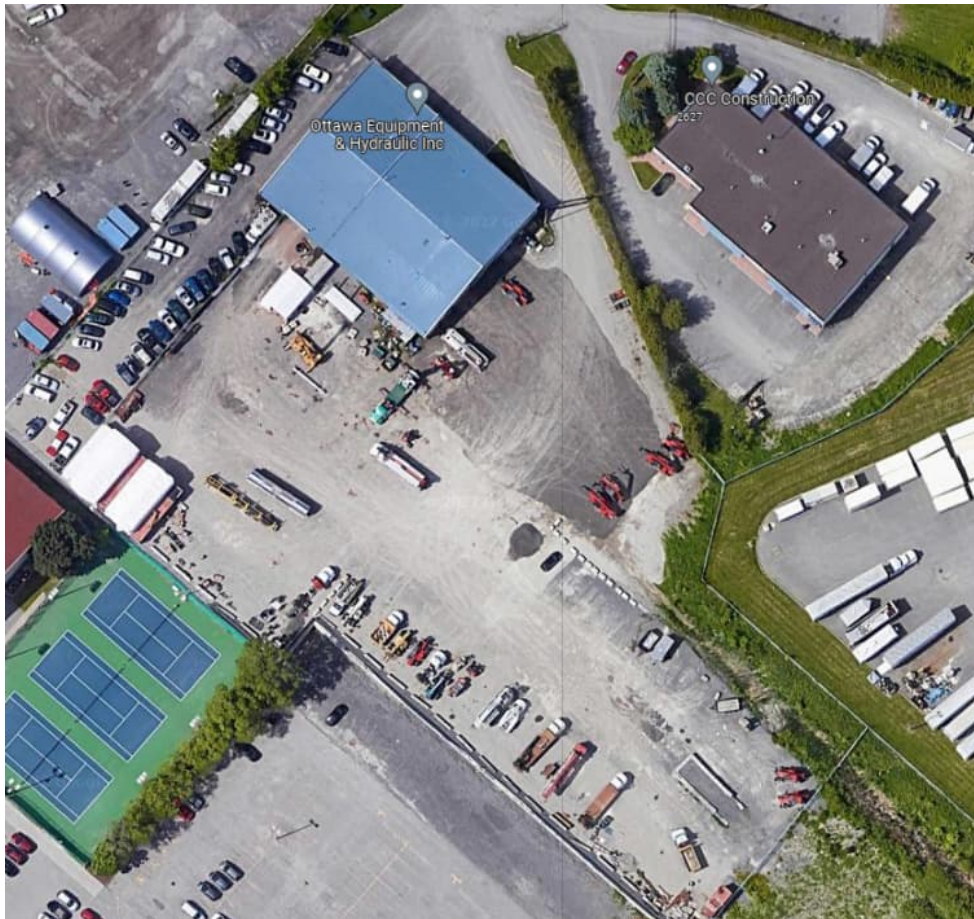


# SERVICING & STORMWATER MANAGEMENT REPORT

## 2628 EDINBURGH PLACE



Project No.: CCO-22-2058

City File No.: D07-12-XX-XXXX

Prepared for:

BBS Construction Ltd  
1805 Woodward Drive  
Ottawa, ON  
K2C 0P9

Prepared by:

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

December 5<sup>th</sup>, 2022

McINTOSH PERRY

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Appendix E: Pre-Development Drainage Plan

Appendix F: Post-Development Drainage Plan

Appendix G: Stormwater Management Calculations

Appendix H: City of Ottawa Design Checklist

## 1.0 PROJECT DESCRIPTION

### 1.1 Purpose

McIntosh Perry (MP) has been retained by BBS Construction LTD to prepare this Servicing and Stormwater Management Report in support of the Site Plan Control process for the proposed development located at 2628 Edinburgh Place within the City of Ottawa.

The main purpose of this report is to present a servicing and stormwater management design for the development 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 the water, sanitary and storm sewer servicing for the development, ensuring that existing and available services will adequately service the proposed development.

This report should be read in conjunction with the following drawings:

- OOO-22-2058, C101 –Erosion, Sediment Control, Grading and Drainage Plan
- OOO-22-2058, C102 – Site Servicing Plan
- OOO-22-2058, PRE – Pre-Development Drainage Area Plan (Appendix E)
- OOO-22-2058, POST – Post-Development Drainage Area Plan (Appendix F)

### 1.2 Site Description

Figure 1: Site Map



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## APPENDICES

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Appendix B: Background Documents

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Appendix D: Sanitary Calculations

Appendix E: Pre-Development Drainage Plan

Appendix F: Post-Development Drainage Plan

Appendix G: Stormwater Management Calculations

Appendix H: City of Ottawa Design Checklist



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This report should be read in conjunction with the following drawings:

- OOO-22-2058, C101 –Erosion, Sediment Control, Grading and Drainage Plan
- OOO-22-2058, C102 – Site Servicing Plan
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- OOO-22-2058, POST – Post-Development Drainage Area Plan (Appendix F)

### 1.2 Site Description

Figure 1: Site Map



The subject property, herein referred to as the site, is located at 2628 Edinburgh Place within the Alta Vista ward. The site covers approximately 1.34 ha and is located at the end of Edinburgh Place. The site is zoned for Heavy Industrial Use (IH) and Light Industrial use (IL). See Site Location Plan in Appendix 'A' for more details.

### 1.3 Proposed Development and Statistics

The proposed development consists of a 1003 m<sup>2</sup> addition to the existing building. The proposed addition will contain a sales area, service bays, storage areas, and a staff amenity area. Parking and drive aisles will be reconfigured as part of the development. Development is proposed within 1.33 ha of the site. Refer to Site Plan (SP1) prepared by GJA Inc. and included in Appendix B for further details.

### 1.4 Existing Conditions and Infrastructures

The site is currently developed containing an existing 1-storey commercial/industrial building with asphalt and gravel parking areas, and gravel storage areas in the rear yard. The existing building is serviced via a 150 mm sanitary service connected to the 250 mm diameter concrete sanitary sewer located within Edinburgh Place. Water servicing is assumed to be connected to the 305 mm diameter watermain within Edinburgh Place.

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):

- ❖ Edinburgh Place
  - 305 mm diameter DI watermain, and
  - 450 mm diameter concrete storm sewer tributary to Green's Creek, and
  - 250 mm diameter concrete sanitary sewer, tributary to the Innes Road trunk sewer.

### 1.5 Approvals

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

An Environmental Compliance Approval (ECA) through the Ministry of Environment, Conservation and Parks (MECP) is not anticipated to be required since the proposed storm sewer system services one parcel of land and is not tributary to a combined sewershed. ECA requirements to be further discussed with City staff due to the heavy industrial zoning.



## 2.0 BACKGROUND 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 proposed development.

A topographic survey (22676-22) of the site was completed by Annis, O'Sullivan, Vollebekk Ltd. and dated March 9<sup>th</sup>, 2022.

The Site Plan (SP1) was prepared by GJA Inc. and dated November 15<sup>th</sup> 2022 (Site Plan).

A geotechnical report was completed by Paterson Group and dated August 17<sup>th</sup>, 2022.

### 2.2 Applicable Guidelines and Standards

City of Ottawa:

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

Ministry of Environment, Conservation and Parks:

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

Other:

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

### 3.0 PRE-CONSULTATION SUMMARY

A pre-consultation meeting was held with City staff on September 15th, 2021, regarding the proposed site servicing. Specific design parameters to be incorporated within this design include the following:

- Pre-development and post-development flows shall be calculated using a time of concentration ( $T_c$ ) no less than 10 minutes.
- Control 5 through 100-year post-development flows to the 5-year pre-development flows with a combined C value to a maximum of 0.50.
- Quality control requirements to be provided by the Rideau Valley Conservation Authority (RVCA).

## 4.0 WATERMAIN

### 4.1 Existing Watermain

The site is located within the 1E pressure zone, as per the Water Distribution System mapping included in Appendix C. There are two public fire hydrants along Edinburgh Place available to service the development.

### 4.2 Proposed Watermain

It is proposed to service the proposed building addition through the existing building. A mechanical consultant will need to review and confirm whether upgrades to the existing building are required to accommodate the addition.

Table 1, below, summarizes the water supply design criteria obtained from the Ottawa Water Guidelines and utilized for the water analysis.

Table 1: Water Supply Design Criteria

Ste Area	1.34 ha
Commercial Area	28,000 L/gross ha/day
Max Day Peaking Factor	1.5 x avg. day
Peak Hour Peaking Factor	1.8 x max. day

The Fire Underwriters Survey 2020 (FUS) method was utilized to estimate the required fire flow for the site. Fire flow requirements were calculated per City of Ottawa Technical Bulletin ISTB-2018-02. The following parameters were assumed for the FUS calculation:

- ❖ Type of construction – Non-Combustible Construction
- ❖ Occupancy Type – Combustible
- ❖ Sprinkler Protection – No Sprinkler System

The results of the calculations yielded a required fire flow of 9,000 L/min (150 L/s). The detailed calculations for the FUS can be found in Appendix C.

The city provided the estimated water pressures at both 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: Summary of Estimated Water Demand

Scenario	Proposed Demands (L/ S)	Connection 1 HGL (m H <sub>2</sub> O)* / kPa
Average Day Demand	0.44	51.8 / 507.7
Maximum Daily + Fire Flow Demand (FUS)	150.65	32.3 / 316.4
Maximum Daily + Fire Flow Demand (OBC)	150.65	32.3 / 316.4
Peak Hourly Demand	1.17	43.8 / 429.2

\* Adjusted for an estimated ground elevation of 68.48m above the connection point.

The normal operating pressure range is anticipated to be 429.2 kPa to 507.7 kPa and will not be less than 275 kPa (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.

To confirm the adequacy of fire flow to protect the proposed development, public fire hydrants within 150 m of the proposed building were analysed per City of Ottawa ISTB 2018-02 Appendix I Table 1. The results are summarized below.

Table 3: Fire Protection Confirmation

Building	Fire Flow Demand (L/ min.)	Fire Hydrant(s) within 75m (5,700 L/ min)	Fire Hydrant(s) within 150m (3,800 L/ min)	Combined Fire Flow (L/ min.)
2628 Edinburgh Place	9,000	1 Public	1 Public	9,500

Based on City guidelines (ISTB-2018-02), the existing hydrants provide adequate protection for the proposed development. A hydrant coverage figure can be found in Appendix C.

## 5.0 SANITARY DESIGN

### 5.1 Existing Sanitary Sewer

There is an existing 150 mm diameter service connection to the 250mm diameter concrete sanitary sewer located within Edinburgh Place, which is tributary to the Innes Road trunk sewer. No changes are proposed to the existing sanitary sewer system.

### 5.2 Proposed Sanitary Sewer

It is proposed to service the proposed building addition through the existing building. A mechanical consultant will need to review and confirm whether upgrades to the existing building are required to accommodate the addition.

Table 4, below, summarizes the wastewater design criteria identified by the Ottawa Sewer Guidelines.

Table 4: Sanitary Design Criteria

Design Parameter	Value
Site Area	1.34 ha
Commercial Area	2211 m <sup>2</sup>
Commercial Peaking Factor	1.5
Extraneous Flow Allowance	0.33 L/s/ha

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

Table 5: Summary of Estimated Sanitary Flow

Design Parameter	Total Flow (L/s)
Total Estimated Average Dry Weather Flow	0.14
Total Estimated Peak Dry Weather Flow	0.17
Total Estimated Peak Wet Weather Flow	0.55

As noted above, the development is proposed to be serviced via the existing 150 mm sanitary service connection to the 250 mm concrete sanitary sewer within Edinburgh Place. Due to the complexity of the downstream network the City will need to advise of any downstream constraints.

The full flowing capacity of a 150 mm diameter service at a 1.0% slope is estimated to be 15.89 L/s. Per Table 5, a peak wet weather flow of 0.55 L/s will be conveyed within the 150 mm diameter service, therefore the existing sanitary service is sufficiently sized for the development.



## 6.0 STORM SEWER DESIGN

### 6.1 Existing Storm Sewers

There is an existing 450 mm diameter storm sewer within Edinburgh Place that is available to service the site. The existing sewer is tributary to Green's Creek approximately 1.6 km downstream.

### 6.2 Proposed Storm Sewers

The proposed development will be serviced through an on-site storm sewer network connected to the existing 450 mm diameter storm sewer within Edinburgh Place.

Runoff from the proposed roof, parking, storage, and landscaped areas will be directed towards catch basins and catch basins maintenance holes. The storm flow will be treated for quality, stored, and controlled. Storm flows will be controlled by an inlet control device (ICD) to limit the flow to the specified allowable release rate.

See COO-22-2058 - POST include in Appendix F of this report for more details. The Stormwater Management design for the subject property will be outlined in Section 7.0 of this report.

## 7.0 PROPOSED STORMWATER MANAGEMENT

### 7.1 Design Criteria and Methodology

As per Section 6.2, stormwater management for the proposed development will be provided by catch basin flow attenuation and surface storage. The controlled stormwater flow will be directed to the existing 450 mm diameter storm sewer within Edinburgh Place.

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

- Based on coordination with the RVCA, quality controls, up to an enhanced level of treatment, are required for the development.

#### Quantity Control

- Any storm events greater than the 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 of at least 10 minutes and a combined 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
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 development area contains no stormwater management controls for flow attenuation. The estimated pre-development peak flows for the 5- and 100-year events are summarized below in Table 6. See CCO-22-2058 - PRE in Appendix E and Appendix G for calculations.

