Structural Environmental Services

SERVICING & STORMWATER MANAGEMENT REPORT

82 Eccles Street

Prepared by
D R Clark P Eng/ing
EAU Structural & Environmental Services
Ottawa, K1Y 4P9
Telephone (613) 869 0523
derrick.r.clark@rogers.com

Revision 3
April, 2020

Table of Contents

1. Introduction

EAU Structural and Environmental Services Inc. was retained by Mario Poulin of Cloud-9-Drafting to prepare a Servicing adequacy study for the proposed new addition located at 82 Eccles Street, Ottawa, Ontario.
Currently, an existing dwelling is situated in the pertinent property and proposed addition will be constructed on the west of existing dwelling. Due to size of proposed addition, a servicing adequacy report was requested by City of Ottawa, Planning Approval Branch.

1.1. Site Description:

The existing site located at 82 Eccles Street. The subject property measure a total area of approximately 0.04 ha. The site is fronting 152mm diameter PVC water main and 300mm diameter concrete combined sewer main on Eccles Street. The existing dwelling has one 2 bedroom and one 3 bedroom units and the proposed renovation will contain 2 studio units, one 1 bedroom and one 2 bedroom unit.

2. Water Supply

Residential Water Demand:

The water demand is calculated based on the City of Ottawa Water Distribution Design Guidelines as follows:

■ Residential occupancy = 1.4 persons per one bedroom apartment and 2.1 persons per 2 bedroom apartment and 3.1 persons per 3 bedroom apartment
□ 2 x Studio (1 bedroom) x 1.4 pers./unit = 2.8 persons
□ 1 x 1 bedroom units x 1.4 pers./unit = 1.4 persons
□ 2 x 2 bedroom units x 2.1 pers./unit = 4.2 persons
□ 1 x 3 bedroom units x 3.1 pers./unit = 3.1 persons

Total occupancy = 11.5 persons rounded up to 12 persons

Residential Average Daily Demand = 350 L/c/d.
□ Average daily demand of 350 L/c/day x 12 persons =4200 Liters/day or 0.048 L/s
□ Maximum daily demand (factor of 2.5) is 0.048 L/s x 2.5 = 0.12 L/s
□ Peak hourly demand (factor of 2.2) = 0.12 L/s x 2.2 = 0.24 L/s

Fire Fighting Requirement
Based on Fire Underwriter Survey Method

Fire flow protection requirements were calculated as per the Fire Underwriter's Survey (FUS). An estimate of the fire flow required is as follows:

Step 1:

$F = 220C\sqrt{A}$

F = fire flow in liters per minute
C = co-efficient related to type of construction.
= 1.5 for wood construction material
A = total floor area in square meters for the building= 350 square meters

F = 220 x 1.5 x √350= 6,174 L/min or 6,200 L/min

Step 2:

Reductions or increase due to occupancy = low hazard occupancy = -15%

F = 6,200 – 0.15 x 6,200= 5,270 L/min

Step 3:

Reduction for automatic sprinkler protection
= no sprinkler system
= no change

Step 4:

Charge for structures exposed within 45 meters of separation.

Side	Separation (m)	Charge %
North (side)	20	15
South (front)	20	15
East (front)	5	20
West (rear)	5	20
Total Charge not to exceed 75%		70

Total Charge not to exceed 70%.
= 0.70 x 5,270
= 3,689 L/min

Total Required Fire Flow rounded to the nearest 1000 L/min

F = 5,270 + 3,689
=8,959 rounded to nearest 1000 L/min
= 9,000 L/min
= 150 L/s
Required duration 2.5 hours.

The above calculated residential water supply requirement and Fire Fighting Requirement were provided to the City of Ottawa for boundary conditions. The following are boundary conditions, (provided by the City of Ottawa) HGL, for hydraulic analysis at 82 Eccles assumed to be connected to the 152mm diameter watermain.

