MEMORANDUM

MORRISON HERSHFIELD

TO:	Patrick Leo Dupont Armco Capital Inc. 6848 Newman, Lasalle QC H8N 9G7	**FROM:**	James Fookes, P.Eng. Morrison Hershfield
		PROJECT No.:	MH ref. 210292799
RE:	1376 Carling Avenue Development – Phase 2 Site Servicing and Storm Water Management for the Future City Park	**DATE:**	10/1/2021

X:\PROJ\2021\210292700-1356 CARLING AVE PH2-CIVIL\12. DELIVERABLES\1ST REVIEW - CITY\MEMO_1354 CARLING AVE SITE SERVICING DESIGN BRIEF PARK REV 1.DOCX

1. Introduction

1.1. Site Description and Proposed Development

This memo describes the site servicing and stormwater management design and calculations pertaining to the new park development to be constructed at 1376 Carling Avenue. The redevelopment 1376 Carling Avenue consists of multi-storey residential and commercial units. An Urban Design Review Panel (UDRP) review in 2017 found that the proposed development and the surrounding neighborhood lacked parkland and amenity spaces. The URDP recommend incorporating a larger park in a location that would be accessible from outside the site to help address these concerns. As a result, the proposed development was modified to include a park within the southwestern limits of the subject property accessible from Meath Street. The proposed park area will be separated from the main property parcel into new property parcel to be owned by the City.

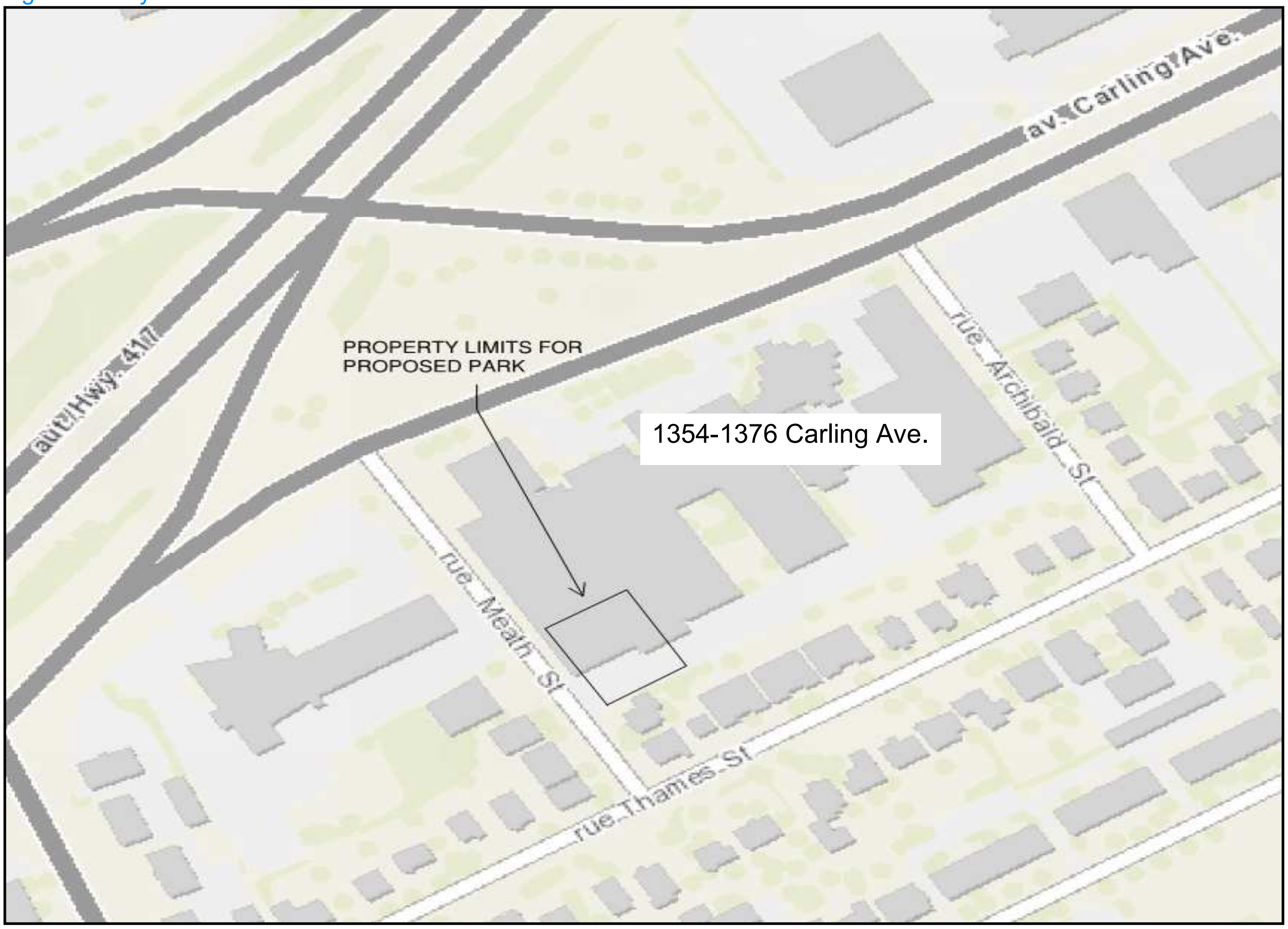
Existing infrastructure in the vicinity of the site is described in **Section 1.4** below. Design drawings for proposed site servicing, grading, and erosion control are provided in **Appendix A**.

1.2. Location Map and Plan

The location of the site is illustrated in **Figure 1**. A detailed site layout is illustrated on the drawings in **Appendix A**.

The proposed park development at 1376 Carling Ave. is entirely within the existing property parcels. The site is located within ward 16, occupied by Councillor Riley Brockington.

Figure 1 - Key Plan



1.3. Consultation and Permits

The Planning Committee of the City of Ottawa amended zoning by-law regulations in anticipation for the new development for 1376 Carling Avenue. The amendment consists of zoning the proposed park location to O-1 Parks and Open Space Zone.

1.4. Available Existing Infrastructure

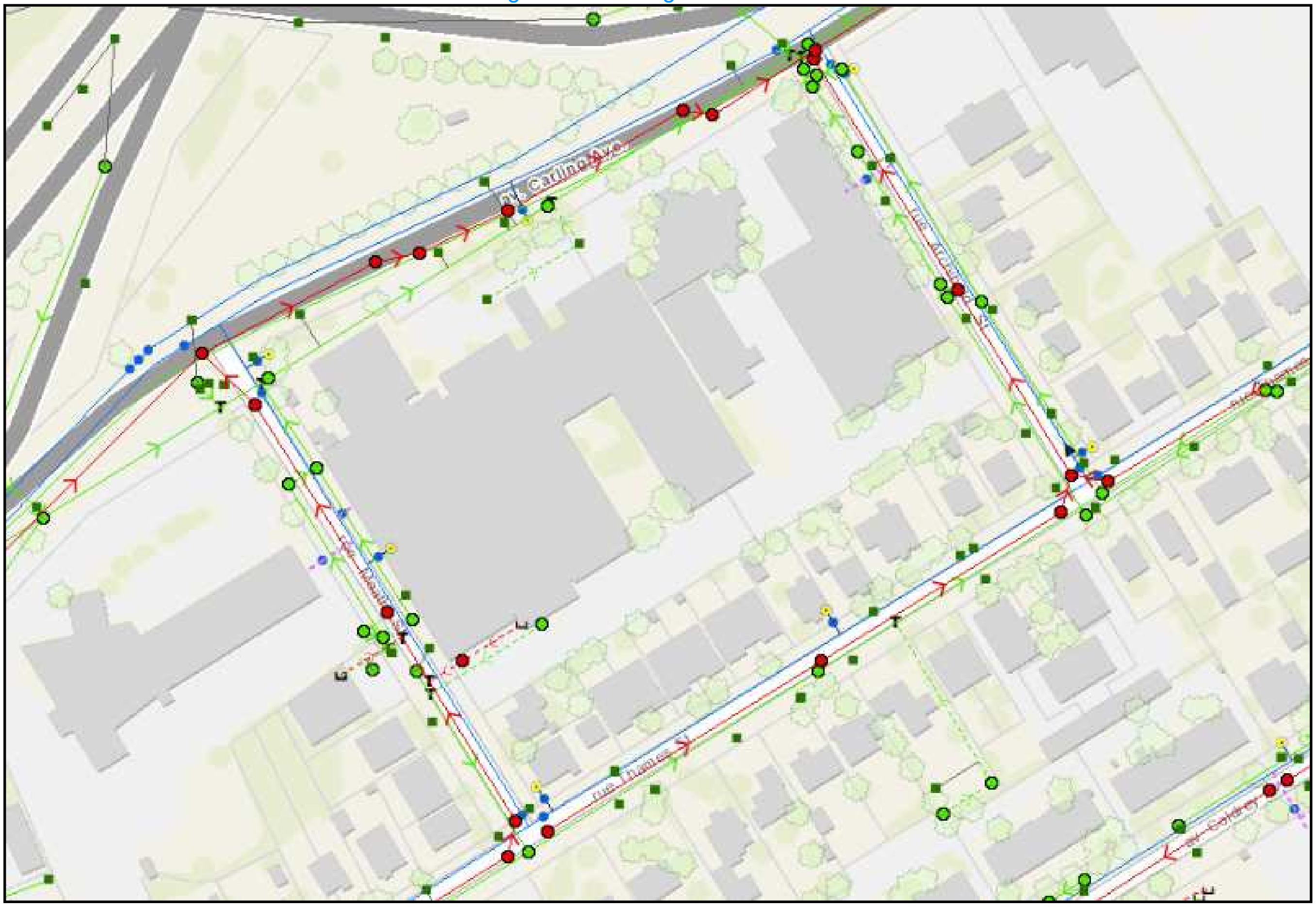
Sewer mapping collected from the City of Ottawa, and related documentation pertaining to the development of phase 1, indicate that the following infrastructure exists in and surrounding the subject site.

