ASSESSMENT OF ADEQUACY OF PUBLIC SERVICES REPORT
BASELINE AND LEXINGTON – 222 BASELINE ROAD

Project No.: CCO-23-0564

Prepared for:

HP Urban Inc.
2405 St. Laurent Blvd
Ottawa, ON, K1G 5B4

Prepared by:

McIntosh Perry Consulting Engineers Ltd.
115 Walgreen Road
Carp, ON K0A 1L0

August 12th, 2022

McINTOSH PERRY

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1.0 PROJECT DESCRIPTION

1.1 Purpose

McIntosh Perry (MP) has been retained by HP Urban Inc. to prepare this Assessment of Adequacy of Public Services Report in support of the Zoning By-Law Amendment for the contemplated development located at 222 Baseline Road within the City of Ottawa.

The main purpose of this report is to demonstrate that the proposed development has access to sufficient public services in accordance with the recommendations and guidelines provided by the City of Ottawa (City), the Rideau Valley Conservation Authority (RVCA), and the Ministry of the Environment, Conservation and Parks (MECP). This report will address access to water, sanitary, and storm servicing for the development, ensuring that existing services will adequately service the contemplated development.

1.2 Site Description

The subject property, herein referred to as the site, is located at 222 Baseline Road within the River Ward. The site covers approximately ***0.07 ha*** and is located at the intersection of Baseline Road and Lexington Street. The site is zoned Residential First Density (R1GG). See Site Location Plan in ***Appendix 'A'*** for more details.

1.3 Proposed Development and Statistics

The proposed development consists of a four-storey low-rise residential building. The site plan proposes 18 units and one above grade parking spot with access from Baseline Road. Refer to ***Site Plan*** prepared by Varia Architecture: Drafting and Design Inc. included in ***Appendix B*** for reference.

1.4 Existing Conditions and Infrastructure

The site is currently developed containing a 1 ½-storey residential building and asphalt driveway. The existing building appears to be serviced by the 203 mm diameter watermain south of Baseline Road.

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

- Baseline Avenue
  - 203 mm diameter ductile iron watermain,
  - 225 mm diameter concrete sanitary sewer tributary to the Mooney's Bay collector, and a
  - 1500 mm diameter concrete storm sewer tributary to the Rideau Canal approximately 0.59 km downstream.

- Lexington Street
  - 152 mm diameter cast iron watermain, and a
  - 225 mm diameter concrete sanitary sewer tributary to the Mooney's Bay collector

1.5 Approvals

The contemplated development is subject to the City of Ottawa site plan control approval process, subsequent the zoning by-law amendment process. Site plan control requires the City to review, provided 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 for the development since the development is contained a single parcel of land, does not outlet to a combined sewershed, and does not propose industrial usage. As a result, the stormwater management system meets the exemption requirements under O.Reg 525/90.

2.0 BACKROUND STUDIES, STANDARDS, AND REFERENCES

2.1 Background Reports / Reference Information

As-built drawings of existing services, provided by the City of Ottawa Information centre, within the vicinity of the proposed site were reviewed in order to identify infrastructure available to service the contemplated development.

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-2018-03 City of Ottawa, March 2018. ***(ISTB-2018-03)***
  - Technical Bulletin ISTB-2019-01 City of Ottawa, January 2019. ***(ISTB-2019-01)***
  - 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)***

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 email was provided by City staff on April 27th, 2022, regarding the proposed site servicing. The notes from this meeting can be found in ***Appendix B***.

4.0 WATERMAIN

4.1 Existing Watermain

The site is located within the 2W2C pressure zone, as per the Water Distribution System mapping included in ***Appendix C***. There is one municipal fire hydrant along Baseline Road, one along Lexington Street, and one along Wilshire Avenue available to service the development.

4.2 Proposed Watermain

It is estimated that a 150 mm diameter water service will provide sufficient servicing to the contemplated development.

The Fire Underwriters Survey 2020 (FUS) method was utilized to estimate the required fire flow for the site. The following parameters were coordinated with the architect.

- Type of construction – Wood Frame Construction
- Occupancy Type – Limited Combustibility
- Sprinkler Protection – Standard Sprinkler System

The results of the calculations yielded a required fire flow of ***10,000 L/min*** (167 L/s) for the FUS and ***6,300 L/min*** (105 L/s) for the OBC. The detailed calculations for the FUS can be found in ***Appendix C***.

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 below:

Table 1: Water Supply Design Criteria and Water Demands

Site Area	0.07 ha
1 Bedroom Apartment	1.4 L/person/unit
2 Bedroom Apartment	2.1 L/person/unit
Residential Daily Demand	280 L/person/day
Maximum Daily Peaking Factor	9.5 x avg day
Maximum Hour Peaking Factor	14.3 x avg day

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)	HGL (m H_2O)*/kPa
Average Day Demand	0.09	55.2 / 541.9
Maximum Daily + Fire Flow Demand (OBC)	0.86 + 105	41.8 / 410.1
Maximum Daily + Fire Flow Demand (FUS)	0.86 + 167	31.5 / 309.0
Peak Hourly Demand	1.30	45.9 / 450.3
**Adjusted for an estimated ground elevation of 80.76m above the connection point.*		

The normal operating pressure range is anticipated to be 450.3 kPa to 541.9 kPa and will not be less than 275kPa (40 psi) or exceed 689 kPa (100 psi). The proposed watermains will meet the minimum required 20 psi (140 kPa) from the ***Ottawa Water Guidelines*** at the ground level under maximum day demand and fire flow conditions.

5.0 SANITARY DESIGN

5.1 Existing Sanitary Sewer

There is an existing 225 mm diameter sanitary sewer within Baseline Road and an existing 225 mm diameter sanitary sewer within Lexington Street fronting the site. The subject site currently contributes wastewater to the Mooney's Bay Collector sewer.

5.2 Proposed Sanitary Sewer

Table 3, below, summarizes the wastewater design criteria identified by the ***Ottawa Sewer Guidelines***.

Table 3: Sanitary Design Criteria

Design Parameter	Value
Site Area	0.07 ha
Residential	280 L/person/day
1 Bedroom Apartment	1.4 persons/unit
2 Bedroom Apartment	2.1 persons/unit
Residential Peaking Factor	3.69

Table 4, below, summarizes the estimated wastewater flow from the contemplated development. Refer to ***Appendix D*** for detailed calculations.

Table 4: Summary of Estimated Sanitary Flow

Design Parameter	Total Flow (L/s)
Total Estimated Average Dry Weather Flow	0.09
Total Estimated Peak Dry Weather Flow	0.34
Total Estimated Peak Wet Weather Flow	0.36

The full flowing capacity of a 135 mm diameter service at a 1% slope is estimated to be ***12.00 L/s***. Therefore, a 135 mm diameter service would be sufficiently sized to accommodate the contemplated development.

The full flowing capacity of a 225 mm diameter sanitary sewer at an assumed 0.37% slope is 28.49 L/s. Based on the wastewater calculations summarized in ***Table 4*** above, the contemplated development will occupy 1.37% of the pipe capacity within Baseline Road. Due to the complexity of the system, the City will need to advise of any downstream constraints.

6.0 STORM SEWER DESIGN

6.1 Existing Storm Sewers

Stormwater runoff from the site is currently tributary to the Rideau River within the Ottawa River West sub-watershed. There is an existing 1500 mm diameter storm sewer within Baseline Road available to service the site. The existing sewer is tributary to the Rideau River approximately 0.59 km downstream.

6.2 Proposed Storm Sewers

It is anticipated that a 200 mm diameter storm service will provide sufficient servicing for the contemplated development.

It is anticipated that runoff will be directed to the existing storm infrastructure at a restricted rate, as discussed in *Section 7.1*. It is anticipated that a combination of roof, surface and subsurface storage will be required to meet the SWM criteria identified by the City of Ottawa. Further details on the storm sewer design to be provided for the Site Plan Control application.

7.0 PROPOSED STORMWATER MANAGEMENT

7.1 Design Criteria and Methodology

Stormwater management for the site will be maintained through positive drainage away from the contemplated building and towards the adjacent ROWs. The quantitative and qualitative properties of the storm runoff for both the pre- and post-development flows are further detailed below.

In summary, the following design criteria have been employed in developing the stormwater management design for the site as directed by the RVCA and City:

Quality Control

- Quality controls are not required for the proposed development based on correspondence with the RVCA. Refer to ***Appendix B*** for reference.

Quantity Control

- Any storm events greater than 5 year, up to 100 year, and including 100-year storm event must be detained on site.
- Post-development to be restricted to the 5-year storm event, based on a calculated time of concentration greater than 10 minutes and a maximum rational method coefficient of 0.50. Refer to *Section 7.2* for further details.

7.2 Runoff Calculations

Runoff calculations presented in this report are 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 *City of Ottawa - Sewer Design Guidelines*, the 5-year balanced 'C' value must be increased by 25% for a 100-year storm event to a maximum of 1.0.

7.3 Pre-Development Drainage

It has been assumed that the existing development contained 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 5***.

Table 5: Pre-Development Runoff Summary

Drainage Area	Area (ha)	Q (L/s)	
		5-Year	100-Year
A1	0.07	7.89	15.79

7.4 Post-Development Drainage

To meet the stormwater objectives the development will contain a combination of flow attenuation with roof, surface, and subsurface storage.

Based on the criteria listed in *Section 7.2*, the development will be required to restrict flow to the 5-year storm event. It is estimated that the target release rate during the 100-year event will be ***7.89 L/s***. See ***Appendix G*** for calculations.

The following storage requirement estimate assumes that approximately 10% of the development area will be directed to the outlet without flow attenuation (Area B2). The estimated post-development peak flows for the 5 and 100-year events and the required storage volumes are summarized in ***Table 6***, below.

Table 6: Post-Development Runoff Summary

Drainage Area	Area (ha)	5-year Peak Flow (L/s)	100-year Peak Flow (L/s)	100-year Storage Required (m^3)
B1	0.062	4.67	5.24	12.98
B2	0.007	1.37	2.65	-
Total	**0.069**	**6.04**	**7.89**	**12.98**

It is anticipated that approximately ***13 m^3*** of storage will be required on site to attenuate flow to the established release rate of ***7.89 L/s***. Flow and storage calculations can be found within ***Appendix 'G'***. Actual storage volumes will need to be confirmed at the detailed design stage based on grading constraints.

8.0 SUMMARY

- The proposed development consists of a four-storey low-rise residential building. The Site Plan proposes 18 units and one parking space with drive access from Baseline Road.
- The results of the FUS calculations yielded a required fire flow of ***10,000 L/min*** (167 L/s) for the FUS and ***6,300 L/min*** (105 L/s) for the OBC.
- The development is anticipated to have a peak wet weather flow of ***0.36 L/s***.
- Based on City of Ottawa guidelines, the development will be required to attenuate post-development 5 and 100-year flows to the 5-year release rate of ***7.89 L/s***.
- It is contemplated that stormwater objectives may be met through storm water retention via roof, surface, and subsurface storage. It is anticipated that approximately ***13 m^3*** of onsite storage will be required to attenuate flow to the established release rate.
- Quality controls are not required for the proposed development based on correspondence with the RVCA.

9.0 RECOMMENDATION

Based on the information presented in this report, we recommend that City of Ottawa approve this Assessment of Adequacy of Public Services report in support of the Zoning By-Law Amendment application for the contemplated development at 222 Baseline Road.

This report is respectfully being submitted for approval.

Regards,

McIntosh Perry Consulting Engineers Ltd.

