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Engineering

- Land/Site Development
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Planning

- Land/Site Development
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- Expert Witness (LPAT)
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Landscape Architecture

- Streetscapes & Public Amenities
- Open Space, Parks & Recreation
- Community & Residential
- Commercial & Institutional
- Environmental Restoration

CREST REALTIES
240 Bank Street
Serviceability Report

240 Bank Street

City of Ottawa

Serviceability Report

Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario
K2M 1P6

Submitted: July 11th, 2025

Novatech File: 124039
Ref: R-2025-53

NOVATECH
Engineers, Planners & Landscape Architects

July 11, 2025

City of Ottawa
Planning, Infrastructure and Economic Development Department
Planning and Infrastructure Approvals Branch
110 Laurier Avenue West, 4th Floor
Ottawa ON, K1P 1J1

Attention: **John Bernier, File lead (Planner II)**
Development Review - Central

Reference: **240 Bank Street**
Serviceability Report
Our File No.: 124039

Please find enclosed the Serviceability Report for the above-noted development located at 240 Bank Street in the City of Ottawa. This report is being submitted in support of a site plan application to convert the 6 floors of the existing building from office space to ground floor commercial and upper floor residential units.

Should you have any questions or require additional information, please contact the undersigned.

Yours truly,

NOVATECH

Greg MacDonald, P. Eng.
Director, Land Development and Public Sector Infrastructure

Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 Fax: 613.254.5867 www.novatech-eng.com

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Appendices

Tables

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1.0 INTRODUCTION

Novatech has been retained to prepare a Serviceability Report on behalf of Crest realties to assess the site services to the existing building located at 240 Bank Street. The report is in support of a site plan application for the conversion of offices to residential units. The ground floor will remain commercial. **Figure 1 - Key Plan** shows the site location.

1.1 Existing Conditions

The subject site is located at 240 Bank Street and is approximately 0.07 hectares (ha.) in size.

Presently the site is occupied by an existing 6-storey office tower, addressed 240 Bank Street, on the south-west corner of Bank street and Lisgar street. The building currently contains office space on all 6 floors.

Existing infrastructure on the surrounding streets is described in Section 2-4 and is shown in **Figure 2 – Existing Conditions Plan.**

1.2 Proposed Development

It is proposed to convert the existing office building at 240 Bank Street to a mixed-use building containing commercial on the ground floor and residential units on floors 2-6 - the commercial space use will be specified during detail design. The converted building will contain a total of 45 residential units, and 248.61m^2 of commercial space on the ground floor as shown in **Figure 3 – Proposed Site Plan.**

2.0 WATER SERVICING

There is an existing 305mm diameter ductile iron (DI) watermain within Lisgar Street and a 305mm dia. PVC watermain within Bank Street that service the existing development. The existing building at 240 Bank Street is currently serviced by a one (1) 150mm dia. water service connected to the 305mm dia. watermain on Lisgar Street, two (2) 150 mm dia. services and one (1) 200mm dia. service connecting to the 305mm dia. watermain within Bank Street.The existing building is sprinkled and equipped with a siamese connection located near the existing entrance at the west corner of the building. Existing hydrant coverage is provided by three existing municipal hydrants, two located along Bank Street and one located on Lisgar Street.

The basic day demand was calculated to be less than 50m^3 per day. City of Ottawa Design Guidelines – Water Distribution, WDG001 July 2010 Clause 4.3.1 requires one service separated by an isolation valve when demand is less than 50m^3/day.

The development will retain the use of the existing one (1) 200mm dia.service, and two (2) 150mm dia. services for the proposed commercial units – all three (3) connected to the watermain within Bank Street. Additionally, one 150 mm diameter service from Lisgar Street will be utilized to service the residential units.

Water demand calculations have been calculated using criteria from Section 4 of the City of Ottawa Water Distribution Guidelines and the Ontario Building Code as provided in **Table 2.1 – Watermain Design Parameters and Criteria.** Demand is shown **in Table 2.2 – Estimated Water Demands.**

Table 2.1: Watermain Design Parameters and Criteria

Domestic Demand Design Parameters	**Design Parameters**
Unit Population: 1-Bedroom Apartment	1.4 people/unit
Commercial Demand	5 L/m^2/day
Basic Day Residential Demand (BSDY)	280 L/c/d
Maximum Day Demand (MXDY)	Residential: 2.5 x Basic Day Commercial: 1.5 x Basic Day
Peak Hour Demand (PKHR)	Residential: 2.2 x Maximum Day Commercial: 2.7 x Basic Day
Fire Demand (FF) Design	
Per FUS 2020	
System Pressure Criteria Design Parameters	**Criteria**
Maximum Pressure (BSDY) Condition	< 80 psi occupied areas < 100 psi unoccupied areas
Minimum Pressure (PKHR) Condition	> 40 psi
Minimum Pressure (MXDY+FF) Condition	> 20 psi

The required fire demand was calculated using the Fire Underwriters Survey 2020 (FUS) Guidelines. Through correspondence with the architect, it is understood that the proposed building use will be residential occupancy (non-combustible), composed of non-combustible construction.

The water demand calculations, fire flow calculations and correspondence are provided in **Appendix B** for reference.

Table 2.2: Estimated Water Demand

Population	Commercial Area (m^2)	Ave. Daily Demand (L/s)	Max. Daily Demand (L/s)	Peak Hour Demand (L/s)	Fire Flow (L/s)
63	248.61	0.22	1.96	2.96	200

Note as per ITSB-2018-02 the fire flow was distributed among several surrounding hydrants as outlined in **Table 2.3**.

Table 2.3: Maximum Flow to be considered from a given hydrant.

Hydrant Class	Distance to building (m)	Contribution to Fire Flow	
		(L/min)	(L/s)
AA	≤75	5700	95
	>75and ≥150	3800	63.33
A	≤75	3800	63.33
	>75and ≥150	2850	47.50
B	≤75	1900	31.67
	>75and ≥150	1500	25.00
C	≤75	800	13.33
	>75and ≥150	800	13.33

Based on the city of Ottawa mapping all existing hydrants within the vicinity of the proposed building are Class AA (Blue). As the fire flow is calculated as 200 L/s, Three (3) hydrants will be required to achieve the required flow. There are presently 2 existing class AA Hydrants within the boulevards of Bank Street and an existing class AA Hydrant within the boulevard of Lisgar Street within 75m of the building wall capable of providing a combined maximum flow of 285 L/s as per **Table 2.3**. One hydrant is within 45m of the proposed siamese connection. Refer to **Appendix B** for calculations. **Figure 4 – Hydrant Coverage** shows the site hydrant coverage plan.

The above water demand information has been submitted to the City for boundary conditions from the City's water model, but we have not yet received the available pressures. Once the boundary conditions are received detailed water calculations will be prepared.

In the meantime, we will note that the proposed development is within the 1W zone of the Ottawa Distribution Network. As per the City of Ottawa 2023, Water Master Plan, Final Report – Draft, September 26,2026, the pressures in the system are as follows:

Maximum Pressure (Average Day) :**60-80 PSI**

Minimum Pressure (Peak Hour): **40-50 psi**

Based on the above system pressures the existing City infrastructure has capacity to service the proposed development. Booster pumps will be utilized by the internal mechanical system to ensure adequate pressures to the upper floors. Refer to **Appendix C** for detailed water demand calculations, and excerpts from the Water Master Plan.

3.0 SANITARY SERVICING

3.1 Existing Sanitary Conditions

The subject development is fronted by existing City sanitary sewers on Bank Street and Lisgar Street (northwest side of the building). A 375mm dia. sanitary sewer is located within Bank Street, and a 375mm dia. sanitary sewer within Lisgar Street.
Based on the existing infrastructure, it appears that the proposed building is serviced via Bank Street, connecting to the existing 375 mm diameter sanitary sewer. This connection is to be confirmed for the next submission once the CCTV is completed. The condition of the existing service will be assessed through a CCTV inspection to be conducted by Clean Water Works (CWW). If the inspection confirms that the service is in satisfactory condition, it will be reused. The CCTV inspection report will be included for reference.

3.2 Proposed Sanitary

It is proposed that the existing sanitary service be retained and used for the development, if confirmed to be in acceptable condition via CCTV.

Sanitary flows for the proposed development were calculated using criteria from Section 4 of the City of Ottawa Sewer Design Guidelines and the Ontario Building Code as follows:

Table 3.1: Sanitary Sewer Design Parameters

Design Component	Design Parameter
Unit Population: 1-Bedroom Apartment	 1.4 people/unit
Residential Flow Rate	Design = 280 L/cap/day
Residential Peaking Factor	Harmon Equation (min=2.0, max=4.0) Harmon Correction Factor = 0.8m (Design)
Commercial Peaking Factor	1.0 (less than 20% of contributing area) 1.5 (more than 20% of contributing area)
Extraneous Flow Rate	Design = 0.33 L/s/ha
Minimum Pipe Size	250mm (Res)
Minimum Velocity[1]	0.6 m/s
Maximum Velocity	3.0 m/s
Minimum Pipe Cover	2.0 m (Unless frost protection provided)

The peak sanitary flow including infiltration for the proposed use of the building was calculated to be **0.79 L/s**. Detailed sanitary flow calculations are provided in **Appendix C** for reference.

4.0 STORM SERVICING

4.1 Existing Storm Conditions

The existing building is currently serviced by a 200mm dia. storm connection discharging to the 525mm dia. storm sewer located in Lisgar Street. The condition of the existing storm service will be evaluated through CCTV inspection to be conducted by Clean Water Works (CWW). The CCTV inspection report conducted will be provided next submission for reference.

4.2 Proposed Storm

It is proposed that the existing storm service be retained and used for the development, if confirmed in acceptable condition. Refer to the General Plan of Services (**124039-GP**) for more details.

5.0 STORM DRAINAGE AND STORMWATER MANAGEMENT

As noted within the pre-consultation minutes there are no stormwater management controls required for the existing building other than those currently in place. As such, it is proposed to utilize all existing roof drains and services to continue to function as per existing conditions.

The design criteria used to check the sizing of storm sewers are summarized below in **Table 4.1.**

Table 5.1: Storm Sewer Design Parameters

Parameter	Design Criteria
Local Roads	2-Year Return Period
Storm Sewer Design	Rational Method
IDF Rainfall Data	Ottawa Sewer Design Guidelines
Initial Time of Concentration (Tc)	10 min
Minimum Velocity	0.8 m/s
Maximum Velocity	3.0 m/s

Using a 100-year storm and a time of concentration of 15 mins the uncontrolled storm runoff was determined to be **23.7 L/sec** for Lisgar Street. The capacity of a 200mm dia. at 2% is 48.4 L/sec. The 100-year storm event was utilized to confirm the site can flow uncontrolled in the 100-year event.

