

FUNCTIONAL SERVICING REPORT

23 Elizabeth Street North & 42 – 46 Park Street East

Project #: 25-0893

Prepared for: Edenshaw Elizabeth Developments Limited

Date: May 23, 2025

Report Version: 02



May 23, 2025

Edenshaw Elizabeth Developments Limited
129 Lakeshore Road, Suite 201
Mississauga, Ontario L5G 1E5

Attention: Roman Tsap, Development Manager

**SUBJECT: FUNCTIONAL SERVICING REPORT, 23 ELIZABETH STREET NORTH & 42 – 46 PARK STREET
EAST**

EnVision Consultants Ltd. is pleased to present the enclosed Functional Servicing Report in support of the Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) applications for the above-noted property. This report provides the conceptual framework for water distribution, sanitary sewage and storm drainage for this development. A Stormwater Management Report outlining the proposed quality and quantity controls for stormwater on this Site has also been prepared by EnVision Consultants Ltd. under separate cover.

We thank you for utilizing EnVision for this assignment. If there are any questions regarding the enclosed report, please do not hesitate to contact us.

Yours sincerely,

Alex Williams, P.Eng.
Director – Land Development
awilliams@envisionconsultants.ca

QUALITY MANAGEMENT

ISSUE	FIRST ISSUE	REVISION 1	REVISION 2
PROJECT NUMBER	25-0893	25-0893	
PROJECT REFERENCE	Functional Servicing Report, 23 Elizabeth Street North & 42 – 46 Park Street East	Functional Servicing Report, 23 Elizabeth Street North & 42 – 46 Park Street East	
VERSION NO.	01	02	
REMARKS	Final	Final	
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REVIEWED BY	Alex Williams, P.Eng.	Alex Williams, P.Eng.	
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DATE	February 19, 2025	May 23, 2025	

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1. EXECUTIVE SUMMARY

EnVision Consultants Ltd. (EnVision) was retained by Edenshaw Elizabeth Developments Limited (the 'Client') to conduct a functional servicing assessment in support of the Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) applications for the property located at 23 Elizabeth Street North & 42 – 46 Park Street East (the 'Site').

The development is a 0.18 ha parcel of land bounded by Park Street East to the south, an existing residential development (49 Queen Street East) to the north, Elizabeth Street North to the west and an existing residential development (52 Park Street East) to the east. Under existing conditions, the Site is occupied by four (4) single-family residential dwellings. The proposed development will consist of one (1) 30-storey residential building with four (4) below grade levels. The existing buildings within the Site are proposed to be demolished to accommodate the development proposal.

The scope of this review includes site water distribution, sanitary drainage and stormwater drainage for the proposed development. A Stormwater Management Report outlining the proposed quality and quantity controls for stormwater on this Site has been prepared by EnVision under separate cover. EnVision has reviewed the Site Plan provided by Kirkor Architects and Planners dated May 23, 2025, background information provided by the Client, City of Mississauga, Region of Peel, Conservation Authority and other publicly available materials.

Based on the functional servicing review, EnVision presents the following findings.

- The Site will be serviced by the existing 300mm Zone 1 watermain on Park Street East. The proposed servicing for the Site will include one (1) 150mm domestic watermain and one (1) 200mm fire watermain connecting to the existing watermain on Park Street East;
- Hydrant flow tests were performed on the existing 300mm watermain on Park Street East and the and Elizabeth Street North on April 10, 2025 by L&D Waterworks Inc. The test results indicate that there is sufficient water supply in the existing municipal water network to accommodate the development;
- The proposed sanitary servicing for the Site will connect to the existing 250mm sanitary sewer on Park Street East via a 200mm municipal sanitary service connection from the Site;
- Based on the findings of the external sanitary sewer capacity analysis, there is surcharging in the downstream sanitary sewer system under both pre- and post-development conditions. Local sanitary sewer upgrades will be required on Helene Street North and discussions are ongoing with Region staff regarding capacity constraints in the downstream sanitary trunk sewer system up to the Elmwood pumping station. EnVision is also aware of proposed major upgrades to the local sanitary sewer system on Helene Street North and the trunk sewer system on Lakeshore Road E which are currently in the design stage. Coordination with the Region regarding the planned capacity and timing of the proposed municipal upgrade works is required;
- One (1) 200mm municipal storm service connection is proposed to the existing 300mm storm sewer on Park Street East. An underground stormwater cistern is proposed to meet the quantity control and water balance requirements for the Site prior to discharging flows to the existing storm sewer on Park Street East.



2. INTRODUCTION

EnVision Consultants Ltd. (EnVision) was retained by Edenshaw Elizabeth Developments Limited (the 'Client') to conduct a functional servicing assessment for the property located at 23 Elizabeth Street North & 42 – 46 Park Street East (the 'Site'). It is our understanding that this assessment has been requested in support of the Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) applications.

2.1. SITE DESCRIPTION

The development is a 0.18 ha parcel of land bounded by Park Street East to the south, an existing residential development (49 Queen Street East) to the north, Elizabeth Street North to the west and an existing residential development (52 Park Street East) to the east. Under existing conditions, the Site is occupied by four (4) single-family residential dwellings. Refer to **Figure 1** for the Site Location Plan and **Figure 2** for the Pre-Development Plan.

The proposed development will consist of one (1) 30-storey residential building with four (4) below grade levels. The existing buildings within the Site are proposed to be demolished to accommodate the development proposal. The development statistics are summarized in **Table 2-1**. Refer to **Figure 3** for an illustration of the Proposed Development Plan.

Table 2-1: Development Summary

LAND USE	NUMBER OF FLOORS	TOTAL GFA	RESIDENTIAL UNITS	UNDERGROUND LEVELS
RESIDENTIAL	30	20,951 m ²	378	4

The Site will be serviced by existing local municipal sewers and watermain within the adjoining municipal rights-of-way. Any existing service connections to the Site within the municipal road allowance will be decommissioned by the municipality at the Owner's cost. The proposed service connections will be extended to the underground parking foundation walls and coordinated with the building design team.

2.2. OBJECTIVES, SCOPE AND BACKGROUND MATERIALS

2.2.1. OBJECTIVES

The objectives of the Functional Servicing Report are to:

- Determine the site specific water, sanitary and stormwater servicing requirements to ensure that the development proposal is in conformance with City of Mississauga and Region of Peel guidelines;
- Establish the proposed water and sanitary demands from the development;

- Demonstrate the impact of the proposed development on the capacity of the existing infrastructure in the area and identify necessary improvements to municipal servicing infrastructure if required;
- Develop a water, sanitary and stormwater servicing strategy for the development; and
- Determine the grading approach for the development and identify grading constraints.

2.2.2. *SCOPE*

The scope of this Functional Servicing Report includes the following components:

- Water Distribution
- Sanitary Drainage
- Stormwater Drainage
- Site Grading

A Stormwater Management (SWM) Report outlining the proposed stormwater quality and quantity controls has been prepared under a separate cover by EnVision Consultants Ltd., dated May 23, 2025.

2.2.3. *BACKGROUND MATERIALS*

In preparing this report, EnVision used the following information to evaluate the servicing and grading for the Site:

- Topographic Survey prepared by R. Avis Surveying Inc. dated July 23, 2019;
- Architectural Plan prepared by Kirkor Architects and Planners dated May 23, 2025;
- City of Mississauga Transportation and Works Development Requirements Manual dated August 2020;
- Region of Peel Linear Wastewater Standards dated March 2023;
- Region of Peel Public Works Design, Specifications & Procedures Manual – Watermain Design Criteria dated June 2010; and
- Section 8 – City of Mississauga Transportation and Works Development Requirements Manual dated August 12, 2020.

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PLOTDATE: May 21, 2025 - 1:26pm, JulianaZupancic



CLIENT

EDENSHAW ELIZABETH
DEVELOPMENTS LIMITED

TITLE

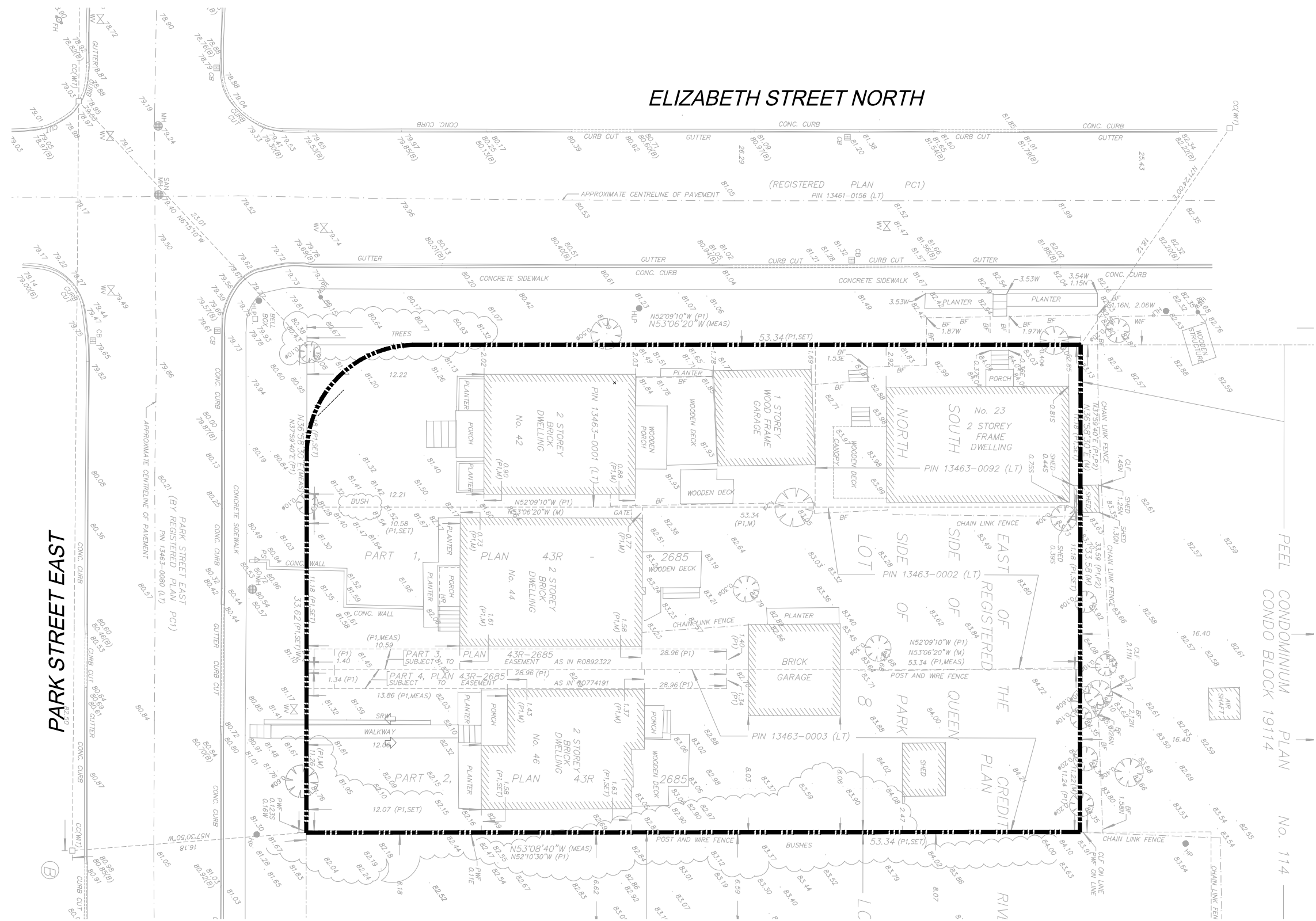
23 ELIZABETH STREET NORTH &
42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

