



# Clayton Subdivision

## Functional Servicing Report

**Project Location:**

Part of Lot 16, Concession 11  
Centre Wellington, Ontario

**Prepared for:**

Cachet Developments  
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**Prepared by:**

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July 20, 2022

**MTE File No.:** 50250-100





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- Appendix A Draft Plan of Subdivision (Reduced)
- Appendix B Source Water Protection Plan Mapping (GRCA)
- Appendix C 20.0m Urban Right-of-Way
- Appendix D Sanitary Sewer Analysis
- Appendix E Storm Sewer Analysis

**Drawings**

- Existing Conditions Plan  
MTE Drawing No. 50250-100-EC1.1 .....Encl.
  
- Existing Conditions Plan (Elora Sands)  
MTE Drawing No. 49878-100-EC1.1 .....Encl.
  
- Irvine Street Plan and Profile  
MTE Drawing No. 50250-100-MS2.1 .....Encl.
  
- Irvine Street Plan and Profile  
MTE Drawing No. 50250-100-QU2.1 .....Encl.

# 1.0 Introduction

## 1.1 Overview

MTE Consultants Inc. (MTE) was retained by Cachet Developments Inc. (Cachet) to prepare the following Functional Servicing Report (FSR) in support of a Draft Plan of Subdivision application. The lands that comprise the Draft Plan of Subdivision are legally described as Part of Lot 16, Concession 11, in the geographic Township of Nichol, located in the community of Salem, Township of Centre Wellington, County of Wellington. These lands are herein referred to as the 'subject lands'. The subject lands are generally bounded by Woolwich Street East to the northwest, by Irvine Street to the southeast, by existing residential (Elora Meadows Subdivision and rural residential) to the south, and by Salem Public School to the west.

Cachet Developments also owns the adjacent parcel of land on the opposite side of Irvine Street located at 7581 Sideroad 15 (SR15) herein referred to as the Elora Sands. The Elora Sands are generally bounded by SR15 to the northwest, by Gerrie Road to the southeast, by existing agricultural (known as the Keating Lands) to the south, by Irvine Street to the southwest, and bisected by the Nichol Drain No. 1 (ND1). The Elora Sands (39.2ha) are currently outside of the settlement area boundary outlined in the Township of Centre Wellington Official Plan and are under consideration to be brought into the settlement area during the County of Wellington's Comprehensive Review process in 2022. The Elora Sands are located within the Community Planning Study Area in accordance with the County of Wellington Official Plan. Refer to the Location Plan in **Figure 1.1**.

The subject lands comprise a total area of approximately 12.49ha. The proposed development plans for the subject lands include a residential subdivision with a mix of single detached and street-oriented townhouse units, an open space block, a park block, and municipal right-of-ways. Refer to the Draft Plan of Subdivision prepared by Astrid J. Clos Planning Consultants, dated April 28, 2022, in **Appendix A** for more details. The stormwater management facility (SWMF) block is proposed to be located on the adjacent Elora Sands adjacent to ND1, and is described further in **Section 6**. The development plans also include re-constructing Irvine Street to an urbanized road cross-section with a new road profile matching back into the existing grading at Woolwich Street East and the existing urban cross-section north of Bricker Avenue.

The purpose of this Functional Servicing Report (FSR) is to prepare a servicing strategy for the proposed subdivision which outlines how the subdivision can be developed on full municipal services, including sanitary sewage collection, domestic water, storm drainage, and utilities. This report should be read in conjunction with the *Clayton Subdivision – Preliminary Stormwater Management Report* (July 20, 2022) prepared by MTE.

## 1.2 Background Information

### 1.2.1 County of Wellington Official Plan

The County of Wellington is undergoing a Comprehensive Review of the County's Official Plan in 2022. As shown within Schedule A-1 – Land Use Plan of the Official Plan, the subject lands are designated as residential, and are within the settlement area boundary. The adjacent Elora Sands are currently outside of the settlement area boundary, and are under consideration to be brought into the settlement area during the County's Comprehensive Review process in 2022.

### **1.2.2 Development Charges Background Study**

In 2020, Watson & Associated Economists Ltd. were retained by the Township of Centre Wellington (Township) to prepare a Development Charges (DC) Background Study. The study was prepared to analyse and describe the required DC eligible servicing infrastructure required to accommodate future growth of the Township as described within the Official Plan.

### **1.2.3 Sanitary Servicing Overview**

In January 2022, MTE completed a sanitary servicing overview of the subject lands and adjacent Elora Sands and the Keating lands. The technical memo dated January 26, 2022, was prepared to advocate that the Elora Sands and surrounding lands be brought within the settlement area. The memo proves sanitary serviceability, and documents any upgrades required within the existing sanitary infrastructure to accommodate the additional flows.

The sanitary servicing overview confirmed capacity for the Clayton Subdivision discharging to downstream sewers which have adequate capacity to receive sanitary sewage for this development outletting to sanitary manholes within the Elora Meadows development.

To accommodate future development and improvements to Irvine Street, the sanitary sewer within Irvine Street will be extended as part of the Irvine Street improvements.

**TOWNSHIP OF  
CENTRE WELLINGTON**



NICHOL DRAIN

SIDEROAD 15

ELORA SANDS

**SUBJECT  
LANDS**

WOOLWICH ST E

IRVINE STREET

ELORA MEADOWS SUBDIVISION

BRICKER AVENUE

GEDDES STREET

IRVINE CREEK

STUMPF STREET

FIGURE 1.1 Date: APR. 07/22  
Scale: N.T.S.


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**CLAYTON  
SUBDIVISION**

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**LOCATION PLAN**

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Engineers, Scientists, Surveyors

Project No.: 50250-100

## 2.0 Existing Conditions

### 2.1 Topographical Information

The subject lands are generally comprised of rolling agricultural land. A topographical survey was completed for the subject lands by JD Barnes (formerly Black, Shoemaker, Robinson & Donaldson Limited (BSR&D)) in the Fall of 2021. Additional topographical survey surrounding the subject lands and the entire Elora Sands was conducted by MTE in 2022. The existing topography of the subject lands and the Elora Sands are shown in **MTE Drawings 50250-100-EC1.1 and 49878-100-EC1.1**, respectively.

Under existing conditions, the subject lands are moderately sloped throughout a majority of the subject lands (generally 1.0 % to 14.5 %). The southwest corner experiences a localized steep change in elevation towards the existing rural residential lots. Existing elevations range between 407.3m at the Irvine Street and Woolwich Street East intersection to 414.4m at the high ridge of the lands near the south corner.

The Elora Sands generally consist of moderately sloped topography with slopes typically ranging from 1.0 % to 12.5 %. Existing elevations within the lands range from approximately 400.8m in the ND1 to 420.5m at the north corner of the lands. The topographical ridge on the subject lands is an extension of a ridge into the Elora Sands and Keating lands which is generally parallel to the ND1.

### 2.2 Pre-Development Conditions

Under pre-development conditions, a majority of surface runoff from the subject lands flows from south to north towards the south ditch on Woolwich Street East. The ditch directs flows northeasterly across Irvine Street via a 450mm diameter culvert and through the south ditch on SR15 to ND1, which is a tributary of Irvine Creek. A topographical ridge is present near the south end of the property starting at Irvine Street and curving northwest to Woolwich Street East. Surface runoff from the balance of the subject lands flows generally in a southern direction towards Irvine Creek via several discharge locations, namely Woolwich Street East, existing rural residential properties to the southwest, and Irvine Street and the residential properties to the southeast, via the Queen Street Creek.

Surface runoff from a majority of the Elora Sands, south of ND1, flows northerly directly to ND1 or via the south ditch on SR15. Surface runoff from the balance of the lands south of ND1 flows southerly towards Irvine Street ultimately discharging into Irvine Creek via the Queen Street Creek. Surface runoff from the Elora Sands on the north side of ND1 will flow southerly directly to ND1.

### 2.3 Source Water Protection and GRCA Mapping

As illustrated in **Appendix B**, the subject lands are within a Wellhead Protection Area (WHPA) and a Significant Groundwater Recharge Area (SGRA) as defined by the Source Water Protection Plan Mapping. A majority of the lands have a WHPA classification of WHPA-C, while the southeastern portion of the lands has a classification of WHPA-B. The majority of the subject lands are within a wellhead vulnerability score of 6 with a small portion to the south having a vulnerability score of 8. There is an existing municipal drinking water supply well located on Aqua Street approximately 850m south of the subject lands.

The SGRA has a vulnerability score of 4, generally indicative of shallow groundwater flow towards Irvine Creek west of the subject lands.

### 3.0 Proposed Development

The Draft Plan of Subdivision for this residential development comprises the following:

- Residential (single family and townhouse) blocks;
- Open space and park blocks; and,
- Municipal right-of-ways (all right-of-ways 20.0m width).

#### 3.1 Municipal Right-of-Way

As shown on the Draft Plan, the proposed development is serviced by five local roads; to be connected to Irvine Street, and the existing Clegg Road and Marr Drive in the neighbouring Elora Meadows Subdivision. The roadway will be constructed to an urban cross-section, including: asphalt pavement, concrete curb and gutters, concrete sidewalks, street illumination, and boulevard landscaping.

Refer to **Appendix C** for more details regarding the proposed typical 20.0m right-of-way cross-section based on the Township’s Draft Development Manual.

A geotechnical investigation for the subject lands was completed by Soil-Mat Engineers & Consultants Ltd. (Soil-Mat), dated October 14, 2021. A supplemental draft hydrogeological assessment was prepared by Soil-Mat, dated July 20, 2022. The proposed pavement structure outlined in these reports is summarized in **Table 3.1** below. The future final design will implement the construction requirements of the Soil-Mat reports.

**Table 3.1 – Proposed Pavement Structure**

Pavement Structure	Depth (mm)
HL3 Surface Course Asphalt	40
HL4 Binder Course Asphalt	60
Granular ‘A’ Base	150
Granular ‘B’ Sub-base	450

#### 3.2 Irvine Street Urbanization

Urbanization of Irvine Street to a full urban cross-section has been contemplated within the DC Background Study.

With the urbanization, the road profile will be updated to meet the Township’s standards and specifications, as well as accommodate the proposed grading and stormwater management (SWM) strategy for the subject lands. The proposed upgrades for Irvine Street are illustrated on the plan and profile and typical cross-section as shown on **MTE Drawing 50250-100-MS2.1**.

An emergency access is proposed to provide access from Street A directly to Irvine Street. This emergency access will also function as the major storm overland flow route for the subject lands, ultimately directing flows along SR15 to the proposed SWMF.



## 4.0 Proposed Grading

### 4.1 Considerations

While developing the preliminary grading design of the subject lands, the following is a list of considerations which influenced and/or governed the conceptual design:

- Match centreline elevations of existing and proposed road grades;
- Match existing and proposed boundary grades around the perimeter of the subdivision lands;
- Ensure major storm event overland flows are directed towards the proposed SWMF;
- Comply with municipal standards for minimum and maximum road and landscaped area grades;
- Ensure adequate cover is provided, where feasible, over municipal services;
- Manage the cut/fill balance for the development; and
- Maintain 0.45m from basement floor to seasonal high groundwater levels.

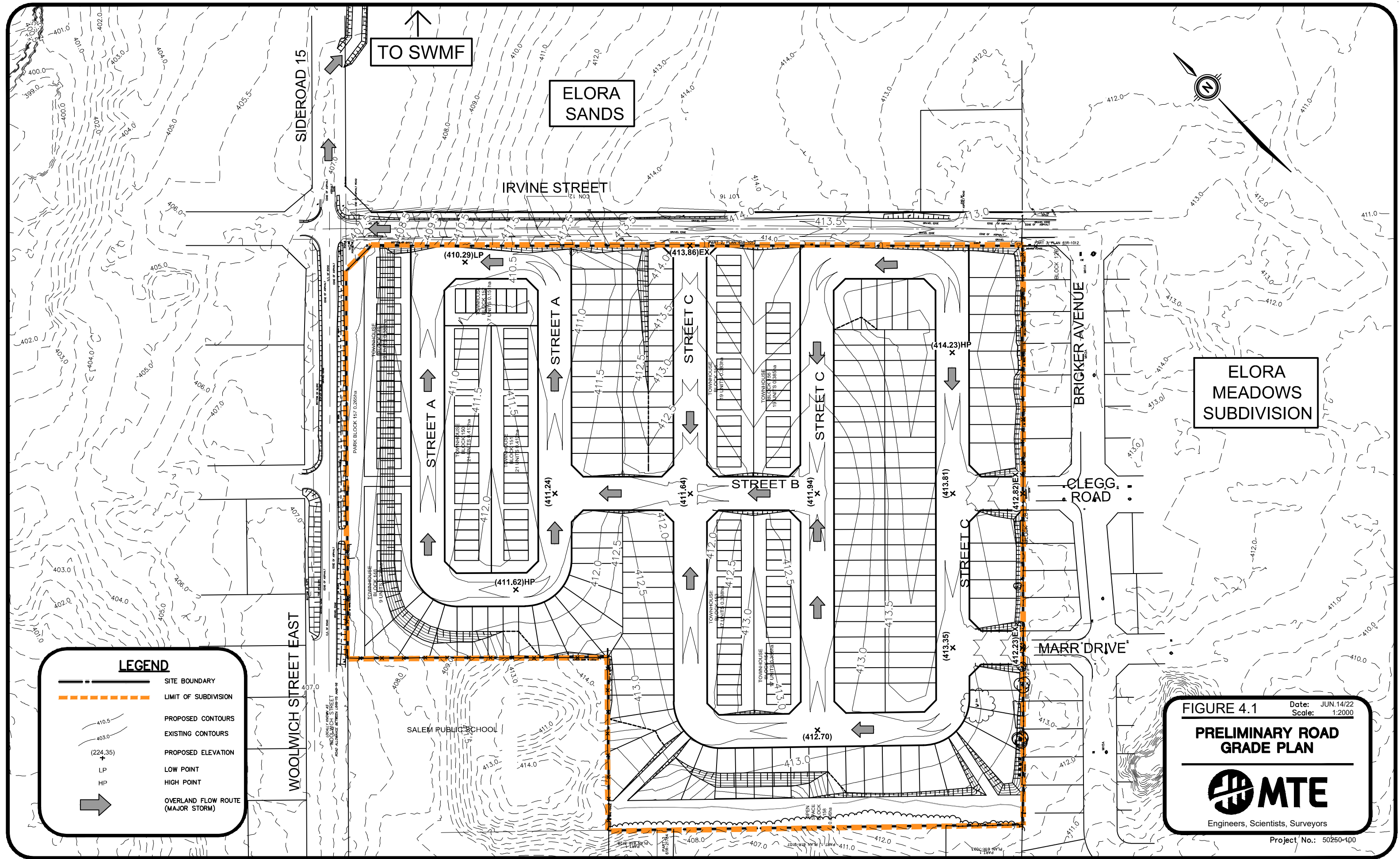
### 4.2 Lot Grading

Preliminary slopes for centreline of road ranging from 0.5 % (minimum) to 3.0 % (maximum) were used to complete the preliminary lot grading design. The other considerations listed above were incorporated into the overall preliminary grading design. Preliminary lot grades range from 2.0 % (minimum) to 6.0 % (maximum) with a combination of traditional back-to-front drainage, split drainage and walkout lots are proposed.