Refer to **Appendix D** for detailed storm drainage area plans and storm sewer design sheets for all three buildings.

6.0 EROSION AND SEDIMENT CONTROL

Temporary erosion and sediment control measures will be implemented on-site during construction in accordance with the Best Management Practices for Erosion and Sediment Control. This includes the following temporary measures:

- Filter socks (catch basin inserts) will be placed in existing and proposed catch basins and catch basin manholes, and will remain in place until vegetation has been established and construction is completed;
- The contractor will be required to perform regular street sweeping and cleaning as required, to suppress dust and to provide safe and clean roadways adjacent to the construction site;

Erosion and sediment control measures should be inspected daily and after every rain event to determine maintenance, repair, or replacement requirements. Sediments that enter site sewers shall be removed immediately by the contractor. These measures will be implemented prior to the commencement of construction and maintained in good order.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Watermain

The analysis of the existing and proposed watermain network confirms the following:

- The existing service is proposed to be retained for the proposed development.
- It is expected that there are adequate flows to service the proposed fire protections system which will be confirmed once boundary conditions are received.

Sanitary Servicing

The analysis of the existing and proposed sanitary system confirms the following:

- It is proposed to service the development with existing sanitary service.
- The peak sanitary flow including infiltration for the proposed use of the building was calculated to be **0.79 L/s**.

Strom Servicing

The analysis of the existing system confirms the following:

- It is proposed to retain the existing 200mm storm service to continue servicing the building.
- The existing stormwater management system will be retained without modification.
- The 100-year uncontrolled storm flow for the proposed use of the building was calculated to be **23.7 L/s**.

8.0 CLOSURE

This report is submitted for review and approval in support of the site plan application. Please contact the undersigned should you have questions or require additional information.

NOVATECH

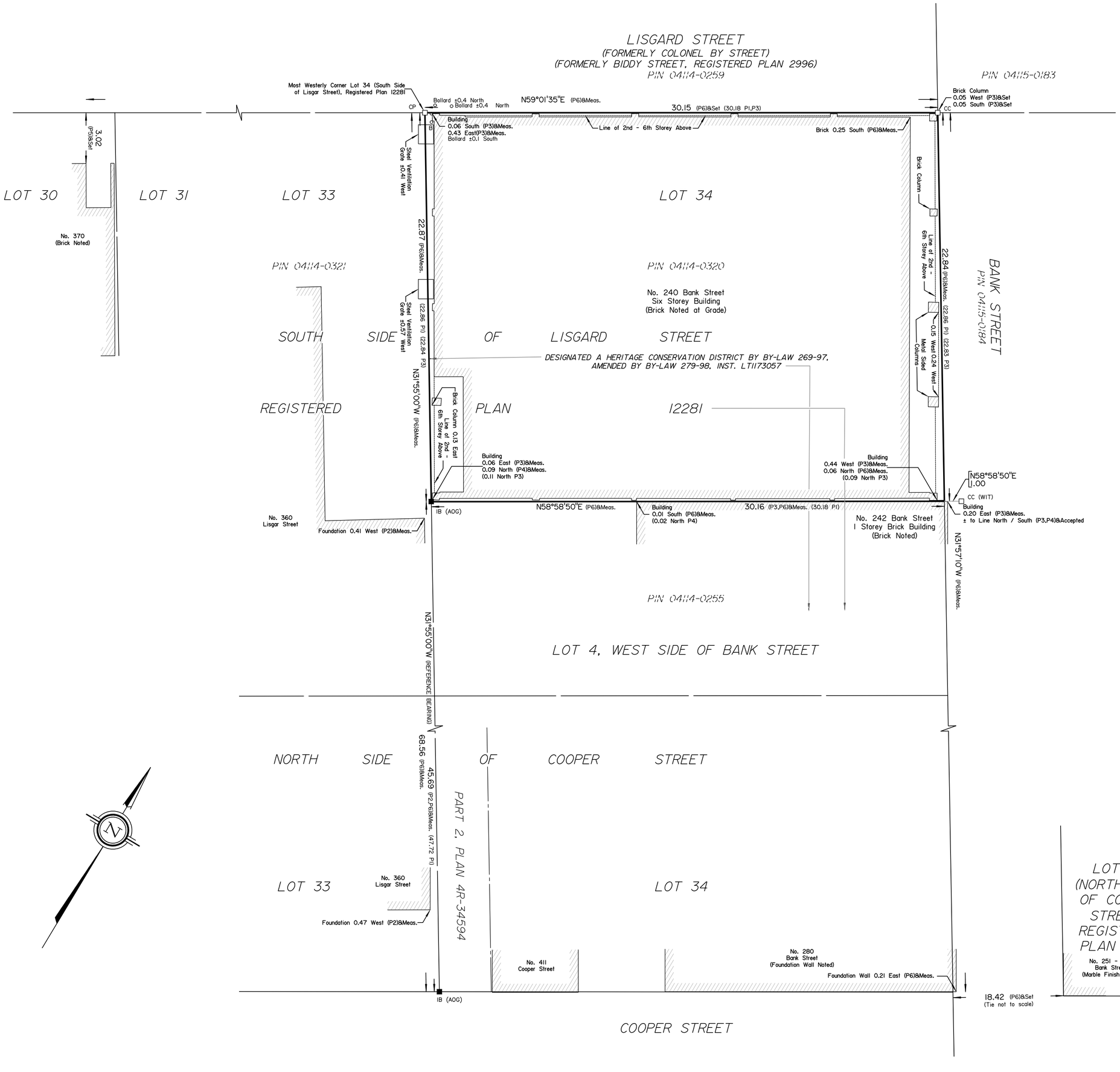
Prepared by:

Curtis Ferguson, P.Eng
Project Engineer, Land Development and Public Sector Infrastructure

Reviewed by:

Greg MacDonald, P.Eng
Director, Land Development and Public Sector Infrastructure

Appendix A
Legal Plan



PLAN OF SURVEY OF

LOT 34 (South Side of Lisgar Street), REGISTERED PLAN 12281 CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 150

6 4.5 3.0 1.5 0 3 6 Metres

Metric

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

ANNIS, O'SULLIVAN, VOLLEBEKK LTD. grants to 240 Bank Street Holdings Ltd. ("The Client"), their solicitors, mortgagees, and other related parties, permission to use original, signed, sealed copies of the Surveyor's Real Property Report in transactions involving The Client.

Surveyor's Certificate

I CERTIFY THAT :

1. This survey and plan are correct and in accordance with the Surveys Act and the Surveyors Act and the regulations made under them.
2. The survey was completed on the 14 day of May, 2025.

May 15, 2025
Date

Andrew Handspiker
Ontario Land Surveyor

Notes & Legend

—□—	Denotes	Survey Monument Planted
—■—	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CC	"	Cut Cross
CP	"	Concrete Pin
(WIT)	"	Witness
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
Meas.	"	Measured
(P1)	"	Registered Plan 12281
(P2)	"	Plan 4R-34594
(P3)	"	(647) Plan Dated July 20, 1965
(P4)	"	(990) Plan Dated October 11, 1966
(P5)	"	(AOG) Plan Dated December 1, 2004
(P6)	"	(AOG) Plan Dated December 6, 2005
o B	"	Bollard

N - North / E - East / S - South / W- West

Bearings are grid, derived from the Westerly limit of Plan 4R-34594 shown to be N31°55'00"W and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

For bearing comparisons, a rotation of 00°35'30" counter-clockwise was applied to bearings on Plan (P6).

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-103892

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29 (3).

ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
14 Concourse Gate, Suite 500
Nepean, Ont. K2E 7S6
Phone: (613) 727-0850 / Fax: (613) 727-1079
Email: Nepean@aovltd.com
Ontario Land Surveyors

Job No. 26010-25 240 Bank Street Holdings Ltd Lt 34 Pl 12281 | O D2

Appendix B
Pre-Consultation Minutes

File No.: PC2024-0143

May 16, 2024

Miranda Virginillo
Novatech
Via email: m.virginillo@novatech-eng.com

Subject: Phase 1 Pre-Consultation: Meeting Feedback
Proposed Site Plan Control Application – 240 Bank Street

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on May 13, 2024.

Pre-Consultation Preliminary Assessment

1 ☐	**2** ☐	**3** ☒	**4** ☐	**5** ☐

One (1) indicates that considerable major revisions are required while five (5) suggests that the proposal appears to meet the City's key land use policies and guidelines. This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. Please proceed to complete a Phase 2 Pre-consultation Application Form and submit it together with the necessary studies and/or plans to planningcirculations@ottawa.ca.

2. In your subsequent pre-consultation submission, please ensure that all comments or issues detailed herein are addressed. A detailed cover letter stating how each issue has been addressed must be included with the submission materials. Please coordinate the numbering of your responses within the cover letter with the comment number(s) herein.

3. Please note, if your development proposal changes significantly in scope, design, or density before the Phase 3 pre-consultation, you may be required to complete or repeat the Phase 2 pre-consultation process.

Supporting Information and Material Requirements

1. The attached **Study and Plan Identification List** outlines the information and material that has been identified, during this phase of pre-consultation, as either required (R) or advised (A) as part of a future complete application submission.

a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

Consultation with Technical Agencies

1. You are encouraged to consult with technical agencies early in the development process and throughout the development of your project concept. A list of technical agencies and their contact information is enclosed.

Planning

Comments:

1. Applicable Policies:

- ***Central and East Downtown Core Secondary Plan***
  Centretown Neighbourhood Character Area - Corridor Designation

- ***Official Plan***
  Downtown Core Transect - Mainstreet Corridor within a Hub

- ***Zoning By-law***
  Traditional Mainstreet, maximum height of 19 metres (TM H(19))

2. Section 37 requirements / Community Benefits Charge

    a. The former Section 37 regime has been replaced with a "Community Benefits Charge", By-law No. 2022-307, of 4% of the land value. This charge will be required for ALL buildings that are 5 or more storeys and 10 or more units and will be required at the time of building permit unless the development is subject to an existing registered Section 37 agreement. Questions regarding this change can be directed to Ranbir.Singh@ottawa.ca.

