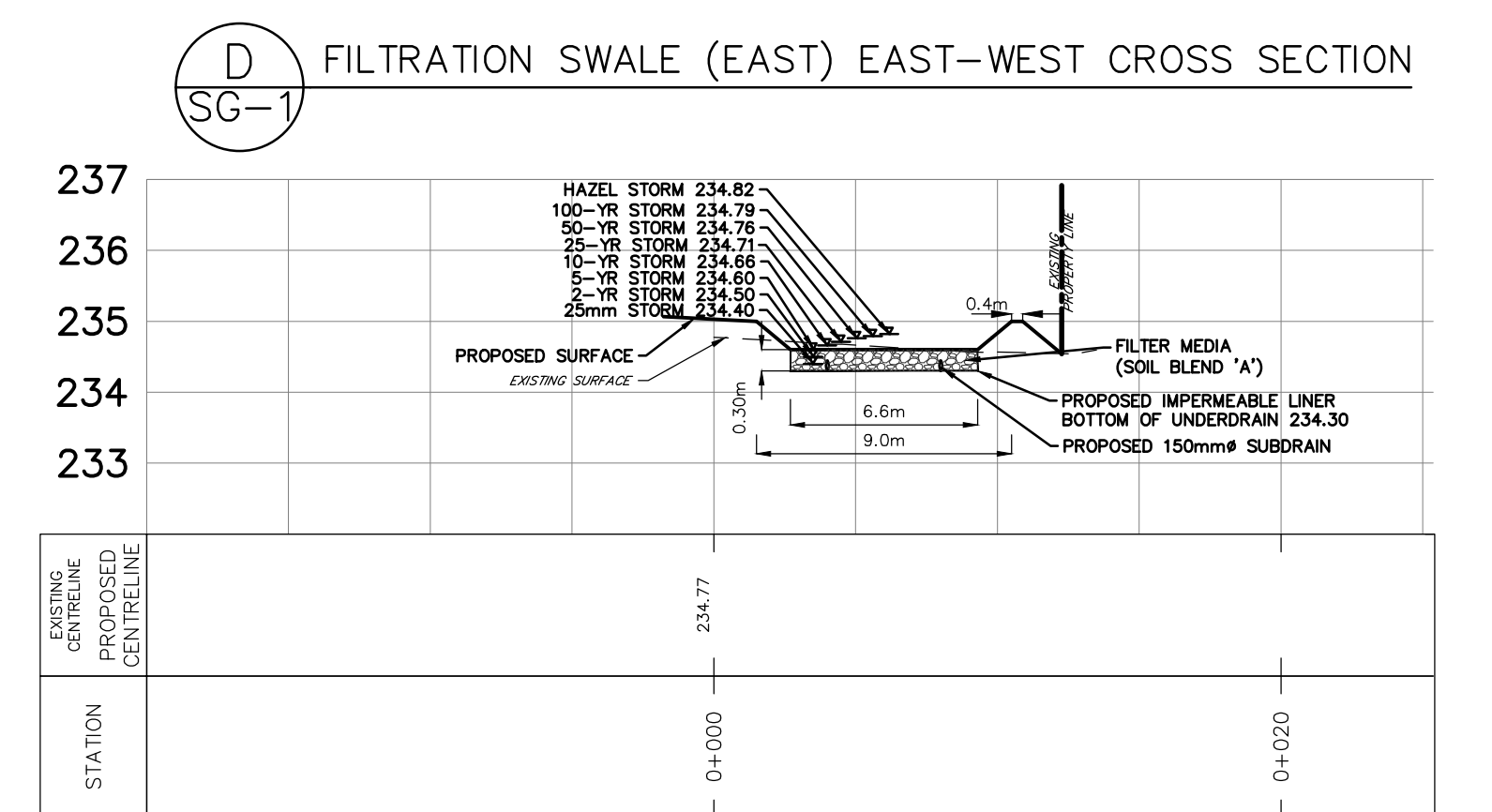
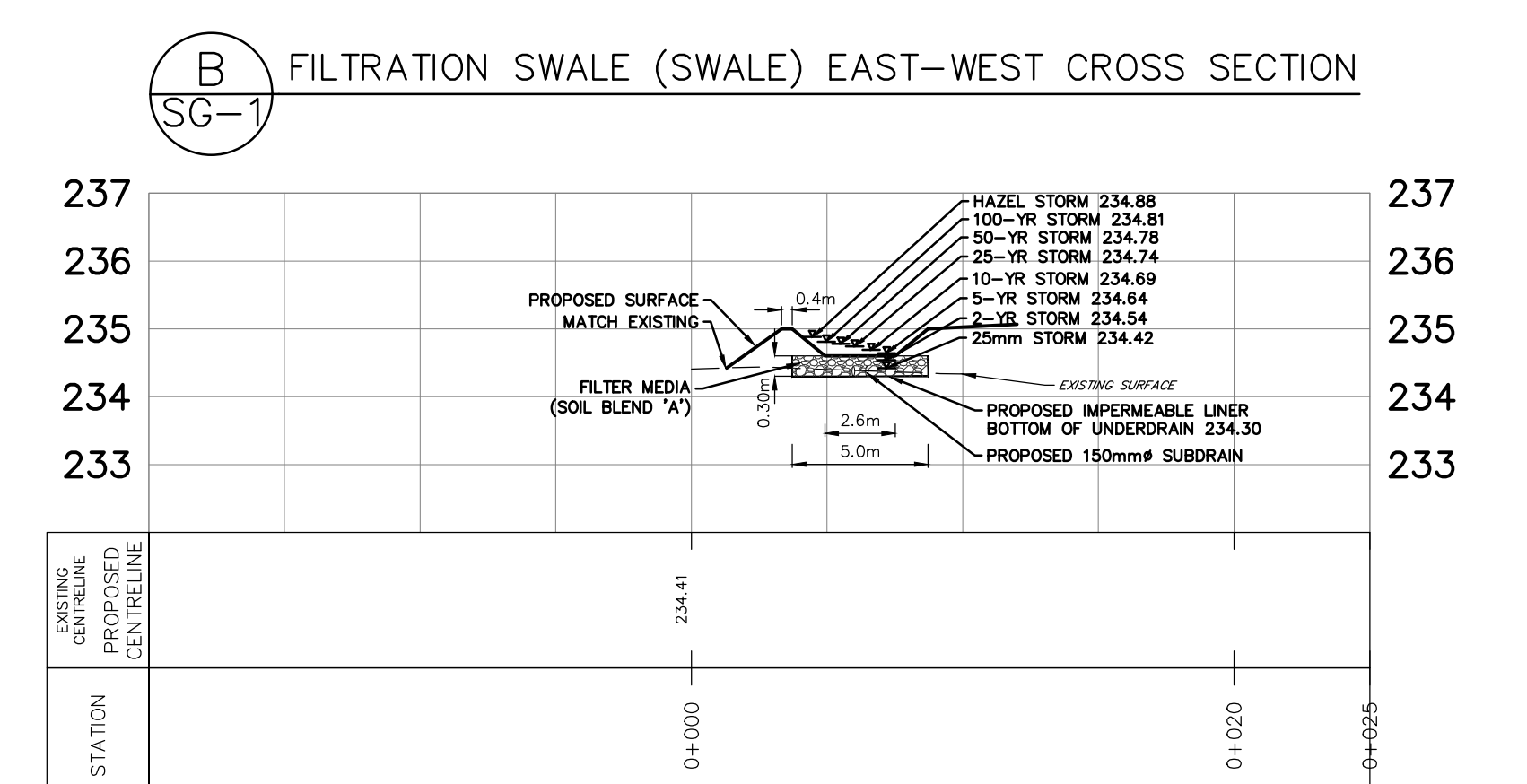
