ASSESSMENT OF ADEQUACY OF PUBLIC SERVICES
379 COOPER STREET

Project No.: CP-18-0272

City File No.: D07-12-25-0027

Prepared for:

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REV: August 08, 2025

egis

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1.0 PROJECT DESCRIPTION

1.1 Purpose

Egis Canada (Egis) has been retained by 226663 Ontario LTD to prepare this Assessment of Adequacy of Public Services Report in support of the Site Plan Control process for the proposed renovations at 379 Cooper Street within the City of Ottawa.

The main purpose of this report is to present a servicing design for the development in accordance with the recommendations and guidelines provided by the City of Ottawa (City), and the Ministry of the Environment, Conservation and Parks (MECP). This report will address the water, sanitary and storm sewer servicing for the development, ensuring that existing services will adequately service the proposed development.

1.2 Site Description

The property is located at 379 Cooper Street Within the City of Ottawa's Ward 14. It is described as Part of Lot 37, north side of Cooper Street, registered plan 12281. The land in question covers approximately 402 m^2 (0.04 ha) and is located east of the intersection of Bank Street and Cooper Street, as shown in ***Figure 1*** below. See Site Location Plan in Appendix A for more details.

Figure 1: Site Map

1.3 Proposed Development and Statistics

The development proposes to convert the existing rooming house from 10 to 13 one-bedroom dwelling units. There will be no changes to the exterior of the building. The existing entrance from Cooper Street will be maintained.

1.4 Existing Conditions and Infrastructure

The existing site is currently a developed two-and-a-half-storey rooming house with an entrance from Cooper Street and a gravel drive aisle to the parking area in the back of the site. The existing site has sanitary, water and storm services.

Sewer and watermain mapping collected from the City of Ottawa indicate that the following services exist across the property frontages within the adjacent municipal right-of-way:

- Cooper Street
    - 203 mm diameter DI watermain, within the 1W pressure zone;
    - 250 mm PVC sanitary sewer, tributary to the Rideau Canal Interceptor; and a
    - 675 mm diameter concrete storm sewer, tributary to the Rideau River approximately 1.2 km downstream.

1.5 Approvals

The proposed development is subject to the City of Ottawa site plan control approval process. Site plan control requires the City to review, provide concurrence and approve the engineering design package. Permits to construct can be requested once the City has issued a site plan agreement.

An Environmental Compliance Approval (ECA) through the Ministry of Environment, Conservation and Parks (MECP) is not anticipated to be required since the existing storm sewer system services one parcel of land, does not propose industrial use, and does not outlet to a combined sewer.

2.0 BACKGROUND STUDIES, STANDARDS, AND REFERENCES

2.1 Background Reports / Reference Information

Background studies that have been completed for the proposed site include a topographical survey, Phase I Environmental Site Assessment (ESA) and Traffic Noise Study. A topographic survey of the site was completed by McIntosh Perry Surveying Inc. (MPSI).

The following reports have previously been completed and are available under separate cover:

- Phase One Environmental Site Assessment completed by McIntosh Perry, dated August 9th, 2018.
- Traffic Noise Study by State of the Art Acoustik Inc., dated August 9th, 2018.

2.2 Applicable Guidelines and Standards

City of Ottawa:

- Ottawa Sewer Design Guidelines, City of Ottawa, SDG002, October 2012. (***Ottawa Sewer Guidelines***)
  - Technical Bulletin ISTB-2014-01 City of Ottawa, February 2014***. (ISTB-2014-01)***
  - Technical Bulletin PIEDTB-2016-01 City of Ottawa, September 2016. ***(PIEDTB-2016-01)***
  - Technical Bulletin ISTB-2018-01 City of Ottawa, January 2018***. (ISTB-2018-01)***
  - Technical Bulletin ISTB-2018-04 City of Ottawa, March 2018. ***(ISTB-2018-04)***
  - Technical Bulletin ISTB-2019-02 City of Ottawa, February 2019. ***(ISTB-2019-02)***
- Ottawa Design Guidelines – Water Distribution City of Ottawa, July 2010. (***Ottawa Water Guidelines***)
  - Technical Bulletin ISD-2010-2 City of Ottawa, December 15, 2010. ***(ISD-2010-2)***
  - Technical Bulletin ISDTB-2014-02 City of Ottawa, May 2014. **(ISDTB-2014-02)**
  - Technical Bulletin ISTB-2018-02 City of Ottawa, March 2018. ***(ISTB-2018-02)***
  - Technical Bulletin ISTB-2021-03 City of Ottawa, August 2021. ***(ISTB-2021-03)***

Ministry of Environment, Conservation and Parks:

- Stormwater Planning and Design Manual, Ministry of the Environment, March 2003. ***(MECP Stormwater Design Manual)***
- Design Guidelines for Sewage Works, Ministry of the Environment, 2008. (***MECP Sewer Design Guidelines***)

Other:

- Water Supply for Public Fire Protection, Fire Underwriters Survey, 2020. (***FUS Guidelines***)

3.0 PRE-CONSULTATION SUMMARY

A pre-consultation meeting was conducted on December 15, 2023 regarding the changes to the existing site. City Staff has required an assessment of the adequacy of the existing site services. The notes from the City of Ottawa can be found in Appendix B.

4.0 WATER SERVICING

4.1 Existing Watermain

The site is located within the 1W pressure zone, as per the Water Distribution System mapping included in Appendix C. There is an existing 203 mm diameter DI watermain within Cooper Street. The mechanical consultant has confirmed that the development is currently serviced via a 25 mm diameter HDPE water service extending from Cooper Street. There are three public hydrants within 150 m of the site.

4.2 Proposed Water Servicing

It is proposed that the proposed conversion of the rooming house will continue to be serviced via the existing 25 mm diameter HDPE water. Two existing fire hydrants within Cooper Street and one existing hydrant within Bank Street will provide the fire protection for the subject property.

Based on ***ISTB-2021-03***, the Ontario Building Code (OBC) method was utilized to determine the required fire flow for the site. The Water Supply Coefficient, 'K', for the FUS OBC was determined to be 23 (combustible construction with residential occupancy). The total building volume ('V' value) for the OBC calculation was determined to be 1,157 m^3. The results of the calculations yielded a required fire flow of 2,700 L/min. The detailed calculations for the FUS and OBC can be found in Appendix C. For reference, the Fire Underwriters Survey 2020 (FUS) method yielded a fire flow of 6,000 L/min based on a 'C' factor (type of construction) of 1.0 (ordinary type construction) and total floor area ('A' value) of 522 m^2.

The water demands for the proposed building have been calculated to adhere to the ***Ottawa Water Guidelines*** and can be found in Appendix C. The results have been summarized in ***Table 1***, below.

Table 1: Water Supply Design Criteria and Water Demands

Site Area	0.04 ha
Residential	280 L/person/day
1 Bedroom Apartment	1.4 persons/unit
Maximum Daily Peaking Factor	9.5 x avg day
Maximum Hour Peaking Factor	14.3 x avg day
Average Day Demand (L/s)	0.06
Maximum Daily Demand (L/s)	0.58
Peak Hourly Demand (L/s)	0.88
OBC Fire Flow Requirement (L/s)	45 (2,700 L/min)

The City provided the estimated water pressures at both for the average day scenario, peak hour scenario and the max day plus fire flow scenario for the demands indicated by the correspondence in Appendix C. The resulting pressures for the boundary conditions results are shown in ***Table 2***, below.

Table 2: Boundary Conditions Results

Scenario	Proposed Demands (L/s)	Connection HGL (m H_2O)*/kPa
Average Day Demand	0.06	45.8 / 449.8
Max Daily + Fire Flow Demand	0.58 + 45.00 = 45.58	39.7 / 389.0
Peak Hour Demand	0.88	37.1 / 363.5
**Adjusted for an estimated ground elevation of 69.8 m above the connection point.*		

The normal operating pressure range is anticipated to be 364 kPa during the peak hourly demand and 450 kPa during the average day demand. Demands during normal operation will not be less than 275 kPa (40 psi) or exceed 689 kPa (100 psi). During the peak daily and fire flow scenario the demand is expected to be 389 kPa,

meeting the minimum required 20 psi (140 kPa) from the ***Ottawa Water Guidelines*** at the ground level under maximum day demand and fire flow conditions.

To confirm the adequacy of fire flow to protect the proposed development, public fire hydrants within 150 m of the proposed building were analysed per City of Ottawa ***ISTB 2018-02*** Appendix I Table 1. Based on City guidelines (***ISTB-2018-02***), the existing hydrants can provide adequate fire protection to the proposed development. The results are summarized in ***Table 3***, below.

Table 3: Fire Protection Confirmation

Building	Fire Flow Demand (L/min)	Fire Hydrant(s) within 75m (5,700 L/min)	Fire Hydrant(s) within 150m (3,800 L/min)	Combined Fire Flow (L/min)
379 Cooper Street	2,700	1	2	9,500

5.0 SANITARY SERVICING

5.1 Existing Sanitary Sewers

There is an existing 250 mm diameter PVC sanitary sewer within Cooper Street. The sanitary flow from this sewer is tributary to the Rideau Canal Interceptor. The existing building is serviced by a 100-150 mm diameter pipe made of varying materials (ABS, VCP & PVC), extending from the sewer.

