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PROPOSED RESIDENTIAL DEVELOPMENT
6208 RENAUD ROAD

Assessment of Adequacy
of Public Services Report

PROPOSED RESIDENTIAL DEVELOPMENT
6208 RENAUD ROAD

ASSESSMENT OF ADEQUACY OF PUBLIC SERVICES REPORT

Prepared by:

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June 13, 2023
Revised: February 13, 2024
Revised: June 28, 2024

Ref: R-2023-096
Novatech File No. 122075

June 28, 2024

TTM (262615) Holding Inc,
Marissa and Mathieu Brisebois
1079 Montée Benoit
Casselman, ON K0A 1M0

Attention: Mr. Eric Fournier

Re: Assessment of Adequacy of Public Services Report
Proposed Residential Development
6208 Renaud Road, Ottawa, ON
Novatech File No.: 122075

Enclosed is a copy of the revised 'Assessment of Adequacy of Public Services Report' prepared in support of the proposed Zoning By-Law Amendment for the property located 6208 Renaud Road, in the City of Ottawa. The purpose of this report is to demonstrate that the proposed residential development can be serviced by the municipal infrastructure fronting the subject site.

Please contact the undersigned, should you have any questions or require additional information.

NOVATECH

François Thauvette, P. Eng.
Senior Project Manager

cc: Travis Smith (City of Ottawa)

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

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LIST OF APPENDICES

1.0 INTRODUCTION

TTM (262615) Holding Inc. has engaged Novatech to assess the adequacy of the existing public services related to the proposed Zoning By-Law Amendment application for the property at 6208 Renaud Road. The purpose of this report is to demonstrate that the proposed development can be serviced by the municipal infrastructure surrounding the subject site.

1.1 Site Location and Description

The subject site is located at 6208 Renaud Road, within the limits of the East Urban Community (UEC) Phase 1 Community Design Plan (CDP), in the City of Ottawa. As identified on Figure 14 of the UEC – CDP for the Phase 1 Area, the subject site is identified as "Existing Residential". In general, no major changes are anticipated to the existing residential dwellings along Renaud Road. The property covers an area of approximately 0.143 hectares and is currently occupied by a 1-storey residential dwelling located on the eastern portion of the lot. The western portion of the lot contains a very wide driveway, detached garage, and shed.

The legal description of the subject site as indicated on the Topographical Plan of Survey prepared by Annis, O'Sullivan, Vollbekk Ltd. is designated as Part of Lot 5, Concession 4 (Ottawa Front). Geographic Township of Gloucester, City of Ottawa. Refer to **Figure 1** showing the existing site location.

Figure 1: Aerial View of the Subject Site

Image Source for all Figures: GeoOttawa (City of Ottawa)

1.2 Pre-Consultation Information

A pre-consultation meeting was held with the City of Ottawa on June 8, 2022, at which time the client was advised of the general submission requirements. Based on a review of **O. Reg. 525/98: Approval Exemptions**, a Ministry of the Environment, Conservation and Parks (MECP) Environmental Compliance Approval (ECA) will not be required for the proposed residential development. Refer to **Appendix A** for a summary of the correspondence related to the proposed development.

1.3 Conceptual Development

The proposed conceptual development will include a new 8-unit residential building, a new driveway with on-site parking located behind the building. The remainder of the site would generally consist of pervious landscaped areas. The proposed residential building will be serviced by extending new pipes to the municipal sanitary sewer, storm sewer and watermain in Renaud Road. The existing building onsite will be demolished to accommodate the proposed development.

2.0 SITE SERVICING

The objective of this report is to demonstrate that proper sewage outlets (sanitary and storm) and suitable domestic water supply with appropriate fire protection are available for the proposed development. The servicing criteria, the expected sewage flows and water demands are to conform to the requirements of the City of Ottawa municipal design guidelines for sewer and water distribution systems.

2.1 Sanitary Servicing

The existing property is currently serviced by the municipal sanitary sewer system in Renaud Road which consists of a local 250mm dia. PVC sanitary sewer sitting above a ~7.4m deep 600mm-675mm dia. sanitary trunk sewer.

Under post-development conditions, the 8-unit dwelling will be serviced by the local 250mm dia. municipal sanitary sewer in Renaud Road. Refer to **Figure 2** showing the municipal sanitary sewer infrastructure and conceptual servicing layout for the 8-unit dwelling.

Figure 2: Conceptual Sanitary Servicing Layout

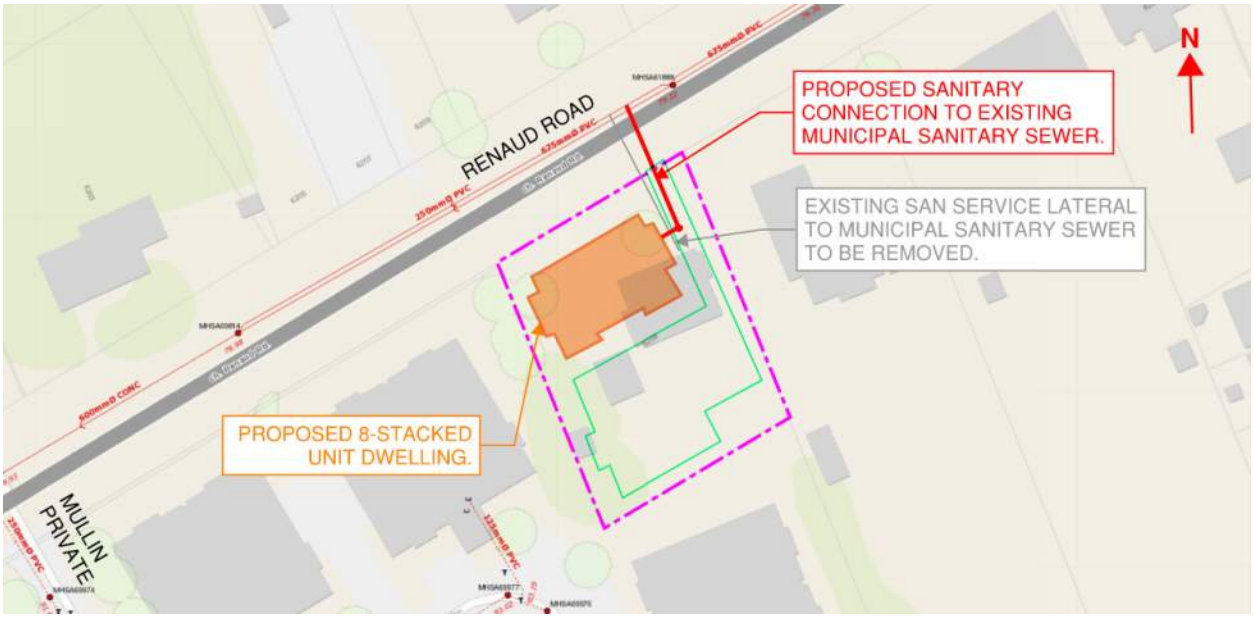


Table 1 below summarizes the theoretical sanitary sewage flows from the subject site under pre-development and post-development conditions, based on criteria in the City of Ottawa Sewer Design Guidelines and subsequent Technical Bulletins.

Table 1: **Theoretical Sanitary Sewage Flows**

Residential Use	Unit Count/ Site Area	Design Population	Average Flow (L/s)	Peaking Factor	Peak Flow* (L/s)
Pre-Development Conditions					
Single dwelling	1	4	0.01	3.80	0.04
Infiltration Allowance (0.33 L/s/ha)	0.143 ha	-	-	-	0.05
Total Site Flows	**-**	**4**	**0.01**	**-**	**~0.09**
Post-Development Conditions					
Proposed Residential Building					
8-Unit Residential Building (2-bdrms)	8	17	0.05	3.79	0.21
Infiltration Allowance (0.33 L/s/ha)	0.143 ha	-	-	-	0.05
Total Site Flows	**8**	**17**	**0.05**	**-**	**0.26**

*Represents rounded values

Based on the sanitary flows calculated above, the increase in total site flows (0.17 L/s) from pre-development conditions (0.09 L/s) to post-development conditions (0.26 L/s) is negligible and is therefore not considered as a major change to the "Existing Residential" area along Renaud Road, which is consistent with the UEC – CDP for the Phase 1 Area.

The building will likely be serviced by a 200mm dia. PVC sanitary sewer with a connection to the 250mm dia. municipal sewer in Renaud Road. The new building lateral and sewer will have adequate capacity to service the development. The local 250mm dia. PVC sanitary sewer in Renaud Road has an approximate depth of ~3.8m in front of the subject site and should therefore accommodate gravity outlets from the proposed building. The municipal sanitary sewer in Renaud Road should have adequate capacity to accommodate the 8-unit development. Refer to **Appendix B** for detailed sanitary sewage calculations. Refined grading and servicing designs will be required once development plans for the property are finalized as part of a future consent application or other applicable process.

2.2 Water Supply for Domestic Use and Firefighting

The existing property is currently serviced by the 300mm dia. PVC municipal watermain in Renaud Road.

Under post-development conditions, the 8-unit dwelling will be serviced by the local 300mm dia. municipal watermain in Renaud Road. Refer to **Figure 3** showing the municipal watermain infrastructure and conceptual servicing layout for the 8-unit dwelling.