LEGAL AND TOPOGRAPHICAL		BENCHMARK:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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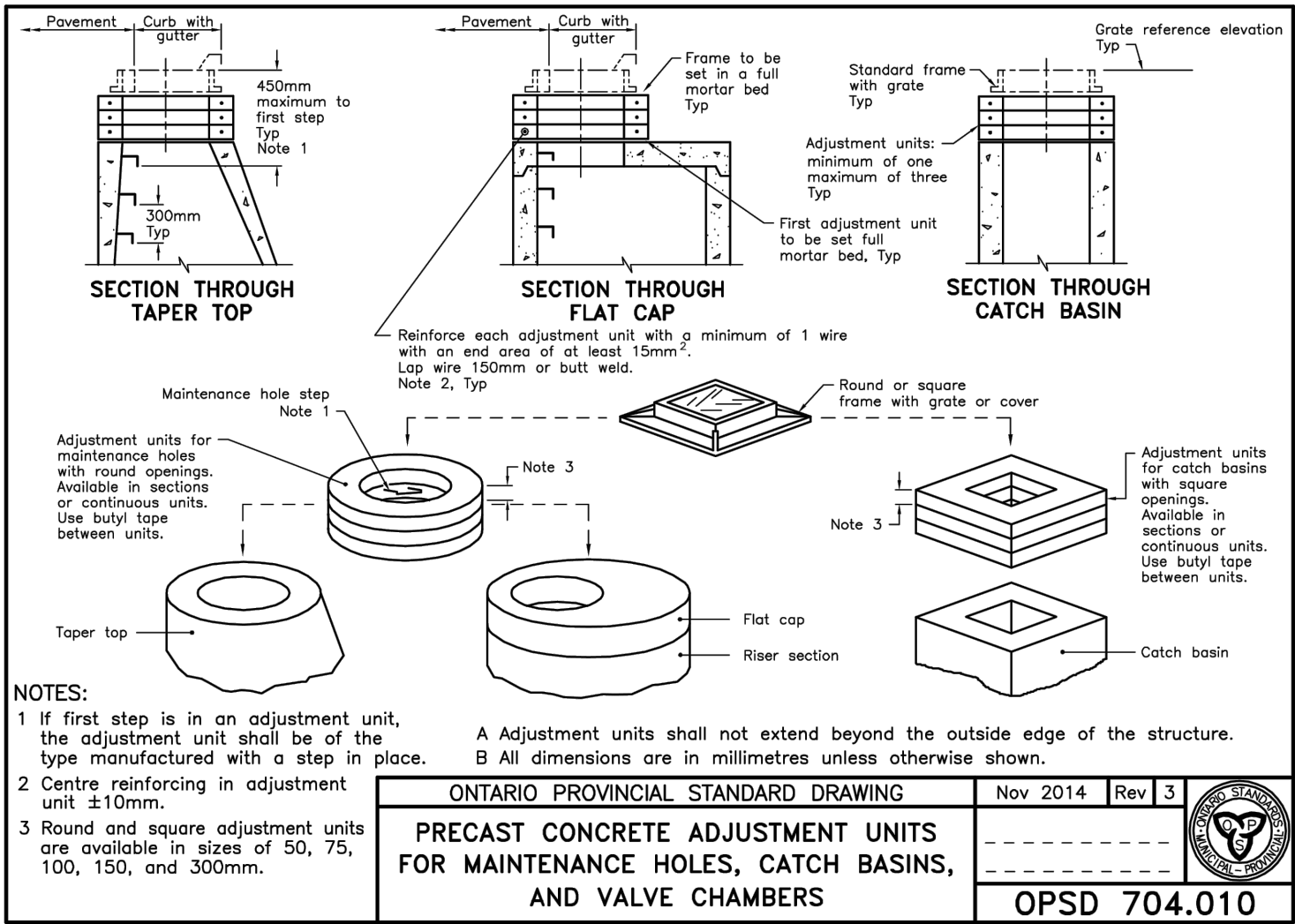