3. Design Guidelines

    Interior:

    a. We would highly encourage that you explore introduction of a variety of unit types, including 2 or more bedroom units.

    b. As there is no underground parking - we would be looking for 1:1 bike parking rate to support the development.

c. Provide details regarding waste management. If this is to be City collection it will need to meet our Solid Waste Management By-law (2012-370) requirements.

Design:

d. As Bank Street in this location is a traditional mainstreet the proposal should contribute to the public realm.

    i. No ROW widening required, however, it is subject to the pedestrian surface easement policy, which will be provided along the frontage (OP - Schedule C16).

    ii. Where columns support the part of a building built over the easement a width of 1.5 metres between the columns and the closer of the building face and any door swing area is required.

e. Enhance the animation on the street level by providing amenity areas along both frontages.

f. Presently the building looks very commercial - we would highly encourage enhancements to the building façades.

g. Incorporate any green building features that you can to enhance the efficiency and resiliency of this building.

Amenity Space:

h. Providing amenity space completely interior to the building is somewhat concerning - Please explore outdoor amenity space at the rooftop level to promote the livability of this building as a residential building.

i. Amenity space should be detailed on a plan ensuring that the amount meets or exceeds the Zoning requirements.

4. Office-to-Residential Conversions are subject to the process and fees associated with a Site Plan Control Application – Standard.

5. Other comments:

    a. Cash in lieu of Parkland will be required. Cash in lieu of Parkland to be calculated at Phase 3.

Feel free to contact John Bernier or Nastassia Pratt, File Leads, for follow-up questions.

Urban Design

Comments:

Submission Requirements

6. An Urban Design Brief is required. Please see attached customized Terms of Reference to guide the preparation of the submission.

    a. The Urban Design Brief should be structured by generally following the headings highlighted under **Section 3 – Contents of these Terms of Reference**.

    b. The following elements are particularly important for this development application.

7. Additional drawings and studies are required as shown on the SPIL. Please follow the terms of reference (Planning application submission information and materials | City of Ottawa) to prepare these drawings and studies.

Comments on Preliminary Design

8. The following element of the preliminary design are of concern/question:

    a. How might the zero-meter set-back impact living units to the west if the property re-develops?

    b. Will the building continue to have a mixed-use function?

    c. Where will the amenity areas within the building be located?

Recommendations

9. We recommend looking for opportunities to improve the public right-of-way with landscape planters, etc.

10. We recommend investigating to opportunity for operable windows to provide a residential look and improve unit livability.

11. We recommend investigating suitable amount of bike parking internal to the building.

12. We recommend investigating opportunities to ‘freshen-up’ the look of the window and spandrel panels to give the building a residential look. Providing a colour accent would work well in this regard.

13. We recommend providing additional drawings in the Urban Design Brief to include ground floor/roof plan and elevations.

Feel free to contact Christopher Mosie, Urban Designer, for follow-up questions.

Engineering

Comments:

14. Provide the proposed Sanitary sewer release rate to confirm there is sufficient capacity in the City's sanitary sewer system.

15. Existing buildings service laterals require a CCTV inspection and report to ensure existing services to be re-used are in good working order and meet current minimum size requirements. Located services to be placed on existing condition plan.

16. Water Quantity Control: Strom water quantity control is not required but it is recommended to look at ways to control storm water flow on site. For example, roof top storage.

17. Water Supply Redundancy: Residential buildings with a basic day demand greater than 50m3/day (0.57 L/s) are required to be connected to a minimum of two water services separated by an isolation valve to avoid a vulnerable service area as per the Ottawa Design Guidelines - Water Distribution, WDG001, July 2010 Clause 4.3.1 Configuration. The basic day demand for this site not expected to exceed 50m3/day.

18. Please review Technical Bulletin ISTB-2018-02, maximum fire flow hydrant capacity is provided in Section 3 Table 1 of Appendix I. A hydrant coverage figure shall be provided and demonstrate there is adequate fire protection for the proposal. Two or more public hydrants are anticipated to be required to handle fire flow.

19. Boundary conditions are required to confirm that the require fire flows can be achieved as well as availability of the domestic water pressure on the City Street fronting the development. Use Table 3-3 of the MOE Design Guidelines for Drinking-Water System to determine Maximum Day and Maximum Hour peaking factors for 0 to 500 persons and use Table 4.2 of the Ottawa Design Guidelines, Water Distribution for 501 to 3,000 persons. Please provide the following information to the City of Ottawa via email to request water distribution network boundary conditions for the subject site. Please note that once this information has been provided to the City of Ottawa it takes approximately 5-10 business days to receive boundary conditions.

    - Type of Development and Units
    - Site Address
    - A plan showing the proposed water service connection location.
    - Average Daily Demand (L/s)
    - Maximum Daily Demand (L/s)
    - Peak Hour Demand (L/s)
    - Fire Flow (L/min)

[Fire flow demand requirements shall be based on ISTB-2021-03]. Exposure separation distances shall be defined on a figure to support the FUS calculation and required for flow (RFF). Hydrant capacity shall be assessed to demonstrate the RFF can be achieved. Please identify which hydrants are being considered to meet the RFF on a fire hydrant coverage plan as part of the boundary conditions request.

30. Environmental Site Assessment

    A Phase I ESA is required to be completed in accordance with Ontario Regulation 153/04 in support of this development proposal to determine the potential for site contamination. Depending on the Phase I recommendations a Phase II ESA may be required.

    The Phase I ESA shall provide all the required Environmental Source Information as required by O. Reg. 153/04. ERIS records are available to public at a reasonable cost and need to be included in the ESA report to comply with O.Reg. 153/04 and the Official Plan. The City will not be in a position to approve the Phase I ESA without the inclusion of the ERIS reports.

    Official Plan Section 4.8.4:

    https://ottawa.ca/en/city-hall/planning-and-development/official-plan-and-master-plans/official-plan/volume-1-official-plan/section-4-review-development-applications#4-8-protection-health-and-safety

31. List of required reports and plans:

    PLANS:

    - Existing Conditions and Removals Plan
    - Site Servicing Plan (if new services are proposed)
    - Road Reinstatement Plan (if new services are proposed)
    - Topographical survey

    REPORTS:

    - Site Servicing Report
    - Noise Control Study
    - Phase I ESA (include discussions on RSC requirement)
    - Phase II ESA (Depending on recommendations of Phase I ESA

Feel free to contact Amy Whelan, Infrastructure Project Manager, for follow-up questions.

Noise

Comments:

32. A Transportation Noise Assessment is required as the subject development is located within 100m proximity of Bank Street existing Arterial Road,

33. A Stationary Noise Assessment is required to assess the noise impact of the proposed sources of stationary noise (mechanical HVAC system/equipment) of the development onto the surrounding residential area to ensure the noise levels do not exceed allowable limits specified in the City Environmental Noise Control Guidelines.

Feel free to contact Amy Whelan, Project Manager, for follow-up questions.

Transportation

General Comments:

34. Lisgar Street is classified as a Local Road. There are no additional protected ROW limits identified in the OP.

35. The development is proposing to convert existing office building to residential apartments inside the walls of the existing building. The Bank Street ROW protection limits between Wellington Street and Cooper Street of 20.0 m and site triangle (3 m x 9 m) may not be applicable as the existing building is proposed to be retained.

36. The Screening Form has indicated that the TIA Location Trigger has been met. This development would not generate sufficient traffic to warrant a TIA report. The consultant is to address how they plan to enable and encourage travel by sustainable modes (i.e., to make walking, cycling, transit, carpooling and telework more convenient, accessible, safe, and comfortable). Please complete the City of Ottawa's *TDM Measures Checklist*.

37. The purchaser, tenant or sub-lessee acknowledges the unit being rented/sold is not provided with any on-site parking and should a tenant/purchaser have a vehicle for which they wish to have parking that alternative and lawful arrangements will need to be made to accommodate their parking need at an alternative location. The Purchaser/Tenant also acknowledges that the availability and regulations governing on-street parking vary; that access to on-street parking, including through residential on-street parking permits issued by the City cannot be guaranteed now or in the future; and that a purchaser, tenant, or sub-lessee intending to rely on on-street parking for their vehicle or vehicles does so at their own risk.

38. Ensure that potential tenants who are not assigned a parking space are aware that on street parking is not a viable option for tenants.

39. The Owner shall be required to enter into maintenance and liability agreement for all pavers, plant and landscaping material placed in the City right-of-way and the

Owner shall assume all maintenance and replacement responsibilities in perpetuity.

40. Bicycle parking spaces are required as per Section 111 of the Ottawa Comprehensive Zoning By-law. Bicycle parking spaces should be in safe, secure places near main entrances and preferably protected from the weather.

41. Should the property Owner wish to use a portion of the City's Road allowance for construction staging, prior to obtaining a building permit, the property Owner must obtain an approved Traffic Management Plan from the Manager, Traffic Management, Transportation Services Department. The city has the right for any reason to deny use of the Road Allowance and to amend the approved Traffic Management Plan as required.

42. Right-of-way protection.

    a. See Schedule C16 of the Official Plan.

    b. Any requests for exceptions to ROW protection requirements must be discussed with Transportation Planning and concurrence provided by Transportation Planning management.

43. TIA submission / Road modification agreement requirements

Feel free to contact **Wally Dubyk**, Transportation Project Manager, for follow-up questions.

Environment and Trees

N/A

Parkland

N/A

Heritage

N/A

Community issues

Comments:

Centretown Community Association

44. Very much supportive of converting an existing, unused commercial building into a residential building. This is something the CCA has been asking as part of its housing and climate change initiatives.

45. Instead of all residential units to be 1-bedroom units, please consider some larger family sized units, as well as accessible units for seniors.

46. Supports the City staff's comments to increase the bike parking ratio to 1 per unit. There have also been requests to include visitor bike parking spots in a secured area. Some developments have added a bike repair and washing room as part of their amenity space.

47. Add low wall planters to add green landscaping to the area. Also, the low walls can function as a place to sit.

48. If a roof top amenity space is being considered for the 6-storey building, please note that taller buildings are being planned for the property across the street on Bank St., as well as to the block northeast. Perhaps consider a privacy wall or barrier along Bank St.

49. Can the residents plant a garden on the roof?

Other

50. The High Performance Development Standard (HPDS) is a collection of voluntary and required standards that raise the performance of new building projects to achieve sustainable and resilient design. The HPDS was passed by Council on April 13, 2022.

    a. At this time, the HPDS is not in effect and Council has referred the 2023 HPDS Update Report back to staff with direction to bring forward an updated report to Committee with recommendations for revised phasing timelines, resource requirements and associated amendments to the Site Plan Control By-law by no later than Q1 2024.

    b. Please refer to the HPDS information attached and ottawa.ca/HPDS for more information.

