

Feb.26, 2021



FUNCTIONAL SERVICING REPORT

CARANTANIA INVESTMENTS (BT) INC.

PROPOSED RESIDENTIAL DEVELOPMENT

**BOLTON SOUTH HILL DEVELOPMENT AREA
9229 5th SIDEROAD**

**TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL**

PROJECT No. 20036

FEBRUARY 2021

**RAND ENGINEERING CORPORATION
5285 SOLAR DRIVE
MISSISSAUGA, ONTARIO
L4W 5B8**

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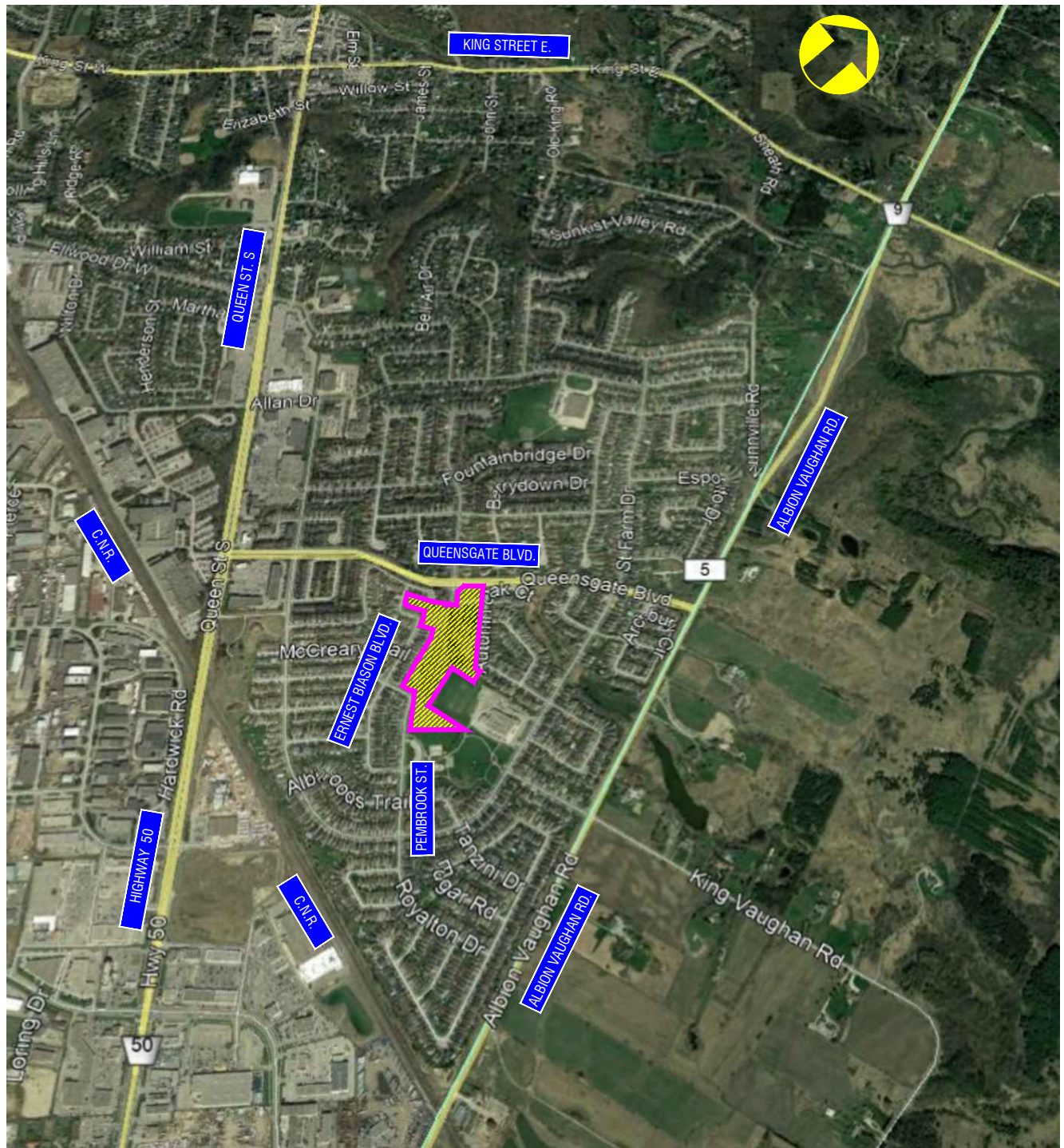
1.0 INTRODUCTION

RAND Engineering Corporation has been retained by Carantania Investments (BT) Inc. to complete a Functional Servicing Report (FSR) for a proposed residential development located within the Bolton South Hill Development Area in the Town of Caledon and Regional Municipality of Peel. The property encompasses a total area of 4.487 ha and is located within Registered Plans 43M-1210, 43M-1306, 43M-1365 and on Parts of Lots 5 and 6, Concession 7, Geographic Township of Albion.

The proposed Draft Plan of Subdivision for the property was prepared by KLM Planning Partners Inc. on December 8, 2020. The development is comprised of 75.5 single detached units and a park block.

As shown in Figure 1, the site is located within the boundaries of Queensgate Boulevard to the north, Earnest Biason Boulevard to the west, and Autumn Oak Court to the east. The property is bounded to the west and south by the Gates of Bolton Phase 4 residential subdivision (21T-96004, Registered Plan 43M-1306) and to the east by the Southridge Meadows Phases 1 and 2 residential subdivision (21T-92003c, Registered Plans 43M-1210 and 43M-1216).

The purpose of this report is to provide stormwater, sanitary and water servicing requirements for the proposed development. The recommended grading and servicing plans have been prepared in accordance with the design criteria of the Town of Caledon, Toronto Region Conservation Authority (TRCA) and Regional Municipality of Peel. The information provided in this report is intended to assist the municipality and other regulatory agencies in their review of the draft plan application for the development.



LEGEND



SUBJECT DEVELOPMENT

CARANTANIA INVESTMENTS (BT) INC.

TOWN OF CALEDON

PROJECT No. 20036

LOCATION PLAN

FIGURE No. 1

NOT TO SCALE



2.0 BACKGROUND INFORMATION

The following is a list of the background studies and reference documents used in the preparation of this report:

- **Aquafor Beech Ltd.**, *“Stormwater Management Report – Gates of Bolton – Phase III & Phase IV – Draft Plan 21T-96004”* (SWMR), March 1998.
- **Aquafor Beech Ltd.**, *“1113486 Ontario Limited (South Hill Village) - Storm Drainage Area Plan – As Constructed, Sheet 2A”*, August 15, 1999.
- **Aquafor Beech Ltd.**, *“Gates of Bolton – Phase IV – 21T-96004 – As Constructed Engineering Drawings”*, November 2004.
- **Caledon Hills Engineering Ltd.**, *“Southridge Meadows Phases 1 & 2, 21T-92003c – As Constructed Engineering Drawings”*, November 2000.
- **EXP Services Inc.**, *“Queensgate Blvd. and Pembroke St. Geotechnical Investigation, Caledon, Ontario, October 7, 2020.”*
- **Falby Burnside & Associates Ltd.**, *“Functional Design Report for Stormwater Management Ponds 2 & 3, Bolton South Hill Development Area, Town of Caledon”* January 1995.
- **Falby Burnside & Associates Ltd.**, *“Final Design Brief for Master Drainage Ponds 2 & 3, Bolton South Hill Development Area, Town of Caledon”*, May 1996.
- **Region of Peel**, *“Public Works, Design, Specifications & Procedures Manual”*, September 2007.
- **Town of Caledon**, *“Development Standards Manual”*, 2019.
- **TRCA, CVC**, *“Low Impact Development Stormwater Management Planning and Design Guide”*, 2010.