KEY PLAN	
NTS	
LEGEND	
	EX. CONTOUR AND ELEVATION
	EX. HYDRANT AND VALVE
	EX. VALVE
	EX. HYDRO POLE AND OVERHEAD CABLE
	EX. DITCH
	PROP. CATCH BASIN
	PROP. SWALE
	PROP. SUBDRAIN
	PROP. FENCE
	CROSS-SECTION LOCATION AND REFERENCE PLAN
	PROP. WOOD CHECK DAM
	LIMIT OF RESTORATION AREA

LEGAL AND TOPOGRAPHICAL		BENCHMARK: VERTICAL CONTROL #1: CONCRETE BRIDGE CARRYING HWY 400 OVER TIFFIN STREET, 1.2 KM NORTH OF HWY 400 AND HWY 27 (LESA RD INTERCHANGE AND 1.2 KM SOUTH OF HWY 400 AND 80 (DUNDAS ST) INTERCHANGE. TABLET IS SET HORIZONTALLY IN EAST FACE OF NORTH CONCRETE ON N.E. CORNER, 180m BELOW TOP OF CURBING AND 7.3m EAST OF CENTERLINE OF HWY 400 NORTHBORND LANE. ELEV. 232.038 VERTICAL CONTROL #2: PROVISIONAL DESCRIPTION PROVISION BARRIE BRIDGE CARRYING ACCESS TO HIGHWAY NO. 40 WEST TO AVENUE FOR NORTHBORND TRAFFIC OVER HIGHWAY NO. 400, TABLET SET HORIZONTALLY IN EAST FACE OF WEST WALL, 18.4 M NORTH OF SOUTHEAST CORNER, 24 CM ABOVE ELEV. 232.038 HORIZONTAL CONTROL #1: BARRIE - CONCRETE PIER ON SOUTHWEST SIDE OF TIFFIN STREET, APPROXIMATELY 45 M NORTHWEST OF LANEWAY TO RESIDENCE, 2.8 M SOUTHEAST OF A "ONE WAY DO NOT ENTER" SIGN, 4.8 M NORTHWEST OF A DIAMOND SHAPED CHECKERBOARD TRAFFIC SIGN, 6.6 M SOUTH OF CATCH BASIN BETWEEN TIFFIN STREET AND EXIT RAMP FROM HIGHWAY NO. 26 TO TIFFIN STREET, TABLET IN TOP, ESTABLISHED BY TOPOGRAPHICAL SURVEY. HORIZONTAL #2: LOCATED ON THE NORTH SIDE OF TIFFIN STREET AT PATTERSON ROAD BETWEEN THE CURB LINE AND THE SIDEWALK AT THE END OF A HYDRO ANCHOR, NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.														PIONEER FAMILY POOLS INC. 518-524 TIFFIN STREET BARRIE, ONTARIO		 JONES CONSULTING GROUP LTD. PLANNERS & ENGINEERS 229 Mapleview Dr. E. Unit 1 Barrie, ON L4N 0W5 P. 705.734.2538 F. 705.734.1058	
		4.		THIRD SUBMISSION		SEP 2024		JWI						DESIGN CG		SCALE: 1:250		DATE JULY 2024	
		3.		SECOND SUBMISSION		APR 2023		JWI						DRAWN CG		PROJECT		DWG. №	
		2.		OPA AND ZBA SUBMISSION		APR 2022		NWB						CHECKED JWI		PIO-21060		SS-1	
		1.		EXISTING SURVEY		DEC 2021		NWB											
		NO.		REVISIONS		DATE		INITIAL											