Preliminary finished grades are designed to optimize the earthmoving (cutting and filling) required for road and lot construction. The preliminary finished grade contours are shown in **Figure 4.1**.

### 4.3 Groundwater Separation

The seasonal high groundwater surface was modelled based on Soil-Mat's hydrogeological assessment. The preliminary house grades and basement floor elevations were designed to maintain a minimum vertical separation of 0.45m above the seasonal high groundwater elevations. The groundwater separation is illustrated in **MTE Drawing 50250-100-QU2.1**. The contours provided indicate that groundwater is generally found at an elevation ranging between 404.0m and 411.0m. Grading around buildings generally range from 408.0 m to 414.5 m. Basement floor elevations were assumed to be 2.2m below front of house grade with some walkouts having basement floor elevations 2.5 m below the front house grade. The development maintained a separation between the basement floor and seasonal high groundwater of 0.45m and greater, with the exception of one localized area where minimum basement floor elevations will be specified.



↑  
TO SWMF

ELORA SANDS

IRVINE STREET

ELORA MEADOWS SUBDIVISION

FIGURE 4.1 Date: JUN.14/22  
Scale: 1:2000

**PRELIMINARY ROAD GRADE PLAN**



Engineers, Scientists, Surveyors

Project No.: 50250-100

**LEGEND**

- SITE BOUNDARY
- LIMIT OF SUBDIVISION
- PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED ELEVATION
- LOW POINT
- HIGH POINT
- OVERLAND FLOW ROUTE (MAJOR STORM)

## 5.0 Municipal Servicing

### 5.1 Sanitary Servicing

The subject lands will be serviced by a 200mm diameter deep (>5m) trunk sanitary sewer with 200mm local (>2.4m and <5m) sanitary sewer branches outletting to the existing sanitary sewer at Marr Drive.

**Figure 5.1** illustrates a schematic of the sanitary sewer design, including proposed finished road grades and depths of sewers at key points in the sewer network. The depth of these sewers ranges from approximately 2.7m to 8.6m. The deepest point is located at the intersection of Street C and Marr Drive.

The preliminary Sanitary Sewer Design Sheet has been prepared with pipe diameters and slopes for the proposed conditions. The design sheet and the corresponding drainage area plan are included in **Appendix D**.

It should be noted that the main trunk sanitary sewer within the subject lands is proposed at a slope of 0.40 % in order to maintain adequate serviceability at the low point of the subject lands while still allowing a positive outlet at the existing sanitary stub. This sanitary design ensures adequate flow velocities (minimum velocity of 0.6m/s) under the Ministry of the Environment, Conservation and Parks (MECP, formerly MOE) design standards and requires approval from the Township of Centre Wellington Managing Director of Infrastructure Services as outlined in Township's standards.

The sanitary sewer at the upstream end will have a depth slightly less than the minimum required depth of 2.8m as per the Township's standards. As a result, a few units in this location will have specified minimum basement floor elevations to allow for adequate sanitary drainage.

As per the recommendations in Soil-Mat's hydrogeological assessment, any municipal infrastructure specifically the sanitary sewers located within groundwater will incorporate appropriate groundwater cut-off collars.

### 5.2 Water Distribution

The subject lands are located within the community of Salem/Elora, adjacent to several existing residential subdivisions and right-of-ways with available domestic water supply.

The existing 300mm watermain on Irvine Street is proposed to be extended from the existing stub near Bricker Avenue to SR15 / Woolwich Street East. This watermain extension is anticipated to be required for adequate looping of the development and will be completed as a part of the subdivision servicing. Per the DC Background Study, this watermain extension project should be DC eligible. The anticipated timing per the DC Background Study is 2029. Discussion with the Township to advance this project is warranted at this time. It should be noted that the DC Background Study also incorporates a future watermain extension along Woolwich Street East from Irvine Street to James Street planned for 2028.

To confirm that adequate pressure and flow demands can be satisfactorily met for the subject lands, a water distribution analysis will be completed by the Township's Engineer. The analysis will confirm the preliminary pipe sizes for the internal water distribution network which is generally 'looped' following the proposed road allowances as shown in **Figure 5.2**.

Based on the Township Engineer's analysis, the following conclusions will be confirmed:

- Connections to the existing and proposed municipal watermains (listed above) will adequately service the proposed water distribution network for the proposed development;

- The proposed water distribution network will provide system pressures within the respective pressure guidelines;
- For which lots (if any) pressure reducing valves (PRVs) will be required;
- Under the proposed development conditions, the recommended FUS fire flows are satisfied at the minimum MOE pressure requirement of 140kPa; and,
- Velocities in the proposed network do not exceed 5.0m/s.

Water supply for the proposed development will be provided by four (4) external connections to the existing municipal water distribution system as follows:

- Connect 150mm watermain to the existing 150mm watermain stub on Marr Drive.
- Connect 150mm watermain to the existing 150mm watermain stub on Clegg Road.
- Two 200mm watermain connections to the proposed 300 mm watermain extension on Irvine Street.

### 5.3 Storm Drainage

Storm drainage for the subject lands will be provided through a combination of minor (storm sewer) and major (overland flow) drainage systems. The storm drainage catchment areas within the subject lands are conveyed via storm sewers along Irvine Street and SR15, to the proposed SWMF located within the Elora Sands.

A majority of the onsite drainage will be collected via a storm sewer network, ranging in size from 300mm to 1200mm diameter. Storm sewers draining into the SWMF are sized to convey runoff for a 5-year storm event utilizing the City of Kitchener's IDF curve parameters (as required by Township design standards). Roof areas will be directed to lot-level stone infiltration galleries to infiltrate the 25mm storm event. Storm sewers will be constructed to typical depths with a minimum cover of 1.5m within the road allowance. Storm sewers along SR15 will provide the minimum cover of 1.5m to the springline of the 1200mm sewer. Please refer to **Figure 5.3** for the storm sewer network internal to the subdivision and outlet to the SWMF.

The major overland flow route from the subject lands will be directed to Irvine Street and SR15 and eventually onto the Elora Sands through a designed open channel into the SWMF. It is being proposed that the south ditch on SR15 be re-directed onto the Elora Sands transitioning into a 6m wide vegetated flat-bottomed channel designed to convey the 100-year storm event flows with a maximum flow depth of 0.5m.

These conveyance systems will outlet into the proposed forebay within the SWMF at one location. The SWMF outlets into a control manhole sized to convey events up to and including the Regional Storm event. Flows within the control manhole are split into an infiltration gallery sized to attenuate the 25mm storm event. The remaining flows in excess of the 25mm storm event are conveyed over a series of internal control weirs that outlet towards the ND1 adjacent to the SWMF. The outflow from the SWMF will be conveyed to the ND1 via a 750mm diameter storm sewer discharging on the downstream side of SR15. The ND1 is a cold water tributary downstream of the Elora Sands which ultimately drains to Irvine Creek, which is a tributary of the Grand River. Irvine Creek and the Grand River are also coldwater fisheries.

Refer to **Appendix E** for more information regarding the preliminary proposed storm sewer system.

## 5.4 Irvine Street Servicing

Irvine Street is to be urbanized to a full urban cross-section with modifications to the vertical alignment to meet current Township's standards as illustrated on **MTE Drawing 50250-100-MS2.1**.

In addition to these improvements the sanitary sewer on Irvine Street is to be extended as described within the sanitary servicing overview technical memo making provision for the future development of the Elora Sands property, currently under consideration to be brought into the settlement area boundary. Although not required to service the subject lands, it is proposed to extend the existing sanitary trunk sewer on Irvine Street from Bricker Avenue to the Street C / Irvine Street intersection to avoid unnecessary future re-construction.

Similarly, the 300mm watermain along Irvine Street should be constructed from Bricker Avenue to SR15 / Woolwich Street East to avoid unnecessary re-construction.

Irvine Street will be suited with a new storm sewer system to collect drainage from Irvine Street north of the proposed highpoint located approximately at the Street C connection to Woolwich Street. This storm sewer system will receive drainage from the proposed development and convey to the Irvine Street / SR15 intersection and onward down SR15 and ultimately outletting to the proposed SWMF. The SWMF provides enhanced water quality protection and peak flow attenuation prior to discharging to ND1.

WOOLWICH STREET EAST

EXISTING RESIDENTIAL

SIDEROAD 15

LOCALLY KNOWN AS WOOLWICH STREET ROAD ALLOWANCE BETWEEN LOTS 15 AND 16



F/G=410.64  
SAN OBV.=407.86±  
DEPTH=2.78m±

F/G=411.25  
SAN OBV.=407.34±  
DEPTH=3.91m±

F/G=410.28  
SAN OBV.=407.58±  
DEPTH=2.70m±

STREET A  
200mmØ SAN@ 0.40%

STREET A  
200mmØ SAN@ 0.40%

F/G=411.24  
SAN OBV.=406.70±  
DEPTH=4.54m±

F/G=413.70  
SAN OBV.=410.90±  
DEPTH=2.8m±

F/G=413.98  
SAN OBV.=408.34±  
DEPTH=5.64m±

STREET C  
200mmØ SAN@ 1.00% (LOCAL)  
200mmØ SAN@ 0.40% (TRUNK)

STREET B  
200mmØ SAN@ 1.50%

STREET B  
F/G=411.63  
SAN OBV.=406.32±  
DEPTH=5.31m±

F/G=413.49  
SAN OBV.=410.61±  
DEPTH=2.88m±

STREET C  
200mmØ SAN@ 0.60%

STREET C  
200mmØ SAN@ 1.40%

F/G=412.69  
SAN OBV.=405.33±  
DEPTH=7.36m±

F/G=413.35  
SAN OBV.=404.75±  
DEPTH=8.6m±

F/G=411.93  
SAN OBV.=408.92±  
DEPTH=3.01m±

F/G=414.05  
SAN OBV.=411.25±  
DEPTH=2.80m±

STREET C  
200mmØ SAN@ 1.00% (LOCAL)  
200mmØ SAN@ 0.40% (TRUNK)

STREET C  
200mmØ SAN@ 0.60%

F/G=412.83  
SAN OBV.=407.57±  
DEPTH=5.26m±

REMOVE EX PLUG AND CONNECT TO SANITARY SEWER

REMOVE EX PLUG AND CONNECT TO SANITARY SEWER

F/G=412.00  
SAN OBV.=404.43±  
DEPTH=7.57m±

F/G=413.80  
SAN OBV.=410.53±  
DEPTH=3.27m±

STREET C  
200mmØ SAN@ 0.60%

**LEGEND**

- SITE BOUNDARY
- LIMIT OF SUBDIVISION
- PROPOSED LOCAL GRAVITY SEWER
- PROPOSED TRUNK SANITARY SEWER
- EXISTING SANITARY SEWER
- C/L ROAD GRADE
- SANITARY OBVERT
- SANITARY COVER
- MINIMUM BASEMENT FINISHED FLOOR ELEVATION TO BE SPECIFIED

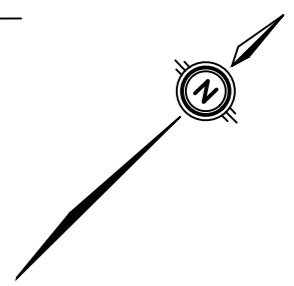
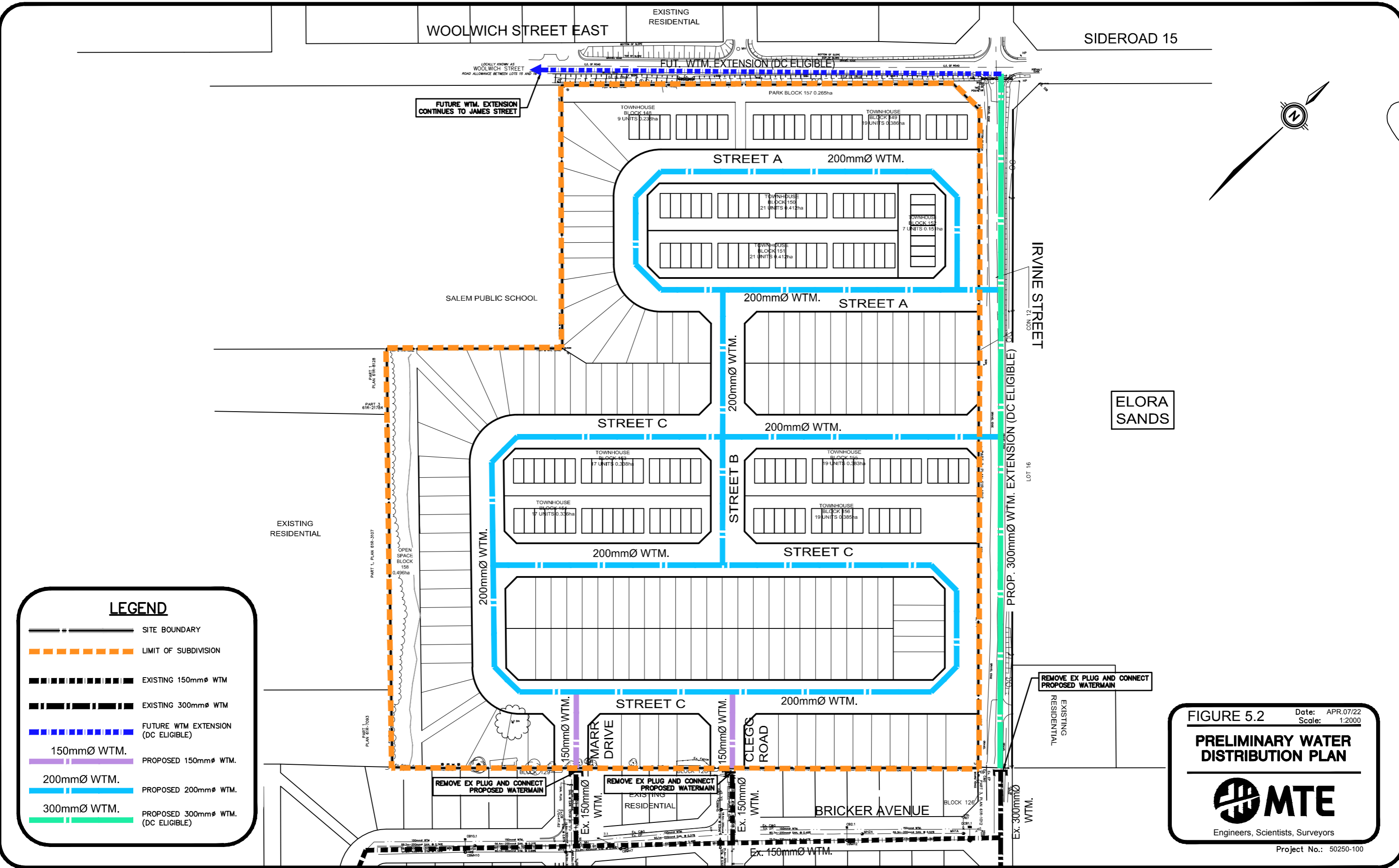
F/G=224.47  
SAN OBV.=221.80±  
DEPTH=2.67m±