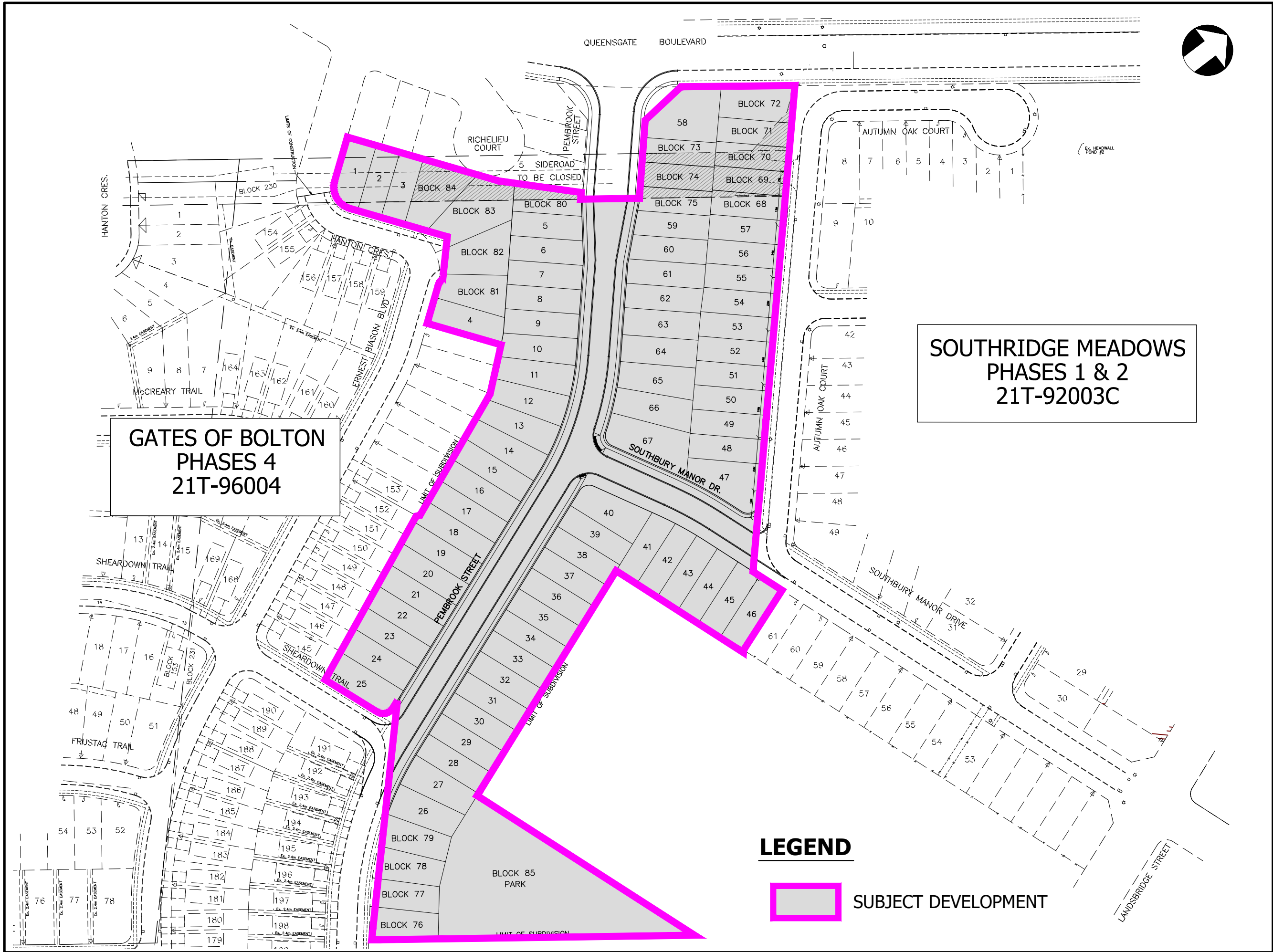
3.0 PROPOSED DEVELOPMENT

The general layout of the proposed 4.487 ha residential development is shown in Figure 2. The Draft Plan of Subdivision for the property was prepared by KLM Planning Partners Inc. on December 8, 2020. The proposed development consists of the following:

- 75.5 freehold single detached units
- 1 park area (BLOCK 85)
- 20 and 26 m wide Right-of-ways

Figure 2 shows that the proposed development will eliminate a portion of the existing 5th Sideroad right-of-way on the north portion of the site. Primary access to the development will be provided via Pembroke Street from the north and south, and Southbury Manor Drive from the east.

R:\20\20036\036 Figures for Report\2021-02-10\Figure 2_Development Plan.dwg | Feb 12, 2021 - 11:56am