5.2 Proposed Sanitary Servicing

A CCTV inspection of the existing 100-150 mm lateral was conducted by Aqua Drain and is available in Appendix B. Based upon the findings of the CCTV inspection, the existing service lateral is of inadequate condition due to structural deficiencies and will be removed and replaced with a new 135 mm PVC lateral extending from the building to the 250 mm PVC sanitary sewer within Cooper Street.

The subject site is a residential building with three additional 1-bedroom units proposed (13 total 1-bedroom units). The peak design flows for the proposed building were calculated using criteria from the ***Ottawa Sewer Guidelines***. The proposed site development area (0.04 ha) will generate a flow of 0.25 L/s. ***Table 4***, below, summarizes the design parameter utilized in estimating effluent flows from the development.

Table 4: Sanitary Design Criteria

Design Parameter	Value
Site Area	0.04 ha
Residential	280 L/person/day
1 Bedroom Apartment	1.4 persons/unit
Residential Peaking Factor	3.71
Institutional/Commercial Peaking Factor	1.5
Extraneous Flow Allowance	0.33 L/s/ha

Table 5, below, summarizes the estimated wastewater flow from the proposed development. Refer to Appendix D for detailed calculations.

Table 5: Summary of Estimated Sanitary Flow

Design Parameter	Total Flow (L/s)
Total Estimated Average Dry Weather Flow	0.07
Total Estimated Peak Dry Weather Flow	0.24
Total Estimated Peak Wet Weather Flow	0.25

The capacity of a 135 mm lateral is 12.00 L/s at an assumed slope of 1%. During peak wet weather flow conditions, the service will convey the 0.25 L/s flow at a capacity of 2%. Therefore, the new building service is sufficiently sized to accommodate the additional units proposed for the development. Refer to Appendix D for the sanitary sewer design sheets.

Due to the complexity of the downstream network, City staff will need to advise of any downstream constraints.

6.0 STORM SEWER DESIGN

6.1 Existing Storm Sewers

The subject site is located within the Ottawa River West subwatershed. There is an existing 675 mm diameter concrete storm sewer within Cooper Street. Surface drainage is currently conveyed towards Cooper Street via positive drainage and collected via two existing catch basins within the sunken entrances. The catch basins convey drainage to an internal sump pit. Foundation drainage is also currently conveyed to the sump pit. Surface and foundation drainage is discharged from sump pit via a 100 mm diameter ABS storm lateral to the 675 mm sewer within Cooper Street.

6.2 Proposed Storm Sewers

A CCTV inspection of the existing 100 mm lateral was conducted by Aqua Drain and is available in Appendix B. Based upon the findings of the CCTV inspection, the existing service lateral is of inadequate condition and will be removed and replaced with a new 150 mm diameter PVC storm service extending from the building to the existing 675 mm storm sewer within Cooper Street.

As proposed site conditions for the development will remain unchanged, it is anticipated that the proposed 150 m lateral will sufficient capacity to convey storm runoff from the site. Furthermore, no additional quantity or quality control has been proposed for the development. See Section 6.3, below and Appendix E.

6.3 Existing Runoff Calculations

Runoff calculations presented in this report were derived using the Rational Method, given as:

$$Q = 2.78CIA \text{ (L/s)}$$

Where: C = Runoff coefficient
I = Rainfall intensity in mm/hr (City of Ottawa IDF curves)
A = Drainage area in hectares

It is recognized that the Rational Method tends to overestimate runoff rates. As a result, the conservative calculation of runoff ensures that any SWM facility sized using this method is expected to function as intended.

The following coefficients were used to develop an average C for each area:

Roofs/Concrete/Asphalt	0.90
Gravel	0.60
Undeveloped and Grass	0.20

As per the ***Ottawa Sewer Guidelines***, the 5-year balanced 'C' value must be increased by 25% for a 100-year storm event to a maximum of 1.0.

Runoff for the existing development was calculated using a minimum Tc of 10 minutes.

It has been assumed that the site contains no stormwater management controls for flow attenuation. The estimated pre-development peak flows for the 5- and 100-year events are summarized below in ***Table 6.*** The area of the surface types (I.e., impervious, and pervious) has been determined using information provided by the Site Plan by Woodman Architects. See Appendix E for calculations.

Table 6: Site Runoff Summary

Drainage Area	Area (ha)	Pervious Area (m^2)	Impervious Area (m^2)	C		Q (L/s)	
				5-year	100-Year	5-Year	100-Year
Site	0.04	270	130	0.67	0.76	7.80	15.03

The capacity of a 150 mm lateral is 15.89 L/s at an assumed slope of 1%. During the 5-year storm condition the service will convey the 7.80 L/s flow at a capacity of 51%. Therefore, the new building service is sufficiently sized to accommodate the existing storm runoff.

7.0 SUMMARY

- The existing residential development at 379 Cooper Street is to be converted to 13 dwelling units.
- The existing water service is anticipated to continue to service the development.
- CCTV inspection has confirmed that the conditions of the existing sanitary and storm services are inadequate. The existing sanitary service is to be replaced by a new 135 mm PVC sanitary service. The existing storm service is to be replaced by a 150 mm PVC storm service.
- There are no external changes to the site; as such no quantity or quality control has been proposed for this development.

8.0 RECOMMENDATIONS

Based on the information presented in this report, we recommend that City of Ottawa approve this Assessment of Adequacy of Public Services in support of the proposed 379 Cooper Street renovations.

This report is respectfully being submitted for approval.

Regards,

Egis Canada Ltd.

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9.0 STATEMENT OF LIMITATIONS

This report was produced for the exclusive use of 226663 Ontario LTD. The purpose of the report is to assess the existing stormwater management system and provide recommendations and designs for the post-construction scenario that are in compliance with the guidelines and standards from the Ministry of the Environment, Conservation and Parks, City of Ottawa and local approval agencies. Egis Canada reviewed the site information and background documents listed in Section 2.0 of this report. While the previous data was reviewed by Egis Canada and site visits were performed, no field verification/measures of any information were conducted.

Any use of this review by a third party, or any reliance on decisions made based on it, without a reliance report is the responsibility of such third parties. Egis Canada accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions made based on this review.

The findings, conclusions and/or recommendations of this report are only valid as of the date of this report. No assurance is made regarding any changes in conditions subsequent to this date. If additional information is discovered or becomes available at a future date, Egis Canada should be requested to re-evaluate the conclusions presented in this report, and provide amendments, if required.

APPENDIX A
KEY PLAN

LEGEND

- Site Location
- Local Road
- Major Road
- Watercourse
- Waterbody
- Wooded Area

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2018.

CLIENT: ADIB SAAD

PROJECT: 379 COOPER ST.

TITLE: SITE LOCATION

egis
115 Walgreen Road, RR3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742
https://www.egis-group.com

PROJECT NO:CP-18-0272		FIGURE:
Date	Jul., 13, 2018	1
GIS	JD	

H:\01 Project - Proposals\2018 Jobs\CP\PCP-18-0272 Adib Saad_Cooper Street Apartment_379 Cooper\GIS\mxd\Phase1 ESA\0CP-18-0272_01_SiteLocation379Cooper.mxd

APPENDIX B
BACKGROUND DOCUMENTS

File No.: PC2023-0368

Jessica D'Aoust
JD Planning
Via email: jessica@jdplan.ca

Subject: Pre-Consultation: Meeting Feedback
Proposed Site Plan Control Application – 379 Cooper Street

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on December 15, 2023.

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 3 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:

OP: Downtown Core Transect - Hub - Evolving Neighbourhood
Secondary: Central and East Downtown Core Secondary Plan
Zoning: R5B[482] H(37)

- Some inconsistencies regarding the total unit count.
- Appears as though a number of Minor Variances are required:
  - **Amenity space total: 150 sq m vs 107 sq m**
  - **Soft amenity space: 80% vs 61.5%**
  - **Potentially from Sec 60 (4) – Interpretation forthcoming.**
- Landscaping: Show the ROW treatment and try to incorporate as much landscaping as possible in the front yard to soften the frontage.
- Amenity Area (Section 137) demonstrate on plan the percentages of each space.
- Waste management:
  - The typical aisle width required for City collection is ~2m, ensure that this is provided.
- Bike parking:
  - This location seems to obstruct the drive aisle. Is there an access easement that prevents this?
  - Demonstrate compliance with all provisions in Section 111. I suggest that the lockup area be located within proximity to an entrance, lit, and properly anchored.

Urban Design

Comments:

1. This proposal does not run along or does not meet the threshold in one of the City's Design Priority Areas and need not attend the City's UDRP. Staff will be responsible for evaluating the Urban Design Brief and providing design direction.

2. **Accessibility**: We recommend checking this requirement when having 13 residential units. Wheelchair access may need to be provided.

3. **Ramp location**: If wheelchair access is required, we recommend locating in a place other than the front yard to minimize the reduction in front yard

landscaping. We can review the site layout further once additional information is available.