LOCATION PLAN



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Scale	NTS	Figure No.	1



LEGEND



LIMIT OF PROPERTY

CLIENT

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DEVELOPMENTS LIMITED

TITLE

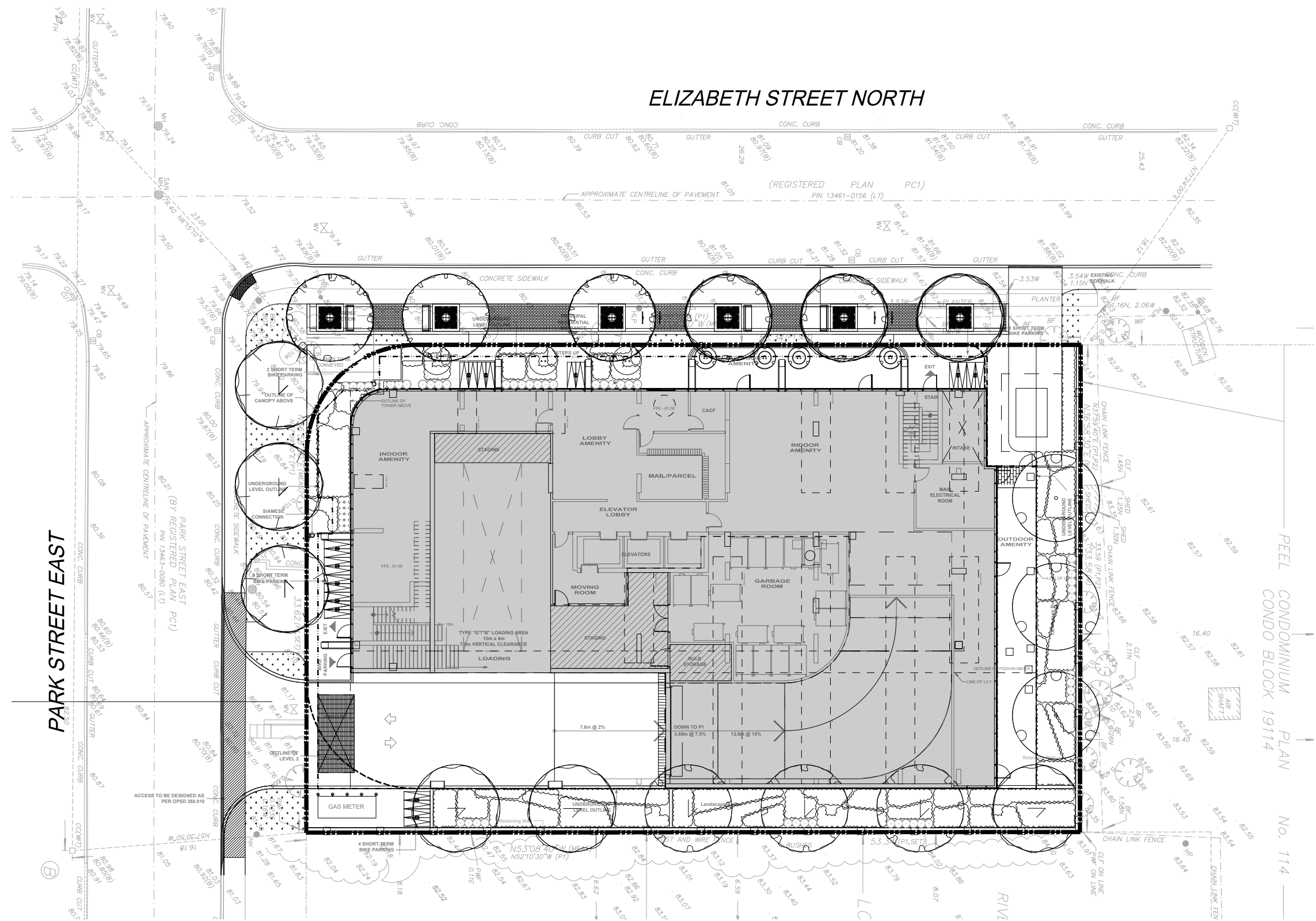
23 ELIZABETH STREET NORTH &
42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

PRE- DEVELOPMENT PLAN



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23 ELIZABETH STREET NORTH &
42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

PROPOSED DEVELOPMENT PLAN



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3. WATER SERVICING

3.1. EXISTING CONDITIONS

EnVision has obtained record engineering drawings from the Region of Peel for the area surrounding the Site. Under existing conditions, there is a 300mm Zone 1 PVC watermain on the east side of Elizabeth Street North and a 300mm Zone 1 PVC watermain on the south side of Park Street East adjacent to the Site. There is also an abandoned 100mm Zone 1 Cast Iron watermain on the north side of Park Street East, an abandoned 200mm Zone 1 PVC watermain on the south side of Park Street East and an abandoned 300mm Zone 1 PVC watermain on the east side of Elizabeth Street North adjacent to the Site.

3.2. WATER DEMANDS

3.2.1. DOMESTIC WATER DEMAND

The peak domestic water demand for the development was calculated using the Region of Peel's design criteria for apartment developments. The results of the calculation are summarized in **Table 3-1** below. Refer to **Appendix B** for detailed domestic water demand calculations.

Table 3-1: Estimated Domestic Water Demand

CRITERION	INFORMATION
RESIDENTIAL WATER DEMAND RATE	280 L/person/day
TOTAL RESIDENTIAL UNITS	131 0-1-Bed Units 128 1-Bed + Den Units 117 2-Bed Units 2 2-Bed + Den Units
TOTAL RESIDENTIAL POPULATION ⁽¹⁾	1022 people
PEAKING FACTORS	Residential: Max. Day = 2.0, Peak Hour = 3.0
AVERAGE WATER DEMAND FROM SITE	3.31 L/s
PEAK WATER DEMAND FROM SITE	Max. Day = 6.62 L/s, Peak Hour = 9.94 L/s

⁽¹⁾ A residential population density of 2.7 persons per unit was considered as the population equivalent is greater than 475 persons/ha per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.

3.2.2. FIRE FLOW DEMAND

The estimated fire flow has been calculated using the recommendations of the 2020 Fire Underwriters Survey. The fire flow calculation indicates that the recommended fire flow is 133.33 L/s (2,111 USGPM). The fire flow calculations have been prepared with the assumption that the building will be classified as fire resistive construction with combustible hazard occupancy and will be equipped with a supervised sprinkler system. The results of these calculations are included in **Appendix B**.



There is currently one (1) existing hydrant adjacent to the Site at the southwest corner of the Elizabeth Street North and Park Street East intersection. The Siamese connections to the building will be located so that they are a maximum of 45m away from a hydrant.

3.2.3. *PROPOSED WATER SERVICING*

One (1) domestic water service connection and one (1) fire water service connection are proposed to service the entire development. An H-style service connection with a 150mm diameter domestic service branching off a 200mm diameter fire service connection will extend from the existing 300mm Zone 1 PVC watermain on Park Street East. Valves shall be provided on all connections at the property line. A water meter and backflow preventer will be provided on the domestic connection within the mechanical room in the building. The mechanical room will need to be accessible by the Region and provide remote read-out locations for the Region's use in reading the meters. A double detector check-valve will be provided on the fire connection immediately inside the property line and outside the foundation wall.

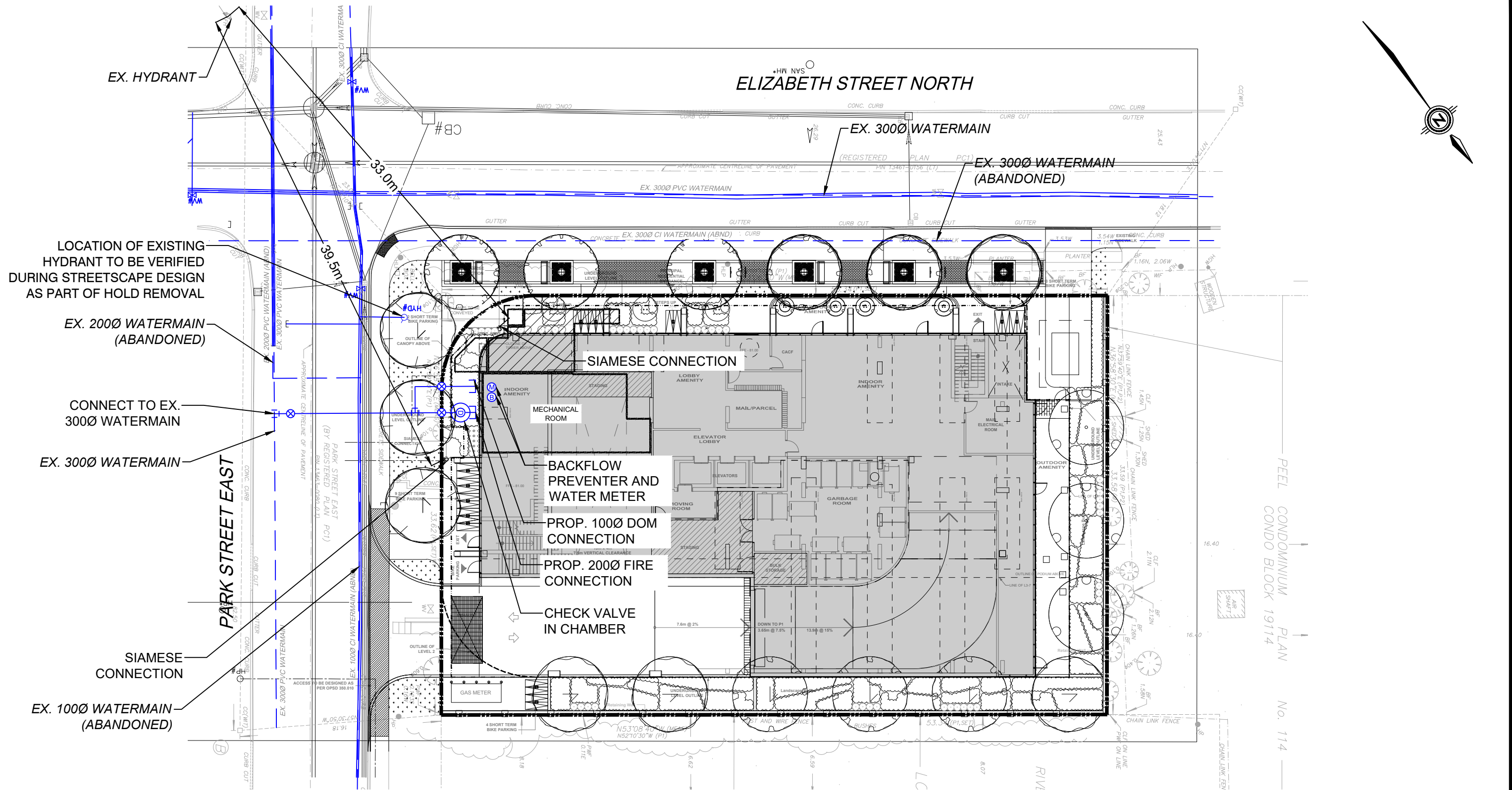
The service connections within the municipal rights-of-way will be designed to Region of Peel standards and the water services within the proposed building will be designed by the Site mechanical consultant to meet Ontario Plumbing Code Standards. The proposed water servicing and the hydrant locations are shown on **Figure 4**.

3.3. **HYDRANT FLOW TEST**

The required fire flow demand for the proposed development was calculated to be 133.33 L/s (2,111 USGPM) as defined by the Fire Underwriters Survey (FUS). The maximum day demand for the proposed development is 6.62 L/s. Therefore, the total maximum day plus fire flow demand is 139.95 L/s for the proposed development. Refer to **Appendix B** for FUS fire flow and detailed domestic demand calculations.

Hydrant flow tests were performed on the existing 300mm watermain on Park Street East and the existing 300mm watermain on Elizabeth Street North on April 10, 2025 by L&D Waterworks Inc. to determine the available water supply for fire protection. Detailed results of the hydrant flow test are included in **Appendix B**. The flow test on the existing 300mm watermain on Park Street East indicates that a flow of 576 L/s (9,122 USGPM) could be achieved while maintaining a water pressure of 20psi (140kPa) while the flow test on the existing 300mm watermain on Elizabeth Street North indicates that a flow of 592 L/s (9,379 USGPM) could be achieved while maintaining a water pressure of 20psi (140kPa). Therefore, the existing 300mm watermains on Park Street East and Elizabeth Street North have sufficient capacity to provide the required fire protection for the proposed development.

It is our understanding that the Region of Peel will use the multi-use demand table appended to this report to confirm using their water model that water supply will be available to meet the estimated demand from the proposed development. The multi-use demand table for the Site has been included in **Appendix D**.



LEGEND

- LIMIT OF PROPERTY
- EX. WATERMAIN
- PROP. W/M CONNECTION
- PROP. VALVE & CHAMBER
- PROP. VALVE & BOX

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WATER SERVICING PLAN				
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Date		MAY 2025	Proj. No.	24-0893
Scale		1: 300	Figure No.	4

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4. SANITARY SERVICING

4.1. EXISTING CONDITIONS

EnVision has obtained record engineering drawings from the Region of Peel for the area surrounding the Site. Under existing conditions, there is a 250mm PVC sanitary sewer draining west on Park Street East and a 250mm PVC sanitary sewer draining south on Elizabeth Street North adjacent to the Site.