4.0 EXISTING CONDITIONS

4.1 Topography and Drainage

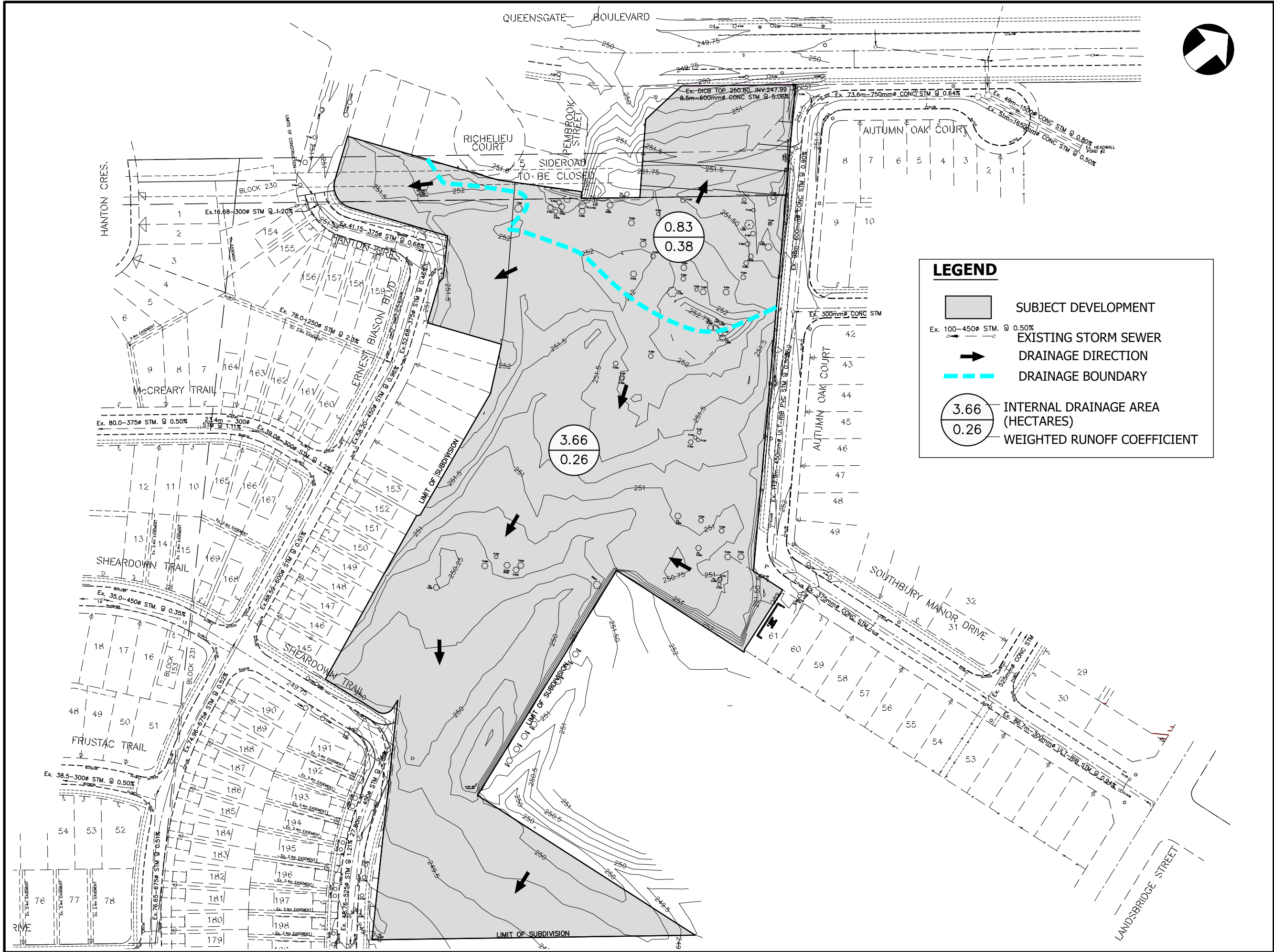
A review of the property's site conditions was carried out using topographic information and site inspection. Topographic information for the property and immediate surrounding area was obtained from the detailed survey plan completed on October 23, 2020, by Holding Jones Vanderveen Inc.

A single detached residential unit with a swimming pool is located on the property. The remainder of the property is vacant land consisting of an open field with scattered trees in the north and central parts of the property. As shown in Figure 3, the ground surface is moderate in slope (0 to 6%). A review of the topographic conditions indicates that property has a local high point on the northern portion of the site. From that highpoint the grade falls in all directions. Most of the site, however, drains in a southerly direction. The topographic relief across the property is approximately 3 metres.

As shown in Figure 3, the following existing storm sewers are located in the vicinity of the site:

- A storm sewer system on Autumn Oak Court with the pipe diameters ranging from 450 mm to 750 mm.
- Seven (7) pre-installed servicing connections on the west side of Autumn Court.
- A 375 mm diameter storm sewer on Southbury Manor Drive.
- A storm sewer system on Pembroke Street with the pipe diameters ranging from 450 mm to 525 mm.
- A storm sewer system on Earnest Biason Boulevard with the pipe diameters ranging from 375 mm to 600 mm.

All drainage within the Cantarana property and surrounding area is tributary to the existing drainage systems of the Gates of Bolton Subdivision and the Southridge Meadows Subdivision.



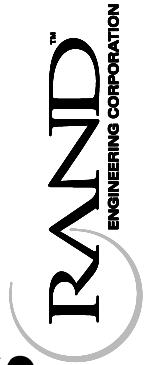
CARANTANIA INVESTMENTS (BT) INC.

FIGURE No. 3

NOT TO SCALE

CITY OF CALEDON

EXISTING DRAINAGE CONDITIONS



PROJECT No. 20036

The drainage areas internal to the property have been discretized as follows (refer to Figure 3):

- 3.75 ha drains southerly to the existing storm sewer system along Pembroke Street and Sheardown Trail within the Gates of Bolton subdivision,
- 0.74 ha drains northerly towards the Queensgate Boulevard right-of-way.

4.2 Soils and Hydrogeology

A review of the property's subsurface site conditions was carried out using the geotechnical information for the property provided in the October 2020 "*Geotechnical Investigation*", prepared by EXP Services Inc.

Five boreholes were advanced throughout the site during the investigation. The results of the investigation indicate that the soil stratigraphy of the site consists of 0.08 m to 0.10 m layer of topsoil over fill extending to depths of approximately 0.7 m to 1.8 m. A native sandy silt till was observed beneath the fill to depths of 2.3 to 4.1 m below existing grade in Boreholes 1 through 4. Clayey silt till exists below the sandy silt till.

The groundwater was measured at approximately 2.2 m below grade in the southern part of property (Borehole No. 5), whereas the monitoring well installed in Borehole No. 2 remained dry. It has been reported that the groundwater likely originates from the more pervious seams within the glacial till deposits.

5.0 STORMWATER MANAGEMENT PLAN

The storm drainage system for the development has been designed in accordance with the standards and requirements of the Town of Caledon and TRCA. The information pertaining to the water quality, erosion and quantity control from the site has been obtained from the following:

- “*Stormwater Management Report - Gates of Bolton – Phase III & IV – Draft Plan 21T-96004*”, prepared by Aquafor Beech Ltd., dated 1998.
- “*Final Design Brief for Master Drainage Ponds 2 & 3, Bolton South Hill Development Area, Town of Caledon*”, prepared by Falby Burnside & Associates Ltd., dated May 1996.

5.1 Stormwater Management Criteria

The following storm drainage criteria have been adopted for the stormwater conveyance system within the proposed development:

- The minor drainage system within the proposed development should be designed for the 10-Year storm event using the Rational Method and the Town of Caledon’s IDF curves.
- The major drainage system should be designed to convey flows from the 100-Year design storm. The major system should be contained within road allowances and designated easements.
- Runoff from roof leaders within residential lots should discharge to surface pre-cast splash pads and be directed towards pervious areas.
- On-site detention of the first 5mm of runoff from the entire site impervious surface area is required to address the water balance.

- Water quality, erosion and quantity control for the subject property will be provided within the following existing SWM facilities:
 - Ponds 2 & 3 located approximately 250 m to the east of the site, and
 - Pond 17 located 150m northeast of the CP Rail line and Albion-Vaughan Road intersection.