Submission Requirements and Fees

1. Phase 2 and 3 Pre-Application Consultation

2. Site Plan Control - Standard

    a. Additional information regarding fees related to planning applications can be found here.

3. The attached **Study and Plan Identification List** outlines the information and material that has been identified as either required (R) or advised (A) as part of a future complete application submission.

    a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and

Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

4. All of the above comments or issues should be addressed to ensure the effectiveness of the application submission review.

Should there be any questions, please do not hesitate to contact myself or the contact identified for the above areas / disciplines.

Yours Truly,
John Bernier, File Lead (Planner II, Development Review – Central)

Appendix C
Water Servicing

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Boundary Condition Request

Novatech Project #: 124039
Project Name: 240 Bank Street
Date: 4/19/2023
Input By: Anjush Musyaju, EIT
Reviewed By: Curtis Ferguson, P.Eng
Drawing Reference:

Legend: Input by User | No Input Required | Calculated Cells →

Reference: Ottawa Design Guidelines - Water Distribution (2010 and TBs)
MOE Design Guidelines for Drinking-Water Systems (2008)
Fire Underwriter's Survey Guideline (2020)
Ontario Building Code, Part 3 (2012)

Small System = YES

	# of Dwellings	Area (ha.)	Pop. Equiv.	Average Day Demand (L/s)	Maximum Day Demand (L/s)	Peak Hour Demand (L/s)	Basic Day Demand (m^3/day)
Residential Input							
Singles			0.00	0.00	0.00	0.00	0.0
Semis / Townhomes			0.00	0.00	0.00	0.00	0.0
Apartments (2-BR)			0.00	0.00	0.00	0.00	0.0
Apartments (1-BR)	45		63.00	0.20	1.94	2.92	17.6
Apartments (Avg)			0.00	0.00	0.00	0.00	0.0
Industrial / Commercial / Institutional (ICI) Input							
Industrial Area - Light				0.00	0.00	0.00	0.0
Industrial Area - Heavy				0.00	0.00	0.00	0.0
Commercial Area				0.00	0.00	0.00	0.0
Institutional Area				0.00	0.00	0.00	0.0
Other Area		0.02		0.014	0.02	0.04	0.7
Totals	**45**	**0.02**	**63.00**	**0.22**	**1.96**	**2.96**	**18.4**

Summary

i. Type of Development and Units:	6 Storey residential building with ground floor commercial		
ii. Site Address:	240 Bank Street		
iii. Proposed Water Service Connection Location(s):	Existing water service located at norteast side of building, fronting bank street.		
iv. Average Day Flow Demand:		0.22	L/s
v. Peak Hour Flow Demand:		2.96	L/s
vi. Maximum Day Flow Demand:		1.96	L/s
vii. Required Fire Flow #1:		12000	L/min
viii. Required Fire Flow #2:			L/min
ix. Required Fire Flow #3:			L/min

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Design Parameters

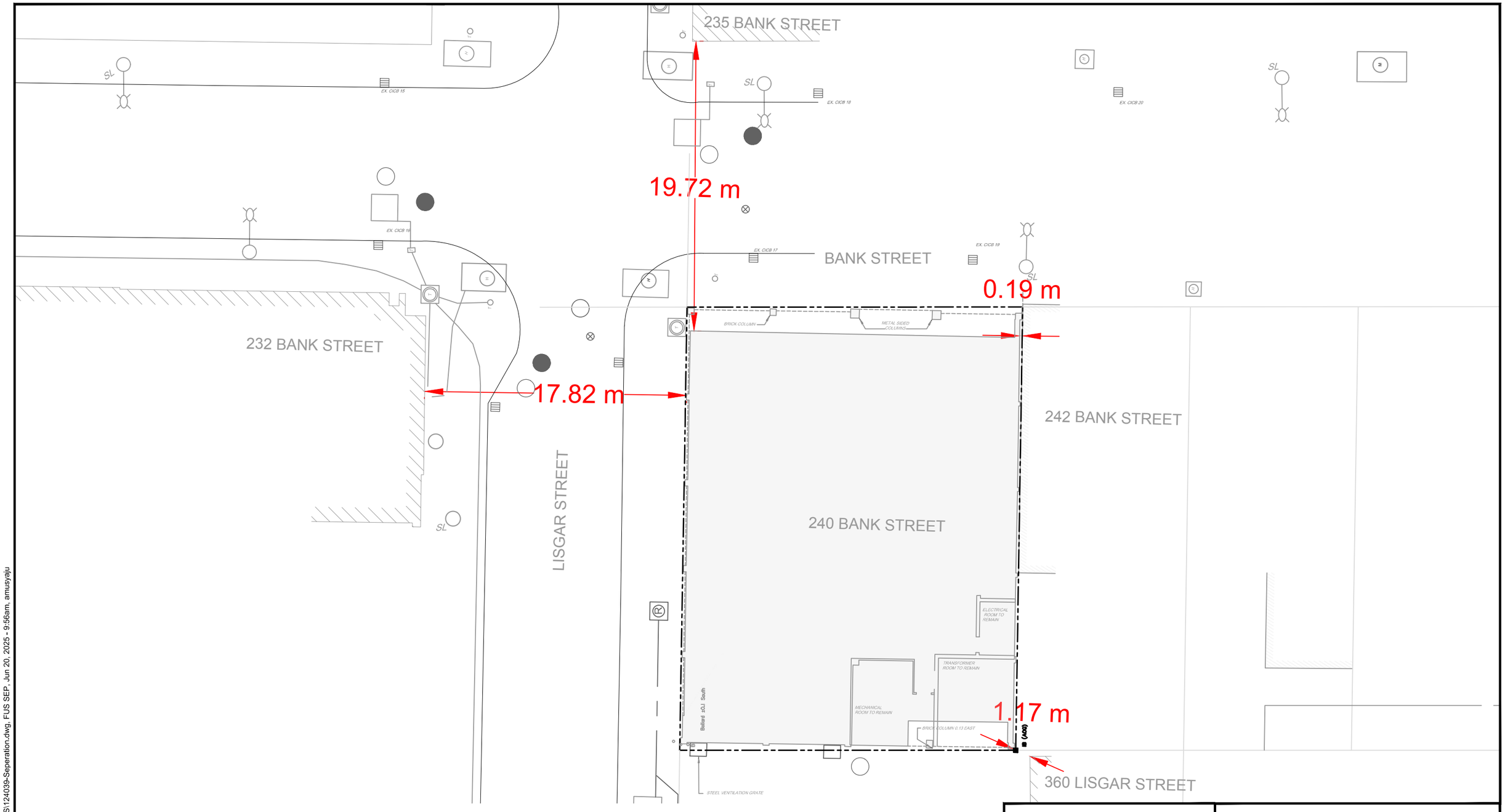
Residential					
Unit Type	**Singles**	**Semis/ Towns**	**Apts (2-BR)**	**Apts (1-BR)**	**Apts (Avg)**
Population Equiv.	3.4	2.7	2.1	1.4	1.8
Dailly Demand	L/per person/day				
Average Demand	280				
Basic Demand	280				

Vulnerable Service Area (VSA)
50
< 50 m³/day
> 50 m³/day

Residential Peaking Factors		**Max Day (x Avg Day)**	**Peak Hour (x Avg Day)**
	Pop.		
Small System (If Applicable)	0	9.50	14.30
	30	9.50	14.30
	150	4.90	7.40
Modified	300	3.60	*5.50*
	450	3.00	*5.50*
	500	2.90	*5.50*
Large System (Default)	> 500	2.50	5.50

Institutional / Commercial / Industrial				
Industrial		**Commercial**	**Institutional**	**Other Use**
Light	**Heavy**			
L/gross ha/day				L/m²/day
35,000	55,000	28,000	28,000	5
10,000	17,000	17,000	17,000	3

ICI Peaking Factors	**Max Day (x Avg Day)**	**Peak Hour (x Avg Day)**
	1.50	2.70



LEGEND

- PROPERTY LINE
- PROPOSED TACTILE INDICATOR
- PROPOSED ENTRANCE
- DC — PROPOSED DEPRESSED CURB

NOVATECH
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Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
240 BANK STREET

FUS SEPARATION

SCALE 1 : 250 (0 2 4 6 8 10)
DATE SEPT 2024
JOB 124039
FIGURE FUS

SHT11X17.DWG - 279mmX432mm

M:\2024\124039\CAD\Civil\Figures\Servicing\FUS\124039-Seperation.dwg, FUS SEP, Jun 20, 2025 - 9:56am, amusyaju

50.2m

63.9m

2.3m

BANK STREET

LISGAR STREET

240 BANK STREET
SIX STOREY BUILDING
(BRICK NOTED AT GRADE)

240 BANK STREET

PART 2, PLAN 4R-34594

SL

EX. CICB 18

EX. CICB 20

EX. CICB 17

EX. CICB 19

305mmØ PVC WM

375mmØ WM ABAND

150mmØ WATER SERVICE

BRICK COLUMN

METAL SIDED COLUMNS

ELECTRICAL ROOM TO REMAIN

TRANSFORMER ROOM TO REMAIN

MECHANICAL ROOM TO REMAIN

BRICK COLUMN 0.13 EAST

Bollard ø0.1 South

STEEL VENTILATION GRATE

LEGEND

- PROPERTY LINE
- PROPOSED SIAMESE CONNECTION
- EXISTING CLASS AA HYDRANT
- PROPOSED HYDRANT
- DISTANCE FROM HYDRANT TO SIAMESE CONNECTION/ BUILDING ENTRANCE

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CITY OF OTTAWA
240 BANK STREET

COVERAGE PLAN

SCALE 1 : 250 (0 2 4 6 8 10)

DATE	JOB	FIGURE
SEPTEMBER 2024	124039	COV

SHT11X17.DWG - 279mmX432mm

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From: Cheskel Lefkowitz <chesky@rester.ca>
Sent: Friday, June 27, 2025 12:58 PM
To: Miranda Virginillo <m.virginillo@novatech-eng.com>
Cc: Greg Winters <G.Winters@novatech-eng.com>; Greg MacDonald <g.Macdonald@novatech-eng.com>; Brad Byvelds <B.Byvelds@novatech-eng.com>; Curtis Ferguson <c.ferguson@novatech-eng.com>; Esther Werzberger <Esther@rester.ca>
Subject: Re: RSC 240 bank street ottawa - RSC (124039)

Hi Miranda,

Here are some information on below. I still need clarification what you need for San/stm. We do not have many existing drawings, other than the one we supplied from extreme measures.