Figure 3: Conceptual Water Servicing Layout

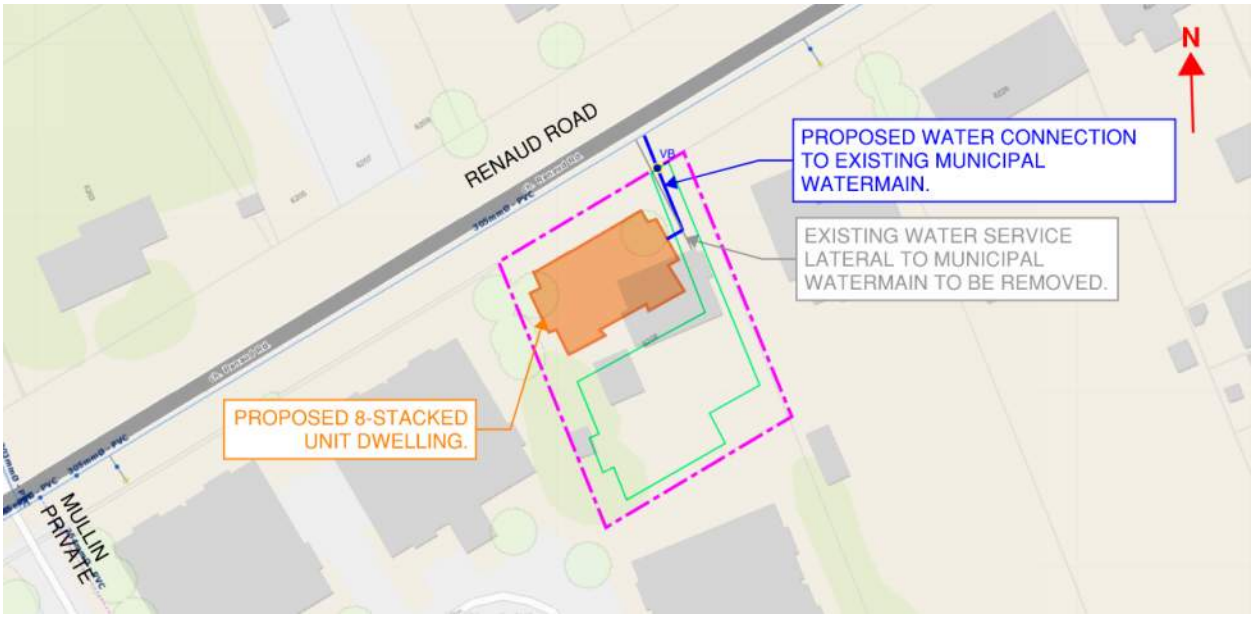


Table 2 below summarizes the theoretical domestic water and fire flow demands from the subject site under pre-development and post-development conditions, based on criteria in the City of Ottawa Design Guidelines for Water Distribution Systems and subsequent Technical Bulletins. Given the size of the proposed building, the fire flows have been calculated using the Ontario Building Code (OBC) method, rather than the Fire Underwriters Survey (FUS) method. The subject site is located within the City of Ottawa 2E watermain pressure zone. Refer to **Appendix C** for detailed calculations.

Table 2: **Theoretical Water Demands**

Residential Use	Unit Count / Floor Area	Design Population	Avg. Day Demand (L/s)	Max. Day Demand (L/s)	Peak Hour Demand (L/s)	Fire Flow (L/s)
Pre-Development Conditions						
Total Demand (Single dwelling)	**1**	**3.4**	**0.01**	**0.03**	**0.06**	**45**
Post-Development Conditions						
Proposed Residential Dwelling						
8-unit Residential Building (2-bdrms)	**8**	**17**	**0.06**	**0.14**	**0.30**	**75**

The following design criteria were taken from Section 4.2.2 – 'Watermain Pressure and Demand Objectives' of the City of Ottawa Design Guidelines for Water Distribution:

- Normal operating pressures are to range between 345 kPa (50 psi) and 483 kPa (70 psi) under Max Day demands.
- Minimum system pressures are to be 276 kPa (40 psi) under Peak Hour demands.

- Minimum system pressures are to be 140 kPa (20 psi) under Max Day + Fire Flow demands.

The anticipated domestic water and fire flow demands were provided to the City of Ottawa to obtain municipal watermain boundary conditions used to complete a preliminary watermain network analysis. **Table 2.1** summarizes the watermain boundary conditions and anticipated system pressures within the existing 300mm dia. PVC watermain in Renaud Road.

Table 2.1: Hydraulic Boundary Conditions Provided by the City (Existing 300mm dia. WM)

Municipal Watermain Boundary Condition	Boundary Condition Head of Water (m)	Normal Operating Pressure Range (psi)	Anticipated WM Pressure (psi)*
Connection at existing 300mm dia. WM in Renaud Road			
Minimum HGL (Peak Hour Demand)	126.8	40 psi (min.)	~57 psi
Maximum HGL (Max. Day Demand)	130.7	50-70 psi	~62 psi
HGL (Max Day + Fire Flow Demand)	128.6	20 psi (min.)	~59 psi

* Based on an approximate roadway elevation of 86.6m in Renaud Road at the new service connections. Design pressure = (HGL – watermain elevation) x 1.42197 PSI/m.

Based on preliminary calculations and correspondence received from the City of Ottawa, it is anticipated that the flows and pressures within the municipal watermain network will be adequate to service the 8-unit residential development.

Based on a review of the geoOttawa website, there appear to be several Class AA (blue bonnet) municipal fire hydrants within 150m of the site. Based on the City of Ottawa Technical Bulletin ISTB-2018-02, Class AA (blue bonnet) hydrants within 75m of the building should provide a maximum capacity of 95 L/s each while hydrants between 75m and 150m should provide a maximum capacity of 63 L/s (at a pressure of 20 PSI). The combined theoretical maximum flow from these hydrants will exceed the Max Day + Fire Flow requirements of the 8-unit residential development. This multi-hydrant approach to firefighting is in accordance with the City of Ottawa Technical Bulletin ISTB-2018-02. **Table 2.2** summarizes the combined fire flow available from the nearby fire hydrants and compares it to the fire flow demands.

Table 2.2: Hydraulic Boundary Conditions Provided by the City (Existing 300mm dia. WM)

Dwelling Type	(OBC) Fire Flow Demand (L/s)	Fire Hydrant(s) within 75m (~ 95 L/s each)	Fire Hydrant(s) within 150m (~ 63 L/s each)	Combined Available Fire Flow (L/s)
Existing Single	45	1	3	**>45**
8-Unit Building	75	1	2	**>75**

Refer to **Appendix C** for preliminary domestic water demand, OBC fire flow calculations, a sketch showing the nearby municipal fire hydrants and correspondence with the City of Ottawa. Refined grading and servicing designs will be required once development plans for the property are finalized as part of a future consent application or other applicable process.

2.3 Storm Servicing, Drainage and Stormwater Management

The existing property is currently serviced by the ~6m deep 975mm dia. municipal storm (trunk) sewer in Renaud Road. Under post-development conditions, the 8-unit dwelling will be serviced by the ~6m deep 975mm dia. concrete municipal storm sewer in Renaud Road. Although new connections to trunk sewers are typically not permitted, there are no other municipal storm sewers available adjacent to the subject site, unless a new higher-level storm sewer was constructed. Given its depth, it would be feasible to connect to the existing storm sewer by gravity, however there are increased costs and inherent risks associated with connections to deep sewers, especially when dealing with challenging soil characteristics (i.e., sensitive clay soils) and a high groundwater table (GWT), which is the case in this area. As indicated in the Sewer Design Guidelines and in the **Geotechnical Investigation Report** (**PG6640-1**), there are several risks associated with connections to deep sewers.

- Potential difficulties associated with management of ground water and/or of challenging soils.
- Special consideration related to excavation, shoring and trenching (above and below the GWT), likely resulting in large excavations.
- Availability of space within the municipal Right-of-Way for trenching and deep excavations, including associated roadway closures during construction.
- Need to support existing infrastructure within the excavations.
- Number of connections being made to deep sewers.
- Lifecycle costs and associated difficulties in making and repairing deep connections.

Further details are provided in the **Geotechnical Investigation Report** (**PG6640-1**) prepared by Paterson Group. Reference should also be made to the Sewer Design Guidelines and Standard City Detail Drawings (i.e. Notes found on City of Ottawa Standard Detail S11 - Sewer Service Connections for Rigid Main Sewer Pipe) when connecting to deep sewers.

As discussed with City of Ottawa staff, all factors impacting the proposed servicing options (i.e., connection(s) to deep infrastructure vs. installation of a higher-level sewer) will need to be reviewed at the detailed design stage, once redevelopment plans have been established for the site. A new (higher-level) storm sewer would require a development agreement as well as a MECP Environmental Compliance Approval (ECA).

Refer to **Figure 4** showing the municipal storm sewer infrastructure and conceptual servicing layout for the 8-unit dwelling.

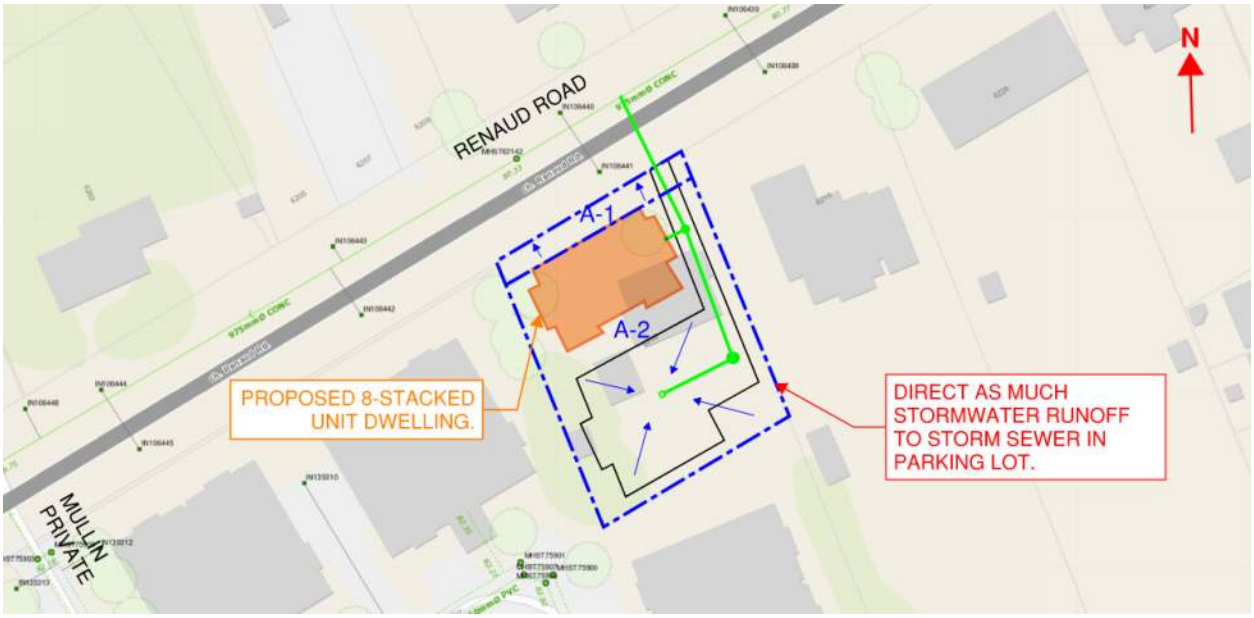
Figure 4: Conceptual Storm Servicing Layout

Based on a review of the Topographical Plan of Survey prepared by Annis, O'Sullivan, Vollbekk, Ltd., the subject site is generally flat with higher elevations adjacent to the existing house. As a result, stormwater runoff from the site is currently split with a portion draining to the front yard (towards the catchbasins in Renaud Road) and the rear yard draining towards the rear property line. It is anticipated that the stormwater runoff from the rear yard currently flows towards the storm sewer system in Elizabeth Cosgrove Private to the southwest.