Francis Valenti, EIT.
Engineering Intern, Land Development
T: 613.714.6895
E: f.valenti@mcintoshperry.com

Alison J. Gosling, P.Eng.
Project Engineer, Land Development
T: 613.714.4629
E: a.gosling@mcintoshperry.com

10.0 STATEMENT OF LIMITATIONS

This report was produced for the exclusive use of HP Urban Inc. 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, Parks and Climate Change, City of Ottawa and local approval agencies. McIntosh Perry reviewed the site information and background documents listed in Section 2.0 of this report. While the previous data was reviewed by McIntosh Perry 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. McIntosh Perry 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, McIntosh Perry should be requested to re-evaluate the conclusions presented in this report, and provide amendments, if required.

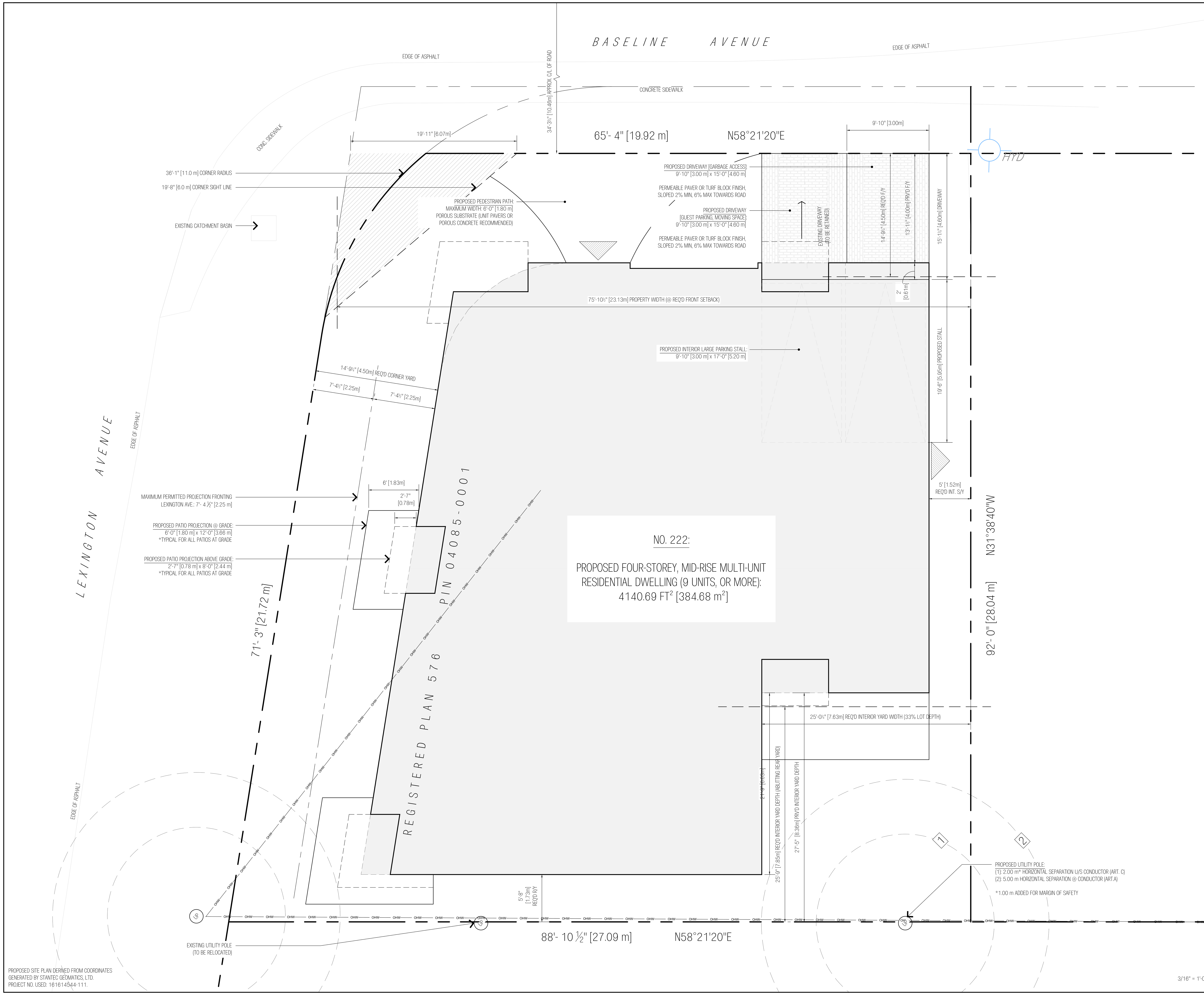
APPENDIX A
KEY PLAN

McINTOSH PERRY

CLIENT: HP URBAN Inc.		
PROJECT: 222 Baseline Road		
TITLE: SITE LOCATION		
McINTOSH PERRY 115 Walgreen Road, RR3, Carp, ON K0A 1L0 Tel: 613-836-2184 Fax: 613-836-3742 www.mcintoshperry.com	PROJECT: CCO-23-0564 DATE: MAY. 10, 2022	FIGURE: 1 SCALE: N.T.S

APPENDIX B
BACKGROUND DOCUMENTS

McINTOSH PERRY



SITE STATISTICS:

ZONING CHARACTERISTICS:
PROPOSED: ^_R4_UD

LEGAL DESCRIPTION:
NO. 222, LOT 72 - REGISTERED PLAN 576, PIN 04085-0001

PHYSICAL CHARACTERISTICS (PART 1, 5R-13215):

LOT WIDTH[1]:	75'-10 ½"	[23.13 m]	
LOT DEPTH:	92'-0"	[28.04 m]	
LOT AREA:	7446.31 FT²	[691.78 m²]	
PROP. LOT COVER:	4140.69 FT²	[384.69 m²] / 55.61%	

SUBZONE PROVISIONS (T.162 R4, UNLESS NOTED):

SUBZONE:	R4UD		
DWELLING TYPE:	LOW-RISE APARTMENT (9, OR MORE UNITS)		
MIN. LOT WIDTH:	49'-2 ½"	[15.0 m]	
MIN. LOT AREA:	4843.76 FT²	[450.0 m²]	
REQ'D. FRONT YARD:	14'-9"	[4.50 m]	
REQ'D CORNER S/Y:	14'-9"	[4.50 m]	
REQ'D. INTERIOR S/Y:	5'-0"	[1.50 m]	
REQ'D. REAR YARD:	4'-0"	[1.20 m]	| S. 144 (4).(d).(i).
*REQ'D INT. YARD W: WIDTH	25'-0"	[7.63 m]	| S.144 (6). ⅓ | *LOT*
*REQ'D INT. YARD D:	25'-9"	[7.85 m]	| T.144B.(III). | *ABUTTING*
BUILDING HEIGHT:	47'-7"	[14.50 m]	

PERMITTED PROJECTIONS (S. 65 OF BY-LAW 2008-250):

REAR BALCONIES:	R/Y +4'-0"	[1.20 m]	| S.65.(6).(b).(1).
FRONT BALCONIES:	50% OF LEXINGTON:		
	... 7'-4 ½"	[2.25 m]	| T.65.(6).(a).(II).
	50% OF BASELINE:		
	... 7'-4 ½"	[2.25 m]	| T.65.(6).(a).(II).
CANOPIES:	SAME AS ABOVE, BUT !>0.6 m		| T.65.(4).(b).(I).

LANDSCAPING PROVISIONS:

WALKWAYS:	6'-0"	[1.80 m]	| S.109.(3).(b).
DRIVEWAYS:	9'-10"	[3.00 m]	|
...BUFFERED BY	4'-0"	[0.15 m]	| S.139.(2).(C)

BICYCLE PARKING SPACE RATES:

NO. REQUIRED:	8 STALLS (0.5 / UNIT)	| T.111A, ROW (a)
...SIZED AT	2'-0" [0.6 m] W x 6'-0" [1.8 m]	| T.111B, ROW (a)

NO SPACES TO BE STACKED.

ACCESSORY USE PROVISIONS:
ROOFTOP TERRACE:

...(<4 STORIES):	5'-0"	[1.50 m]	| T.55.(8).(a).

OPAQUE SCREEN REQ'D @ REAR YARD & INTERIOR S/Y (<=1.5 m)

ADDITIONAL NOTES:

CORNER SIGHT TRIANGLE TO BE DETERMINED BY ZONING PLAN EXAMINER, OR PLANNING OFFICIAL; 6.0 m SHOWN AS PLACEHOLDER.

FOOTNOTES:

[1]: LOT WIDTH, AS TAKEN FROM REQUIRED FRONT YARD SETBACK AT RIGHT ANGLES FROM INNER LOT LINE TO INNER LOT LINE.

GRAPHIC LEGEND:

ZONING ENVELOPE
HIDDEN ABOVE / BELOW
PROPERTY LINE
SETBACK / EASEMENT LINE
FENCE LINE
OHW OVERHEAD WIRES

VARIA ARCHITECTURE

VARIA ARCHITECTURE: DRAFTING & DESIGN INC.
14 RUE DE SETO (APT. 1),
GATINEAU, QC,
J9J 4E8
dube0167@algonquinlive.com
(613)-552-9973

CLIENT:

GENERAL NOTES:

DO NOT SCALE THESE DRAWINGS.

DRAWINGS NOT TO BE USED FOR CONSTRUCTION UNTIL APPROVED BY IN WRITING FROM CORY DUBEAU.

CONTRACTOR(S) TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF ANY WORK. ALL ERRORS, OMISSIONS AND DISCREPANCIES ARE TO BE FORWARDED IN WRITING WITHIN TWO (2) BUSINESS DAYS, UPON DISCOVERY. THE ABOVE MAY PROCEED CONTINGENT UPON MUTUAL AGREEMENT BETWEEN APPOINTED DESIGNER AND CONTRACTOR.

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THE APPOINTED DESIGNER DOES NOT ASSUME ANY RESPONSIBILITY AND / OR LIABILITY IF THE ABOVE CONDITIONS ARE NOT MET.