Table 6: Pre-Development Runoff Summary

Drainage Area	Area (ha)	C		Q (L/s)	
		5-Year	100-Year	5-Year	100-Year
A1	1.33	0.70	0.83	269.41	547.83

Table 7, below, summarizes the required restricted flow.

Table 7: Required Restricted Flow

Drainage Area	Area (ha)	C (5-Year)	Q (L/s) 5-Year
A1	1.33	0.50	192.47

### 7.4 Post-Development Drainage

To meet the stormwater objectives, the development will contain flow attenuation via surface storage.

Based on the criteria listed in Section 7.1, 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 192.47 L/s. See Appendix G for calculations.

The proposed site drainage limits are demonstrated on the Post-Development Drainage Area Plan. See CCO-22-2058 - POST in Appendix F of this report for more details. A summary of the post-development runoff calculations can be found below.

Table 8: 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 <sup>3</sup> )	100-year Storage Available (m <sup>3</sup> )
B1	1.25	168.28	174.45	187.48	187.97
B2	0.08	7.17	15.36	-	-
Total	1.33	175.45	189.81	187.48	187.97

The flow from Area B2 will be discharged without restriction and will be compensated for in areas with attenuation.

Runoff for area B2 will flow overland towards the proposed catch basin systems. Stormwater will be restricted by a 264 mm ICD to a maximum release rate of 174.45 L/s. The ICD will be located at the outlet of CBMH1 at an invert elevation of 67.06. The catch basin system will provide 187.97 m<sup>3</sup> of surface storage.

## 7.5 Quality Control

As noted in Section 7.1, quality controls are required for the development. Per drawing C102, an oil & grit separator is proposed to be installed at the downstream end of the proposed storm servicing. The oil & grit separator structure will provide an enhanced level of treatment (80% TSS removal) for the parking lot, roof, and landscaped areas.

Storm runoff from area B2 will consist of runoff from landscaped areas and will maintain existing drainage patterns.

## 8.0 EROSION AND SEDIMENT CONTROL

### 8.1 Temporary Measures

Before construction begins, temporary silt fence, straw bale or rock flow check dams will be installed at all-natural runoff outlets from the property. It is crucial that these controls be maintained throughout construction and inspection of sediment and erosion control will be facilitated by the Contractor or Contract Administration staff throughout the construction period.

Silt fences will be installed where shown on the final engineering plans, specifically along the downstream property limits. The Contractor, at their discretion or at the instruction of the City, Conservation Authority or the Contract Administrator shall increase the quantity of sediment and erosion controls on-site to ensure that the site is operating as intended and no additional sediment finds its way off site. The rock flow, straw bale & silt fence check dams and barriers shall be inspected weekly and after rainfall events. Care shall be taken to properly remove sediment from the fences and check dams as required. Fibre roll barriers are to be installed at all existing curb inlet catch basins and filter fabric is to be placed under the grates of all existing catch basins and manholes along the frontage of the site and any new structures immediately upon installation. The measures for the existing/proposed structures are to be removed only after all areas have been paved. Care shall be taken at the removal stage to ensure that any silt that has accumulated is properly handled and disposed of. Removal of silt fences without prior removal of the sediments shall not be permitted.

Although not anticipated, work through winter months shall be closely monitored for erosion along sloped areas. Should erosion be noted, the Contractor shall be alerted and shall take all necessary steps to rectify the situation. Should the Contractor's efforts fail at remediating the eroded areas, the Contractor shall contact the City and/or Conservation Authority to review the site conditions and determine the appropriate course of action. As the ground begins to thaw, the Contractor shall place silt fencing at all required locations as soon as ground conditions warrant. Please see the Site Grading, Drainage and Sediment & Erosion Control Plan for additional details regarding the temporary measures to be installed and their appropriate OPSD references.

### 8.2 Permanent Measures

It is expected that the Contractor will promptly ensure that all disturbed areas receive topsoil and seed/ sod and that grass be established as soon as possible. Any areas of excess fill shall be removed or levelled as soon as possible and must be located a sufficient distance from any watercourse to ensure that no sediment is washed out into the watercourse. As the vegetation growth within the site provides a key component to the control of sediment for the site, it must be properly maintained once established. Once the construction is complete, it will be up to the landowner to maintain the vegetation and ensure that the vegetation is not overgrown or impeded by foreign objects.

## 9.0 SUMMARY

- A new 1003 m<sup>2</sup> building addition is proposed to be constructed at 2628 Edinburgh Place. The development is proposed within 1.33 ha of the site.
- It is proposed to service the new building through the existing service connection for water and sanitary. A new storm service is proposed to collect and control drainage within the development area.
- It is proposed to service the development area via surface storage with a series of catch basins. The storm system will connect to the existing 450 mm diameter concrete storm sewer located south of the site.
- Storage for the 5- through 100-year storm events will be provided by surface storage
- Quality controls will be provided up to an enhanced level of treatment via an Oil and Grit separator.



## 10.0 RECOMMENDATION

Based on the information presented in this report, we recommend that City of Ottawa approve this Servicing and Stormwater Management report in support of the proposed development at 2628 Edinburgh Place.

This report is respectfully being submitted for approval.

Regards,

McIntosh Perry Consulting Engineers Ltd.



Charissa Hampel, P.Eng.  
Project Engineer, Land Development  
T: 613.714.4625  
E: c.hampel@mcintoshperry.com

A handwritten signature in black ink that reads 'Francis Valenti'.

Francis J. Valenti, EIT.  
Engineering Intern, Land Development  
T: 613.808.2123  
E: f.valenti@mcintoshperry.com

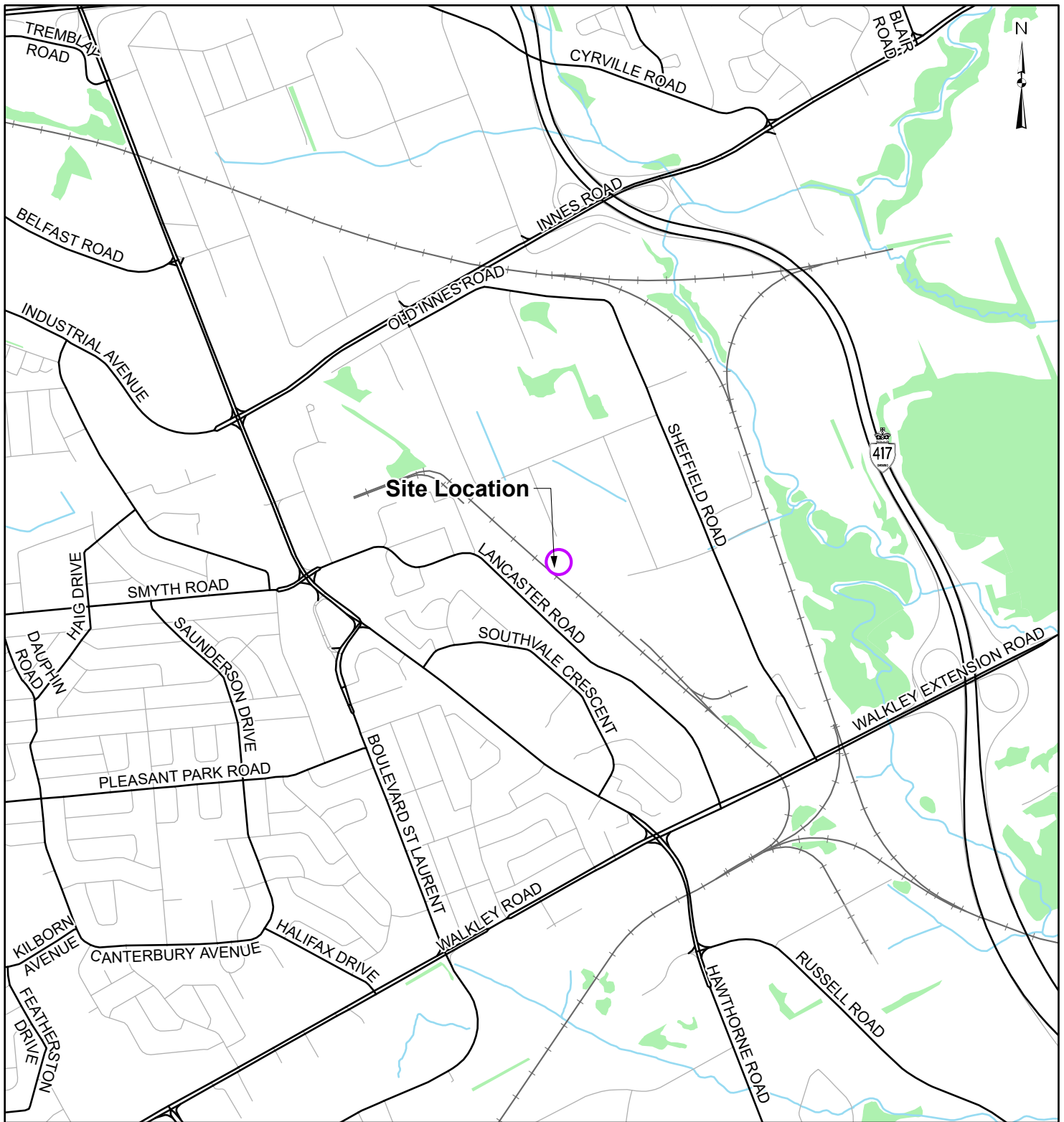
## 11.0 STATEMENT OF LIMITATIONS

This report was produced for the exclusive use of BBSConstruction LTD. The purpose of the report is to assess the existing stormwater management system and provide recommendations and designs for the post-construction scenario that are in compliance with the guidelines and standards from the Ministry of the Environment, 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.

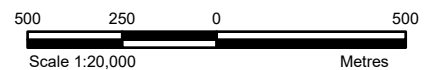
The findings, conclusions and/or recommendations of this report are only valid as of the date of this report. No assurance is made regarding any changes in conditions subsequent to this date. If additional information is discovered or becomes available at a future date, McIntosh Perry should be requested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

APPENDIX A  
KEY PLAN



**LEGEND**

- Local Road
- Major Road
- Railroad
- Watercourse
- Wooded Area
- Approximate Site Location



**REFERENCE**

GIS data provided by the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry, 2022.

CLIENT:		<b>BBS CONSTRUCTION LTD.</b>	
PROJECT:		<b>2628 EDINBURGH PLACE</b>	
TITLE:		<b>SITE LOCATION</b>	
PROJECT NO: CCO-22-2058		FIGURE:	
Date	Jul., 11, 2022	<b>1</b>	
GIS	MG		
Checked By	FV		

**McINTOSH PERRY**  
 115 Walgreen Road, RR3, Carp, ON K0A1L0  
 Tel: 613-836-2184 Fax: 613-836-3742  
 www.mcintoshperry.com



APPENDIX B  
BACKGROUND DOCUMENTS



**2628 Edinburgh Place**  
Meeting Summary Notes  
Sept 15, 2021. Online Teams Meeting

**Attendees:**

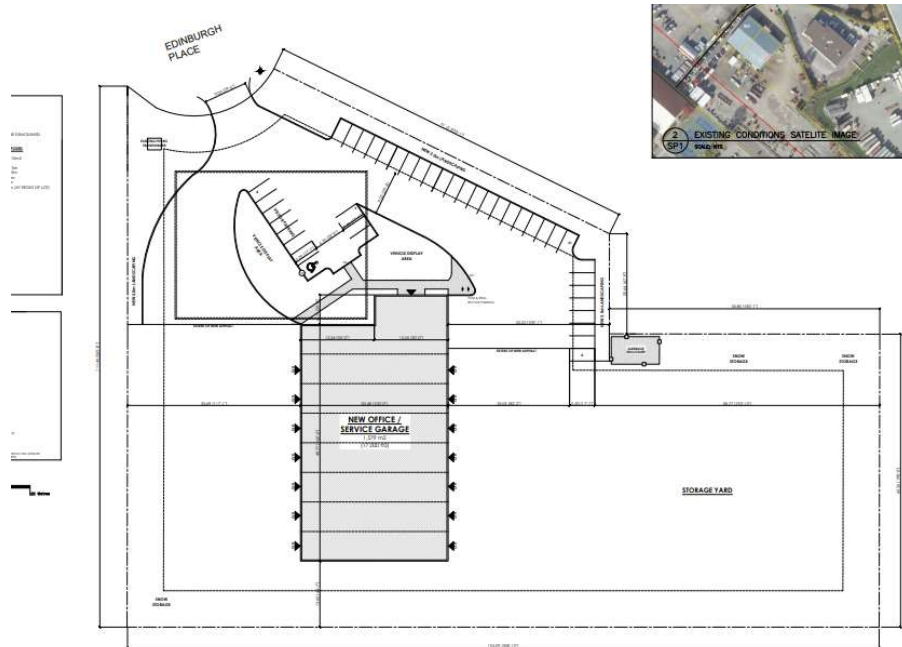
- Michel Pouliot, Co-Owner, Ottawa Equipment & Hydraulics Inc.
- Mark Kauhanen, Applicant, BBS Construction (Ontario) Ltd.
- Matthew – co owner
- Scott Bosman, BBS Construction
- Bridgette Alchawa, McIntosh Perry
- Curtis Melanson, McIntosh Perry
  
- Tyler Cassidy, Kelsey Charie (Project Manager/EIT, City of Ottawa)
- Adrian vanWyk (Urban Designer, Architect, City of Ottawa)
- Katie Morphet (File Lead, Planner, City of Ottawa)
- Matthew Hayley (Environmental Planner)
- Jeannette Krabicka (Parks Planner)
- Penelope Horn (Planning Student)
- Tracey Scaramozzino (Planner, City of Ottawa)

**Not in Attendance:**

- Mark Richardson (City Forester)
- Wally Dubyk (Transportation Project Manager, City of Ottawa)
- Jamie Batchelor (RVCA)

**Issue of Discussion:**

- Site Plan Control for a new 1-storey 17,000 ft<sup>2</sup> service garage/office bldg. and future demolition of existing 13,000 ft<sup>2</sup> bldg
- New service connection for water, sani and storm to Edinburgh Place



### 1. Official Plan

- a. Designated “Urban Employment Lands”.