4. **Bike parking location**: We recommend bike parking be located in a secure and weather protected location and not in the front yard.

5. An Urban Design Brief is a required submittal and can be scoped. The Urban Design Brief should be structured by generally following the headings highlighted under Section 3 – Contents of these Terms of Reference. Please see the Urban Design Brief Terms of Reference provided.

    a. ***Note. The Urban Design Brief submittal should have a section which addresses these pre-consultation comments.***

6. This is an exciting project in an area full of potential. We look forward to helping you achieve its goals with the highest level of design resolution. We are happy to assist and answer any questions regarding the above. Good luck.

Please contact Christopher Moise, Urban Designer, for follow-up questions.

Engineering

Comments:

7. Servicing Adequacy Report (Storm, Sanitary & Water Supply)

    a. Provide existing servicing information regarding the existing infrastructure. CCTV sewer inspection is required demonstrate the service es to be reused are of adequate size, material, and condition. The servicing adequacy report should review the inspection and comment if they recommend reusing these services.

    b. Storm and Sanitary Sewer

        a. A 675 mm dia. concrete storm sewer (1989) is available within Cooper Street.

        b. A 250 mm dia. PVC sanitary sewer (1989) is available within Cooper street.

        c. Please apply the wastewater design flow parameters in Technical Bulletin PIEDTB-2018-01.

        d. Include correspondence from the Architect within the Appendix of the report confirming the number of residential units per building and a unit type breakdown for each of the buildings to support the calculated building populations.

c. A 200 mm dia. ductile iron watermain (1989) is available within Cooper Street.

d. Water Boundary condition requests must include the location of the service (map or plan with connection location(s) indicated) and the expected loads required by the proposed development, including calculations. Please provide the following information:

    a. Plan showing the proposed location of service.

    b. Type of development and the amount of fire flow required (L/min).

    c. Note: The OBC method can be used if the fire demand for the private property is less than 9,000 L/min. If the OBC fire demand reaches 9000 L/min, then the FUS method is to be used.

    d. Average daily demand: ___ l/s.

    e. Maximum daily demand: ___l/s.

    f. Maximum hourly daily demand: ___ l/s.

    g. Note: 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.

e. Flow Rates – Fire Services

    a. 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.

8. Environmental

    a. 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.

    b. 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.

c. Official Plan: Section 10. Protection of Health and Safety (ottawa.ca)

9. Grading

a. If grading alterations are proposed to the site, a grading plan prepared by relevant professional will be required to show the existing and proposed site grading.

10. Geotechnical

a. A Geotechnical Study/Investigation will be required in support of this development application if there is excavtion work proposed.

b. Geotechnical Study shall be consistent with the Geotechnical Investigation and Reporting Guidelines for Development Applications. Geotechnical Investigation and Reporting (ottawa.ca)

c. If Sensitive marine clay soils are present in this area that are susceptible to soil shrinkage that can lead to foundation and building damages. All six (6) conditions listed in the Tree Planting in Sensitive Marine Clay Soils-2017 Guidelines are required to be satisfied. Note that if the plasticity index of the soil is determined to be less than 40% a minimum separation between a street tree and the proposed building foundations of 4.5m will need to be achieved. A memorandum addressing the Tree in Clay Soil Guidelines prepared by a geotechnical engineer is required to be provided to the City. Tree Planting in Sensitive Marine Clay Soils - 2017 Guidelines (ottawa.ca)

Feel free to contact Vincent Duquette, Infrastructure Project Manager, for follow-up questions.

Noise

Comments:

11. Noise requirements

a. A Transportation Noise Assessment is required as the subject development is located within 100m proximity of Bank Street and O'Connor Street.

b. https://documents.ottawa.ca/sites/default/files/documents/enviro_noise_guide_en.pdf

Feel free to contact Vincent Duquette, Infrastructure Project Manager, for follow-up questions.

Transportation

General Comments

12. Road resurfacing at the intersection of Cooper Street and O'Connor Street targeted to start this season.

Forecast ID	LN56877
Type of Work	Road Resurfacing
Project Type	Renewal
STATUS	Planned
Construction Year	This Year
Delivered By	IS
CLIENT	Asset Management Service - Transportation Assessment Unit (IWSD)
Construction Contract	Not Available
Project Manager	Not Available

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

14. The Screening Form has indicated that the Location Trigger has been met. The existing 10 units plus the addition of 3 extra units and no parking 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*.

15. 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.

16. Please keep in mind that on street parking is not a viable option for tenants. Ensure that potential tenants are aware that there is no provision for parking.

17. All underground and above ground building footprints and permanent walls need to be shown on the plan to confirm that any permanent structure does not extend either above or below into the sight triangles and/or future road widening protection limits.

18. Permanent structures such as curbing, stairs, retaining walls, and underground parking foundation also bicycle parking racks are not to extend into the City's right-of-way limits.

19. The closure of an existing private approach shall reinstate the sidewalk, shoulder, curb, and boulevard to City standards.

20. 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.

21. 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.

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

Environment and Trees

Forester Comments:

22. **Planning Forester LP tree planting requirements:** The following Tree Conservation Report (TCR) requirements have been adapted from the Schedule E of the Urban Tree Protection Guidelines – for more information on these requirements please contact mark.richardson@ottawa.ca

23. Efforts shall be made to provide as much future canopy cover as possible at a site level, through tree planting and tree retention. The Landscape Plan shall show/document that the proposed tree planting and retention will contribute to the City's overall canopy cover over time. Please provide a projection of the future canopy cover for the site to 40 years.

24. Minimum Setbacks

    - Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.
    - Maintain 2.5m from curb.

25. Coniferous species require a minimum 4.5m setback from curb, sidewalk, or MUP/cycle track/pathway.

26. Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas.

27. Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.

28. Tree specifications

    - Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
    - Maximize the use of large deciduous species wherever possible to maximize future canopy coverage.

29. Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and if possible, include watering and warranty as described in the specification.

30. No root barriers, dead-man anchor systems, or planters are permitted.

31. No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

32. Hard surface planting

    - If there are hard surface plantings, a planting detail must be provided.
    - Curb style planter is highly recommended.
    - No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.

33. Trees are to be planted at grade.

34. Soil Volume - Please demonstrate as per the **Landscape Plan Terms of Reference** that the available soil volumes for new plantings will meet or exceed the following:

Tree Type/Size	Single Tree Soil Volume (m3)	Multiple Tree Soil Volume (m3/tree)

Ornamental	15	9
Columnar	15	9
Small	20	12
Medium	25	15
Large	30	18
Conifer	25	15

- It is strongly suggested that the proposed species list include a column listing the available soil volume.

35. Sensitive Marine Clay - Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines.

36. The City requests that consideration be given to planting native species where ever there is a high probability of survival to maturity.

Feel free to contact Mark Richardson, Forester, for follow-up questions.

Parkland

Comments:

37. Cash-in-lieu of Parkland (CILP) will be required for the three proposed units, at the rate specified in the Parkland Dedication By-law No.2022-280 (or as amended).

    - CILP rate for residential uses > 18 units/net ha = one hectare per 1,000 net residential units but shall not exceed a maximum of 10% of the gross land area where the land is less than or equal to five hectares.

38. Based on the information provided at the pre-consult, the CILP requirement will be the appraised value of 30 sq m. If the proposal changes, CILP will be re-evaluated accordingly.

39. At the site plan approval stage, the City's Corporate Real Estate Office will complete an appraisal. CILP payment will be due prior to registration of a Site Plan Agreement or Letter of Undertaking.

    Feel free to contact Kimberley Baldwin, Parks Planner, for follow-up questions.

Heritage

Comments:

40. In 2022, Council adopted the Centretown & Minto Park Heritage Conservation District Plan which came into force under By-law 2022-278. Many of the policies

and guidelines in this plan are applicable to the proposal at 379 Cooper St, which is designated under Part V of the Ontario Heritage Act and is a contributing property in the Centretown Heritage Conservation District. \the applicant is encouraged to revise the proposal to better align with the policies and guidelines outlined in the Centretown & Minto Park Heritage Conservation District Plan before submitting an application for a heritage permit. Exterior alterations to this property require a heritage permit.