Minimum HGL = 107.5m
Maximum HGL = 115.2m
MaxDay + FireFlow (150 L/s) = 100.0m

From grading plan and architectural drawings;

- Average grade at the building service entrance is 68.40
- First floor elevation at 68.70
- Second floor at 71.10

Based on City of Ottawa Design Guidelines – Water Distribution a minimum water service size of 25mm is required where the residential water pressure is over 310 kPa and the peak flows are less than 0.4 L/s. As such, the minimum service diameter required for the proposed development is 25mm. Using the above minimum HGL, a 25 mm service diameter would result in a residual pressure of about 280 kPa on the second floor of the proposed residential building. The residual pressure at the on the first floor of the proposed building using a 25 mm service diameter would be 320 kPa which is well above the minimum requirement of 310 kPa on the ground surface.

3. Sanitary Sewage

3.1. Sanitary Sewage Calculation

Design Flows

Residential
 2 x Studio (1 bedroom) x 1.4 pers./unit = 2.8 persons
 1 x 1 bedroom units x 1.4 pers./unit = 1.4 persons
 2 x 2 bedroom units x 2.1 pers./unit = 4.2 persons
 1 x 3 bedroom units x 3.1 pers./unit = 3.1 persons

Total occupancy = 11.5 persons rounded up to 12 persons
Q Domestic = 12 x 280 L/person/day x (1/86,400 sec/day) = 0.038 L/sec

Peaking Factor = 1 + 14/(4 + (11/ 1000)^0.5)*0.8 = 3.54 *use 4 maximum

Q Peak Domestic = 0.038 L/sec x 4.0 = 0.15 L/sec

Infiltration

Q Infiltration = 0.28 L/S/Gross hectare x 0.04 ha = 0.011 L/sec

Total Peak Sanitary Flow = 0.15 + 0.011 = 0.161 L/sec

The Ontario Building Code specifies minimum pipe size and maximum hydraulic loading for sanitary sewer pipe. OBC 7.4.10.8 (2) states "Horizontal sanitary drainage pipe shall be designed to carry no more than 65% of its full capacity." A 300mm diameter sanitary service with a minimum slope of 1.0% has a capacity of 100.0 Litres per second. The maximum peak sanitary flows for the site is 0.151 L/s. Since 0.161 L/s is much less than 0.65 x100.0 = 65.0 L/s.

Sewage discharges will be domestic in type and in compliance with the City of Ottawa Sewer Use By-law. The proposed service connection from the proposed building will be made to the existing sanitary sewer on Eccles Street. The proposed service will be a 135mm diameter PVC pipe installed at a minimum slope of 1%.

The peak sanitary flow from the proposed development is less than 10 percent of the capacity of the existing sanitary. As such the proposed increase in sanitary flow as a result of the construction of the proposed building is negligible and there is sufficient available capacity for the proposed development.

4. Stormwater Conditions/Management

Criteria

Review of the storm sewer system was completed in conformance with the City of Ottawa Design Guidelines (November 2012). Specifically, Section 5 “Storm and Combined Sewer Design” for runoff coefficients and an inlet time were referenced in this design.

The site is currently occupied by an existing residential building with an asphalt driveway. Pre-development conditions will be considered as the lesser of current conditions or conditions resulting in a runoff coefficient of 0.4. Based on the existing ground cover the pre-development runoff coefficient was calculated to be 0.50. However, the predevelopment release rate for the site is calculated using a runoff coefficient of 0.40, the 5 year storm event, time of concentration of 10 min and store up to the 100 years storm event as per direction from City of Ottawa Sewer Design Guideline.

During all construction activities, erosion and sediment shall be controlled by techniques outlined in Section 5 of this report.

Calculation and Design Criteria

The storm water is calculated based on the rational formula and the Manning's Equation under free flow conditions for the 5-year and 100-year storm events.

Runoff Coefficients

The area for runoff coefficients used for either pre-development or post-development conditions were based on actual areas measured in CAD. Runoff coefficients for impervious surfaces such as roofs, asphalt, and concrete, were taken as 0.90 and for permeable landscape 0.3.