4.2. SANITARY FLOWS

4.2.1. DESIGN PARAMETERS

To calculate the peak sanitary flows, the following Region of Peel design criteria have been utilized:

- 290 L/cap/day average daily flow for residential use;
- Population equivalent based on unit type for residential use:
 - 4.2 people per single detached dwelling
 - 1.7 people per studio and 1-bedroom apartment unit;
 - 3.1 people per 2-bedroom apartment unit;
 - 3.1 people per 3-bedroom apartment unit;
 - 2.7 people per unit for apartments greater than 475 persons per hectare
- Peaking Factor for residential use: Harmon Formula $M = 1 + (14/\sqrt{4 + P/1000})$
- Inflow/Infiltration Allowance: 0.26 L/s/ha

An estimate of the pre- and post-development sanitary sewage flows has been calculated and is included in **Appendix C**. The results of the calculations are discussed in **Sections 4.2.2 and 4.2.3**.

4.2.2. EXISTING SEWAGE FLOWS

The Site consists of single-family dwellings under existing conditions. The existing buildings have their sanitary flows directed to the existing 250mm Elizabeth Street North sanitary sewer and the 250mm Park Street East sanitary sewer which both ultimately convey flows to a 250mm PVC sanitary sewer which drains south on Elizabeth Street North. An estimate of the pre-development sanitary sewage flows from the Site to the downstream sanitary sewer system has been calculated using the Region of Peel Design Criteria:

- Average Sanitary Flow = 0.11 L/s (including Inflow/Infiltration allowance)
- Peak Sanitary Flow = 0.28 L/s (including Inflow/Infiltration allowance)

Detailed calculations of the pre-development flows are included in **Appendix B**.

4.2.3. POST-DEVELOPMENT SEWAGE FLOW

An estimate of the post-development sanitary sewage flows from the Site to the downstream sanitary sewer system has been calculated based on the development statistics provided by Kirkor Architects and Planners and has been calculated using the Region of Peel Design Criteria. The calculation results are summarized in **Table 4-1**. Refer to **Appendix C** for post-development sanitary flow calculations.



Table 4-1: Estimated Sanitary Flows

CRITERION	INFORMATION
RESIDENTIAL SANITARY DEMAND RATE	290 L/person/day
TOTAL RESIDENTIAL UNITS	131 0-1-Bed Units 128 1-Bed + Den Units 117 2-Bed Units 2 2-Bed +Den Units
TOTAL RESIDENTIAL POPULATION ⁽¹⁾	1022 people
PEAKING FACTORS	3.79 (Harmon Peaking Factor)
INFLOW / INFILTRATION ALLOWANCE	0.05 L/s
AVERAGE SANITARY FLOW FROM SITE	3.43 L/s
PEAK SANITARY FLOW FROM SITE	13.06 L/s

⁽¹⁾ A residential population density of 2.7 persons per unit was considered as the population equivalent is greater than 475 persons/ha per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.

The approximate peak sanitary flow to the existing sanitary sewer system for the pre- and post-development conditions are 0.28 L/s and 13.06 L/s, respectively. Consequently, the increase in peak sanitary design flow resulting from the development to the sanitary sewer is 12.78 L/s. An analysis of the impacts of the increase in peak sanitary flow contributions from the development on the downstream system was completed by EnVision and the results of the analysis are discussed further in [Section 4.4](#). It is our understanding that the Region of Peel will use the multi-use demand table appended to this report to confirm using their sanitary infrastructure model if there will be sufficient capacity in the existing municipal sanitary sewer system to meet the estimated sanitary demand from the proposed development. The multi-use demand table for the Site has been included in [Appendix D](#).

4.3. SANITARY SERVICING

The development will have one (1) 200mm diameter municipal sanitary service connection. Sanitary flows from the development will be discharged to the existing 250mm sanitary sewer on Park Street East. As per Region of Peel requirements, a control manhole is proposed to be placed immediately inside the property line for the service connection. The sanitary service connection within the municipal right-of-way will be designed to Region of Peel standards and the sanitary services within the proposed building will be designed by the Site mechanical consultant to meet Ontario Plumbing Code Standards. The proposed sanitary servicing layout shown on [Figure 5](#).

4.4. DOWNSTREAM SEWER CAPACITY ANALYSIS

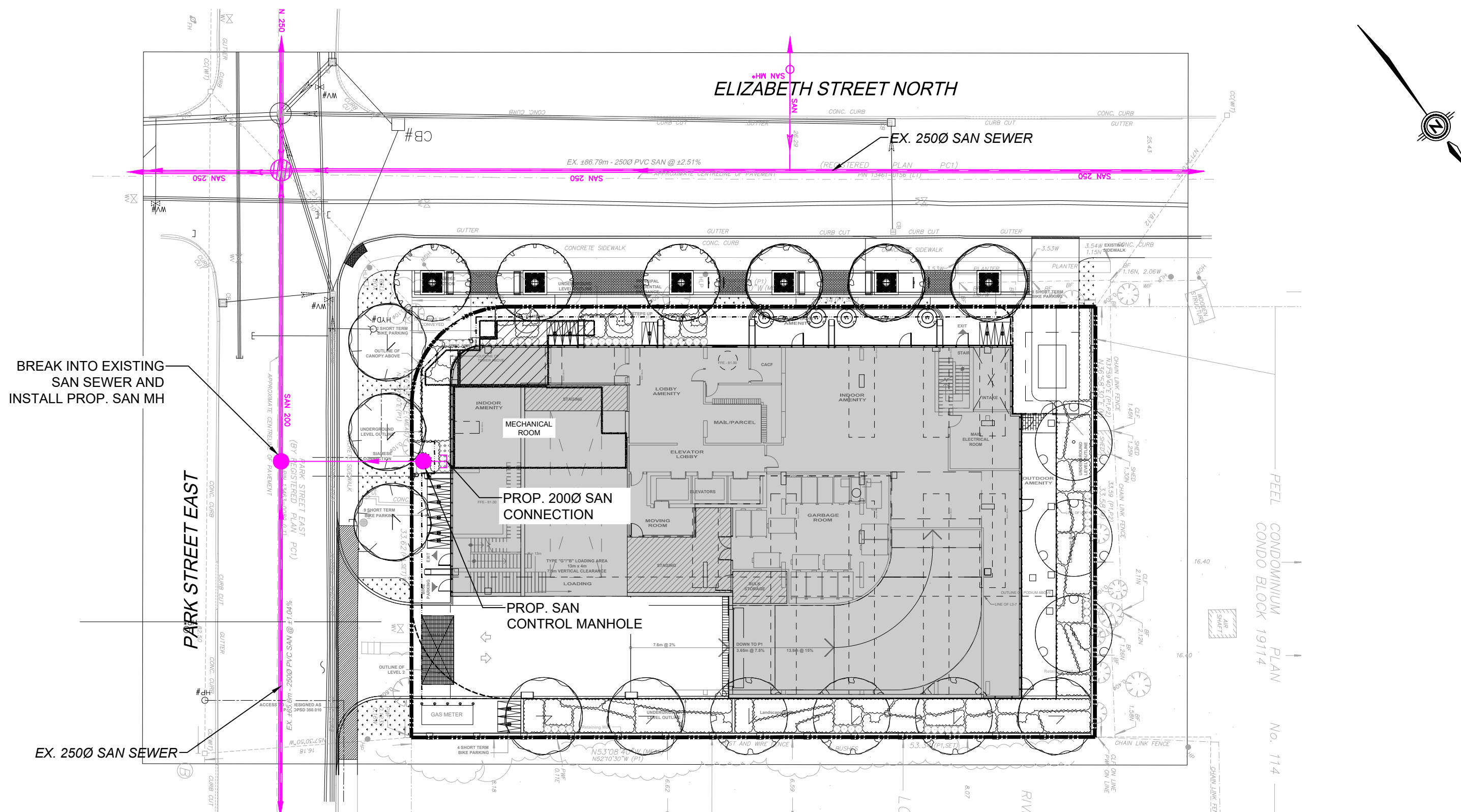
EnVision has prepared pre- and post-development downstream sanitary sewer analysis up to the existing 450mm local trunk sewer at the intersection of Lakeshore Road East and Helene Street North to assess the impacts of the sanitary demand from the development on the existing receiving sanitary sewer system.

The sanitary flows for the sewershed was calculated using the Region of Peel Linear Wastewater Design Manual criteria as outlined in [Section 4.2.1](#). An Inflow/Infiltration allowance of 0.26 L/s/ha has also been included in the analysis. See [Appendix C](#) for the Sanitary Sewer Design Sheets. Sanitary Drainage Area figures have been created to facilitate this analysis and are included in [Appendix C](#).

Development applications for 70 Park Street East, 88 Park Street East and 10 GO West have been submitted and the Metrolinx Port Credit LRT station is under construction. The post-development sanitary flows from these developments, calculated based on the Region of Peel design Criteria and site statistics identified in the most recent development applications have been included in the pre- and post-development downstream sanitary sewer analysis for the purpose of analyzing the receiving sewer capacity.

Based on the analysis of the contributing flows to the downstream sanitary sewer system up to the 450mm trunk sanitary sewer on Lakeshore Road East, it was determined that there is surcharging of the sewers on Helene Street North, further downstream of the Site, under both pre- and post-development conditions. Local sanitary sewer upgrades will be required on Helene Street North to accommodate the additional 12.78 L/s of flow from the development. Discussions are ongoing with Region staff regarding capacity constraints in the downstream sanitary trunk sewer system up to the Elmwood pumping station. EnVision is also aware of proposed major upgrades to the local sanitary sewer system on Helene Street North (Region of Peel Capital Project 24-2115) and the trunk sewer system on Lakeshore Road E (Region of Peel Capital Project 19-2215) which are understood to currently be in the design stage. EnVision will coordinate the planned capacity and timing of the proposed municipal upgrade works with the Region.

It is our understanding that the Region of Peel will use the multi-use demand table appended to this report to confirm using their sanitary infrastructure model if there will be sufficient capacity in the existing municipal sanitary sewer system to meet the estimated sanitary demand from the proposed development. The multi-use demand table for the Site has been included in [Appendix D](#).



- LEGEND**
- LIMIT OF PROPERTY
 - EX. SANITARY SEWER
 - PROP. SAN CONNECTION

CLIENT	EDENSHAW ELIZABETH DEVELOPMENTS LIMITED	
TITLE	23 ELIZABETH STREET NORTH & 42 - 46 PARK STREET EAST MISSISSAUGA, ONTARIO	
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Scale	1: 300	Figure No. 5



5. STORM DRAINAGE

5.1. STORMWATER MANAGEMENT REPORT

A Stormwater Management (SWM) Report outlining the proposed stormwater quality and quantity controls has been prepared under separate cover by EnVision Consultants Ltd., dated May 23, 2025. The SWM Report is in compliance with MECP Stormwater Management Planning and Design Manual (2003), TRCA Stormwater Management Criteria (August 2012), the Region of Peel Public Works Stormwater Design Criteria and Procedural Manual (June 2019) and the City of Mississauga Storm Drainage Design Requirements and identifies the stormwater quantity and quality controls under which this Site will operate.

5.2. EXISTING CONDITIONS

The Site is located within the Credit River subwatershed. Based on City record drawings, there is a 300mm PVC storm sewer draining west on Park Street East and a 300mm PVC storm sewer draining south on Elizabeth Street North adjacent to the Site.

Under existing conditions, a portion of the Site drains to Park Street East, another portion of the Site drains to Elizabeth Street North and a small portion drains towards the adjacent property.

5.3. PROPOSED MINOR STORM DRAINAGE SYSTEM

All storm flows within the development will be collected by an internal storm drainage system and directed to a proposed cistern located on the underground "P1A" & "P1" parking levels adjacent to Elizabeth Street North. The cistern will be designed to hold a volume of 156 m³. The cistern is sized to control flows up to the 100-year storm event to the 2-year pre-development level per City of Mississauga requirements. A proposed 200mm storm service connection will be made from the cistern to the existing 300mm storm sewer on Park Street East. A mechanical pump system will be used to control flows from the chamber to the allowable release rate of 5.5 L/s. The allowable release rate is such that for all storm events up to the 100-year storm, the total storm outflow from the Site is reduced to the 2-year pre-development level to conform with City of Mississauga requirements. The chamber will have an access hatch accessible at grade which will act as an emergency overflow in case of system failure. As per City requirements, a storm control manhole will be placed immediately inside the property line and will be accessible by the City.

A sump volume of 11.7m³ will be provided within the cistern for stormwater to be retained, infiltrated and/or reused on-site for the water balance requirement.

Since all storm flows up to the 100-year storm event will be reduced to the 2-year pre-development level, it can therefore be concluded that the existing storm sewer system will not be adversely affected under the post-development condition and will have adequate capacity to support flows from the proposed development. For further information on the stormwater management system being used on this Site, please see the Stormwater Management Report prepared by EnVision under a separate cover.