41. Select policies and guidelines from the Heritage Conservation District Plan are included below with Heritage Planning comments.

    a. 6.1 & 6.5 Architectural Details and Attributes: Architectural details such as decorative brick work, terra cotta trim and panels, metal primary and secondary cornices, bargeboard and decorative trim distinguish many buildings in Centretown and Minto Park. These details bring richness and variety to the buildings and streets of the Districts.
    379 Cooper Street once had decorative bargeboard and elaborate millwork on its porch. Reinstating these details is encouraged.

    b. 7.0 Alterations: *The adaptive reuse of large historic single detached houses into multiple dwelling units is often a good way to protect and give new life to significant heritage buildings. When considering the conversion of an existing building into multiple units, avoid alterations that would result in the loss of historic attributes or negatively impact a building's character or its streetscape.*

    c. Windows and Doors: g) *The size and shape of window openings on the front façade or that are visible from the street should not be altered.*
    The application proposes converting at least three windows to doors, altering their size and shape. Please reconsider the design to better reflect this guideline. Also, please note that existing window openings do not have transoms. If alterations to window openings are required, please simplify openings and keep them as close to original size and shape as possible; this will help mitigate negative impact of introducing new elements to the front façade. Please retain existing historic wood door with transom.

    d. Porches, Balconies and Canopies: a) *The introduction of new porches, balconies or canopies may be appropriate if they are designed and located in a manner that is compatible with the existing building and the character of the Districts*. The introduction of new balconies is discouraged. Historically, this building had a veranda but not any upper balconies. Reinstating the veranda and moving the 2nd and 3rd floor balconies to the rear would lessen impacts on the front façade and allow original openings to be retained. When new balconies are proposed, they should be designed or located in a compatible manner. Adjusting placement to be centred/symmetrical and reflect the historic veranda size

and shape would greatly improve compatibility and mitigate the impact on this simple historical façade. A Juliet balcony on the 3rd floor may be another design solution to consider. I understand the configuration of units makes it challenging to adjust the proposed balconies.

e. Porches, Balconies and Canopies: d) *Traditional materials should be used for porch alterations.* Wood is appropriate and should be painted.

f. 11.3 - Front yards and private landscapes: a) *Maintain or reinstate the historic soft landscaped character of front yards.* Please maximize soft landscape. The HCD Plan gives preference to soft landscaping in front yard.

g. 11.3 - Front yards and private landscapes: b*) Linear walkways (usually about one metre in width) oriented perpendicular to street are common and should be maintained.* Please maintain the existing linear walkway.

42. Please be advised that improvements to the historic façade that restore original heritage characteristics (such as masonry cleaning, repair/replacement windows, restoration of decorative woodwork, etc..) may be eligible for matching funding up to $10,000 through the Heritage Grant Program for Building Restoration. Improvements to the heritage character of the building are welcome and would soften the impact of the proposed changes to the historic front facade.

43. A Heritage Act Acknowledgement Report is required for this application. If the proposal is adjusted to better align with the Heritage Conservation District Plan, it may be possible to proceed with a heritage permit at the staff level. If not, a Council-level permit may be required. For details on the heritage permit process, please refer to Changes to Heritage Properties.

Feel free to contact Avery Marshall, Heritage Planner, for follow-up questions.

Community issues

Comments:

44. Support adding more residential units and keeping this section of Cooper Street as a residential street. Appreciate that new 1-bedroom units are being added when the rest of the building are studio apartments. We have been receiving feedback from single people who are also looking for more affordable housing. We lost the small apartment building two doors west of the property which is being torn down to create a parking lot for the tall buildings on Lisgar Street.

45. Request that the bike to unit ratio be increase to 1:1. There is no vehicle parking available on site. Request that the nearby street parking spots be reserved for visitors and service providers and not for long-term residential parking by tenants.

46. Request that tree(s) be planted on the property.

47. Agree with the Build Heritage Planner on her comments about preserving the front of the building. Not in favour in adding a 3rd floor balcony. It's too close to the slanted roof. It may fit in better if the roof is a flat roof.

Other

48. 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. A Phase 3 pre-consultation will be required.
    a. Additional information regarding fees related to planning applications can be found here.
2. 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.
3. 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, Planner II

c.c. Jack Smith, Planner I
Christopher Moise, Urban Designer
Vincent Duquette, IPM
John Wu, IPM
Wally Dubyk, TPM
Mark Richardson, Forester
Kimberley Baldwin, Parks Planner
Avery Marshall, Heritage Planner

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VIDEO CAMERA INSPECTION REPORTS

BEDARD BP PLUMBING

BEDARD PLUMBING SERVICES

379 COOPER STREET

OTTAWA

SEPTEMBER 13, 2024

SANITARY/STORM

AQ-4689

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CAMERA INSPECTION REPORT

CUSTOMER	BEDARD PLUMBING	START	CLEANOUT ON STACK
JOB NUMBER		END	CONNECTION TO CITY SEWER
LOCATION	379 COOPER STREET	C/O DISTANCE TO WALL:	N/A
	OTTAWA, ON	PIPE DIAMETER (S)	100/150 mm
RESIDENT	SYLVAIN	PIPE MATERIAL (S)	ABS/VCP/PVC
TELEPHONE. #	613-799-4992	SEWER TYPE	SANITARY
DATE	September 13, 2024	FLOW:	DOWNSTREAM - CAMERA WITH FLOW
OPERATOR	RODNEY MacKILLICAN	TAPE/CD#:	AQ-4689
		REPORT #:	CCTV VIDEO INSPECTION

INSPECTION DONE ON PULLBACK: YES: ___ NO:

DISTANCE (M)	CODE - DESCRIPTION
0.0	START OF INSPECTION - CLEANOUT ON REAR STACK
0.1	LBD/WYE - LINE BENDS DOWN THROUGH WYE CONNECTION
0.4	LBH - ELBOW AT BASE OF STACK
1.0	LBR - LINE BENDS RIGHT
2.6	WYE 9 - WYE CONNECTION AT 9 O'CLOCK
5.8	WYE 3 - WYE CONNECTION AT 3 O'CLOCK
6.8	LBL - LINE BENDS LEFT
9.2	WYE 12 - WYE CONNECTION AT 12 O'CLOCK
11.7	WYE 12 - WYE CONNECTION AT 12 O'CLOCK
14.0	LBR - LINE BENDS RIGHT
16.8	LBR - LINE BENDS RIGHT
17.7	MC/DC - PIPE CHANGES FROM 100 mm ABS TO 150 mm VCP
17.7	BSG - START OF SUMP
18.8	ESG - END OF SUMP
21.4	CRC/OFJ - CIRCULAR CRACK AT OFFSET JOINT
25.8	MC - PIPE CHANGES MATERIAL FROM VCP TO PVC
25.8	OFJ - OFFSET JOINT AT MATERIAL CHANGE
26.0	LBR - LINE BENDS RIGHT
30.9	END OF INSPECTION - CONNECTION TO CITY SEWER

NOTES:
INSPECTION OF SANITARY LATERAL
INSPECTION FROM CLEANOUT ON REAR STACK
INSPECTION STOPPED AT 20.9 M AT CONNECTION TO CITY SEWER
PULLBACK FROM CITY SEWER DONE FOLLOWING FLUSHING

CODE DESCRIPTION

CRC - CIRCULAR CRACK
LGC - LONGITUDINAL CRACK BEG/END
FRC - FRACTURE BEG/END
PFL - PARTIAL COLLAPSE
CFL - COLLAPSE
PUN - PUNCTURE
MSP - MISSING PIPE BEG/END
BSG - START OF SAG
ESG - END OF SAG
OPJ - OPEN JOINT
OFJ - OFFSET JOINT
BKJ - BROKEN JOINT
EXG - EXPOSED GASKET
EXR - EXPOSED REBAR
LBL - LINE BENDS LEFT
LBR - LINE BENDS RIGHT
LBD - LINE BENDS DOWN
DEF - PIPE DEFORMAT'N/OVAL
SC 3 - CONNECTION AT 3 O'CLOCK
WYE 3 - WYE CONNECTION AT
PSC - PROTRUDING CONNECTION AT
AIF - ACTIVE INFILTRATION
CAL - CALCITE, LT/MED/HVY
DEB - DEBRIS, LT/MED/HVY
GRS - GREASE, LT/MED/,HVY
RTS - ROOTS, LT/MED/HVY
DC - PIPE DIAMETER CHANGE FROM_____ TO:_____
MC - PIPE MATERIAL CHANGE FROM_____ TO:
OBS - OBSTRUCTION IN PIPE
C/O - CLEAN-OUT
MAIN - MAIN SEWER IN BLDG.
CITY - CITY SEWER
FD - FLOOR DRAIN
MH - MANHOLE

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CAMERA INSPECTION REPORT

CUSTOMER	BEDARD PLUMBING	START	OUTLET FROM SUMP PIT
JOB NUMBER		END	CONNECTION TO CITY SEWER
LOCATION	379 COOPER STREET	C/O DISTANCE TO WALL:	N/A
	OTTAWA, ON	PIPE DIAMETER (S)	100 mm
RESIDENT	SYLVAIN	PIPE MATERIAL (S)	ABS
TELEPHONE. #	613-799-4992	SEWER TYPE	STORM
DATE	September 13, 2024	FLOW:	DOWNSTREAM - CAMERA WITH FLOW
OPERATOR	RODNEY MacKILLICAN	TAPE/CD#:	AQ-4689
		REPORT #:	CCTV VIDEO INSPECTION

INSPECTION DONE ON PULLBACK: YES: ___ NO:

DISTANCE (M)	CODE - DESCRIPTION
0.0	START OF INSPECTION - OUTLET FROM SUMP PIT
0.4	LBL - LINE BENDS LEFT
3.5	LBR - LINE BENDS RIGHT
3.9	LBL /WYE - LINE BENDS LEFT THROUGH WYE CONNECTION
4.2	DEB (L) - START OF LIGHT DEBRIS (SAND)
8.0	LBL - LINE BENDS LEFT
9.1	LBL - LINE BENDS LEFT
9.9	LBL - LINE BENDS LEFT
10.2	LBR - LINE BENDS RIGHT
10.2	OBS - CAMERA OBSTRUCTED BY BEND IN PIPE
10.2	END OF INSPECTION - UNABLE TO PROCEED ANY FURTHER