The pre-development runoff coefficients for the overall site is based on C=0.40 in general this includes grass and tree areas.

Predevelopment Release Rate

Predevelopment release rate from the site was determined using the modified rational method with a 5 years storm, a runoff coefficient C=0.4, and a time of concentration of 10 minutes as follows;

- Time of Concentration = 10 minutes,
- Drainage Area = 0.035 ha

Q allow = 2.78 C I A

Where:

Q allow	=	Predevelopment release rate to storm sewer (L/sec)
C	=	Runoff Coefficient (dimensionless) =0.4
I	=	Average Rainfall Intensity for return period (mm/hr)
	=	998.071/ (TC+6.053)0.814 (5-year) =104.2 mm/hr
TC	=	Time of concentration (minutes)
A	=	Drainage Area (hectares) = 0.043

Q Allow = 4.98 L/sec

Therefore the predevelopment release rate from the site is 4.98 L/sec

5. Stormwater Quantity

Post development storm water management design for this site includes 3 general areas; Grass area, Roof and Permeable Landscape area.

- Grass area will sheet drain to rear of the property as per natural drainage pattern. During 5 year and 100 year storm event, grass area generates 1.29 L/sec and 1.61 L/sec respectively.
- Any access rain from Permeable Landscape area will sheet drain to rear or Eccles Street, During 5 year and 100 year storm event, this area generates 0.89 L/sec and 1.19 L/sec respectively.
- Roof (existing and new addition): The roof discharge rate is calculated as 10.72 L/sec. City of Ottawa official agreed that no control is required due to fact the site is a small lot with combination and existing and proposed development that makes no room for storage or convey the storm water to City storm main on the Right of way.

6. Erosion and Sediment Control

During all construction activities, erosion and sedimentation shall be controlled by the following techniques:

- Installation of filter cloth between frame and cover of catch basins,
- A visual inspection shall be completed daily on sediment control barriers and any damage repaired immediately. Care will be taken to prevent damage during construction operations,
- In some cases barriers may be removed temporarily to accommodate the construction operations. The affected barriers will be reinstated at night when construction is completed,
- The sediment control devices will be cleaned of accumulated silt as required. The deposits will be disposed of as per the requirements of the contract,
- During the course of construction, if the engineer believes that additional prevention methods are required to control erosion and sedimentation, the contractor will install additional silt fences or other methods as required to the satisfaction of the engineer, and
- Construction and maintenance requirements for erosion and sediment controls to comply with Ontario Provincial Standard Specification OPSS 577, and City of Ottawa specifications.

7. Conclusion

- There is an adequate water supply for domestic use and firefighting.
- The existing water pressure is adequate for the proposed development.
- Since it is estimated that the water pressure is less than 80 psi, pressure reducing valves are not required.
- The proposed water service connection is adequately sized to serve the development.
- The expected sanitary sewage flow will be adequately handled by the proposed sanitary sewer service connection.
- The expected sanitary sewage flow will be adequately handled by the by the existing sanitary sewer connection
- The increase in sanitary flows contributing to the existing municipal sanitary sewer is expected to have a negligible impact.
- Predevelopment release rate for the site is calculated using a runoff coefficient of 0.40, the 5 year storm event, time of concentration of 10 min. Predevelopment discharge rates of 4.98 L/sec for the 5-year is calculated from this site.
- Grass area will sheet drain to rear of the property as per natural drainage pattern. During 5 year and 100 year storm event, grass area generates 1.29 L/sec and 1.61 L/sec respectively.
- Any access rain from Permeable Landscape area will sheet drain to rear or Eccles Street, During 5 year and 100 year storm event, this area generates 0.89 L/sec and 1.19 L/sec respectively.
- Roof (existing and new addition): The roof discharge rate is calculated as 10.72 L/sec. City of Ottawa official agreed that no control is required due to fact the site is a small lot with combination and existing and proposed development that makes no room for storage or convey the storm water to City storm main on the Right of way.
- During all construction activities, erosion and sedimentation shall be controlled be techniques outlined in this report.