### 2. Zoning Information

- a. Split Zoning: Heavy Industrial (IH) and Light Industrial (IL)
- b. IL Section 203 (5):

3. *Except in the case of the storage of motor vehicles associated with an automobile dealership and automobile rental establishment, outdoor storage is prohibited. (By-law 2017-302)*

- c. The uses (heavy equipment and vehicles sales, servicing, rental; office; parking lot) are permitted, except that as per section 203 (5), accessory outdoor storage of the heavy equipment is NOT permitted for this use in the IL zone

### 3. Infrastructure/Serviceing (Tyler Cassidy)

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

- a. 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>

- b. Servicing and site works shall be in accordance with the following documents:
- Ottawa Sewer Design Guidelines (October 2012) and all the Technical Bulletins including, Technical Bulletin PIEDTB-2016-01 and ISTB-2018-01
  - Ottawa Design Guidelines – Water Distribution (2010) and Technical Bulletins ISD-2010-2, ISDTB-2014-02 and ISTB-2018-02
  - Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
  - City of Ottawa Slope Stability Guidelines for Development Applications (revised 2012)
  - City of Ottawa Environmental Noise Control Guidelines (January, 2016)
  - 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)
- c. 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](mailto:InformationCentre@ottawa.ca) or by phone at (613) 580-2424 x 44455
- d. The Stormwater Management Criteria, for the subject site, is to be based on the following (as established in the Citigate Centre Site Servicing Report):
- 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 storm release rate, up to and including the 100-year storm event, must be detained on site (based on sewer age, 1989)
  - 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)

- This property is located within the Green's Creek subwatershed. Please verify any subwatershed specific SWM criteria with the RVCA.

e. Deep Services:



Hydrants



Hydrant Laterals



Trunk Sewers

Sanitary Pipe

Combined Pipe

Storm Pipe

Water Pipes

Public

Private

Valves

Valve

TVS, A, D

Storm Manholes



Storm Inlets



- 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 (Edinburgh Place):

- i. Existing 450 mm dia. STM (Conc.)
  - ii. Existing 305 mm dia. Watermain (DI)
  - iii. Existing 250 mm dia. SAN (Conc.)
- 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 than 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.*
- f. 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. Please provide the following information:
- i. Location of service(s)
  - ii. Type of development and the amount of fire flow required (as per FUS, 1999).

- 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 m<sup>3</sup>/day water demand.
- g. 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.
- h. If applicable, MECP ECA Requirements –

All development applications should be considered for an Environmental Compliance Approval (ECA) by the Ministry of the Environment, Conservation, and Parks (MECP);

- a. Consultant determines if an approval for sewage works under Section 53 of OWRA is required. Consultant then determines what type of application is required and the City's project manager confirms. (If the consultant is not clear if an ECA is required, they will work with the City to determine what is required. If the consultant it is still unclear or there is a difference of opinion only then will the City PM approach the MECP.
- 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. Standard Works ToR Draft ECA's are sent to the local MECP office ([moeccottawasewage@ontario.ca](mailto:moeccottawasewage@ontario.ca)) for information only
- d. Additional ToR draft ECAs require a project summary/design brief and require a response from the local MECP (10 business day window)
- e. Site plan Approval, or Draft Approval, is required before an application is sent to the MECP

#### **4. Initial Planning Comments (Katie Morphet)**

- a. IL permits "Heavy Equipment and vehicle sales, rental and servicing"

We have been able to confirm with Zoning Interpretation that the proposed accessory outdoor storage is not permitted in the IL zone (as per section 203 (5)) and must be contained and kept to the side of the lot that is zoned Heavy Industrial. Alternatively a Zoning By-law Amendment could be sought to permit the use on the entire property.

- b. Please submit a survey plan to help clarify property boundary.
- c. Please update the zoning table on the Site Plan to show the correct zones and zoning information. Please include all relevant zoning information such as parking spaces, bicycle parking and loading.

## **5. Urban Design Comments (Adrian van Wyk)**

- a. Please see the attached Design Brief Submission Requirements. A scoped Design Brief will be required, which may be combined with a Planning Rationale.
- b. Landscaping
  - It is recommended that hard surfaces be kept to a minimum, except where required for parking, storage, or vehicle circulation.
  - A soft landscaped buffer is recommended along the rear and side lot lines.
  - It is recommended that new softscape and shrubs/trees be introduced where possible.
- c. Pedestrian and bicycle circulation
  - It is recommended that pedestrian circulation be carefully considered, and options explored to provide a connection between the proposed building and Edinburgh Place.
- d. Sustainability
  - It is recommended that the applicant consider introducing sustainable design features, such as light coloured materials, swales, etc.

## **6. Parks (Jeanette Krabicka)**

1. Parkland Dedication:
  - a. The amount of parkland dedication that is required is to be calculated as per the City of Ottawa Parkland Dedication By-law No 2009-95. Parkland requirement for commercial uses is calculated as 2% of the gross land area of the site being developed.
  - b. Section 14 (2) (b) of the By-law states that no conveyance of land or payment of money in-lieu is required for a change of use from commercial or industrial to another commercial or industrial use, or for the alteration of an existing

building resulting in a change of use from commercial or industrial to another commercial or industrial use.

- c. The 'front' property parcel (located to the north-east) which contains the existing building is currently developed with a commercial/industrial use. The proposed development is also for a commercial/industrial use. Therefore, no additional parkland dedication is required for the front property parcel.
- d. The 'rear' property parcel has not been developed to date and is therefore subject to parkland dedication for the proposed development.
- e. The approximate gross land area of the rear property parcel is 9,378 sq.m. The approximate parkland dedication requirement is calculated as:
  - $9,378 \text{ m}^2 \times 2\% = 188 \text{ sq.m.}$
- f. Please provide the City with a surveyor's area certificate/memo which specifies the exact gross land area of the rear property parcel of 2628 Edinburgh Place.
- g. If parkland dedication for the rear parcel has been satisfied previously, please provide Parks & Facilities Planning with the supporting documentation.
- h. Please note that the park comments are preliminary and will be finalized (and subject to change) upon receipt of the development application and the requested supporting documentation.

Additionally, if the proposed commercial product or land use changes, then the parkland dedication requirement be re-evaluated accordingly.

## 2. Form of Parkland Dedication:

- a. Parks & Facilities Planning will be requesting Cash-in-Lieu of Parkland for this Site Plan proposal.

## 7. Trees (Mark Richardson)

- a. No comments as there are no trees on site.

## 8. Environment (Matthew Hayley)

- a. Bird Safe Design

Given the proposal will need to review and incorporate bird safe design elements. Some of the risk factors include glass and related design traps such as corner glass and fly-through conditions, ventilation grates and open pipes, landscaping, light pollution. More guidance and solutions are available in the guidelines which can be found here: <https://ottawa.ca/en/planning->



[development-and-construction/developing-property/development-application-review-process/development-application-submission/guide-preparing-studies-and-plans](#) .

- b. Site Plan Applications: medium to large scale commercial / industrial / institutional:
  - o Bird-safe glass or integrated protection measures may be required through conditions of site plan approval for projects involving large expanses of glazing. However, it is important that the Bird-Safe Design Guidelines do not have a significant impact on the affordability or timelines of the respective project. The City recognize that corporate standards or other design requirements may limit or preclude use of bird-safe glass or integrated protection measures in cases of small-scale commercial buildings (e.g. restaurant, retail pads).

## **9. Conservation Authority (RVCA)**

- a. Comments not received yet.

## **10. Transportation (Wally Dubyk)**

- a. The development site proposes an additional 4,000 ft<sup>2</sup> service garage with 40 parking spaces. This development would not generate sufficient traffic to warrant a TIA report.
- b. Edinburgh Place is classified as a Local road. There are no additional protected ROW limits identified in the OP.
- c. The proponent shall comply with the Private Approach By-Law 2003-447
- d. No private approach intended for two-way vehicular traffic shall exceed 9.0 metres in width at the roadway edge, and in no case shall the width exceed 50% of the frontage on which the approach or approaches are located.
- e. The closure of an existing private approach shall reinstate the sidewalk, shoulder, curb and boulevard to City standards.
- f. No private approach shall be constructed within 0.3 metres of any adjacent property measured at the highway line, and at the curb line or roadway edge.
- g. The Tactile Walking Surface Indicator (TWSI) should be provided at pedestrian crossings. Under the Integrated Accessibility Standards of the Accessibility for Ontarians with Disabilities Act, 2005, and the City of Ottawa Accessibility Design Standards, TWSI's are required for new construction and the redevelopment of elements in public spaces, such as for exterior paths of travel (e.g. sidewalks and at the top of stairs).

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

#### **11. Waste Collection**

This facility will not be on City Collection.

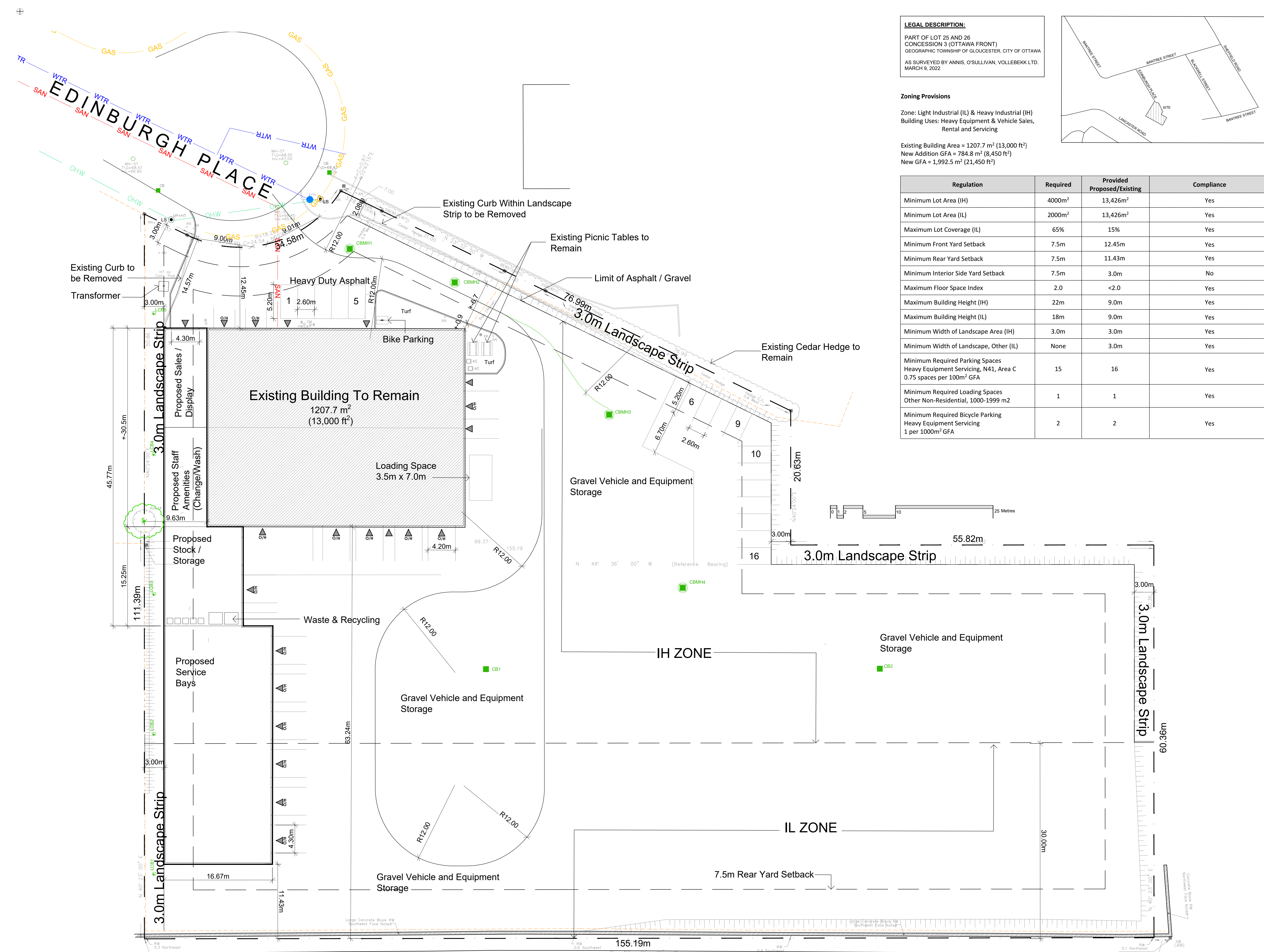
#### **12. General Information**

- a. Ensure that all plans and studies are prepared as per City guidelines – as available online...