NOTES:
INSPECTION OF STORM LATERAL
INSPECTION FROM OUTLET IN SUMP PUMP PIT
INSPECTION STOPPED AT 10.2 M - UNABLE TO PUSH CAMERA THROUGH BEND
INSPECTION FOLLOWING FLUSHING
REMAINING DEBRIS (SAND) AS NOTED

CODE DESCRIPTION

CRC - CIRCULAR CRACK
LGC - LONGITUDINAL CRACK BEG/END
FRC - FRACTURE BEG/END
PFL - PARTIAL COLLAPSE
CFL - COLLAPSE
PUN - PUNCTURE
MSP - MISSING PIPE BEG/END
BSG - START OF SAG
ESG - END OF SAG
OPJ - OPEN JOINT
OFJ - OFFSET JOINT
BKJ - BROKEN JOINT
EXG - EXPOSED GASKET
EXR - EXPOSED REBAR
LBL - LINE BENDS LEFT
LBR - LINE BENDS RIGHT
LBD - LINE BENDS DOWN
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SC 3 - CONNECTION AT 3 O'CLOCK
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AIF - ACTIVE INFILTRATION
CAL - CALCITE, LT/MED/HVY
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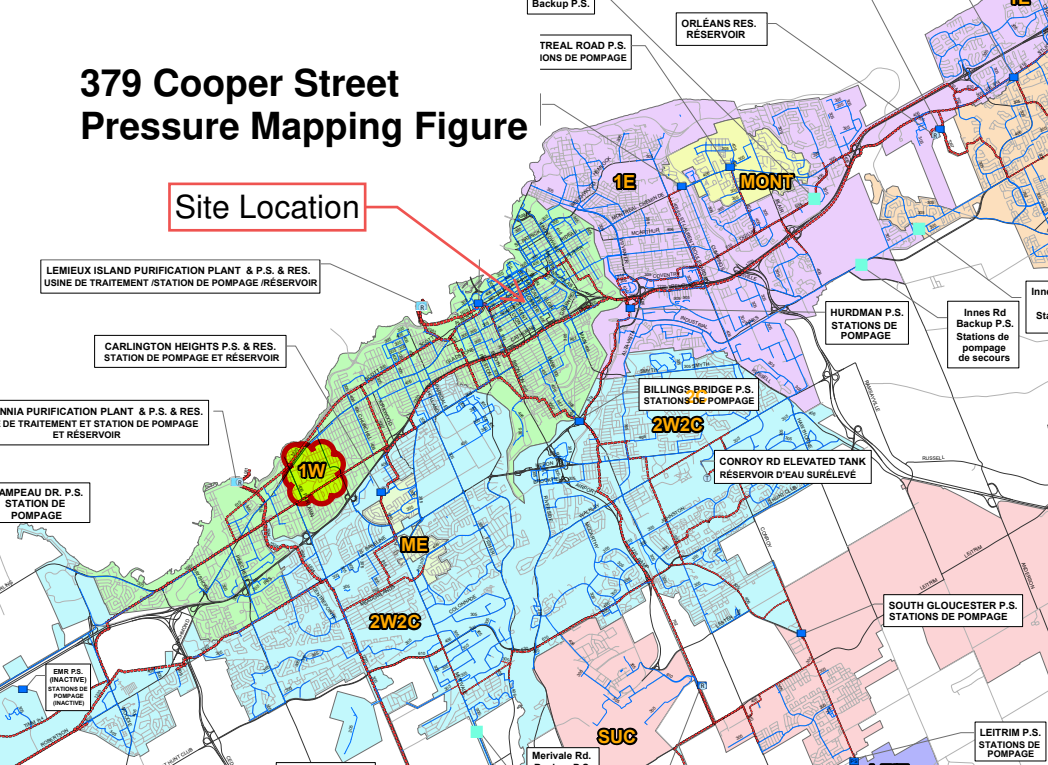
GRS - GREASE, LT/MED/,HVY
RTS - ROOTS, LT/MED/HVY
DC - PIPE DIAMETER CHANGE FROM_____ TO:_____
MC - PIPE MATERIAL CHANGE FROM_____ TO:
OBS - OBSTRUCTION IN PIPE
C/O - CLEAN-OUT
MAIN - MAIN SEWER IN BLDG.
CITY - CITY SEWER
FD - FLOOR DRAIN
MH - MANHOLE

APPENDIX C
WATERMAIN CALCULATIONS

379 Cooper Street
Pressure Mapping Figure



CP-18-0272 - 379 Cooper Street - Water Demands

Project:	379 Cooper Street
Project No.:	CP-18-0272
Designed By:	RRR
Checked By:	CJM
Date:	October 2, 2024
Site Area:	0.04 gross ha

Residential	NUMBER OF UNITS		UNIT RATE	
Single Family		homes	3.4	persons/unit
Semi-detached		homes	2.7	persons/unit
Townhouse		homes	2.7	persons/unit
Bachelor Apartment		units	1.4	persons/unit
1 Bedroom Apartment	13	units	1.4	persons/unit
2 Bedroom Apartment		units	2.1	persons/unit
3 Bedroom Apartment		units	3.1	persons/unit
Average Apartment		units	1.8	persons/unit
Total Population	19	persons		
Commercial		m2		
Industrial - Light		m2		
Industrial - Heavy		m2		

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	
Residential	280	L/c/d	
Industrial - Light	35,000	L/gross ha/d	
Industrial - Heavy	55,000	L/gross ha/d	
Shopping Centres	2,500	L/(1000m² /d	
Hospital	900	L/(bed/day)	
Schools	70	L/(Student/d)	
Trailer Park with no Hook-Ups	340	L/(space/d)	
Trailer Park with Hook-Ups	800	L/(space/d)	
Campgrounds	225	L/(campsite/d)	
Mobile Home Parks	1,000	L/(Space/d)	
Motels	150	L/(bed-space/d)	
Hotels	225	L/(bed-space/d)	
Tourist Commercial	28,000	L/gross ha/d	
Other Commercial	28,000	L/gross ha/d	
AVERAGE DAILY DEMAND	Residential	0.06	L/s
	Commercial/Industrial/ Institutional	0.00	L/s

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info.north-america@egis-group.com | www.egis-group.com

MAXIMUM DAILY DEMAND

DEMAND TYPE		AMOUNT	UNITS
Residential	9.5	x avg. day	L/c/d
Industrial	1.5	x avg. day	L/gross ha/d
Commercial	1.5	x avg. day	L/gross ha/d
Institutional	1.5	x avg. day	L/gross ha/d
MAXIMUM DAILY DEMAND	Residential	0.58	L/s
	Commercial/ Industrial/ Institutional	0.00	L/s

MAXIMUM HOUR DEMAND

DEMAND TYPE		AMOUNT	UNITS
Residential	14.3	x avg. day	L/c/d
Industrial	1.8	x max. day	L/gross ha/d
Commercial	1.8	x max. day	L/gross ha/d
Institutional	1.8	x max. day	L/gross ha/d
MAXIMUM HOUR DEMAND	Residential	0.88	L/s
	Commercial/ Industrial/ Institutional	0.00	L/s

WATER DEMAND DESIGN FLOWS PER UNIT COUNT
CITY OF OTTAWA - WATER DISTRIBUTION GUIDELINES, JULY 2010

AVERAGE DAILY DEMAND	0.06	L/s
MAXIMUM DAILY DEMAND	0.58	L/s
MAXIMUM HOUR DEMAND	0.88	L/s

CP-18-0272 - 379 Cooper Street - OBC Fire Calculations

Project:	379 Cooper Street
Project No.:	CP-18-0272
Designed By:	RRR
Checked By:	CJM
Date:	October 2, 2024

Ontario 2006 Building Code Compendium (Div. B - Part 3)

Water Supply for Fire-Fighting - Residential Building

Building is classified as Group : Group C (from table 3.2.2.55)

Building is of combustible construction. Floor assemblies are fire separations but with no fire-resistance ratings. Roof assemblies, mezzanies, loadbearing walls, columns and arches do not have a fire-resistance rating.

From Div. B A-3.2.5.7. of the Ontario Building Code - 3. Building On-Site Water Supply:

(a) Q = K x V x Stot

where:

Q = minimum supply of water in litres

K = water supply coefficient from Table 1

V = total building volume in cubic metres

Stot = total of spatial coefficient values from the property line exposures on all sides as obtained from the formula:

Stot = 1.0 + [Sside1+Sside2+Sside3+..etc.]