<u>Meath Street</u>

- 300mm diameter concrete storm sewer
- 400mm diameter PVC storm sewer
- 525mm diameter PVC storm sewer
- 300mm diameter concrete sanitary sewer
- 150mm diameter PVC watermain

Corresponding structures and services can be found in **Figure 2.**

Figure 2 - Existing Infrastructure



Existing infrastructure and utilities are shown in detail on Plan C801 found in **Appendix A.**

2. Storm Servicing and Stormwater Management

2.1. Background

The existing drainage is overland westward towards an existing catch basin located on Meath Street, at the intersection of the existing rear laneway.

The City of Ottawa's Sewer Design Guidelines require the 100-year post-development storm flow to be restricted to the 5-year pre-development runoff with an assumed pre-development coefficient no greater than 0.5.

For the proposed part development, quantity control meeting the City of Ottawa requirements is proposed to be provided through the use of on-site detention. Flow control is to be provided by an ICD and surface storage within the proposed park.

An existing trunk sewer located on Carling Ave currently receives water runoff from the existing site and will be the main sewer that collects water runoff from the new developed stormwater management system that is proposed.

2.2. Storm Servicing Strategy including Analysis of Existing Infrastructure

The stormwater management design has been completed by restricting the 100-year post-development flow to the 5-year pre-development runoff (calculated at a pre-development runoff coefficient of 0.5) to meet the capacity of downstream sewers. The 100-year flow will be detained on site. The required storage volume has been calculated using the Modified Rational Method. Storm water storage will be provided in accordance with the City of Ottawa Sewer Design Guidelines Section 8.3.11.1.

2.3. Proposed Storm Servicing

Proposed storm servicing is indicated on Drawing C801 in **Appendix A**. The proposed pre-development and post-development catchment areas, runoff coefficients and catchment total areas are indicated on the Drainage Area Plans, also in **Appendix A**.

2.4. Stormwater Quantity Control

2.4.1. Runoff Coefficient and Peak Flows

Table 1 indicates the runoff coefficient for each catchment. The 100-year runoff coefficients include a 25% increase (to a maximum of 1.0) as required by the City of Ottawa Sewer Design Guidelines Section 5.4.5.2.1.

Table 1– Pre-development Runoff Coefficients (development area)

	Pre-Development Runoff Coefficients	
Storm Event	**5-Year Storm**	**100-Year Storm**
Areas Description	**Existing**	**Existing**
Site Area (in ha)	0.14	0.14
Runoff Coefficient	0.86	1.00

Intensity (i) is calculated using the formula:

$$i = \frac{A}{(T_d + C)^B}$$

Where A, B and C are all factors of the IDF Return Period, T_d being the time of concentration and A the drainage area (Detailed calculations provided in **Appendix B**).

Time of concentration is determined using the inlet time graph (Appendix 5D Ottawa City Sewer Design Guidelines) which results in a value of 7 minutes (a minimum of 10 minutes shall be used). With the pre and post-development runoff coefficients and rainfall intensity, the peak flows for each drainage area can be calculated using the Rational Method. The results (using actual runoff coefficients) are summarized in **Table 2**.

Table 2– Pre-Development Peak Flows

	Pre-Development Peak Flows (actual runoff coefficients)			
Return Period (Years)	**Intensity, I (mm/hr)**	**Area (ha)**	**Runoff Coefficient, R (Note 1)**	**Runoff Rate, Q (L/s)**
2	76.8	0.14	0.86	26.2
5	104.2	0.14	0.86	35.5
100	178.6	0.14	1.00	71.0
Note 1: For 100-year event, Runoff Coefficient is increased by 25% to a maximum of 1.0.				

To calculate the allowable release rate, the following criteria are applied:

Return Period 5 year

Maximum Runoff Coefficient 0.5

Time of Concentration 10 Minutes

Table 3– Allowable Release Rate

Return Period (Years)	Intensity, I (mm/hr)	Area (ha)	Runoff Coefficient, R	Runoff Rate, Q (L/s)
5	104.2	0.14	0.50	20.7

The allowable release rate for the site has been calculated to be 20.7 L/s.

The project will result in the existing area being partially covered with impervious surfaces. The post-development runoff coefficients are indicated in **Table 4:**

Table 4– Overall Post-Development Runoff Coefficients

	Overall Post-Development Runoff Coefficients	
Storm Event	**5-Year Storm**	**100-Year Storm**
Areas Description	**proposed park site**	**proposed park site**
Project Area (in ha)	0.14	0.14
Weighted Runoff Coefficient	**0.43**	**0.54**

2.4.2. Stormwater Management Concept

The subject property limits are bounded by easements and zoning regulations and as a result stormwater runoff will be maintained within the property limits of the park.

Table 5 provides a summary of the characteristics of the post-development peak flow rates.

Table 5– Post-Development Peak Flow Rates

	Post-Development Peak Flow Rates	
Storm Event	**5-Year Storm**	**100-Year Storm**
Drainage area (ha)	0.14	0.14
Runoff Coefficient	0.43	0.54
Peak Flow (L/s)	17.7	34.5

As a result, the post-development 100-year flow rate is required to be reduced by **17.7 L/s** to meet the allowable release rate of 20.7 L/s.

All stormwater within the proposed park site will be directed to a central catch basin. An ICD will be installed on the catch basin lead to control the flow to the allowable release rate. As indicated by the proposed storage calculations, the required surface storage was calculated to be 6.2 m^3. Storage will be provided through surface storage above the catch basin to a maximum ponding depth of 200mm. The extents of surface ponding are indicated on drawing C802 in **Appendix A**.

Summary

Design calculations for the new storm service are provided in **Appendix B**.

Table 6 summarizes the proposed release rates and confirms that the total release rate does not exceed the allowable release rate.

Table 6 – Post-Development Controlled Peak Flows

	Post-Development Controlled Peak Flows (L/s)
Allowable Release Rate	17.7
Release Rate from Uncontrolled Drainage Areas	0
Release Rate from Controlled Drainage Areas	17.7
Total Release Rate	17.7

2.5. 100 Year Flood Levels and Major Flow Routing

The site is not within a 100-year floodplain. A figure of the Ottawa river floodplain overlay extracted from the City's GeoOttawa resource is included in **Appendix C**.

2.6. Grading

The proposed grading plan is shown in Drawing C802 in **Appendix A**. The development will be tied into the existing grades on Meath St, phase 2 development, and the existing easement along the southern project limits.

3. Conclusions

In conclusion the proposed development meets all required servicing constraints and associated design criteria/requirements as well as the additional City of Ottawa requirements identified in the pre-consultation phase. It is recommended that this report be submitted to the City of Ottawa in support of the application for site plan approval.