As per the EUC Infrastructure Servicing Study Update, prepared by Stantec Consulting Ltd in March 2005, the stormwater management allowable release rate criteria for this area is **85 L/s/ha**, with any excess runoff up to the 100-year event to be stored on-site.

Under post-development conditions, on-site stormwater management (SWM) including quantity control measures will be required. Despite the increase in imperviousness of the proposed development, the new parking lot will provide an opportunity for on-site SWM quantity control measures by installing an inlet control device (ICD) within the underground storm sewer system. Assuming the proposed building is designed with a pitched roof, the site grading design would direct as much runoff towards the rear parking lot, to maximize the potential for on-site stormwater management, while minimizing the uncontrolled runoff towards Renaud Road. Under post-development conditions, no stormwater runoff would be directed toward the rear of the property. The grading design would also ensure that the major overland flow route drains towards Renaud Road. As a result, stormwater runoff from the subject site will continue to be directed to Mud Creek (within the Green's Creek sub-watershed), via the municipal storm sewer in Renaud Road. On-site stormwater management will be implemented, as required, to meet the requirements of the City of Ottawa and/or Conservation Authority. Refer to **Figure 5** showing the municipal storm sewer infrastructure and conceptual stormwater management design approach for the 8-unit dwelling.

Figure 5: Conceptual Stormwater Management Sketch



For the purpose of this report (and preliminary SWM calculations), the total site area (0.143 ha) was divided into the following sub-catchment areas:

- A-1: Uncontrolled direct runoff (~0.020 ha)
- A-2: Controlled Flow from Building A and rear parking area (~0.123 ha)

The following table compares the conceptual post-development flows from the proposed development to the EUC maximum allowable release rate (85 L/s/ha) as well as to the uncontrolled pre-development flows for the 2-year, 5-year, and the 100-year design events. Refer to **Appendix D** for preliminary SWM calculations.

Table 3: Preliminary Stormwater Flow Comparison Table

Design Event	Drainage Areas A-1 to A-2				
	Pre-Development Conditions		Post-Development Conditions		
	Uncontrolled Flow (L/s)	EUC Allowable Flow (85 L/s/ha)	A-1 Flow (L/s)	A-2 Flow (L/s)	Total Flow (L/s)*
2-Yr	11.3	12.2	1.1	7.5	8.6
5-Yr	15.4		1.6	8.0	9.6
100-Yr	30.8		3.2	8.5	11.7

*Reduced flow compared to pre-development uncontrolled conditions but not exceeding max allowable release rate.

The values above demonstrate that it could be possible to control post-development flows to pre-development conditions. The use of an inlet control device (ICD) within the storm sewer system in the rear parking lot would control flows from catchment area A-2, while keeping on-site storage

requirements to a minimum and ensuring all stormwater runoff is ultimately directed to the municipal storm sewer in Renaud Road. The following table summarizes the approximate storage volume requirements, based on the preliminary conceptual controlled release rates.

Table 3.1: Preliminary Stormwater Storage Requirements Table

Design Event	Post-Development Storage Volume Requirements	
	A-1 – Direct Runoff from Front Yard (m^3)	A-2 – Controlled Flow from Pitched Roof, Rear Parking Lot, and Landscaped Areas (m^3)
2-Yr	-	~8.3
5-Yr	-	~12.7
100-Yr	-	~31.7

Represents preliminary calculations only.

Refer to **Appendix D** for preliminary SWM calculations. Despite the increase in imperviousness of the site, if post-development flows are controlled to the allowable release rate, there should be no impact on the downstream EUC SWM Pond 3 and/or trunk storm sewer system. Additional on-site SWM quantity control measures could be provided should control flow roof drains be installed (if the building were to be constructed with a flat roof).

The implementation of appropriate Low Impact Development (LID) measures such as rainwater catchment, rainwater gardens, soil amendment, etc., should also be considered at the detailed design stage based on the site layout and existing soil conditions. These would be incorporated into the grading and servicing designs, as part of the overall stormwater management strategy (if applicable). Refined grading, servicing and SWM designs will be required once development plans for the property are finalized as part of a future consent application or other applicable process.

3.0 CONCLUSION

Based on our preliminary analysis of the information available, the existing municipal infrastructure in Renaud Road (sanitary sewers and watermain) should have adequate capacity to service the 8-unit residential development, including providing adequate water supply for domestic use and firefighting purposes. On-site stormwater management can be provided to meet the requirements of the City of Ottawa and/or local Conservation Authority, without impacting the downstream EUC SWM Pond 3 and/or trunk storm sewer system. A complete servicing, grading and SWM design will be included once development plans for the property are finalized as part of a future consent application or other appl

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Prepared by:

Chris Visser
Project Coordinator

Reviewed by:

François Thauvette, P. Eng.
Senior Project Manager – Land Development

APPENDIX A

Project Correspondence

6208 Renaud Road (Ward 2)

Pre-application Consultation Notes | PC2022-0139

Meeting Date: Wednesday, June 8, 2022

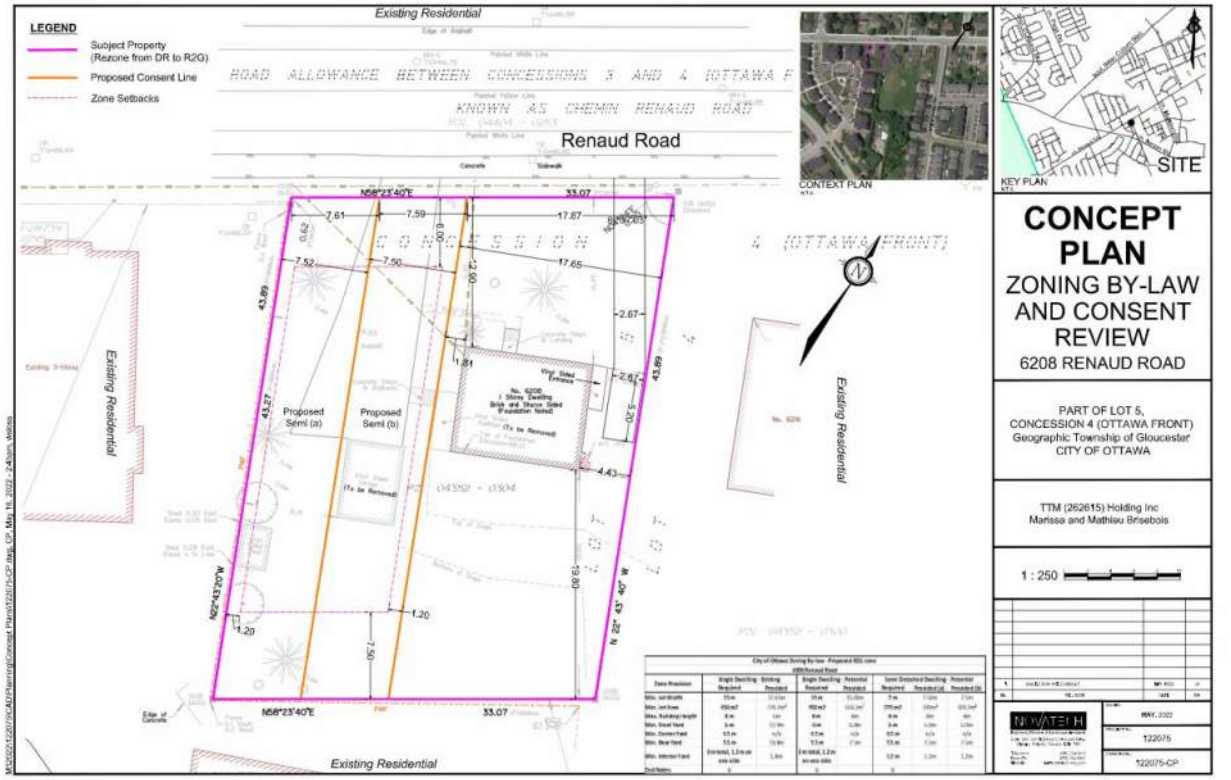
Follow up Notes sent on June 16, 2022

Attendees	Lucy Ramirez, Planner (Development Review), City of Ottawa Alex Polyak, Project Manager (Infrastructure), City of Ottawa Nancy Young, Forester (Development Review), City of Ottawa Zyan Khan, Student Planner (Development Review), City of Ottawa Jordan Jackson, Applicant Kamal Chaouni, Applicant Eric, Owner
Regrets	Mark Richardson, Forester (Planning), City of Ottawa Sami Rehman, Environmental Planner, City of Ottawa Selma Hassan Planner (Urban Design), City of Ottawa Mike Giampa, Project Manager (Transportation), City of Ottawa

Contents

Proposal Summary

The proposal is to rezone the property from a Development Reserve (DR) zone to Residential Secondary Density (R2D) zone. The intent of the rezoning is to permit a single and semi-detached dwelling on the property. Once the new Zoning is in effect the Owner will apply to the Committee of Adjustment to sever the lands west of the existing dwelling. As per the concept plan below, the existing dwelling will remain on the retained land and the driveway would be relocated east of the dwelling:



The Applicant noted that an alternative design and rezoning may be contemplated such as a Residential Third Density Zone (R3 zone), the concept plan submitted should show the highest density of development that would be permitted under the new zone.

Planning Comments

Lucy Ramirez | lucy.ramirez@ottawa.ca

1. Official Plan

In the City's existing Official Plan (2003 consolidation) designates the subject site "General Urban Area". The General Urban Area designation permits the development of a full range and choice of housing types to meet the needs of all ages, incomes and life circumstances, in combination with conveniently located employment, retail, service, cultural, leisure, entertainment and institutional uses. Subject to the policies in Section 3.6 of the Official Plan, the City supports infill development and other intensification within the General Urban Area provided it enhances and complements the desirable characteristics and ensures the long-term vitality of the existing communities that make up the city. Building height in the General Urban Area will continue to be predominantly Low-Rise. Within this range, changes in building form, height and density will be evaluated based upon compatibility with the existing context and the planned function of the area.