REVISIONS:

NO.	DESCRIPTION	DATE
1	ISSUED FOR INTERNAL REVIEW	APR/18/2022
2	V2 LAYOUTS: POST-PRECON	JUN / 20 / 2022

NORTH ARROW:

112 DUE NORTH

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD, OTTAWA, ON, K2C 0A2

DRAWING NAME:

ARCHITECTURAL SITE PLAN: (ZONING + STATISTICS)

DRAWN BY: CORY DUBEAU

REVIEWED BY: N/A

SCALE: 3/16" = 1'-0"

SHEET NUMBER: A100a

PROJECT NO.: 0029

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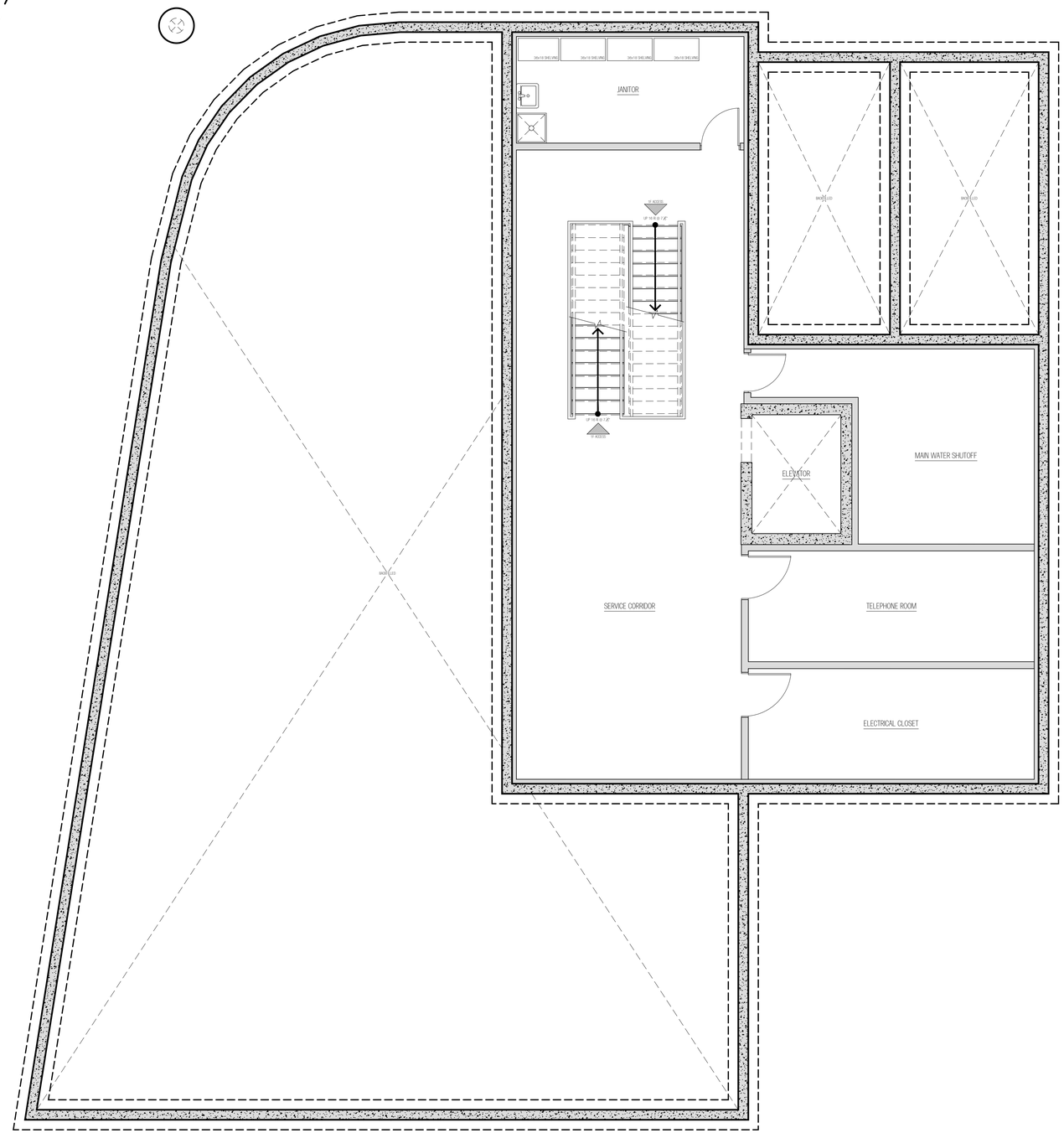

VARIA ARCHITECTURE

VARIA ARCHITECTURE: DRAFTING & DESIGN INC.

1-4 RUE DE SETO (APT. 1),
GATINEAU QC,
J9J 4E8

dubeO167@algonquinlive.com
(613)-552-9973

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112 DUE NORTH

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD, OTTAWA, ON, K2C 0A2

DRAWING NAME:

BASEMENT LEVEL: (SCHEMATIC LAYOUT)

DRAWN BY: CORY DUBEAU

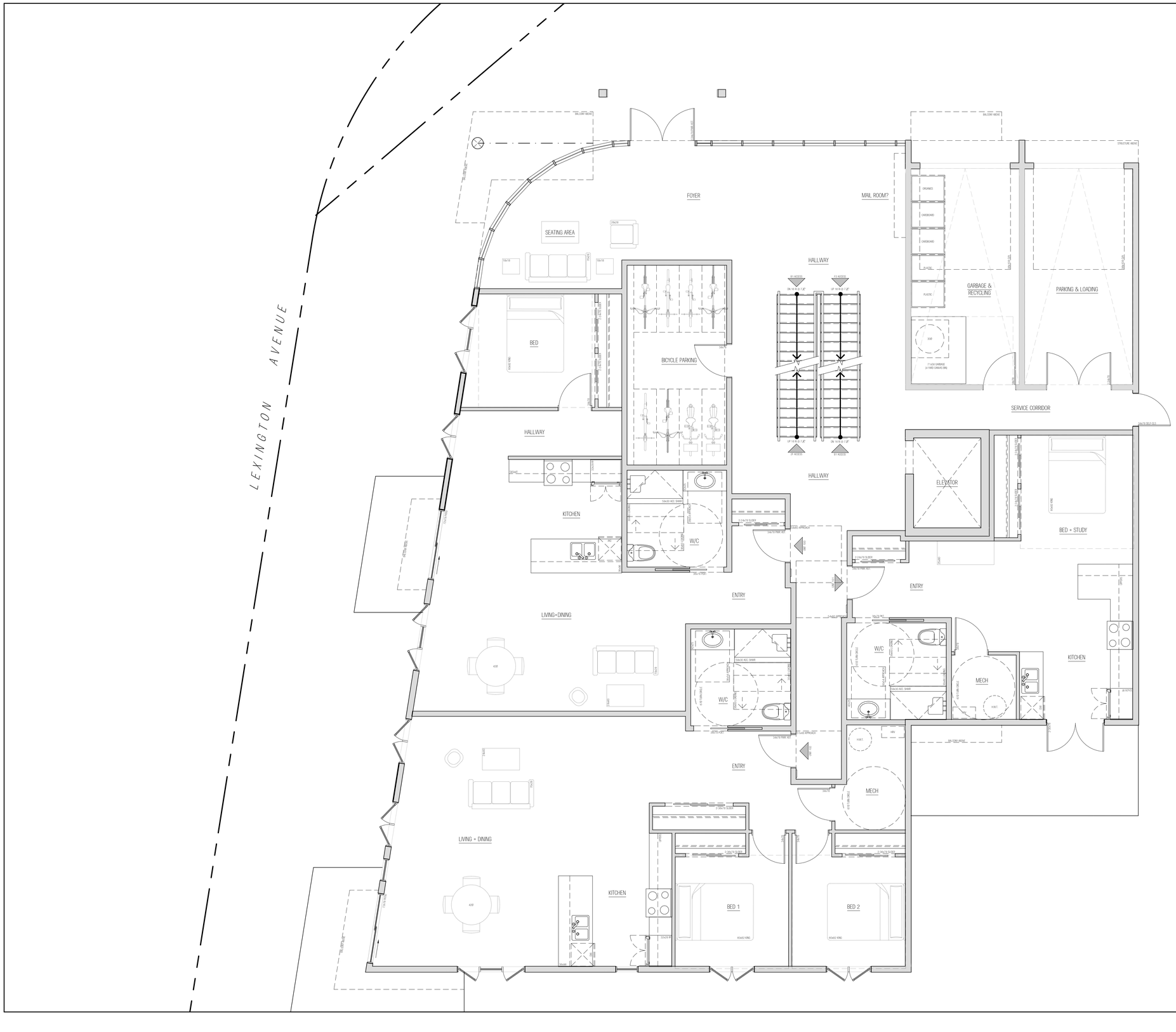
REVIEWED BY: N/A

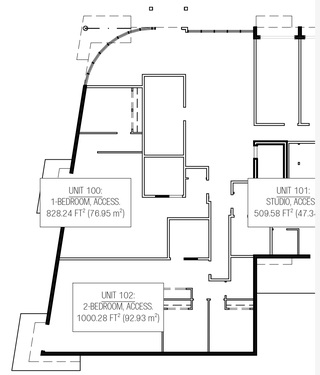
SCALE: 1/4" = 1'-0"

PROJECT NO.: 0029

SHEET NUMBER:

A101





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GATINEAU QC,
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112 DUE NORTH

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD, OTTAWA, ON, K2C 0A2

DRAWING NAME:

GROUND FLOOR (SCHEMATIC LAYOUT)

DRAWN BY: CORY DUBEAU

REVIEWED BY: N/A

SCALE: 1/4" = 1'-0"

SHEET NUMBER: A102

PROJECT NO.: 0029

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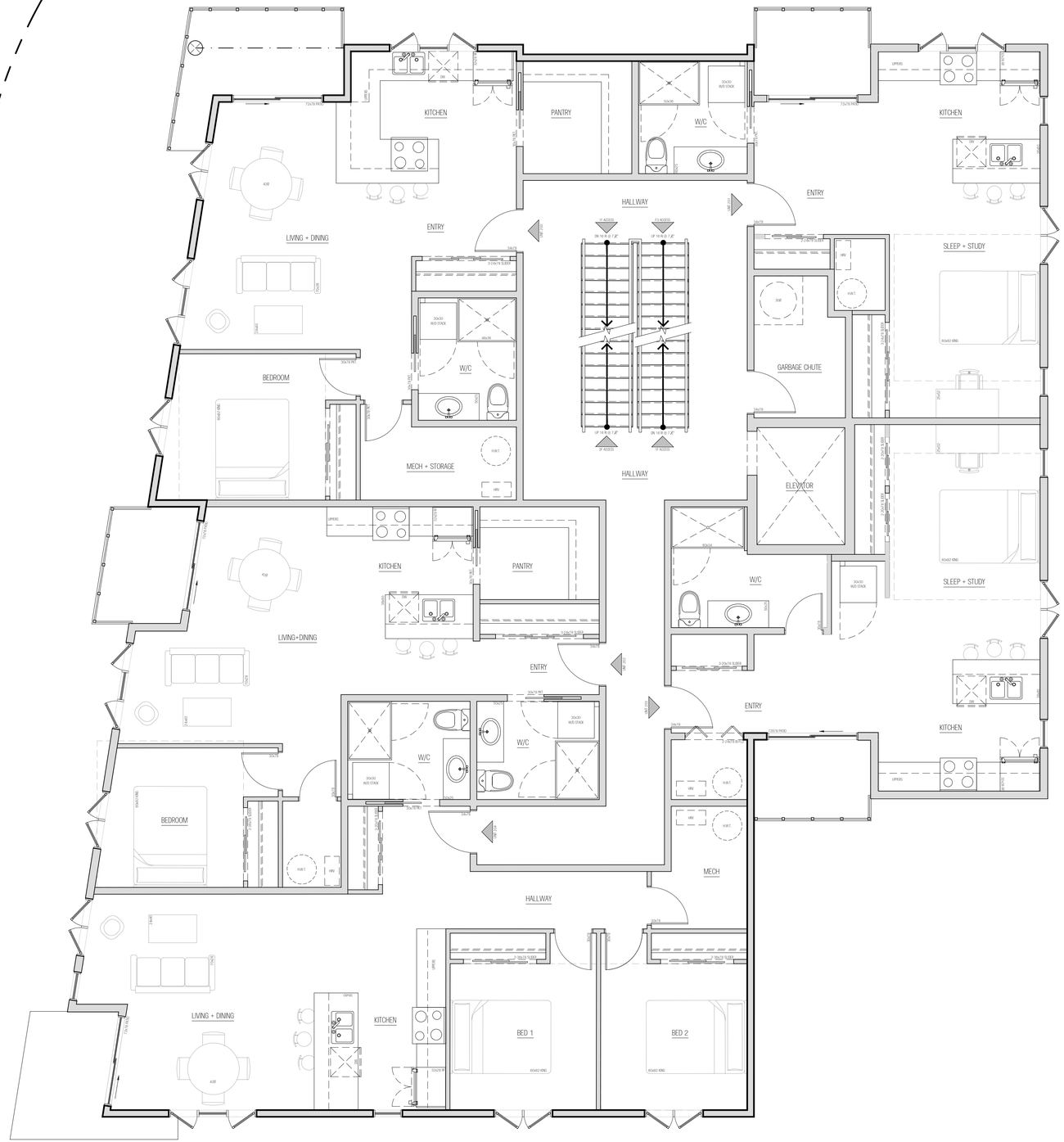
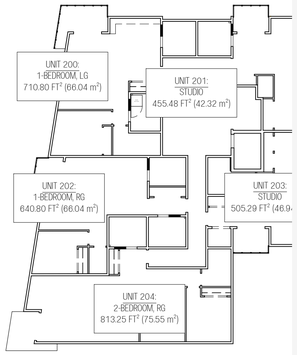
LEXINGTON AVENUE