Sincerely,

Morrison Hershfield Limited

LICENSED PROFESSIONAL ENGINEER
J.G. FOOKES
Oct 1, 2021
PROVINCE OF ONTARIO

James Fookes, P.Eng., C.Eng.
Senior Municipal Engineer

Dillon O'Neil, EIT
Municipal Engineer-in-Training

4. Appendices

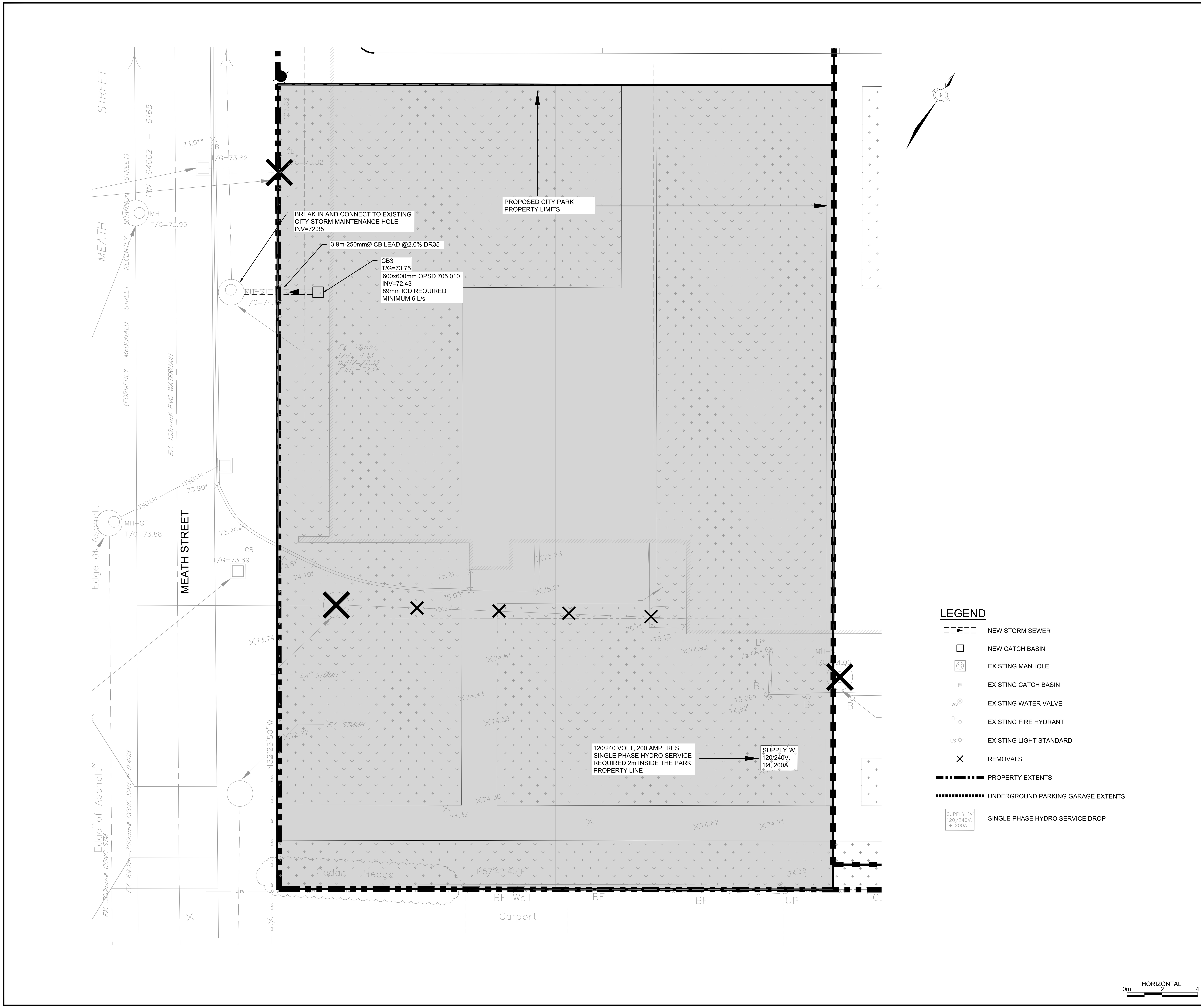
Appendix A Site Servicing, Grading and Erosion and Sediment Control, Catchments Plans,

Appendix B Storm Sewer Design Calculations

Appendix C GeoOttawa 1-100 Year Floodplain and Correspondence

Appendix A

Site Servicing, Grading, Catchments Plans and Details



PROPERTY OWNER

Holloway Lodging
145 HOBSONS LAKE DRIVE SUITE 106
HALIFAX, NOVA SCOTIA
B3S 0H9

PRELIMINARY
NOT FOR CONSTRUCTION

No.	YYYY-MM-DD	ISSUED FOR SCHEMATIC DESIGN
2	2021-10-04	ISSUED FOR SITE PLAN CONTROL R2
1	2021-06-17	ISSUED FOR SITE PLAN CONTROL

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STAMP

LICENSED PROFESSIONAL ENGINEER
J.G. FOOKES
Oct 1, 2021
PROVINCE OF ONTARIO

PERMIT TO PRACTICE

KEY PLAN
SITE

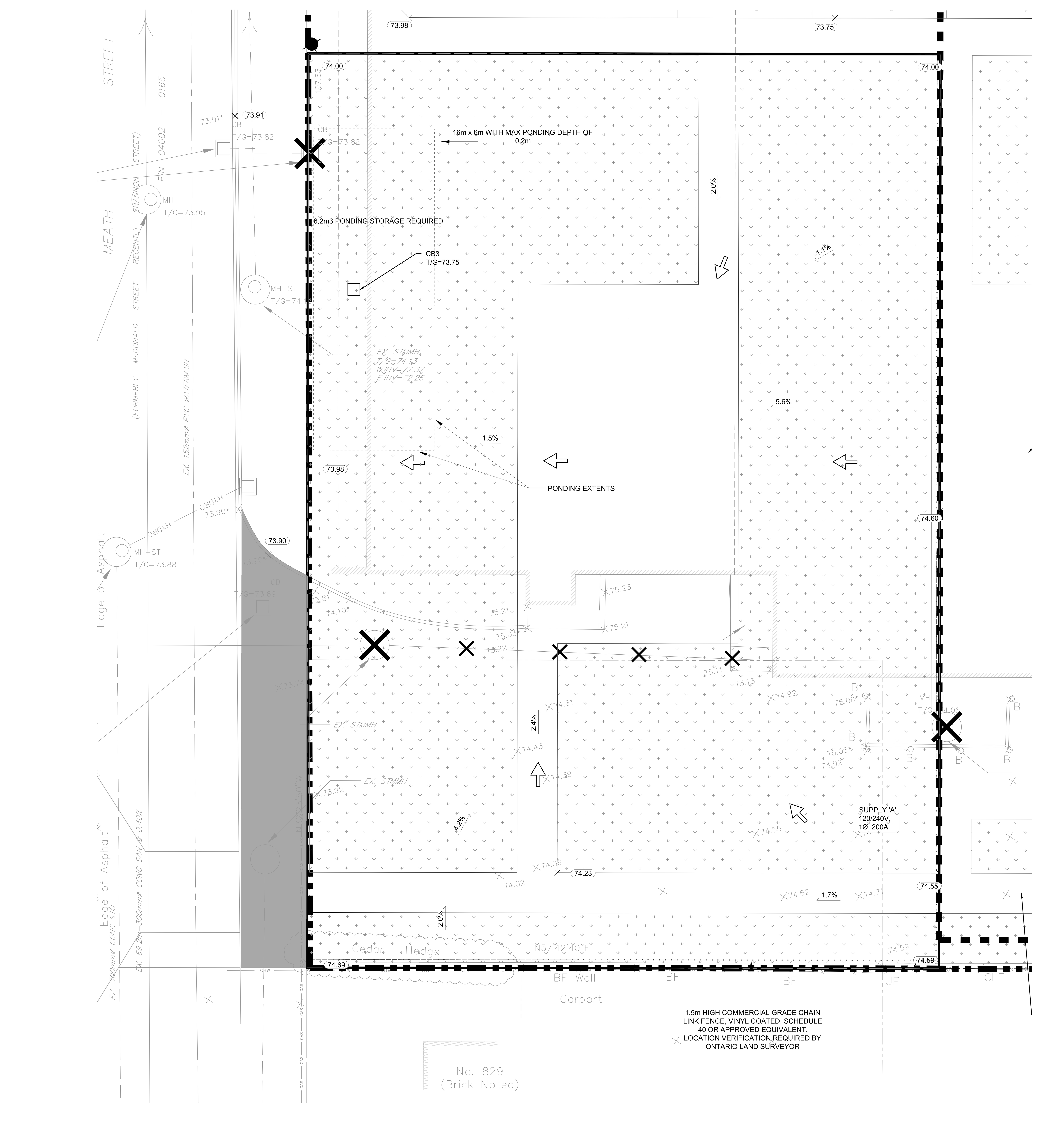
MORRISON HERSHFIELD
200 - 2932 Baseline Road
Ottawa, Ontario, K2H 1B1
Tel: (613) 739-2910

PROJECT
1354 & 1376 CARLING AVENUE
DEVELOPMENT - PROPOSED CITY PARK

DRAWING
SITE SERVICING PLAN - CITY PARK

DESIGN	DO	DATE	2021-10-04	SCALE	1:100
DRAWN	SC	PROJECT NO.	210292799		
CHECKED	NC	DRAWING NO	C801	VERSION	
APPROVED	JF				

Plan Number: 18501
Application Number: D07-12-21-0092



LEGEND

☐	NEW CATCH BASIN
× 74.78	PROPOSED ELEVATION
×74.88	EXISTING ELEVATION
7.9%	PROPOSED SLOPE DIRECTION
× 73.50T/G	PROPOSED FINISH GRADE AT TOP OF GRATE
× 75.00Ph1	ELEVATION FROM PHASE-1
⇨	DIRECTION OF MAJOR OVERLAND FLOW
	PONDING EXTENTS
	PROPERTY EXTENTS
	UNDERGROUND PARKING GARAGE EXTENTS
	NEW MONOLOTHIC CURB AND SIDEWALK (CITY STD DET SC2)
	NEW 1.5m HIGH COMMERCIAL GRADE CHAIN LINK FENCE