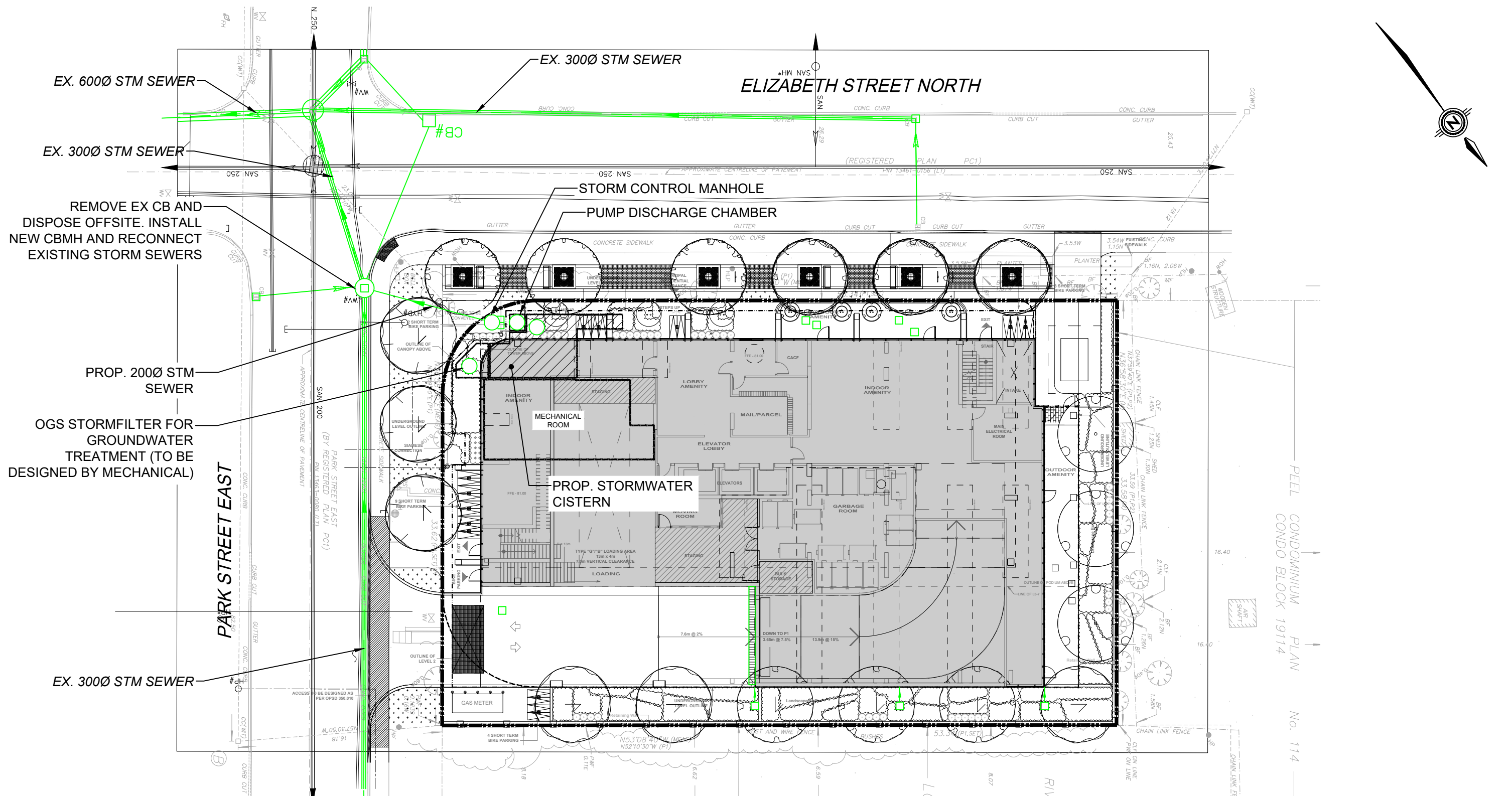


The storm service connection within the municipal right-of-way will be designed to City of Mississauga standards and the storm services within the proposed parking structure will be designed by the Site mechanical consultant to meet Ontario Plumbing Code Standards. The proposed storm servicing layout is shown on **Figure 6**.

5.4. PROPOSED MAJOR STORM DRAINAGE SYSTEM

The major storm system is a conveyance system for flows in excess of the minor system flows. Stormwater runoff from events up to and including the 100-year storm event will be contained on-site via an underground cistern and released at a controlled rate within the allowable post development limits to the minor storm system. For major storm events exceeding the 100-year storm and the capacity of the underground storage system, overland flow routes will be provided to direct excess flows to the adjacent municipal rights-of-way.

For the development of the Site, the grading design will be prepared such that the surface (i.e. drive aisles, walkways and landscaped areas) grades will direct surface drainage away from the building to the adjoining municipal rights-of-way. The proposed grading of the Site will ensure that existing grade elevations will be met along the property limits. The plumbing system for the building will be coordinated with the mechanical consultant to ensure that they are designed to convey the 100-year storm event runoff from the development. For major storm events exceeding the 100-year storm event and the capacity of the cistern, an overflow will be designed to direct excess flows to grade and ultimately to the adjacent public right-of-way.



LEGEND

- LIMIT OF PROPERTY
- EX. STORM SEWER
- PROP. STORM SEWER
- PROP. STORM SINGLE/DOUBLE CATCH BASIN
- PROP. STORM MH

CLIENT	EDENSHAW ELIZABETH DEVELOPMENTS LIMITED	 6415 Northwest Dr. Mississauga, ON Canada L4V 1X1 Office (905) 677-0202 E-mail admin@envisionconsultants.ca												
TITLE	23 ELIZABETH STREET NORTH & 42 - 46 PARK STREET EAST MISSISSAUGA, ONTARIO													
STORM SERVICING PLAN		<table><tr><td>Checked</td><td>D.A.</td><td>Drawn</td><td>M.R.</td></tr><tr><td>Date</td><td>MAY 2025</td><td>Proj. No.</td><td>24-0893</td></tr><tr><td>Scale</td><td>1: 300</td><td>Figure No.</td><td>6</td></tr></table>	Checked	D.A.	Drawn	M.R.	Date	MAY 2025	Proj. No.	24-0893	Scale	1: 300	Figure No.	6
Checked	D.A.	Drawn	M.R.											
Date	MAY 2025	Proj. No.	24-0893											
Scale	1: 300	Figure No.	6											



6. SITE GRADING

Under existing conditions, a portion of the Site slopes southwest towards Elizabeth Street North and another portion slopes southeast towards Park Street East. There is also steep sloping and retaining wall systems in the northwest corner of the Site. Existing elevations within the Site generally range from 79.5 masl to 84.0 masl.

The grading design of the proposed development will direct storm runoff to the on-site collection points so that the drainage is self-contained. The grading design will comply with the City of Mississauga standards and will be designed to achieve the following:

- Maintain existing perimeter grades so that there is no impact to adjacent properties;
- Optimize earthworks i.e. minimize the quantity of deficit materials to be imported or exported;
- Minimize disruption to existing municipal rights-of-way containing existing utilities and services;
- Promote drainage to the minor storm sewer system and accommodate stormwater management requirements;
- Provide adequate cover for underground services;
- Provide safe overland conveyance of flows exceeding the capacity of the storm sewer system through ponding;
- Satisfy the City's requirement for maximum 0.30m of stormwater ponding; and
- Building floor level will be set to avoid building / property damage during all design storms.

The proposed grading for the Site will, where possible, generally follow the existing grades to maintain drainage patterns and match boundary grades. Minor storm drainage is to be conveyed towards catchbasins that convey flows to the internal storm sewer network which discharges to the existing 300mm storm sewer on Park Street East. Overland flow routes are provided to direct major storm drainage away from proposed and existing structures towards the Elizabeth Street North and Park Street East rights-of-way.

A retaining wall is proposed along the northern and eastern development limits to ensure that drainage is contained within the Site. Retaining walls above 1.0m in height will be designed by a Structural Engineer in accordance with City standards.

At-grade surfaces will be designed with a minimum grade of 1.0%. Where surface ponding is proposed, the maximum ponding will be limited to 0.25m.

Coordination with the landscape consultant and mechanical consultant will be necessary to ensure grading initiatives support stormwater management and landscape objectives and provided sufficient cover above the sewers within the Site.

7. CLOSING

7.1. CONCLUSIONS AND RECOMMENDATIONS

Based on the information obtained through functional servicing assessment, EnVision presents the following conclusions and recommendations.

7.1.1. *WATER SERVICING*

The Site will be serviced by the existing 300mm Zone 1 watermain on Park Street East. The proposed building will have one (1) 150mm domestic water service connection and one (1) 200mm fire water service connection which will be serviced by the existing 300mm Zone 1 watermain on Park Street East. The results of the hydrant flow test performed by L&D Waterworks Inc. in April 2025 indicate that there is sufficient water supply in the municipal watermain system to meet the demands from the proposed development.

The water service connections within the municipal right-of-way will be designed to Region of Peel standards while the water services within the proposed building are to be designed by the Site mechanical consultant per OBC, and coordinated with EnVision.

7.1.2. *SANITARY SERVICING*

The proposed building will have one (1) 200mm sanitary service connection which will discharge flows to the existing 250mm sanitary sewer on Park Street East. Based on the findings of the external sanitary sewer capacity analysis, there is surcharging in the downstream sanitary sewer system under both pre- and post-development conditions. Local sanitary sewer upgrades will be required on Helene Street North and discussions are ongoing with Region staff regarding capacity constraints in the downstream sanitary trunk sewer system up to the Elmwood pumping station. EnVision is also aware of proposed major upgrades to the local sanitary sewer system on Helene Street North and the trunk sewer system on Lakeshore Road E which are currently in the design stage. Coordination with the Region regarding the planned capacity and timing of the proposed municipal upgrade works is required.

The sanitary service connection within the municipal right-of-way will be designed to Region of Peel standards while the sanitary services within the proposed building are to be designed by the Site mechanical consultant per OBC, and coordinated with EnVision.

7.1.3. *STORM SERVICING*

The proposed development storm flows, up to the 100-year storm event, will be attenuated to the allowable levels using an underground stormwater cistern. In compliance with City of Mississauga guidelines, the total storm flow rate of discharge from the Site under post-development conditions will be reduced to the 2-year pre-development level. Therefore, the existing storm sewer system will not be adversely affected under the post-development condition and will have adequate capacity to support flows from the proposed development. For major storm events exceeding the 100-year storm event, the

Site will be graded to direct surface runoff away from the proposed building, and towards the adjoining public rights-of-way.

One (1) 200mm storm service connection will be provided from the Site to the existing 300mm storm sewer on Park Street East. The storm service connection within the municipal right-of-way will be designed to City of Mississauga standards while the storm services within the proposed building are to be designed by the Site mechanical consultant per OBC, and coordinated with EnVision.

A separate Stormwater Management Report has been prepared by EnVision under a separate cover to address requirements concerning stormwater management.

7.2. CERTIFICATION AND SIGNATURES

Prepared by



Dabi Abikoye, P.Eng.
Senior Project Engineer

dabikoye@envisionconsultants.ca

Reviewed by



Alex Williams, P.Eng.
Director – Land Development

awilliams@envisionconsultants.ca

7.3. QUALIFIER

EnVision prepared this report solely for the use of the intended recipient in accordance with the professional services agreement. In the event a contract has not been executed, the parties agree that the EnVision General Terms and Conditions, which were provided prior to the preparation of this report, shall govern their business relationship.

The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment. The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The content and opinions contained in the report are based on the observations and/or information available to EnVision at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by EnVision and other engineering/scientific practitioners working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.



EnVision disclaims any obligation to update this report if, after the date of this report, any conditions appear to differ significantly from those presented in this report; however, EnVision reserves the right to amend or supplement this report based on additional information, documentation or evidence.

EnVision makes no other representations whatsoever concerning the legal significance of its findings. The intended recipient is solely responsible for the disclosure of any information contained in this report. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. EnVision does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report.

EnVision has provided services to the intended recipient in accordance with the professional services agreement between the parties and in a manner consistent with that degree of care, skill and diligence normally provided by members of the same profession performing the same or comparable services in respect of projects of a similar nature in similar circumstances. It is understood and agreed by EnVision and the recipient of this report that EnVision provides no warranty, express or implied, of any kind. Without limiting the generality of the foregoing, it is agreed and understood by EnVision and the recipient of this report that EnVision makes no representation or warranty whatsoever as to the sufficiency of its scope of work for the purpose sought by the recipient of this report.