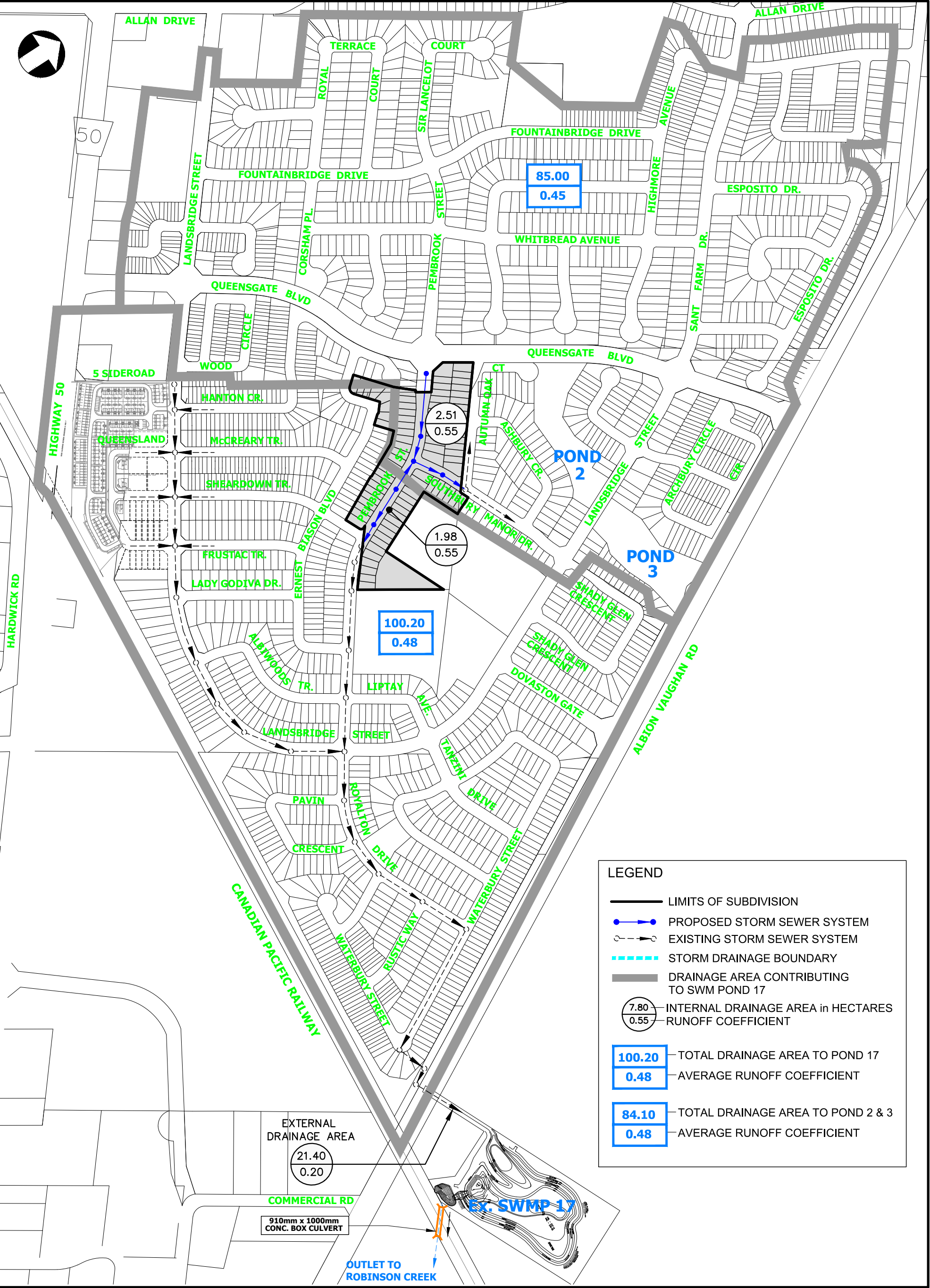
5.2 Minor and Major Drainage Systems

As shown in Figure 4, the drainage from the 4.487 ha development will be conveyed to the existing storm sewer system within the adjacent Southridge Meadows subdivision (21T-92003c) and Gates of Bolton – Phase IV subdivision (21T-96004), to the east and south, respectively.

Post-development storm drainage from the site will be managed using a combination of minor (storm sewers) and major (overland) systems. The details of the proposed drainage system are shown on the General Plan (Underground Services) - Drawing No. GP-1, included in the back pocket of this report.

As shown on Drawing No. GP-1, the proposed storm sewer system from the subject development will be connected to the existing storm sewer system as follows:

- The residential units located along the Pembroke Street extension will be serviced via the proposed 375mm diameter storm sewer connected to the existing 450mm diameter sewer at the Pembroke Street to the south.
- The residential units located along the Southbury Manor Drive extension will be serviced via a proposed 375 mm diameter storm sewer connected to the 450 mm diameter storm sewer along Autumn Oak Court to the east.
- The residential units fronting Autumn Oak Court will be serviced via existing pre-installed and proposed storm servicing connections to the existing storm sewer along Autumn Oak Court.
- The residential units fronting Earnest Biason Boulevard will be serviced via the existing 375 mm diameter storm sewer.



CARANTANIA INVESTMENTS (BT) INC.

FIGURE No. 4

TOWN OF CALEDON

SCALE 1:6,000

PROJECT No. 20036

STORM DRAINAGE PLAN



A preliminary drainage system design has been prepared in conjunction with the servicing and grading design for the site. The details of the servicing and grading design are provided on the enclosed engineering drawings, included in the back pocket of this report.

To assess the capacity of the existing storm sewer system, the original storm drainage design information, including drainage plans and storm sewer design sheets, was obtained from the Town of Caledon.

Based on the review of the design, it was determined that the Gates of Bolton storm sewer system included the conveyance of 10-year post-development flows from a portion of the proposed development area. Flows from less frequent storm events up to and including the 100-year storm, will be conveyed to SWM Pond 17 by the combination of the storm sewers and road allowances.

The existing Southridge Developments storm sewer system also accounted for the conveyance of 10-year post-development flow from the proposed development.

The development lies within the limits of the drainage areas of multiple existing SWM Ponds; Pond 2 & 3 to the east, and Pond 17 located 150m northeast of the CP Rail line and Albion-Vaughan Road intersection. The site and associated SWM Ponds are located within the Humber River Watershed.

SWM Pond 2 was originally constructed in the mid 1980's within an existing gully feature. It was designed to provide flood control. In the mid 1990's, Pond 3 was proposed downstream of Pond 2, to operate as a wet pond with extended detention and additional flood storage. The two ponds operate together as cascading on-line facilities and service an area of approximately 85 ha, including a portion of the site.

SWM Pond 17 (previously referred to as Pond 4) was constructed in 1998 as part of the Gates of Bolton subdivision. The facility was designed to provide water quality and quantity control for approximately 100.2 ha of contributing drainage area, including part of the subject property.