1:100
HORIZONTAL
0m 2 4

PROPERTY OWNER
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Oct 1, 2021
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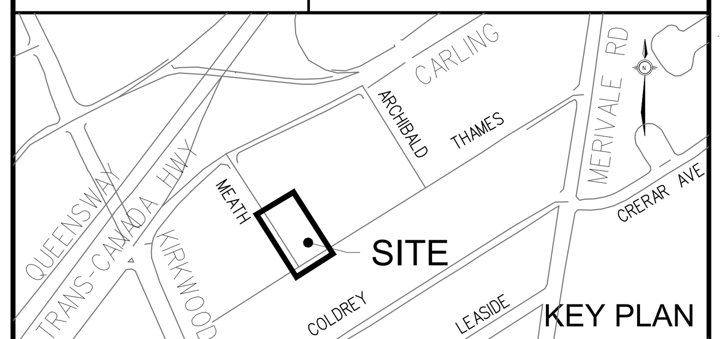


KEY PLAN

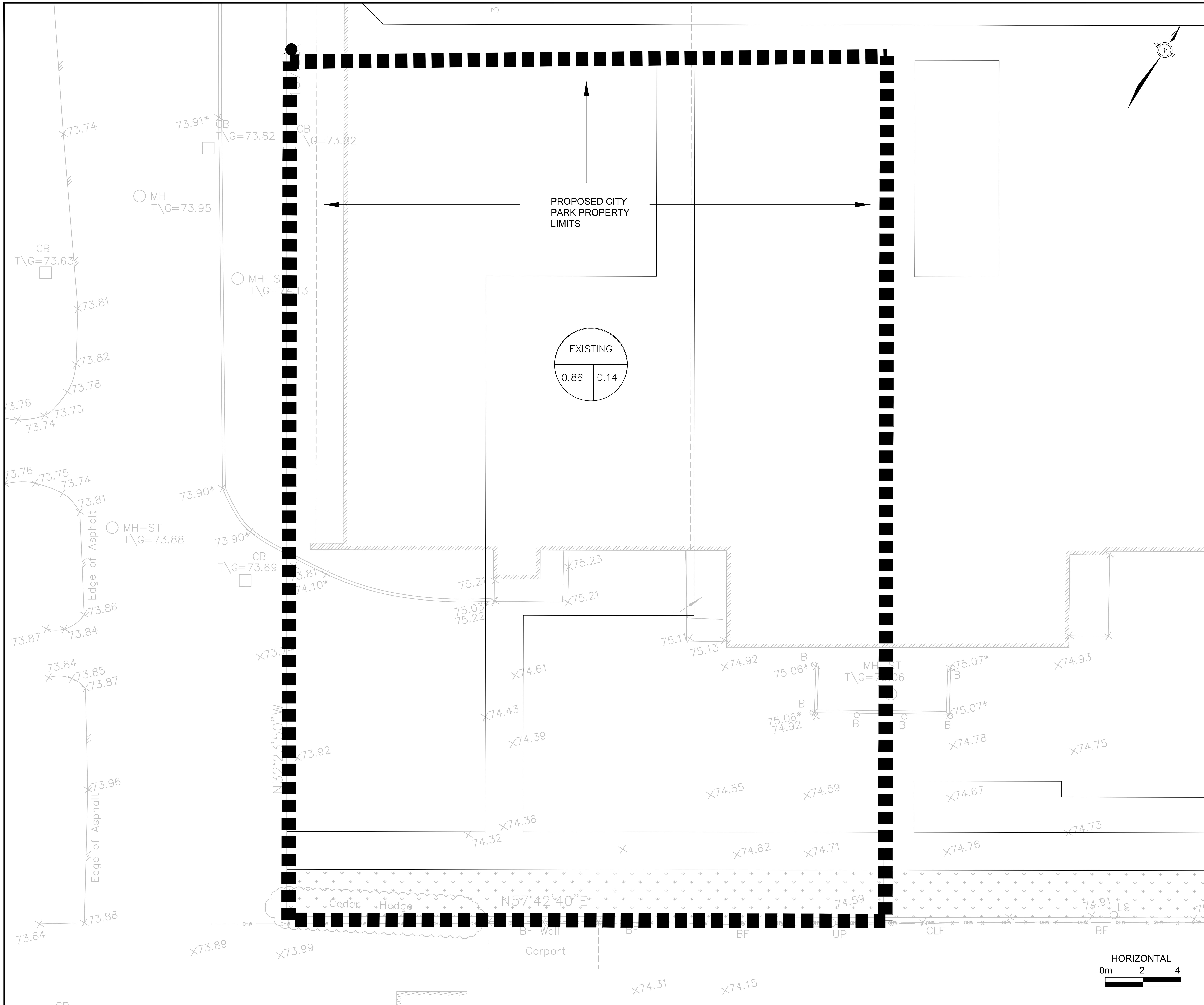
MORRISON HERSHFIELD
200 - 2932 Baseline Road
Ottawa, Ontario, K2H 1B1
Tel: (613) 739-2910

PROJECT
1354 & 1376 CARLING AVENUE
DEVELOPMENT - PROPOSED CITY PARK

DRAWING
GRADING PLAN

DESIGN	DO	DATE	2021-10-04	SCALE	1:100
DRAWN	SC	PROJECT NO.	210292799		
CHECKED	NC	DRAWING NO	C802	VERSION	
APPROVED	JF				

Plan Number: 18501
Application Number: D07-12-21-0092



LEGEND

AREA ID — DRAINAGE AREA CHARACTERISTICS
RUNOFF COEFFICIENT % — AREA ha

EXISTING CATCHMENTS

PROPERTY OWNER

Holloway Lodging
145 HOBSONS LAKE DRIVE SUITE 106
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B3S 0H9

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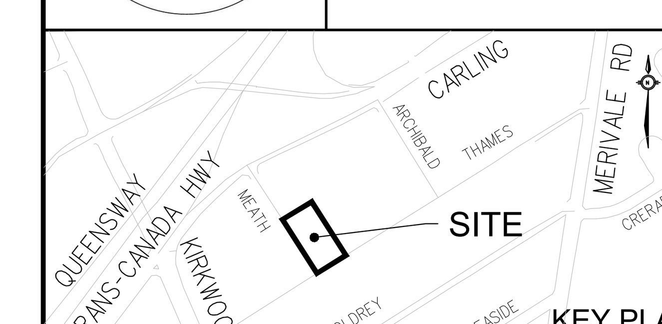

KEY PLAN

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200 - 2932 Baseline Road
Ottawa, Ontario, K2H 1B1
Tel: (613) 739-2910

PROJECT

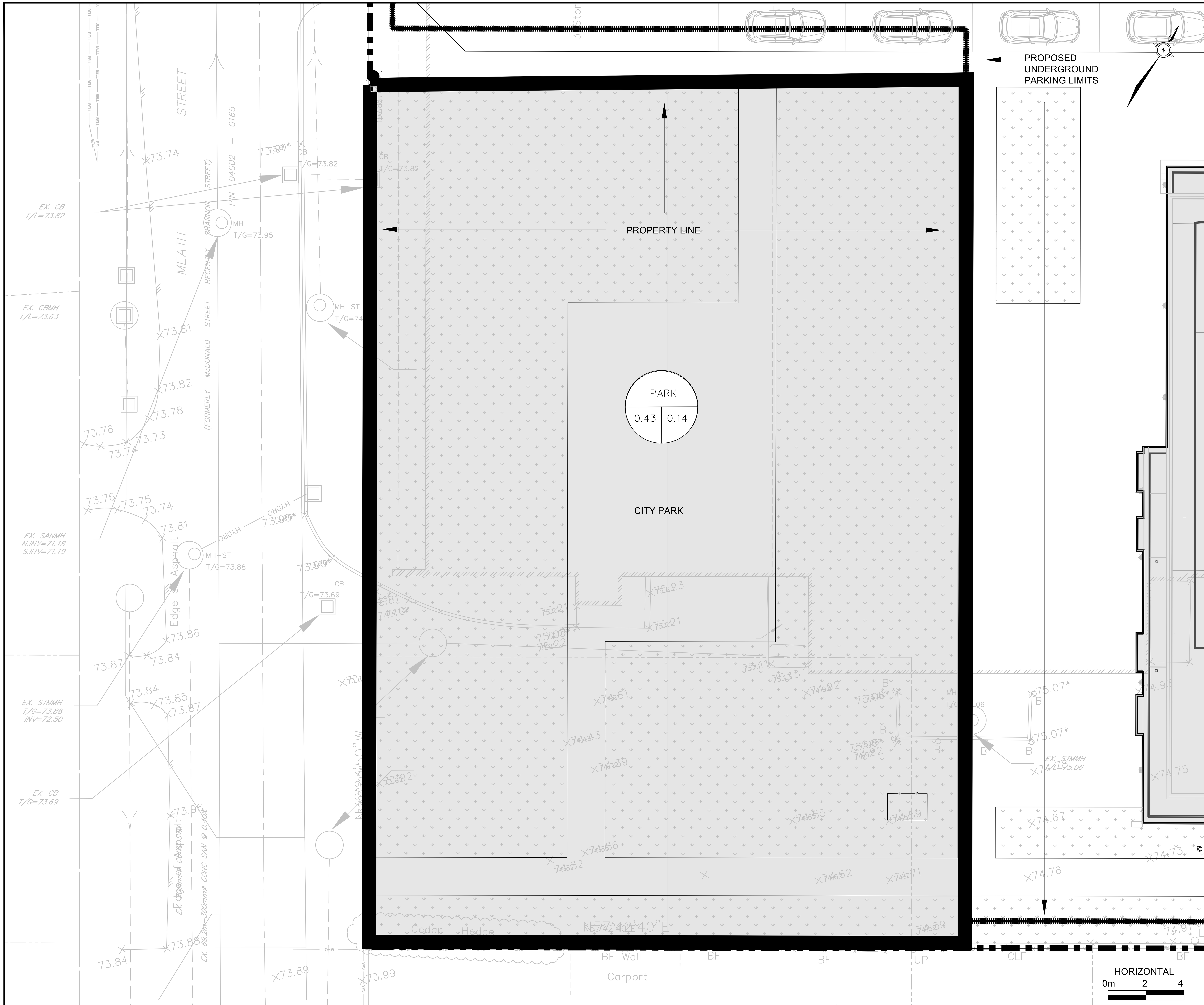
1354 & 1376 CARLING AVENUE
DEVELOPMENT - PHASE 2