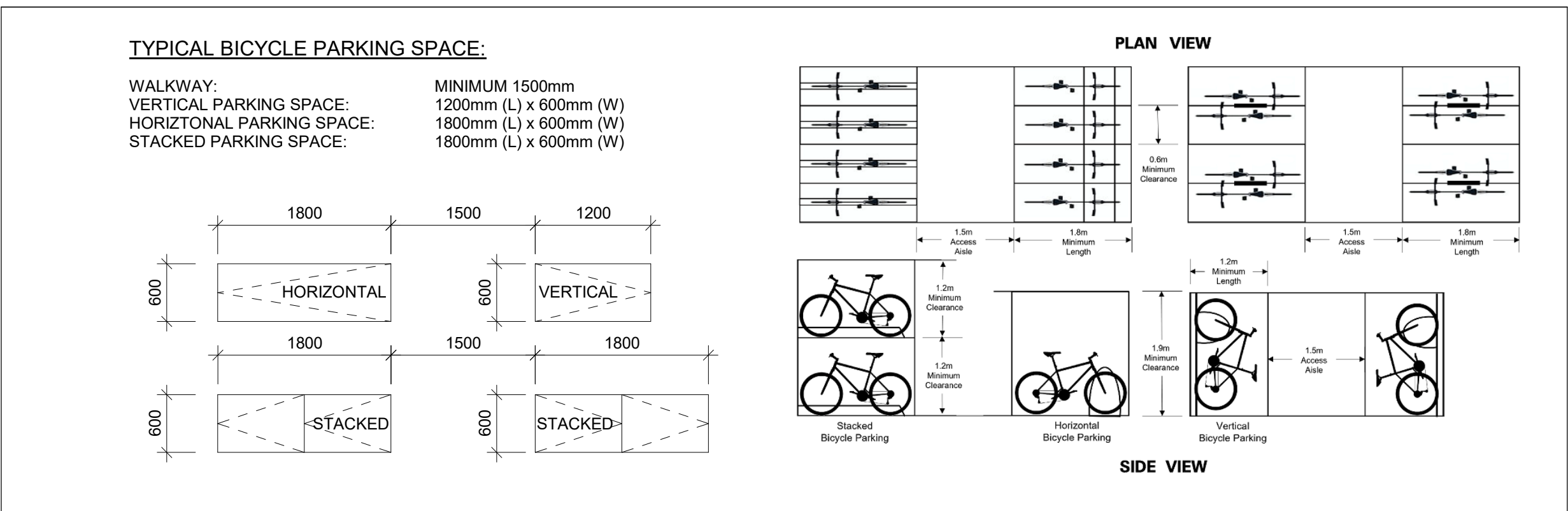
In preparing this report, EnVision has relied in good faith on information provided by others, as noted in the report. EnVision has reasonably assumed that the information provided is correct and EnVision is not responsible for the accuracy or completeness of such information.

Unless otherwise agreed in writing by EnVision, the Report shall not be used to express or imply warranty as to the suitability of the site for a particular purpose. EnVision disclaims any responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions /or costs.

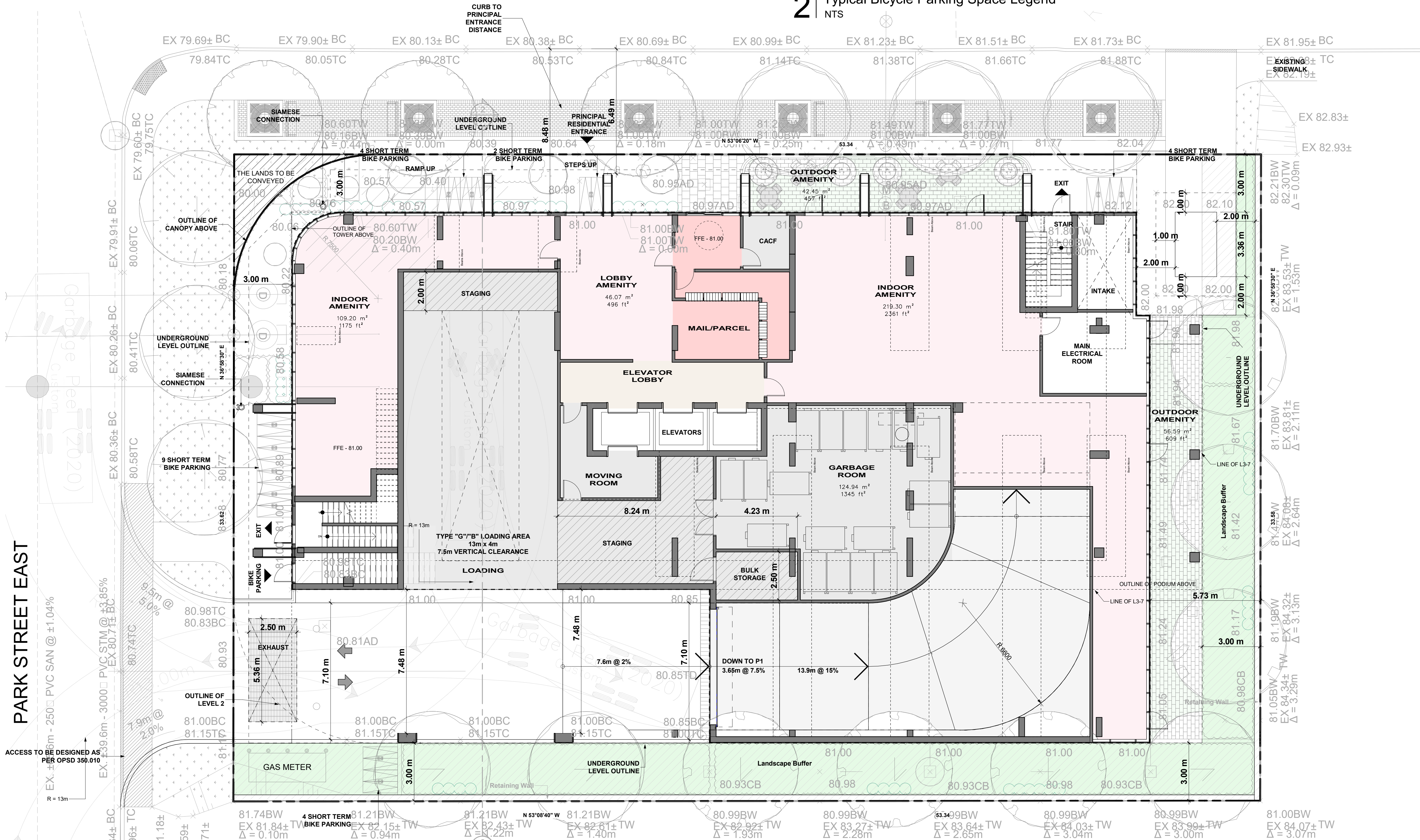
This limitations statement is considered an integral part of this report.



APPENDIX A: *Site Plan, Topographic Survey and Subsurface Utility Investigation*



2 Typical Bicycle Parking Space Legend



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Do not scale the drawings.

This Drawing Is Not To Be Used For Construction Until Signed By The Architect.

Date:

KIRKOR

ARCHITECTS AND PLANNERS

20 De Boers Drive Suite 400

Toronto ON M3J 0H1

Revisions:

No. Revision: Date:

03	OPA/OZ Submission	May 23, 2025
02	SPA Submission	Feb. 21, 2025
01	OPA/OZ Submission	Feb. 21, 2025
No.	Issued For:	Date:

EDENSHAW

Client:

EDENSHAW SSR DEVELOPMENTS LTD.

23 Elizabeth St. N

Proposed Residential Development

Drawing Title:

Ground Floor Plan

Scale:

1:100

Drawn by:

B.B., S.D.

Checked by:

R.P.

Project No.:

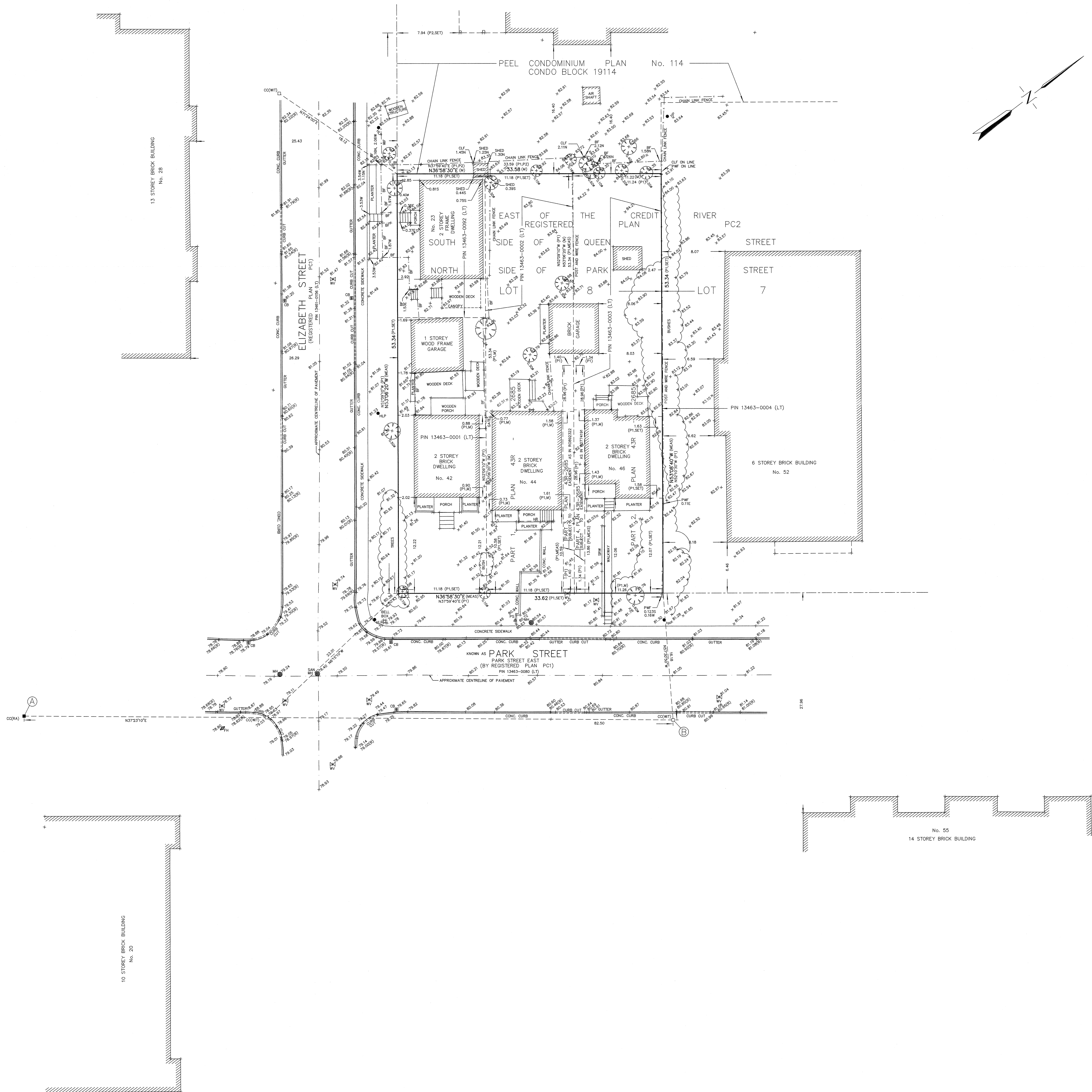
24-113

Date:

May 23, 2025

Drawing No.:

dA2.06



PLAN OF SURVEY OF
PART OF LOT 8
NORTH SIDE OF PARK STREET
SOUTH SIDE OF QUEEN STREET
EAST OF THE CREDIT RIVER
REGISTERED PLAN PC2
CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEEL
SCALE 1 : 200
R. AVIS SURVEYING INC.

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

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NOTES AND LEGEND

BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS (A) AND (B) BY REAL TIME NETWORK (RTN) OBSERVATIONS UTM ZONE 17, (81° WEST LONGITUDE) NAD83 (CSRS)(2011)

OBSERVED REFERENCE POINTS: UTM ZONE 17, NAD83 (CSRS)(2011) COORDINATES TO URBAN ACCURACY PER SEC. 14 (2) OF O. REG. 216/10		
POINT	NORTHING	EASTING
A	4823319.54	614152.42
B	4823365.39	614202.51

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

DISTANCES SHOWN HEREON ARE ADJUSTED GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.99974856.

ELEVATIONS SHOWN HEREON ARE MISSISSAUGA DATUM AND ARE REFERRED TO CITY OF MISSISSAUGA BENCH MARK No. 3470, HAVING AN ELEVATION = 78.304 metres. (TO OBTAIN GEOIDETIC ELEVATIONS (1978 G.S.C. RE-ADJUSTMENT), SUBTRACT 0.121metres FROM THE VALUE SHOWN HEREIN.)

ELEVATIONS AS SHOWN AT CONCRETE CURB INDICATE THE TOP OF CURB UNLESS OTHERWISE NOTED.