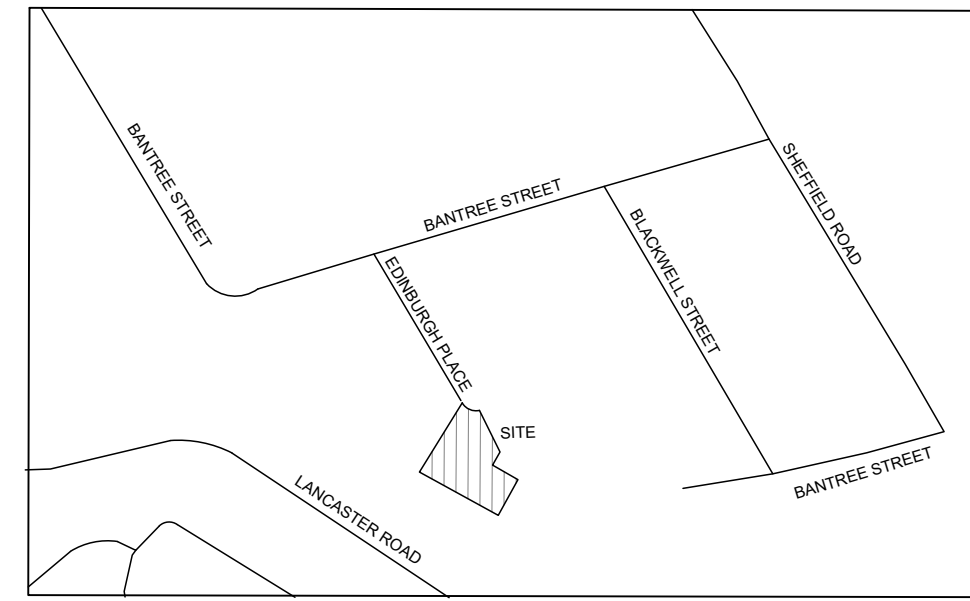
<https://ottawa.ca/en/city-hall/planning-and-development/information-developers/development-application-review-process/development-application-submission/guide-preparing-studies-and-plans>

MEETING NOTES





**LEGAL DESCRIPTION:**  
 PART OF LOT 25 AND 26  
 CONCESSION 3 (OTTAWA FRONT)  
 GEOGRAPHIC TOWNSHIP OF GLOUCESTER, CITY OF OTTAWA  
 AS SURVEYED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.  
 MARCH 9, 2022



**Zoning Provisions**  
 Zone: Light Industrial (IL) & Heavy Industrial (IH)  
 Building Uses: Heavy Equipment & Vehicle Sales,  
 Rental and Servicing

Existing Building Area = 1207.7 m<sup>2</sup> (13,000 ft<sup>2</sup>)  
 New Addition GFA = 784.8 m<sup>2</sup> (8,450 ft<sup>2</sup>)  
 New GFA = 1,992.5 m<sup>2</sup> (21,450 ft<sup>2</sup>)

Regulation	Required	Provided Proposed/Existing	Compliance
Minimum Lot Area (IH)	4000m <sup>2</sup>	13,426m <sup>2</sup>	Yes
Minimum Lot Area (IL)	2000m <sup>2</sup>	13,426m <sup>2</sup>	Yes
Maximum Lot Coverage (IL)	65%	15%	Yes
Minimum Front Yard Setback	7.5m	12.45m	Yes
Minimum Rear Yard Setback	7.5m	11.43m	Yes
Minimum Interior Side Yard Setback	7.5m	3.0m	No
Maximum Floor Space Index	2.0	<2.0	Yes
Maximum Building Height (IH)	22m	9.0m	Yes
Maximum Building Height (IL)	18m	9.0m	Yes
Minimum Width of Landscape Area (IH)	3.0m	3.0m	Yes
Minimum Width of Landscape, Other (IL)	None	3.0m	Yes
Minimum Required Parking Spaces Heavy Equipment Servicing, N41, Area C 0.75 spaces per 100m <sup>2</sup> GFA	15	16	Yes
Minimum Required Loading Spaces Other Non-Residential, 1000-1999 m <sup>2</sup>	1	1	Yes
Minimum Required Bicycle Parking Heavy Equipment Servicing 1 per 1000m <sup>2</sup> GFA	2	2	Yes

#	Revision	Date
0	REVIEW/COORDINATION	OCTOBER 2022
1	FIRST SUBMISSION SPC	NOVEMBER 15 2022

**SITE PLAN LEGEND**

- Existing Building(s)
- Proposed Building(s)
- Property Lines
- Setback Lines
- Fence
- Proposed Concrete Curb
- Slope at 3:1 Unless Specified
- Existing Exterior Door (O/H indicates Overhead Door)
- Proposed Exterior Door (O/H indicates Overhead Door)
- Retaining Wall
- Fire Hydrant
- Light Standard Base
- Catch Basin Man Hole
- Catch Basin
- Landscape Catch Basin
- Bike Rack Anchor to Concrete

**BELOW GRADE SERVICES REFER TO CIVIL /CUP**

- WTR U/G Water Service
- SAN U/G Sanitary Service
- GAS U/G Gas Service
- OHW O/H Hydro Service

**BBS**  
 BUILDING A REPUTATION ON EXCELLENCE  
 BBS CONSTRUCTION (ONTARIO) LTD.  
 1805 WOODWARD DRIVE,  
 OTTAWA, ON K2C 0P9 CANADA  
 TEL.613-226-8830 FAX:613-226-7709

Design Builder  
**Annis O'Sullivan Vollebakk Ltd.**  
 14 Concourse Gate # 500 Nepean K2E 7S8  
 613 727 0850

Surveyor  
**McIntosh Perry Consulting**  
 115 Walgreen Rd, Carp, ON K0A 1L0  
 613 836 2184

Planner  
**McIntosh Perry Consulting**  
 115 Walgreen Rd, Carp, ON K0A 1L0  
 613 836 2184

Property Owner  
**1120952 Ontario Inc.**  
 2628 Edinburgh Place Ottawa K1B 5M1  
 613 748 9000  
 Gino J. Aiello | landscape architect GJALA.com  
 GJA Inc. Gino@GJALA.com (613) 286 5130  
 110 Denbary Road Unit # 11 Ottawa Ontario K2T 0Z2

Project  
**OEH Service Garage Expansion**  
 2628 EDINBURGH PLACE

**SITE PLAN**  
**SP1**  
 Scale: 1:250  
 D07



APPENDIX C  
WATERMAIN CALCULATIONS



# McINTOSH PERRY

## 000-22-2058 - 2628 Edinburgh Place - Water Demands

Project:	2628 Edinburgh Place
Project No.:	000-22-2058
Designed By:	FV
Checked By:	AG
Date:	November 23, 2022
Site Area:	1.34 gross ha

Commercial Area                                  13425.00                                  m2                                  28,000                                  L/gross ha/d

### 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/(1000m <sup>2</sup> /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		0.00 L/s
AVERAGE DAILY DEMAND Commercial/ Industrial / Institutional		0.44 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		0.00 L/s
MAXIMUM DAILY DEMAND Commercial/ Industrial / Institutional		0.65 L/s

### MAXIMUM HOUR DEMAND

DEMAND TYPE	AMOUNT	UNITS
Residential	14.3 x avg. day	L/c/d
Industrial	1.8 x max. day	L/gross ha/d
Commercial	1.8 x max. day	L/gross ha/d
Institutional	1.8 x max. day	L/gross ha/d
MAXIMUM HOUR DEMAND Residential		0.00 L/s
MAXIMUM HOUR DEMAND Commercial/ Industrial / Institutional		1.17 L/s

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

AVERAGE DAILY DEMAND	0.44	L/s
MAXIMUM DAILY DEMAND	0.65	L/s
MAXIMUM HOUR DEMAND	1.17	L/s

# McINTOSH PERRY

## 000-22-2058 - 2628 Edinburgh Place - OBC Fire Calculations

Project:	2628 Edinburgh Place
Project No.:	000-22-2058
Designed By:	FV
Checked By:	AG
Date:	November 23, 2022

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

Water Supply for Fire-Fighting - Store/ Office & Warehouse Building

Building is classified as Group : D, E, and F2 up to 2 Storeys (from table 3.2.2.55)

Building is of noncombustible construction with fire separations and fire-resistance ratings provided in accordance with subsections 3.2.2., including loadbearing walls, columns and arches

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

(a)  $Q = K \times V \times S_{tot}$

where:

Q = minimum supply of water in litres

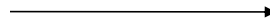
K = water supply coefficient from Table 1

V = total building volume in cubic metres

S<sub>tot</sub> = total of spatial coefficient values from the property line exposures on all sides as obtained from the formula:

$S_{tot} = 1.0 + [S_{side1} + S_{side2} + S_{side3} + \dots \text{etc.}]$

K	17	(from Table 1 pg A-31) (Worst case occupancy {E/ F2} 'K' value used)
V	16,012	(Total building volume in m <sup>3</sup> .)
S <sub>tot</sub>	1.5	(From figure 1 pg A-32)
Q =	408,298.36 L	



			From Figure 1 (A-32)
S <sub>north</sub>	12.49	m	0.0
S <sub>east</sub>	24.24	m	0.0
S <sub>south</sub>	11.44	m	0.0
S <sub>west</sub>	3	m	0.5

\* approximate distances

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

9000 L/min if Q > 270,000 L  
2378 gpm

# McINTOSH PERRY

## 000-22-2058 - 2628 Edinburgh Place - Fire Underwriters Survey

Project: 2628 Edinburgh Place  
 Project No.: 000-22-2058  
 Designed By: FV  
 Checked By: AG  
 Date: November 23, 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 Non-Combustible Construction  
 0.8

C

A 2,211.0 m<sup>2</sup>

Total Floor Area (per the 2020 FUS Page 20 - Total Effective Area) 2,211.0 m<sup>2</sup> \* Unprotected Vertical Openings

Calculated Fire Flow 8,275.7 L/min  
 8,000.0 L/min

#### B. REDUCTION FOR OCCUPANCY TYPE (No Rounding)

From Page 24 of the Fire Underwriters Survey:  
 Combustible 0%

Fire Flow 8,000.0 L/min

#### C. REDUCTION FOR SPRINKLER TYPE (No Rounding)

Non-Sprinklered 0%

Reduction 0.0 L/min

#### D. INCREASE FOR EXPOSURE (No Rounding)

	Separation Distance (m)	Cons. of Exposed Wall	Length Exposed Adjacent Wall (m)	Height (Stories)	Length-Height Factor	
Exposure 1	Over 30 m	Wood frame	N/A	N/A	N/A	0%
Exposure 2	20.1 to 30	Wood frame	43.6	2	87.2	8%
Exposure 3	Over 30 m	Wood frame	N/A	N/A	N/A	0%
Exposure 4	Over 30 m	Wood frame	N/A	N/A	N/A	0%
					% Increase*	8%

Increase\* 640.0 L/min

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

Fire Flow 8,640.0 L/min  
 Fire Flow Required\*\* 9,000.0 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

## 000-22-2058 - 2628 Edinburgh Place - Boundary Condition Unit Conversion

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Project: 2628 Edinburgh Place

Project No.: 000-22-2058

Designed By: FV

Checked By: AG

Date: November 23, 2022

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### Boundary Conditions Unit Conversion

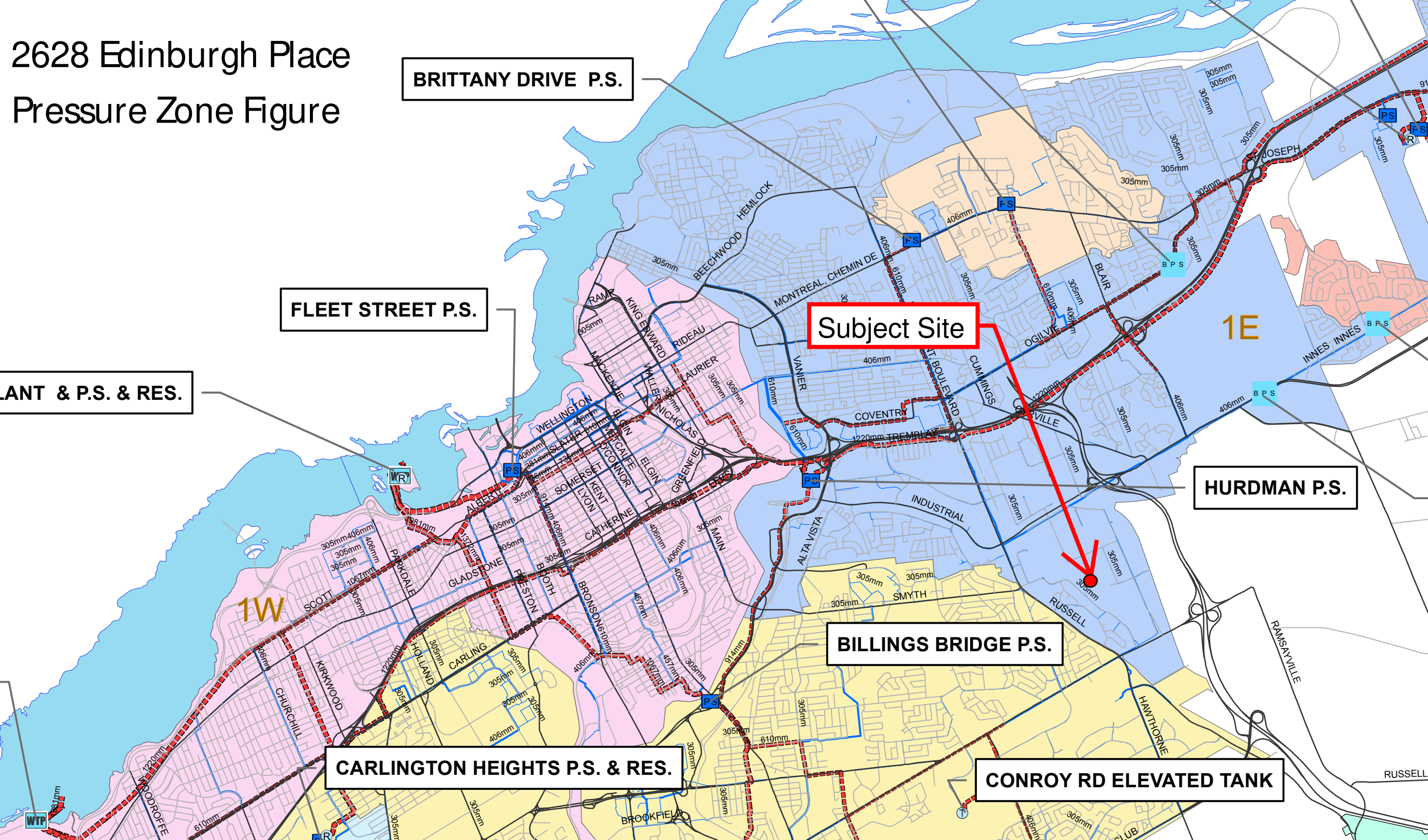
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#### Edinburgh Place