DRAWING

EXISTING STORM DRAINAGE AREA PLAN

DESIGN	DATE	SCALE
DO	2021-10-04	1:100
DRAWN: SC	PROJECT NO.: 210292799	
CHECKED: NC	DRAWING NO: C804	VERSION
APPROVED: JF		

Plan Number: 18501
Application Number: D07-12-21-0092



LEGEND

AREA ID

RUNOFF COEFFICIENT

%

AREA ha

DRAINAGE AREA CHARACTERISTICS

EXTENTS FOR PHASE 2 DEVELOPMENT

PROPOSED CATCHMENTS

PROPERTY OWNER

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B3S 0H9

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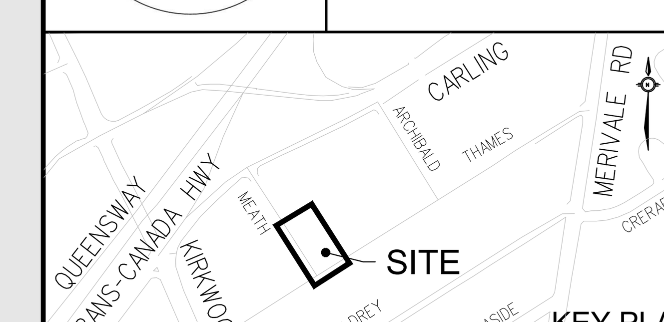
1	2021-06-16	ISSUED FOR SITE PLAN CONTROL
No.	YYYY-MM-DD	ISSUED FOR SCHEMATIC DESIGN

STAMP	PERMIT TO PRACTICE
LICENSED PROFESSIONAL ENGINEER J.G. FOOKES Oct 1, 2021 PROVINCE OF ONTARIO	



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Tel: (613) 739-2910

PROJECT

1354 & 1376 CARLING AVENUE
DEVELOPMENT - PROPOSED CITY PARK

DRAWING

PROPOSED STORM DRAINAGE AREA PLAN - CITY PARK

DESIGN	DATE	SCALE
DO	2021-10-04	1:100
DRAWN SC	PROJECT NO. 210292799	
CHECKED NC	DRAWING NO C805	VERSION
APPROVED JF		

Plan Number: 18501 Application Number: D07-12-21-0092

Appendix B

Storm Sewer Design Calculations

1. Existing Conditions & Release Rate of Park

1376 Carling Ave. Phase II

Project No.	210292700
Date	1-Oct-21
Prepared By:	D O'Neil
Checked By	J Fookes

Existing Drainage Area Characteristics

Drainage Area	Area, A (ha)	Runoff Coefficient, R
Building	0.078	0.90
Grass	0.010	0.30
Asphalt	0.052	0.90
Concrete	0.003	0.90
Total	0.143	0.86

Exisitng ground surface is a mix of grass and hard surfaces

Asphalt Area:	R = 0.90
Grassy Area:	R = 0.30
Building Area:	R = 0.90
Gravel Area	R = 0.50
Concrete Area:	R = 0.90

Existing Conditions

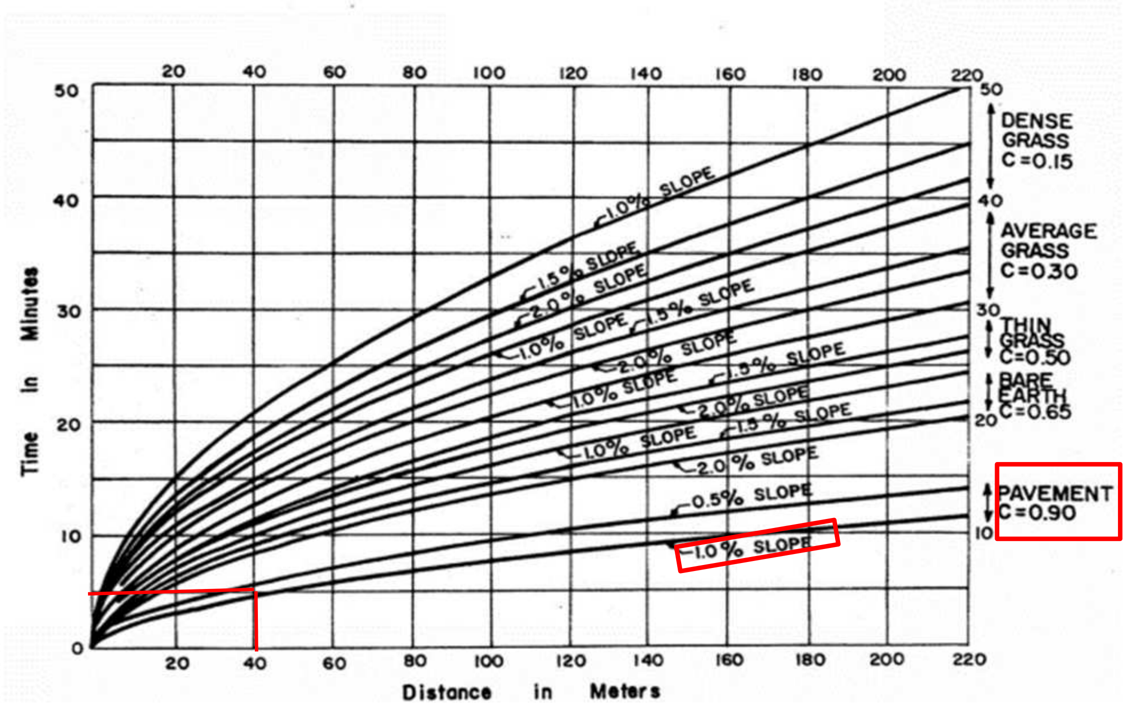
Q = RAIN where Q = runoff rate (L/s)
R = runoff coefficient
i = rainfall intensity (mm/hr)
A = drainage area (ha)
N = 2.78

and $$i = \frac{A}{(T_d + C)^B}$$

Determinination of Time of Concentration, using Inlet Time Graph (City of Ottawa Sewer Design Guidelines, Appendix 5D):

Existing drainage area with longest flow path = Asphalt
Approx. length of longest flow path (remote point to point of entry) = 40 m
Surface type = Pavement
Approximate surface slope = <1%

RELATIONSHIP BETWEEN DISTANCE OF REMOTE POINT IN TRIBUTARY AREA TO POINT OF ENTRY TO SEWER AND TIME TAKEN FOR PARTICLE OF WATER TO TRAVEL THIS DISTANCE FOR VARIOUS SURFACE SLOPES AND IMPERVIOUSNESS



T_d = Time of Concentration = 10 (min)

Return Period (Years)	A	B	C	Intensity, I (mm/hr)	Area (ha)	Runoff Coefficient, R (Note 1)	Runoff Rate, Q (L/s)
2	732.951	0.81	6.199	76.8	0.14	0.86	26.2
5	998.071	0.814	6.053	104.2	0.14	0.86	35.5
100	1735.688	0.82	6.014	178.6	0.14	1.00	71.0

Note 1: For 100-year event, Runoff Coefficient is increased by 25% to a maximum of 1.0.