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT PLANTED
SB	DENOTES	STANDARD IRON BAR
SSB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
CC	DENOTES	CUT CROSS
WT	DENOTES	WITNESS
MEAS/M	DENOTES	MEASURED
N.S.E.W	DENOTES	NORTH, SOUTH, EAST, WEST
OU	DENOTES	ORIGIN UNKNOWN
P1	DENOTES	PLAN 43R-2665
P2	DENOTES	PEEL CONDOMINIUM PLAN No. 114
BF	DENOTES	BOARD FENCE
CB	DENOTES	CATCH BASIN
CLF	DENOTES	CHAIN LINK FENCE
CROW	DENOTES	CONCRETE RETAINING WALL
TRW	DENOTES	TIMBER RETAINING WALL
CONC.	DENOTES	CONCRETE
GM	DENOTES	GAS METER
HLP	DENOTES	HYDRO LIGHT POLE
HR	DENOTES	HAND RAIL
MH	DENOTES	MANHOLE
SAN	DENOTES	SANITARY
WV	DENOTES	WATER VALVE
LS	DENOTES	LIGHT STANDARD
HP	DENOTES	HYDRO POST
PM	DENOTES	PARKING METER
(B)	DENOTES	BOTTOM OF CURB
PS	DENOTES	PARKING SIGN
WF	DENOTES	WROUGHT IRON FENCE
PWF	DENOTES	POST AND WIRE FENCE
○ 0.10	DENOTES	CONIFEROUS TREE WITH TRUNK DIAMETER 0.10 metres
○ 0.10	DENOTES	DECIDUOUS TREE WITH TRUNK DIAMETER 0.10 metres
• 0.00	DENOTES	SPOT ELEVATION

TOTAL AREA = 1792.1 sq. m

SURVEYOR'S CERTIFICATE

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

2. THE SURVEY WAS COMPLETED ON THE 23rd DAY OF JULY, 2019

JULY 29, 2019
DATE
GEORGE C. M. LO
Ontario Land Surveyor

ASSOCIATION OF ONTARIO
LAND SURVEYORS
PLAN SUBMISSION FORM
2015/16

THIS PLAN IS NOT VALID
UNLESS IT IS AN EMBOSSED
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IN ACCORDANCE WITH
Regulation 1026, Section 28(3)

R. AVIS SURVEYING INC.
SUITE 203
235 YORKLAND BOULEVARD
TORONTO, ONTARIO
M2J 4Y8
TEL: (416) 490-8352 FAX: (416) 491-6206
www.ravissurveying.com

CHECKED BY : G.L. O.L.S.
CALCULATED BY : SR
DRAWN BY : SR/GN

PROJECT No. : 3296-0
DRAWING No. : 3296-0T.DWG



APPENDIX B:

*Domestic Water Demand, Fire
Flow Calculations & Hydrant
Flow Test Results*

EnVision Consultants Ltd.
23 Elizabeth Street N
Project No.: 25-0893

Domestic Water Demand

Region of Peel

2025-05-21
Designed: J.Z.
Checked: D.A.

Proposed Flows

Land Use	Site Area (ha)	Number of Residential Units	Population Density	Equivalent Population (persons)	Unitary Demand Rate (L/person/day)	Average Daily Demand (L/s)	Max Day Peaking Factor	Max Day Demand (L/s)	Max Hour Peaking Factor	Max Hour Demand (L/s)
Residential (0-1 Bedroom)	0.18	131	2.7 persons/unit	354	280	1.15	2.0	2.29	3.0	3.44
Residential (1 Bedroom + Den)		128	2.7 persons/unit	346	280	1.12	2.0	2.24	3.0	3.36
Residential (2 Bedrooms)		117	2.7 persons/unit	316	280	1.02	2.0	2.05	3.0	3.07
Residential (2 Bedrooms + Den)		2	2.7 persons/unit	6	280	0.02	2.0	0.04	3.0	0.06
Total				1022		3.31		6.62		9.94

Notes:

1. Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated May 23, 2025.
2. Population densities and unitary flow rates are based on the guidelines as per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.
3. Residential population density of 2.7 ppu was considered, as the population equivalent is greater than 475 persons/ha per the Region's guidelines.

Fire Flow Demand

Region of Peel

2025-05-21
Designed: D.A.
Checked: A.W.

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

where RFF = Required Fire Flow (Lpm)

C = Construction Coefficient

A = Total Effective Floor Area (m²)

Section A - Building Construction Type

Construction Type = Type II Noncombustible Construction

Therefore Construction Coefficient, C = 0.8

Section B - Total Effective Floor Area

For structures with a Construction Coefficient value below 1.0 and protected vertical openings;

A = Total Effective Floor Area

= Largest Floor Area + 25% of Adjoining Floor Areas

= 854.95 + 0.25(854.95 + 854.95)

= 1282 m²

Section C - Building Height in Storeys

30 storey

Section D - Base Required Fire Flow

RFF = Required Fire Flow

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

= 220 x 0.8 x $\sqrt{1282}$

= 6302 Lpm

Section E - Additions and Reductions to Required Fire Flow

Building Contents = Combustible

RFF Adjustment for Building Contents = 0%

Sprinkler System = Automatic Sprinkler System per NFPA 13

RFF Adjustment for Sprinkler System = -30%

North exposure distance = 26 m

South exposure distance = 23.38 m

East exposure distance = 20.32 m

West exposure distance = 8.48 m

RFF Adjustment for Building Exposure = 50%

Total RFF Adjustment = 20%

= 0.2 x 6302 Lpm

= 1260 Lpm

Section F - Required Fire Flow Calculation

RFF = Base RFF + Total RFF Adjustments

= 7562 Lpm

= 8000 Lpm

= 2111 US GPM

= 133.33 L/s

Notes:

1. Fire Flow Calculations per Water Supply for Public Fire Protection, 2020 by Fire Underwriters Survey.
2. Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated May 23, 2025.

Hydrant Flow Test Report

SITE NAME: _____
SITE ADDRESS / MUNICIPALITY: 23 Elizabeth St N Mississauga, ON
TEST HYDRANT LOCATION: Elizabeth St N @ High St E
(Municipal ID: HYD: 6527464)
BASE HYDRANT LOCATION: Elizabeth St N @ Queen St E
(Municipal ID: HYD: 6527524)
TEST BY: Luzia Wood

TEST DATE:
April 10 2025

TEST TIME:
9:20AM

TEST DATA

FLOW HYDRANT Pipe Diam. (in / mm) 300mm PVC

	<u>PITOT 1</u>	<u>PITOT 2</u>
SIZE OPENING (inches):	<u>2.5</u>	<u>2.5</u>
COEFFICIENT (note 1):	<u>0.90</u>	<u>0.90</u>
PITOT READING (psi):	<u>74</u>	<u>58 / 58</u>
FLOW (usgpm):	<u>1443</u>	<u>2556</u>

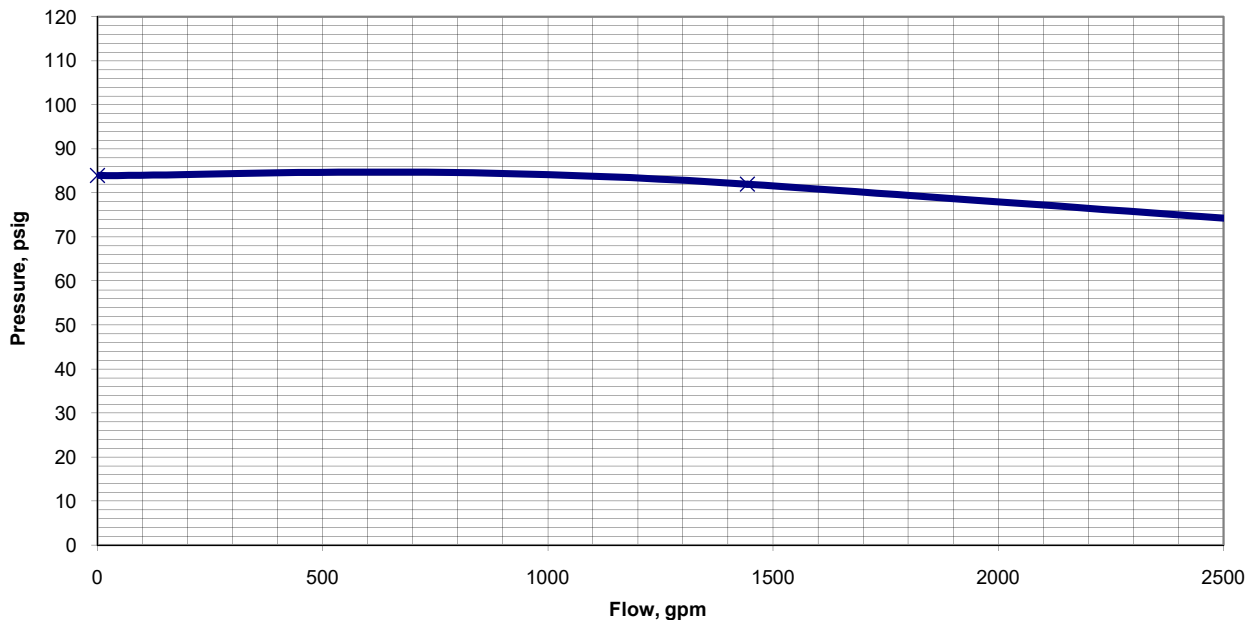
THEORETICAL FLOW @ 20 PSI 9379

BASE HYDRANT Pipe Diam. (in / mm) 300mm PVC

STATIC READING (psi): 84 RESIDUAL 1 (psi): 82 RESIDUAL 2 (psi): 80

REMARKS: _____

NOTE 1: Conversion factor of .90 used for flow calculation based on rounded and flush internal nozzle configuration. No appreciable difference in pipe invert between flow and base hydrants.



L & D Waterworks Inc.

491 Port Maitland Rd
Dunnville, ON N1A 2W6
Ph: 289.684.6747
Email: ldwaterworks2005@gmail.com



Hydrant Flow Test Report

SITE NAME: _____
SITE ADDRESS / MUNICIPALITY: 23 Elizabeth St N Mississauga, ON
TEST HYDRANT LOCATION: Park Street East @ Elizabeth Street North
(Municipal ID: HYD: 6527504)
BASE HYDRANT LOCATION: Park Street East @ Helene Street North
(Municipal ID: HYD: 6530245)
TEST BY: Luzia Wood

TEST DATE:
April 10 2025

TEST TIME:
10:05AM

TEST DATA

FLOW HYDRANT Pipe Diam. (in / mm) 200mm PVC

	<u>PITOT 1</u>	<u>PITOT 2</u>
SIZE OPENING (inches):	<u>2.5</u>	<u>2.5</u>
COEFFICIENT (note 1):	<u>0.90</u>	<u>0.90</u>
PITOT READING (psi):	<u>70</u>	<u>57 / 57</u>
FLOW (usgpm):	<u>1404</u>	<u>2534</u>

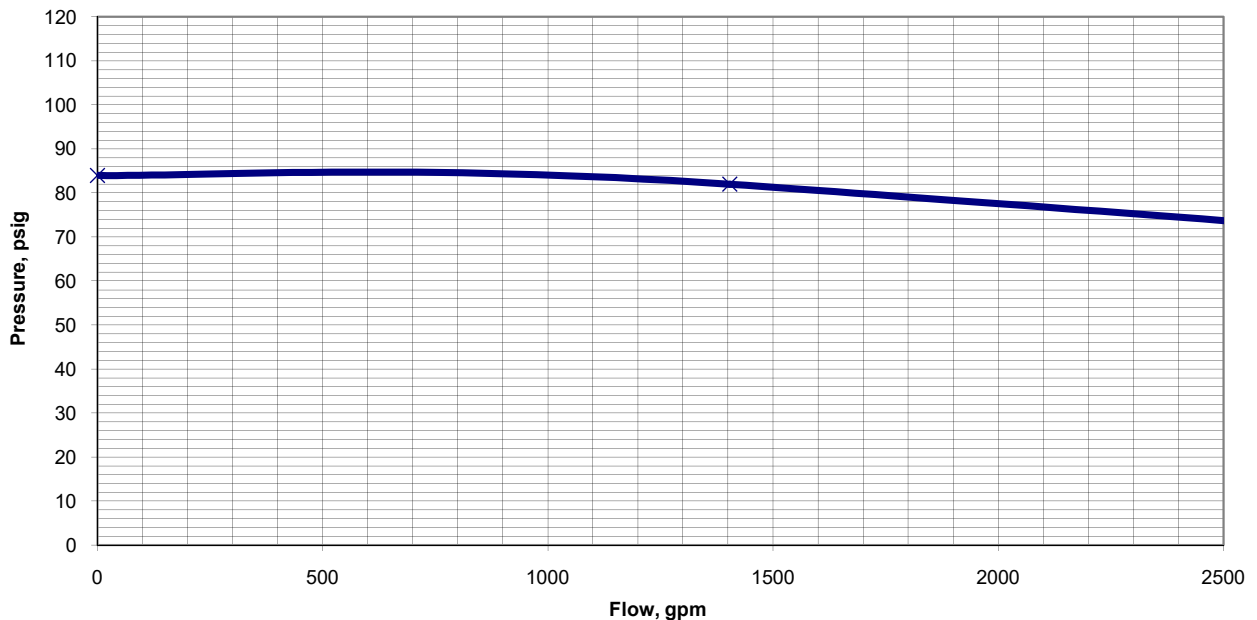
THEORETICAL FLOW @ 20 PSI 9122

BASE HYDRANT Pipe Diam. (in / mm) 300mm PVC

STATIC READING (psi): 84 RESIDUAL 1 (psi): 82 RESIDUAL 2 (psi): 80

REMARKS: _____

NOTE 1: Conversion factor of .90 used for flow calculation based on rounded and flush internal nozzle configuration. No appreciable difference in pipe invert between flow and base hydrants.