DESIGN	CG	SCALE: H 1:250 V 1:100	DATE FEB 2023
DRAWN	CG	PROJECT PIO-21060	DWG. N ^o CS-1
CHECKED	JWI		

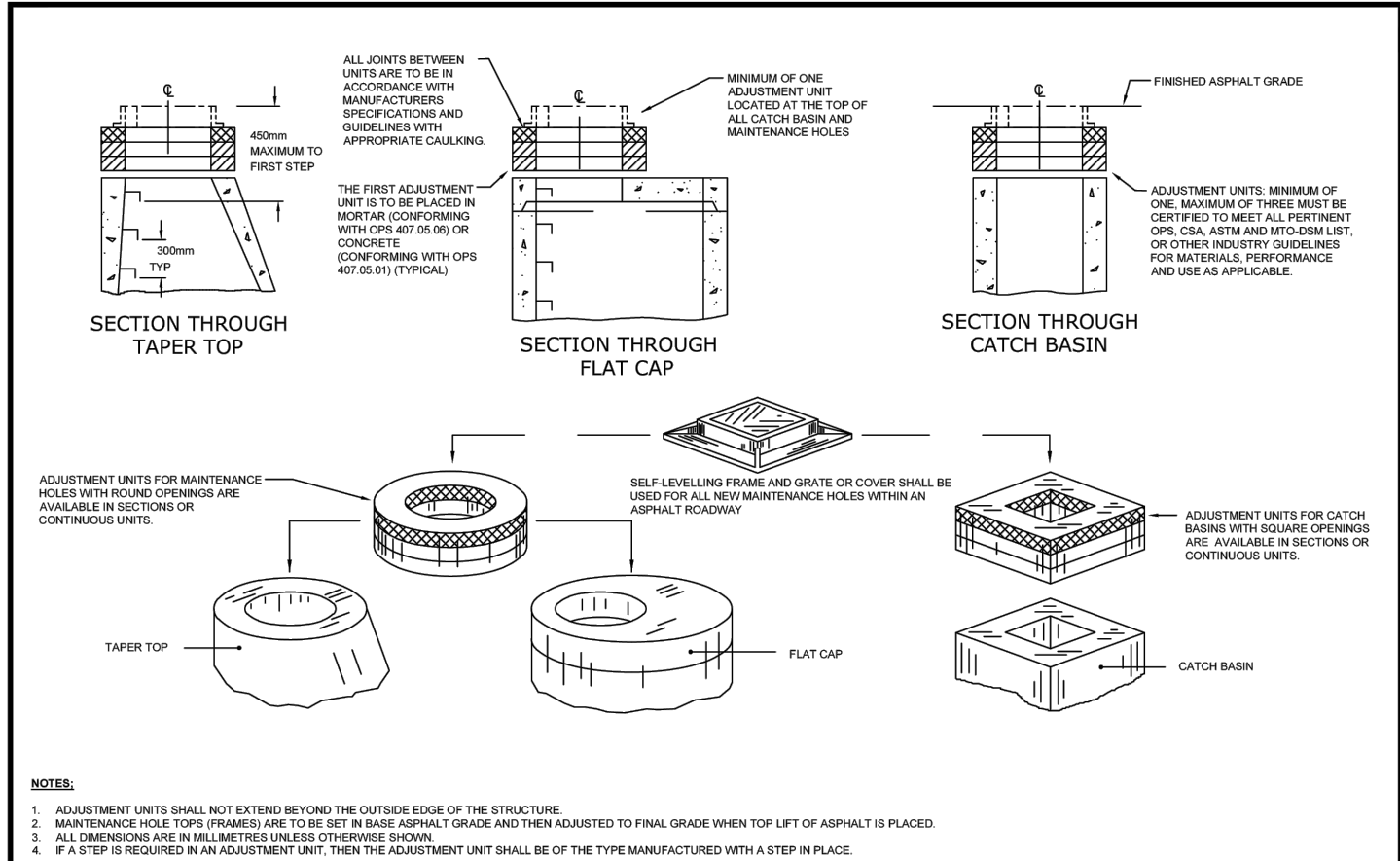


ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2014 Rev 3