- The building is type II non combustible construction.
- The building has a sprinkler system with risers through all floors of the building.
- As mentioned for transportation options 1-3 can be offered. As well as bike racks at the building.
-

From: Miranda Virginillo <m.virginillo@novatech-eng.com>
Sent: Thursday, June 19, 2025 12:57:27 p.m.
To: Cheskel Lefkowitz <chesky@rester.ca>
Cc: Ester Werzberger <Ester@rester.ca>; Greg Winters <G.Winters@novatech-eng.com>; Greg MacDonald <g.Macdonald@novatech-eng.com>; Brad Byvelds <B.Byvelds@novatech-eng.com>; Curtis Ferguson <c.ferguson@novatech-eng.com>
Subject: RE: RSC 240 bank street ottawa - RSC (124039)

Hi Cheskel,

Please see below for an updated list of remaining submission requirements, and some requests for additional information from our Civil and Transportation Engineering teams.
Highlighted notes in the submission requirements require your input or action to proceed.

Building Construction and Servicing Location Details
Our civil engineering team has reviewed the survey, building elevations and architectural plans available, and requires the following information to be able to complete their plans and reports for submission:

- As-Built Drawing with existing servicing locations for SAN/STM.
- Building composition: confirmation regarding construction material and NFPA. Construction Material (one of below);
    - Type V – Wood Frame
    - Type IV – Mass Timber
    - Type III – Ordinary Construction
    - Type II – Non-Combustible Construction

Type I – Fire Resistive Construction (2hrs).

Sprinkler Reduction;

Adequately Designed System (NFPA 13) – **Yes OR No**

Standard Water Supply – **Yes OR No**

Fully Supervised System – **Yes OR No**

- Existing roof plan c/w drain locations (if any).
- Any existing drawings of the building available.

Transportation Demand Management Checklist

Our transportation engineering team will be completing a Transportation Demand Management checklist for submission. Your input is required to complete this checklist.

Transportation demand management measures encourage the use of the use of modes of travel that do not involve a personal vehicle (transit, cycling, and walking) in new developments. The measure below are considered the easiest and most cost-effective to implement and could apply to this project:

1. Display local area maps with walking/cycling access routes and key destinations at major entrances;
2. Display relevant transit schedules and route maps at entrances;
3. Provide a multimodal travel option information package to new residents;
4. Unbundle parking cost from monthly rent.

Measures 1-3 can all be simple printouts/pamphlets, and measure 4 is already complete as there is no on-site parking proposed. For completeness, there are other measures that may be possible for this site, but would be more costly to implement:

- Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit;
- Contract with provider to install on-site bikeshare station.

Status of Required Plans and Studies

As an update on the status of all required submission materials to date:

Required Plans and Studies	Status	Consultant	Notes
Architectural Elevations (incl. building envelope information)	Received	Asset Reconnaissance International	Some building envelope information still outstanding; see requests above from Civil.
Phase I ESA	Completed.	Paterson	No further action anticipated
Phase II ESA	Received April 2025: Update anticipated.	ORTAM	Rester coordinating with ORTAM on Record of Site Condition.
Record of Site Condition (RSC)	Rester coordinating.	ORTAM	Rester coordinating with ORTAM on Record of Site Condition.
Noise Control Study (Roadway)	Completed	Gradient Wind	No further action anticipated

FUS - Fire Flow Calculations

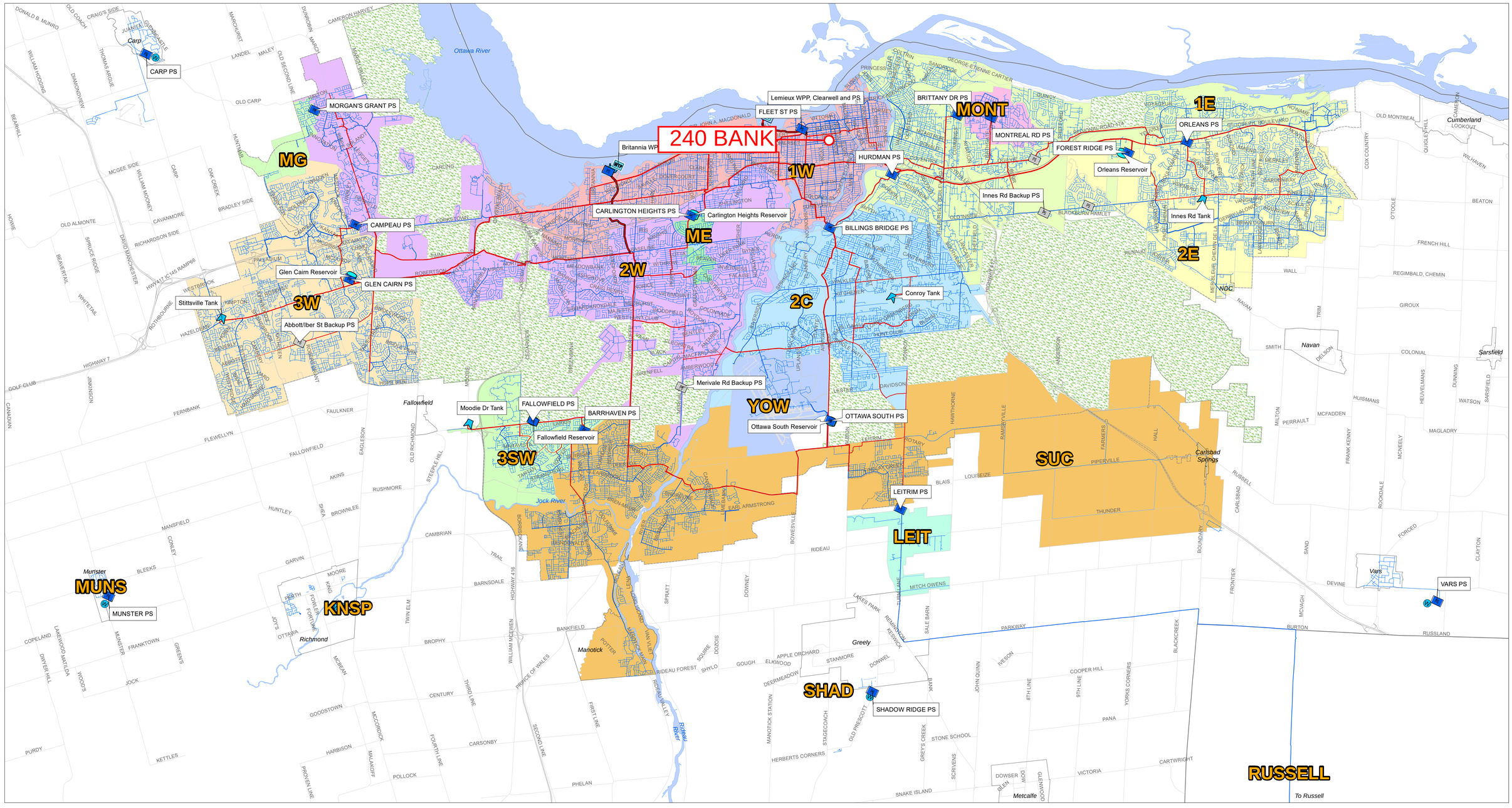
Engineers, Planners & Landscape Architects

Novatech Project #: 124039
Project Name: 240 Bank Street
Date: 6/12/2025
Input By: Anjush Musyaju, EIT
Reviewed By: Curtis Ferguson,P.Eng
Drawing Reference:

Legend: Input by User / No Input Required
Reference: Fire Underwriter's Survey Guideline (2020) Formula Method

Building Description: Multi-Storey Tower
Type II - Non-combustible construction

Step			Choose		Value Used	Total Fire Flow (L/min)
Base Fire Flow						
1	**Construction Material**			**Multiplier**		
	Coefficient related to type of construction C	Type V - Wood frame		1.5	0.8	
		Type IV - Mass Timber		Varies		
		Type III - Ordinary construction		1		
		Type II - Non-combustible construction	Yes	0.8		
		Type I - Fire resistive construction (2 hrs)		0.6		
2	**Floor Area**					
	A	Building Footprint (m^2)	668			
		Number of Floors/Storeys	6			
		Protected Openings (1 hr) if C<1.0	No			
		Area of structure considered (m^2)			**2,672**	
	F	**Base fire flow without reductions**				**9,000**
		$F = 220\ C\ (A)^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	-15%	**7,650**
		Limited combustible	Yes	-15%		
		Combustible		0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**		**FUS Table 4**	**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	No	-30%		**-1,530**
		Standard Water Supply	Yes	-10%	-10%	
		Fully Supervised System	Yes	-10%	-10%	
				Cumulative Sub-Total	**-20%**	
		Area of Sprinklered Coverage (m^2)	4008	100%		
				Cumulative Total	**-20%**	
5	**Exposure Surcharge**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	10.1 - 20 m		15%	**5,738**
		East Side	0 - 3 m		25%	
		South Side	0 - 3 m		25%	
		West Side	10.1 - 20 m		15%	
				Cumulative Total	**75%**	
Results						
6	(1) + (2) + (3)	**Total Required Fire Flow, rounded to nearest 1000L/min**			**L/min**	**12,000**
		(2,000 L/min < Fire Flow < 45,000 L/min)		or	L/s	**200**
				or	USGPM	3,170



Legend

- Water Purification Plant
- Well
- Clearwell
- Elevated Tank
- Reservoir
- Pump Station (Active)
- Pump Station (Backup)

Backbone Watermain Diameter

- 152 mm - 305 mm
- 406 mm - 508 mm
- 610 mm - 914 mm
- 1067 mm - 1372 mm
- 1524 mm - 1981 mm
- 2550 mm

Distribution Watermain Diameter

- ≤ 102 mm
- 152 mm - 305 mm
- 356 mm - 508 mm
- 610 mm - 914 mm
- 1372 mm

Pressure Zones

- 1E
- 1W
- 2C
- 2E
- 2W
- 3SW
- 3W
- EMR
- LEIT
- ME
- MG
- MONT
- SHADOW RIDGE
- SUC
- YOW
- Greenbelt

Infrastructure Master Plan - Figure 1-1
Water Distribution System Backbone Infrastructure