The evaluation of development applications in the General Urban Area will be accordance with Section 2.5.1 and Section 4.11. Section 2.5.1 Designing Ottawa provides the overall direction for assessing neighbourhood compatibility. Section 4.11 - Urban Design and Compatibility identifies general criteria for the evaluation of a specific development relative to policies of Section 2.5.1

In the City's new Official Plan (2021), the subject property is within the Suburban Transect per Schedule A, the Neighbourhood Designation as per Schedule B8. Neighbourhoods are contiguous urban areas that constitute the heart of communities; they permit a mix of building forms and densities.

2. Community Design Plan (CDP)

The Property is within the limits of the East Urban Community Phase 1 Community Design Plan, and the property is identified as "Existing Residential" (Figure 14, Demonstration Plan). No major changes are anticipated to the existing residential dwellings along Renaud Road. Redevelopment of existing lots provide intensification through infilling and would take advantage of urban services.

The Owners are proposing a density of 21 residential units per net hectare (3 units ÷ 0.1434 hectare), which per the Demonstration Plan, would be considered a low-density development. If the existing dwelling were also replaced with a semi-detached dwelling, then the density would be 28 units per net hectare (4 units ÷ 0.1434 hectare). The Demonstration Plan considers medium-low density development to be 29 units/ net hectare. **A medium-low density development would be compatible with the neighbouring development and the CDP Demonstration Plan.**

Staff note that the subject property is in Area 4 (shaded in green) of Figure 12, which has limited capacity to support higher density development and it is expected that an overall density of only 25 units / net hectare can be achieved.

The CDP notes that Area 4 will be required to develop as a combination of singles, semis, and town homes.

3. Official Plan Amendment 118

Lot is within area covered by Official Plan Amendment 118 [OPA 118 - East Urban Community (EUC) Phase 1 and 2] There is **a cost sharing agreement** affecting lands within portions of Phase 1 and Phase 2 of the East Urban Community (EUC). As per Section 5.3.5, the City shall require evidence of payment pursuant to the agreement as a condition of draft approval for plans of subdivision and plans of condominium, and as a condition of approval of **severance applications** and site plan. You will need to contact the Trustee for the East Urban Community Ownership Group (Kris Kilborn at Stantec; Kris.Kilborn@stantec.com) to discuss the proportional costs.

4. Zoning

The Owners want to rezone the property to a Residential Second density (R2) Zone to allow for a semi-detached.

TABLE 158A – R2 SUBZONE PROVISIONS (OMB Order File N°: PL150797, issued July 25, 2016 - By-law 2015-228) (By-law 2020-288)

I Sub-Zone	II Prohibited Uses	III Principal Dwelling Type	IV Minimum Lot Width (m)	V Minimum Lot Area (m)	VI Maximum Building Height (m)	VII Minimum Front Yard Setback (m)	VIII Minimum Corner Side Yard Setback (m)	IX Rear Yard Setback Minimum (m)	X Minimum Interior Side Yard Setback (m)	XI Endnotes (see Table 158B)
G	None	Detached, Duplex, Linked-detached	15	450	8	6	4.5	7.5[6]	3 m total; 1.2 m for one side yard	6
		Long Semi	10	300	8	6	4.5	7.5[6]	3 m total; 1.2 m for one side yard	6
		Semi-detached	7.5	225	8	6	4.5	7.5[6]	1.5 within Area A of Schedule 342, all other cases 1.2	6

TABLE 158B – ADDITIONAL ZONING PROVISIONS (By-law 2020-288)

I Endnote Number	II Additional Zoning Provisions
6	For those lots outside of Schedule 342, the minimum rear yard setback is 25% of the lot depth which must comprise at least 25% of the area of the lot, however it may not be less than 6 m and need not exceed 7.5 m. Despite the foregoing, on lots with depths of 15 metres or less, the minimum rear yard setback is 4 m. For those lots within S. 342, see Part V, Section 144 – Alternative Yard Setbacks for Low-Rise Residential Uses (By-law 2020-288)

Context

The lot fabric along this segment of Renaud Road - between the Greenbelt and Mer Bleue Road - is varied, with older lots and newer lots that are on plans of subdivisions. Along this segment of Renaud Road there is a mix of dwelling types and uses.

The eastern property line abuts a detached dwelling. The western and rear property lines abut a planned unit development made up of six low-rise apartments (12 units each) and six stacked townhouses (4 units each). The adjacent land was previously zoned DR and was rezoned in 2014 to R4M [2158]. Along this segment of Renaud Road there are parcels zoned R3Z as well as R3YY.

5. Affordable Housing Programs

Canada Mortgage and Housing Corporation has a Rental Construction Financing Program and you are encouraged to participate if you are eligible.

6. Major Zoning By-law Amendment Planning Applications Fees

The following outlines the application fees for each type of application, fees effective January 1, 2022. Please note fees increase each year:

Zoning By-law Amendment	
Major Zoning Amendment	**$22,472.80**
Conservation Fee	**$400 ***
Total	**$22,872.80**

* Conservation Authority will invoice for any additional fees and technical report review as required.

7. Consents (Severances)

An application to the Committee of Adjustment would be necessary to create the lot for the proposed semi-detached dwelling.

Please note that Consent (Severance) applications are handled by the Committee of Adjustment. The Planning Department provides comments on Committee of Adjustment applications; however, the Committee of Adjustment makes the decision. For more information on the Committee of Adjustment, including application forms and fees, please visit: https://ottawa.ca/en/planning-development-and-construction/committee-adjustment. For questions pertaining to forms and fees, please contact the Committee of Adjustment directly at cofa@ottawa.ca or at (613)-580-2436.

Conditions of a Provisional Consent

The *Planning Act* (Subsection 53 (12)) allows the Committee of Adjustment the ability to impose any condition to a provisional consent, if it believes the condition is reasonable and has regard to the nature of the development proposed. All

conditions of approval must be fulfilled within two years of the decision before the certificate is issued stating that the consent was given. Below are typical conditions which are imposed, note this is not an exhaustive list.

- Removal of accessory dwelling
- Separate services from street required (demonstrated through a servicing plan created by an engineer)
- Demonstration of appropriate grading and drainage (demonstrated through a grading plan created by an engineer)
- Noise condition
- Asphalt overlay condition, if applicable
- Relocation of the driveway
- Cost Sharing – the Owner provide a letter from the Trustee of the East Urban Community (EUC) Cost Sharing Agreement confirming that the said Owner is in good standing under the terms of the said EUC Cost Sharing Agreement and that all amounts owing and/or works and services to be performed under the said Agreement have been paid and/or satisfied by the Owner.
- Cash-in-lieu of parkland will be required as a condition of the severance approval, as per the Parkland Dedication By-law.

8. High Performance Development Standards

The High Performance Development Standards (HPDS) were passed by Council on April 13, 2022.

The High-Performance Development Standard (HPDS) is a collection of mandatory and voluntary standards or "metrics" that raise the performance of new building projects to achieve "sustainable and resilient design" objectives. The HPDS consists of three tiers of performance.

Once the new Official Plan is provincially approved and in effect, they apply to new site plan and plan of subdivision applications.

I'm attaching a handout for your information.

9. Questions to address in your submission

1. Will there be secondary dwelling units in the principal dwellings?
2. What is the Owners plan for dealing with parking? Will you be setting the dwellings further back to accommodate more parking in the driveway?

This is the Formal Pre-Application Consultation meeting for a Major Zoning Amendment Application. Application forms, timeline and fees can be found online, through the hyperlink provided.

Engineering Comments

Alex Polyak | alex.polyak@ottawa.ca

Submission Documents

- Topographical Plan of Survey Plan with a published Bench Mark
- Geotechnical Report

Background Studies and Information

The property is situated on the East Urban Community (EUC) Phase 1 lands, and is subject to the Phase 1 Community Design Plan (CDP) and associated background studies which accompany this document, such as the 2004 Gloucester EUC Infrastructure Study Update (Stantec) which sets out the infrastructure plan for the CDP area, and the 2004 Geotechnical Considerations: East Urban Community study (Golder), amongst others. Note that a CDP for the Phase 2 lands (bordering Mer Bleue Rd. to the east, Mer Bleue bog to the south, and Renaud Rd. to the North) was finalized in 2013 and the direction of this CDP supersedes the requirements set out in the Phase 1 CDP. These documents are to be consulted accordingly, and the proposed submission is to be consistent with these documents.

Servicing: As part of the servicing component, the Applicant is recommended to consult the City's geoOttawa website: (http://maps.ottawa.ca/geoOttawa/) for basic information regarding the municipal services on Renaud Rd. Typically, direct connections to trunk sewers are not permitted due to high flow rates conveyed in these pipes and their depths (usually 6m deep, or more), among other points. Direct connections may be considered in this case, and City staff will evaluate accordingly following review of the submission.

Geotechnical Considerations: The Applicant is to be aware of the Geotechnical Considerations: East Urban Community study that was completed in 2004 by Golder. The study covers the EUC lands and provided findings with respect to the type of development proposed and landform (topography, and the fact that the area predominantly consists of surficial sand and silty sand over sensitive silty clay soils). These can bring some constraints along with them, specifically:

a. grade raise restrictions

b. slope stability (around the drainage features and the escarpment)

c. relatively high groundwater levels.

Tree Planting and Clay Soils: The EUC consists predominantly of sensitive silty clay soils, and the City's planting policies and CDP should be consulted with respect to planting restrictions and requirements. Also, it is recommended that the Applicant refer to the comments provided by the City's Forestry team for this pre-application consultation with respect to this note.

The subject site falls within the Mud Creek subwatershed (a subwatershed is the area of land that water flows over or through to drain into a larger body of water – i.e. a watershed). The Mud Creek subwatershed drains the majority of the study area to the southwest, where it empties into the Green's Creek watershed. The Mud Creek Cumulative Impact Study (CIS), which is currently in draft form (therefore not referred to in the CDP), speaks to downstream erosion and remedial measures in Mud Creek.

Note that there is also the 2013 Environmental Management Plan (EMP) prepared by CH2MHILL, which acts as a support document to the 2013 Phase 1 and 2 CDP and speaks to the natural environment and stormwater management plans. In this case, it is recommended to consult the EMP as there is information with respect to drainage across EUC Phase 1 lands into Mud Creek.