PRECAST CONCRETE ADJUSTMENT UNITS FOR MAINTENANCE HOLES, CATCH BASINS, AND VALVE CHAMBERS

OPSD 704.010



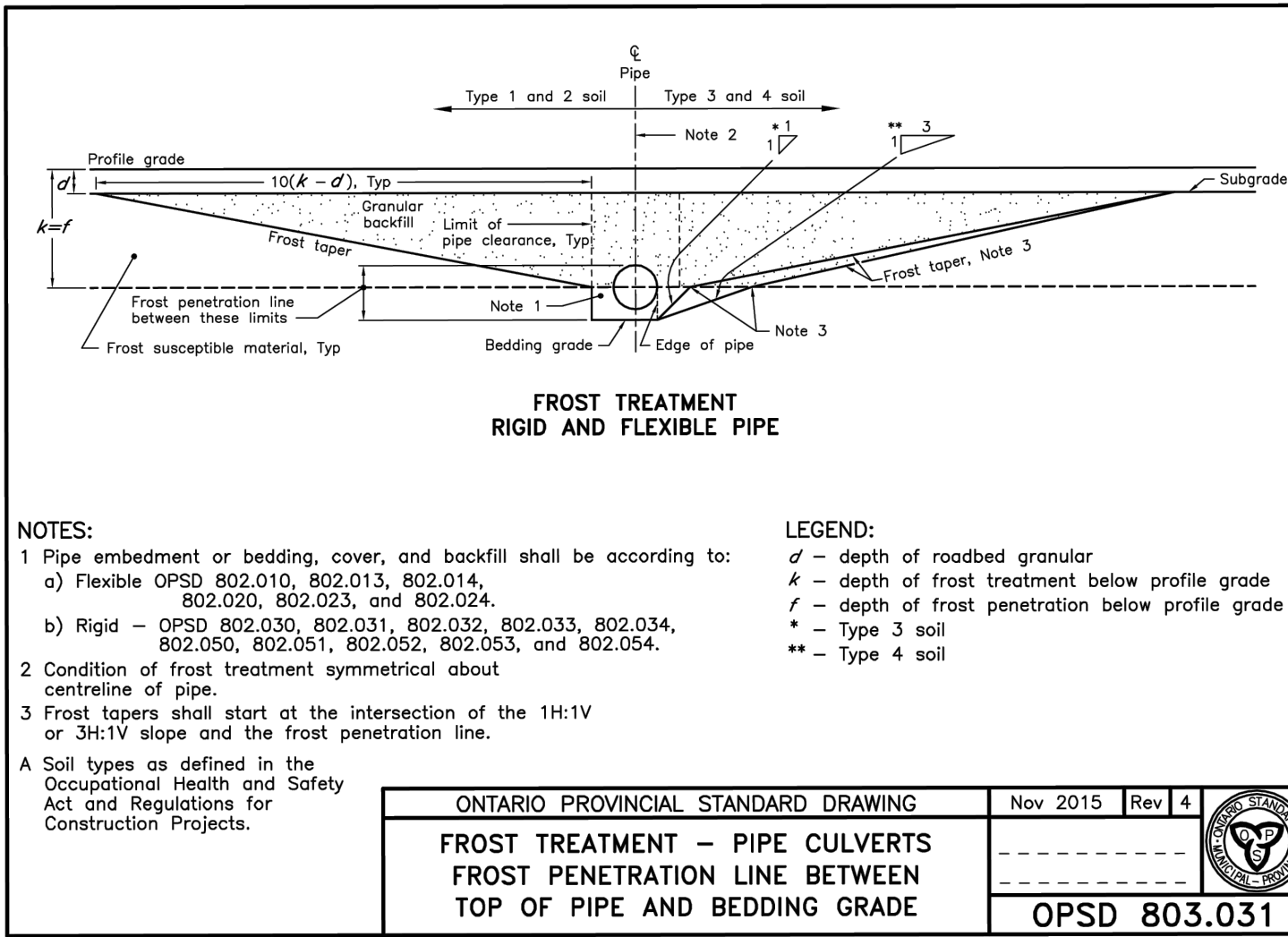
Barrie

Maintenance Hole and Catch Basin Grade Adjustment

REV No. 5 DATE APR 2023

SCALE: N.T.S.