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REVISIONS:

NO.	DESCRIPTION	DATE
1	ISSUED FOR INTERNAL REVIEW	APR/18/2022
2	V2 LAYOUTS: POST-PRECON	JUN / 20 / 2022

NORTH ARROW:

112 DUE NORTH

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD, OTTAWA, ON, K2C 0A2

DRAWING NAME:

SECOND FLOOR (SCHEMATIC LAYOUT)

DRAWN BY: CORY DUBEAU

REVIEWED BY: N/A

SCALE: 1/4" = 1'-0"

PROJECT NO.: 0029

SHEET NUMBER:

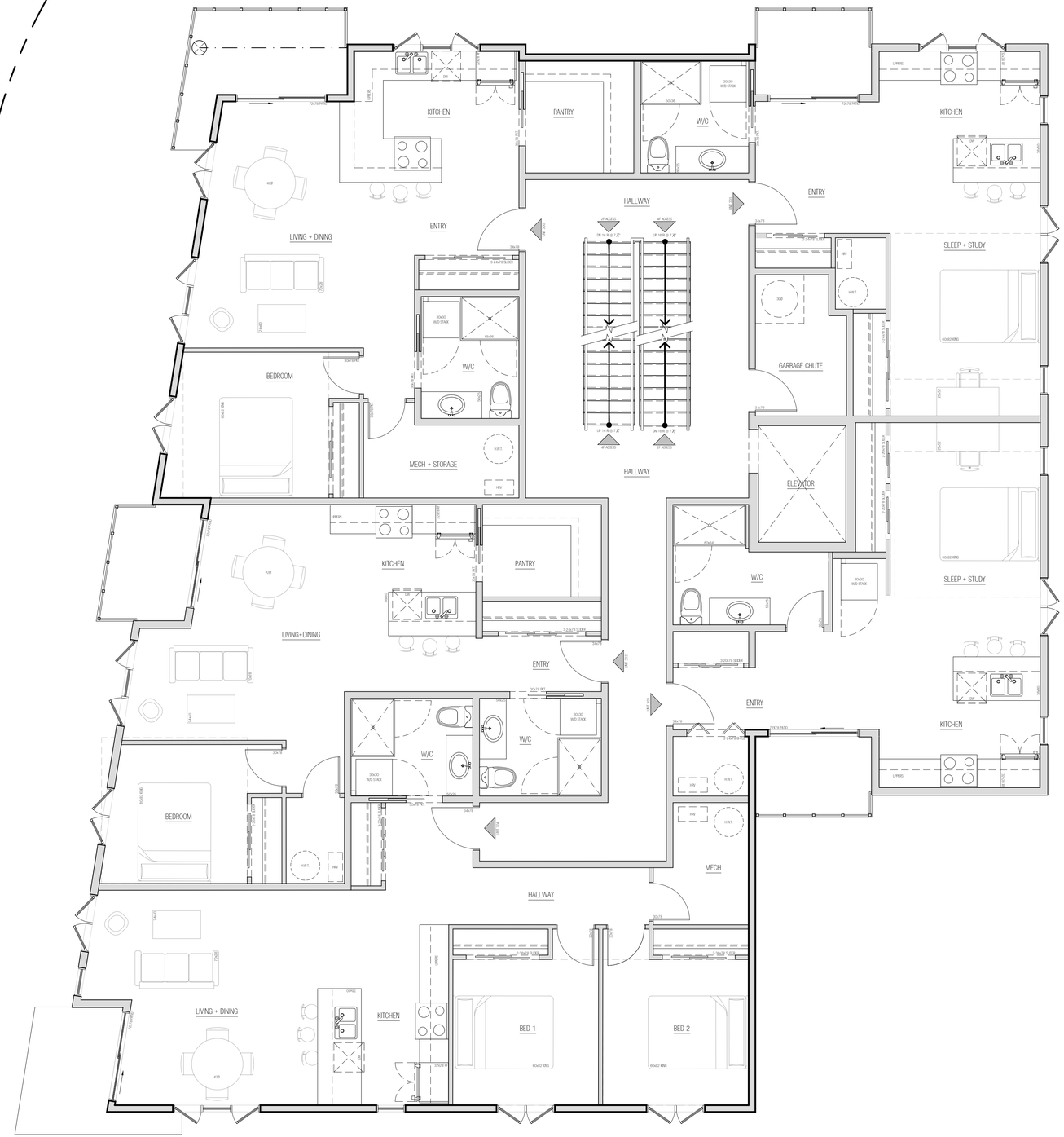
A103

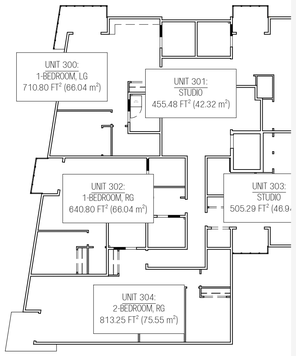
PROJECT DIR: C:\Users\cory\OneDrive\Documents\OneDrive - Varia Architecture Drafting & Design\1 Varia Architecture\09 Hume, 222 Baseline Ave\CAD\222 Baseline Proposal.dwg

PLOTTED: July 14, 2022 3:04:53 PM

ARCH EXPAND D (36.00 X 24.00 INCHES)

LEXINGTON AVENUE





VARIA ARCHITECTURE

VARIA ARCHITECTURE: DRAFTING & DESIGN INC.

1-A RUE DE SETO (APT. 1),
GATINEAU QC,
J9J 4E8

dubeO167@algonquinlive.com
(613)-552-9973

CLIENT:

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2	V2 LAYOUTS: POST-PRECON	JUN / 20 / 2022

NORTH ARROW:

112 DUE NORTH

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD, OTTAWA, ON, K2C 0A2

DRAWING NAME:

THIRD FLOOR:
(SCHEMATIC LAYOUT)

DRAWN BY: CORY DUBEAU

REVIEWED BY: N/A

SCALE: 1/4" = 1'-0"

PROJECT NO.: 0029

SHEET NUMBER:

A104

VARIA ARCHITECTURE

DRAFTING & DESIGN (VADD)
cory.dubeau@vadd.ca
613-552-9973

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NO.	DESCRIPTION	DATE
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NORTH ARROW:

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD., OTTAWA, ON, K2C 0A2

DRAWING NAME:

SOUTH-WEST (FRONT) ELEVATION

DRAWN BY: CORY DUBEAU

REVIEWED BY: -

SCALE: 1/4" = 1'-0"

SHEET NO.: A401

PROJECT NO.: 0029

ARCH EXPAND D (36.00 x 24.00 INCHES)

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NORTH ARROW:

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD., OTTAWA, ON, K2C 0A2

DRAWING NAME:

NORTH-WEST (RIGHT) ELEVATION

DRAWN BY: CORY DUBEAU

REVIEWED BY: -

SCALE: 1/4" = 1'-0"

SHEET NO.:

A402

PROJECT NO.: 0029

PROJECT DIR: C:\Users\cory\OneDrive\Documents\OneDrive - Varia Architecture Drafting & Design\1 Varia Architecture\29 Varia 222 Baseline Ave\ADR\V2 222 Baseline Rd\Schematic\Design.rvt

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DESIGN OPTIONS DRAWING KEY

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613-552-9973

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NO.	DESCRIPTION	DATE

NORTH ARROW:

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD., OTTAWA, ON, K2C 0A2

DRAWING NAME:

NORTH-EAST (REAR) ELEVATION

DRAWN BY: CORY DUBEAU

REVIEWED BY: -

SCALE: 1/4" = 1'-0"

SHEET NO.:

PROJECT NO.: 0029

A403

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PLOTTED: 2022-10-13 4:36:59 PM

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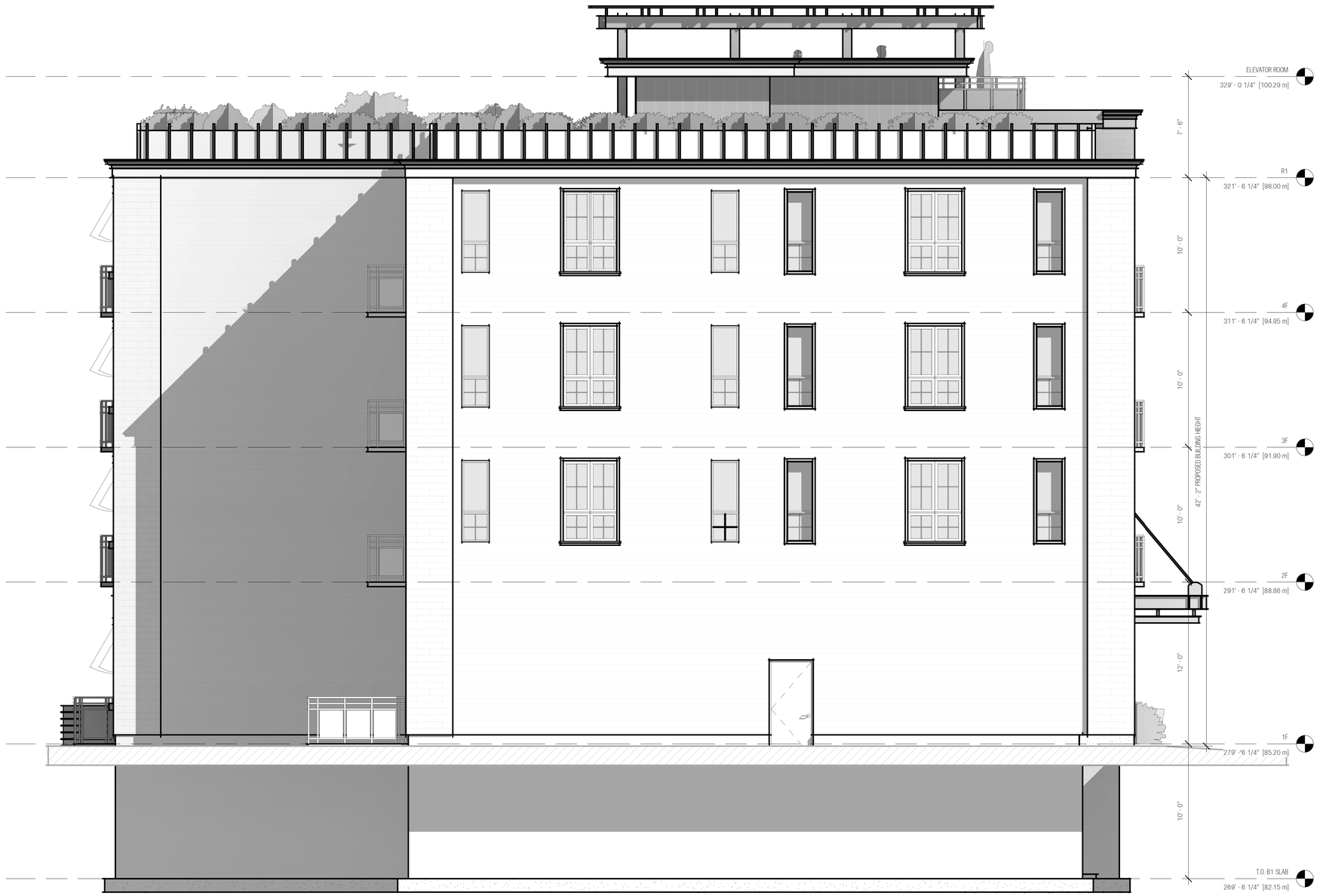