Allowable Release Rate

Criteria for calculation of allowable release rate:

Return Period	5	year (to suit capacity of downstream sewers)
Maximum Runoff Coefficient	0.5	
Time of Concentration	10	minutes

Return Period (Years)	A	B	C	Intensity, I (mm/hr)	Area (ha)	Runoff Coefficient, R	Runoff Rate, Q (L/s)
5	998.071	0.814	6.053	104.2	0.14	0.50	20.7

Allowable release rate from site in 100-year storm is 20.7 L/s

2. Proposed Conditions & Release Rate of Park

1376 Carling Ave. Phase II

Project No.	210292700
Date	1-Oct-21
Prepared By:	D O'Neil
Checked By	J Fookes

Existing Uncontrolled Drainage Area Characteristics

Drainage Area	Area, A (ha)	Runoff Coefficient, R
Grass Area	0.054	0.3
	0.049	0.3
	0.008	0.3
Proposed Path Area	0.031	0.9
Total	0.142	0.430

Exisitng ground surface is a mix of grass and hard surfaces

Asphalt Area:	R = 0.90
Grassy Area:	R = 0.30
Building Area:	R = 0.90
Proposed Path Area	R = 0.90
Concrete Area:	R = 0.90

Existing Conditions

Q = RAIN

where
Q = runoff rate (L/s)
R = runoff coefficient
i = rainfall intensity (mm/hr)
A = drainage area (ha)
N = 2.78

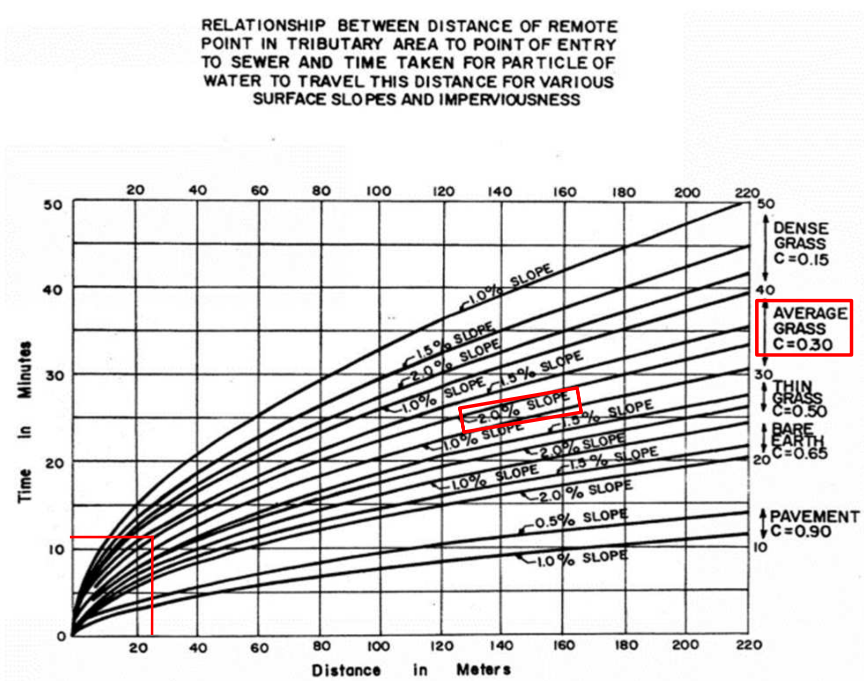
Park Area = 1424.7 m2
0.1425 ha

and

$$i = \frac{A}{(T_d + C)^B}$$

Determinination of Time of Concentration, using Inlet Time Graph (City of Ottawa Sewer Design Guidelines, Appendix 5D):

Existing drainage area with longest flow path = Grass + Sidewalk
Approx. length of longest flow path (remote point to point of entry) = 25
Surface type = Concrete Path and Grass
Approximate surface slope = <2%



T_d = Time of Concentration 12 mins

Return Period (Years)		A	B	C	Intensity, I (mm/hr)	Area (ha)	Runoff Coefficient, R (Note 1)	Runoff Rate, Q (L/s)
2		732.951	0.81	6.199	69.9	0.142	0.43	11.9
5		998.071	0.814	6.053	94.7	0.142	0.43	16.1
100		1735.688	0.82	6.014	162.1	0.142	0.54	34.5

Note 1: For 100-year event, Runoff Coefficient is increased by 25% to a maximum of 1.0.

Allowable Release Rate

Criteria for calculation of allowable release rate:

Return Period	5	year (to suit capacity of downstream sewers)
Maximum Runoff Coefficient	0.5	
Time of Concentration	10	minutes

Return Period (Years)		A	B	C	Intensity, I (mm/hr)	Area (ha)	Runoff Coefficient, R	Runoff Rate, Q (L/s)
5		998.071	0.814	6.053	104.2	0.142	0.43	17.7

Allowable release rate from site in 100-year storm is 17.7 L/s

Remaining Allowable Release Rate

Total Allowable Release Rate	20.7	(L/s)
Uncontrolled Runoff (100 year)	17.7	(L/s)
Remaining Allowable Release Rate	3.0	(L/s)

Runoff from remaining drainage areas in 100-year event will be controlled to 3 L/s

3. Proposed Storage
1376 Carling Ave. Phase II

Project No.	210292700
Date	1-Oct-21
Prepared By:	Dillon O'Neil
Checked By	J. Fookes

Proposed Controlled Drainage Area Characteristics

Drainage Area	Area, A (ha)	Runoff Coefficient, R
Grass Area	0.054	0.3
	0.049	0.3
	0.008	0.3
Proposed Path Area	0.031	0.9
Total	0.142	0.430

Exisitng ground surface is a mix of grass and hard surfaces

Asphalt Area:	R = 0.90
Grassy Area:	R = 0.30
Building Area:	R = 0.90
Proposed Path Area	R = 0.90
Concrete Area:	R = 0.90

Allowable Release Rate from storage (100-year event) = 20.7 (L/s)
Average release rate during 100-year event = 10.36 (L/s) (Refer to attached calculation sheet)
74.56 (m3/h)

Orifice Sizing

Q = CA(2gH)^0.5
C = 0.61
Design Flow Rate = 20.7 (L/s)
Proposed 100-year CB depth = 1.50 (m) (Depth of CB plus 0.2m ponding depth)
Proposed 100-year head above centreline of orifice = 1.50 (m)
Orifice Area = 6258 (mm2)
Orifice diameter = 89 (mm) (if <75mm then vortex ICD required)

Release Rates during 5-year event

Water depth during 5-year event = 0.24 (m) (based on result of Req. Storage Vol. calc below)
Proposed 5-year head above centreline of orifice = 6.20 (m)
Maximum release rate during 5-year event = 20.71 (L/s) (based on orifice calculation)
Average release rate during 5-year event = 10.36 (L/s) (Refer to attached calculation sheet)

Required Storage Volume (using Modified Rational Method)

Q = RAIN

Q = runoff rate (L/s)
R = runoff coefficient
i = rainfall intensity (mm/hr)
A = drainage area (ha)
N = 2.78

$$i = \frac{A}{(T_d + C)^B}$$

where i = Rainfall Intensity (mm/hr)
T_d = Time of Concentration (min)

	5-Year Event				100-Year Event			
Time, Td (min)	Intensity (mm/hr)	Peak Flow (L/s)	Average Release Rate (L/s)	Storage Volume (m^3)	Intensity (mm/hr)	Peak Flow (L/s)	Average Release Rate (L/s)	Storage Volume (m^3)
5	141.18	24.0	20.71	1.0	242.70	41.3	20.71	6.2
10	104.19	17.7	20.71	-1.8	178.56	30.4	20.71	5.8
15	83.56	14.2	20.71	-5.8	142.89	24.3	20.71	3.3
20	70.25	12.0	20.71	-10.5	119.95	20.4	20.71	-0.3
25	60.90	10.4	20.71	-15.5	103.85	17.7	20.71	-4.5
30	53.93	9.2	20.71	-20.7	91.87	15.6	20.71	-9.1
40	44.18	7.5	20.71	-31.6	75.15	12.8	20.71	-19.0
50	37.65	6.4	20.71	-42.9	63.95	10.9	20.71	-29.5

minimum time = time of concentration

Storage volume used	1.0 m^3	Storage volume used	6.2 m^3

A storage tank with a minimum volume of 6.2 m^3 is required

4. PROPOSED STORM SEWER CALCULATION SHEET

1376 Carling Ave. Phase II

LOCATION					INDIVIDUAL							CUMULATIVE		DESIGN					PROPOSED SEWER												
Description	From	Top of Cover	To	Top of Cover	Asphalt Area	Lawn Areas	Bldg. Area	Green Roof	Conc. Area	Total	R*A*N	Area	R*A*N	Time of Conc.	Storm Event Return Period	Rainfall Intensity	Peak Flow		Length	Size	Area	Grade	Minimum Slope	Full Capacity	Full Velocity	Time of Flow	Reserve Capacity	Q/Qfull	Upstream Invert	Downstream Invert	Notes
		(m)		(m)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)		(ha)		(min.)	(year)	(mm/hr)	(L/s)	(m^3/s)	(m)	(mm)	(m^2)	(%)	(%)	(L/s)	(m/s)	(min)	(L/s)	(%)	(m)	(m)	
R1	Existing MH on Meath St	74.13	Proposed CB	73.75	0.000	0.112	0.000	0.000	0.031	0.142	0.170	0.142	0.170	10.00	100.00	178.56	30.4	0.030	3.9	250	0.049	2.000	0.43	84.1	1.71	0.04	53.7	0.4	72.43	72.35	

Q = RAIN, where
Q = Peak flow (L/s)
R = Runoff coefficient
A = Area (ha)
I = Rainfall intensity (mm/hr)
N = 2.78

Asphalt Area: R = 0.90
Grassy Area: R = 0.30
Building Area: R = 0.90
Green Roof R = 0.50
Concrete Area: R = 0.90

Mannings Roughness Coefficient = 0.013

Prepared By: Dillon O'Neil

Checked by: James Fookes

Date: October 1, 2021

Project No. 210292700

Appendix C

Correspondence and Floodplain

Alison Gosling

From: Diamond, Emily (MOECC) <Emily.Diamond@ontario.ca>
Sent: Tuesday, March 28, 2017 5:53 PM
To: Alison Gosling
Subject: RE: 1354-1376 Carling Avenue - ECA Requirement

Hi Alison,

Yes, I agree with your assumption that this project will meet the exemption set out under Ontario Regulation 525/98 section 3 once the parcels are amalgamated into one.