Stormwater management for the subject property will be provided by either the existing SWM Pond 17, located approximately 150 m northeast of the intersection of the CP Rail line and Albion-Vaughan Road, and the existing SWM Ponds 2 & 3 just 150 m east of the site. SWM Pond 17 outlets to Robinson Creek, a tributary to the Rainbow Creek sub-watershed. Ponds 2 & 3 discharge into a smaller creek that is tributary to the Main Humber River.

5.3 Water Quantity and Quality Control

Based on our review of the existing drainage system information for the property and surrounded area, the post-development drainage from the subject development will be conveyed to the existing SWM Ponds 2, 3 and 17.

5.3.1 SWM Ponds 2 & 3

The drainage from the northern portion of the site (approximately 2.6 ha) will be conveyed easterly towards SWM Ponds 2 and 3. SWM Pond 2 is located 150 m east of the subject property and south of Queensgate Blvd., within the Southridge Meadows subdivision 21T-92003c. SWM Pond 3 is located further downstream, to the east. Refer to Figure 4 to see the Pond locations.

SWM Ponds 2 and 3 operate as cascading on-line facilities with an outlet to a tributary of the Humber River. The combined facilities provide water quality, erosion, and quantity control for an approximately 85 ha drainage area, including the 2.6 ha from the subject property. The design details for the two existing facilities were provided in a report titled “*Final Design Brief for Master Drainage Ponds 2 & 3, Bolton South Hill Development Area, Town of Caledon*”, prepared by Falby Burnside & Associates, dated May 1996.

SWM Pond 2 is a dry detention facility designed for flood storage. SWM Pond 3 was designed as a wet facility with extended detention, to provide quality and erosion control as well as flood storage. Both ponds were designed to work together to accommodate flows from an 85 ha drainage area, for storms up to and including the 100-year event. Ponds 2 & 3 are also designed to convey the Regional storm safely.

5.3.2 SWM Pond 17

The southern portion of the site (approximately 1.7 ha) is proposed to drain towards SWM Pond 17, which is located approximately 150 m northeast of the CP Rail line and Albion-Vaughan Road intersection. The location of Pond 17 can be seen in Figure 4. The facility was designed to provide water quality and quantity control for approximately 100.2 ha of contributing drainage area, including a 1.7 ha portion of the subject property. The SWM facility is located within the Rainbow Creek sub-watershed and drains to Robinson Creek via a 910 mm x 1000 mm concrete box culvert under the CP Rail line.

Design details for the existing SWM Pond 17 were provided in the “*Stormwater Management Report – Gates of Bolton – Phase III & Phase IV – Draft Plan 21T-96004*” prepared by Aquafor Beech Ltd. in March 1998.

6.0 LOW IMPACT DEVELOPMENT PRACTICES

A water balance analysis was prepared by R.J. Burnside and Associates Ltd. Recognizing R.J. Burnside's analysis and current TRCA objectives related to water balance, the following Low Impact Development (LID) practices are recommended:

1. Runoff from roof leaders will be discharged to surface pre-cast splash pads and directed towards lawns,
2. The depth of topsoil on the lots will be increased from the typical 150 mm to 200 mm,
3. Provision of rear-yard infiltration trenches at suitable locations.

The proposed storm drainage system for the development will include on-site detention of 5 mm of precipitation over the contributing impervious area to address the TRCA water balance requirement. The storage requirements will be achieved via an implementation of infiltration trenches and thicker topsoil. The evaluation of the site conditions for the suitable location of the infiltration trenches will be conducted by R. J. Burnside. The design details for the proposed LID practices will be provided at the final design stage.

7.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment control measures to be implemented during and following construction will comply with the December 2006 *“Erosion and Sediment Control Guideline for Urban Construction”* prepared by the Greater Golden Horseshoe Area Conservation Authorities and recommendations from the Town of Caledon engineering staff. The details of the proposed erosion and sediment control works will be provided at the final design stage.

Prior to the initiation of grading or stripping of topsoil a Fill Permit Application will be submitted to the Town of Caledon. The permit will include detailed Erosion and Sediment Control Plans, and Construction Management Plan. The Construction Management Plan will include information related to the required mitigation measures for the noise/dirt and air quality for the adjacent neighborhood.

8.0 SANITARY SERVICING PLAN

The sanitary servicing plan for the proposed development is shown on Drawing GP-1, included in the back pocket of this report. The sanitary servicing network within the proposed development has been designed as a conventional gravity system in accordance with the Region of Peel standards. The sizes and locations of sanitary sewers within the subject property will be verified at the time of detailed engineering design. Preliminary sanitary design calculations for the development are included in Appendix A.

As shown on Drawing No. GP-1, the sanitary flow from the subject property will be connected to the existing sanitary sewer system as follows:

- The residential units located along Autumn Oak Court will be connected to the existing 250mm diameter sanitary on Autumn Oak Court via pre-installed and proposed servicing connections.
- The residential units located along the Pembroke Street extension will be serviced via the proposed 250mm diameter sanitary.
- The residential units located along the Southbury Manor Drive extension will be serviced via a proposed 250mm diameter sanitary sewer.
- The residential units fronting Earnest Biason Boulevard will be serviced via the existing 250mm diameter storm sewer.

The sanitary flows from the proposed development will be conveyed via the existing 250 mm diameter sewer located along Pembroke Street, and ultimately to the 675 mm diameter sanitary trunk sewer on Highway 50.

Wastewater demands were estimated using Region of Peel guidelines and are summarized in Table 1.

Table 1
Summary of Wastewater Demands

Land Use	Population	Average Flow (L/s)	Peak Flow (L/s)	Infiltration (L/s)	Total Flow (L/s)
Residential	313	1.1	4.5	0.9	5.4

* Based on a site area of 4.49 ha and flow rate of 0.2 L/s/ha

9.0 WATER DISTRIBUTION PLAN

The subject property will be serviced within Pressure Zone 6 of the Region of Peel's Lake Based Water Supply System. The layout of the network is outlined on Drawing No. GP-1, provided in the Report's rear pocket.

As shown on Drawing No. GP-1, the proposed water servicing system from the Carantania development will be connected to the existing water servicing network as follows:

- The residential units located along Autumn Oak Court will be serviced via the existing 300mm diameter watermain on Autumn Oak Court.
- The residential units located along the Pembroke Street extension will be serviced via the proposed 200mm diameter watermain.
- The residential units located along the Southbury Manor Drive extension will be serviced via the proposed 200mm diameter watermain.
- The residential units fronting Earnest Biason Boulevard will be serviced via the existing 200mm diameter watermain.

The sizes and locations of proposed watermains within the subject property will be verified at the time of detailed engineering design. The water distribution system for the proposed development will be designed in accordance with current Region of Peel standards.

Anticipated water demands were estimated and are summarized in Table 2. Population and flow estimates were determined using Region of Peel guidelines. The proposed water distribution network is supported by the preliminary design calculations found in Appendix B.