Should you have any question, do not hesitate to let us know.

Derrick R. Clark, PEng.
EAU Structural & Environmental Services
Telephone: (613) 869 0523
derrick.r.clark@rogers.com

APPENDIX A:

Related Correspondents

January 24, 2019 Application No: A19-000211

VIA Email

CLOUD 9 DRAFTING & DESIGN

Fax:

E-mail: mario.poulin@cloud9drafting.ca

Attention: Mario Poulin

Dear Sir/Madam:

Re: Application to Construct for 82 Eccles St

The following comments are the result of a review of the plans and/or for reports received for the referenced building permit application at the subject address. The Infrastructure Approvals Division cannot provide clearance in order to issue approval of the grading/servicing plans submitted until the following issues have been resolved:

Grading

Site Grading

1. A grading plan, prepared and stamped by a qualified professional (P.Eng, CET, OLS) is required for this application.

Servicing

1. Due to the size of this addition, a servicing adequacy report, prepared and stamped by a qualified professional (P.Eng, CET, OLS), is required. The adequacy report must demonstrate that the existing services provide sufficient capacity to account for the increased flows from the proposed addition. The report should include any future development plans for this addition (ie, conversion of the addition into two units). The report must also demonstrate that the water service is of adequate size and pressure for domestic use and fire protection needs. If the building will be sprinklered, the water service must be sized to a minimum 50mm. Please note that only one water service is permitted per municipal address. Furthermore, the designer must demonstrate that the City systems have capacity for this development.
2. If the existing services prove to be adequate, a CCTV Scan is required to verify that the services are in good condition. Please follow the attached CCTV Scan Guideline for the proper procedure and required documents for submission.
3. If new services are required, submit a servicing plan, prepared and stamped by a qualified professional (P.Eng, CET, OLS) for review.

We await your response to the above comments. Please contact the Infrastructure Approvals Officer noted below, if you require additional information or clarification.

Jessica Valic E.I.T

Engineering Intern

Planning & Infrastructure Approvals Branch

110 Laurier Ave West, Ottawa, ON K1P 1J1

Telephone: 613-580-2424 x15672

Fax No.: 613-580-4751

Email: jessica.valic@ottawa.ca

From: Wu, John <John.Wu@ottawa.ca>
Sent: Wednesday, January 8, 2020 9:32 AM
To: olivia@2bdevelopments.ca
Subject: RE: 82 Eccles: Boundary Conditions

Hi:
Here is the result:
The following are boundary conditions, HGL, for hydraulic analysis at 82 Eccles (zone 1W) assumed to be connected to the 152mm on Eccles (see attached PDF for location).