Regards,

Emily Diamond

Environmental Officer
Ministry of the Environment and Climate Change

Ottawa District Office
2430 Don Reid Drive
Ottawa, Ontario, K1H 1E1
Tel: 613-521-3450 ext 238
Fax: 613-521-5437
e-mail: emily.diamond@ontario.ca

From: Alison Gosling [mailto:AGosling@dsel.ca]
Sent: March-24-17 10:41 AM
To: Diamond, Emily (MOECC)
Cc: Robert Freel
Subject: 1354-1376 Carling Avenue - ECA Requirement

Good morning Emily,

We just wanted to touch base with you regarding a proposed development we are working on located at 1354-1376 Carling Avenue.

Currently comprised of two parcels of land, the existing 1.9ha site currently consists of two lodging buildings and is zoned Arterial Main Street and Residential Fourth Density. Please note that the parcels will be amalgamated into one parcel of land prior to construction.

The phased development proposes to construct four residential/commercial buildings with incremental demolition of the existing buildings. The full build-out will consist of approximately 2,437 m² of commercial space and 914 residential units.

It appears that the existing stormwater management system currently directs flow towards the municipal infrastructure within Meath Street and Archibald Street.

Proposed stormwater controls will use subsurface storage, and surface ponding to attenuated the release rate to City of Ottawa requirements.

As the proposed sewage works and stormwater management facility will be servicing a single parcel of land which will be owned and operated by a single entity, does not discharge to a combined sewer system, and is not proposed to be used for industrial purposes, it is assumed this falls within the exemption requirements for an Environmental Compliance Approval as per O.Reg 525/98, Section 3 (a) & Ontario Water Resources Act Section 53. 6 (c).

I hope you could comment on my assumption that this property would be exempt from requiring an ECA. Please feel free to call to discuss this further.

Thank you,

Alison Gosling, E.I.T.
Project Coordinator / Junior Designer

DSEL
david schaeffer engineering ltd.

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9

phone: (613) 836-0856 ext.542
fax: (613) 836-7183
email: agosling@DSEL.ca

Alison Gosling

From: Jocelyn Chandler <jocelyn.chandler@rvca.ca>
Sent: Thursday, October 27, 2016 3:49 PM
To: Alison Gosling
Subject: RE: 1376 Carling Ave - RVCA

Follow Up Flag: Follow up
Flag Status: Completed

Hello Alison,
Our records concur with the information you have provided. Given that the stormwater from this site will travel greater than 2 km before outletting to the receiver (the Ottawa River), the RVCA advises that we will not be requiring water quality controls on the stormwater management design for the redevelopment of this site.
Jocelyn

Jocelyn Chandler M.Pl. MCIP, RPP
Planner, RVCA
t) 613-692-3571 x1137
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jocelyn.chandler@rvca.ca
www.rvca.ca
mail: Box 599 3889 Rideau Valley Dr., Manotick, ON K4M 1A5
courier: 3889 Rideau Valley Dr., Nepean, ON K2C 3H1

From: Alison Gosling [mailto:AGosling@dsel.ca]
Sent: Thursday, October 27, 2016 3:26 PM
To: Jocelyn Chandler <jocelyn.chandler@rvca.ca>
Cc: Robert Freel <RFreel@dsel.ca>
Subject: 1376 Carling Ave - RVCA

Good afternoon Jocelyn,

We wanted to touch base with you regarding a mixed-use development at 1376 Carling Avenue. The development proposes residential towers and at grade commercial units.

The existing stormwater on site discharges to the Carling Avenue storm sewer. Based on the information available, the existing storm sewers servicing the site travels 3.5-3.8 km to an outlet into the Ottawa River, as shown by the figure below.

Can you provide a comment regarding quality controls that maybe required for the site?

Please feel free to call if you have any questions or you would like to discuss.

Thanks in advance,

Alison Gosling, E.I.T.
Project Coordinator / Junior Designer

DSEL
david schaeffer engineering ltd.

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9

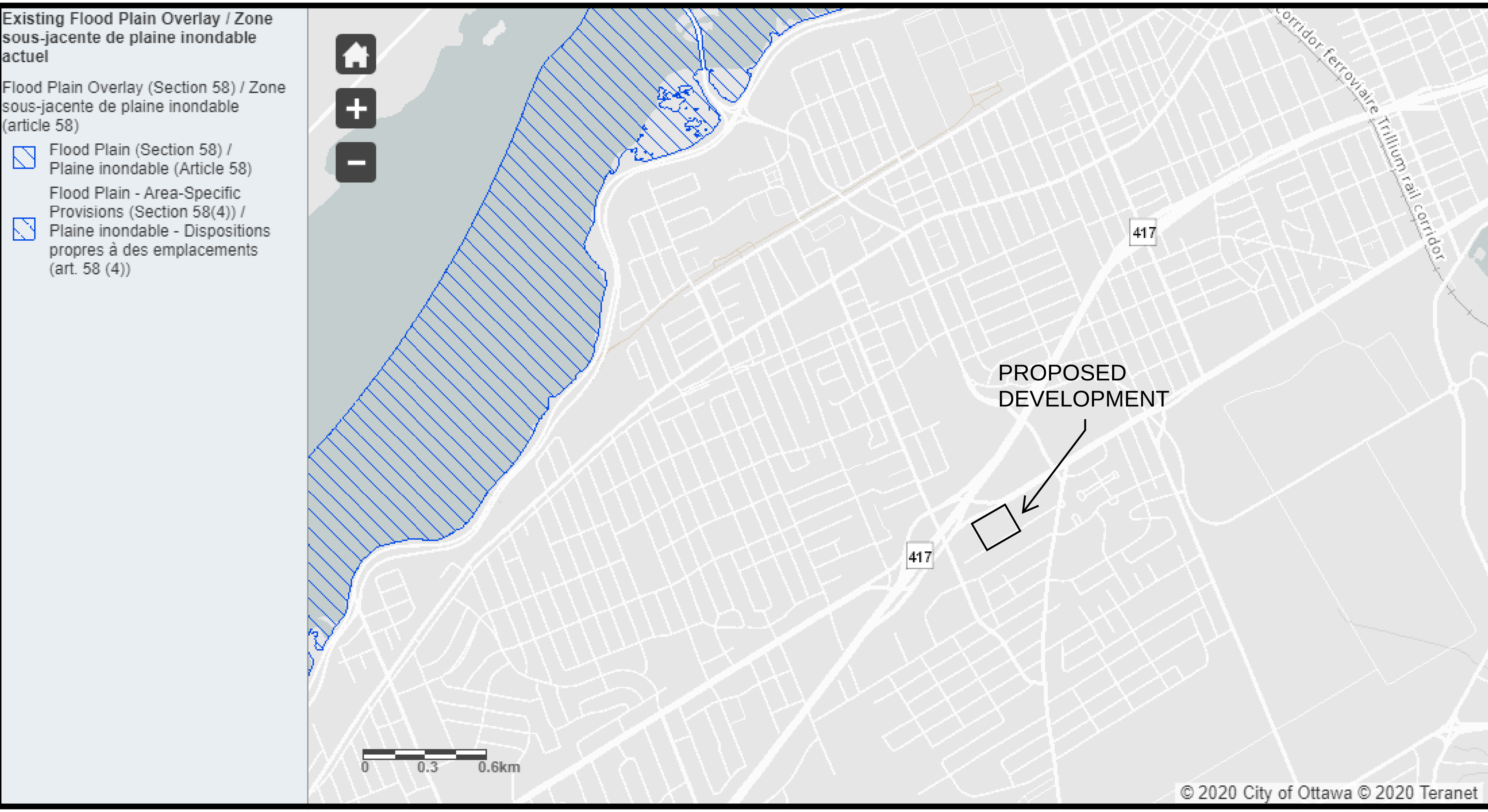
phone: (613) 836-0856 ext.542
fax: (613) 836-7183
email: agosling@DSEL.ca