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cory.dubeau@vadd.ca
613-552-9973

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PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD., OTTAWA, ON, K2C 0A2

DRAWING NAME:

SOUTH-EAST (LEFT) ELEVATION

DRAWN BY: CORY DUBEAU

REVIEWED BY: -

SCALE: 1/4" = 1'-0"

SHEET NO.: A404

PROJECT NO.: 0029

PROJECT DIR: C:\Users\cory\OneDrive\Documents\2nd Year - Varia Architecture\Drafting & Design\Varia Architecture\29 Hunt 222 Baseline Rd\0029 222 Baseline Rd_Schematic Design.rvt

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ARCH D (609.6 x 914.4 mm)

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cory.dubeau@vadd.ca
613-552-9973

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NORTH ARROW:

PROJECT TITLE:

LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD., OTTAWA, ON, K2C 0A2

DRAWING NAME:

CORNER VIEW - TOP-DOWN

DRAWN BY: Author

REVIEWED BY: Checker

SCALE:

PROJECT NO.: 0029

SHEET NO.: A405

ARCH EXPAND D (36.00 x 24.00 INCHES)

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VARIA
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613-552-9973

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DRAWING NAME:

CORNER VIEW - TOP-UP

DRAWN BY: Author

REVIEWED BY: Checker

SCALE:

PROJECT NO.: 0029

SHEET NO.: A406

ARCH EXPAND D (36.00 x 24.00 INCHES)

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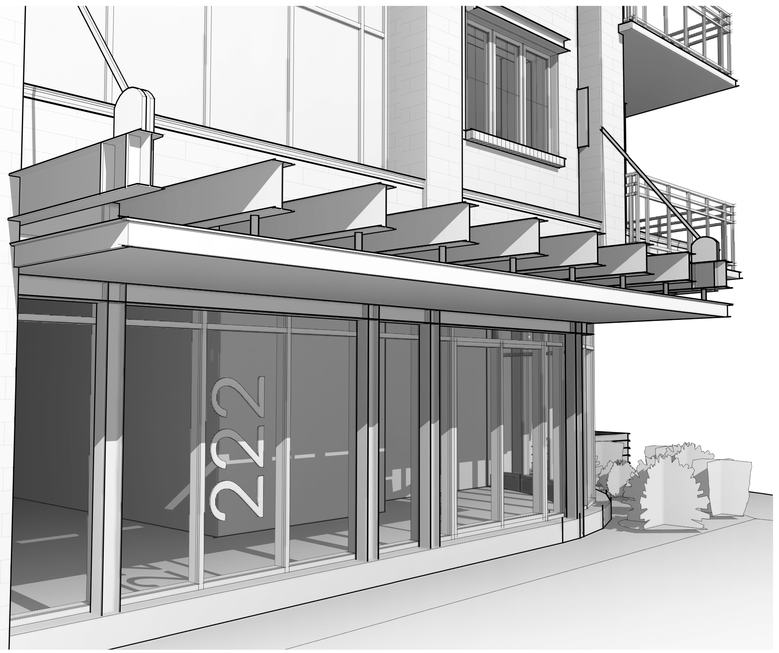
1 LEXINGTON TRANSITION



2 ENTRY DETAIL

3 CORNER WALL RHYTHM

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cory.dubeau@vadd.ca
613-552-9973

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NO.	DESCRIPTION	DATE

NORTH ARROW:

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LOW-RISE MULTI-UNIT RESIDENCE PROPOSAL: 222 BASELINE RD., OTTAWA, ON, K2C 0A2

DRAWING NAME:

VARIOUS DETAILS

DRAWN BY: Author

REVIEWED BY: Checker

SCALE:

PROJECT NO.: 0029

SHEET NO.:

A407

PLOTTED: 2022-07-19 4:19:54 PM

PROJECT DIR: C:\Users\cory\OneDrive\Documents\OneDrive - Varia Architecture\Drafting & Design\Varia Architecture\2-Varia_222 Baseline Rd\CAD\V2_222 Baseline Rd_Schematic Design.rvt

Formal Pre-Application Consultation Meeting Minutes
PC2022-0107
222 Baseline Road
Wednesday, April 27, 2022 at 11:00 am – 12:00 pm

Attendees

City of Ottawa
Urja Modi, File Lead – Planner I
Eric Harrold, Infrastructure Project Manager
Ann O'Connor, Urban Design
Burl Walker, Parks Planner
Mark Richardon, Forester

Applicant Team
Peter Hume, Owner
Lisa Dalla Rosa, Planner
Thomas Freeman, Planner
Cory Dubeau, Architect

Please note the City's Forester, Mark Richardson, and the Transportation Project Manager, Neeti Paudel, were not able to attend the meeting; their comments have been added to the meeting notes.

Brief Overview

The applicant request a pre-application consultation meeting to discuss a potential rezoning from Residential First Density, Subzone GG ("R1GG") to Residential Fourth Density, Subzone UD ("R4UD") on the site of 222 Baseline Road. The applicant is potentially proposing a 4-storey, 17 unit apartment dwelling on the site with zero vehicular parking spaces and 8 indoor bicycle parking spaces.

Please note the comments below do not fully address Site Plan Control requirements. Nonetheless, comments by certain disciplines have been asterisked as they only pertain to a future Site Plan Control application. Comments will be updated at the time of the Site Plan Control pre-application consultation meeting.

Notes & Comments

Eric Harrold, *Infrastructure Project Manager*

List of Reports and Plans (Zoning By-Law Amendment):

1. Macro Site Servicing and Grading Plan(s)
2. Assessment of Adequacy of Public Services Report
3. Letter of Opinion, stamped by a geotechnical engineer (P.Eng)*

* A letter of opinion, stamped by a geotechnical engineer, may be used in the place of a detailed geotechnical investigation report to support the zoning by-law amendment. The letter must confirm that the proposed re-zoning, including any increase in permissible building height, will be feasible on the subject site from a geotechnical perspective. It should be noted that a full geotechnical report in accordance with City guidelines will be required with the eventual Site Plan Control submissions.

Please note the following information regarding the engineering design submissions for the above noted site:

1. The Servicing Study Guidelines for Development Applications are available at the following address:

   https://ottawa.ca/en/city-hall/planning-and-development/how-develop-property/development-application-review-process-2/guide-preparing-studies-and-plans

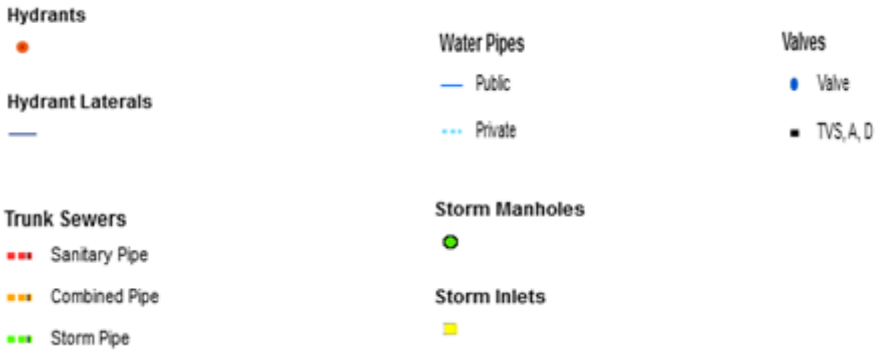
2. Servicing and site works shall be in accordance with the following documents:
   - Ottawa Sewer Design Guidelines, Second Edition, (October 2012), including Technical Bulletins, ISDTB-2014-01, PIEDTB-2016-01, ISTB 2018-01, ISTB-2018-04, and ISTB-2019-02
   - Ottawa Design Guidelines – Water Distribution, First Edition, (July 2010), including Technical Bulletins ISD-2010-2, ISDTB-2014-02, ISTB-2018-02, and ISTB-2021-03
   - Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (Revised 2008)
   - City of Ottawa Slope Stability Guidelines for Development Applications (Revised 2012)
   - City of Ottawa Environmental Noise Control Guidelines (January, 2016)
   - City of Ottawa Hydrogeological and Terrain Analysis Guidelines (March 2021)
   - City of Ottawa Park and Pathway Development Manual (2012)
   - City of Ottawa Accessibility Design Standards (2012)
   - Ottawa Standard Tender Documents (latest version)
   - Ontario Provincial Standards for Roads & Public Works (2013)

3. Record drawings and utility plans are also available for purchase from the City (Contact the City's Information Centre by email at InformationCentre@ottawa.ca or by phone at (613) 580-2424 x 44455

4. The Stormwater Management Criteria for the subject site is to be based on the following:
   - The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less (§ 8.3.7.3).
   - Flows to the storm sewer in excess of the 5-year pre-development storm release rate, up to and including the 100-year storm event, must be detained on site
   - Ensure no overland flow for all storms up to and including the 100-year event.
   - The 2-yr storm or 5-yr storm event using the IDF information derived from the Meteorological Services of Canada rainfall data, taken from the MacDonald Cartier Airport, collected 1966 to 1997.
   - A calculated time of concentration (Cannot be less than 10 minutes).
   - Quality control requirements to be provided by Rideau Valley Conservation Authority (RVCA)
   - There may be area specific subwatershed studies which may apply; please verify.

- Please note that there is a roadside stormwater ditch fronting the property along Lexington which will need to be preserved.

5. Deep Services:



i. A plan view of the approximate services may be seen above. Services should ideally be grouped in a common trench to minimize the number of road cuts. The sizing of available future services is:

a. Connections (Baseline):

i. 200 mm dia. Watermain (ductile iron) – Baseline
ii. 200 mm dia. Watermain (cast iron) – Lexington *
iii. 225 mm dia. SAN (concrete) – Baseline and Lexington

iv. 1500 mm dia. STM (concrete) – Baseline

* There are often water supply issues associated with older cast iron watermains. Given the age and type of pipes in this area, it is recommended that boundary conditions be requested early on to identify potential supply constraints.

ii. *Provide existing servicing information and the recommended location for the proposed connections. Services should ideally be grouped in a common trench to minimize the number of road cuts.*

iii. *Provide information on the monitoring manhole requirements – should be located in an accessible location on private property near the property line (ie. Not in a parking area).*

iv. *Provide information on the type of connection permitted*

Sewer connections to be made above the springline of the sewermain as per:

a. Std Dwg S11.1 for flexible main sewers – *connections made using approved tee or wye fittings.*

b. Std Dwg S11 (For rigid main sewers) – *lateral must be less that 50% the diameter of the sewermain,*

c. Std Dwg S11.2 (for rigid main sewers using bell end insert method) – *for larger diameter laterals where manufactured inserts are not available; lateral must be less than 50% the diameter of the sewermain,*

d. Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.

e. *No submerged outlet connections.*

v. *Please provide estimated sanitary flows with the first submission, to allow the City to confirm whether there are any downstream capacity constraints.*

6. Civil consultant must request boundary conditions from the City's assigned Project Manager prior to first submission. Water Boundary condition requests must include the location of the service and the expected loads required by the proposed development. Water boundary conditions should be based on the recently released 2020 Fire Underwriters Survey guidelines. Please note that there is approximately a 3 week turnaround for boundary conditions results, so it is recommended that these be coordinated early on to avoid delays.