Notes

1. Coordinate System: NAD 1983 CSRS MTM 9

2. Data Sources: Original shapefiles provided by the City of Ottawa; hydraulic model exports.

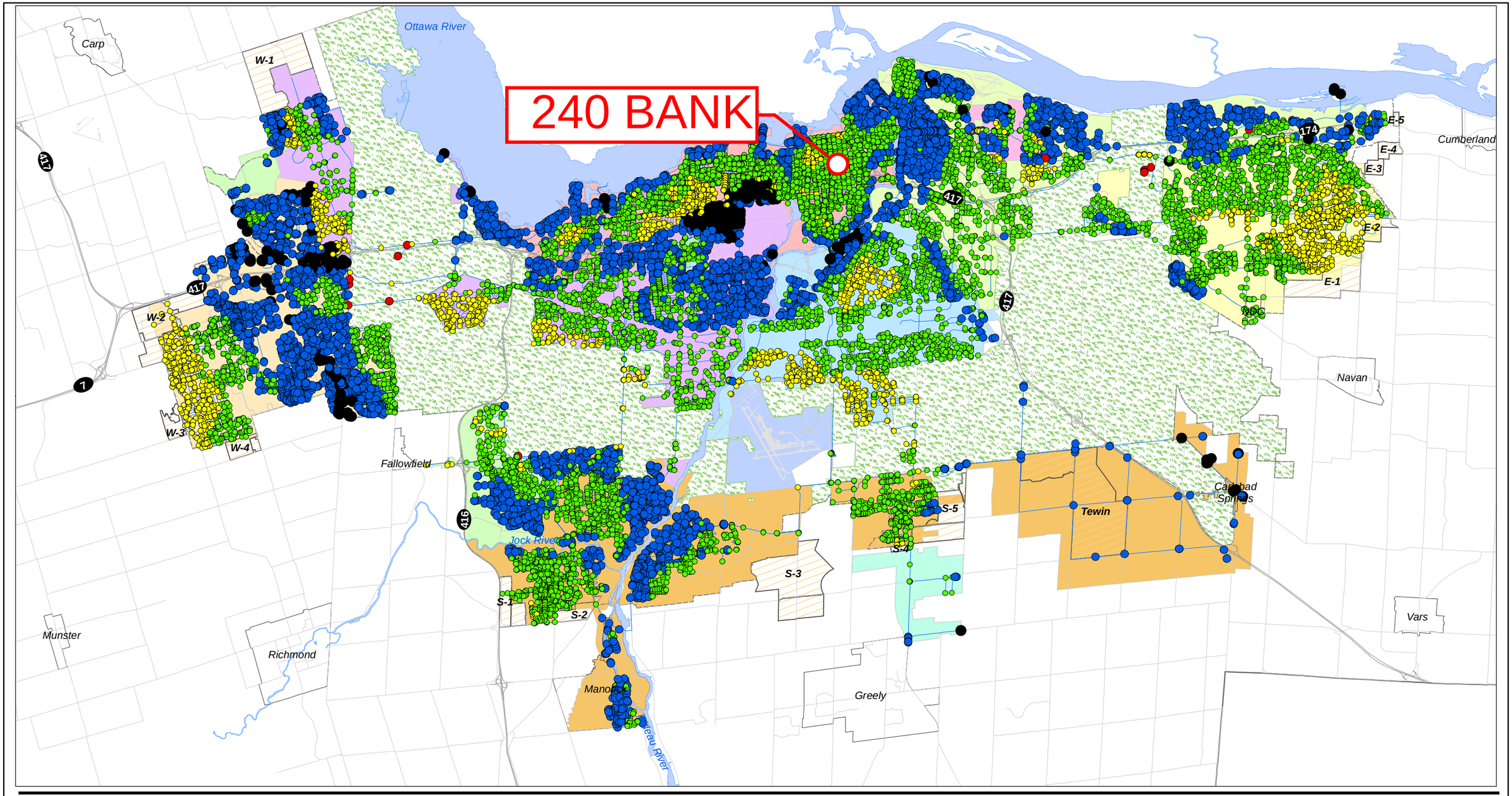
N

0 5 Kilometers

(At original document size of 24x36)

1:70,000

Ottawa



Infrastructure Master Plan - Figure 1-14
Model Results: Existing Conditions - BSDY
Maximum Pressures (psi)

Legend

Maximum Pressure (psi)
- Max. Pressure ≤ 40 psi
- 40 psi < Max. Pressure ≤ 60 psi
- 60 psi < Max. Pressure ≤ 80 psi
- 80 psi < Max. Pressure ≤ 100 psi
- Max. Pressure > 100 psi

- Watermains
- Urban Expansion Area
- Greenbelt

Pressure Zones
- 1E
- 1W
- 2C
- 2E
- 2W
- 3SW
- 3W
- EMR
- LEIT
- ME
- MG
- MONT
- SHADOW RIDGE
- SUC
- YOW

Notes
1. Coordinate System: NAD 1983 CSRS MTM 9
2. Data Sources: Background layers and growth projections provided by the City of Ottawa; hydraulic modelling results

N

0 5 Kilometers
(At original document size of 11x17)
1:140,000

Ottawa

240 BANK

Ottawa River

Carp

W-1

W-2

W-3

W-4

Fallowfield

Jock River

Munster

Richmond

Manotick

Rideau River

Greely

S-1

S-2

S-3

S-5

Tewin

Carlsbad Springs

Cumberland

E-1

E-2

E-3

E-4

E-5

Navan

Vars

417

416

174

7

Legend

Minimum Pressure (psi)

- Min. Pressure ≤ 35 psi
- 35 psi < Min. Pressure ≤ 40 psi
- 40 psi < Min. Pressure ≤ 50 psi
- 50 psi < Min. Pressure ≤ 60 psi
- 60 psi < Min. Pressure ≤ 70 psi
- 70 psi < Min. Pressure

- Watermains
- Urban Expansion Area
- Greenbelt

Pressure Zones

- 1E
- 1W
- 2C
- 2E
- 2W
- 3SW
- 3W
- EMR
- LEIT
- ME
- MG
- MONT
- SHADOW RIDGE
- SUC
- YOW

Infrastructure Master Plan - Figure 1-15

Model Results: Existing Conditions - MXDY

Minimum Pressures (psi)

Notes

1. Coordinate System: NAD 1983 CSRS MTM 9
2. Data Sources: Background layers and growth projections provided by the City of Ottawa; hydraulic modelling results

N

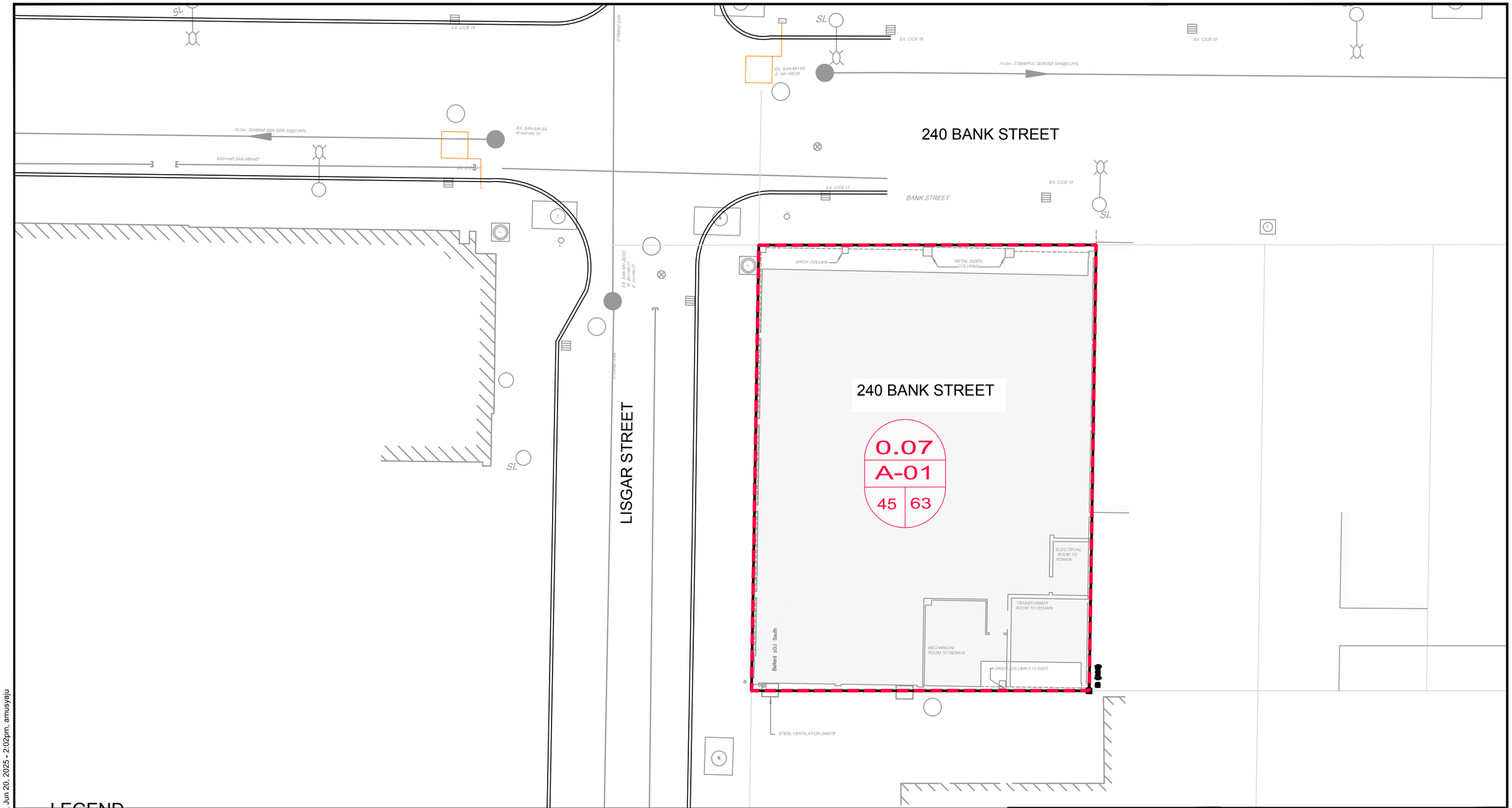
0 5 Kilometers

(At original document size of 11x17)