Minimum HGL = 107.5m

Maximum HGL = 115.2m

MaxDay + FireFlow (150 L/s) = 100.0m

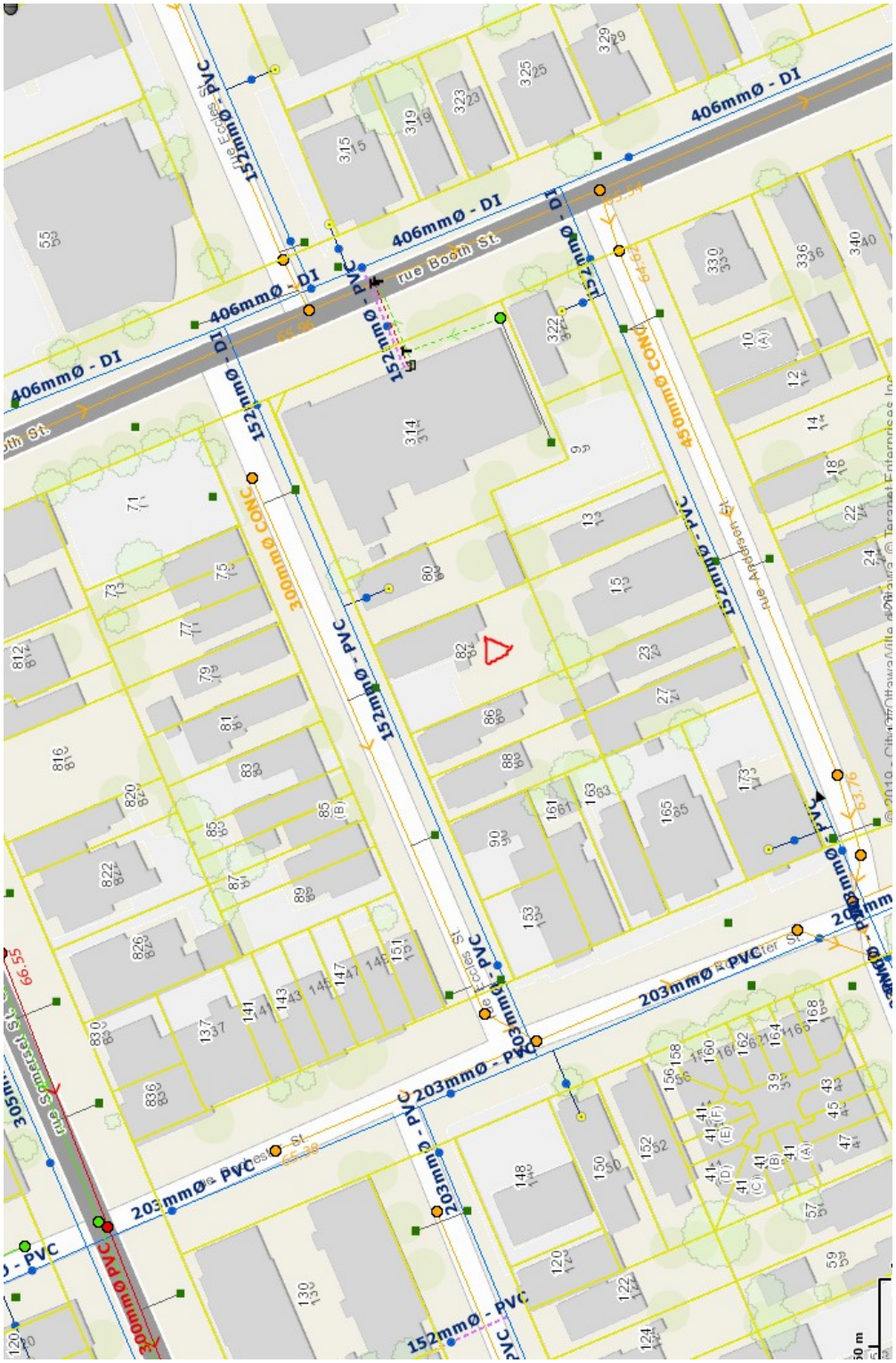
These are for current conditions and are based on computer model simulation.