Low Impact Development (LID): Although not discussed in the Phase 1 CDP, tying in with the above, the Applicant is to look into the implementation of LID best management practices. With the clay soils present, however, there will be low permeability, and in turn, limited infiltration volumes. Nonetheless, the Applicant is to consider LIDs and provide rationale in the servicing and stormwater management report on its effectiveness in the development, in accordance with the Ministry of the Environment, Conservation, and Parks (MECP) and City of Ottawa guidelines for development.

Development Charges (DC): The site is subject to an Area Specific DC as it falls within Area E-3 of the Gloucester East Urban Centre Stormwater Facilities By-Law 2019-165. It is Development Review East's understanding that there will be an amendment to the Area E-3 By-Law in 2021.

Gloucester EUC Cost Sharing Agreement dated February 2008 between participating Owners: Rivard/Monarch, Richcraft, Minto, DCR Phoenix, Claridge, and Ashcroft: The site is subject to an existing EUC Ownership Cost Sharing Agreement which is administered by a Trustee on behalf of the ownership group. It is recommended that the Applicant contact the Trustee to discuss the terms of the agreement as a Non-Participating Owner (an owner of a land shown in Schedule D of the Agreement, and who is not party to this Agreement).

Utilities: Note the presence of the above-ground lines, among and other utilities in the right-of-way. Coordination will be required with the applicable agencies at the time of development.

Minimum Drawing and File Requirements – All Plans

Plans are to be submitted on standard **A1 size** (594mm x 841mm) sheets, utilizing an appropriate Metric scale (1:200, 1:250, 1:300, 1:400, or 1:500).

With all submitted hard copies provide individual PDF of the DWGs and for reports please provide one PDF file of the reports. **All PDF documents are to be unlocked and flattened.**

Infill Forestry Comments

Nancy Young | nancy.young@ottawa.ca

Section 4.8.2 of the New Official Plan provides strong direction to maintain the urban forest canopy and its ecosystem services during intensification noting when considering the impacts on individual trees, planning and development decisions, including Committee of Adjustment decisions, shall give priority to the retention and protection of large, healthy trees over replacement plantings and compensation. Applications must address the cumulative impacts on the urban forest, over time and space, with the goal of 40% urban forest canopy cover in mind. Further, that the City and the Committee of Adjustment may refuse a development application where it deems the loss of a tree(s) avoidable.

1. A Tree Information Report is required with the Zoning By-law Amendment application and must be prepared in accordance with the Tree Information Report guidelines: https://ottawa.ca/en/living-ottawa/laws-licences-and-permits/laws/law-z/tree-protection-law-no-2020-340#schedule-c---tree-information-report-guidelines-.
    a. The TIR must be prepared by an arborist or forester, which you can find here: https://www.treesaregood.org/findanarborist/findanarborist or https://opfa.ca/contact-us/consultants-list/#!directory/map.
    b. In the suburban area all private trees >50cm and City trees of any size are protected under the Tree Protection By-law.
    c. There are resources available on the City's website for how to design around trees: https://ottawa.ca/en/living-ottawa/environment-conservation-and-climate/trees-and-urban-forests/tree-protection-law#planning-around-trees

2. While a detailed landscaping plan is not required at the ZBLA stage, the TIR or site plan should show that there is sufficient space to plant a minimum of one new 50mm tree per lot (in the frontage) and/or the required number of compensation trees if there are any protected trees which must be removed.

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

Please let me know if you have any questions.

Transportation Comments

Mike Giampa | mike.giampa@ottawa.ca

There is no right of way protection

Urban Design Comments

Selma Hassan | Selma.hassan@ottawa.ca

1. It is assumed that if you have a secondary unit in each townhouse semi-detached dwelling, then there will likely be additional cars on each lot. There is a possibility of up to four cars if each household (principal and secondary) has two cars. What is your plan to deal with parking? City staff do not want the driveways to be widened in the future beyond the zoning permission.
2. Please provide a footprint of the house on the lot (not just a building envelope). Based on the size of the footprint, it may be an option to increase the front yard setback to provide more driveway parking space.
3. There may be opportunities for tree preservation at the rear.
4. The zoning could be tied to site specific setbacks if they helped with the issues of the parking and trees.
5. This area typically has marine clay soils, which limit the types of trees that can be planted. The applicant's Geotech report should include a section dealing with planting restrictions and requirements. The TIR or site plan should include at least one tree in each front yard.

Attachments

1. Pre-con Applicant's Study and Plan Identification List
2. HPDS for Applicants

Low density development
25 units / net ha

Medium-low density development
29 units / net ha

Medium density development
35 units / net ha

High density development
60 units / net ha

General Urban Area, Phase 2, and Mixed Use Centre Lands

Existing Residential

Urban Natural Areas Environmental Evaluation Study Candidate Site
(see Section 4.3 for a discussion of this feature)

0 100 200 300 400 500m

Zarak Ali

From: Polyak, Alex <alex.polyak@ottawa.ca>
Sent: Tuesday, June 6, 2023 2:04 PM
To: Francois Thauvette
Cc: Zarak Ali
Subject: RE: 6208 Renaud Road - City Pre-Con Notes Clarification (122075)

Good afternoon Francois,

Yes, please include the typical Civil information in the adequacy of Public Services report including sanitary, water, and storm in support of the ZBLA. A concept SWM sketch is required to confirm adequacy of the storm system.

Regards,

Oleksandr (Alex) Polyak, B.Eng., P.Eng
Project Manager, Infrastructure Approvals, Development Review East Branch | Gestionnaire de projet, Direction de l'examen des projets d'aménagement – Est.
Planning, Real Estate and Economic Development Department | Direction générale de la planification, des biens immobiliers et du développement économique

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From: Francois Thauvette <f.thauvette@novatech-eng.com>
Sent: June 06, 2023 12:29 PM
To: Polyak, Alex <alex.polyak@ottawa.ca>
Cc: Zarak Ali <z.ali@novatech-eng.com>
Subject: RE: 6208 Renaud Road - City Pre-Con Notes Clarification (122075)

Hi Alex,

Thanks for getting back to us. We just want to make certain that the Adequacy of Public Services report contains the correct (typical) civil information (i.e., SAN, Water, STM drainage) to support the ZBLA application. Does a conceptual SWM design need to be included for a demi-detached dwelling? A separate geotechnical report is being prepared by others, so geotechnical discussions, if required, would be minimal in our report. Also, detailed servicing, grading and SWM designs will be completed at the detailed design stage.

I will send a Teams meeting invitation for 3:00pm, unless that time doesn't work for you.

Regards,

François Thauvette, P. Eng., Sr. Project Manager | Land Development & Public-Sector Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | T: 613.254.9643 Ext: 219 | C: 613.276.0310

From: Polyak, Alex <alex.polyak@ottawa.ca>
Sent: Tuesday, June 6, 2023 11:25 AM
To: Francois Thauvette <f.thauvette@novatech-eng.com>
Cc: Zarak Ali <z.ali@novatech-eng.com>
Subject: RE: 6208 Renaud Road - City Pre-Con Notes Clarification (122075)

Hi Francois,

We can have a quick call this afternoon. What exactly would you like clarification about?

Regards,

Oleksandr (Alex) Polyak, B.Eng., P.Eng
Project Manager, Infrastructure Approvals, Development Review East Branch | Gestionnaire de projet, Direction de l'examen des projets d'aménagement – Est.
Planning, Real Estate and Economic Development Department | Direction générale de la planification, des biens immobiliers et du développement économique

City of Ottawa | Ville d'Ottawa
110 Laurier Ave., 4th Fl East, Ottawa ON K1P 1J1
Email: alex.polyak@ottawa.ca
www.Ottawa.ca

From: Francois Thauvette <f.thauvette@novatech-eng.com>
Sent: June 06, 2023 11:05 AM
To: Polyak, Alex <alex.polyak@ottawa.ca>
Cc: Zarak Ali <z.ali@novatech-eng.com>
Subject: 6208 Renaud Road - City Pre-Con Notes Clarification (122075)

Hi Alex,

Would you have time for a brief Teams call later today (~15 mins.)? We would like some clarification regarding the City's expectations related to the civil engineering documents required for the ZBLA application.

Regards,

François Thauvette, P. Eng., Sr. Project Manager | Land Development & Public-Sector Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | T: 613.254.9643 Ext: 219 | C: 613.276.0310

APPENDIX B

Preliminary Sanitary Sewage Calculations

6208 Renaud Road - Proposed 8-Unit Residential Building
SANITARY SEWAGE ANALYSIS

Residential	Total	
Number of 2-Bedroom Apartments (including Penthouse Loft Units)	8	
Number of Persons per 2-Bdrm Apartment	2.1	
Design Population	17	
Average Daily Flow per resident	280	L/c/day
Peak Factor (Harmon Formula)	3.79	
Peak Residential Flow	0.21	L/s
Site Area	0.143	ha
Infiltration Allowance	0.33	L/s/ha
Peak Extraneous Flows	0.05	L/s
Total Peak Sanitary Flow	**0.26**	**L/s**

APPENDIX C

Preliminary Water Demand and OBC Fire Flow Calculations, Watermain Boundary Conditions, Fire Hydrant Sketch and E-mail Correspondence from the City of Ottawa

6208 Renaud Road - Existing Single Residential Dwelling
WATER ANALYSIS

DOMESTIC WATER DEMANDS

Residential Use	Single	
Number of Semi-Detached Units	1	
Number of Persons per Semi-Detached Dwelling	3.4	
Total Design Population	4	
Average Day Demand (280 L/c/day)	**0.01**	L/s/day
Maximum Day Demand (2.5 x avg. day)	**0.03**	**L/s**
Peak Hour Demand (2.2 x max. day)	**0.06**	**L/s**
Total Average Day Demand	**0.01**	**L/s**
Total Maximum Day Demand	**0.03**	**L/s**
Total Peak Hour Demand	**0.06**	**L/s**

6208 Renaud Road - Proposed 3-Storey Residential Building
WATER ANALYSIS

DOMESTIC WATER DEMANDS

Residential Use	total	
Number of 2-Bedroom Units	8	
Persons per 2-Bedroom Unit	2.1	
Total Number of Units	8	
Total Design Population	17	
Average Day Demand (280 L/c/day)	**0.06**	L/s/day
Maximum Day Demand (2.5 x avg. day)	**0.14**	**L/s**
Peak Hour Demand (2.2 x max. day)	**0.30**	**L/s**
Total Average Day Demand	**0.06**	**L/s**
Total Maximum Day Demand	**0.14**	**L/s**
Total Peak Hour Demand	**0.30**	**L/s**

Fire-Fighting Water Supply - OBC 2006 (A-3.2.5.7.)