**FIGURE 5.1** Date: APR.07/22  
Scale: 1:2000

**PRELIMINARY SANITARY SERVICING PLAN**

**MTE**  
Engineers, Scientists, Surveyors

Project No.: 50250-100



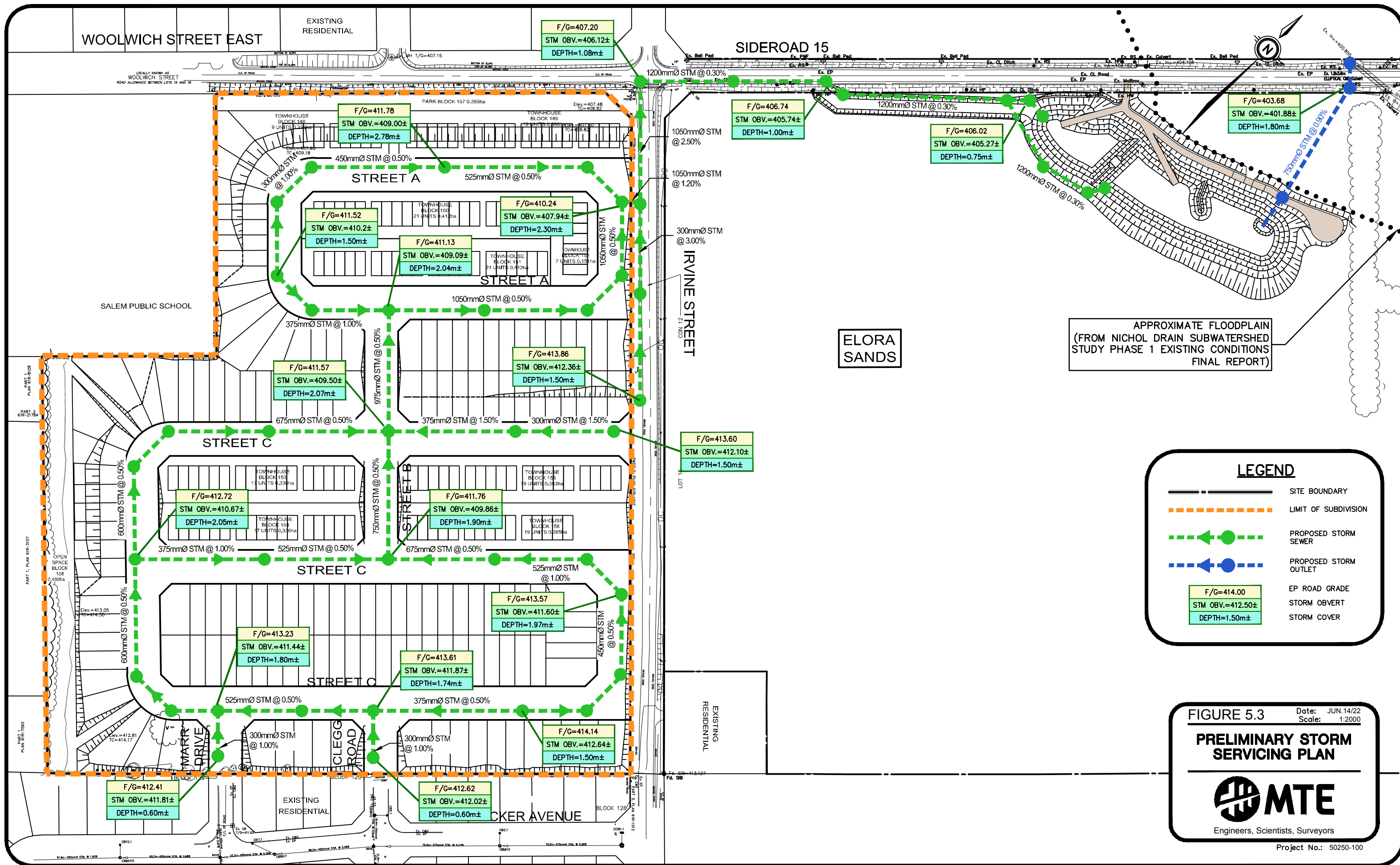
**LEGEND**

- SITE BOUNDARY
- LIMIT OF SUBDIVISION
- EXISTING 150mmØ WTM
- EXISTING 300mmØ WTM
- FUTURE WTM EXTENSION (DC ELIGIBLE)
- 150mmØ WTM. PROPOSED 150mmØ WTM.
- 200mmØ WTM. PROPOSED 200mmØ WTM.
- 300mmØ WTM. PROPOSED 300mmØ WTM. (DC ELIGIBLE)

**FIGURE 5.2** Date: APR.07/22  
Scale: 1:2000

**PRELIMINARY WATER DISTRIBUTION PLAN**

Engineers, Scientists, Surveyors  
Project No.: 50250-100





## 6.0 Stormwater Management

The proposed SWM strategy includes water quality, quantity, and erosion control within a proposed SWMF located on the adjacent Elora Sands. The SWM strategy for the proposed development is presented in the *Clayton Subdivision – Preliminary Stormwater Management Report* (July 20, 2022) prepared by MTE. The following summarizes the key points of the report:

- Water quality and quantity control will be provided within one (wet pond) SWMF. The proposed facility will provide peak flow attenuation of runoff from the contributing drainage area for storm events up to and including the 100-year storm event;
- Conveyance of Regional storm flows through the SWMF;
- Enhanced (previously Level 1) water quality control will be provided in the proposed SWMF; and
- Erosion protection within the ND1 is provided through the infiltration of post-development flows for the 25mm storm event.

Storm drainage for the proposed development will be provided through a combination of minor (storm sewer) and major (overland) drainage systems. The storm sewers will be designed for the 5-year storm event, with major overland flow routes generally flowing through the proposed road allowance and drainage channels.

## 7.0 Utility Servicing

It is anticipated that Hydro One (electrical), Bell Canada (telephone), Enbridge (natural gas), and Rogers Cable, Cogeco, and Wightman (cable TV) can all adequately service the proposed development through the connection to and extension of existing services from Irvine Street and the adjacent Elora Meadows subdivision, where required.

## 8.0 Conclusions and Recommendations

The main findings of the FSR for the proposed Clayton Subdivision are:

1. The roadworks and lot grading within the proposed development can generally be completed in accordance with the Township's standards while maintaining the minimum cover over the proposed sewers.
2. The proposed development can be adequately serviced for sanitary sewage through the existing Marr Drive sanitary sewer. The main trunk sewer within the subject lands is proposed at 0.40 % which is within the MOE guidelines and requires approval from the Township of Centre Wellington Managing Director of Infrastructure Services as outlined in Township's standards.
3. A number of connection points to the existing and proposed municipal watermain system are available to provide water supply for the proposed development. The Township is to confirm whether adequate pressure and flow is available and the sizing of proposed internal water distribution network. It is being proposed that the existing watermain on Irvine Street will be extended to Woolwich Street East to provide looping for the development.
4. Irvine Street be re-constructed with a full urban cross-section and revised road profile in accordance with the Township's standards. Municipal infrastructure required for the current and future development including sanitary sewers, watermains and storm sewers are proposed to be installed as part of the re-construction of Irvine Street.
5. Stormwater management for the development achieves an enhanced level of water quality control, quantity control to pre-development levels and erosion protection through implementation of the proposed SWMF and infiltration facilities, as outlined in the Clayton Subdivision - Preliminary Stormwater Management Report, dated July 20, 2022.
6. The proposed development can be adequately serviced through the extension of existing utilities including hydro, gas, cable TV, and telephone.

All of which is respectfully submitted,  
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# Appendix A

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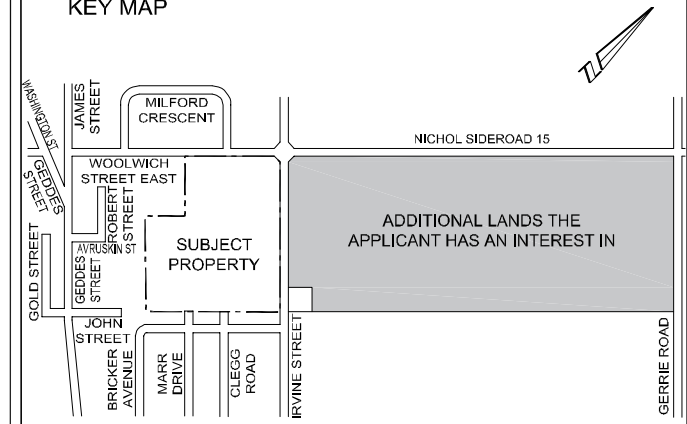
## **Draft Plan of Subdivision (Reduced)**

**SALEM**  
**DRAFT PLAN OF SUBDIVISION**

DATE: APRIL 28, 2022  
 PROJECT No. 2134

SCALE 1:1,000  
 DRAWN BY: A.R.N.

**KEY MAP**



**LEGAL DESCRIPTION**

PART OF LOT 16, CONCESSION 11  
 (GEOGRAPHIC TOWNSHIP OF NICHOL)  
 (SALEM) TOWNSHIP OF CENTRE WELLINGTON  
 COUNTY OF WELLINGTON

**LAND USE SCHEDULE**

DESCRIPTION	LOTS/BLOCKS	UNITS	AREA (hectares)
9.2m SINGLE DETACHED	1-98, 134-147	112	3,595
11m SINGLE DETACHED	99-133	35	1,488
TOWNHOUSES	148-156	149	3,045
PARK	157	-	0,265
OPEN SPACE	158	-	0,496
ROADS	-	-	3,454
<b>TOTAL</b>	<b>158</b>	<b>296</b>	<b>12,491</b>

**ADDITIONAL INFORMATION**

(UNDER SECTION 51(17) OF THE PLANNING ACT)  
 INFORMATION REQUIRED BY CLAUSES a,b,c,d,e,f,g,j and l ARE AS SHOWN ON THE DRAFT PLAN OF SUBDIVISION  
 h) municipal water supply  
 i) sand and gravel  
 k) municipal sanitary

**OWNER'S CERTIFICATE**

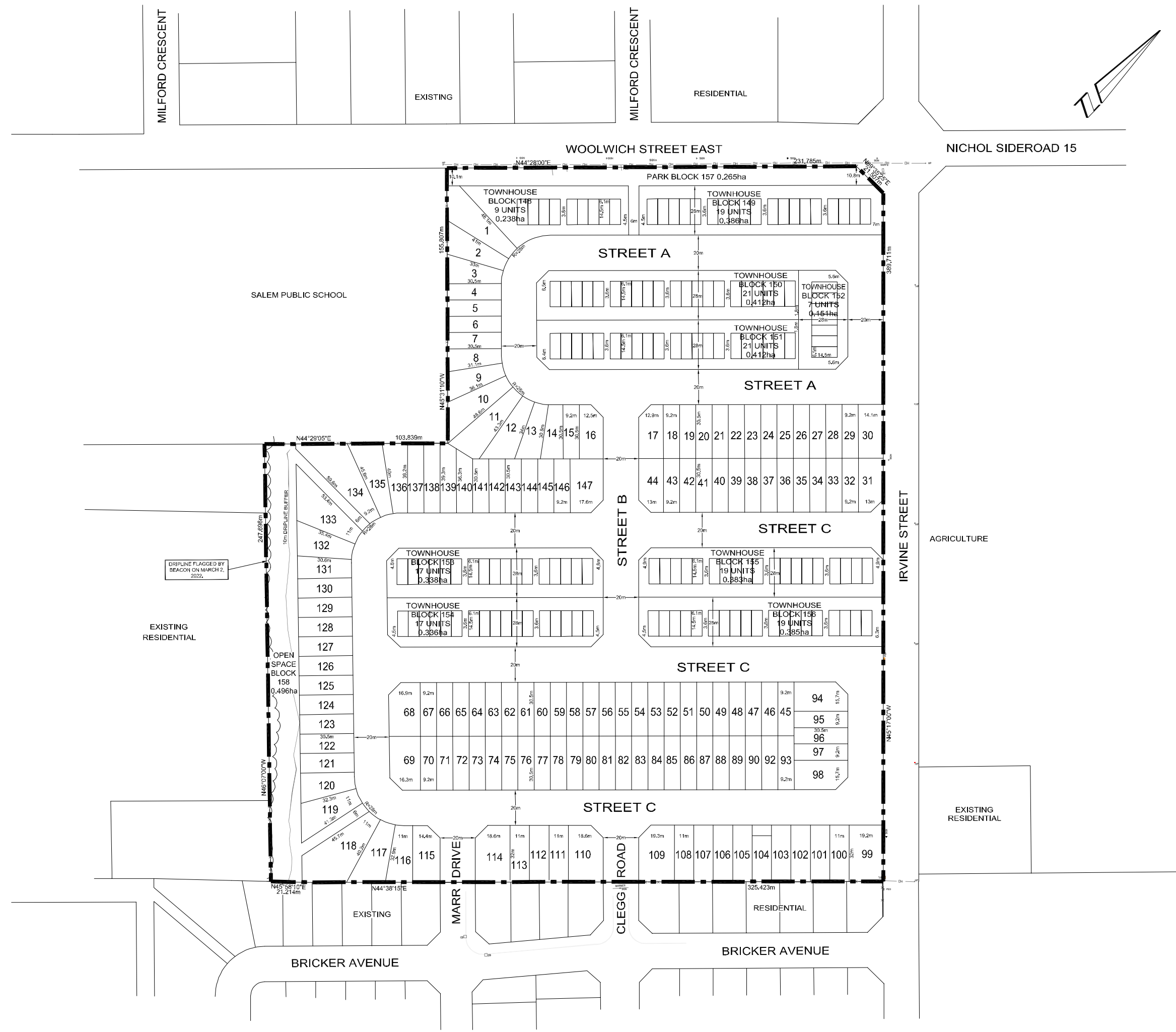
I AUTHORIZE ASTRID J. CLOS, PLANNING CONSULTANTS TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION.