Table 2
Summary of Anticipated Water Supply Demands

Land Use	Population	Ave. Day Demand (L/s)	Max. Day Demand (L/s)	Max. Hour Demand (L/s)
Low Density Res.	313	1.0	2.0	3.1

Fire flow demand is conservatively estimated as follows:

- 150 L/s for residential land use

Therefore, the estimated maximum day + fire flow demand is approximately 152.0 L/s.

10.0 GRADING PLAN

A preliminary grading plan for the subject property has been prepared in conjunction with the preliminary storm and sanitary design for the subject development, and with consideration of the existing grading for the adjacent lands.

The site's grading has been designed to generally follow the existing topography and provide adequate cover for the underground services. As such, site drainage is split. Approximately 1.98 ha drains towards the Gates of Bolton subdivision (Registered Plan 43M-1306). The remainder of the site (approximately 2.51 ha) drains easterly towards the Southridge Meadows subdivision (Registered Plans 43M-1210 and 43M-1216).

The property's grading is outlined on the Preliminary Grading Plans (Drawing Nos. GR-1 and GR-2) provided in the back pocket of this report.

11.0 CONCLUSIONS

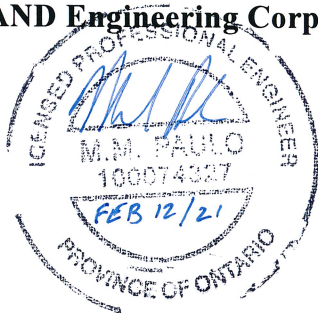
Based on the findings of this study, it is concluded that:

1. A technical assessment of the municipal servicing requirements indicates that the development plan may be adequately serviced by the proposed storm drainage, sanitary and water distribution systems.
2. A detailed Stormwater Management Implementation Report will be prepared in conjunction with the final engineering design.

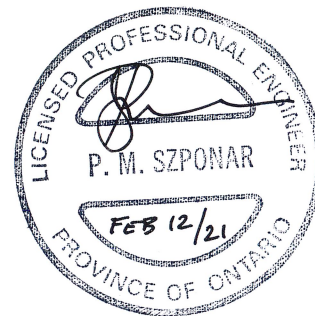
This report is being submitted to the Town of Caledon, TRCA and Regional Municipality of Peel in support of the Draft Plan Application for the Carantania subdivision.

Respectfully Submitted,

RAND Engineering Corporation



M. Paulo, P.Eng.



P. Szponar, P. Eng.

APPENDIX A. PRELIMINARY SANITARY SERVICING DESIGN CALCULATIONS

Sanitary Flow Calculation from Site

Project No. 20036

Proposed Carantania Residential Development, Town of Caledon, Region of Peel

Development Area: 4.487 ha
 Infiltration Rate: 0.2 l/ha/sec
 Generation Rate: 302.8 l/person/day[†]

Estimated Site Discharge

Land Use	Units	Area (ha)	Pop. Density (p.p.u.) [†]	Pop. Density (person/ha) [†]	Population	Ave Flow (L/s)	Harmon's Peaking Factor	Peak Flow (L/s)	Infiltration (L/s)	Total Flow (L/s)
Res. Low Density (single detached)	75.5		4.15		313	1.10	4.07	4.47		4.47
Total					313	1.10	4.07	4.47	0.90	5.37

[†] As per Region of Peel Design Criteria

APPENDIX B. PRELIMINARY WATER SERVICING DESIGN CALCULATIONS

PROJECT: Carantania Residential Development
PROJECT #: 20036
DATE: 2021-02-11

WATER DEMAND DESIGN ANALYSIS

REGION OF PEEL DESIGN CRITERIA

Watermains to be sized based of the greater of:

1. Maximum Day Demand plus Fire Flow or
2. Peak Hour Demand

Water Demand Design Criteria

Average Day Demand - Residential	280 L/cap/d
Maximum Day Factor - Residential	2.0
Peak Hour Factor - Res. and Inst.	3.0