Project: 6208 Renaud Road (3-Storey Apartment Building)

Proj. No.: 122075

Date: Jan 11/24

Reference: Ontario Fire Marshal - OBC Fire Fighting Water Supply

Building Classification: C — OBC 9.10.2.1.

Water Supply Coefficent K: 23 — A-3.2.5.7. Table 1

Building Dimensions:	W (ft)	64.4	19.6	m	A =	252 m²
	L (ft)	42.2	12.9	m	V =	3694 m³
use avg interior height	H (ft)	12	3.7	m		

Total Volume (above & below grade) of Building to underside of roof deck

Exterior Wall Exposure = Distance between exterior face and:
(Limiting Distance)
OBC 3.2.3.1.(3)

Property Line
or Centreline of Street
or Line at mid-distance to another building on same lot

North:	16.0 m	$S_{side\ 1}$ =	0.00
East:	7.8 m	$S_{side\ 2}$ =	0.22
South:	24.5 m	$S_{side\ 3}$ =	0.00
West:	4.5 m	$S_{side\ 4}$ =	0.50

A-3.2.5.7. Figure 1

If LD > 10 m (> 13 m for F-1), S = 0, thus an accurate measure of LD is not required.
Can enter LD = >10 or >13

If a building is separated by a firewall, S = 0 for that side (see A-3.2.5.7.3(d)). Enter LD = firewall

Spatial Coefficent: S_{Tot} =
$1.0 + (S_{side\ 1} + S_{side\ 2} + S_{side\ 3} + S_{side\ 4})$ = 1.72

Fire Water Supply Volume Required: Q =	K V S_{Tot}	=	146000 L
	Q_{min} from A-3.2.5.7. Table 2	=	54000 L
	Q_{REQ}	=	146000 L
	Q_{REQ}	=	**146 m³**

TABLE 1
WATER SUPPLY COEFFICIENT -- K

	Classification by Group or Division in Accordance with Table 3.1.2.1 of the Ontario Building Code				
TYPE OF CONSTRUCTION	**A-2 B-1 B-2 B-3 C D**	**A-4 F-3**	**A-1 A-3**	**E F-2**	**F-1**
Building is of noncombustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2. of the OBC, including loadbearing walls, columns and arches.	10	12	14	17	23
Building is of noncombustible construction or of heavy timber construction conforming to Article 3.1.4.6. of the OBC. Floor assemblies are fire separations but with no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire-resistance rating.	16	19	22	27	37
Building is of combustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2. of the OBC, including loadbearing walls, columns and arches. Noncombustible construction may be used in lieu of fire-resistance rating where permitted in Subsection 3.2.2. of the OBC.	18	22	25	31	41
Building is of combustible construction. Floor assemblies are fire separations but with no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire-resistance rating.	23	28	32	39	53
Column 1	**2**	**3**	**4**	**5**	**6**

TABLE 2
MINIMUM WATER SUPPLY FLOW RATES

Building Code, Part 3 Buildings	**Required Minimum Water Supply Flow Rate (L/min.)**
One-storey building with building area not exceeding 600m^2 (excluding F-1 occupancies)	1800
All other buildings	2700 (If **Q** ≤ 108,000L)[(1)] 3600 (If **Q** > 108,000L **and** ≤ 135,000L)[(1)] 4500 (If **Q** > 135,000L **and** ≤ 162,000L)[(1)] 5400 (If **Q** > 162,000L **and** ≤ 190,000L)[(1)] 6300 (If **Q** > 190,000L **and** ≤ 270,000L)[(1)] 9000 (If **Q** > 270,000L)[(1)]

Note: [(1)] $\mathbf{Q=KVS_{Tot}}$ as referenced in Section 3 (a)

Boundary Conditions
6208 Renaud Road

Provided Information

Scenario	Demand	
	L/min	L/s
Average Daily Demand	2	0.03
Maximum Daily Demand	4	0.07
Peak Hour	10	0.17
Fire Flow Demand #1	6,300	105.00

Location

Results

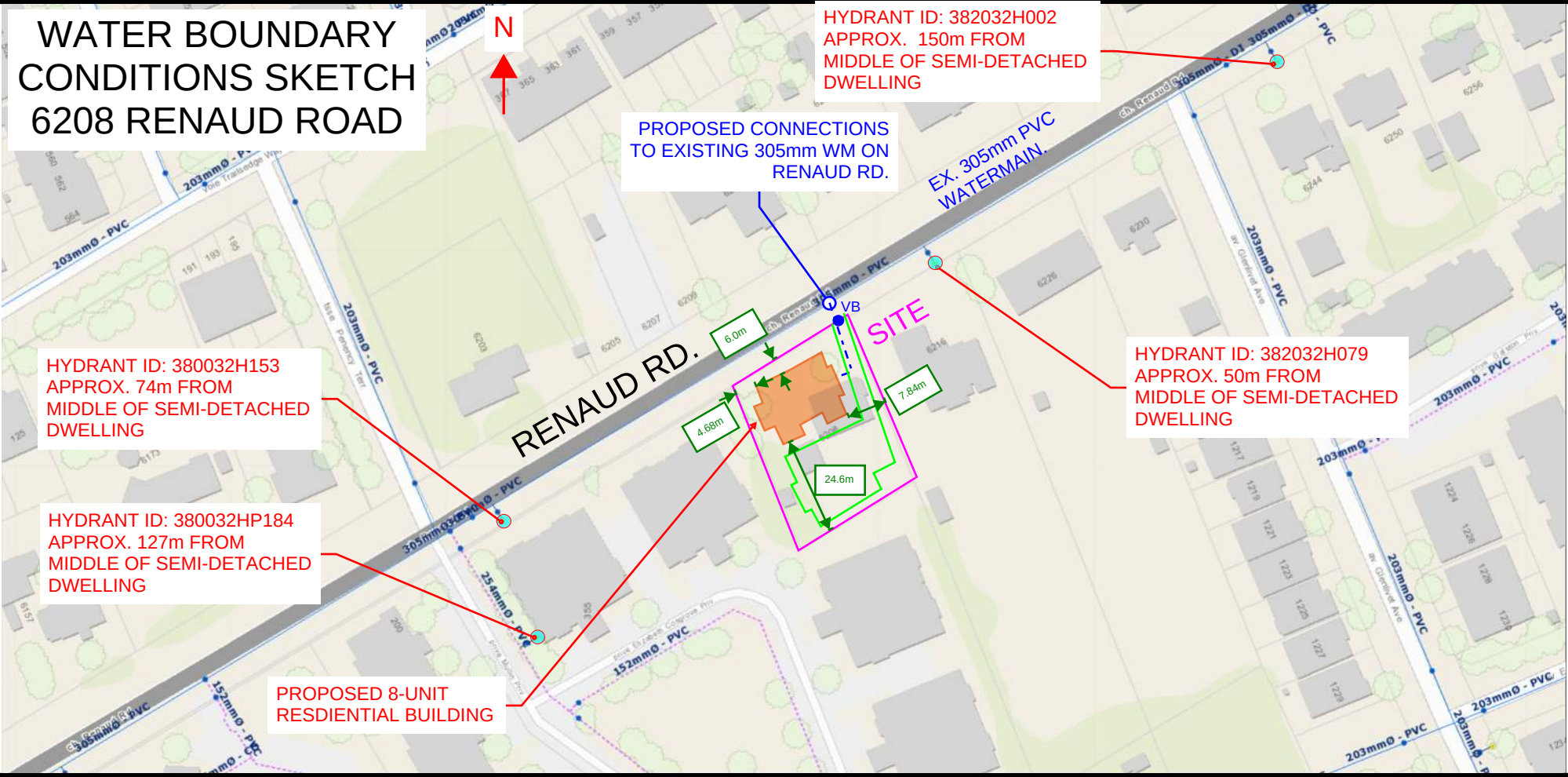
Connection 1 – Renaud Road

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	130.7	62.7
Peak Hour	126.8	57.3
Max Day plus Fire Flow	128.2	59.2

[1] Ground Elevation = 86.6 m

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. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.


WATER BOUNDARY CONDITIONS SKETCH
6208 RENAUD ROAD
N
HYDRANT ID: 382032H002
APPROX. 150m FROM
MIDDLE OF SEMI-DETACHED
DWELLING
PROPOSED CONNECTIONS
TO EXISTING 305mm WM ON
RENAUD RD.
EX. 305mm PVC
WATERMAIN.
RENAUD RD.
VB
SITE
6.0m
7.84m
4.68m
24.6m
HYDRANT ID: 380032H153
APPROX. 74m FROM
MIDDLE OF SEMI-DETACHED
DWELLING
HYDRANT ID: 382032H079
APPROX. 50m FROM
MIDDLE OF SEMI-DETACHED
DWELLING
HYDRANT ID: 380032HP184
APPROX. 127m FROM
MIDDLE OF SEMI-DETACHED
DWELLING
PROPOSED 8-UNIT
RESDIENTIAL BUILDING

Zarak Ali

From: Polyak, Alex <alex.polyak@ottawa.ca>
Sent: Tuesday, June 13, 2023 3:05 PM
To: Francois Thauvette
Cc: Zarak Ali
Subject: RE: 6208 Renaud Road - Municipal WM Boundary Conditions Request (122075)
Attachments: 6208 Renaud Road Boundary Condition(06June2023).docx

Hello Francois,

Please see the boundary conditions attached.

In the future please allow approximately 2-3 weeks to receive boundary conditions for a project.

Regards,

Oleksandr (Alex) Polyak, B.Eng., P.Eng
Project Manager, Infrastructure Approvals, Development Review East Branch | Gestionnaire de projet, Direction de l'examen des projets d'aménagement – Est.
Planning, Real Estate and Economic Development Department | Direction générale de la planification, des biens immobiliers et du développement économique

City of Ottawa | Ville d'Ottawa
110 Laurier Ave., 4th Fl East, Ottawa ON K1P 1J1
Email: alex.polyak@ottawa.ca
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From: Francois Thauvette <f.thauvette@novatech-eng.com>
Sent: June 13, 2023 11:13 AM
To: Polyak, Alex <alex.polyak@ottawa.ca>
Cc: Zarak Ali <z.ali@novatech-eng.com>
Subject: RE: 6208 Renaud Road - Municipal WM Boundary Conditions Request (122075)

Thanks Alex!