\_\_\_\_\_  
 RAMSEY SHAAHEEN  
 CACHET DEVELOPMENTS (ELORA) INC. DATE

**SURVEYOR'S CERTIFICATE**

I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE CORRECTLY SHOWN.

\_\_\_\_\_  
 RAY SIBTHORP, C.L.S.  
 J.D. BARNES LTD. DATE



## Appendix B

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# Source Water Protection Plan Mapping (GRCA)



Legend

☐ Lake Erie Shoreline Reach (GRCA)

☐ Lake Erie Flood (GRCA)

— Regulated Watercourse (GRCA)

☐ Parcel - Assessment Public (MPAC/MNRF)

SGRA Vulnerability (GRCA)

6

4

2

☐ Floodplain - Special Policy Area (GRCA)

Floodplain (GRCA)

☐ Engineered

☐ Estimated

☐ Approximate

☐ Lake Erie Erosion (GRCA)

☐ Lake Erie Dynamic Beach (GRCA)

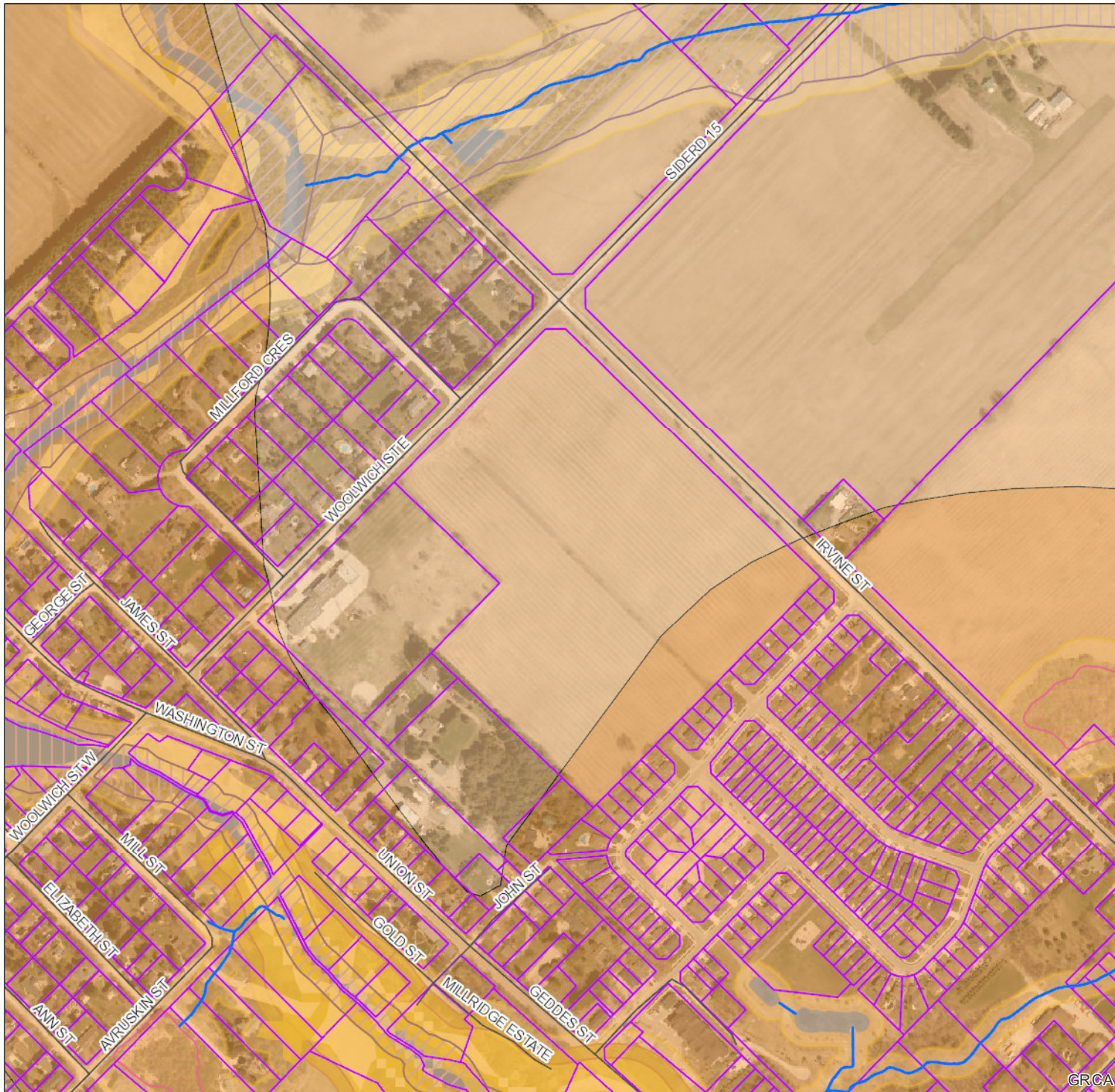
☐ Wetland (GRCA)

Slope Valley (GRCA)

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The source for each data layer is shown in parentheses in the map legend. For a complete listing of sources and citations go to: <https://maps.grandriver.ca/Sources-and-Citations.pdf>





**Legend**

Lake Erie Shoreline Reach (GRCA)

Lake Erie Flood (GRCA)

Regulated Watercourse (GRCA)

Parcel - Assessment Public (MPAC/MNRF)

**WHPA-Wellhead Protection Area (GRCA)**

WHPA-A

WHPA-B

WHPA-C

WHPA-D

Floodplain - Special Policy Area (GRCA)

**Floodplain (GRCA)**

Engineered

Estimated

Approximate

Lake Erie Erosion (GRCA)

Lake Erie Dynamic Beach (GRCA)

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The source for each data layer is shown in parentheses in the map legend. For a complete listing of sources and citations go to: <https://maps.grandriver.ca/Sources-and-Citations.pdf>







Clayton - WHPA Vulnerability



Legend

- Municipal Well (GRCA)
- Regulated Watercourse (GRCA)

Parcel - Assessment Public (MPAC/MNRF)

WHPA Vulnerability (GRCA)

- 10
- 8
- 6
- 4
- 2

Floodplain - Special Policy Area (GRCA)

Floodplain (GRCA)

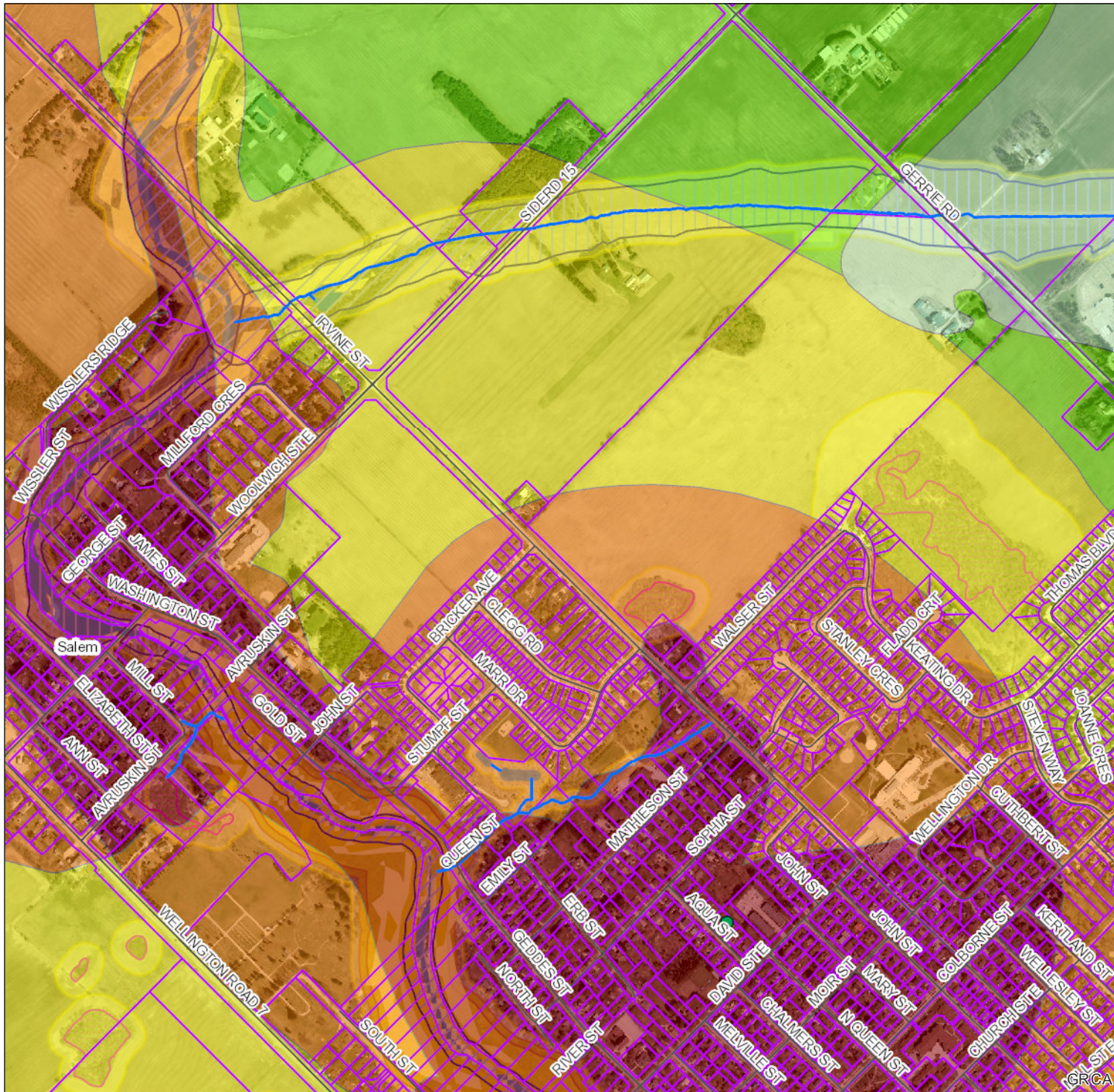
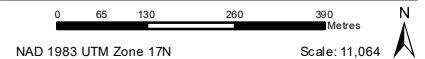
- Engineered
- Estimated
- Approximate

Wetland (GRCA)

Slope Valley (GRCA)

Steep

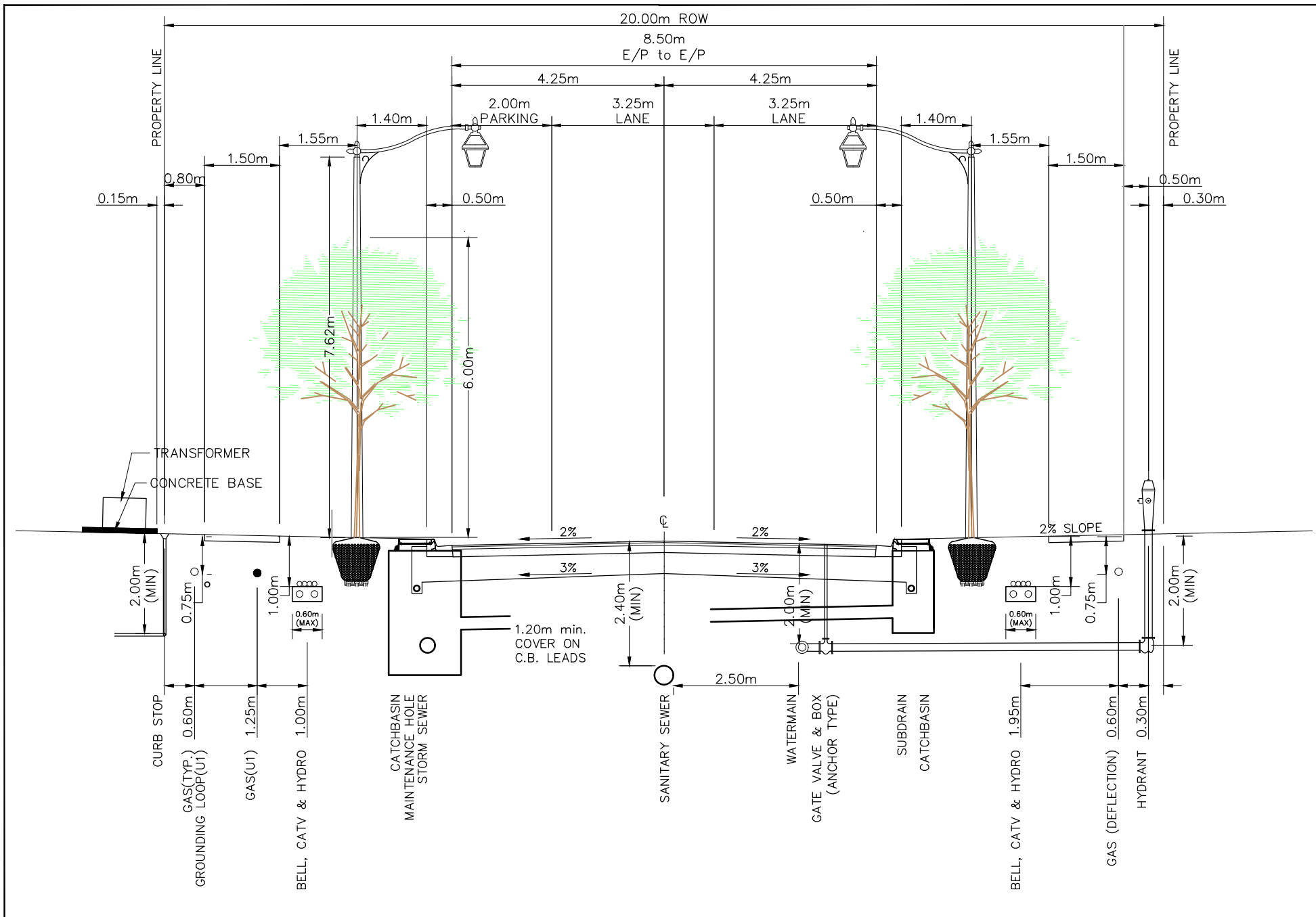
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The source for each data layer is shown in parentheses in the map legend. For a complete listing of sources and citations go to: <https://maps.grandriver.ca/Sources-and-Citations.pdf>