   Please provide the following information:

   i. Location of service(s)
   ii. Type of development and the amount of fire flow required (as per FUS, 2020).
   iii. Average daily demand: ___ l/s.
   iv. Maximum daily demand: ___l/s.
   v. Maximum hourly daily demand: ___ l/s.
   vi. Hydrant location and spacing to meet City's Water Design guidelines.

vii. Water supply redundancy will be required for more than 50 m3/day water demand.

7. Phase 1 ESAs and Phase 2 ESAs must conform to clause 4.8.4 of the Official Plan that requires that development applications conform to Ontario Regulation 153/04.
8. All development applications should be considered for an Environmental Compliance Approval (ECA) by the Ministry of the Environment, Conservation, and Parks (MECP);
    a. The consultants determine if an approval for sewage works under Section 53 of OWRA is required and determines what type of application. The City's project manager may help confirm and coordinate with the MECP as required.
    b. The project will be either transfer of review (standard), transfer of review (additional), direct submission, or exempt as per O. Reg. 525/98.
    c. Pre-consultation is not required if applying for standard or additional works (Schedule A of the Agreement) under Transfer Review.
    d. Pre-consultation with local District office of MECP is recommended for direct submission.
    e. Consultant completes an MECP request form for a pre-consultation. Send request to moeccottawasewage@ontario.ca
    f. ECA applications are required to be submitted online through the MECP portal. A business account required to submit ECA application. For more information visit https://www.ontario.ca/page/environmental-compliance-approval

NOTE: Site Plan Approval, or Draft Approval, is required before an application is sent to the MECP.

9. General Engineering Submission requirements:
    a. As per section 53 of the Professional Engineers Act, O. Reg 941/40, R.S.O. 1990, all documents prepared by engineers must be signed and dated on the seal.
    b. All required plans are to be submitted on standard A1 size sheets (594mm x 841mm) sheets, utilizing a reasonable and appropriate metric scale as per City of Ottawa Servicing and Grading Plan Requirements: title blocks are to be placed on the right of the sheets and not along the bottom. Engineering plans may be combined, but the Site Plans must be provided separately. Plans shall include the survey monument used to confirm datum. Information shall be provided to enable a non-surveyor to locate the survey monument presented by the consultant.
    c. All required plans & reports are to be provided in *.pdf format (at application submission and for any, and all, re-submissions)

Should you have any questions or require additional information, please contact me directly at (613) 580-2424, ext. 21447 or by email at eric.harrold@ottawa.ca.

Urja Modi, *File Lead*

Site Context

1. The site is located in Ward 16 – River, along Baseline Road, directly south-east of the intersection of Baseline Road and Lexington Road. It is advised you contact the Ward Councillor,

Riley Brockington, and applicable Community Associations prior to submitting your application to gain a better understanding of community needs, concerns and support.

2. The surrounding area consists predominantly of single-detached dwellings or townhomes that scale up-to 2-storeys. The Central Experimental Farm is located across the subject site, north of Baseline Road.
3. There is a bus stop abutting the site. The site is proximal to rapid transit stations and is located within the 600-metre Zoning By-Law Area around Transit Stations.

Policy Context

4. In the current Official Plan, the site is located within the General Urban Area and designated "Arterial Mainstreet" as it is located along Baseline Road. The site is also located along a BRT – at-grade crossing.
    a. The "Arterial Mainstreet" designation seeks compact and pedestrian-oriented form of development. The General Urban Area permits development upto 4-storeys, should proper transition to surrounding development be provided.
5. The site is located within the Carleton Heights Secondary Plan of the Current Official Plan.
    a. The site is identified as "Low Density Residential" in the Carleton Heights Secondary Plan. The Low Density category is intended to include single family dwelling units at a density range of between 25 to 75 persons per hectare (10 to 30 persons per acre). The site is approximately 0.0558 hectares large; The permitted density range for the site is 1.5 to 4.5 residents. Should an application be submitted before passing of the 2021 Council-approved Official Plan ("New Official Plan"), an Official Plan Amendment would be required.
    b. The site is located along a Major Pedestrian Way in the Carleton Heights Secondary Plan. Sidewalks within this identification require a minimum width of 6.0 metres or 20 feet.
6. The site is located within the Outer Urban Transect of the Council Approved 2021 Official Plan and it is designated "Neighbourhood" with the Evolving Neighbourhood Overlay. Additionally, the site is located along a Mainstreet Corridor, along a Transitway at-grade, and near a Transitway station.
    a. The Outer Urban Transect supports land use patterns that focus on transit, connectivity, and active mobility, among other directions. Please design your development to create greater engagement with the pedestrian-scape.
    b. The Neighbourhood designation, Mainstreet Corridor and Evolving Neighbourhood overlay speaks to support uses that achieve the City's goal of creating livable, 15-minute nieghbourhoods. Relevant policies speak to encouraging higher densities and forms along Corridors and in areas where transit is proximal. Additionally, reducing parking is also encouraged.
        i. The designations and Overlay support low-rise development that is upto 4-storeys tall should development be well designed and proper transitioning be provided. Please provide additional setback for the 4th storey of your proposed development to reduce impacts on the surrounding neighbours to the east and south.
        ii. The applicants proposal to eliminate parking on site is not supported by the Zoning By-Law and the infrastructure to rely on public transit solely as not been developed in the area as of yet. A complete elimination of parking will not be supported, nonetheless, a reduction in parking space requirements may be supported should adequate trade-offs be provided (such as additional bicycle parking).
7. The site is located within the Carleton Heights Secondary Plan of the New Official Plan.

a. The site is identified as "Neighbourhood Low-Rise" and is located along the Baseline Transitway in the Carleton Heights Secondary Plan. This designation now permits greater densities, compatible with a dense mixed-use urban environment, on sites that are located along Mainstreets and Minor Corridors. Additionally, this designation now permits a built form of four full storeys.
b. The Secondary Plan speaks to improving the area's climate resilience. At the time of site plan application, please implement structural elements that support this direction.
c. Please note the Secondary Plan does not support new driveways and/or private approaches for development and/or redevelopment of sites within the Neighbourhood Low-Rise Designation. Additionally, no existing driveways and/or private approaches may be widened. Reinstitution of existing driveways and the addition of new surface parking spaces are required to observe the maximum driveway width and parking space dimensions prescribed in the Zoning By-law: Major Shopping Area Development.

8. The site is currently zoned Residential – First Density, Subzone GG ("R1GG").
    a. The zoning restricts building forms to detach dwellings and does not permit a low-rise apartment building. Additionally, this zone permits a maximum building height of 8 metres. A Major Zoning By-Law Amendment application will be required for your proposed development.
9. The applicants proposed zone is Residential – Fourth Density, Subzone UD ("R4UD").
    a. This zone permits a wide variety of uses, including the proposed low-rise apartment building.
    b. Please note the following provisions are applicable to your development:
        i. S.161(8): Except for a lot of less than 450 square metres in area in the R4-UA, R4 UB, R4-UC and R4-UD zones, thirty percent of the lot area must be provided as landscaped area for a lot containing an apartment dwelling, low rise, stacked dwelling, or retirement home, or a planned unit development that contains any one or more of these dwelling types.
        ii. S.161(15)(a): Any part of the rear yard not occupied by accessory buildings and structures, permitted projections, bicycle parking and aisles, hardscaped paths of travel for waste and recycling management, pedestrian walkways, patios, and permitted driveways, parking aisles and parking spaces, must be softly landscaped.
            - b.iii) The minimum area of soft landscaping per (a) must be: in the case of a lot 450 square metres or greater, at least 50 per cent of the rear yard
        iii. S.161(15)(f) which requires at-grade entrance and in the case of a lot of 24 metres width or greater, one principal entrance is required for every 12 metres of lot width or part thereof.

    Please note this list is <u>non-inclusive</u>, additional provisions from the City's Zoning By-Law apply to the subject site. Please ensure all applicable zoning provisions of the Zoning By-Law and, specifically, the R4UD zone are met when submitting your rezoning application.
    c. The site is located in Area C for the City's Parking requirements. Nonetheless, as the site is located within 600-metres of a rapid transit station, the rates for Area X may be used.
        i. The required residential parking space rate for the site is 0.5 parking spaces per dwelling unit.
        ii. The required visitor parking space rate is 0.2 parking spaces per dwelling unit.

iii. The site is subject to a maximum parking space rate as it is near rapid transit. The applicable maximum parking space rate (combining residential parking and visitor parking) is 1.75 parking spaces per dwelling unit.
iv. The applicable bicycle parking space rate for the site is 0.5 spaces per unit.
v. Please note, as per Section 101(6)(c) of the Zoning By-Law where all parking spaces provided or required for a permitted land use are located below grade in the same building as that land use, the parking required by Table 101 for that land use may be reduced by the lesser of: 10 per cent of the required parking spaces or 20 parking spaces.

10. As stated above, a ***Major Zoning By-Law Amendment*** application will need to be submitted to accommodate your proposed rezoning. This application is subject to Public Consultation. Please include your Public Consultation Strategy and Design Brief in the Planning Rationale. Another pre-application consultation meeting will be required prior to the submission of your Site Plan Control application.
11. Please note, Ministerial approval of the 2021 Council-approved Official Plan has been pushed to an unknown date.

Ann O'Connor, *Urban Design*

1. A design brief is required. Terms of reference is attached.
2. The main entrance to the building should be at-grade and provide direct access to the street to avoid:
    - the need for a long staircase to the 'first' level;
    - deep below-grade balconies for the basement units;
    - any potential excessive exterior ramping for accessibility;
    - requiring bikers to carry their bikes up many steps to get into the internal bike parking room.
3. Explore ways to transition the massing to address the abutting lower-scale residential detached dwellings. Consider stepping back the top level from the interior side yard and rear yard. These stepbacks would also increase the feelings of openness and bring in more sunlight into the rear yard amenity area.
4. Reconsider the placement of the six balconies that project into the rear yard outdoor space. This relationship between private and communal amenity space may have a negative impact on the comfort level of the users of each space. Consider recessing them, or locating them in a stepback, or removing them.
5. Explore ways to minimize the visual prominence of the roof guard rail and the projecting access to the rooftop amenity area.
6. Explore creating more variation in the building façade. Reconsider the sizing and panel treatments on the windows. Staff appreciate the desire to bring light into the indoor spaces; however, consider the context of the placement of each window in relation to the floor plan/indoor living space.
7. Consider including soft landscaping along both frontages (directly in the earth), instead of multiple planter boxes.
8. Should only one vehicular parking space be provided (as is currently shown), it should be located beyond the front façade of the building, not in the corner yard or front yard.
9. Consider solid waste management design principles on the site. Please relocate the refuse area to be either interior to the building or in an exterior location that is not visible from either of the

abutting public streets. Please refer to the guidelines within the Solid Waste Collection Design Guidelines for Multi-unit Residential Development.