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

John

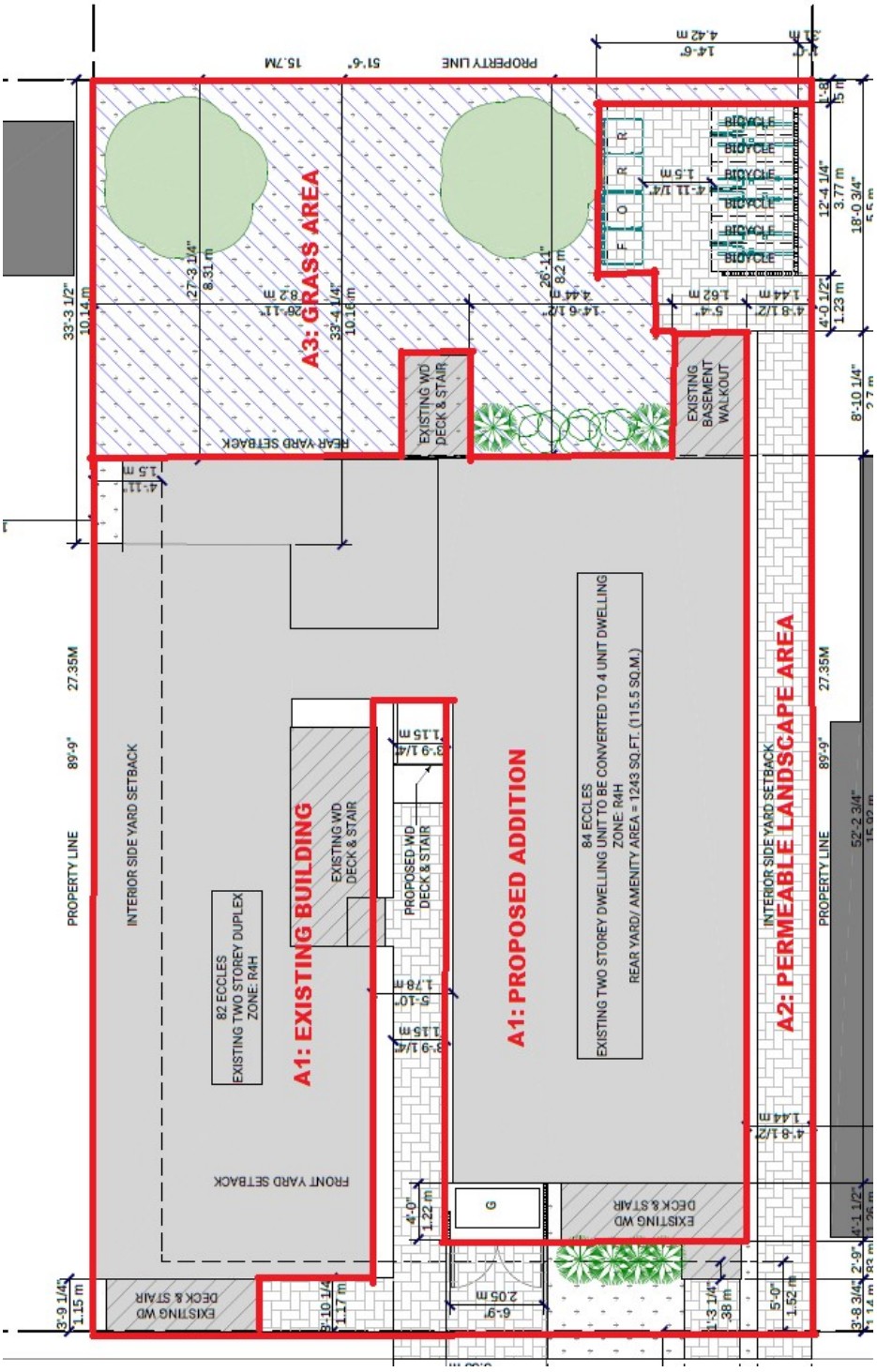
APPENDIX B:

Geo-Ottawa Map Information


406mmØ - DI
406mmØ - DI
406mmØ - DI
406mmØ - DI
rue Booth St.
152mmØ - PVC
152mmØ - PVC
152mmØ - PVC
152mmØ - PVC
300mmØ CONC
450mmØ CONC
203mmØ - PVC
203mmØ - PVC
203mmØ - PVC
203mmØ - PVC
300mmØ PVC
152mmØ - PVC
rue Sparkes St.
rue Appleton St.