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Scenario	Height (m)	Elevation (m)	m H <sub>2</sub> O	PSI	kPa
<b>Avg. DD</b>	117.9	66.2	51.8	73.6	507.7
<b>Max Day + Fire Flow (150.0 L/s)</b>	98.4	66.2	32.3	45.9	316.4
<b>Peak Hour</b>	109.9	66.2	43.8	62.2	429.2

# 2628 Edinburgh Place Pressure Zone Figure



BRITTANY DRIVE P.S.

FLEET STREET P.S.

ANT & P.S. & RES.

Subject Site

HURDMAN P.S.

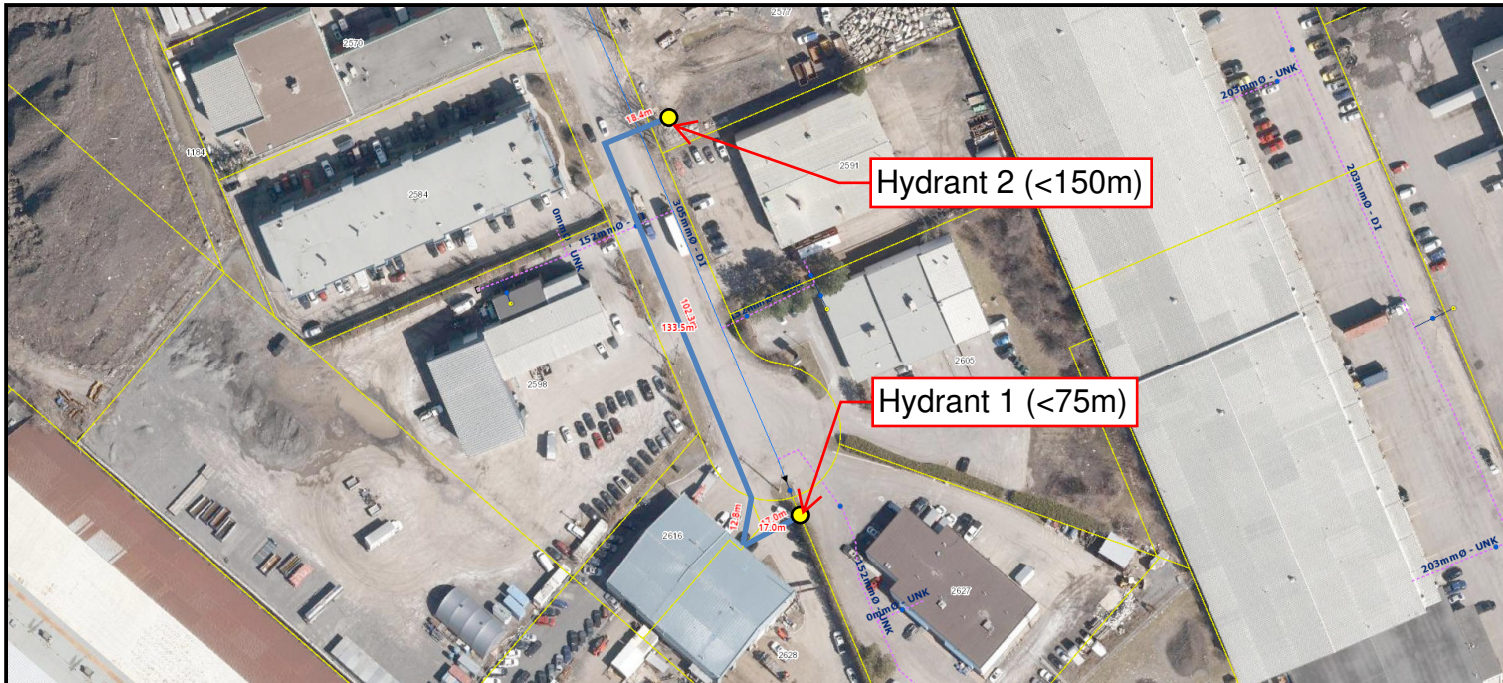
BILLINGS BRIDGE P.S.

CARLINGTON HEIGHTS P.S. & RES.

CONROY RD ELEVATED TANK



# 2628 Edinburgh Place Hydrant Coverage Figure



## Francis Valenti

---

**From:** Charie, Kelsey <kelsey.charie@ottawa.ca>  
**Sent:** August 11, 2022 11:58 AM  
**To:** Cassidy, Tyler; Francis Valenti  
**Cc:** Alison Gosling  
**Subject:** RE: 22-2058 - Boundary Condition Request - 2628 Edinburgh Place  
**Attachments:** 2628 Edinburgh Place August 2022.pdf

Hi Francis,

Here is the water boundary conditions from our water resources department:

The following are boundary conditions, HGL, for hydraulic analysis at 2628 Edinburgh Place (zone 1E) assumed to be connected to the 305 mm watermain on Edinburgh Place (see attached PDF for location).

Minimum HGL: 109.9 m

Maximum HGL: 117.9 m

Max Day + FF (150.0 L/s): 98.4 m

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

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

Please let me know if there is anything you wish to discuss further,

### **Kelsey Charie, EIT**

Engineering Intern

Planning, Real Estate and Economic Development Department - Direction générale de la planification, des biens immobiliers et du développement économique

Development Review - South Branch

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

613.580.2424 ext./poste 22551, [kelsey.charie@ottawa.ca](mailto:kelsey.charie@ottawa.ca)

---

**From:** Cassidy, Tyler <tyler.cassidy@ottawa.ca>  
**Sent:** August 02, 2022 2:28 PM  
**To:** Francis Valenti <F.Valenti@McIntoshPerry.com>; Charie, Kelsey <kelsey.charie@ottawa.ca>  
**Cc:** Alison Gosling <a.gosling@mcintoshperry.com>  
**Subject:** RE: 22-2058 - Boundary Condition Request - 2628 Edinburgh Place

Hi Francis,

I've sent the request to our Water Resources group. Please allow for up to 10 business days for them to provide boundary conditions.

Please reach out to Kelsey Charie if you do not receive them before then.

Thank you,

**Please note that I am anticipated to be Out of Office for 5 weeks starting August 8<sup>th</sup>, 2022. For any inquiries please contact Kelsey Charie at [Kelsey.Charie@Ottawa.ca](mailto:Kelsey.Charie@Ottawa.ca) .**

**Tyler Cassidy, P.Eng**

Infrastructure Project Manager,

Planning, Real Estate and Economic Development Department / Direction générale de la planification, des biens immobiliers et du développement économique - South Branch

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

613.580.2424 ext./poste 12977, [Tyler.Cassidy@ottawa.ca](mailto:Tyler.Cassidy@ottawa.ca)

---

**From:** Francis Valenti <[F.Valenti@McIntoshPerry.com](mailto:F.Valenti@McIntoshPerry.com)>

**Sent:** August 02, 2022 11:32 AM

**To:** Cassidy, Tyler <[tyler.cassidy@ottawa.ca](mailto:tyler.cassidy@ottawa.ca)>; Charie, Kelsey <[kelsey.charie@ottawa.ca](mailto:kelsey.charie@ottawa.ca)>

**Cc:** Alison Gosling <[a.gosling@mcintoshperry.com](mailto:a.gosling@mcintoshperry.com)>

**Subject:** RE: 22-2058 - Boundary Condition Request - 2628 Edinburgh Place

**CAUTION: This email originated from an External Sender. Please do not click links or open attachments unless you recognize the source.**

**ATTENTION : Ce courriel provient d'un expéditeur externe. Ne cliquez sur aucun lien et n'ouvrez pas de pièce jointe, excepté si vous connaissez l'expéditeur.**

Hi Tyler,

The water demand calculations have been revised to consider the entire lot area as commercial. The revised demands are listed below:

- The estimated fire flow is 9,000 L/min based on the OBC method
- The estimated fire flow is 9,000 L/min based on the FUS method
- Average Daily Demand (combined): 0.44 L/s
- Maximum Daily Demand (combined): 0.65 L/s
- Maximum hourly daily demand (combined): 1.17 L/s

Please find attached calculations prepared for the demands listed above.

Regards,

---

**From:** Cassidy, Tyler <[tyler.cassidy@ottawa.ca](mailto:tyler.cassidy@ottawa.ca)>

**Sent:** August 2, 2022 9:09 AM

**To:** Francis Valenti <[F.Valenti@McIntoshPerry.com](mailto:F.Valenti@McIntoshPerry.com)>; Charie, Kelsey <[kelsey.charie@ottawa.ca](mailto:kelsey.charie@ottawa.ca)>

**Cc:** Alison Gosling <[a.gosling@mcintoshperry.com](mailto:a.gosling@mcintoshperry.com)>

**Subject:** RE: 22-2058 - Boundary Condition Request - 2628 Edinburgh Place

Hi Francis,

I'm reviewing the water demand calculations from your email below and they look a little low. Can you please double check the calculations and confirm what your Average Daily Demand, Max Daily Demand, and Max Hourly Daily Demand rates are? Note that Average Daily Demand is calculated with the site's gross area (1.34 gross ha x 28,000 L/gross ha/day) and reduced down to L/s.

Thank you,

**Please note that I am anticipated to be Out of Office for 5 weeks starting August 8<sup>th</sup>, 2022. For any inquiries please contact Kelsey Charie at [Kelsey.Charie@Ottawa.ca](mailto:Kelsey.Charie@Ottawa.ca) .**

**Tyler Cassidy, P.Eng**

Infrastructure Project Manager,

Planning, Real Estate and Economic Development Department / Direction générale de la planification, des biens immobiliers et du développement économique - South Branch

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110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

613.580.2424 ext./poste 12977, [Tyler.Cassidy@ottawa.ca](mailto:Tyler.Cassidy@ottawa.ca)

---

**From:** Francis Valenti <[F.Valenti@McIntoshPerry.com](mailto:F.Valenti@McIntoshPerry.com)>

**Sent:** July 28, 2022 4:24 PM

**To:** Cassidy, Tyler <[tyler.cassidy@ottawa.ca](mailto:tyler.cassidy@ottawa.ca)>; Charie, Kelsey <[kelsey.charie@ottawa.ca](mailto:kelsey.charie@ottawa.ca)>

**Cc:** Alison Gosling <[a.gosling@mcintoshperry.com](mailto:a.gosling@mcintoshperry.com)>

**Subject:** 22-2058 - Boundary Condition Request - 2628 Edinburgh Place

**CAUTION: This email originated from an External Sender. Please do not click links or open attachments unless you recognize the source.**

**ATTENTION : Ce courriel provient d'un expéditeur externe. Ne cliquez sur aucun lien et n'ouvrez pas de pièce jointe, excepté si vous connaissez l'expéditeur.**

Good afternoon,

We would like to request boundary conditions for the proposed development at 2628 Edinburgh Place. The proposed development includes a 1-storey rear addition with gravel vehicle & equipment storage areas. The proposed connection (single) will be to the existing 305 mm dia. watermain located within Edinburgh Place.

- The estimated fire flow is 9,000 L/min based on the OBC method
- The estimated fire flow is 9,000 L/min based on the FUS method
- Average Daily Demand (combined): 0.07 L/s
- Maximum Daily Demand (combined): 0.11 L/s
- Maximum hourly daily demand (combined): 0.19 L/s

Please find attached a map showing the proposed connection location and calculations prepared for the demands listed above.