K	23	(from Table 1 pg A-31) (Residential occupancy {C} 'K' value used)
V	1,157	(Total building volume in m³.)
Stot	2.0	(From figure 1 pg A-32)
Q =	53,214.56 L	

→

			From Figure 1 (A-32)
Snorth	0.2	m	0.5
Seast	5.4	m	0.5
Ssouth	2.3	m	0.5
Swest	4.4	m	0.5

* approximate distances

From Table 2: Required Minimum Water Supply Flow Rate (L/s)

2700 L/min if Q < 108,000 L

713 gpm

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CP-18-0272 - 379 Cooper Street - Fire Underwriters Survey

Project:	379 Cooper Street
Project No.:	CP-18-0272
Designed By:	RRR
Checked By:	CJM
Date:	October 2, 2024

From the Fire Underwriters Survey (2020)

From Part II – Guide for Determination of Required Fire Flow Copyright I.S.O.:
City of Ottawa Technical Bulletin ISTB-2018-02 Applied Where Applicable

A. BASE REQUIREMENT (Rounded to the nearest 1000 L/min)

F = 220 x C x √A Where: F = Required fire flow in liters per minute
C = Coefficient related to the type of construction.
A = The total floor area in square meters (including all storey's, but excluding basements at least 50 percent below grade) in the building being considered.

Construction Type: Ordinary Construction

C	1		A	521.7 m^2
		Total Floor Area (per the 2020 FUS Page 20 - Total Effective Area)		521.7 m^2

* Unprotected Vertical Openings

Calculated Fire Flow	5,025.2 L/min
	5,000.0 L/min

B. REDUCTION FOR OCCUPANCY TYPE (No Rounding)

From Page 24 of the Fire Underwriters Survey:

Limited Combustible	-15%

Fire Flow	4,250.0 L/min

C. REDUCTION FOR SPRINKLER TYPE (No Rounding)

Non-Sprinklered	0%

Reduction	0.0 L/min

D. INCREASE FOR EXPOSURE (No Rounding)

	Separation Distance (m)	Cons.of Exposed Wall	Length Exposed Adjacent Wall (m)	Height (Stories)	Length-Height Factor	
Exposure 1	10.1 to 20	Fire Resistive - Non Combustible (Unprotected Openings)	35	16	560.0	8%
Exposure 2	0 to 3	Ordinary - Mass Timber (Unprotected)	33	2	66.0	18%
Exposure 3	20.1 to 30	Fire Resistive - Non Combustible (Unprotected Openings)	19	10	190.0	4%
Exposure 4	3.1 to 10	Ordinary - Mass Timber (Unprotected)	17	3	51.0	12%
					% Increase*	42%

Increase*	1,785.0 L/min

E. Total Fire Flow (Rounded to the Nearest 1000 L/min)

Fire Flow	6,035.0 L/min
Fire Flow Required**	6,000.0 L/min

* In accordance with Part II, Section 4, the Increase for separation distance is not to exceed 75%
** In accordance with Section 4 the Fire flow is not to exceed 45,000 L/min or be less than 2,000 L/min

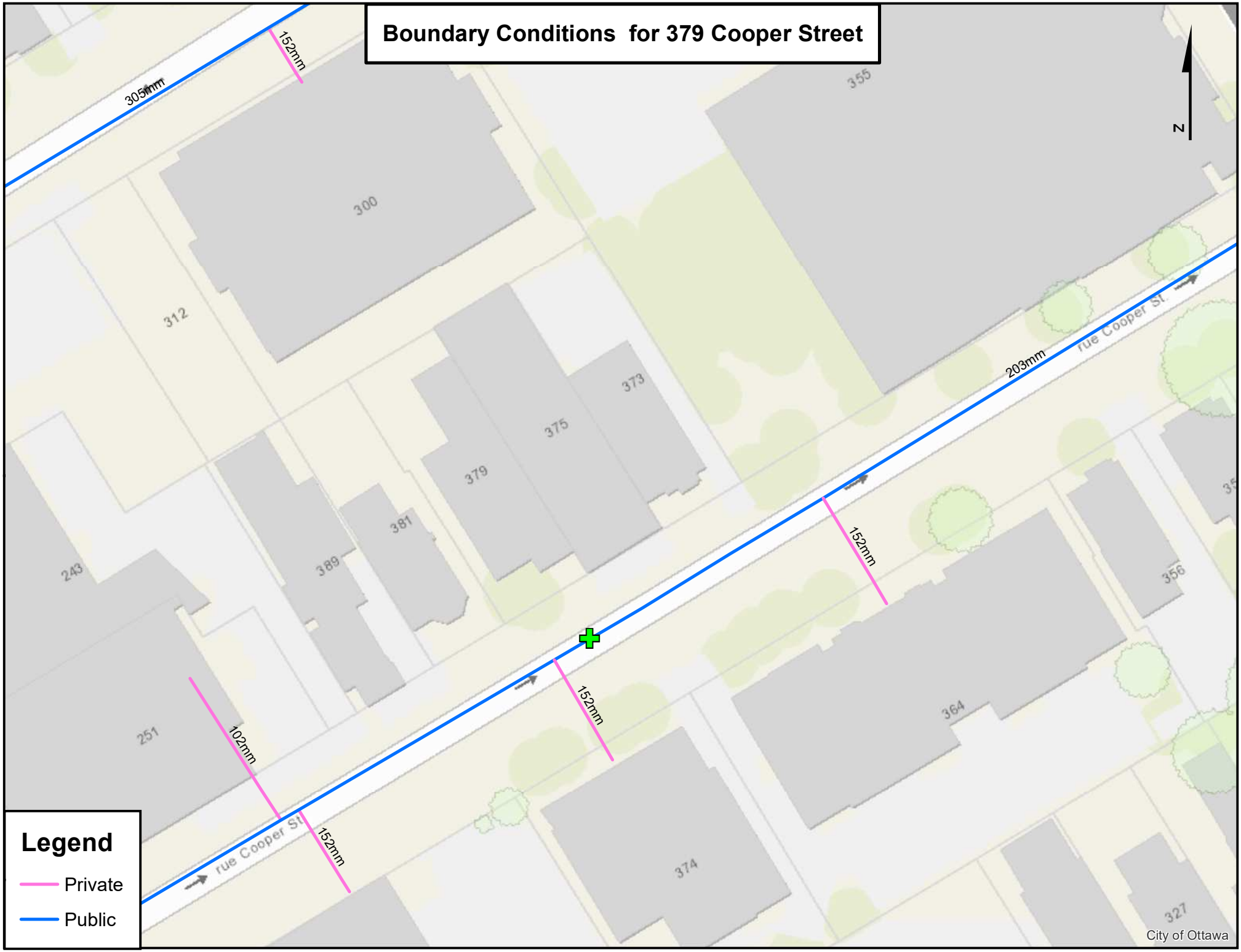
CP-18-0272 - 379 Cooper Street - Boundary Condition Unit Conversion

Project:	379 Cooper Street
Project No.:	CP-18-0272
Designed By:	RRR
Checked By:	CJM
Date:	October 2, 2024

Boundary Conditions Unit Conversion

Cooper Street

Scenario	Height (m)	Elevation (m)	m H_2O	PSI	kPa
Avg. DD	115.5	69.8	45.8	65.1	448.8
Fire Flow (45 L/s or 2,700 L/min)	109.4	69.8	39.7	56.4	389.0
Peak Hour	106.8	69.8	37.1	52.7	363.5


Boundary Conditions for 379 Cooper Street
N
305mm
152mm
300
312
355
373
375
379
381
389
243
251
203mm
rue Cooper St
152mm
152mm
102mm
152mm
rue Cooper St
364
356
374
327
Legend
Private
Public
City of Ottawa

ROBINEAU Ryan

From: Duquette, Vincent <Vincent.Duquette@ottawa.ca>
Sent: October 1, 2024 11:26 AM
To: ROBINEAU Ryan
Subject: RE: PC2023-0368 - 379 Cooper St - Boundary Condition Request
Attachments: 379 Cooper Street September 2024.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Ryan,

The following are boundary conditions, HGL, for hydraulic analysis at 379 Cooper Street (zone 1W) assumed connected to the 203mm watermain on Cooper Street (see attached PDF for location).

Minimum HGL: 106.8 m

Maximum HGL: 115.5 m

Max Day + Fire Flow (OBC-45 L/s): 109.4 m

These are for current conditions and are based on computer model simulation.