L & D Waterworks Inc.

491 Port Maitland Rd
Dunnville, ON N1A 2W6
Ph: 289.684.6747
Email: ldwaterworks2005@gmail.com





APPENDIX C:

*Sanitary Demand Calculations
& Sanitary Design Sheet*

EnVision Consultants Ltd.
23 Elizabeth Street N
Project No.: 25-0893

Sanitary Flow Generation - Pre-Development
Region of Peel

2025-05-21
Designed: JZ
Checked: DA

Existing Flows

Land Use	Site Area (ha)	Number of Residential Units	Population Density	Equivalent Population (persons)	Unitary Flow Rate (L/person/day)	Average Daily Flow (L/s)	Peaking Factor	Peak Flow (L/s)	I&I Allowance (L/s)	Total Design Flow (L/s)
Residential (Single Detached Dwelling)	0.18	4	4.2 persons/unit	17	290	0.06	4.00	0.23	0.05	0.28
Total	0.18	4		17	290	0.06	4.00	0.23	0.05	0.28

Notes:

- Population densities and unitary flow rates are based on the guidelines as per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.
- Inflow/Infiltration allowance of 0.26 L/s/ha per Region of Peel Guidelines

EnVision Consultants Ltd.
 23 Elizabeth Street N
 Project No.: 25-0893

Sanitary Flow Generation - Post-Development

Region of Peel

2025-05-21
 Designed: JZ
 Checked: DA

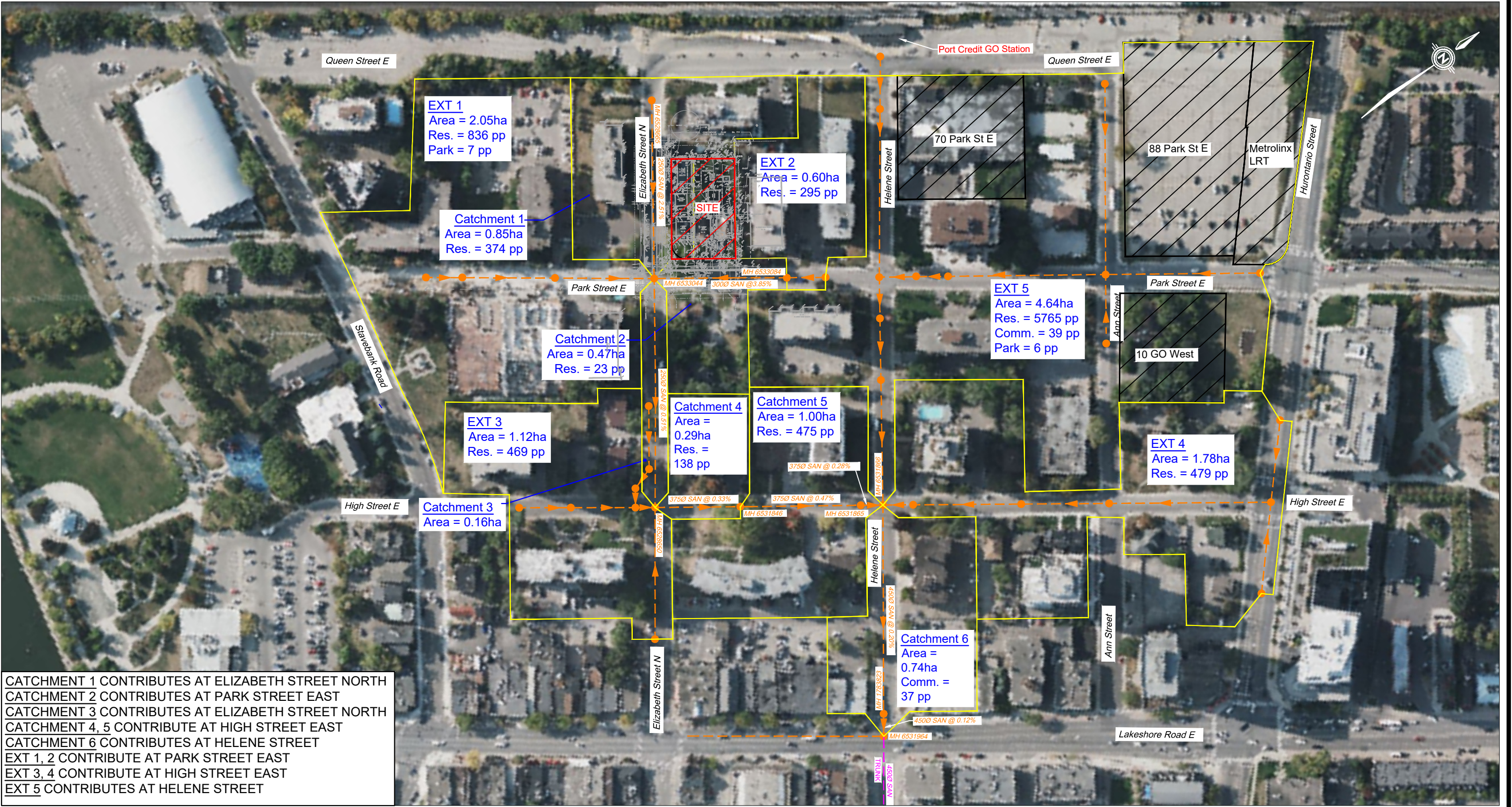
Proposed Flows

Land Use	Site Area (ha)	Number of Residential Units	Population Density	Equivalent Population (persons)	Unitary Flow Rate (L/person/day)	Average Daily Flow (L/s)	Peaking Factor	Peak Flow (L/s)	I&I Allowance (L/s)	Total Design Flow (L/s)
Residential (0-1 Bedroom)	0.18	131	2.7 persons/unit	354	290	1.19	3.79	13.01	0.05	13.06
Residential (1 Bedroom + Den)		128	2.7 persons/unit	346	290	1.16				
Residential (2 Bedrooms)		117	2.7 persons/unit	316	290	1.06				
Residential (2 Bedrooms + Den)		2	2.7 persons/unit	6	290	0.02				
Total		378		1022	290	3.43				

Notes:

1. Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated May 23, 2025.
2. Population densities and unitary flow rates are based on the guidelines as per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.
3. Residential population density of 2.7 ppu was considered, as the population equivalent is greater than 475 persons/ha per the Region's guidelines.
4. No extraneous flow (infiltration and inflow) is included in the post-development sanitary analysis as

FILENAME: C:\Users\JulianaZupancic\Documents\EnVision\EnVision - LD\Project Files\25-0893 23 Elizabeth Street North\FSR\25-0893_San Analysis.dwg
PLOTDATE: May 21, 2025 - 1:28pm - JulianaZupancic



CLIENT

EDENSHAW ELIZABETH
DEVELOPMENTS LIMITED

TITLE

23 ELIZABETH STREET NORTH &
42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

SANITARY DRAINAGE FIGURE
EXISTING CONDITIONS - CATCHMENTS TRIBUTARY TO
EX. 450Ø LAKESHORE RD E LOCAL TRUNK SAN



6415 Northwest Dr.
Mississauga, ON Canada
L4V 1X1
Office (905) 677-0202
E-mail admin@envisionconsultants.ca

Checked

A.W.

Drawn

D.A.

Date

MAY 2025

Proj. No.

25-0893

Scale

1:2000

Figure No.

SA-EX

EnVision Consultants Ltd.
23 Elizabeth St N, Mississauga
Project No.: 25-0893

Sanitary Sewer Design Sheet - Existing Conditions

Region of Peel

2025-05-21

Designed: JZ
Checked: DA

Population Density		
Singles	50	persons/ha
Semis	70	persons/ha
Towns	175	persons/ha
Apartments	475	persons/ha

Population Density	
Commercial	50 persons/ha
Industrial	70 persons/ha
School	50 persons/ha
Park	25 persons/ha

$$M = 1 + \frac{14}{4 + \sqrt{P/1000}}$$

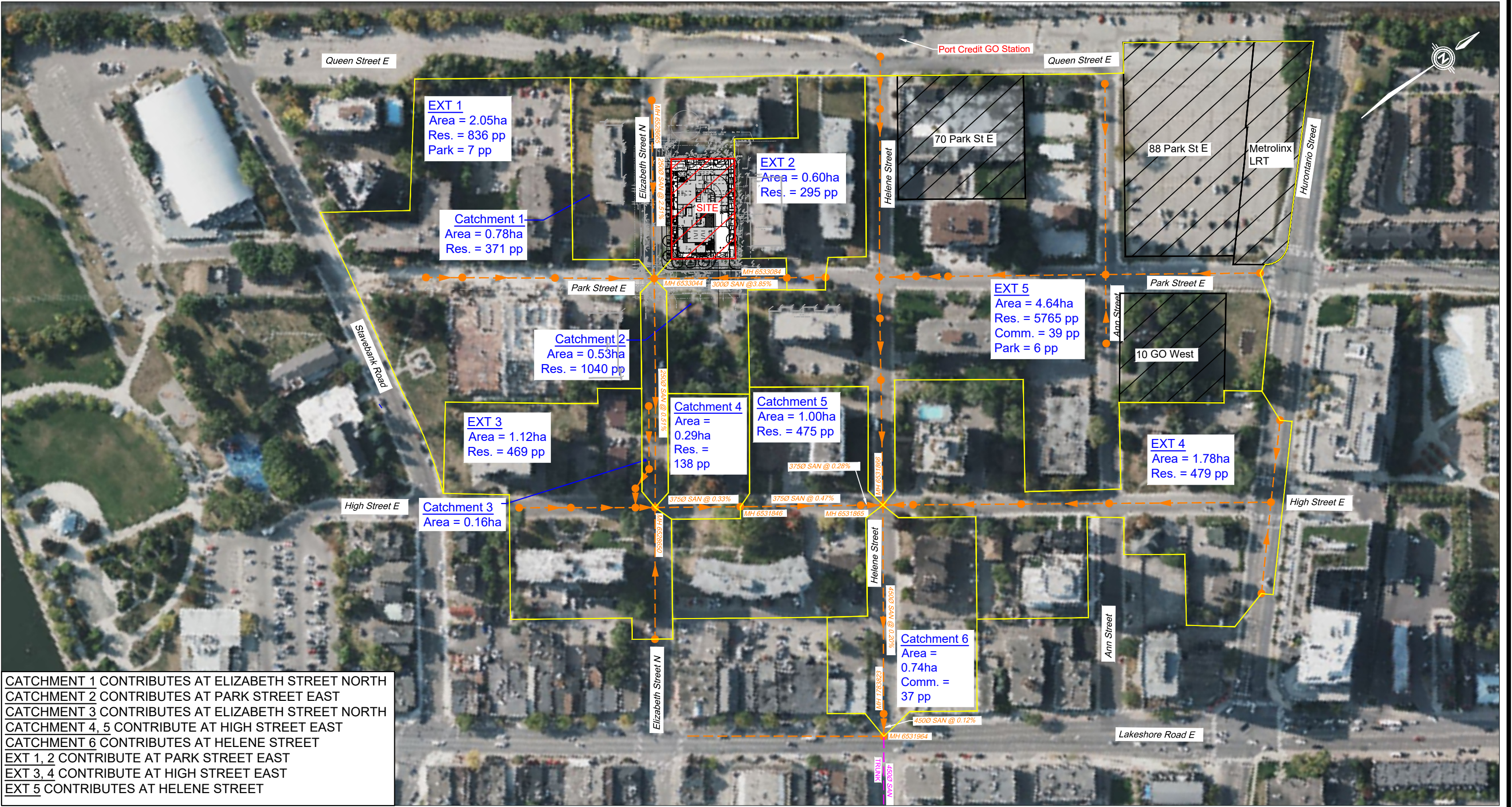
where M = peaking factor
P = population

Manning's n = 0.013
Infiltration Allowance = 0.260 L/s/ha
Res. Average Daily Flow = 290 L/cap/day
Non-Res. Average Daily Flow = 270 L/cap/day