Fig 1: Sanitary

Fig 2: Storm


av. Carling Ave.
WAT43565
406mm
WAT22799
112mm
WAT04470
152mm
WAT51168
152mm
WAT51167
203mm
WAT51166
203mm
rue Thames St
1365
1330
815
819
821
1320
1273
835
1354
1376
1291
1293
1301
1305
1307
1311
1313
1319
1321
1325
1327
829
1331
1286
1282
1290
1292
1294
1302
1304
1308
1310
1400
824
826
50 m

Fig 3: Water


Existing Flood Plain Overlay / Zone sous-jacente de plaine inondable actuel
Flood Plain Overlay (Section 58) / Zone sous-jacente de plaine inondable (article 58)
Flood Plain (Section 58) / Plaine inondable (Article 58)
Flood Plain - Area-Specific Provisions (Section 58(4)) / Plaine inondable - Dispositions propres à des emplacements (art. 58 (4))
PROPOSED DEVELOPMENT
417
417
Corridor ferroviaire Trillium rail corridor
0
0.3
0.6km
© 2020 City of Ottawa © 2020 Teranet

Dillon ONeil

From:	Sharif, Golam <sharif.sharif@ottawa.ca>
Sent:	September 22, 2021 3:50 PM
To:	Dillon ONeil
Subject:	RE: 1376 Carling Avenue OHello Dilon,ttawa - phase 2 site plan approval Water Boundary Condition Request
Attachments:	1376 Carling Avenue Sept 2021.pdf

Hello Dillon,

Please see the requested boundary condition below. As per our water resources modelling group, you may consider Tech-Bulletin 2021-03 regarding fire demand calculation and consider ways to reduce fire demands. Also you look into multi hydrant analysis as per Tech Bulletin 2018-02 if applicable.

The following are boundary conditions, HGL, for hydraulic analysis at 1376 Carling Avenue (zone 2W2C) assumed to be connected to the 203 mm on Meath Street (see attached PDF for location).

Minimum HGL: 123.5 m

Maximum HGL: 132.1 m

Available fire flow at 20 psi: 256 L/s assuming a ground elevation of 74.0 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.

Thanks.
Sharif

From: Dillon ONeil <DONeil@morrisonhershfield.com>
Sent: September 10, 2021 9:47 AM
To: Sharif, Golam <sharif.sharif@ottawa.ca>
Cc: Moore, Sean <Sean.Moore@ottawa.ca>
Subject: RE: 1376 Carling Avenue Ottawa - phase 2 site plan approval Water Boundary Condition Request

Hi Sharif, please see the attached method for the FUS calculations for the proposed buildings on the development. Note building A is currently slated for the highest demand at 17,125 L/min.
Dillon

From: Sharif, Golam <sharif.sharif@ottawa.ca>
Sent: September 10, 2021 9:21 AM
To: Moore, Sean <Sean.Moore@ottawa.ca>; Dillon ONeil <DONeil@morrisonhershfield.com>
Subject: RE: 1376 Carling Avenue Ottawa - phase 2 site plan approval Water Boundary Condition Request

Hi Dillon,

Could you send me the FUS calculation please. Thanks.

Sharif

Golam Sharif, P.Eng., M.Eng.
Project Manager, Infrastructure Approvals
Development Review, South Services
Planning, Infrastructure and Economic Development Department |
Services de planification, d'infrastructure et de développement économique
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 **20763**, fax/téléc:613-580-2576, sharif.sharif@ottawa.ca

---

From: Moore, Sean <Sean.Moore@ottawa.ca>
Sent: September 10, 2021 8:17 AM
To: Sharif, Golam <sharif.sharif@ottawa.ca>
Subject: FW: 1376 Carling Avenue Ottawa - phase 2 site plan approval Water Boundary Condition Request

Hi Sharif,

Can you provide information to Dillon.

Thanks.

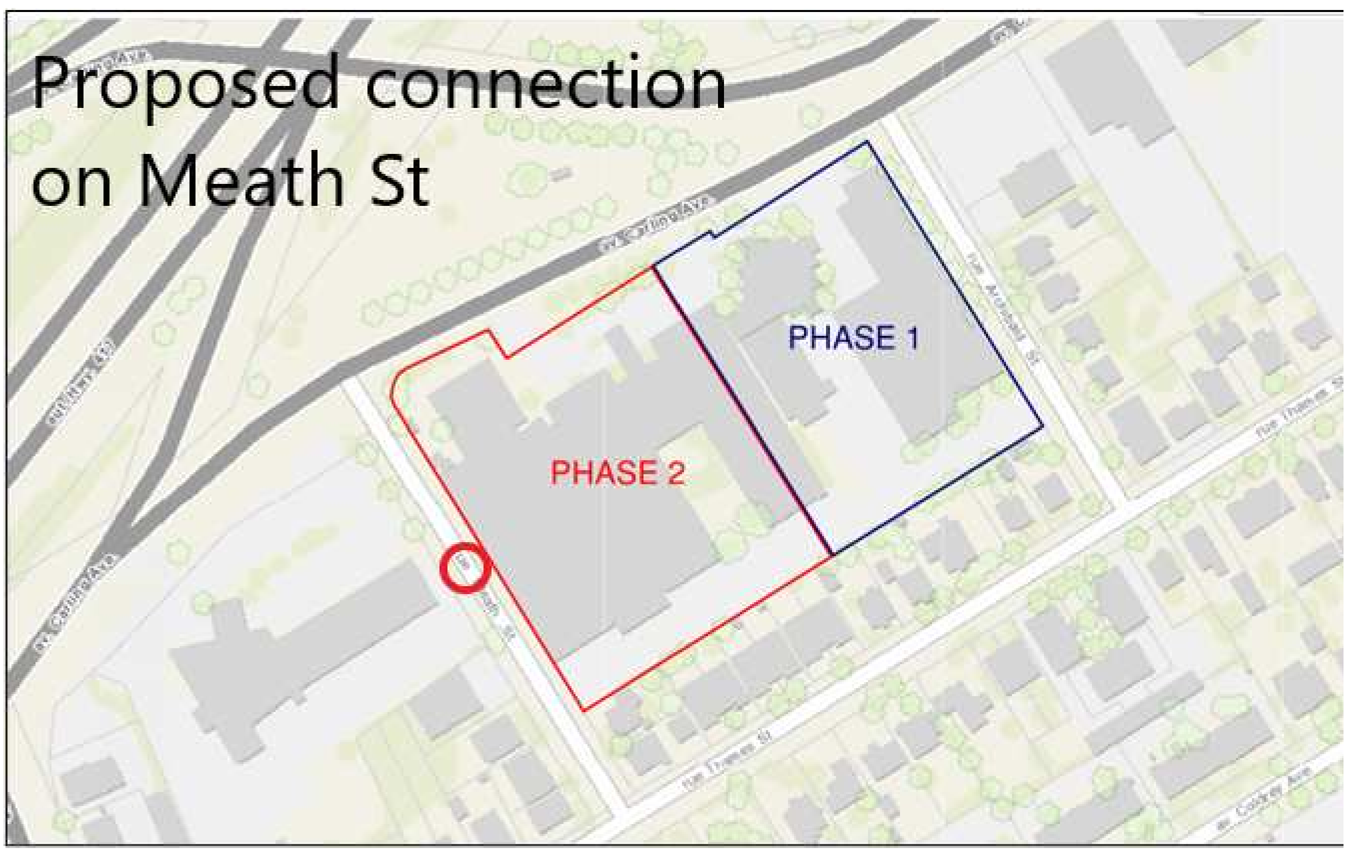
Sean.

From: Dillon ONeil <DONeil@morrisonhershfield.com>
Sent: September 09, 2021 4:34 PM
To: Moore, Sean <Sean.Moore@ottawa.ca>
Cc: James Fookes <JFookes@morrisonhershfield.com>
Subject: 1376 Carling Avenue Ottawa - phase 2 site plan approval Water Boundary Condition Request

I am requesting water boundary conditions for the phase 2 development at 1376 Carling Ave. Please see the follow details:

- The development is mixed use residential/commercial including 996 residential units and 3291 m^2 of commercial use. Phase 2 includes 3 mixed-use towers with 592 residential units.
- Boundary conditions were originally requested by others for the overall site development (1354/1376 Carling Ave), including phase 1, 2 and ultimate conditions. Updated water boundary conditions are required for phase 2 servicing.
- Location of service (phase 2): 1376 Carling Ave
- The phase 2 development will have a dual connection to the existing 200mm watermain on Meath St. See the figure below. Calculations for demands do not include phase 1, and there are no looped connections proposed from phase 1 to phase 2.
- The following have been used in the calculations for water demands: Technical Bulletin ISDTB-2018-02 City of Ottawa, March 21, 2018. (ISDTB-2018-02), NFPA 13 – Standard for the Installation of Sprinkler Systems National Fire Protection Association, 2016. (NFPA Standards)
- Using the Fire Underwriters Survey, the required flow is estimated to be 17,125 L/min.

Total Average Daily Demand=	229
Total Maximum Daily Demand=	570.
Total Maximum Hourly Demand=	1254.



Dillon O'Neil, **EIT**
Municipal Designer – Infrastructure Ottawa
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