# Appendix C

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## 20.0m Right-of-Way



- Note:
1. TRANSFORMER TO BE PLACED AS PER TWSP STANDARD U1.
  2. TREE PLANTING ON BOTH SIDES
  3. SIDEWALK ON BOTH SIDES

No	DATE	REVISION
1	AUG 2017	FOR CIRCULATION
1	JULY 2017	DRAFT FOR REVIEW

### MINOR COLLECTOR - 20m ROW STANDARD CROSS SECTION

**TOWNSHIP OF CENTRE  
WELLINGTON**

1 MACDONALD SQUARE  
ELORA, ONTARIO N0B 1S0



SCALE  
**1:100**

STANDARD NUMBER  
**R1(1)**

# Appendix D

---

## Sanitary Sewer Analysis

**Clayton Subdivision**  
 Township of  
 Centre Wellington, Ontario

**SANITARY SEWER DESIGN SHEET**

Project Number: 50250-100  
 Date: July 7, 2022  
 Design By: MXF  
 Checked By: AJC  
 File: Q:\50250\100\SAN\50250-100 Sanitary Sewer Design Sheet.xlsx

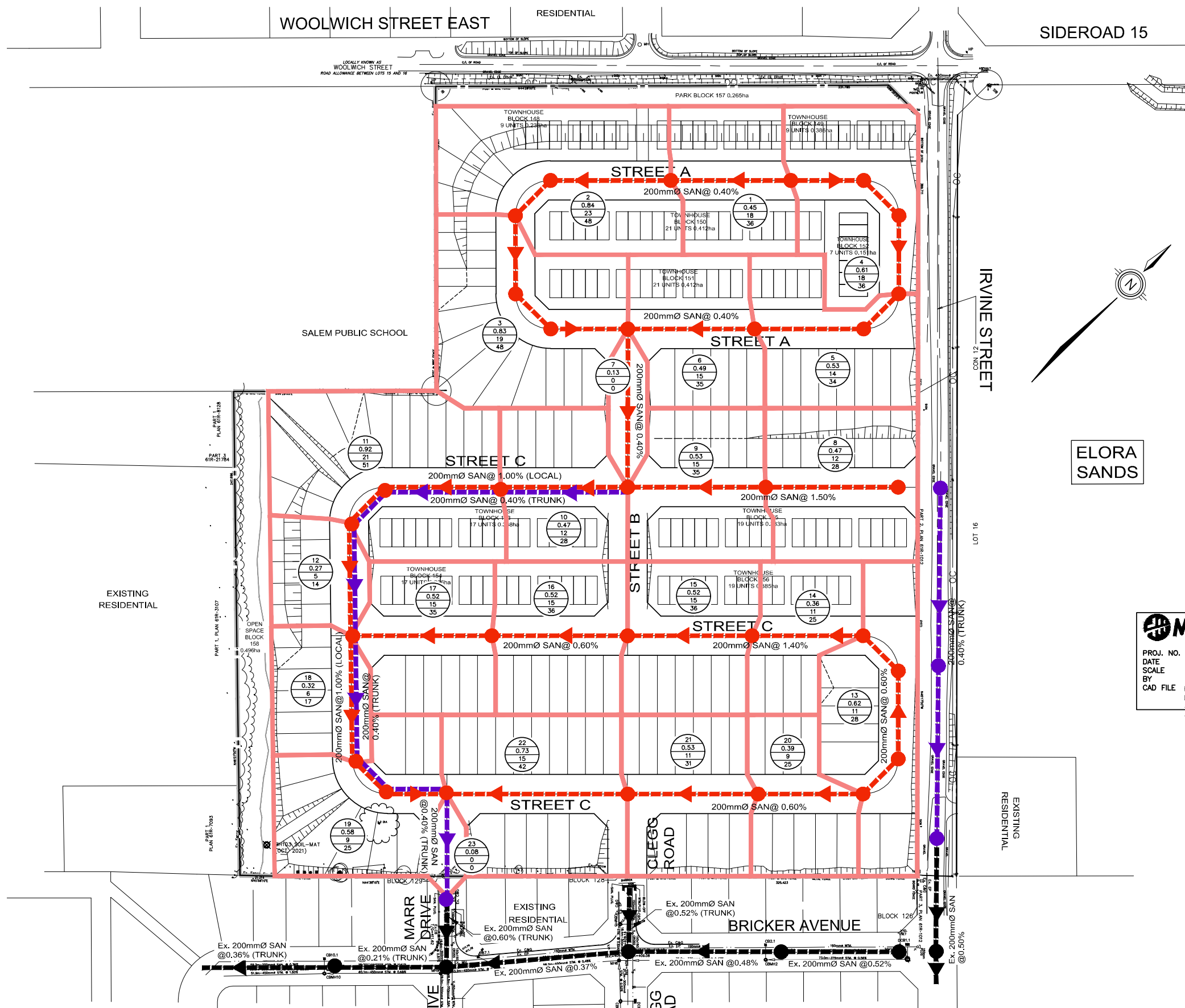
Drainage Area Plan No:

**Design Parameters**

<b>Average Daily Flow</b>		Mannings "n"	0.0130
Residential	0.004 L/s/c	Min. Velocity	0.8 m/sec
	350 L/c/d	Max. Velocity	3.0 m/sec
		Residential Harmon Peaking Factor (F)	
Commercial	1.5 L/s/ha	Residential Areas Infiltration	0.15 L/s/ha
Industrial	0.5 L/s/ha		
Inst. / School	2.5 L/s/ha		



LOCATION				RESIDENTIAL AREAS and POPULATION							SCHOOL, INSTITUTIONAL			COMMERCIAL			INDUSTRIAL			INFILTRATION			DESIGN							
STREET	AREA NO.	MANHOLE LOCATION		Area	UNITS		POPUL.	CUMUL. POPUL.	PEAK FACTOR "F"	PEAK RES. FLOW	HECTARES AND FLOW OF EACH ZONING									TOTALS C-I FLOW	AREA	CUMUL AREA	INFIL FLOW	TOTAL VOLUME FLOW	LENGTH	SLOPE	PIPE SIZE	CAPACITY	FULL FLOW VELOCITY	% PIPE FULL
		FROM MH	TO MH		SINGLE DETACHED	TOWNHOUSE					2.50 L/s/ha			1.50 L/s/ha			0.50 L/s/ha													
		ha.	2.80 ppu		2.00 ppu	1000s					1000s	L/sec	ha	ha	L/sec	ha	ha	L/sec	ha											
Street A	1			0.45	0.00	18.00	0.036	0.036	4.3415	0.625	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.45	0.45	0.067	0.692	0.40	200	20.7330	0.660	3.34%	
Street A	2			0.84	3.00	20.00	0.048	0.084	4.2630	1.439	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.84	1.29	0.193	1.632	0.40	200	20.7330	0.660	7.87%	
Street A	3			0.83	13.00	6.00	0.048	0.133	4.2078	2.235	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.83	2.11	0.317	2.552	0.40	200	20.7330	0.660	12.31%	
Street A	4			0.61	0.00	18.00	0.036	0.036	4.3415	0.625	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.61	0.61	0.092	0.717	0.40	200	20.7330	0.660	3.46%	
Street A	5			0.53	8.00	6.00	0.034	0.070	4.2823	1.206	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.53	1.14	0.171	1.377	0.40	200	20.7330	0.660	6.64%	
Street A	6			0.49	6.00	9.00	0.035	0.105	4.2375	1.783	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.49	1.63	0.244	2.027	0.40	200	20.7330	0.660	9.78%	
Street B	7			0.13	0.00	0.00	0.000	0.238	4.1195	3.922	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.13	3.87	0.580	4.502	0.40	200	20.7330	0.660	21.71%	
Street C	8			0.60	8.00	10.00	0.042	0.042	4.3286	0.734	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.60	0.60	0.090	0.825	1.50	200	40.1493	1.279	2.05%	
Street C	9			0.53	6.00	9.00	0.035	0.077	4.2727	1.319	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.53	1.13	0.170	1.489	1.50	200	40.1493	1.279	3.71%	
Street C	10			0.47	5.00	7.00	0.028	0.343	4.0529	5.564	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.47	5.47	0.821	6.384	0.40	200	20.7330	0.660	30.79%	
Street C	11			0.92	11.00	10.00	0.051	0.394	4.0253	6.344	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.92	6.39	0.958	7.302	0.40	200	20.7330	0.660	35.22%	
Street C	12			0.27	5.00	0.00	0.014	0.408	4.0181	6.557	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.27	6.65	0.998	7.555	0.40	200	20.7330	0.660	36.44%	
Street C	13			0.62	7.00	4.00	0.028	0.028	4.3604	0.481	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.62	0.62	0.092	0.574	0.60	200	25.3927	0.809	2.26%	
Street C	14			0.36	4.00	7.00	0.025	0.053	4.3099	0.910	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.36	0.98	0.147	1.057	1.40	200	38.7879	1.235	2.72%	
Street C	15			0.52	7.00	8.00	0.036	0.088	4.2578	1.506	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.52	1.49	0.224	1.730	1.40	200	38.7879	1.235	4.46%	
Street C	16			0.52	7.00	8.00	0.036	0.124	4.2168	2.092	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.52	2.02	0.302	2.394	0.60	200	25.3927	0.809	9.43%	
Street C	17			0.52	6.00	9.00	0.035	0.159	4.1829	2.657	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.52	2.53	0.380	3.037	0.60	200	25.3927	0.809	11.96%	
Street C	18			0.32	6.00	0.00	0.017	0.584	3.9387	9.195	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.32	9.51	1.426	10.621	0.40	200	20.7330	0.660	51.23%	
Street C	19			0.58	9.00	0.00	0.025	0.609	3.9287	9.567	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.58	10.09	1.513	11.081	0.40	200	20.7330	0.660	53.44%	
Street C	20			0.39	9.00	0.00	0.025	0.025	4.3664	0.440	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.39	0.39	0.058	0.498	0.60	200	25.3927	0.809	1.96%	
Street C	21			0.53	11.00	0.00	0.031	0.056	4.3045	0.964	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.53	0.92	0.138	1.102	0.60	200	25.3927	0.809	4.34%	
Street C	22			0.73	15.00	0.00	0.042	0.098	4.2460	1.664	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.73	1.65	0.247	1.911	0.60	200	25.3927	0.809	7.53%	
Marr Drive	23			0.08	0.00	0.00	0.000	0.707	3.8921	11.004	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.08	11.81	1.772	12.776	0.40	200	20.7330	0.660	61.62%	
Existing Sewer on Marr						0.00	0.000	0.707	3.8921	11.004	0.00	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.0000	0.0000	0.00	11.81	1.772	12.776	0.60	200	25.3927	0.809	50.31%	



ELORA SANDS


**MTE**

PROJ. NO. 50250-100  
 DATE Jul.07/22  
 SCALE 1:1000  
 BY Michael Felinczak  
 CAD FILE P:\P\50250\100\TEMP  
 DRAWINGS\MXF  
 50250-100-F18-SAN DRAINAGE  
 AREAS-MXF.DWG

# Appendix E

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## Storm Sewer Analysis

<b>Clayton Subdivision</b> Township of <b>Centre Wellington, Ontario</b>	<b>STORM SEWER DESIGN SHEET</b>  <b>ENGINEERING AND PUBLIC WORKS</b>	<b>Design Parameters</b>			
		<b>5 YEAR STORM</b>			
Project Number: 50250-100 Date: June 12, 2022 Design By: MXF Checked By: File: Q:\50250\100\STM50250-100 Storm Sewer Design Sheet.xlsx	Drainage Area Plan No:	Q=kAIR, k=0.00278 Intensity (I) = a/(tc+b) <sup>c</sup> a = 1593 b = 11 c = 0.8789	Manning's "n" 0.013 Min. Velocity 0.800 m/s Max. Velocity 6.000 m/s		