1:140,000

Ottawa

Appendix D
Sanitary Servicing



LEGEND

- PROPERTY LINE
- PROPOSED SANITARY SEWER AND MANHOLE
- SAN MH — EXISTING SANITARY MANHOLE & SEWER
- SANITARY SEWER DRAINAGE AREA BOUNDARY
- 0.47 / A-01 / 71 | 128 — DRAINAGE AREA (ha) / AREA ID / NO. UNITS/POPULATION

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Website www.novatech-eng.com

CITY OF OTTAWA
240 BANK STREET

SANITARY DRAINAGE AREA PLAN

SCALE 1 : 250 (0 2 4 6 8 10)
DATE JUNE 2025 | JOB 124039 | FIGURE SAN

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SHT11X17.DWG - 279mmX432mm

SANITARY SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 124039
Project Name: 240 Bank Street
Date: 4/19/2023
Input By: Anjush Musyaju, EIT
Reviewed By: Curtis Ferguson, P.Eng
Drawing Reference: 124039-SAN

Legend:
- Design Input by User
- As-Built Input by User
- Cumulative Cell
- Calculated Design Cell Output

Reference: City of Ottawa - Sewer Design Guidelines (2012 and TBs)
MOE - Design Guidelines for Sewage Works (2008)

Location				Demand																Design Capacity						
				Residential Flow										Industrial / Commercial / Institutional (ICI) Flow					Extraneous Flow Area Method		Total Design Flow	Proposed Sewer Pipe Sizing / Design						
Street	Area ID	From MH	To MH	Singles	Semis / Towns	1-Bedroom Apts	Park Area	Population (in 1000's)	Cumulative Population (in 1000's)	Average Pop. Flow Q(q) (L/s)	Design Peaking Factor M	Peak Design Pop. Flow Q(p) (L/s)	Res. Drainage Area (ha.)	Cumulative Res. Drainage Area (ha.)	Commercial / Institutional Area (ha.)	Average Design Commercial / Institutional Flow (L/s)	Commercial / Institutional Peaking Factor	Cumulative ICI Area (ha.)	Peak Design ICI Flow Q (ici) (L/s)	Cumulative Extraneous Drainage Area (ha.)	Design Extraneous Flow Q(e) (L/s)	Total Peak Design Flow Q(D) (L/s)	Pipe Length (m)	Pipe Size (mm) and Material	Pipe ID Actual (m)	Roughness n	Design Grade So (%)	Capacity Qfull (L/s)	Full Flow Velocity (m/s)	Q(D) / Qfull
Lisgard Street	A-01	Building	MH			45		0.063	0.063	0.20	3.63	0.74	0.025	0.025	0.025	0.014	1.50	0.025	0.02	0.069	0.02	0.79		200 PVC	0.203	0.013	0.32	19.4	0.60	4.1%
Totals				**0**	**0**	**45**	**0.000**	**0.063**	**0.063**	**0.20**	**3.63**	**0.74**	**0.025**	**0.025**	**0.025**	**0.014**	**1.50**	**0.025**	**0.02**	**0.069**	**0.02**	**0.79**	**0.0**							

Demand Equation / Parameters

1. **Q(D) =** Q(p) + Q(ici) + Q(e)
2. **Q(p) =** (P x q x M x K / 86,400)
3. **q =** 280 L/per person/day (design)
4. **M = Harmon Formula (maximum of 4.0)**
5. **K =** 0.8 (design)
6. **Park flow is considered equivalent to a single unit / ha**
   Park Demand = 4 single unit equivalent / park ha (~ 3,600 L/ha/day)
7. **Q(ici) =** ICI Area x ICI Flow x ICI Peak
8. **Q(e) =** 0.33 L/s/ha (design)

Definitions

Q(D) = Peak Design Flow (L/s)
Q(p) = Peak Design Population Flow (L/s)
Q(q) = Average Population Flow (L/s)

	Singles	Semis / Towns	1-Bedroom Apts
P = Residential Population =	3.4	2.7	1.4

q = Average Capita Flow
M = Harmon Formula
K = Harmon Correction Factor
Q(ici) = Industrial / Commercial / Institutional Flow (L/s)
Q(e) = Extraneous Flow (L/s)

Institutional / Commercial / Industrial	Industrial	Commercial / Institutional		Retail	
Design =	35000	28000	L/gross ha/day	**5.0**	L/m2/day
ICI Peak *					
Design =	1.5	1.5	* ICI Peak = 1.0 Default, 1.5 if ICI in contributing area is >20% (design only)		

Capacity Equation

Q full = $1000*(1/n)*A_p*R^{2/3}*So^{0.5}$

Definitions

Q full = Capacity (L/s)
n = Manning coefficient of roughness (0.013)
A_p = Pipe flow area (m^2)
R = Hydraulic Radius of wetted area (dia./4 for full pipes)
So = Pipe slope/gradient

Appendix E
Storm Servicing

LEGEND

PROPOSED DEVELOPMENT BOUNDARY

0.7 / A-01 / 0.90 — DRAINAGE AREA (ha) / DRAINAGE AREA ID / RUNOFF COEFFICIENT

PROPERTY LINE

EX. CICB 15
EX. STM-MH 5
N. INV=67.05
S. INV=67.20
600mm Ø Conc. STORM
26.5m - 750mmØ CONC. STORM @0.19%
EX. CICB 16
SL
EX. CICB 18
EX. STM-MH 6
N. INV=67.25
S. INV=67.28
EX. CICB 20
72.2m - 750mmØ Conc. STORM @0.15%
EX. CICB 17
BANK STREET
EX. CICB 19
SL
BRICK COLUMN
METAL SIDED COLUMNS
242 Bank Street
1 Storey Brick Building
(Brick Noted)
240 BANK STREET
SIX STOREY BUILDING
0.07
A-01
0.90
ELECTRICAL ROOM TO REMAIN
TRANSFORMER ROOM TO REMAIN
MECHANICAL ROOM TO REMAIN
BRICK COLUMN 0.13 EAST
Bollard ø0.1 South
(A09)
200mmØ PVC STORM
STEEL VENTILATION GRATE
STEEL VENTILATION GRATE ø0.57 WEST
EXISTING STORM INVERT
+-69.83
525mmØ CONC. STORM
LISGAR STREET
SL
360 Lisgar Street

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Website www.novatech-eng.com

CITY OF OTTAWA
240 BANK STREET

STORM DRAINAGE AREAS

SCALE 1 : 250 (0 2 4 6 8 10)
DATE JULY 2025
JOB 124039
FIGURE FIGURE 2

SHT11X17.DWG - 279mmX432mm

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STORM SEWER DESIGN SHEET

Novatech Project #: 124039
Project Name: 240 Bank Street
Date: 4/19/2023
Input By: Anjush Musyaju, EIT
Reviewed By: Curtis Ferguson, P.Eng
Drawing Reference: 124039-STM

Storm Design Event = 100 Year

Legend:
- Design Input by User
- As-Built Input by User
- Cumulative Cell
- Calculated Design Cell Output
- Calculated Uncontrolled Peak Flow Cell Output
- Design Input Restricted Peak Flow Cell

Reference: City of Ottawa - Sewer Design Guidelines (2012 and TBs)
MOE - Design Guidelines for Sewage Works (2008)

Location				Design Capacity														
				Flow							Proposed Sewer Pipe Sizing / Design							
Street	Area ID	From MH	To MH	Area A (ha.)	Runoff Coefficient C	Indivi. 2.78 AC	Accum. 2.78 AC	Time of Conc. Tc (min.)	Rain Intensity I (mm/hr)	Total Uncontrolled Peak Flow Q (L/s)	Pipe Size (mm) and Material	Pipe ID Actual (m)	Roughness n	Design Grade So (%)	Capacity Qfull (L/s)	Full Flow Velocity (m/s)	Time of Flow (min.)	Q / Qfull
Lisgar	A-01	120	EX STM	0.07	0.90	0.17	0.17	15.00	142.89	23.7	200 PVC	0.2032	0.013	2.00	48.4	1.49	0.00	49.0%
Totals				**0.07**														

Demand Equation / Parameters

1. Q = 2.78 ACI

Definitions

Q = Peak flow in litres per second (L/s)
A = Area in hectares (ha)
C = Weighted runoff coefficient (increased by 25% for 100-year)
I = Rainfall intensity in millimeters per hour (mm/hr)

Rainfall intensity is based on City of Ottawa IDF data presented in the City of Ottawa - Sewer Design Guidelines