Street Name	From MH	To MH	Incremental Area (ha)								Incremental Population (persons)	Total Population (persons)	Res. Avg. Flow (Hide)	Non-Res. Avg. Flow (Hide)	Average Flow (L/s)	M	Peak Flow (L/s)	Incremental Area (ha)	Total Area (ha)	I&I Allowance (L/s)	Incremental Pumped Flow (L/s)	Total Pumped Flow (L/s)	Total Design Flow (L/s)	Sewer Information						
			Singles	Semis	Towns	Apartments	Commercial	Industrial	School	Park														Length (m)	Dia. (mm)	Slope (%)	Full Capacity (L/s)	Full Velocity (m/s)	% Full	Actual Velocity (m/s)
Park St E	EXT 1	MH 6533044				1.76				0.28	843	843	2.81	0.02	2.83	3.847	10.878	2.05	2.05	0.533		0.00	11.411							
Elizabeth St N Catchment 1	MH 6528665	MH 6533044	0.06			0.78					374	374	1.25	0.00	1.25	4.000	5.015	0.85	0.85	0.221		0.00	5.236	86.79	250	2.51%	94.2143	1.9193	5.6%	1.03
Park St E	EXT 2	MH 6533084				0.60					285	285	0.96	0.00	0.96	4.000	3.826	0.60	0.60	0.156		0.00	3.982							
Catchment 2	MH 6533084	MH 6533044	0.47								24	309	0.08	0.00	1.04	4.000	4.142	0.47	1.07	0.278		0.00	4.420	39.6	250	3.85%	116.6837	2.3771	3.8%	1.12
Catchment 3	MH 6533044	MH 6528650									0	1526	0.00	0.00	5.12	3.674	18.801	0.16	4.13	1.074		0.00	19.874	122.39	250	0.51%	42.4683	0.8652	46.8%	0.85
High St E	EXT 3	MH 6528650	0.15			0.97					469	469	1.57	0.00	1.57	3.988	6.268	1.12	1.12	0.291		0.00	6.560							
Catchment 4	MH 6528650	MH 6531846				0.29					138	2133	0.46	0.00	7.15	3.564	25.485	0.29	5.54	1.440		0.00	26.926	40	375	0.33%	100.7195	0.9119	26.7%	0.77
Catchment 5	MH 6531846	MH 6531865				1.00					475	2608	1.59	0.00	8.75	3.493	30.551	1.00	6.54	1.700		0.00	32.251	70.02	375	0.47%	120.2003	1.0883	26.8%	0.92
	MH 6531865	MH 6531866									0	2608	0.00	0.00	8.75	3.493	30.551	0.00	6.54	1.700		0.00	32.251	10.8	375	0.28%	92.7760	0.8400	34.8%	0.76
	EXT 4	MH 6531866	0.92			0.91					479	479	1.61	0.00	1.61	3.984	6.395	1.78	1.78	0.463		0.00	6.858							
	Metrolinx LR	EXT 5					0.35				18	18		0.06																
	70 Park St E	EXT 5									1167	1167	3.90	0.02																
	88 Park St E	EXT 5									1137	1137	7.42	0.05																
	10 GO West	EXT 5									981	981	3.29																	
Helene St	EXT 5	MH 6531866	0.46			1.91				0.25	937	4240	17.74	0.14	17.88	3.311	59.197	4.64	4.64	1.206		0.00	60.403							
Catchment 6	MH 6531866	MH 1783823					0.74				37	7364	0.00	0.12	28.35	3.085	87.460	0.74	13.70	3.562		0.00	91.022	55.53	375	0.20%	78.4100	0.7099	116.1%	0.71
	MH 1783823	MH 6531964									0	7364	0.00	0.00	28.35	3.085	87.460	0.00	13.70	3.562		0.00	91.022	16.18	375	0.12%	60.7361	0.5499	149.9%	0.55

- Notes:
- Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated February 19, 2025.
 - Population densities and unitary flow rates are based on the guidelines found in the Regional Municipality of Halton Water and Wastewater Linear Design Manual, dated October 2019.
 - Infiltration and inflow allowance is 0.26 L/s/ha, per Region standards.
 - Peaking factor determined by modified Harmon formula, per Region standards.
 - Site statistics for 70 Park Street E per Functional Servicing Report prepared by Urbantech, dated January 11, 2023
 - Site statistics for 88 Park Street E per Functional Servicing Memo prepared by EnVision Consultants Ltd., dated December 18, 2024
 - Site statistics for 10 GO West per Functional Servicing Memo prepared by Urbantech, dated June 19, 2024
 - Metrolinx Port Credit LRT station assumed to be Commercial land use for the purpose of sanitary flow generation estimation

FILENAME: C:\Users\JulianaZupancic\Documents\EnVision\EnVision - LD\Project Files\25-0893 23 Elizabeth Street North\FSR\25-0893_San Analysis.dwg
PLOTDATE: May 21, 2025 - 1:28pm - JulianaZupancic



CLIENT

EDENSHAW ELIZABETH
DEVELOPMENTS LIMITED

TITLE

23 ELIZABETH STREET NORTH &
42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO
SANITARY DRAINAGE FIGURE
PROPOSED CONDITIONS - CATCHMENTS TRIBUTARY
TO EX. 450Ø LAKESHORE RD E LOCAL TRUNK SAN



6415 Northwest Dr.
Mississauga, ON Canada
L4V 1X1
Office (905) 677-0202
E-mail admin@envisionconsultants.ca

Checked

A.W.

Date

MAY 2025

Scale

1:2000

Drawn

D.A.

Proj. No.

25-0893

Figure No.

SA-PROP

EnVision Consultants Ltd.
23 Elizabeth St N, Mississauga
Project No.: 25-0893

Sanitary Sewer Design Sheet - Proposed Conditions
Region of Peel

2025-05-21

Designed: JZ
Checked: DA

Population Density		
Singles	50	persons/ha
Semis	70	persons/ha
Towns	175	persons/ha
Apartments	475	persons/ha

Population Density	
Commercial	50 persons/ha
Industrial	70 persons/ha
School	50 persons/ha
Park	25 persons/ha

$$M = 1 + \frac{14}{4 + \sqrt{P/1000}}$$

where M = peaking factor
 P = population

Manning's n = 0.013
Infiltration Allowance = 0.260 L/s/ha

Res. Average Daily Flow = 290 L/cap/day
Non-Res. Average Daily Flow = 270 L/cap/day

Street Name	From MH	To MH	Incremental Area (ha)								Incremental Population (persons)	Total Population (persons)	Average Flow (L/s)	M	Peak Flow (L/s)	Incremental Area (ha)	Total Area (ha)	I&I Allowance (L/s)	Incremental Pumped Flow (L/s)	Total Pumped Flow (L/s)	Total Design Flow (L/s)	Sewer Information						
			Singles	Semis	Towns	Apartments	Commercial	Industrial	School	Park												Length (m)	Dia. (mm)	Slope (%)	Full Capacity (L/s)	Full Velocity (m/s)	% Full	Actual Velocity (m/s)
Park St E	EXT 1	MH 6533044				1.76				0.28	843	843	2.83	3.847	10.878	2.05	2.05	0.533		0.00	11.411							
Elizabeth St N	Catchment 1	MH 6528665				0.78					371	371	1.24	4.000	4.974	0.78	0.78	0.203		0.00	5.177	86.79	250	2.51%	94.2143	1.9193	5.5%	1.02
Park St E	EXT 2	MH 6533084				0.60					285	285	0.96	4.000	3.826	0.60	0.60	0.156		0.00	3.982							
	23 Elizabeth St	MH 6533084									1022	1022																
	Catchment 2	MH 6533084	0.35								18	1325	4.45	3.718	16.528	0.53	1.13	0.294		0.00	16.822	39.6	250	3.85%	116.6837	2.3771	14.4%	1.69
	Catchment 3	MH 6533044									0	2539	8.52	3.503	29.835	0.16	4.12	1.071		0.00	30.906	122.39	250	0.51%	42.4683	0.8652	72.8%	0.94
High St E	EXT 3	MH 6528650	0.15			0.97					469	469	1.57	3.988	6.268	1.12	1.12	0.291		0.00	6.560							
	Catchment 4	MH 6528650				0.29					138	3146	10.55	3.425	36.135	0.29	5.53	1.438		0.00	37.573	40	375	0.33%	100.7195	0.9119	37.3%	0.84
	Catchment 5	MH 6531846				1.00					475	3621	12.15	3.372	40.951	1.00	6.53	1.698		0.00	42.649	70.02	375	0.47%	120.2003	1.0883	35.5%	0.99
		MH 6531865									0	3621	12.15	3.372	40.951	0.00	6.53	1.698		0.00	42.649	10.8	375	0.28%	92.7760	0.8400	46.0%	0.82
	EXT 4	MH 6531866	0.92			0.91					479	479	1.61	3.984	6.395	1.78	1.78	0.463		0.00	6.858							
	Metrolinx LRT	EXT 5					0.35				18	18																
	70 Park St E	EXT 5									1167	1167																
	88 Park St E	EXT 5									1137	1137																
	10 GO West	EXT 5									981	981																
Helene St	EXT 5	MH 6531866	0.46			1.91				0.25	937	4240	17.88	3.311	59.197	4.64	4.64	1.206		0.00	60.403							
	Catchment 6	MH 6531866					0.74				37	8377	31.75	3.031	96.216	0.74	13.69	3.559		0.00	99.776	55.53	375	0.20%	78.4100	0.7099	127.2%	0.71
		MH 1783823									0	8377	31.75	3.031	96.216	0.00	13.69	3.559		0.00	99.776	16.18	375	0.12%	60.7361	0.5499	164.3%	0.55

- Notes:
- Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated April 25, 2025.
 - Population densities and unitary flow rates are based on the guidelines found in the Regional Municipality of Halton Water and Wastewater Linear Design Manual, dated October 2019.
 - Infiltration and inflow allowance is 0.26 L/s/ha, per Region standards.
 - Peaking factor determined by modified Harmon formula, per Region standards.
 - Site statistics for 70 Park Street E per Functional Servicing Report prepared by Urbantech, dated January 11, 2023
 - Site statistics for 88 Park Street E per Functional Servicing Memo prepared by EnVision Consultants Ltd., dated December 18, 2024
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 - Metrolinx Port Credit LRT station assumed to be Commercial land use for the purpose of sanitary flow generation estimation



APPENDIX D:

Region Multi-Use Demand Table

Water and Wastewater Multi-Use Demand Table

Region of Peel

2025-05-21
Designed: D.A.
Checked: A.W.

	units	persons
Existing Residential		
Residential (Single Detached Dwelling)	4	17
Total Existing Residential	4	17

	units	persons
Proposed Residential		
Residential (0-1 Bedroom)	131	354
Residential (1 Bedroom + Den)	128	346
Residential (2 Bedrooms)	117	316
Residential (2 Bedrooms + Den)	2	6
Total Proposed Residential	378	1022

Proposed GFA (Residential) (sqm)	20,951
Proposed Land Area (ha)	0.18



WATER CONNECTION

Hydrant flow test			
	Base Hydrant Location	Test Hydrant Location	Date
	Elizabeth St N & Queen St E HYD: 6527524	Elizabeth St N & High St E HYD: 6527464	2025-04-10
	Park St E & Helene St N HYD: 6530245	Park St E @ Elizabeth St N HYD: 6527504	2025-04-10

		Pressure (kPa)	Flow (L/s)	Time
Eliz.	Minimum water pressure	510.21	157.73	9:20AM
	Maximum water pressure	586.05	37.85	9:20AM
Park	Minimum water pressure	510.21	157.73	10:05AM
	Maximum water pressure	592.95	37.85	10:05AM

No.	Water demands (L/s)		
	Demand type	Residential Building	Total
1	Average day flow	3.31	3.31
2	Maximum day flow	6.62	6.62
3	Peak hour flow	9.94	9.94
4	Fire flow	133.33	133.33
Analysis			
5	Maximum day plus fire flow	139.95	139.95

WASTEWATER CONNECTION

		Discharge Location	Flow
5	Existing wastewater effluent (L/s)	Elizabeth Street N & Park Street E	0.28
6	Proposed wastewater effluent (L/s)	24 Elizabeth Street N	13.06