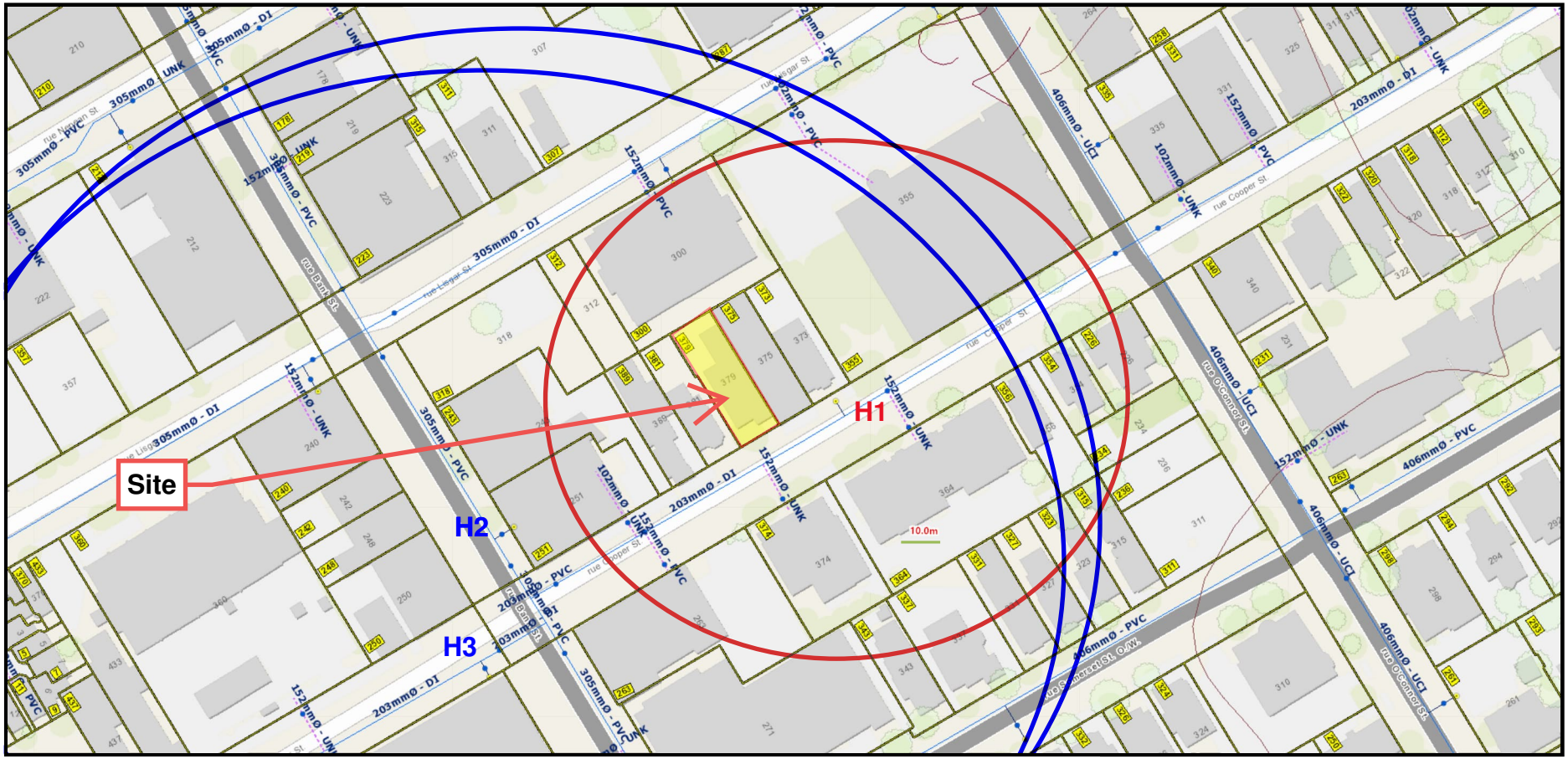
Disclaimer: The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation.

Best Regards,

Vincent Duquette, E.I.T
Project Manager, Infrastructure Approvals | Gestionnaire de projet, Projets d'infrastructure
Development Review – All Ward | Direction de l'examen des projets d'aménagement - Tous les quartiers
Planning, Development and Building Services Department (PDBS)| Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West | 110 avenue Laurier Ouest
Ottawa, ON K1P 1J1
613.580.2424 ext./poste 14048, vincent.duquette@ottawa.ca

From: Duquette, Vincent
Sent: October 01, 2024 8:27 AM

379 Cooper Street
Hydrant Coverage Figure

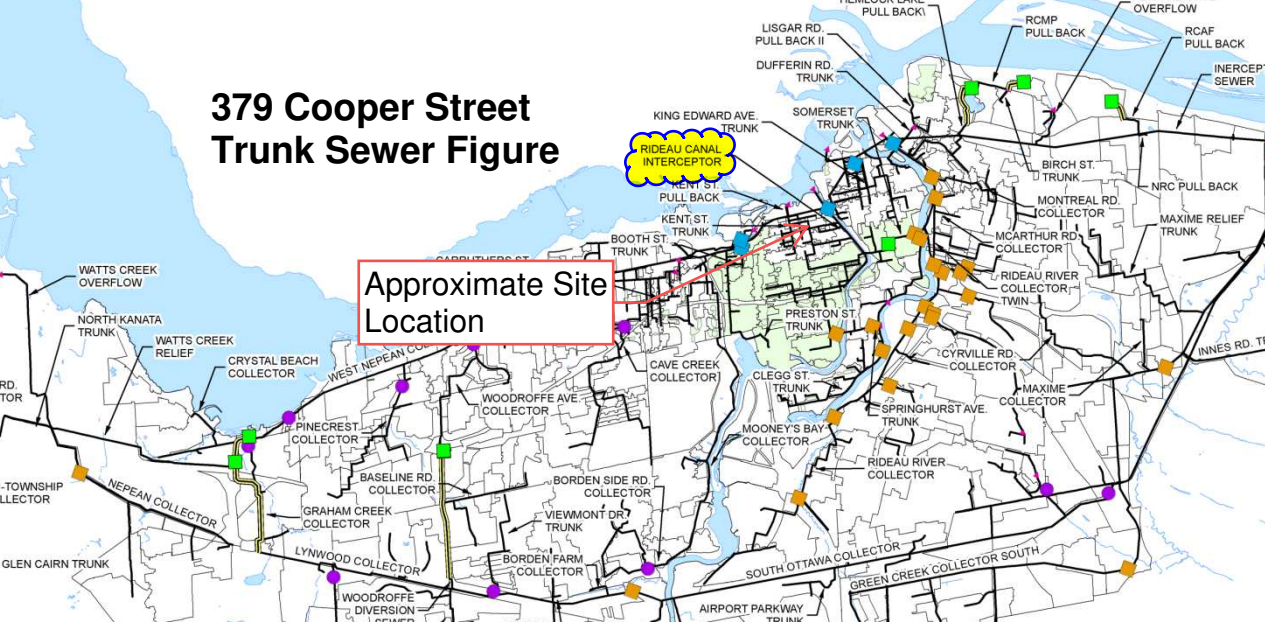


1-Hydrant within 75m

2-Hydrants within 150m

APPENDIX D
SANITARY CALCULATIONS

379 Cooper Street
Trunk Sewer Figure



CP-18-0272 - 379 Cooper Street - Sanitary Demands

Project:	379 Cooper Street			
Project No.:	CP-18-0272			
Designed By:	R.R.R.			
Checked By:	C.J.M.			
Date:	September 9, 2024			
Site Area	0.04	Gross ha		
1 Bedroom	13		1.40	Persons per unit
Total Population	19	Persons		
Commercial Area	0.00	m^2		
Amenity Space	107.30	m^2		

DESIGN PARAMETERS

Institutional/Commercial Peaking Factor	1.5	* Check technical bulleting (Either use 1.0 or 1.5)
Residential Peaking Factor	3.71	* Using Harmon Formula = 1+(14/(4+P^0.5))*0.8
		where P = population in thousands, Harmon's Correction Factor = 0.8
Mannings coefficient (n)	0.013	
Demand (per capita)	280	L/day
Infiltration allowance	0.33	L/s/Ha

EXTRANEOUS FLOW ALLOWANCES

Infiltration / Inflow	Flow (L/s)
Dry	0.00
Wet	0.01
Total	0.01

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d	19	0.06
Industrial - Light**	35,000	L/gross ha/d		0
Industrial - Heavy**	55,000	L/gross ha/d		0
Commercial / Amenity	2,800	L/(1000m^2/d)	107.30	0.003
Hospital	900	L/(bed/day)		0
Schools	70	L/(Student/d)		0
Trailer Parks no Hook-Ups	340	L/(space/d)		0
Trailer Park with Hook-Ups	800	L/(space/d)		0
Campgrounds	225	L/(campsite/d)		0
Mobile Home Parks	1,000	L/(Space/d)		0
Motels	150	L/(bed-space/d)		0
Hotels	225	L/(bed-space/d)		0
Office	75	L/7.0m^2/d		0
Tourist Commercial	28,000	L/gross ha/d		0
Other Commercial	28,000	L/gross ha/d		0

AVERAGE RESIDENTIAL FLOW	0.06	L/s
PEAK RESIDENTIAL FLOW	0.23	L/s
AVERAGE ICI FLOW	0.00	L/s
PEAK INSTITUTIONAL/ COMMERCIAL FLOW	0.01	L/s
PEAK INDUSTRIAL FLOW	0.00	L/s
TOTAL PEAK ICI FLOW	0.01	L/s

TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	0.07	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	0.24	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	0.25	L/s