Population Equivalents

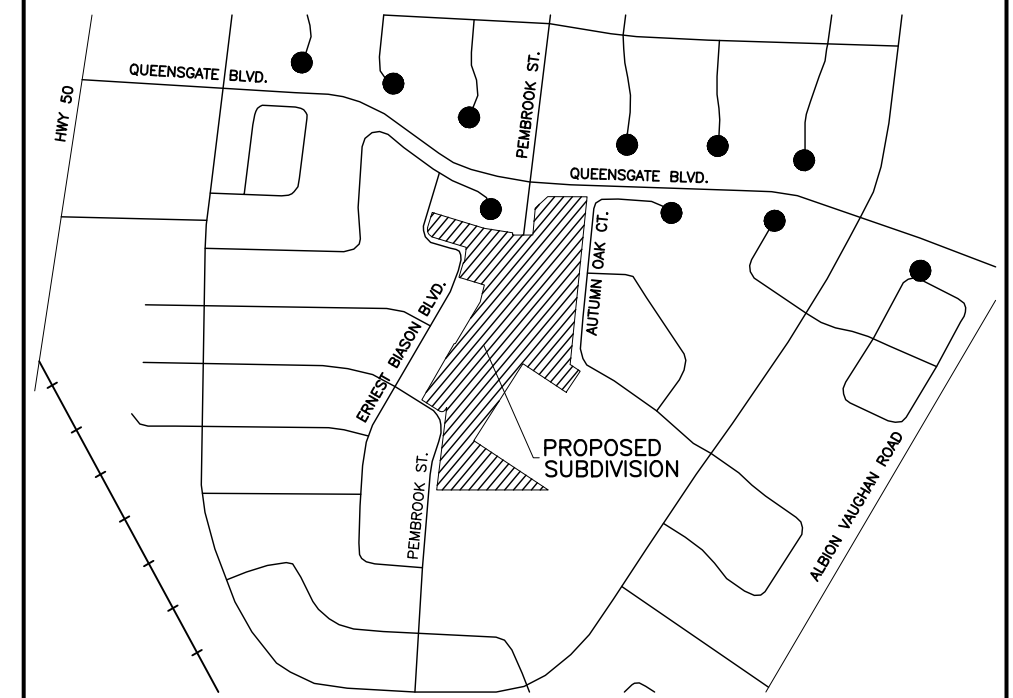
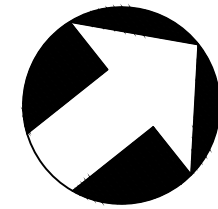
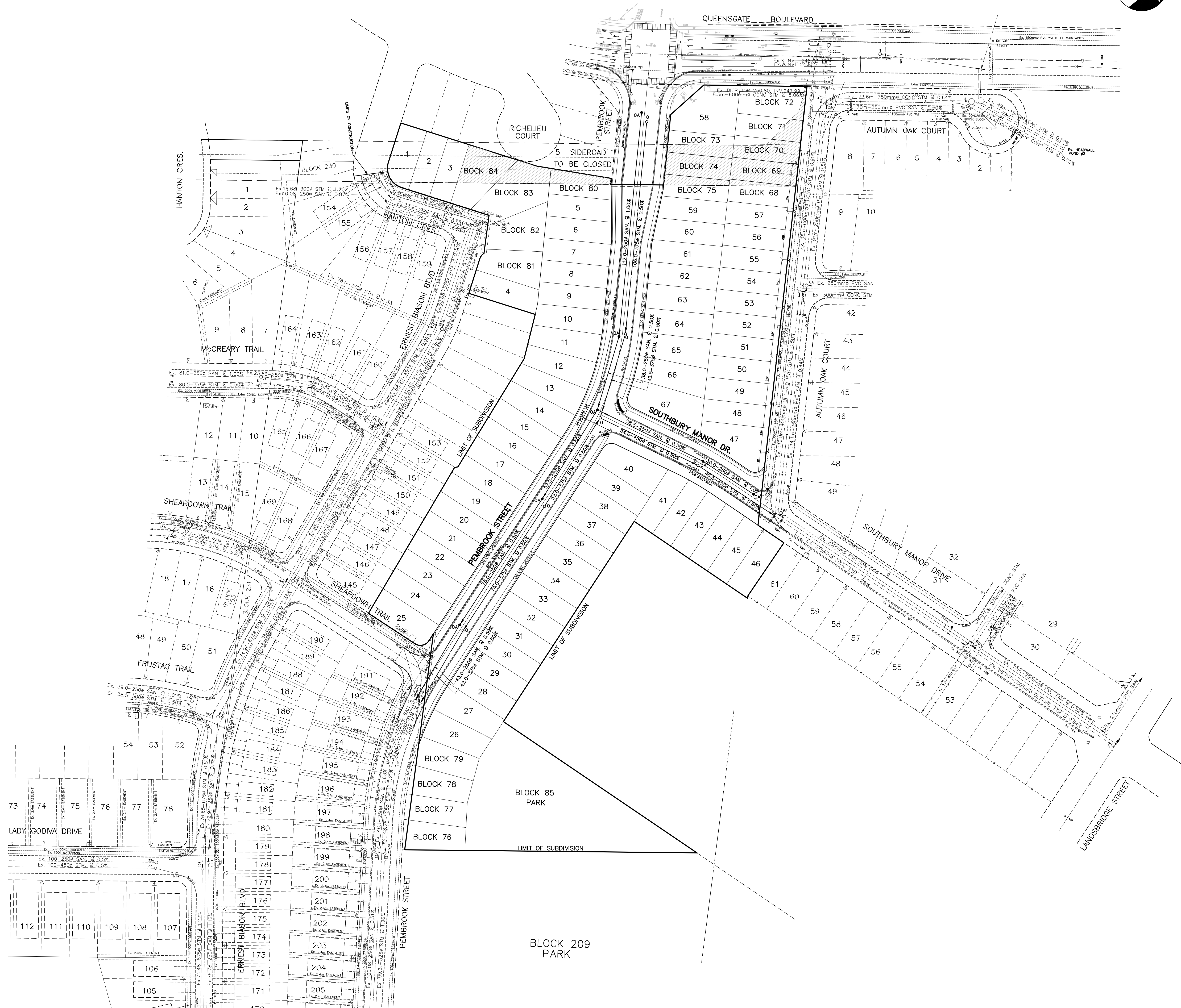
Res. Low Density (single detached)	4.15 ppu
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Water System Demand

	Units #	Area (ha)	Population	Ave. Day Flow (L/s)	Max Day Demand (L/s)	Max Hour Demand (L/s)
Proposed Development						
Res. Low Density (single detached)	75.5		313	1.02	2.03	3.05
Total	76	0.00	313	1.02	2.03	3.05

Fire Flow Demand

	Fire Flow
Residential	150.00 L/s
Maximum Day Demand + Fire Flow	152.03 L/s
Peak Hour Demand Flow	3.05 L/s



KEY PLAN N.T.S.

LEGEND

- DENOTES SANITARY MANHOLE
- DENOTES STORM MANHOLE
- DENOTES CATCHBASIN MANHOLE
- DENOTES SINGLE CATCHBASIN
- DENOTES DOUBLE CATCHBASIN
- ⊗ DENOTES VALVE AND BOX
- ⊕ DENOTES HYDRANT AND VALVE

No.	By	Date	Revision	Cons. Checked	Town Approved

TOWN OF CALEDON
APPROVED AS NOTED

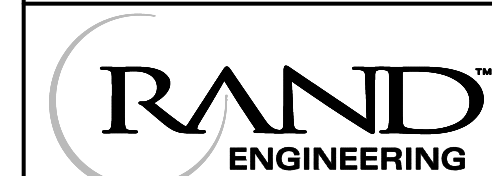
THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY
THIS APPROVAL IS SUBJECT TO FURTHER CERTIFICATION OF THE "AS RECORDED" WORKS BY A PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO

DATE: _____ APPROVED BY: _____
PRINT NAME: _____

BENCH MARK:
ELEVATIONS ARE GEODETIC AND ARE REFERRED TO MTO BENCHMARK No. 00819758056, HAVING AN ELEVATION OF 251.263 METRES.

Originally Approved By The
Region of Peel

CARANTANIA INVESTMENTS (BT) INC.