François Thauvette, P. Eng., Sr. Project Manager | Land Development & Public-Sector Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | T: 613.254.9643 Ext: 219 | C: 613.276.0310

From: Polyak, Alex <alex.polyak@ottawa.ca>
Sent: Tuesday, June 13, 2023 10:08 AM
To: Francois Thauvette <f.thauvette@novatech-eng.com>
Cc: Zarak Ali <z.ali@novatech-eng.com>
Subject: RE: 6208 Renaud Road - Municipal WM Boundary Conditions Request (122075)

Hello Francois,

I had specified the urgency of the request to our water department, but have not yet received any feedback. I'll follow up with them today.

Regards,

Oleksandr (Alex) Polyak, B.Eng., P.Eng
Project Manager, Infrastructure Approvals, Development Review East Branch | Gestionnaire de projet, Direction de l'examen des projets d'aménagement – Est.
Planning, Real Estate and Economic Development Department | Direction générale de la planification, des biens immobiliers et du développement économique

City of Ottawa | Ville d'Ottawa
110 Laurier Ave., 4th Fl East, Ottawa ON K1P 1J1
Email: alex.polyak@ottawa.ca
www.Ottawa.ca

From: Francois Thauvette <f.thauvette@novatech-eng.com>
Sent: June 13, 2023 9:19 AM
To: Polyak, Alex <alex.polyak@ottawa.ca>
Cc: Zarak Ali <z.ali@novatech-eng.com>
Subject: RE: 6208 Renaud Road - Municipal WM Boundary Conditions Request (122075)

Hi Alex,

As previously discussed, could you please ask the Water Department to expedite the WM boundary conditions request for this project? Our client is eager to submit today and the only missing pieces are the WM boundary conditions and analysis.

Regards,

François Thauvette, P. Eng., Sr. Project Manager | Land Development & Public-Sector Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | T: 613.254.9643 Ext: 219 | C: 613.276.0310

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This e-mail originates from the City of Ottawa e-mail system. Any distribution, use or copying of this e-mail or the information it contains by other than the intended recipient(s) is unauthorized. Thank you.

Le présent courriel a été expédié par le système de courriels de la Ville d'Ottawa. Toute distribution, utilisation ou reproduction du courriel ou des renseignements qui s'y trouvent par une personne autre que son destinataire prévu est interdite. Je vous remercie de votre collaboration.

'

Zarak Ali

From: Francois Thauvette
Sent: Tuesday, June 6, 2023 11:24 AM
To: Polyak, Alex
Cc: Zarak Ali
Subject: FW: 6208 Renaud Road - Municipal WM Boundary Conditions Request (122075)
Attachments: WaterBoundaryConditionsSketch.pdf; 122075-WaterDemands-SEMI.pdf; 122075-WaterDemands-SINGLE.pdf; Fire Water Supply OBC_SEMI.pdf; Fire Water Supply OBC_SINGLE.pdf

Hi Alex,

We are sending this e-mail to request WM boundary conditions. Please see e-mail below and attachments for details.

Regards,

François Thauvette, P. Eng., Sr. Project Manager | Land Development & Public-Sector Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | T: 613.254.9643 Ext: 219 | C: 613.276.0310

From: Zarak Ali <z.ali@novatech-eng.com>
Sent: Tuesday, June 6, 2023 11:12 AM
To: Francois Thauvette <f.thauvette@novatech-eng.com>
Subject: 6208 Renaud Road - Municipal WM Boundary Conditions Request

Good morning,

We are looking for boundary conditions for the existing watermain infrastructure to complete a water servicing analysis to support a ZBLA application for the 6208 Renaud Road development. Please refer to the attached water boundary conditions sketch for the following:

- Existing water infrastructure and our proposed connection location on Renaud Road,
- Exposure separation distances to support the Fire Flow calculations (Fire flow calculations as per OBC guidelines attached separately for both the proposed semi-detached dwelling and existing single dwelling), and
- Hydrants that were identified as being considered to meet the required Fire Flow

Water Demands (detailed calculations attached separately) for both the proposed and existing dwellings are provided below:

<u>Proposed Semi-Detached Dwelling @ 6208 Renaud Rd.</u>

- Average Day Demand = 0.02 L/s (0.01 L/s per unit)
- Maximum Day Demand = 0.04 L/s (0.02 L/s per unit)
- Peak Hour Demand = 0.10 L/s (0.05 L/s per unit)
- Fire Flow Demand = 105 L/s (6300 L/min. as per OBC Table 2 A 3.2.5.7) for both halves of the semi-detached dwelling

Existing Single Dwelling @ 6208 Renaud Rd.

- Average Day Demand = 0.01 L/s
- Maximum Day Demand = 0.03 L/s
- Peak Hour Demand = 0.07 L/s
- Fire Flow Demand = 45 L/s (2700 L/min. as per OBC Table 2 A 3.2.5.7)

Please let us know if you require any additional information.

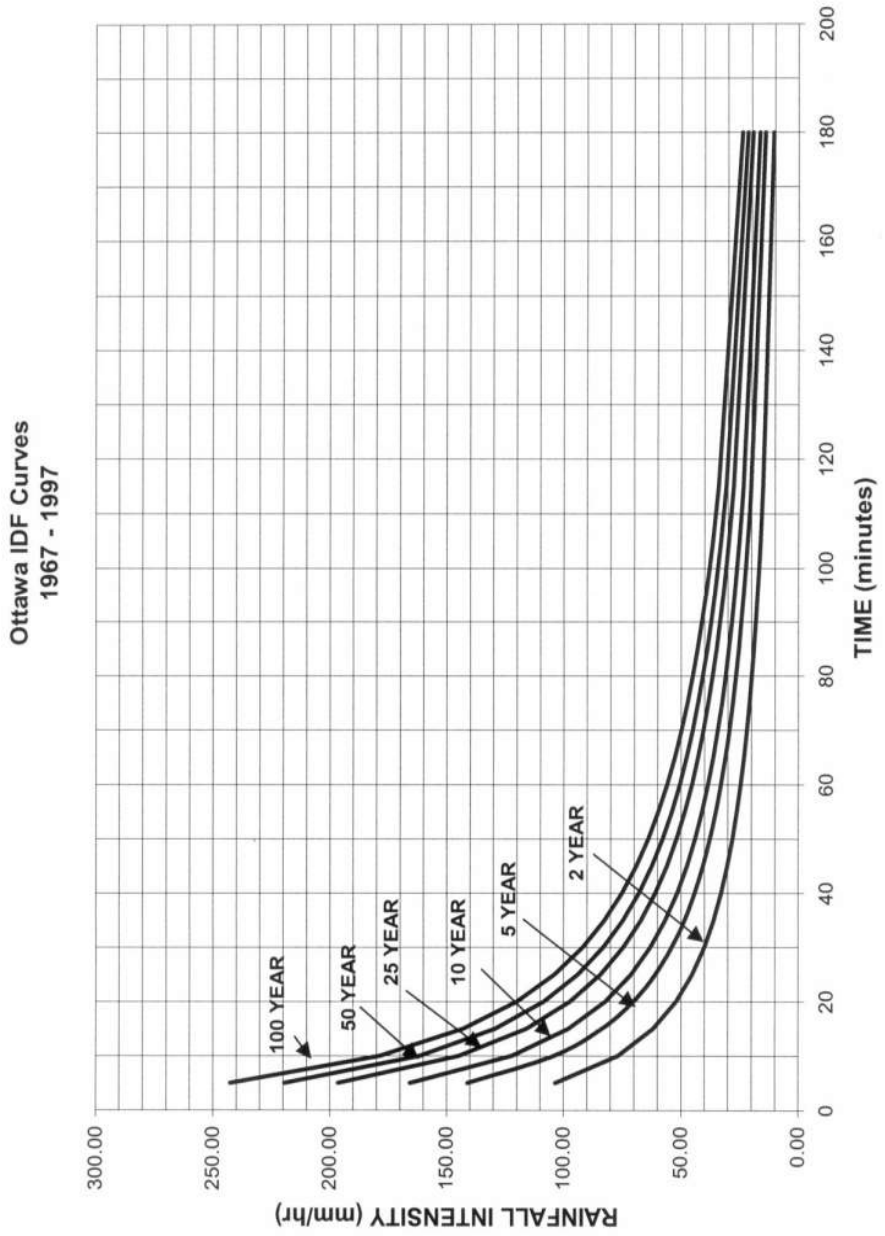
Regards,

Zarak Ali, E.I.T. | Land Development Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 Ext: 330

APPENDIX D

IDF Curves, Preliminary SWM Calculations

APPENDIX 5-A OTTAWA INTENSITY DURATION FREQUENCY (IDF) CURVE



Proposed Semi-Detached Residential Building
6208 Renaud Road

Pre - Development Site Flows									
Description	***Area (ha)***	***$A_{impervious}$ (ha) C=0.9***	***A_{gravel} (ha) C=0.6***	***$A_{pervious}$ (ha) C=0.2***	**Weighted C_{w5}**	**Weighted C_{w100}**	**2-Year Flow (L/s)**	**5-Year Flow (L/s)**	**100-Year Flow (L/s)**
Subject Site	0.143	0.035	0.000	0.108	0.37	0.43	11.3	15.4	30.8

Post - Development : Sub-Catchment Areas and Weighted Runoff Coefficients						
Area	**Description**	***Area (ha)***	***A_{imp} (ha) C=0.9***	***A_{perv} (ha) C=0.2***	**C_5**	**C_{100}**
A-1	Direct Runoff from Site	0.020	0.002	0.018	0.27	0.33
A-2	Controlled On-Site (Pkg Lot)	0.123	0.070	0.053	0.60	0.68
	Summed Area Check:	0.143				

Post - Development : Flows								
Area	**Description**	**Peak Design Flow (L/s)**			**Storage Required (m^3)**			**Provided (m^3)**
		2-year	**5-year**	**100-year**	**2-year**	**5-year**	**100-year**	
A-1	Direct Runoff from Site	1.1	1.6	3.2	-	-	-	-
A-2	Controlled On-Site (Pkg Lot)	7.5	8.0	8.5	8.3	12.7	31.7	> 32
	Totals :	**8.6**	**9.6**	**11.8**	**8.3**	**12.7**	**31.7**	**> 32**