LOCATION				STORMWATER FLOW								DESIGN					
STREET	AREA NUMBER	MANHOLE LOCATION		AREA (A)	RUNOFF COEFF. (C)	A x C	CUMUL. A x C	CONCENTRATION TIME		RAIN INTENSITY (I)	FLOW (Q)	PIPE SIZE	LENGTH	SLOPE	CAPACITY	FULL FLOW VELOCITY	
		FROM MH	TO MH					TOTAL	IN PIPE							mm	m
				ha		ha	ha	min	min	mm/hr	L/s	mm	m	%	L/s	m/s	%
Street C - HP West	1			0.54	0.65	0.352	0.352	10.000	0.992	109.7	107.4	375	75.2	0.50	124.0	1.12	86.64
Clegg Road	2			0.07	0.70	0.050	0.050	10.000	0.465	109.7	15.4	300	27.9	1.00	96.7	1.37	15.89
Street C	3			0.47	0.65	0.307	0.710	10.992	1.019	105.3	207.7	525	92.4	0.50	304.1	1.40	68.31
Marr Drive	4			0.08	0.70	0.053	0.053	10.000	0.443	109.7	16.0	300	26.9	1.00	96.7	1.37	16.55
Street C	5			0.47	0.65	0.304	1.066	12.011	0.571	101.2	300.0	600	56.8	0.50	434.2	1.54	69.09
Street C	6			0.28	0.65	0.180	1.246	12.582	0.682	99.0	343.2	600	69.6	0.50	434.2	1.54	79.04
Street C	7			0.42	0.65	0.275	1.521	13.264	0.807	96.6	408.5	600	84.5	0.50	434.2	1.54	94.08
Street C	8			0.50	0.70	0.352	1.873	14.070	0.537	93.9	488.8	675	59.7	0.50	594.4	1.66	82.23
Street C	9			0.46	0.70	0.319	2.192	14.607	0.628	92.1	561.5	675	71.2	0.50	594.4	1.66	94.47
Street C	10			0.41	0.65	0.265	0.617	10.000	0.710	109.7	188.1	450	81.6	1.00	285.1	1.79	65.97
Street C	11			0.36	0.70	0.253	0.870	10.710	0.628	106.5	257.5	450	76.5	1.00	285.1	1.79	90.31
Street C	12			0.39	0.70	0.271	1.140	11.339	0.418	103.9	329.3	525	54.9	1.00	430.1	1.99	76.58
Street C	13			0.64	0.70	0.445	1.585	11.757	0.577	102.2	450.3	675	63.2	0.50	594.4	1.66	75.76
Street C @ Lot 68	14			0.61	0.70	0.430	0.430	10.000	0.737	109.7	131.0	375	77.0	1.00	175.3	1.59	74.74
Street C	15			0.59	0.70	0.413	0.843	10.737	0.783	106.4	249.3	525	73.6	0.50	304.1	1.40	81.98
Street B	16			0.13	0.70	0.091	2.519	12.333	0.629	100.0	700.1	750	76.0	0.50	787.2	1.78	88.93
Street C @ Irvine	17			0.45	0.70	0.316	0.316	10.000	0.521	109.7	96.3	300	58.4	1.50	118.4	1.68	81.28
Street C	18			0.46	0.70	0.319	0.635	10.521	0.573	107.3	189.5	375	75.5	1.50	214.7	1.94	88.23
Street B	19			0.14	0.70	0.096	5.442	15.235	0.503	90.2	1364.4	975	72.0	0.50	1584.7	2.12	86.10
Street A - HP East	20			0.59	0.70	0.410	0.410	10.000	0.725	109.7	124.9	375	75.0	1.00	175.3	1.59	71.21
Street A	21			0.54	0.70	0.377	6.229	15.738	0.380	88.7	1535.9	1050	56.4	0.50	1930.9	2.23	79.54
Street A	22			0.51	0.70	0.360	6.588	16.118	0.411	87.6	1604.6	1050	61.5	0.50	1930.9	2.23	83.10
Street A	23			0.41	0.70	0.287	6.875	16.529	0.483	86.5	1652.5	1050	72.6	0.50	1930.9	2.23	85.58
Street A - HP West	24			0.38	0.70	0.264	0.264	10.000	0.795	109.7	80.6	300	73.0	1.00	96.7	1.37	83.39
Street A	25			0.42	0.70	0.295	0.559	10.795	0.931	106.2	165.0	450	79.0	0.50	201.6	1.27	81.86
Street A	26			0.54	0.70	0.378	0.937	11.726	1.204	102.3	266.6	525	114.4	0.50	304.1	1.40	87.66
Discharge to Irvine				0.00	0.70	0.000	7.813	17.012	0.050	85.1	1849.2	1050	10.8	1.20	2991.4	3.45	61.82



LOCATION				STORMWATER FLOW								DESIGN					
STREET	AREA NUMBER	MANHOLE LOCATION		AREA (A)	RUNOFF COEFF. (C)	A x C	CUMUL. A x C	CONCENTRATION TIME		RAIN INTENSITY (I)	FLOW (Q)	PIPE SIZE	LENGTH	SLOPE	CAPACITY	FULL FLOW VELOCITY	
		FROM MH	TO MH					TOTAL	IN PIPE							m/s	PIPE FULL
				ha		ha	ha	min	min	mm/hr	L/s	mm	m	%	L/s	m/s	%
Irvine Street from HP N	27			0.28	0.70	0.197	0.197	10.000	0.902	109.7	60.2	300	117.7	3.00	167.5	2.37	35.94
Irvine Street Junction with Clayton	28			0.12	0.70	0.083	8.093	17.061	0.248	85.0	1912.7	1050	71.8	2.50	4317.7	4.99	44.30
Street A rear yards to Woolwich Street E	29			0.68	0.41	0.275	0.275	10.000	0.308	109.7	83.9	300	28.5	1.00	96.7	1.37	86.81
Woolwich Street East South side	30			0.22	0.49	0.106	0.381	10.308	1.855	108.3	114.7	375	188.3	1.00	175.3	1.59	65.42
Sideroad 15 (South side)	31			0.12	0.70	0.085	8.559	17.309	0.957	84.4	2007.2	1200	123.3	0.30	2135.4	1.89	94.00
SWMF Inlet				0.00	0.00	0.000	8.559	18.266	0.971	81.9	1949.4	1200	124.7	0.30	2135.4	1.89	91.29

WOOLWICH STREET EAST

EXISTING RESIDENTIAL

SIDEROAD 15

LOCALLY KNOWN AS WOOLWICH STREET  
ROAD ALLOWANCE BETWEEN LOTS 15 AND 16

PARK BLOCK 157 0.265ha

TOWNHOUSE BLOCK 148  
9 UNITS 0.238ha

TOWNHOUSE BLOCK 149  
19 UNITS 0.388ha

STREET A

STREET A

STREET A

SALEM PUBLIC SCHOOL

STREET C

STREET B

STREET C

STREET C

STREET C

STREET C

STREET C

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STREET C

IRVINE STREET  
CON 12

ELORA SANDS

**MTE**

PRJ. NO. 50250-100  
 DATE Jul.07/22  
 SCALE 1:1000  
 BY Michael Felinczak  
 CAD FILE P:\50250\100\TEMP DRAWINGS\MXF 50250-100-F17-STM DRAINAGE AREAS-MXF.DWG

EXISTING RESIDENTIAL

PART 3 PLAN 618-21784

PART 1 PLAN 618-307

PLAN 618-1033

PLAN 618-1033

PLAN 618-1033

PLAN 618-1033

PLAN 618-1033

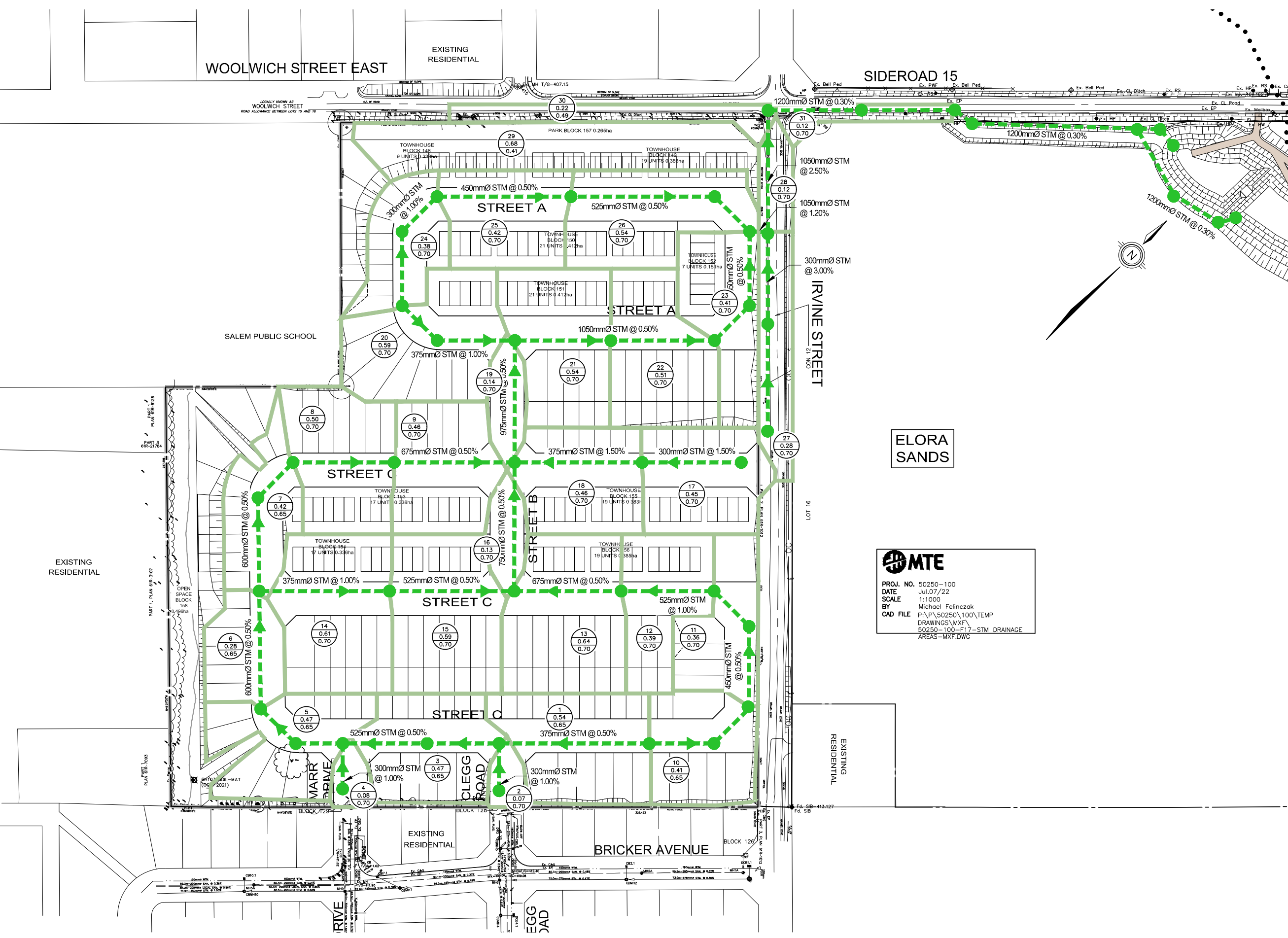
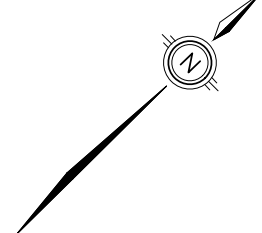
PLAN 618-1033

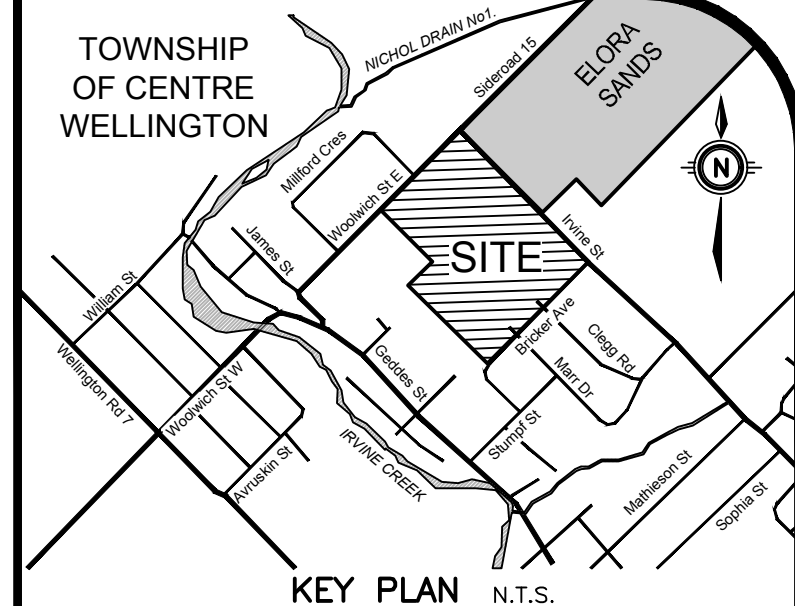
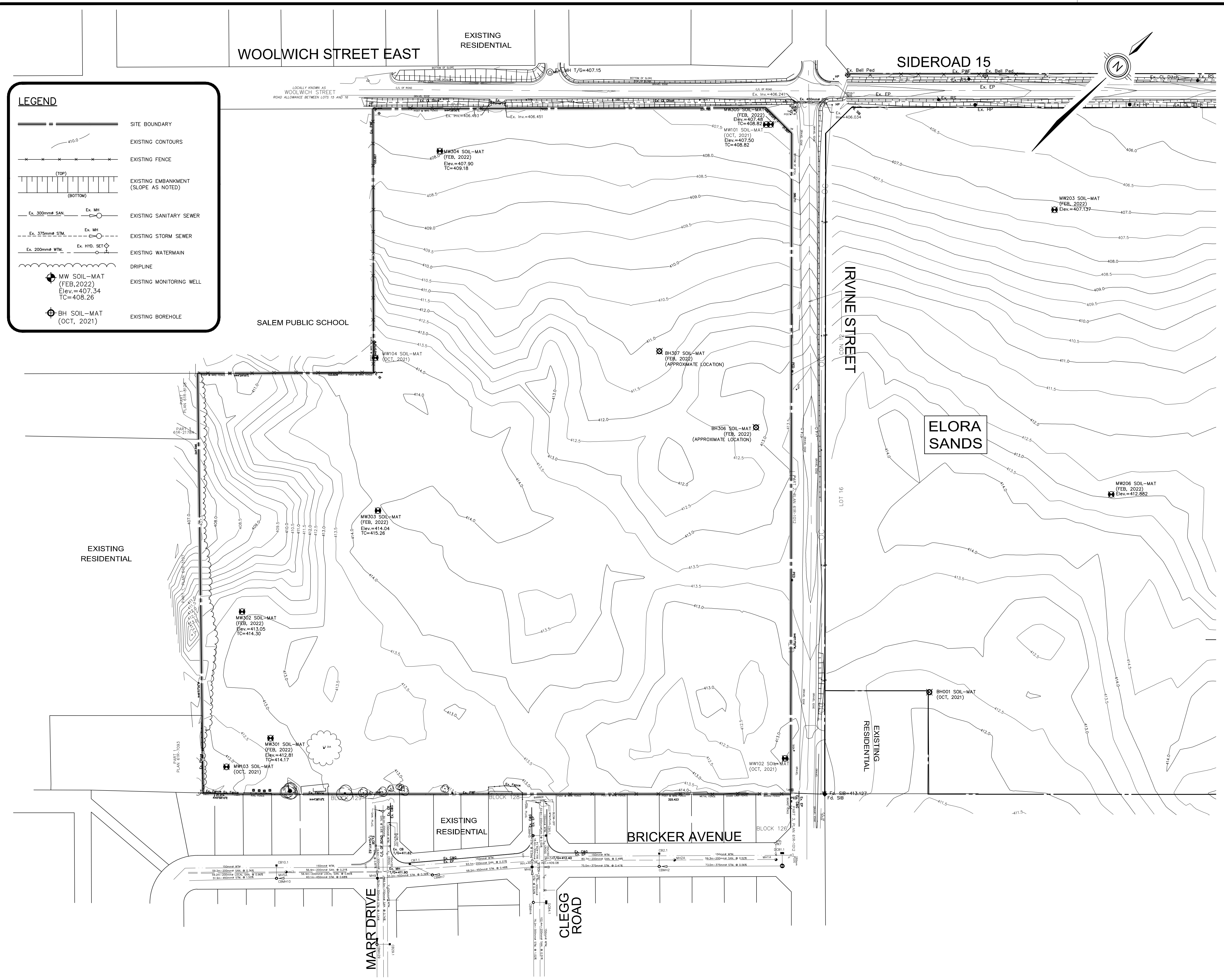
IRVINE

EGG DAD

BRICKER AVENUE

EXISTING RESIDENTIAL





GEODETIC BM ELEV. = 387.982m  
 ELORA POST OFFICE, BOLT IN FRONT WALL, IN LINE OF CENTRE BASEMENT WINDOW. (HISTORICAL NUMBER 16U117E)

SITE BENCHMARK ELEV. = m

**NOTE TO CONTRACTOR :**  
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 CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.  
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 THE OWNER/ARCHITECT/CONTRACTOR IS ADVISED THAT M.T.E. CONSULTANTS INC. CANNOT CERTIFY ANY COMPONENT OF THE SITE WORKS NOT INSPECTED DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY M.T.E. CONSULTANTS INC. PRIOR TO COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR INSPECTION.