Regards,

**Francis Valenti, EIT**

**Engineering Intern, Land Development**

T. 613.714.6895 | C. 613.808.2123  
F.Valenti@McIntoshPerry.com | [www.mcintoshperry.com](http://www.mcintoshperry.com)

# McINTOSH PERRY

*Turning Possibilities Into Reality*

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Platinum  
member

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APPENDIX D  
SANITARY CALCULATIONS

# McINTOSH PERRY

## 000-22-2058 - 2628 Edinburgh Pl - Existing Sanitary Demands

Project:	2628 Edinburgh Pl
Project No.:	000-22-2058
Designed By:	FV
Checked By:	AG
Date:	Jun-22
Ste Area	1.34 Gross ha
Commercial Area	1207.70 m <sup>2</sup>

### DESIGN PARAMETERS

Institutional/ Commercial Peaking Factor	1.5
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	0.07
Wet	0.38
Total	0.44

### AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d	0	0.00
Industrial - Light**	35,000	L/gross ha/d		0
Industrial - Heavy**	55,000	L/gross ha/d		0
Commercial / Amenity	2,800	L/(1000m <sup>2</sup> /d)	1207.70	0.04
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 <sup>2</sup> /d		0
Tourist Commercial	28,000	L/gross ha/d		0
Other Commercial	28,000	L/gross ha/d		0

AVERAGE RESIDENTIAL FLOW	0.00	L/s
PEAK RESIDENTIAL FLOW	0.00	L/s
AVERAGE ICI FLOW	0.04	L/s
PEAK INSTITUTIONAL/ COMMERCIAL FLOW	0.06	L/s
PEAK INDUSTRIAL FLOW	0.00	L/s
TOTAL PEAK ICI FLOW	0.06	L/s

### TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	0.11	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	0.13	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	0.50	L/s

# McINTOSH PERRY

## 000-22-2058 - 2628 Edinburgh Pl - Proposed Sanitary Demands

Project:	2628 Edinburgh Pl
Project No.:	000-22-2058
Designed By:	FV
Checked By:	AG
Date:	Jun-22

Site Area	1.34	Gross ha
Commercial Area	2210.76	m <sup>2</sup>

### DESIGN PARAMETERS

Institutional/ Commercial Peaking Factor	1.5	
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	0.07
Wet	0.38
Total	0.44

### AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d	0	0.00
Industrial - Light**	35,000	L/gross ha/d		0
Industrial - Heavy**	55,000	L/gross ha/d		0
Commercial / Amenity	2,800	L/(1000m <sup>2</sup> /d)	2210.76	0.07
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 <sup>2</sup> /d		0
Tourist Commercial	28,000	L/gross ha/d		0
Other Commercial	28,000	L/gross ha/d		0

AVERAGE RESIDENTIAL FLOW	0.00	L/s
PEAK RESIDENTIAL FLOW	0.00	L/s
AVERAGE ICI FLOW	0.07	L/s
PEAK INSTITUTIONAL/ COMMERCIAL FLOW	0.11	L/s
PEAK INDUSTRIAL FLOW	0.00	L/s
TOTAL PEAK ICI FLOW	0.11	L/s

### TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	0.14	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	0.17	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	0.55	L/s

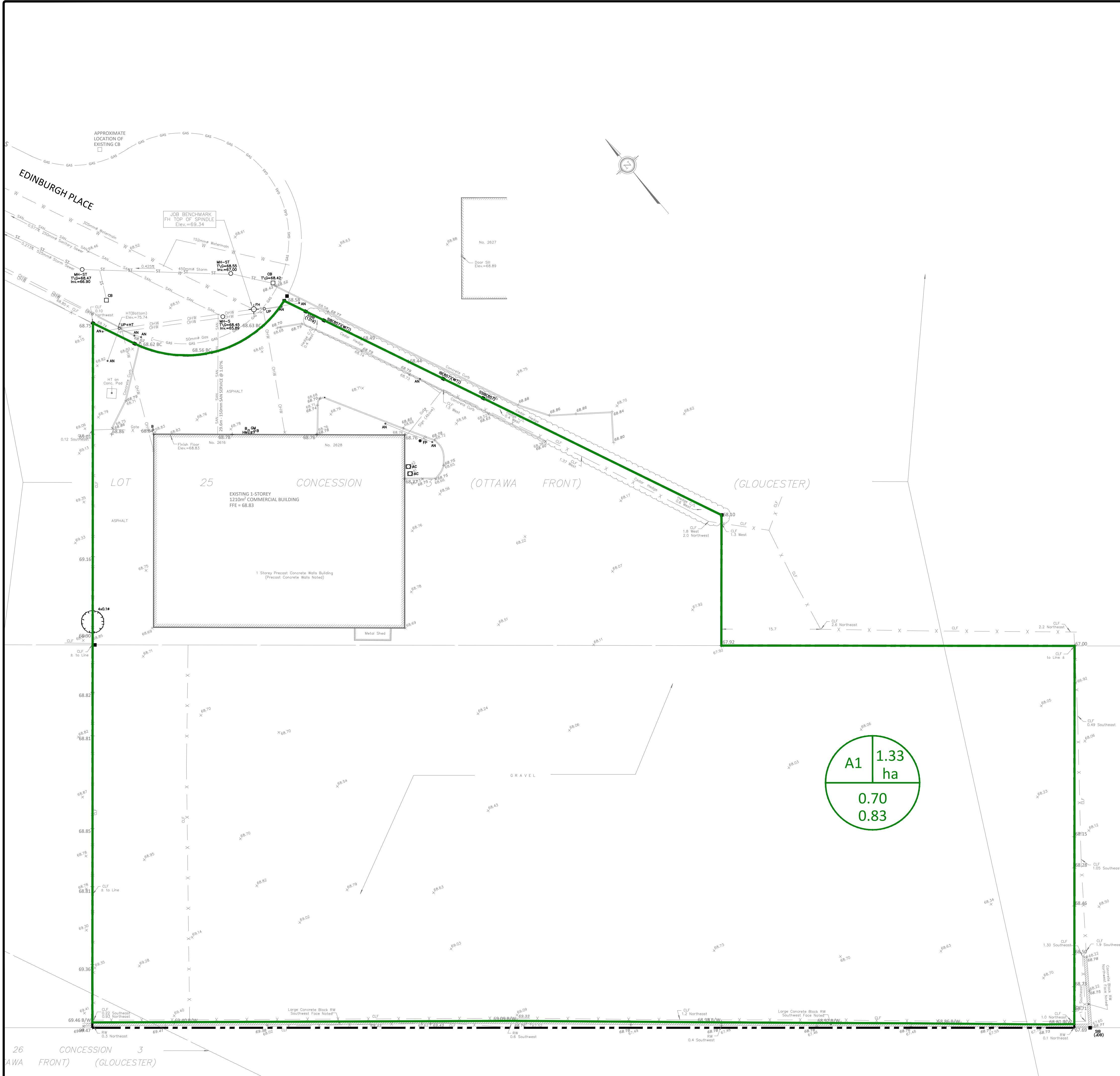
**SANITARY SEWER DESIGN SHEET**

PROJECT: CCO-22-2058  
 LOCATION: 2628 Edinburgh Place  
 CLIENT: BBS Construction LTD

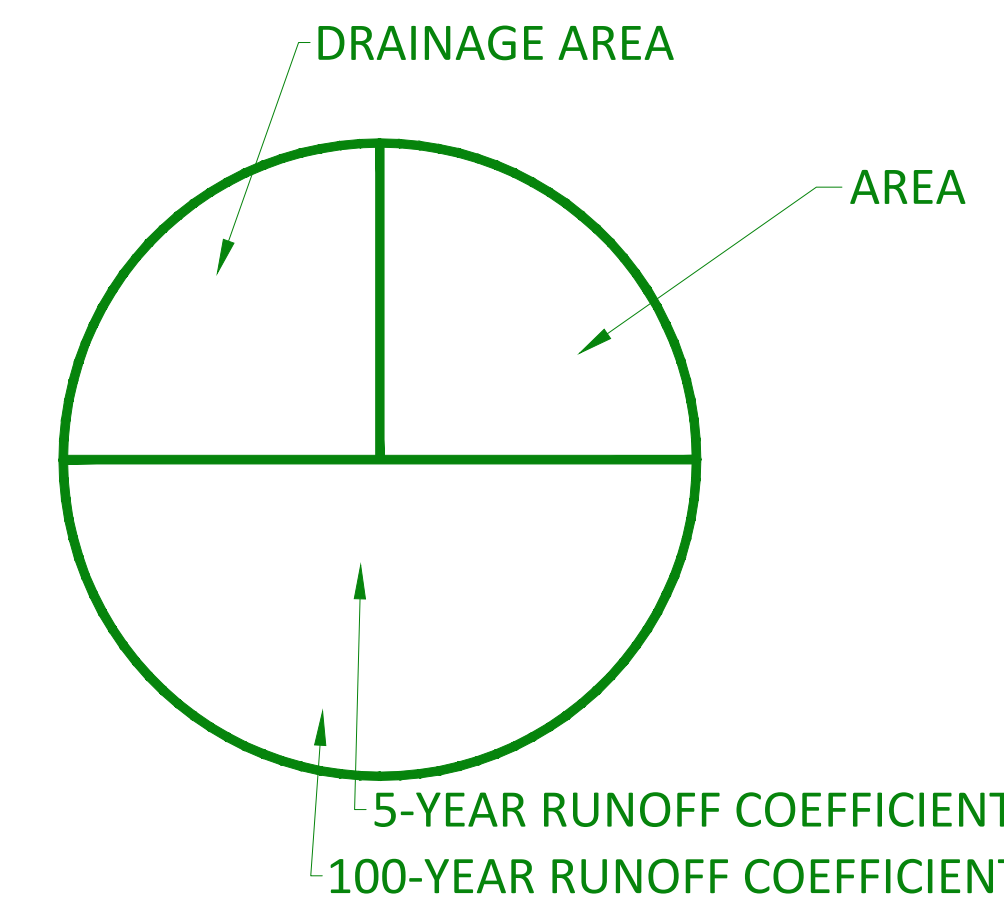


LOCATION				RESIDENTIAL								ICI AREAS								INFILTRATION ALLOWANCE			FLOW	SEWER DATA							
1	2	3	4	UNIT TYPES				9	POPULATION		12	13	AREA (ha)				20	AREA (ha)		23	24	25	26	27	28	29	AVAILABLE CAPACITY				
STREET	AREA ID	FROM MH	TO MH	SF	SD	TH	APT	(ha)	IND	CUM	PEAK FACTOR	PEAK FLOW (L/s)	INSTITUTIONAL		COMMERCIAL		INDUSTRIAL		PEAK FLOW (L/s)	IND	CUM	FLOW (L/s)	DESIGN FLOW (L/s)	CAPACITY (L/s)	LENGTH (m)	DIA (mm)	SLOPE (%)	VELOCITY (full) (m/s)	L/s	(%)	
Edinburgh Place		Ex. Bldg	Ex. Main													0.22	0.22			0.11	1.34	1.34	0.44	0.55	15.89	29.60	150	1.00	0.871	15.34	96.54
Design Parameters:				Notes:								Designed: FV				No.			Revision			Date									
Residential				ICI Areas								Checked: AG				1.															
SF	3.4	p/p/u																													
TH/SD	2.7	p/p/u	INST	28,000	L/Ha/day																										
APT	2.3	p/p/u	COM	28,000	L/Ha/day																										
Other	60	p/p/Ha	IND	35,000	L/Ha/day																										
				Peak Factor								Project No.: CCO-22-2058										Sheet No: 1 of 1									

APPENDIX E  
PRE-DEVELOPMENT DRAINAGE PLAN

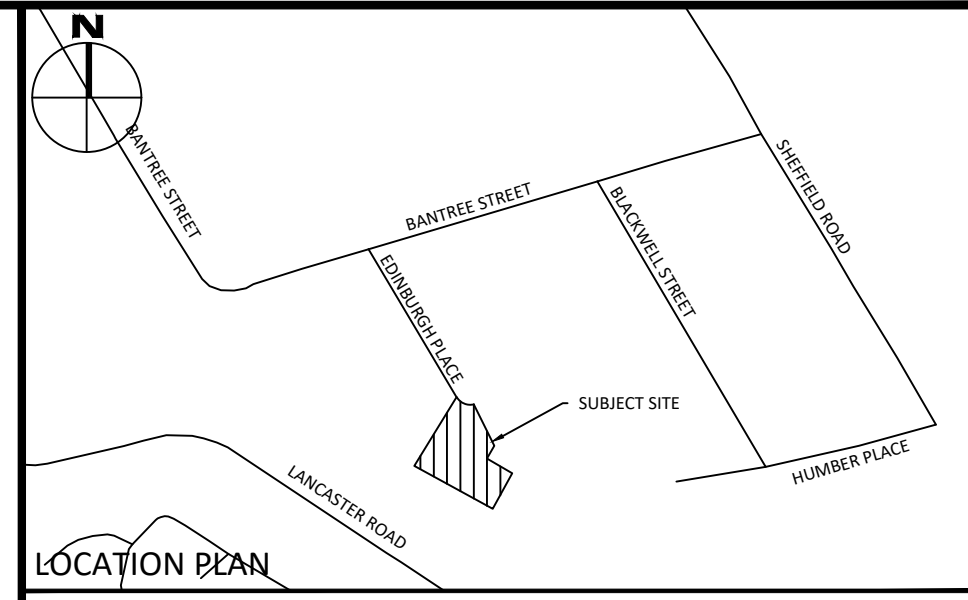


**LEGEND:**



**GENERAL NOTES**

- THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
- THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED INFORMATION SUPPLIED BY (OR SHOWN ON) ANNIS, O'SULLIVAN, VOLLEBEK LTD., DATED MARCH 9, 2022, AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY AN ONTARIO LAND SURVEYOR.
- THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
- THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
- EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
- TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
- DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
- ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
- CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
- ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY:
  - ELECTRICAL SERVICE - HYDRO ONE,
  - GAS SERVICE - ENBRIDGE,
  - TELEPHONE SERVICE - BELL CANADA,
  - TELEVISION SERVICE - ROGERS.
- INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONE, BELL AND THE CITY.
- CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
- ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.
- THIS PLAN MUST BE READ IN CONJUNCTION WITH THE GEOTECHNICAL INVESTIGATION COMPLETED BY QUALITAS OUTAOUAIS, DATED JANUARY 2007.