Proposed 3-Storey Residential Building
Novatech Project No. 122075
Uncontrolled Runoff - 1:2 YEAR EVENT
AREA A-1 Direct Runoff from Site

OTTAWA IDF CURVE

Area = 0.020 ha Qallow = 1.1 L/s
C = 0.27 Vol(max) = 0.0 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	103.57	1.54	0.40	0.12
10	76.81	1.14	0.00	0.00
15	61.77	0.92	-0.22	-0.20
20	52.03	0.78	-0.37	-0.44
25	45.17	0.67	-0.47	-0.71
30	40.04	0.60	-0.55	-0.99
35	36.06	0.54	-0.61	-1.28
40	32.86	0.49	-0.65	-1.57
45	30.24	0.45	-0.69	-1.87
50	28.04	0.42	-0.73	-2.18
55	26.17	0.39	-0.75	-2.49
60	24.56	0.37	-0.78	-2.80
65	23.15	0.34	-0.80	-3.12
70	21.91	0.33	-0.82	-3.44
75	20.81	0.31	-0.83	-3.75
90	18.14	0.27	-0.87	-4.72
105	16.13	0.24	-0.90	-5.70
120	14.56	0.22	-0.93	-6.68
135	13.30	0.20	-0.95	-7.67
150	12.25	0.18	-0.96	-8.66

Proposed 3-Storey Residential Building
Novatech Project No. 122075
Uncontrolled Runoff - 1:5 YEAR EVENT
AREA A-1 Direct Runoff from Site

OTTAWA IDF CURVE

Area = 0.020 ha Qallow = 1.6 L/s
C = 0.27 Vol(max) = 0.0 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	2.10	0.55	0.17
10	104.19	1.55	0.00	0.00
15	83.56	1.25	-0.31	-0.28
20	70.25	1.05	-0.51	-0.61
25	60.90	0.91	-0.65	-0.97
30	53.93	0.80	-0.75	-1.35
35	48.52	0.72	-0.83	-1.74
40	44.18	0.66	-0.89	-2.15
45	40.63	0.61	-0.95	-2.56
50	37.65	0.56	-0.99	-2.97
55	35.12	0.52	-1.03	-3.40
60	32.94	0.49	-1.06	-3.82
65	31.04	0.46	-1.09	-4.25
70	29.37	0.44	-1.11	-4.68
75	27.89	0.42	-1.14	-5.12
90	24.29	0.36	-1.19	-6.43
105	21.58	0.32	-1.23	-7.76
120	19.47	0.29	-1.26	-9.09
135	17.76	0.26	-1.29	-10.43
150	16.36	0.24	-1.31	-11.78

Proposed 3-Storey Residential Building
Novatech Project No. 122075
Uncontrolled Runoff - 1:100 YEAR EVENT
AREA A-1 Direct Runoff from Site

OTTAWA IDF CURVE

Area = 0.020 ha Qallow = 3.2 L/s
C = 0.33 Vol(max) = 0.0 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	4.35	1.15	0.35
10	178.56	3.20	0.00	0.00
15	142.89	2.56	-0.64	-0.58
20	119.95	2.15	-1.05	-1.26
25	103.85	1.86	-1.34	-2.01
30	91.87	1.65	-1.55	-2.80
35	82.58	1.48	-1.72	-3.61
40	75.15	1.35	-1.85	-4.45
45	69.05	1.24	-1.96	-5.30
50	63.95	1.15	-2.05	-6.16
55	59.62	1.07	-2.13	-7.04
60	55.89	1.00	-2.20	-7.92
65	52.65	0.94	-2.26	-8.81
70	49.79	0.89	-2.31	-9.70
75	47.26	0.85	-2.35	-10.59
90	41.11	0.74	-2.46	-13.31
105	36.50	0.65	-2.55	-16.05
120	32.89	0.59	-2.61	-18.81
135	30.00	0.54	-2.66	-21.58
150	27.61	0.50	-2.71	-24.36

Proposed 3-Storey Residential Building
Novatech Project No. 122075
Uncontrolled Runoff - 1:100 YR + 20% IDF Increase
AREA A-1 Direct Runoff from Site

OTTAWA IDF CURVE

Area = 0.020 ha Qallow = 3.8 L/s
C = 0.33 Vol(max) = 0.0 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	291.24	5.22	1.38	0.41
10	214.27	3.84	0.00	0.00
15	171.47	3.07	-0.77	-0.69
20	143.94	2.58	-1.26	-1.51
25	124.62	2.23	-1.61	-2.41
30	110.24	1.98	-1.87	-3.36
35	99.09	1.78	-2.07	-4.34
40	90.17	1.62	-2.23	-5.34
45	82.86	1.49	-2.36	-6.36
50	76.74	1.38	-2.47	-7.40
55	71.55	1.28	-2.56	-8.45
60	67.07	1.20	-2.64	-9.50
65	63.18	1.13	-2.71	-10.57
70	59.75	1.07	-2.77	-11.64
75	56.71	1.02	-2.83	-12.71
90	49.33	0.88	-2.96	-15.97
105	43.80	0.79	-3.06	-19.26
120	39.47	0.71	-3.13	-22.57
135	36.00	0.65	-3.20	-25.89
150	33.13	0.59	-3.25	-29.23

Proposed 3-Storey Residential Building
Novatech Project No. 122075
REQUIRED STORAGE - 1:2 YEAR EVENT
AREA A-2 Controlled in rear parking lot

OTTAWA IDF CURVE
Area = 0.123 ha
C = 0.60
Qpeak = 7.50 L/s
Qavg = 3.75 L/s
Vol(max) = 8.3 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	103.57	21.20	17.45	5.24
10	76.81	15.72	11.97	7.18
15	61.77	12.64	8.89	8.01
20	52.03	10.65	6.90	8.28
25	45.17	9.25	5.50	8.24
30	40.04	8.20	4.45	8.01
35	36.06	7.38	3.63	7.63
40	32.86	6.73	2.98	7.15
45	30.24	6.19	2.44	6.59
50	28.04	5.74	1.99	5.97
55	26.17	5.36	1.61	5.31
60	24.56	5.03	1.28	4.60
65	23.15	4.74	0.99	3.86
75	20.81	4.26	0.51	2.30
90	18.14	3.71	-0.04	-0.19
120	14.56	2.98	-0.77	-5.54
150	12.25	2.51	-1.24	-11.18
180	10.63	2.18	-1.57	-17.00
210	9.42	1.93	-1.82	-22.96
240	8.47	1.73	-2.02	-29.02

Proposed 3-Storey Residential Building
Novatech Project No. 122075
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA A-2 Controlled in rear parking lot

OTTAWA IDF CURVE
Area = 0.123 ha
C = 0.60
Qpeak = 8.00 L/s
Qavg = 4.00 L/s
Vol(max) = 12.7 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	28.90	24.90	7.47
10	104.19	21.33	17.33	10.40
15	83.56	17.11	13.11	11.80
20	70.25	14.38	10.38	12.46
25	60.90	12.47	8.47	12.70
30	53.93	11.04	7.04	12.67
35	48.52	9.93	5.93	12.46
40	44.18	9.05	5.05	12.11
45	40.63	8.32	4.32	11.66
50	37.65	7.71	3.71	11.13
55	35.12	7.19	3.19	10.53
60	32.94	6.74	2.74	9.88
65	31.04	6.36	2.36	9.19
75	27.89	5.71	1.71	7.69
90	24.29	4.97	0.97	5.25
120	19.47	3.99	-0.01	-0.11
150	16.36	3.35	-0.65	-5.85
180	14.18	2.90	-1.10	-11.85
210	12.56	2.57	-1.43	-18.01
240	11.29	2.31	-1.69	-24.30

Proposed 3-Storey Residential Building
Novatech Project No. 122075
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA A-2 Controlled in rear parking lot

OTTAWA IDF CURVE
Area = 0.123 ha
C = 0.68
Qpeak = 8.50 L/s
Qavg = 4.25 L/s
Vol(max) = 31.7 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	56.20	51.95	15.59
10	178.56	41.35	37.10	22.26
15	142.89	33.09	28.84	25.96
20	119.95	27.78	23.53	28.23
25	103.85	24.05	19.80	29.70
30	91.87	21.27	17.02	30.64
35	82.58	19.12	14.87	31.23
40	75.15	17.40	13.15	31.56
45	69.05	15.99	11.74	31.70
50	63.95	14.81	10.56	31.68
55	59.62	13.81	9.56	31.54
60	55.89	12.94	8.69	31.30
65	52.65	12.19	7.94	30.97
75	47.26	10.94	6.69	30.12
90	41.11	9.52	5.27	28.46
120	32.89	7.62	3.37	24.25
150	27.61	6.39	2.14	19.30
180	23.90	5.54	1.29	13.88
210	21.14	4.90	0.65	8.15
240	19.01	4.40	0.15	2.18

Proposed 3-Storey Residential Building
Novatech Project No. 122075
REQUIRED STORAGE - 1:100 YR + 20% IDF Increase
AREA A-2 Controlled in rear parking lot

OTTAWA IDF CURVE
Area = 0.123 ha
C = 0.68
Qpeak = 8.50 L/s
Qallow = 4.25 L/s
Vol(max) = 40.7 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	291.24	67.44	63.19	18.96
10	214.27	49.62	45.37	27.22
15	171.47	39.71	35.46	31.91
20	143.94	33.33	29.08	34.90
25	124.62	28.86	24.61	36.91
30	110.24	25.53	21.28	38.30
35	99.09	22.95	18.70	39.27
40	90.17	20.88	16.63	39.92
45	82.86	19.19	14.94	40.33
50	76.74	17.77	13.52	40.57
55	71.55	16.57	12.32	40.65
60	67.07	15.53	11.28	40.62
65	63.18	14.63	10.38	40.48
75	56.71	13.13	8.88	39.97
90	49.33	11.42	7.17	38.74
120	39.47	9.14	4.89	35.22
150	33.13	7.67	3.42	30.80
180	28.68	6.64	2.39	25.84
210	25.37	5.88	1.63	20.49
240	22.81	5.28	1.03	14.85