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No.	REVISION	BY YYYY-MM-DD

TOWNSHIP OF CENTRE WELLINGTON



519-743-6500

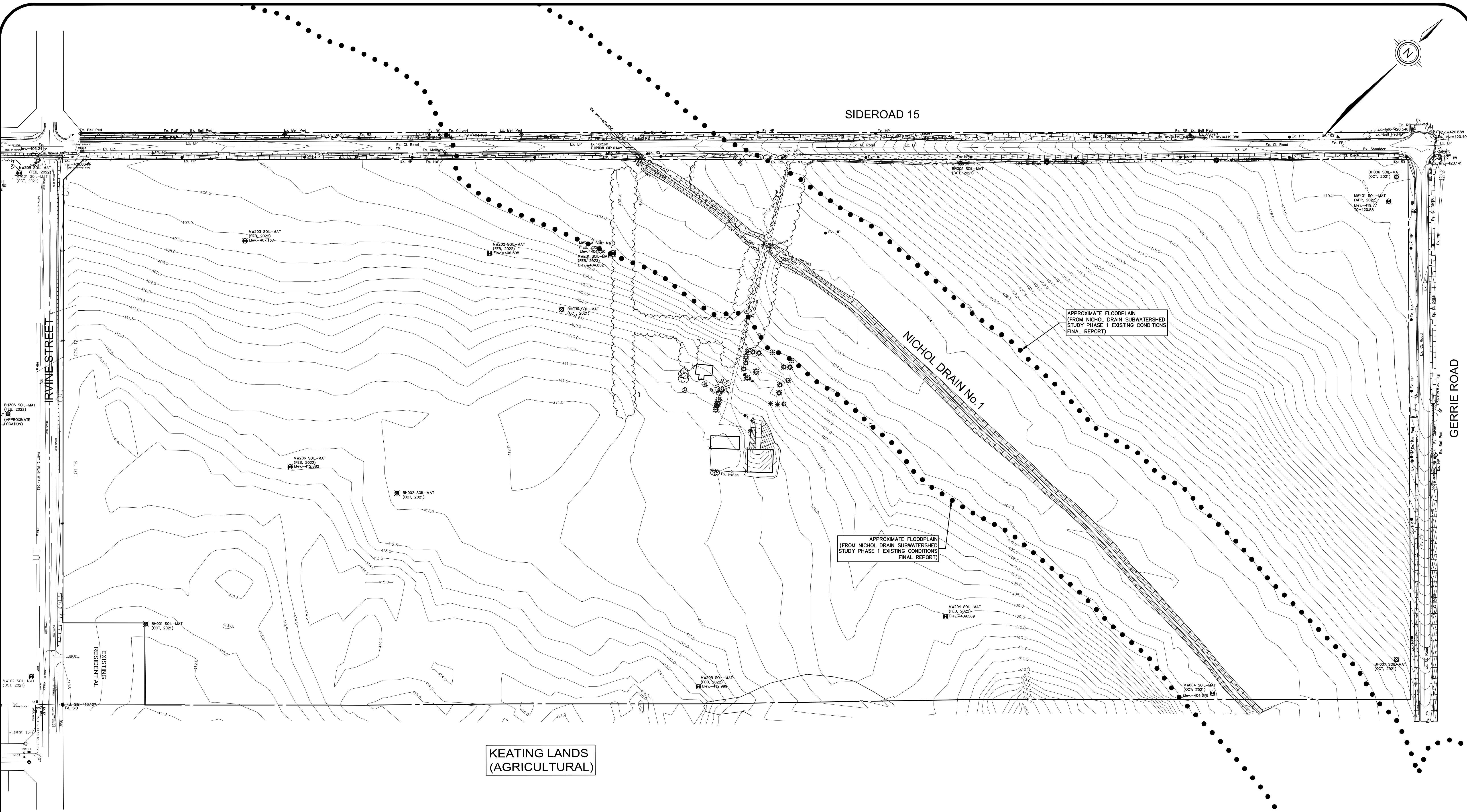
CLIENT  
**CACHET DEVELOPMENTS INC.**

361 Connie Crescent, Suite 200 Concord, Vaughan

PROJECT  
**CLAYTON SUBDIVISION**

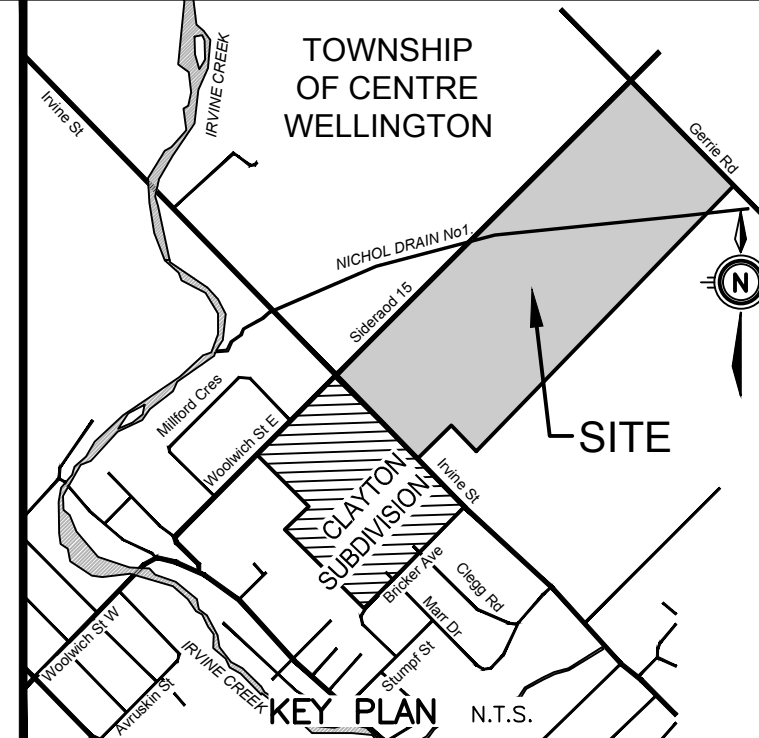
ELORA ONTARIO  
 DRAWING  
**EXISTING CONDITIONS PLAN**

Project Manager S. PETERSON	Project No. <b>50250-100</b>
Design By MXF	Checked By JEM
Drawn By ACH	Checked By AJC
Surveyed By MTE	Drawing No.
Date Apr. 11/22	<b>EC1.1</b>
Scale 1:1000	Sheet of



LEGEND	
	SITE BOUNDARY
	EXISTING CONTOURS
	EXISTING FENCE
	EXISTING EMBANKMENT (SLOPE AS NOTED)
	APPROXIMATE FLOODPLAIN LIMIT (FROM NDSS)
	DRIPLINE
	MW SOIL-MAT (FEB, 2022) Elev.=407.34 TC=408.26
	BH SOIL-MAT (OCT, 2021)
	EXISTING MONITORING WELL
	EXISTING BOREHOLE

**NOTE TO CONTRACTOR :**  
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TOWNSHIP OF CENTRE WELLINGTON	
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	BY: mm-mm-00

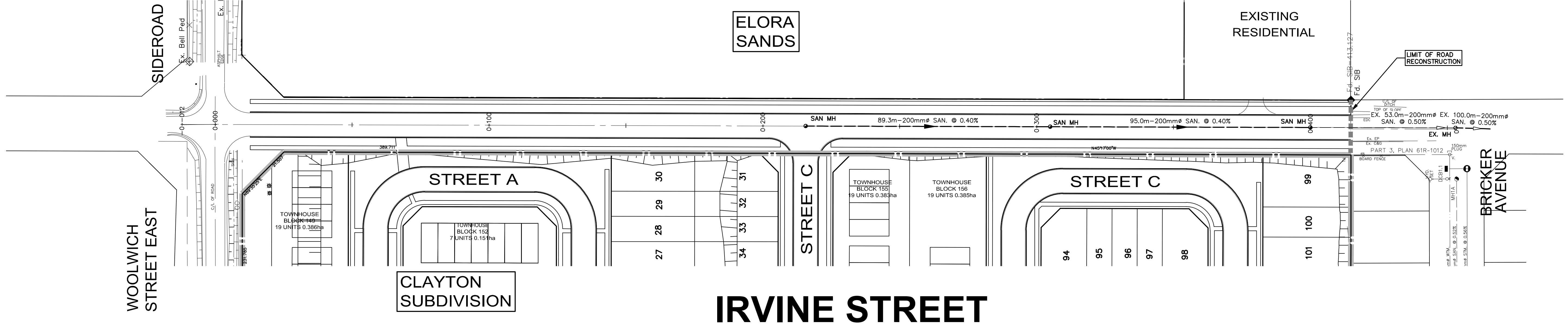
GEODETIC BM	ELEV. = 387.982m
ELORA POST OFFICE, BOLT IN FRONT WALL, IN LINTEL OF CENTRE BASEMENT WINDOW. (HISTORICAL NUMBER 18U117E)	
SITE BENCHMARK	ELEV. = m

CLIENT	
CACHET DEVELOPMENTS INC.	
361 Connie Crescent, Suite 200 Concord, Vaughan	
PROJECT	
ELORA SANDS	
ELORA ONTARIO	
DRAWING	
EXISTING CONDITIONS PLAN	

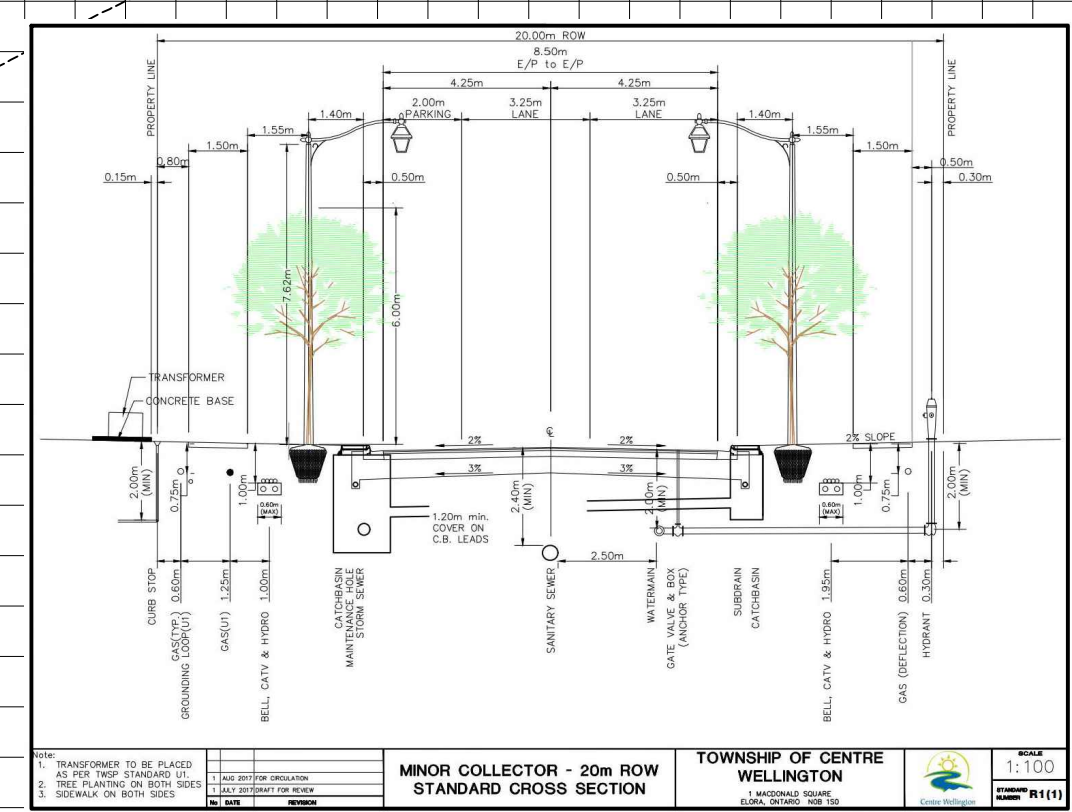
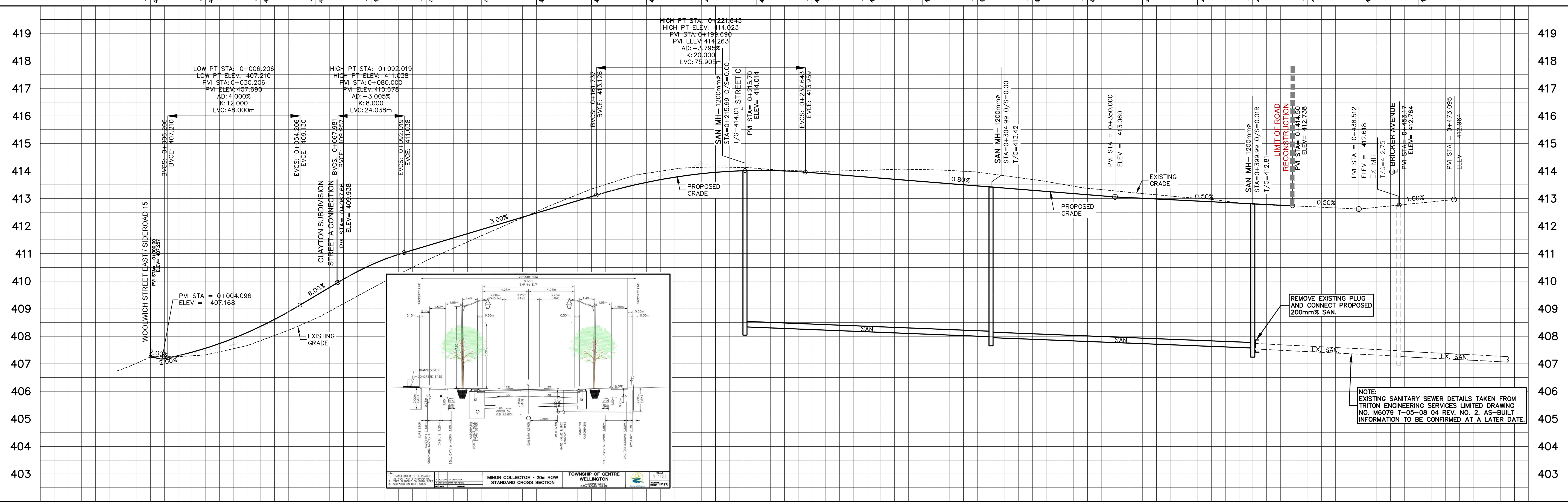
**MTE**  
Engineers, Scientists, Surveyors