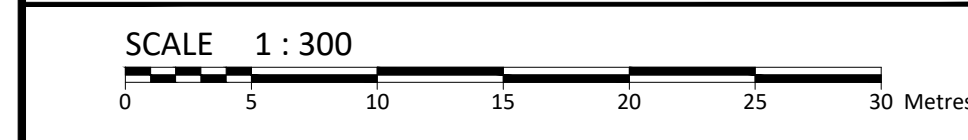
**LEGEND**

	CONCRETE BARRIER CURB		LIMIT OF CONSTRUCTION
	CONCRETE WALKWAY		DRAINAGE SWALE
	PROPOSED ASPHALT		DRAINAGE DITCH
	LANDSCAPING CATCHBASIN		SLOPING AT 3% UNLESS SPECIFIED
	CATCHBASIN MANHOLE		SURFACE ELEVATION
	CATCHBASIN		SWALE ELEVATION
	SANITARY SEWER MANHOLE		TOP OF WALL ELEVATION
	FIRE HYDRANT		BOTTOM OF WALL ELEVATION
	WATER VALVE		OVERLAND FLOW ROUTE
	WATER METER		SILTY FENCE BARRIER
	REMOTE WATER METER		STRAW BALE CHECK DAM
			MUD MAT

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No.	Revisions	Date
11		

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 115 Walgreen Road, RR3, Carp, ON K0A 1L0  
 Tel: 613-836-2184 Fax: 613-836-3742  
 www.mcintoshperry.com

Stamp:

Client: **BBS CONSTRUCTION LTD.**  
1805 WOODWARD DRIVE  
OTTAWA, ON K2C 0P9

Project: **PROPOSED BUILDING ADDITION**  
2628 EDINBURGH PLACE

Drawing Title: **PRE-DEVELOPMENT DRAINAGE PLAN**

Scale: 1:300	Project Number: CCO-22-2058
Drawn By: FV	Checked By: CIM
Designed By: FV	Drawing Number: PRE

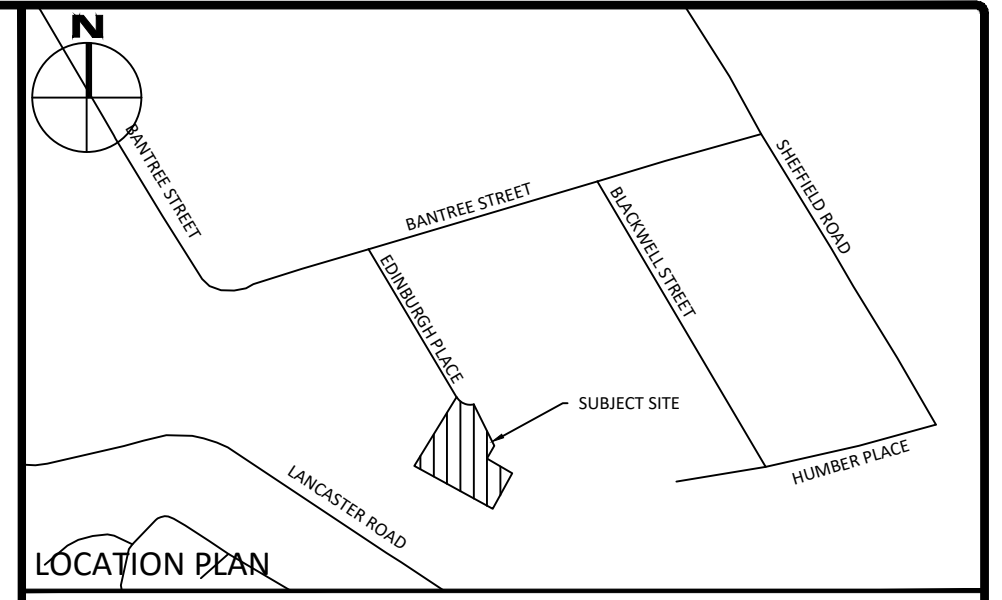
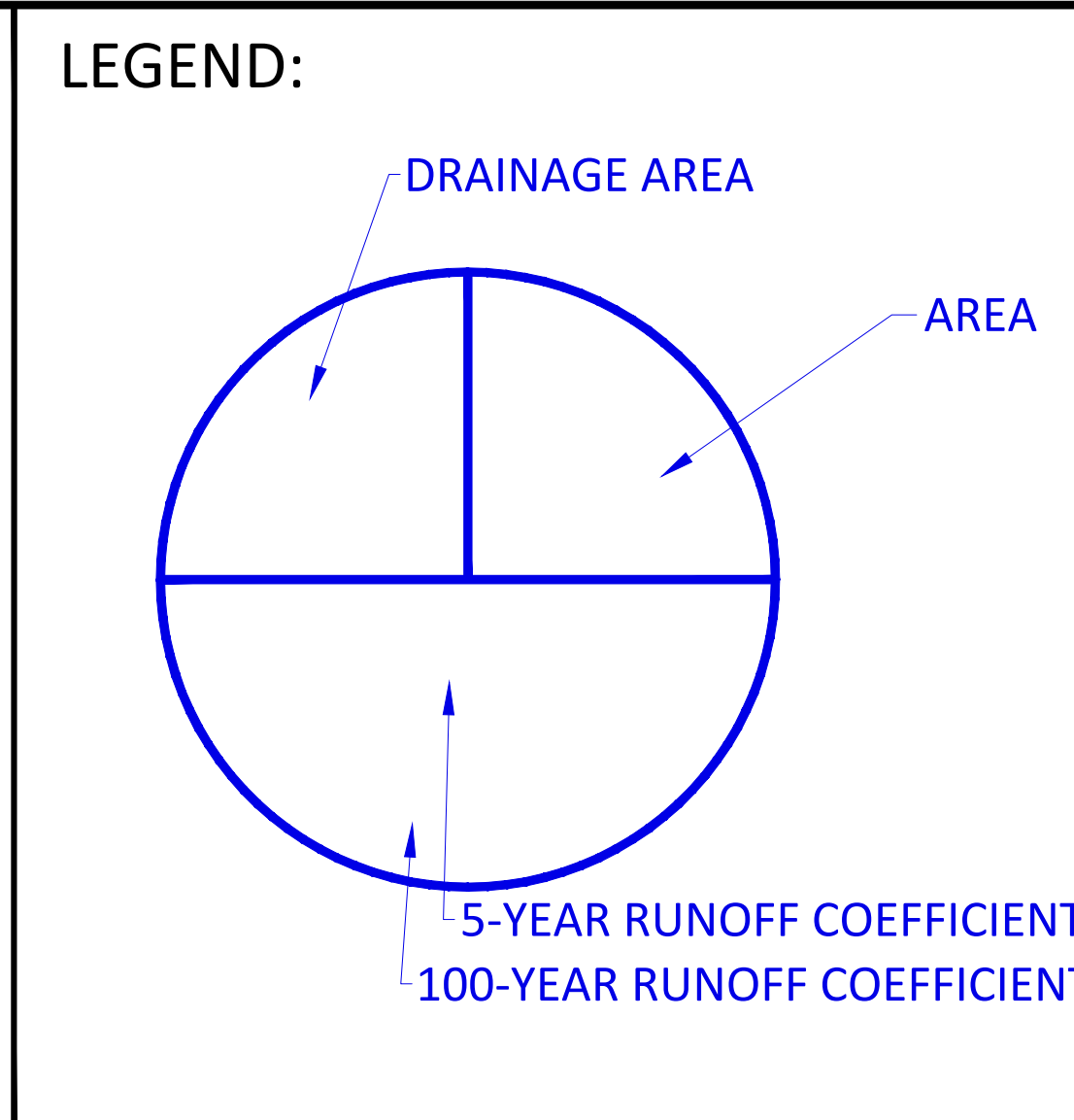
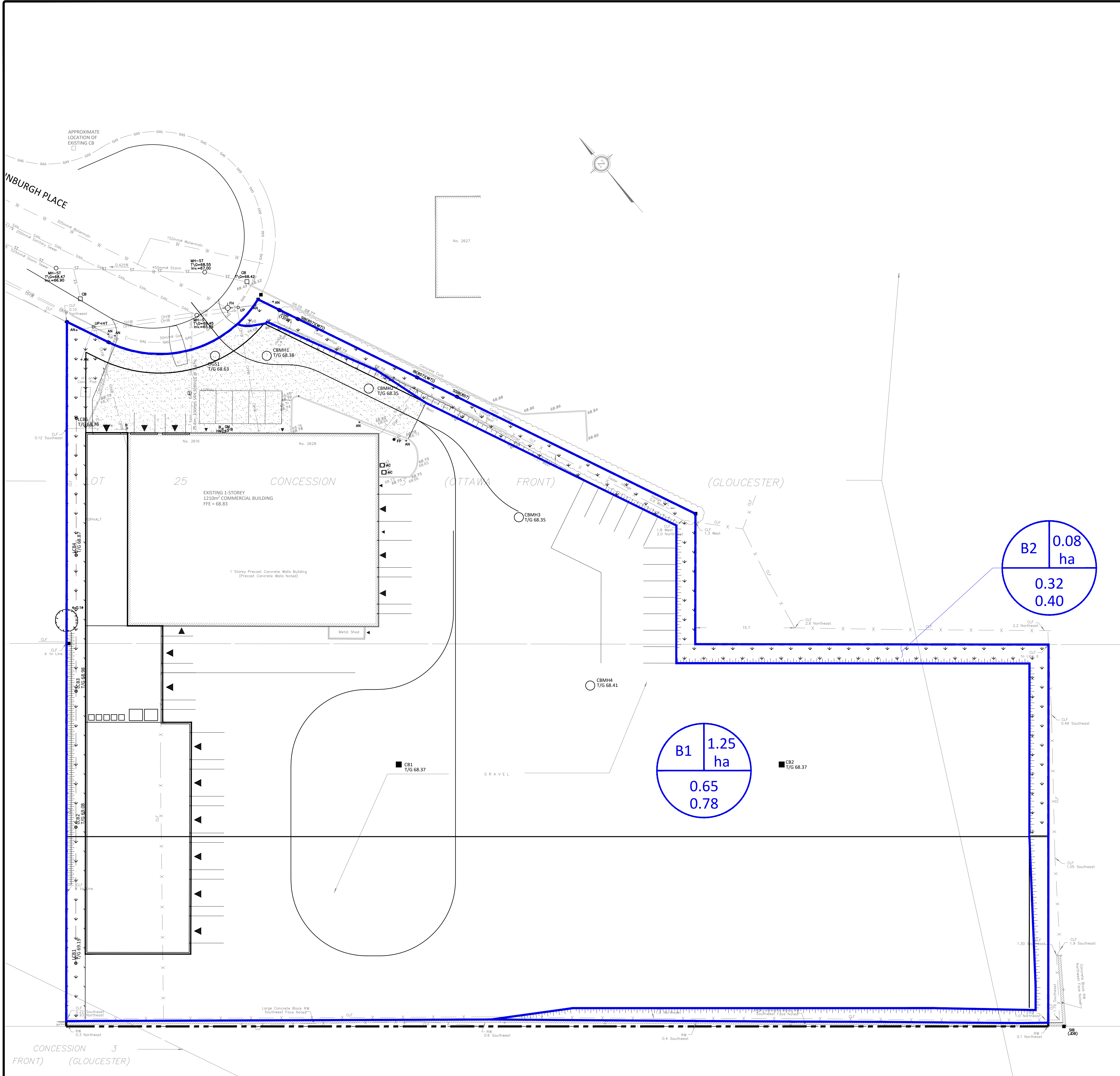
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 DATE SAVED: Wednesday, August 31, 2022 10:51 AM  
 LAST SAVED BY: FV  
 LAST PLOTTED: Wednesday, August 31, 2022 10:51 AM

D07-12-XX-XXXX



APPENDIX F  
POST-DEVELOPMENT DRAINAGE PLAN





**LEGEND**

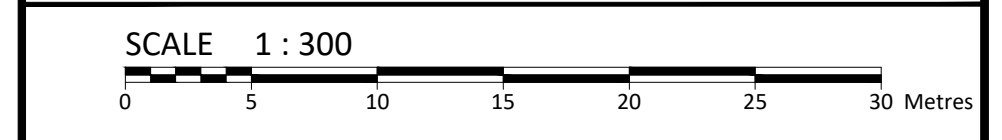
CONCRETE BARRIER CURB	LIMIT OF CONSTRUCTION
CONCRETE WALKWAY	DRAINAGE SWALE
PROPOSED ASPHALT	DRAINAGE DITCH
LANDSCAPING CATCHBASIN	SLOPING AT 3% UNLESS SPECIFIED
CBMH# T/G CATCHBASIN MANHOLE	95.50 SURFACE ELEVATION
CB# T/G CATCHBASIN	95.50 SWALE ELEVATION
MH#A T/G SANITARY SEWER MANHOLE	7/100 95.50 TOP OF WALL ELEVATION
HYD B/F FIRE HYDRANT	8/100 94.25 BOTTOM OF WALL ELEVATION
WATER VALVE	OVERLAND FLOW ROUTE
WATER METER	SILT FENCE BARRIER
REMOTE WATER METER	STRAW BALE CHECK DAM
	MUD MAT

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  - CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
  - ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.
  - THIS PLAN MUST BE READ IN CONJUNCTION WITH THE GEOTECHNICAL INVESTIGATION COMPLETED BY QUALITAS OUTAOUAIS, DATED JANUARY 2007.