S606

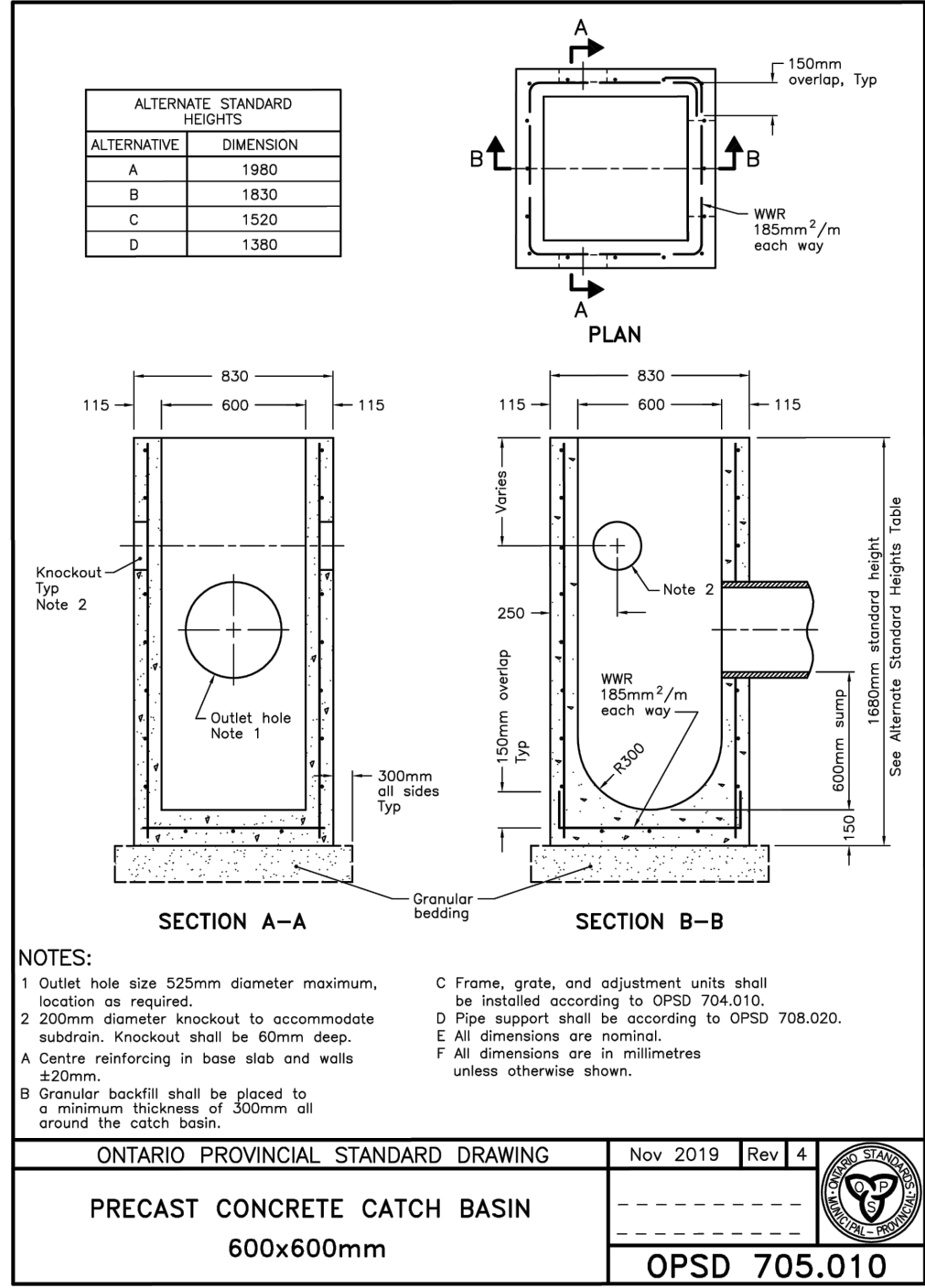


ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2015 Rev 4

FROST TREATMENT - PIPE CULVERTS FROST PENETRATION LINE BETWEEN TOP OF PIPE AND BEDDING GRADE

OPSD 803.031

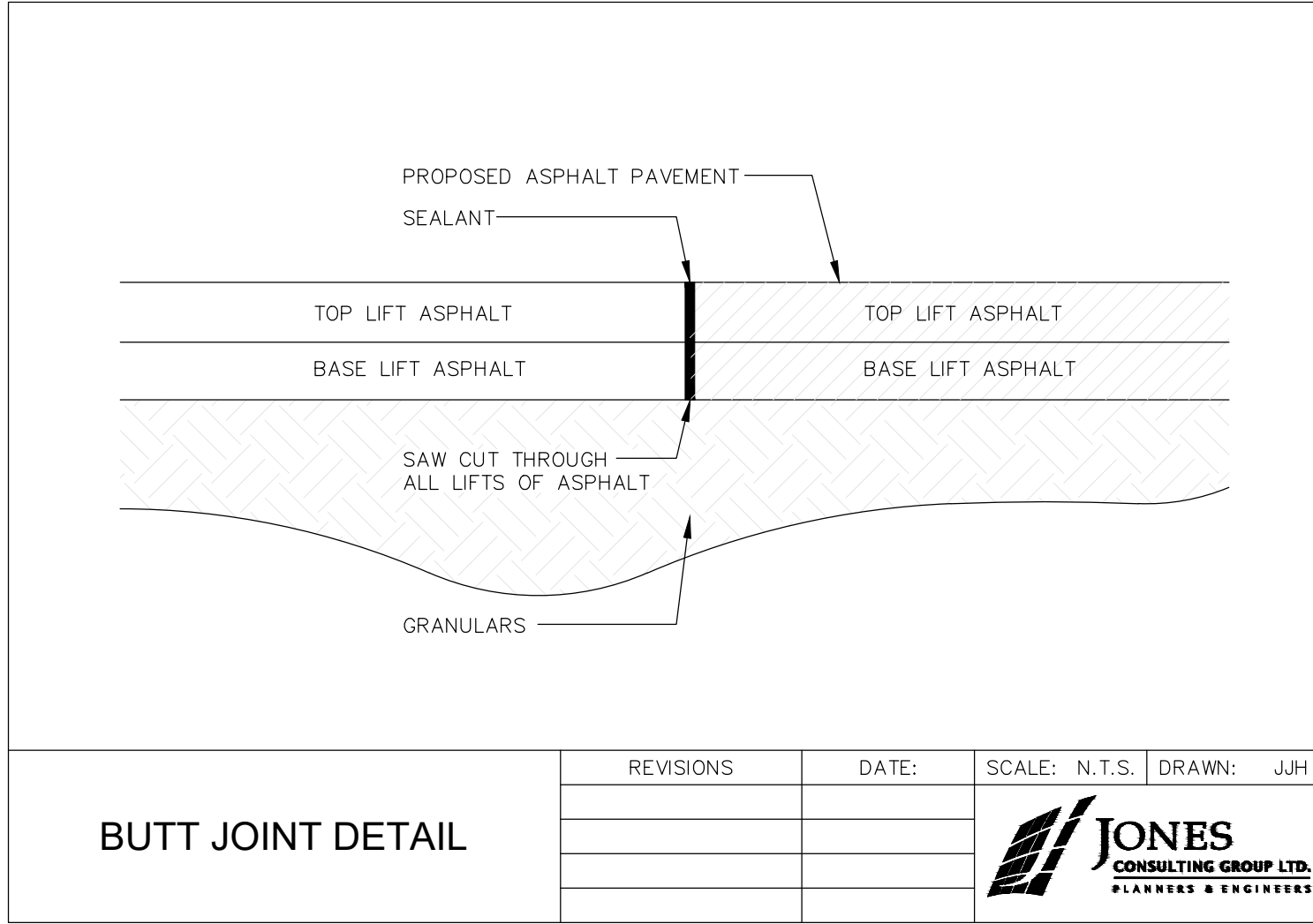


ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2019 Rev 4

PRECAST CONCRETE CATCH BASIN 600x600mm

OPSD 705.010



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LEGAL AND TOPOGRAPHICAL

LEGAL AND TOPOGRAPHICAL INFORMATION TAKEN FROM RUDY MAK FILE No. 15586Topo.

LOT 9 REGISTERED PLAN 51M-378, CITY OF BARRIE, COUNTY OF SIMCOE.

BENCHMARK:

VERTICAL CONTROL #1: CONCRETE BRIDGE CARRYING HWY 400 OVER TIFIN STREET, 1.2 KM NORTH OF HWY 400 AND HWY 27 (ESSA RD) INTERCHANGE, 1.2 KM SOUTH OF HWY 400 AND 80 (DUNDAS ST) INTERCHANGE. TABLET IS SET HORIZONTALLY IN EAST FACE OF NORTH CORNER OF N.E. CORNER, 180M BELOW TOP OF COPING AND 7.3M EAST OF CENTERLINE OF HWY 400 NORTHBOUND LANE. ELEV. 232.038.