APPENDIX C:

Storm Drain Area


A3: GRASS AREA
A1: EXISTING BUILDING
A1: PROPOSED ADDITION
A2: PERMEABLE LANDSCAPE AREA
82 ECCLES
EXISTING TWO STOREY DUPLEX
ZONE: R4H
84 ECCLES
EXISTING TWO STOREY DWELLING UNIT TO BE CONVERTED TO 4 UNIT DWELLING
ZONE: R4H
REAR YARD/ AMENITY AREA = 1243 SQ.FT. (115.5 SQ.M.)
EXISTING WD DECK & STAIR
PROPOSED WD DECK & STAIR
EXISTING BASEMENT WALKOUT
INTERIOR SIDE YARD SETBACK
PROPERTY LINE
REAR YARD SETBACK
FRONT YARD SETBACK
BICYCLE
27.35M
89'-9"

APPENDIX D:

Stormwater Management Calculation

C(max equiv)	I (5yr) mm/h	Area (ha)
0.4	104.2	0.043

Q(allow) 4.98 l/s

SUMMARY OF STORMWATER FLOWS

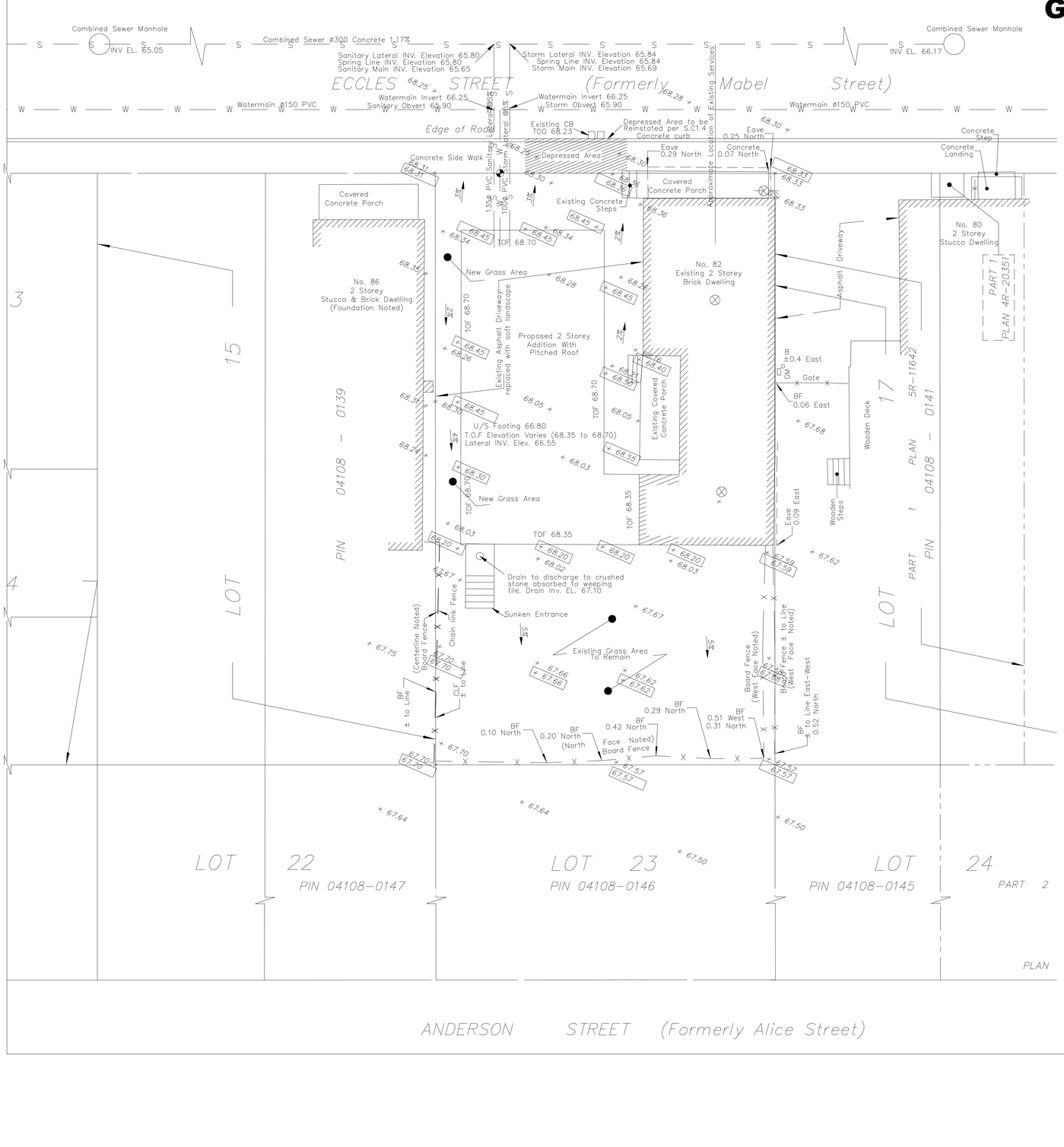
Area ID	Area (ha)	Runoff 'C'	A x C	C (100yr) (Max of 1.0)	A x C	Type of Flow (Controlled/Uncontrolled)
A1: Proposed Building	0.024	0.9	0.0216	1.0	0.0240	
A2: Permeable Landscape	0.006	0.3	0.0018	0.4	0.0023	
A3: Grass area	0.013	0.2	0.0026	0.25	0.0033	
Total Site Area (ha)	0.043	---	0.0260	---	0.0295	Total