**FOR REVIEW ONLY**  
**NOT FOR CONSTRUCTION**

No.	Revisions	Date
1		

Check and verify all dimensions before proceeding with the work. Do not scale drawings.



**McINTOSH PERRY**  
115 Walgreen Road, RR3, Carp, ON K0A 1L0  
Tel: 613-836-2184 Fax: 613-836-3742  
www.mcintoshperry.com

Stamp:

Client:  
**BBS CONSTRUCTION LTD.**  
1805 WOODWARD DRIVE  
OTTAWA, ON K2C 0P9

Project:  
**PROPOSED BUILDING ADDITION**  
2628 EDINBURGH PLACE

Drawing Title:  
**POST-DEVELOPMENT DRAINAGE PLAN**

Scale:	1:300	Project Number:	CCO-22-2058
Drawn By:	FV	Checked By:	CJM
Designed By:	FV	Drawing Number:	POST

FILENAME: U:\Other\DOT Project - Proposed\2022\hmk\CCO-22-2058 BBS - CIV Building - 2628 Edinburgh Place\Civil\1 - Drawing\CCO-22-2058 - Presentation.dwg  
 DATE SAVED: Wednesday, August 31, 2022 10:51 AM  
 LAST SAVED BY: FV  
 LAST PLOTTED: Wednesday, August 31, 2022 10:51 AM

D07-12-XX-XXXX

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APPENDIX G  
STORMWATER MANAGEMENT CALCULATIONS

# McINTOSH PERRY

CO-22-2058 - 2628 Edinburgh Place

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Tc (min)	Intensity (mm/hr)	
	5-Year	100-Year
20	70.3	120.0
13	90.6	155.1
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 <sup>2</sup> )	Gravel (m <sup>2</sup> )	Pervious Area (m <sup>2</sup> )	Average C (5-year)	Average C (100-year)
A1	4,722	8,344	223	0.70	0.83

## Pre-Development Runoff Calculations

Drainage Area	Area (ha)	C 5-Year	C 100-Year	Tc (min)	Q (L/s)	
					5-Year	100-Year
A1	1.33	0.70	0.83	10	269.41	547.83
Total	1.33				269.41	547.83

## Post-Development Runoff Coefficient

Drainage Area	Impervious Area (m <sup>2</sup> )	Gravel (m <sup>2</sup> )	Pervious Area (m <sup>2</sup> )	Average C (5-year)	Average C (100-year)	
B1	2,589	9,468	467	0.65	0.78	Restricted
B2	0	236	529	0.32	0.40	Unrestricted

## Post-Development Runoff Calculations

Drainage Area	Area (ha)	C 5-Year	C 100-Year	Tc (min)	Q (L/s)		
					5-Year	100-Year	
B1	1.25	0.65	0.78	10	234.75	486.81	Restricted
B2	0.08	0.32	0.40	10	7.17	15.36	Unrestricted
Total	1.33				241.92	502.17	

## Required Restricted Flow

Drainage Area	Area (ha)	C 5-Year	Tc (min)	Q (L/s)
				5-Year
A1	1.33	0.50	10	192.47

## Post-Development Restricted Runoff Calculations

Drainage Area	Unrestricted Flow (L/S)		Restricted Flow (L/S)		Storage Required (m <sup>3</sup> )		Storage Provided (m <sup>3</sup> )	
	5-year	100-Year	5-Year	100-Year	5-Year	100-Year	5-Year	100-Year
B1	234.75	486.81	168.28	174.45	39.9	187.5	42.7	188.0
B2	7.17	15.36	7.17	15.36				
Total	241.92	502.17	175.45	189.81	39.9	187.5	42.7	188.0

# McINTOSH PERRY

CO-22-2058 - 2628 Edinburgh Place

2 of 3

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 <sup>3</sup> )
10	104.2	234.77	168.28	66.49	39.89
20	70.3	158.39	168.28	-9.89	-11.87

Maximum Storage Required 5-year = 40 m<sup>3</sup>

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 <sup>3</sup> )
10	178.6	486.92	174.45	312.47	187.48
20	120.0	327.16	174.45	152.71	183.25

Maximum Storage Required 100-year = 187 m<sup>3</sup>

5-Year Storm Event Storage Summary

		Water Elev. (m) =		68.53	
Location	T/G	INV. (out)	Depth (m)	Head (m)	Volume (m <sup>3</sup> )
CBMH1	68.38	67.06	0.15	1.34	42.7

Storage Available (m<sup>3</sup>) = 42.7 \*  
Storage Required (m<sup>3</sup>) = 39.9

100-Year Storm Event Storage Summary

		Water Elev. (m) =		68.63	
Location	T/G	INV. (out)	Depth (m)	Head (m)	Volume (m <sup>3</sup> )
CBMH1	68.38	67.06	0.25	1.44	188.0

Storage Available (m<sup>3</sup>) = 188.0 \*  
Storage Required (m<sup>3</sup>) = 187.5

\* Available Storage calculated from AutoCAD

# McINTOSH PERRY

CO-22-2058 - 2628 Edinburgh Place

For Orifice Flow, C= 0.60  
 For Weir Flow, C= 1.84

3 of 3

	Orifice 1	Orifice 2	Weir 1	Weir 2
invert elevation	67.06			
center of crest elevation	67.19			
orifice width / weir length	264 mm			
weir height				
orifice area (m <sup>2</sup> )	0.055			

Elevation Discharge Table - Storm Routing

Elevation	Orifice 1		Orifice 2		Weir 1		Weir 2		Total Q [L/s]
	H [m]	Q [m <sup>3</sup> /s]	H [m]	Q [m <sup>3</sup> /s]	H [m]	Q [m <sup>3</sup> /s]	H [m]	Q [m <sup>3</sup> /s]	
68.38	1.19	0.16							158.57
68.39	1.20	0.16							159.23
68.40	1.21	0.16							159.89
68.41	1.22	0.16							160.55
68.42	1.23	0.16							161.21
68.43	1.24	0.16							161.87
68.44	1.25	0.16							162.52
68.45	1.26	0.16							163.17
68.46	1.27	0.16							163.82
68.47	1.28	0.16							164.46
68.48	1.29	0.17							165.10
68.49	1.30	0.17							165.74
68.50	1.31	0.17							166.38
68.51	1.32	0.17							167.02
68.52	1.33	0.17							167.65
68.53	1.34	0.17							168.28
68.54	1.35	0.17							168.91
68.55	1.36	0.17							169.53
68.56	1.37	0.17							170.15
68.57	1.38	0.17							170.77
68.58	1.39	0.17							171.39
68.59	1.40	0.17							172.01
68.60	1.41	0.17							172.62
68.61	1.42	0.17							173.24
68.62	1.43	0.17							173.85
68.63	1.44	0.17							174.45

5-Year

100-Year

- Notes:
1. For Orifice Flow, User is to Input an Elevation Higher than Crown of Orifice.
  2. Orifice Equation:  $Q = cA(2gh)^{1/2}$
  3. Weir Equation:  $Q = CLH^{3/2}$
  4. These Computations Do Not Account for Submergence Effects Within the Pond Riser.
  5. H for orifice equations is depth of water above the centroid of the orifice.
  6. H for weir equations is depth of water above the weir crest.



APPENDIX H  
CITY OF OTTAWA DESIGN CHECKLIST



# 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)
<input type="checkbox"/> Executive Summary (for larger reports only).	N/A
<input type="checkbox"/> Date and revision number of the report.	On Cover
<input type="checkbox"/> Location map and plan showing municipal address, boundary, and layout of proposed development.	Appendix A
<input type="checkbox"/> Plan showing the site and location of all existing services.	Site Servicing Plan (C102)
<input type="checkbox"/> 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
<input type="checkbox"/> Summary of pre-consultation meetings with City and other approval agencies.	Appendix B
<input type="checkbox"/> 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 defensible design criteria.	1.1 Purpose 1.2 Site Description 6.0 Stormwater Management
<input type="checkbox"/> Statement of objectives and servicing criteria.	3.0 Pre-Consultation Summary

<input type="checkbox"/> Identification of existing and proposed infrastructure available in the immediate area.	N/A
<input type="checkbox"/> 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).	Ste Grading Plan (C101)
<input type="checkbox"/> 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.	Ste Grading Plan (C101)
<input type="checkbox"/> 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
<input type="checkbox"/> Proposed phasing of the development, if applicable.	N/A
<input type="checkbox"/> Reference to geotechnical studies and recommendations concerning servicing.	Section 2.0 Background Studies, Standards and References
<input type="checkbox"/> All preliminary and formal site plan submissions should have the following information: <ul style="list-style-type: none"> <li>○ Metric scale</li> <li>○ North arrow (including construction North)</li> <li>○ Key plan</li> <li>○ Name and contact information of applicant and property owner</li> <li>○ Property limits including bearings and dimensions</li> <li>○ Existing and proposed structures and parking areas</li> <li>○ Easements, road widening and rights-of-way</li> <li>○ Adjacent street names</li> </ul>	Ste Grading Plan (C101)

## 4.2 Development Servicing Report: Water

Criteria	Location (if applicable)
<input type="checkbox"/> Confirm consistency with Master Servicing Study, if available	N/A
<input type="checkbox"/> Availability of public infrastructure to service proposed development	N/A
<input type="checkbox"/> Identification of system constraints	N/A
<input type="checkbox"/> Identify boundary conditions	Appendix C
<input type="checkbox"/> Confirmation of adequate domestic supply and pressure	N/A
<input type="checkbox"/> 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
<input type="checkbox"/> 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
<input type="checkbox"/> Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design	N/A
<input type="checkbox"/> Address reliability requirements such as appropriate location of shut-off valves	N/A
<input type="checkbox"/> Check on the necessity of a pressure zone boundary modification.	N/A
<input type="checkbox"/> 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

<input type="checkbox"/> Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.	Site Servicing Plan (C101)
<input type="checkbox"/> Description of off-site required feeder mains, 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
<input type="checkbox"/> Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Appendix C
<input type="checkbox"/> 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)
<input type="checkbox"/> 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
<input type="checkbox"/> Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A
<input type="checkbox"/> 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
<input type="checkbox"/> Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Section 5.2 Proposed Sanitary Sewer

<input type="checkbox"/> 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
<input type="checkbox"/> 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
<input type="checkbox"/> Description of proposed sewer network including sewers, pumping stations, and forcemains.	Section 5.2 Proposed Sanitary Sewer
<input type="checkbox"/> 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
<input type="checkbox"/> Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A
<input type="checkbox"/> Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A
<input type="checkbox"/> 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
<input type="checkbox"/> Special considerations such as contamination, corrosive environment etc.	N/A

#### 4.4 Development Servicing Report: Stormwater Checklist

Criteria	Location (if applicable)
<input type="checkbox"/> 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
<input type="checkbox"/> Analysis of available capacity in existing public infrastructure.	N/A
<input type="checkbox"/> A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.	Pre & Post-Development Plans
<input type="checkbox"/> 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
<input type="checkbox"/> 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
<input type="checkbox"/> 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
<input type="checkbox"/> Set-back from private sewage disposal systems.	N/A
<input type="checkbox"/> Watercourse and hazard lands setbacks.	N/A
<input type="checkbox"/> Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	N/A
<input type="checkbox"/> Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	N/A
<input type="checkbox"/> 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

<input type="checkbox"/> Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	Site Grading Plan
<input type="checkbox"/> 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
<input type="checkbox"/> Any proposed diversion of drainage catchment areas from one outlet to another.	Section 6.0 Stormwater Sewer Design & Section 7.0 Proposed Stormwater Management
<input type="checkbox"/> 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
<input type="checkbox"/> 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
<input type="checkbox"/> Identification of potential impacts to receiving watercourses	N/A
<input type="checkbox"/> Identification of municipal drains and related approval requirements.	N/A
<input type="checkbox"/> 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
<input type="checkbox"/> 100-year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Site Grading Plan (C101)
<input type="checkbox"/> Inclusion of hydraulic analysis including hydraulic grade line elevations.	N/A

<input type="checkbox"/> Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Section 8.0 Sediment & Erosion Control
<input type="checkbox"/> 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
<input type="checkbox"/> 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)
<input type="checkbox"/> 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
<input type="checkbox"/> Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.	N/A
<input type="checkbox"/> Changes to Municipal Drains.	N/A
<input type="checkbox"/> 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)
<input type="checkbox"/> Clearly stated conclusions and recommendations	Section 9.0 Summary  Section 10.0 Recommendations
<input type="checkbox"/> 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
<input type="checkbox"/> All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario	All are stamped