10. Address the blank façade behind the refuse area abutting Lexington.
11. Consider the following contextual elements as the design progresses (and include these on future plans):
    - the bus stop on Baseline Rd
    - the hydro pole along Lexington St and on the rear lot line (hydro setbacks may impact massing)
    - the building footprints on adjacent lots (and their setbacks)
    - the visibility of the corner from east-bound traffic on Baseline Rd (explore opportunities for a corner feature)
12. Please refer to and address the following policies: Carleton Heights Secondary Plan, Urban Design Guidelines for Low-Rise Infill Housing, Urban Design Guidelines for Development along Arterial Mainstreet, and TOD Guidelines.

Neeti Paudel, *Transportation Project Manager*

1. Please submit a completed screening form to Neeti Paudel at Neeti.paudel@ottawa.ca as soon as possible for review.
2. Noise Impact Studies required for the following (at first submission of site plan):
    - Road
    - BRT
    - Stationary (if there will be any exposed mechanical equipment due to the proximity to neighbouring noise sensitive land uses)
3. Ensure the access to loading/parking meets the private approach guidelines and parking/ queuing and loading provisions.
4. Baseline BRT is currently on the draft design phase and is subject to some changes. To ensure sufficient right of way is protected, please overlay the op/ea needs (44.5 ROW) with the design limits per the attached design drawings. If the attached drawings fit into the op needs, protecting the 44.5m ROW will be a safe assumption as this will provide flexibility to make changes in the future. In the case that the BRT draft design exceeds the OP limits, further discussion with the City should occur.
5. Consider providing a sidewalk along the frontage of Lexington.
6. The site is in a TOD area - We highly recommend developments to provide as many TDM measures as possible.

Burl Walker, Parks Planner*

1. The applicant is proposing to redevelop 222 Baseline Road with a 3-storey apartment building containing 17 dwelling units. The existing single-detached dwelling will be demolished. The proposed development would result in a net increase of 16 dwelling units.

2. The parkland dedication requirement for the proposed development does not meet the minimum size requirement for the conveyance of parkland to the City. It is noted that the property is located within 400m of Lexington Park, which contains a softball diamond, mini soccer fields, a playground and tennis/pickleball courts.

3. Cash-in-lieu of parkland dedication will be required as a condition of the future site plan control application. Parks and Facilities Planning is currently undertaking a legislated review for the replacement of the Parkland Dedication By-law, with the new by-law to be considered by City

Council in July 2022. To ensure the applicant is aware of the future parkland dedication requirements for the proposed development, they are encouraged to sign up for project notifications on the Engage Ottawa project page or by emailing the project lead at Kersten.Nitsche@ottawa.ca.

4. Under the current Parkland Dedication By-law No. 2009-95, the cash-in-lieu of parkland dedication rate for apartments is 1 ha per 500 dwelling units to a maximum of 10% of the area of the site being developed. On the application form, the lot is described as having an area of 558 m^2, which appears to be incorrect. The calculated parcel area in the geoOttawa Property Report is 691 m^2, while the Site Statistics on the Site Plan describes the lot area as 692 m^2.

Sami Rehman, *Environmental Planner**

1. Please review and incorporate design elements from the City's Bird Safe Design Guidelines to minimize bird collisions.

Mark Richardson, *Forester**

1. A Tree Conservation Report and Landscape Plan(s) will need to be submitted during Site Plan Control.

Francis Valenti

From: Eric Lalande <eric.lalande@rvca.ca>
Sent: May 26, 2022 11:13 AM
To: Francis Valenti
Subject: RE: 23-0564 - Quality Control Requirement - 222 Baseline Road

Hi Francis,

Based on the Site Plan, the RVCA does not require on-site water quality protection.

Thanks,

Eric Lalande, MCIP, RPP
Planner, RVCA
613-692-3571 x1137

From: Francis Valenti <F.Valenti@McIntoshPerry.com>
Sent: Thursday, May 26, 2022 11:07 AM
To: Eric Lalande <eric.lalande@rvca.ca>
Subject: RE: 23-0564 - Quality Control Requirement - 222 Baseline Road

Hi Eric,

Thanks for getting back to me. I'll make note of that moving forward. The site plan is attached for your review.

Thanks,

Francis Valenti, EIT
Engineering Intern, Land Development
T. 613.714.6895 | **C.** 613.808.2123
F.Valenti@McIntoshPerry.com | www.mcintoshperry.com

McINTOSH PERRY

Turning Possibilities Into Reality

From: Eric Lalande <eric.lalande@rvca.ca>
Sent: May 26, 2022 10:07 AM
To: Francis Valenti <F.Valenti@McIntoshPerry.com>
Subject: RE: 23-0564 - Quality Control Requirement - 222 Baseline Road

Hi Francis,

As a note a reduction in hardscaping does not necessarily result in waiving of water quality requirements. Additionally the distance to the outlet is within our typical thresholds.

Given the scope of the project detailed I would likely expect that the RVCA would not require on-site controls. I would appreciate if possible reviewing a site plan before I can confirm our requirements.

Thanks,

Eric Lalande, MCIP, RPP
Planner, RVCA
613-692-3571 x1137

From: Francis Valenti <F.Valenti@McIntoshPerry.com>
Sent: Thursday, May 19, 2022 3:04 PM
To: Eric Lalande <eric.lalande@rvca.ca>
Subject: 23-0564 - Quality Control Requirement - 222 Baseline Road

Good afternoon,

We wanted to touch base with you regarding the proposed development at 222 Baseline Road.

The property covers approximately 0.07 ha and currently contains a 1 ½-storey residential building. The proposed development includes a 3-storey residential building. One large parking spot is proposed, to be constructed from either permeable pavers or porous asphalt. Removal of the existing asphalt driveway will result in a minor reduction in hardscaped area.

It is anticipated that surface runoff from the parking area will be directed towards a grass ditch along Lexington Street, where it will be collected and conveyed to the 1500mm concrete storm sewer within Baseline Road. As seen in the attached figure, storm runoff travels approximately 0.59km downstream to Outlet#04318 at the Rideau River.

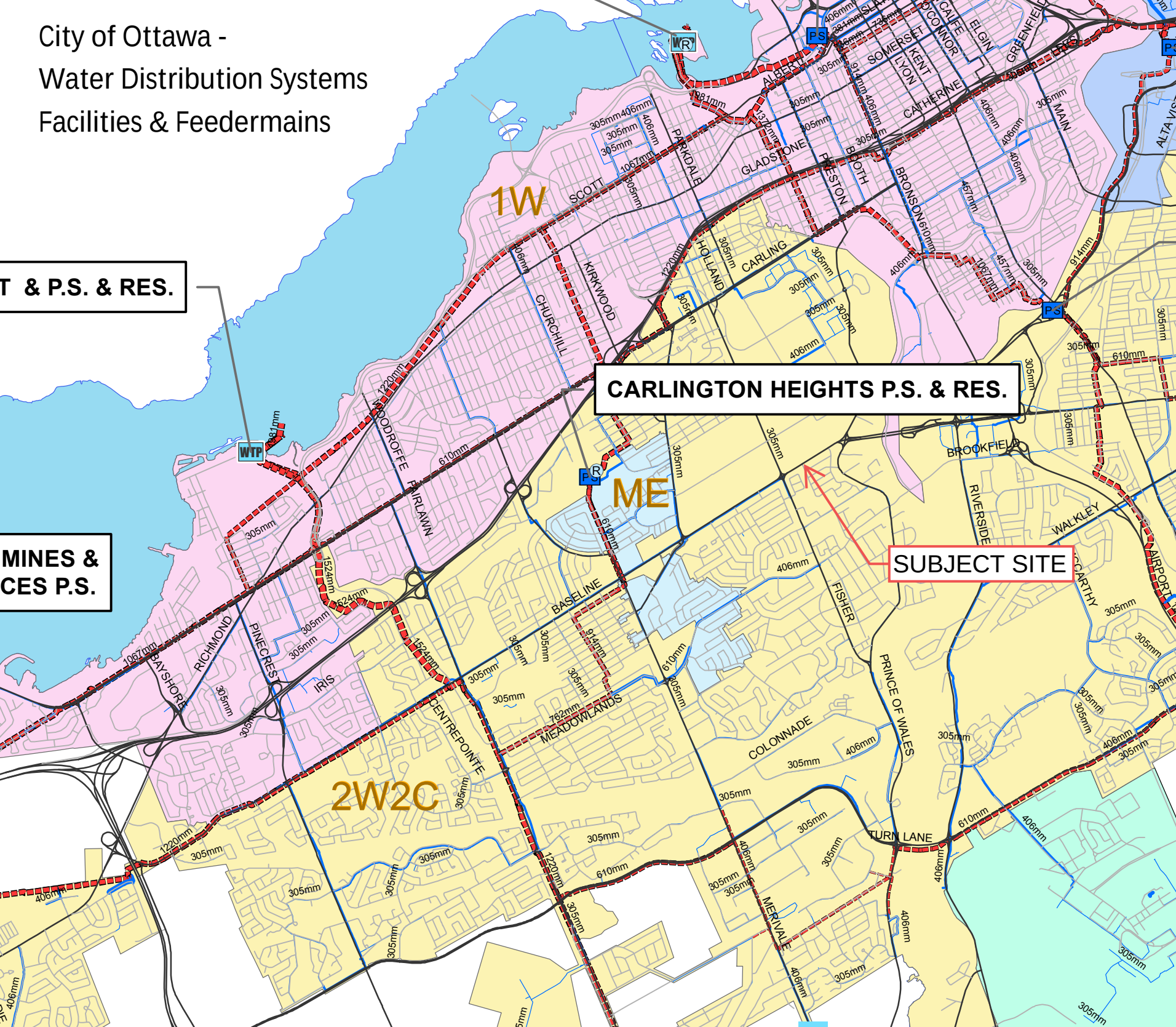
Due to the reduction in hardscape and distance to the outlet, it is assumed that specific quality controls are not required for the development. Can you please review and confirm?

Thanks,

Francis Valenti, EIT
Engineering Intern, Land Development
T. 613.714.6895 | **C.** 613.808.2123
F.Valenti@McIntoshPerry.com | www.mcintoshperry.com

APPENDIX C
WATERMAIN CALCULATIONS

McINTOSH PERRY


City of Ottawa -
Water Distribution Systems
Facilities & Feedermains
T & P.S. & RES.
MINES &
CES P.S.
CARLINGTON HEIGHTS P.S. & RES.
SUBJECT SITE
1W
ME
2W2C
WTP
WR
PS
P3
SCOTT
KIRKWOOD
CHURCHILL
WOODROFFE
FAIRLAWN
HOLLAND
CARLING
PARKDALE
GLADSTONE
PRESTON
BOOTH
BRONSON
ALBERT
SOMERSET
KENT
LYON
CATHERINE
O'CONNOR
ELGIN
MAIN
BROOKFIELD
RIVERSIDE
WALKLEY
AIRPORT
FISHER
PRINCE OF WALES
BASELINE
MEADOWLANDS
COLONNADE
CENTREPOINTE
MERIVALE
TURN LANE
BAYSHORE
RICHMOND
PINECREST
IRIS
1220mm
1067mm
914mm
762mm
610mm
457mm
406mm
305mm
1524mm

McINTOSH PERRY

CCO-23-0564 - 222 Baseline Road - Water Demands

Project:	222 Baseline Road
Project No.:	CCO-23-0564
Designed By:	FV
Checked By:	AG
Date:	August 12, 2022
Site Area:	0.07 gross ha

Residential	**NUMBER OF UNITS**		**UNIT RATE**	
1 Bedroom Apartment	14	**units**	1.4	persons/unit
2 Bedroom Apartment	4	**units**	2.1	persons/unit
Total Population	**28**	**persons**		