** PEAK INDUSTRIAL FLOW PER CITY OF OTTAWA SEWER DESIGN GUIDELINES APPENDIX 4B

SANITARY SEWER DESIGN SHEET

PROJECT: CP-18-0272
LOCATION: 379 Cooper Street
CLIENT: Adib Saad

egis

LOCATION				RESIDENTIAL									ICI AREAS							INFILTRATION ALLOWANCE			FLOW	SEWER DATA						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
STREET	AREA ID	FROM MH	TO MH	UNIT TYPES				AREA (ha)	POPULATION		PEAK FACTOR	PEAK FLOW (L/s)	AREA (ha)						PEAK FLOW (L/s)	AREA (ha)		FLOW (L/s)	DESIGN FLOW (L/s)	CAPACITY (L/s)	LENGTH (m)	DIA (mm)	SLOPE (%)	VELOCITY (full) (m/s)	AVAILABLE CAPACITY	
				1-Bed	SD	TH	APT		IND	CUM			AMMERINTY		COMMERCIAL		INDUSTRIAL			IND	CUM								L/s	(%)
													IND	CUM	IND	CUM	IND	CUM											
Cooper Street		BLDG	EX. 250mm PVC San	13				0.04	19	19	3.71	0.23	0.01	0.01		0.00		0.00	0.01	0.04	0.04	0.01	0.25	12.00	-	135	1.00	0.812	11.75	97.94

Design Parameters:

Residential			ICI Areas			
						Peak Factor
1-BED	1.4	p/p/u				
TH/SD	2.7	p/p/u	INST	28,000	L/Ha/day	1.5
APT	2.3	p/p/u	COM	28,000	L/Ha/day	1.5
Other	60	p/p/Ha	IND	35,000	L/Ha/day	MOE Chart

Notes:
1. Mannings coefficient (n) = 0.013
2. Demand (per capita): 280 L/day
3. Infiltration allowance: 0.33 L/s/Ha
4. Residential Peaking Factor:
Harmon Formula = 1+(14/(4+P^0.5)*0.8)
where P = population in thousands

Designed: RRR
Checked: CJM
Project No.: CP-18-0272

No.	Revision	Date

Sheet No:
1 of 1

APPENDIX E
STORMWATER CALCULATIONS

CO-18-0272 - 379 Cooper Street - Existing Runoff Calcualtions

Tc (min)	Intensity (mm/hr)		
	5-Year	100-Year	
10	104.2	178.6	Existing Conditions

C-Values	
Impervious	0.90
Gravel	0.60
Pervious	0.20

Existing Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (5-year)	Average C (100-year)
A1	270	0	130	0.67	0.76

Pre-Development Runoff Calculations

Drainage Area	Area (ha)	C 5-Year	C 100-Year	Tc (min)	Q (L/s)	
					5-Year	100-Year
A1	0.04	0.67	0.76	0	7.80	15.03
Total	0.04				7.80	15.03

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STORM SEWER DESIGN SHEET

PROJECT: CCO-18-0272
LOCATION: 379 Cooper Street
CLIENT: Adib Saad

LOCATION				CONTRIBUTING AREA (ha)				RATIONAL DESIGN FLOW										SEWER DATA								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
STREET	AREA ID	FROM MH	TO MH	C-VALUE	AREA	INDIV AC	CUMUL AC	INLET (min)	TIME IN PIPE	TOTAL (min)	i (5) (mm/hr)	i (10) (mm/hr)	i (100) (mm/hr)	5yr PEAK FLOW (L/s)	10yr PEAK FLOW (L/s)	100yr PEAK FLOW (L/s)	FIXED FLOW (L/s)	DESIGN FLOW (L/s)	CAPACITY (L/s)	LENGTH (m)	PIPE SIZE (mm) DIA	W	H	SLOPE (%)	VELOCITY (m/s)	AVAIL CAP (5yr) (L/s)	(%)
Cooper Street		Building	Ex. 675mm	0.67	0.04	0.03	0.03	10.00			104.19	122.14	178.56	7.76				7.80	15.89	-	150			1.00	0.871	8.09	50.91%

Definitions:
Q = 2.78CIA, where:
Q = Peak Flow in Litres per Second (L/s)
A = Area in Hectares (ha)
i = Rainfall intensity in millimeters per hour (mm/hr)
[i = 998.071 / (TC+6.053)^0.814] 5 YEAR
[i = 1174.184 / (TC+6.014)^0.816] 10 YEAR
[i = 1735.688 / (TC+6.014)^0.820] 100 YEAR

Notes:
1. Mannings coefficient (n) = 0.013

Designed: RRR
Checked: AJG
Project No.: CCO-18-0272

No.	Revision	Date
1.		

Date:

Sheet No: 1 of 1

APPENDIX F
CITY OF OTTAWA DESIGN CHECKLIST

4. Development Servicing Study Checklist

The following section describes the checklist of the required content of servicing studies. It is expected that the proponent will address each one of the following items for the study to be deemed complete and ready for review by City of Ottawa Infrastructure Approvals staff.

The level of required detail in the Servicing Study will increase depending on the type of application. For example, for Official Plan amendments and re-zoning applications, the main issues will be to determine the capacity requirements for the proposed change in land use and confirm this against the existing capacity constraint, and to define the solutions, phasing of works and the financing of works to address the capacity constraint. For subdivisions and site plans, the above will be required with additional detailed information supporting the servicing within the development boundary.

4.1 General Content

Criteria	Location (if applicable)
☐ Executive Summary (for larger reports only).	N/A
☐ Date and revision number of the report.	On Cover
☐ Location map and plan showing municipal address, boundary, and layout of proposed development.	Appendix A
☐ Plan showing the site and location of all existing services.	N/A
☐ Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.	1.1 Purpose 1.2 Site Description 6.0 Storm Sewer Design
☐ Summary of pre-consultation meetings with City and other approval agencies.	Appendix B
☐ Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defendable design criteria.	1.1 Purpose 1.2 Site Description 6.0 Storm Sewer Design
☐ Statement of objectives and servicing criteria.	3.0 Pre-Consultation Summary

☐ Identification of existing and proposed infrastructure available in the immediate area.	N/A
☐ Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).	N/A
☐ Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.	N/A
☐ Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.	N/A
☐ Proposed phasing of the development, if applicable.	N/A
☐ Reference to geotechnical studies and recommendations concerning servicing.	N/A
☐ All preliminary and formal site plan submissions should have the following information: o Metric scale o North arrow (including construction North) o Key plan o Name and contact information of applicant and property owner o Property limits including bearings and dimensions o Existing and proposed structures and parking areas o Easements, road widening and rights-of-way o Adjacent street names	N/A

4.2 Development Servicing Report: Water

Criteria	Location (if applicable)
☐ Confirm consistency with Master Servicing Study, if available	N/A
☐ Availability of public infrastructure to service proposed development	N/A
☐ Identification of system constraints	N/A
☐ Identify boundary conditions	Appendix C
☐ Confirmation of adequate domestic supply and pressure	N/A
☐ Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.	Appendix C
☐ Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.	N/A
☐ Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design	N/A
☐ Address reliability requirements such as appropriate location of shut-off valves	N/A
☐ Check on the necessity of a pressure zone boundary modification.	N/A
☐ Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range	Appendix C, Section 4.2 Proposed Water Servicing

☐ Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.	Site Servicing Plan (C101)
☐ Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	N/A
☐ Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Appendix C
☐ Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	N/A

4.3 Development Servicing Report: Wastewater

Criteria	Location (if applicable)
☐ Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure).	N/A
☐ Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A
☐ Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A
☐ Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Section 5.2 Proposed Sanitary Servicing

☐ Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)	Section 5.2 Proposed Sanitary Servicing
☐ Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.	N/A
☐ Description of proposed sewer network including sewers, pumping stations, and forcemains.	Section 5.2 Proposed Sanitary Servicing
☐ Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A
☐ Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A
☐ Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A
☐ Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.	N/A
☐ Special considerations such as contamination, corrosive environment etc.	N/A

4.4 Development Servicing Report: Stormwater Checklist

Criteria	Location (if applicable)
☐ Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Analysis of available capacity in existing public infrastructure.	N/A
☐ A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.	Pre & Post-Development Plans
☐ Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5-year event (dependent on the receiving sewer design) to 100-year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Description of the stormwater management concept with facility locations and descriptions with references and supporting information.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Set-back from private sewage disposal systems.	N/A
☐ Watercourse and hazard lands setbacks.	N/A
☐ Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	N/A
☐ Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	N/A
☐ Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5-year return period) and major events (1:100-year return period).	Appendix G

☐ Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	Site Grading Plan (C101)
☐ Calculate pre-and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.	Appendix G, Section 7.0 Proposed Stormwater Management
☐ Any proposed diversion of drainage catchment areas from one outlet to another.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.	N/A
☐ Identification of potential impacts to receiving watercourses	N/A
☐ Identification of municipal drains and related approval requirements.	N/A
☐ Descriptions of how the conveyance and storage capacity will be achieved for the development.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ 100-year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Site Grading Plan (C101)
☐ Inclusion of hydraulic analysis including hydraulic grade line elevations.	N/A

☐ Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Section 8.0 Sediment & Erosion Control
☐ Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A
☐ Identification of fill constraints related to floodplain and geotechnical investigation.	N/A

4.5 Approval and Permit Requirements: Checklist

The Servicing Study shall provide a list of applicable permits and regulatory approvals necessary for the proposed development as well as the relevant issues affecting each approval. The approval and permitting shall include but not be limited to the following:

Criteria	Location (if applicable)
☐ Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act.	N/A
☐ Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.	N/A
☐ Changes to Municipal Drains.	N/A
☐ Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)	N/A

4.6 Conclusion Checklist

Criteria	Location (if applicable)
☐ Clearly stated conclusions and recommendations	Section 9.0 Summary Section 10.0 Recommendations
☐ Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.	All are stamped
☐ All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario	All are stamped