519-743-6500

Project Manager	S. PETERSON	Project No.	49878-100
Design By	MXF	Checked By	JEM
Drawn By	ACH	Checked By	AJC
Surveyed By	MTE	Drawing No.	EC1.1
Date	Apr.12/22	Scale	1:1250
Sheet		of	

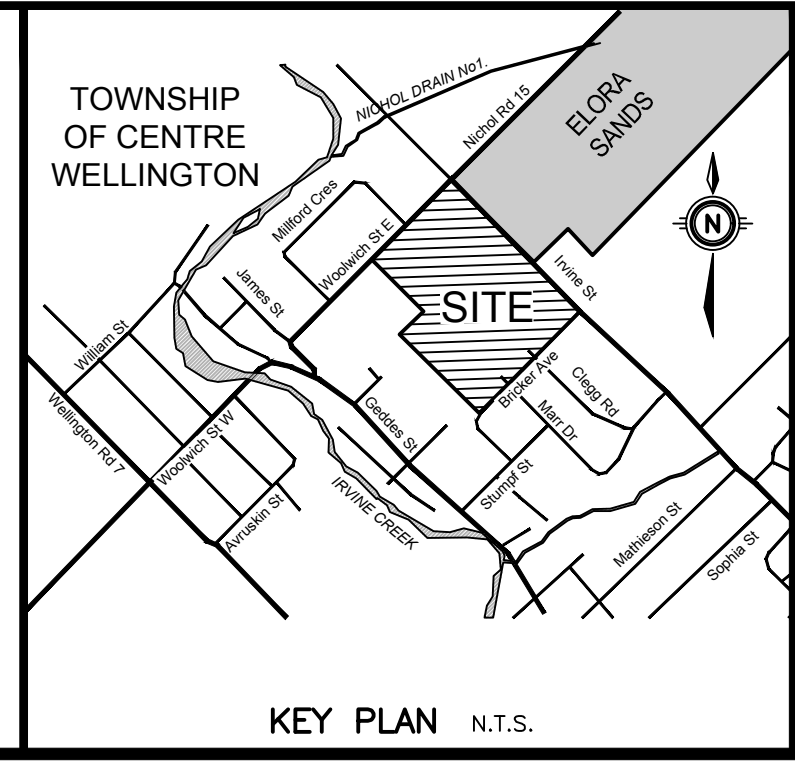


CHAINAGE	0	-0+020	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480																				
PROPOSED @ ROAD ELEVATIONS	407.3	407.25	407.3	407.57	407.8	408.36	408.7	409.48	409.7	410.59	410.7	411.28	411.6	411.88	412.5	412.47	413.3	413.07	413.59	414.1	413.91	414.1	414.02	414.0	413.94	414.0	414.0	413.78	414.1	414.1	413.62	414.0	413.46	413.7	413.30	413.4	413.14	413.2	413.01	413.0	412.91	412.8	412.81	412.7	412.71	412.63	412.63



NOTE: EXISTING SANITARY SEWER DETAILS TAKEN FROM TRITON ENGINEERING SERVICES LIMITED DRAWING NO. M6079 T-05-08 04 REV. NO. 2. AS-BUILT INFORMATION TO BE CONFIRMED AT A LATER DATE.

STM. SEWER INVERT	407.3	407.25	407.3	407.57	407.8	408.36	408.7	409.48	409.7	410.59	410.7	411.28	411.6	411.88	412.5	412.47	413.3	413.07	413.59	414.1	413.91	414.1	414.02	414.0	413.94	414.0	414.0	413.78	414.1	414.1	413.62	414.0	413.46	413.7	413.30	413.4	413.14	413.2	413.01	413.0	412.91	412.8	412.81	412.7	412.71	412.63	412.63			
SAN. SEWER INVERT																																																		



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GEODETIC BM ELEV. = 387.982m  
 ELORA POST OFFICE, BOLT IN FRONT WALL, IN LINTEL OF CENTRE BASEMENT WINDOW. ((HISTORICAL NUMBER 16U117E))

SITE BENCHMARK ELEV. = m

CLIENT  
**CACHET DEVELOPMENTS INC.**  
 361 Connie Crescent, Suite 200 Concord, Vaughan  
 PROJECT  
**CLAYTON SUBDIVISION**  
 ELORA DRAWING  
 ONTARIO

**IRVINE STREET**  
 STA 0+000 TO STA 0+414.450

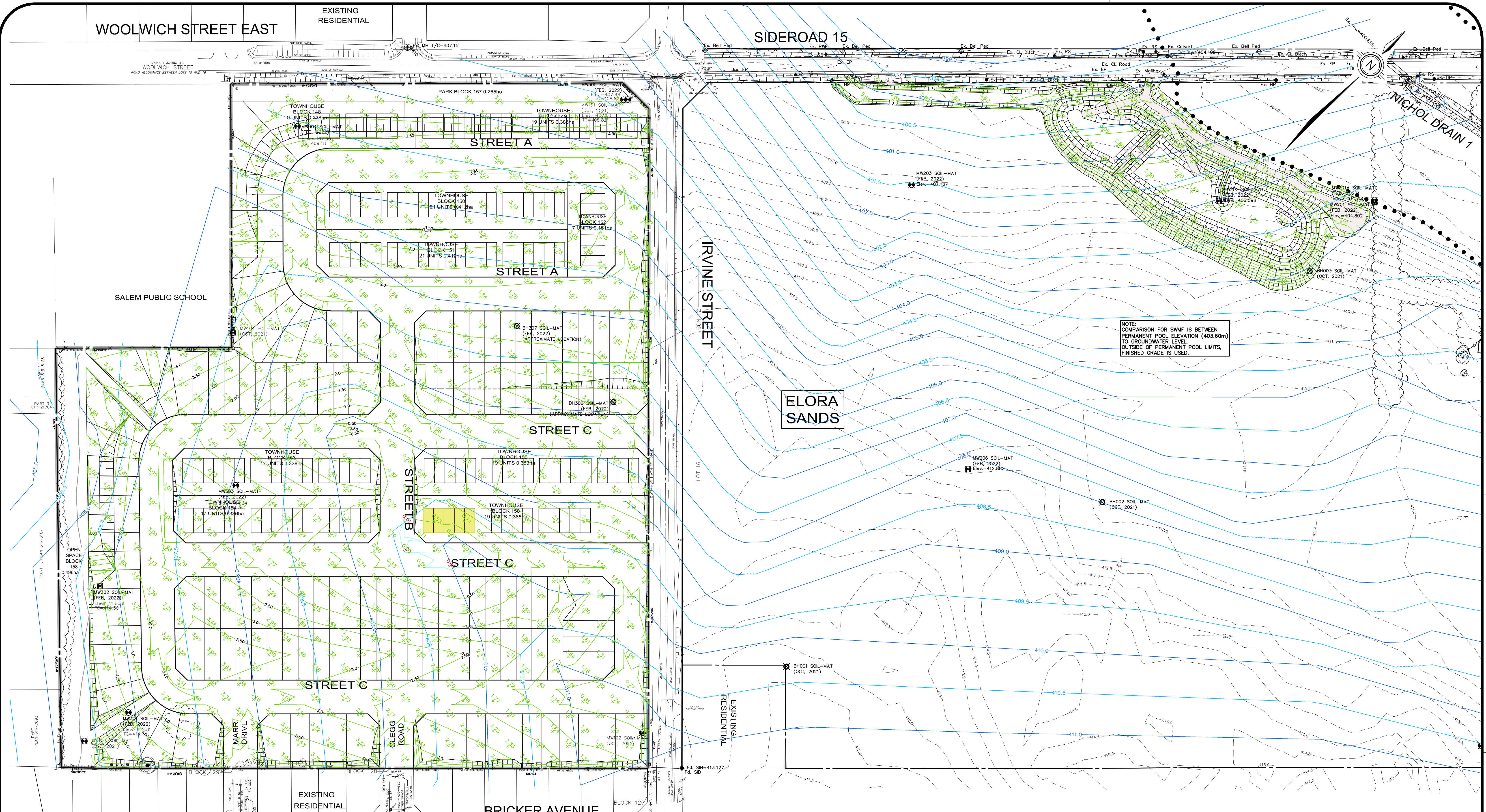
Engineers, Scientists, Surveyors  
 519-743-6500

Project Manager <b>S. PETERSON</b>	Project No. <b>50250-100</b>
Design By <b>MXF</b>	Checked By <b>JEM</b>
Drawn By <b>ACH</b>	Checked By <b>AJC</b>
Surveyed By <b>MTE</b>	Drawing No. <b>MS2.1</b>
Date <b>Jun.13/22</b>	Scale <b>H-1:750 V-1:75</b>
Sheet <b>of</b>	

P:\50250\100\50250-100-QU2

MTE FILE PATH:

July 18, 2022 - 3:13:39 PM - Plotted By: Michael Felmezcok

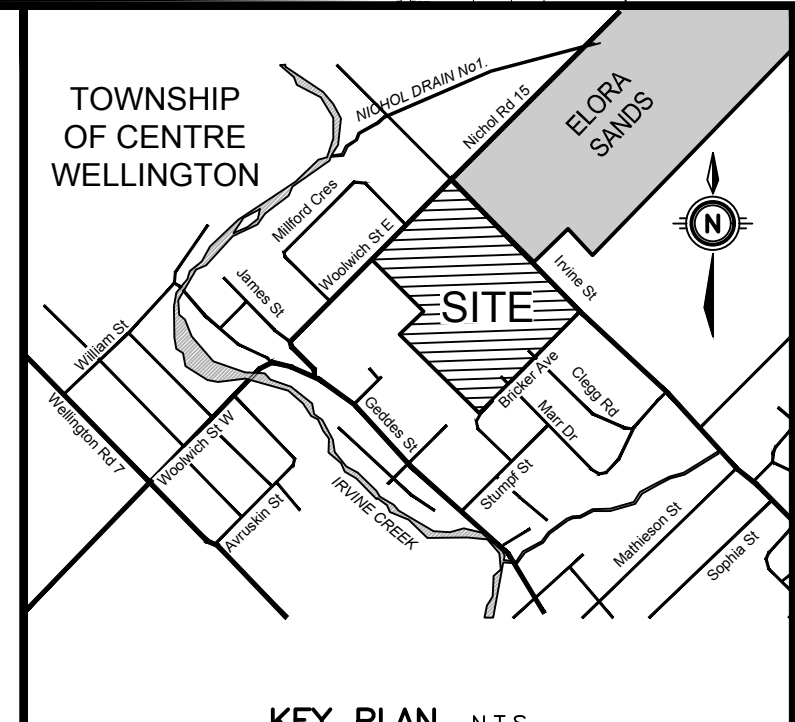


NOTE: COMPARISON FOR SWM IS BETWEEN PERMANENT POOL ELEVATION (403.60m) TO GROUNDWATER LEVEL OUTSIDE OF PERMANENT POOL LIMITS, FINISHED GRADE IS USED.

**LEGEND**

	SITE BOUNDARY		GROUNDWATER SEPARATION CONTOUR, RED TICKS REPRESENT AREAS WHERE SEPARATION REQUIREMENT IS NOT MET
	EXISTING DIRECTION OF DRAINAGE/SWALE		GROUNDWATER SEPARATION CONTOUR, GREEN TICKS REPRESENT AREAS WHERE SEPARATION REQUIREMENT IS MET (eg. GROUNDWATER IS 0.92m BELOW FINISHED BASEMENT FLOOR)
	EXISTING CONTOURS		GROUNDWATER SEPARATION CONTOUR, CYAN TICKS REPRESENT AREAS WHERE GROUNDWATER LEVEL IS EXACTLY AT THE FINISHED BASEMENT FLOOR
	APPROXIMATE GROUNDWATER CONTOURS (FROM SOIL-MAT)		MINIMUM BASEMENT FLOOR ELEVATION TO BE SPECIFIED TO ENSURE ADEQUATE GROUNDWATER SEPARATION
	EXISTING DRIPLINE		APPROXIMATE FLOODPLAIN LIMIT (FROM NDSS)
	MW SOIL-MAT		
	BH SOIL-MAT		
	EXISTING MONITORING WELL		
	EXISTING BOREHOLE		

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**TOWNSHIP OF CENTRE WELLINGTON**

No.	REVISION	BY
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**GEODETIC BM** ELEV. = 387.982m  
ELORA POST OFFICE, BOLT IN FRONT WALL, IN LINTEL OF CENTRE BASEMENT WINDOW. (HISTORICAL NUMBER 16U117E)

**SITE BENCHMARK** ELEV. = m

**CLIENT**  
CACHET DEVELOPMENTS INC.  
361 Connie Crescent, Suite 200 Concord, Vaughan  
PROJECT  
CLAYTON SUBDIVISION  
ELORA DRAWING ONTARIO

**MTE**  
Engineers, Scientists, Surveyors  
519-743-6500

Project Manager	S. PETERSON	Project No.	50250-100
Design By	MXF	Checked By	JEM
Drawn By	ACH	Checked By	AJC
Surveyed By	MTE	Drawing No.	QU2.1
Date	Jun.21/22	Scale	1:1000
Sheet	of		