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**	**0.09**	**L/s**
	Commerical/Industrial/ Institutional	**0.00**	**L/s**

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**	**0.86**	**L/s**
	Commerical/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**	**1.30**	**L/s**
	Commerical/Industrial/ Institutional	**0.00**	**L/s**

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

AVERAGE DAILY DEMAND	0.09	L/s
MAXIMUM DAILY DEMAND	0.86	L/s
MAXIMUM HOUR DEMAND	1.30	L/s

McINTOSH PERRY

CCO-23-0564 - 222 Baseline Road - Fire Underwriters Survey

Project:	222 Baseline Road
Project No.:	CCO-23-0564
Designed By:	FV
Checked By:	AG
Date:	August 12, 2022

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 Wood Frame

C	1.5	**A**	**1,538.7 m^2**

Total Floor Area (per the 2020 FUS Page 20 - Total Effective Area) **1,538.7 m^2**

Calculated Fire Flow	**12,944.8 L/min**
	13,000.0 L/min

B. REDUCTION FOR OCCUPANCY TYPE (No Rounding)

From Page 24 of the Fire Underwriters Survey:

Limited Combustible	-15%

Fire Flow	**11,050.0 L/min**

C. REDUCTION FOR SPRINKLER TYPE (No Rounding)

Standard Water Supply Sprinklered	-40%

Reduction	**-4,420.0 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	Over 30 m	Wood frame	N/A	N/A	N/A	0%
Exposure 2	0 to 3	Wood frame	13	2	26.0	21%
Exposure 3	10.1 to 20	Wood frame	13	1	13.0	10%
Exposure 4	Over 30 m	Wood frame	N/A	N/A	N/A	0%
					% Increase*	**31%**

Increase*	**3,425.5 L/min**

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

Fire Flow	**10,055.5 L/min**
Fire Flow Required**	**10,000.0 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

McINTOSH PERRY

CCO-23-0564 - 222 Baseline Road - OBC Fire Calculations

Project:	222 Baseline Road
Project No.:	CCO-23-0564
Designed By:	FV
Checked By:	AG
Date:	August 12, 2022

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

***Water Supply for Fire-Fighting* - Apartment Building**

Building is classified as Group : **C - Residential Occupancies** (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) (Worst case 'K' value used)
V	**5,578**	(Total building volume in m³.)
Stot	**2.0**	(From figure 1 pg A-32)
Q =	**256,581.56 L**	

→

			From Figure 1 (A-32)
Snorth	4	m	0.5
Seast	1.52	m	0.5
Ssouth	1.73	m	0.5
Swest	4.5	m	0.5

*approximate distances

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

6300 L/min **if Q > 190,000 L and < 270,000 L**
1664 gpm

McINTOSH PERRY

CCO-23-0564 - 222 Baseline Road - Boundary Condition Unit Conversion

Project:	222 Baseline Road
Project No.:	CCO-23-0564
Designed By:	FV
Checked By:	AG
Date:	August 12, 2022

Boundary Conditions Unit Conversion

Baseline Road

Scenario	Height (m)	Elevation (m)	m H_2O	PSI	kPa
Avg. DD	133.6	78.4	55.2	78.6	541.9
Fire Flow (105 L/s or 6,300 L/min)	120.2	78.4	41.8	59.5	410.1
Fire Flow (166.7 L/s or 10,000 L/min)	109.9	78.4	31.5	44.8	309.0
Peak Hour	124.3	78.4	45.9	65.3	450.3

Alison Gosling

To: Harrold, Eric
Subject: RE: 23-0564 - 222 Baseline Road - Boundary Condition Request

---

From: Harrold, Eric <eric.harrold@ottawa.ca>
Sent: August 10, 2022 4:01 PM
To: Alison Gosling <a.gosling@mcintoshperry.com>
Cc: Robert Freel <r.freel@mcintoshperry.com>
Subject: RE: 23-0564 - 222 Baseline Road - Boundary Condition Request

Hi Alison – Please see the below boundary conditions for 222 Baseline Road:

The following are boundary conditions, HGL, for hydraulic analysis at 222 Baseline Road (zone 2W2C) assumed to connected to the 203 mm on Baseline Road (see attached PDF for location).

Minimum HGL: 124.3 m

Maximum HGL: 133.6 m

Max Day + Fire Flow (105 L/s): 120.2 m

Max Day + Fire Flow (166.67 L/s): 109.9 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,
Eric Harrold, P.Eng
Project Manager, Infrastructure Approvals
Planning, Real Estate and Economic Development Department
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West, Ottawa, ON
613.580.2424 ext. 21447, eric.harrold@ottawa.ca

*** OUT OF OFFICE NOTICE – Please note that I will be out of office from September 16th through 28th, inclusive ***

From: Harrold, Eric <eric.harrold@ottawa.ca>
Sent: July 26, 2022 2:45 PM
To: Alison Gosling <a.gosling@mcintoshperry.com>
Cc: Robert Freel <r.freel@mcintoshperry.com>
Subject: RE: 23-0564 - 222 Baseline Road - Boundary Condition Request

Thanks Alison,

Just forwarded this to Water Resources; I'll let you know once I receive a response.

Best,
Eric
Eric Harrold, P.Eng
Project Manager, Infrastructure Approvals
Planning, Real Estate and Economic Development Department
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West, Ottawa, ON
613.580.2424 ext. 21447, eric.harrold@ottawa.ca

From: Alison Gosling <a.gosling@mcintoshperry.com>
Sent: July 26, 2022 2:41 PM
To: Harrold, Eric <eric.harrold@ottawa.ca>
Cc: Robert Freel <r.freel@mcintoshperry.com>
Subject: RE: 23-0564 - 222 Baseline Road - Boundary Condition Request

Hi Eric,

There have been a few building updates since the (below) boundary condition request. We would like to revise the boundary condition request for 222 Baseline Road. The revised demands are listed below, with detailed calculations attached.

- The estimate fire flow is 10,000 L/min based on the FUS
- The estimate fire flow is 6,300 L/min based on the OBC
- Average Daily Demand: 0.09 L/s
- Maximum Daily Demand: 0.86 L/s
- Maximum hourly daily demand: 1.30 L/s

Please let us know if you have any questions.

Thank you,

APPENDIX D
SANITARY CALCULATIONS

McINTOSH PERRY

McINTOSH PERRY

CCO-23-0564 - 222 Baseline Road - Sanitary Demands

Project:	222 Baseline Road
Project No.:	CCO-23-0564
Designed By:	FV
Checked By:	AG
Date:	Aug-22

Site Area	0.07	Gross ha	
1 Bedroom	14	1.40	Persons per unit
2 Bedroom	4	2.10	Persons per unit

Total Population	28	Persons
Commercial Area	0.00	m^2
Amenity Space	0.00	m^2

DESIGN PARAMETERS

Institutional/Commercial Peaking Factor	1.5	
Residential Peaking Factor	3.69	** 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	0.02
Total	**0.02**

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d	28	0.09
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)		0
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	0.09	L/s
PEAK RESIDENTIAL FLOW	0.33	L/s
AVERAGE ICI FLOW	0.00	L/s
PEAK INSTITUTIONAL/COMMERCIAL FLOW	0.00	L/s
PEAK INDUSTRIAL FLOW	0.00	L/s
TOTAL PEAK ICI FLOW	0.00	L/s

TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	0.09	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	0.34	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	0.36	L/s

APPENDIX G
STORMWATER MANAGEMENT CALCULATIONS

McINTOSH PERRY

CCO-23-0564 - 222 Baseline Road

Tc (min)	Intensity (mm/hr)	
	5-Year	100-Year
20	70.3	120.0
10	104.2	178.6

C-Values	
Impervious	0.90
Gravel	0.60
Pervious	0.20

Pre-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	179	23	491	0.39	0.46

Pre-Development Runoff Calculations

Drainage Area	Area (ha)	C 5-Year	C 100-Year	Tc (min)	Q (L/s)	
					5-Year	100-Year
A1	0.07	0.39	0.46	10	7.89	15.79
Total	**0.07**				**7.89**	**15.79**

Post-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (5-year)	Average C (100-year)
B1	434	0	188	0.69	0.77
B2	48	0	21	0.69	0.77

Post-Development Runoff Calculations

Drainage Area	Area (ha)	C 5-Year	C 100-Year	Tc (min)	Q (L/s)		
					5-Year	100-Year	
B1	0.06	0.69	0.77	10	12.42	23.90	*Controlled*
B2	0.01	0.69	0.77	10	1.37	2.65	*Uncontrolled*
Total	**0.07**				**12.42**	**23.90**	

Required Restricted Flow

Drainage Area	Area (ha)	C 5-Year	Tc (min)	Q (L/s)
				5-Year
A1	0.07	0.39	10	7.89

Post-Development Restricted Runoff Calculations

Drainage Area	Unrestricted Flow (L/S)		Restricted Flow (L/S)		Storage Required (m^3)	
	5-year	100-Year	5-Year	100-Year	5-Year	100-Year
B1	12.42	23.90	4.67	5.24	4.65	12.98
B2	1.37	2.65	1.37	2.65		
Total	**13.79**	**26.55**	**6.04**	**7.89**	**4.65**	**12.98**

CCO-23-0564 - 222 Baseline Road

Storage Requirements for Area B1

5-Year Storm Event

Tc (min)	I (mm/hr)	Runoff (L/s) B1	Allowable Outflow (L/s)	Runoff to be Stored (L/s)	Storage Required (m^3)
10	104.2	12.42	4.67	7.75	4.65
20	70.3	8.38	4.67	3.71	4.45

Maximum Storage Required 5-year =	5 m^3

100-Year Storm Event

Tc (min)	I (mm/hr)	Runoff (L/s) B1	Allowable Outflow (L/s)	Runoff to be Stored (L/s)	Storage Required (m^3)
10	178.6	23.91	5.24	18.66	11.20
20	120.0	16.06	5.24	10.82	12.98
30	91.9	12.30	5.24	7.06	12.70

Maximum Storage Required 100-year =	13 m^3

5-Year Storm Event Storage Summary

Storage Available (m^3) = 4.6
Storage Required (m^3) = 4.6

*

100-Year Storm Event Storage Summary

Storage Available (m^3) = 13.0
Storage Required (m^3) = 13.0

*

APPENDIX H
CITY OF OTTAWA DESIGN CHECKLIST

McINTOSH PERRY

City of Ottawa

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 Stormwater Management
☐ 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 Stormwater Management
☐ 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.	Section 2.0 Background Studies, Standards and References
☐ All preliminary and formal site plan submissions should have the following information: ○ Metric scale ○ North arrow (including construction North) ○ Key plan ○ Name and contact information of applicant and property owner ○ Property limits including bearings and dimensions ○ Existing and proposed structures and parking areas ○ Easements, road widening and rights-of-way ○ 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

☐ 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.	N/A
☐ 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 Sewer

☐ 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 5.3 Proposed Sanitary Design
☐ 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 Sewer
☐ 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 Stormwater Sewer Design & 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.	N/A
☐ 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 Stormwater Sewer Design & 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 Stormwater Sewer Design & 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 Stormwater Sewer Design & 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.	N/A
☐ 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.	Section 7.0 Proposed Stormwater Management Appendix G
☐ Any proposed diversion of drainage catchment areas from one outlet to another.	Section 6.0 Stormwater Sewer Design & 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 Stormwater Sewer Design & 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 Stormwater Sewer Design & 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.	N/A
☐ 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.	N/A
☐ 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 8.0 Summary Section 9.0 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