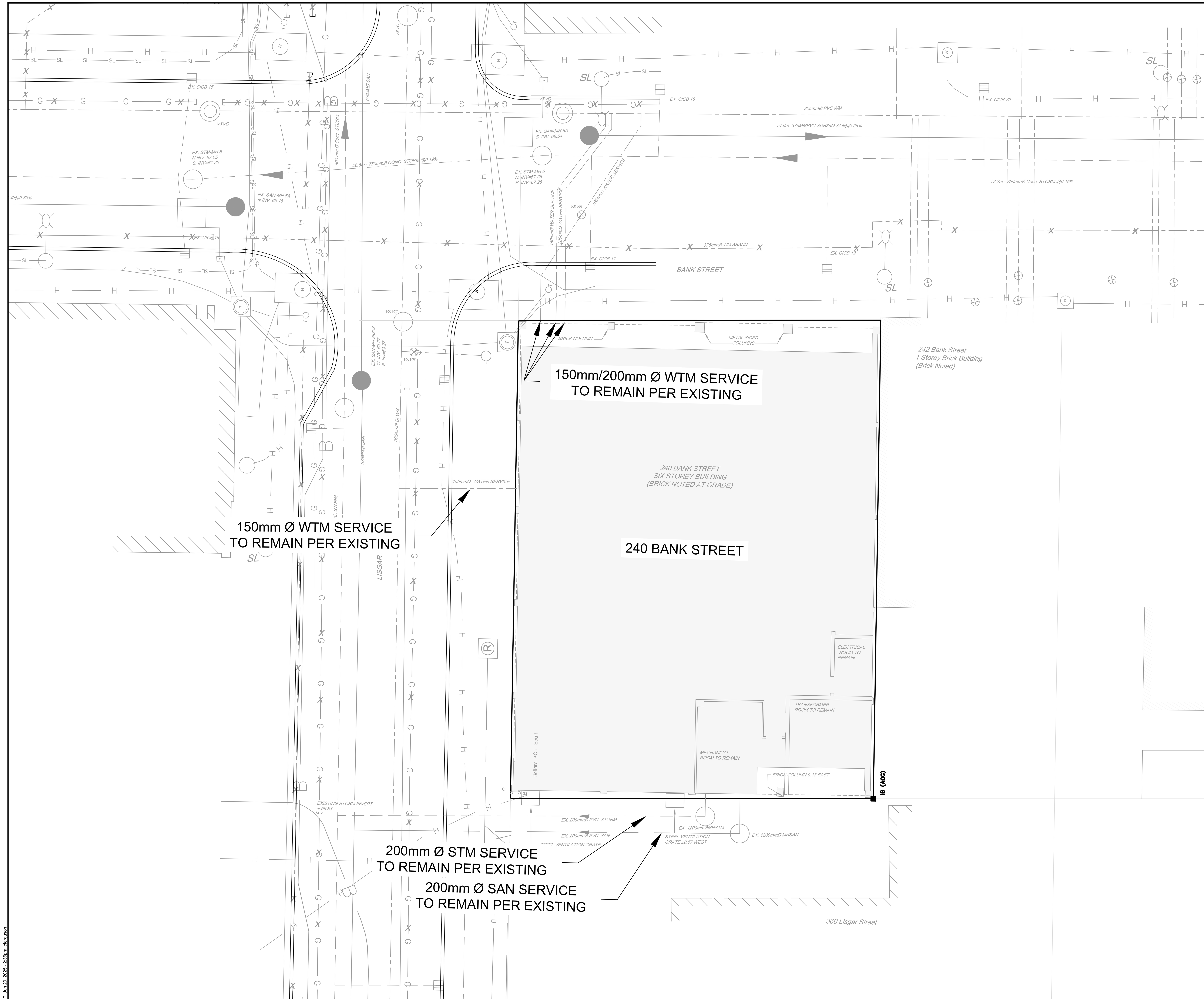
Capacity Equation

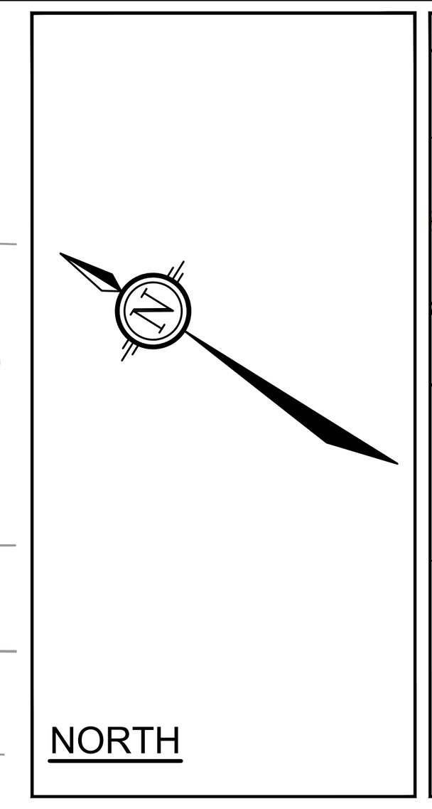
Q full = $1000*(1/n)*A_p*R^{2/3}*So^{0.5}$

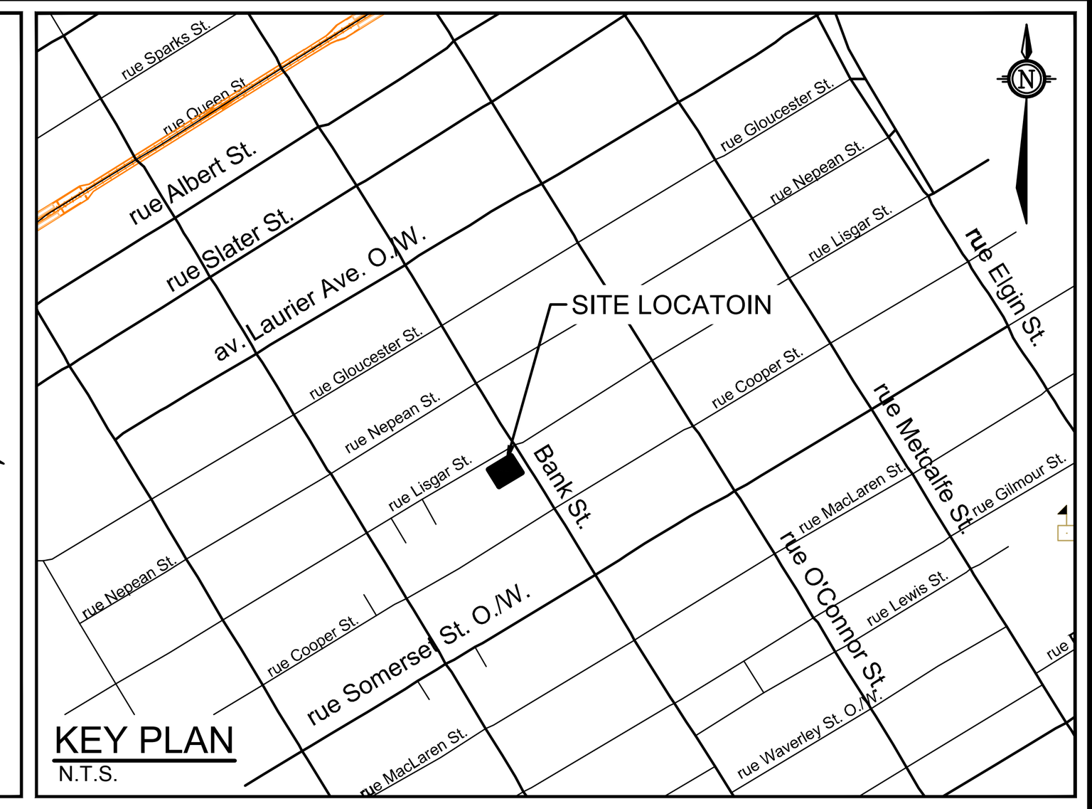
Definitions

Q full = Capacity (L/s)
n = Manning coefficient of roughness (0.013)
A_p = Pipe flow area (m^2)
R = Hydraulic Radius of wetted area (dia./4 for full pipes)
So = Pipe slope/gradient

Appendix F
Drawings







LEGEND

- IRON BAR & PROPERTY LINE
- MISC LEGAL LINE (EASEMENT, PROPERTY LINES) REFER TO LEGAL PLAN FOR DETAILS
- EXISTING BARRIER CURB
- EXISTING DEPRESSED CURB
- EXISTING WATER MAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING OVERHEAD WIRE
- EXISTING BELL DUCT
- EXISTING GAS
- SANMH — EXISTING SANITARY MANHOLE
- STMH — EXISTING STORM MANHOLE
- EXISTING CATCHBASIN
- EXISTING FIRE HYDRANT
- EXISTING WATER MAIN VALVE STOP
- SL — EXISTING STREET LIGHT
- V&VB — EXISITING VALVE LOCATION
- EXISTING HYDRO CHAMBER

GENERAL NOTES:

1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
2. DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF `ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
3. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
4. BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR $5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
5. RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
6. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
8. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
9. REFER TO SERVICING REPORT (R-2025-53) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
10. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
11. PROVIDE LINE/PARKING PAINTING.
12. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
13. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. ONTARIO PROVINCIAL STANDARDS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
14. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.

SEWER NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
SEWER TRENCH	S6 & S7	CITY OF OTTAWA
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
INSULATION FOR SHALLOW SEWERS	S35	CITY OF OTTAWA

2. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 2.0m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION (REFER TO DETAIL).
3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0% (2.0% IS PREFERRED).
4. SEWER SERVICE CONNECTIONS PER CITY OF OTTAWA DETAILS S11 AND S11.1.
5. A MINIMUM OF 150 mm OPSS GRANULAR A SHOULD BE PLACED FOR BEDDING FOR SEWER OR WATER PIPES WHEN PLACED ON A SOIL SUBGRADE. THE BEDDING SHOULD EXTEND TO THE SPRING LINE OF THE PIPE. COVER MATERIAL, FROM THE SPRING LINE TO A MINIMUM OF 300 mm ABOVE THE OBVERT OF THE PIPE, SHOULD CONSIST OF OPSS GRANULAR A (CONCRETE OR PSM PVC PIPES) OR SAND (CONCRETE PIPE). THE BEDDING AND COVER MATERIALS SHOULD BE PLACED IN MAXIMUM 225 MM THICK LIFTS AND COMPACTED TO 98% OF THE SPMDD.
6. WHERE HARD SURFACE AREAS ARE CONSIDERED ABOVE THE TRENCH BACKFILL, THE TRENCH BACKFILL MATERIAL WITHIN THE FROST ZONE (ABOUT 1.8 M BELOW FINISHED GRADE) AND ABOVE THE COVER MATERIAL SHOULD MATCH THE SOILS EXPOSED AT THE TRENCH WALLS TO MINIMIZE DIFFERENTIAL FROST HEAVING. THE TRENCH BACKFILL SHOULD BE PLACED IN MAXIMUM 225 MM THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE MATERIAL'S SPMDD. ALL COBBLES LARGER THAN 200 MM IN THEIR LONGEST DIRECTION SHOULD BE SEGREGATED FROM RE-USE AS TRENCH BACKFILL.
7. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
8. THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
9. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

WATERMAIN NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER/ABOVE SEWER	W25 / W25,2	CITY OF OTTAWA
WATERMAIN	PVC DR 18	
VALVE AND VALVE BOX	W24	CITY OF OTTAWA

2. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
3. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. ANY WATERMAIN WITH LESS THAN 2.4m COVER TO BE INSULATED PER THE SHOWN DETAIL.
4. PROVIDE MINIMUM 0.25m ABOVE, 0.5m IF BELOW, CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS PER CITY OF OTTAWA STANDARDS W25/W25.2
5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
6. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS CITY OF OTTAWA STANDARD DETAILS W-39, 40, 41, 42, 43 AND 44.
7. PROVIDE THERMAL INSULATION FOR WATERMAIN AT OPEN STRUCTURES PER CITY OF OTTAWA STANDARD DETAIL W-23.
8. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
1.	ISSUED FOR SPA	JULY 11/25	GJM

SCALE: 1:100

DESIGN	CJF
CHECKED	GJM
DRAWN	CJF
CHECKED	GJM
APPROVED	GJM

FOR REVIEW ONLY

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LOCATION
CITY OF OTTAWA
240 BANK STREET

DRAWING NAME
GENERAL PLAN OF SERVICING

PROJECT No. 124039
REV: REV # 1
DRAWING No. 124039-GP

PLANB1.DWG - 1000mmx707mm