5285 Solar Drive
Mississauga, ON
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Tel: 905.625.9500

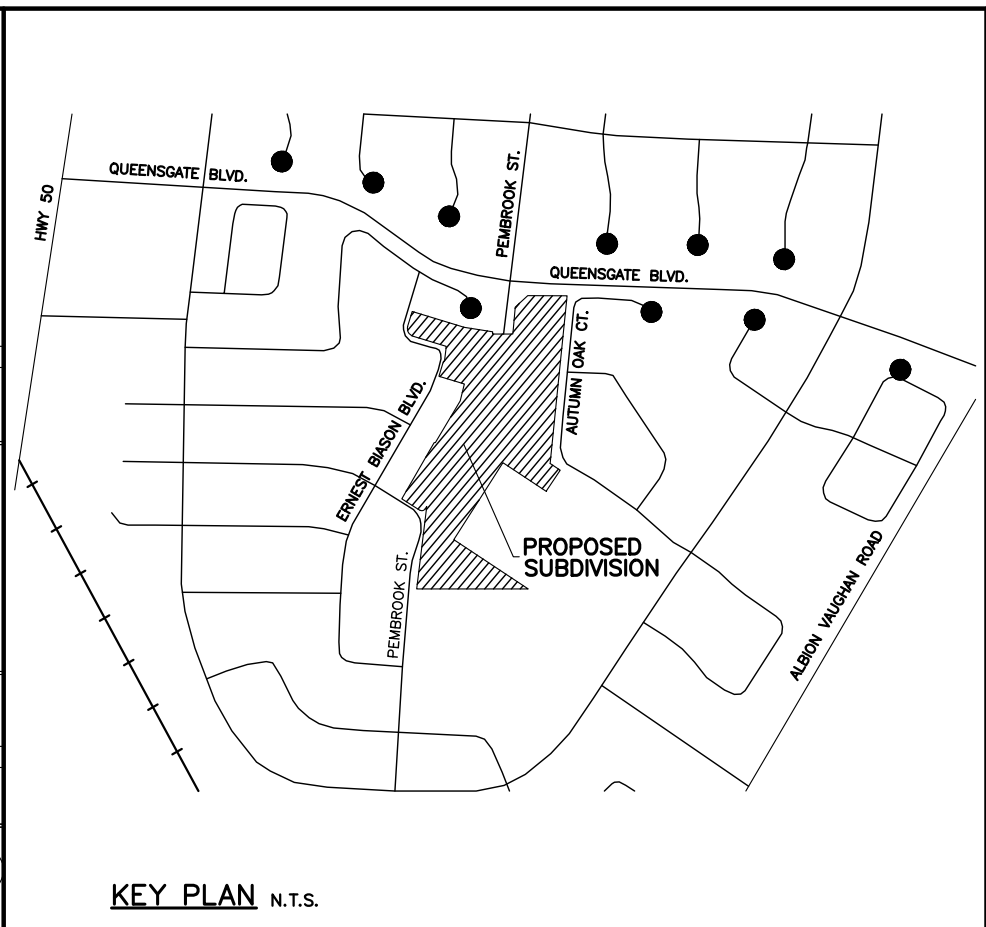


Region of Peel
Public Works



PRELIMINARY SERVICING PLAN

Scale	1:1000	Project No.	20036
Designed By	T.A.	Drawn By	ACAD
Checked By	T.A.	Date	FEBRUARY 2021
		Drawing No.	GP-1



LEGEND				
200.00	PROPOSED ELEVATION			
(200.00)	EXISTING ELEVATION			
(200.00)	TEMP. ELEVATION			
200.00	EXISTING CONTOUR			
→	DENOTES DRAINAGE DIRECTION			
●	SANITARY MANHOLE			
○	STORM MANHOLE			
□	SINGLE CATCHBASIN			
□	DOUBLE CATCHBASIN			
⊕	HYDRANT & VALVE			
⊕	VALVE & BOX			

TOWN OF CALEDON
APPROVED AS NOTED
THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT
CERTIFY DIMENSIONAL ACCURACY
THIS APPROVAL IS SUBJECT TO FURTHER CERTIFICATION OF
THE "AS RECORDED" WORKS BY A PROFESSIONAL
ENGINEER OF THE PROVINCE OF ONTARIO
DATE: _____ APPROVED BY: _____
PRINT NAME: _____

BENCH MARK:
ELEVATIONS ARE GEODETIC AND ARE REFERRED TO MTO BENCHMARK
No. 00819758056, HAVING AN ELEVATION OF 251.263 METRES.

Originally Approved By The
Region of Peel

CARANTANIA INVESTMENTS (BT) INC.

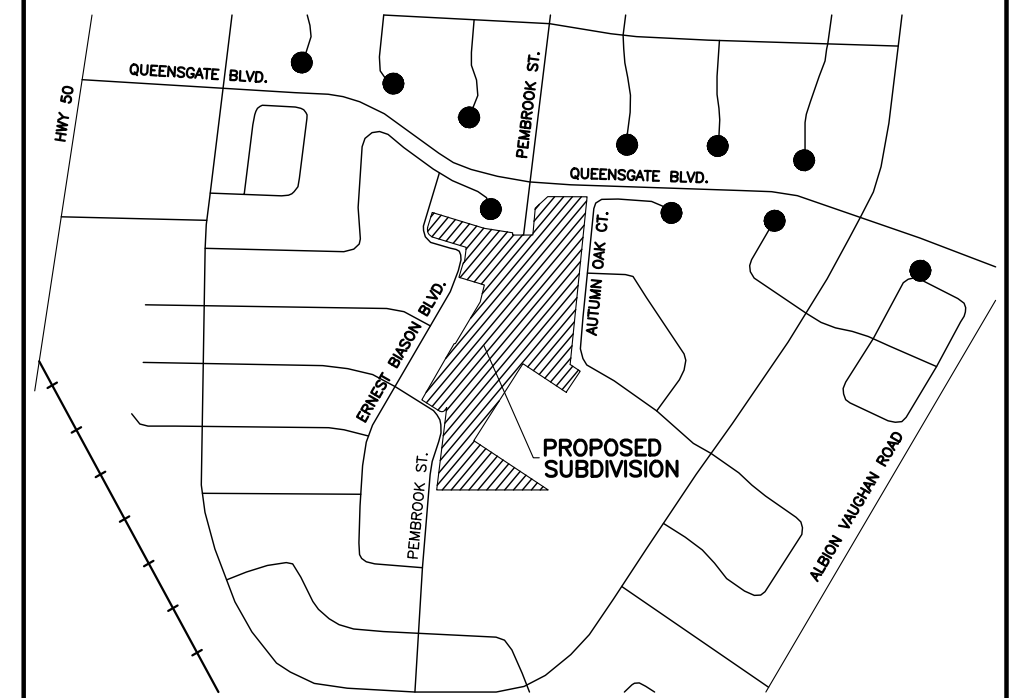
RAND
ENGINEERING
5285 Solar Drive
Mississauga, ON
Canada, L4W 5B8
Tel: 905.625.9500

Region of Peel
Public Works







TOWN OF CALEDON

PRELIMINARY
GRADING PLAN

Scale	1:500	Project No.	20036
Designed By	T.A.	Drawn By	ACAD
Checked By	T.A.	Date	FEBRUARY 2021
		Drawing No.	GR-1



LEGEND

200.00	PROPOSED ELEVATION
(200.00)	EXISTING ELEVATION
[259.47]	TEMP. ELEVATION
238	EXISTING CONTOUR
	DENOTES DRAINAGE DIRECTION
	SANITARY MANHOLE
	STORM MANHOLE
	SINGLE CATCHBASIN
	DOUBLE CATCHBASIN
	HYDRANT & VALVE
	VALVE & BOX

[illegible]

TOWN OF CALEDON
APPROVED AS NOTED

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

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

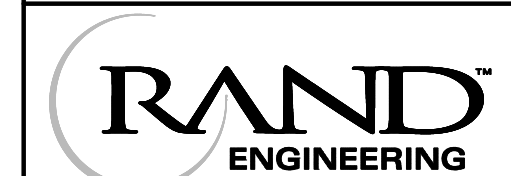
DATE: _____ APPROVED BY: _____

PRINT NAME: _____

BENCH MARK:
ELEVATIONS ARE GEODETIC AND ARE REFERRED TO MTO BENCHMARK
No. 00819758056, HAVING AN ELEVATION OF 251.263 METRES.

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Public Works

PRELIMINARY GRADING PLAN

Scale 1:500		Project No. 20036
Designed By T.A.	Drawn By ACAD	
Checked By T.A.	Date FEBRUARY 2021	Drawing No. GR-2