VERTICAL CONTROL #2: PROVISIONAL DESCRIPTION PROVISION BARRIE BRIDGE CARRYING ACCESS TO HWY 400, 90 WEST TO ANGUS FOR NORTHBOUND TRAFFIC OVER HWY 400, 400, TABLET SET HORIZONTALLY IN EAST FACE OF WEST WALL, 18.4 M NORTH OF SOUTHEAST CORNER, 24 M ABOVE ELEV. 232.038.

HORIZONTAL CONTROL #1: BARRIE - CONCRETE PER ON SOUTHWEST SIDE OF TIFIN STREET, APPROXIMATELY 45 M NORTHWEST OF LANEWAY TO RESIDENCE, 2.8 M SOUTHEAST OF A "T" JUNCTION. TABLET IS SET HORIZONTALLY IN EAST FACE OF NORTH CORNER OF N.E. CORNER, 180M BELOW TOP OF COPING AND 7.3M EAST OF CENTERLINE OF HWY 400 NORTHBOUND LANE. ELEV. 232.038.

HORIZONTAL CONTROL #2: LOCATION ON THE NORTH SIDE OF TIFIN STREET AT PATTERSON ROAD BETWEEN THE CURB LINE AND THE SIDEWALK AT THE END OF A HYDRO ANCHOR, NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER MONUMENT CAP.

1.	THIRD SUBMISSION	SEP 2024	JWI
NO.	REVISIONS	DATE	INITIAL



PIONEER FAMILY POOLS INC.

518-524 TIFIN STREET

BARRIE, ONTARIO

STANDARD DETAILS

DESIGN	CG	SCALE: NTS	DATE	JULY 2024
DRAWN	CG	PROJECT	DWG. NO	
CHECKED	JWI	PIO-21060	DET-1	