C(avg) 5-year = 0.60
C(avg) 100-year = 0.69

APPENDIX E:

PLANS

GRADING & SERVICING PLAN



Construction Notes:

-- Water lateral : 5m of 25mm diameter soft K type Copper
-- Sanitary lateral :135mm diameter PVC SDR 28
-- Storm lateral :100mm diameter PVC SDR 28
-- Back water valve to be installed as per City of Ottawa Sewer Design Guideline.
-- The laterals must be sleeved when passing below footing
-- The storm lateral shall not gravity drain - a sump pump and backwater valve are to be installed.

+1. Front eavestroughes for dwelling shall be directed towards front of the property.
+2. No excess drainage will be directed towards the neighboring properties during and after construction.
+3. There must be no proposed alterations to grades on, or beyond the property line.
+4. This drawing is not for construction unless approved by relevant authorities.
+5. Existing trees to be protected during and after construction.
+6. Services with 2.4 of the existing CB to be insulated as per City of Ottawa Standard Drawing W23
+7. Existing water lateral shall be capped at the main and existing sewer lateral shall be capped at property line. Refer to City of Ottawa Std DWG S11.4 for capping of service laterals
+8. Backwater valves should be provided as per City of Ottawa Standard Drawings S14, S14.1, S14.2.
+9. Under side of footing less than 1.5 below grade shall be insulated.
+10. Services shall have a minimum of 2.4m of cover from the finished grade or shall be insulated as per City of Ottawa Standard Drawing W22.
+11. All roof runoff to be directed to the City Right-of-Way. No excess drainage shall be directed to neighbouring properties.
+12. All curb and side walk located in ROW shall be reinstated as per City of Ottawa standard drawings and regulations, S.C 1.4
+13. Hard surface areas and driveway are to be reinstated to soft landscaping
+14. Downspouts located within 1.5m of a property line must be equipped with a splash pad.
+15. Grading is to be between 2-7% or terracing is required. Terracing shall be to a maximum of 3H:1V.
+16. Easement verification is the responsibility of the applicant. Easement information can be obtained from the Land Title and may be registered at the Ontario Land Registry Office. Written consent is required from the easement holders to permit encroachment or modifications within the easement.
+17. Where the invert elevation for the proposed service laterals will be less than 0.3m below the USF, or will pass through the foundation/footing, the laterals must be sleeved
+18. Existing speed hump on Eccles Ave shall be reinstated per City of Ottawa Standard Drawing R19 if disrupted during service installation or blanking/capping.

Scale 1 : 150

6 4.5 3.0 1.5 0 3 6 Metres

Metric

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

Notes & Legend

	Denotes	Survey Monument Planted
■	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CC	"	Cut Cross
CP	"	Concrete Pin
(WIT)	"	Witness
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
Meas.	"	Measured
(P1)	"	Registered Plan 55
(P2)	"	(647) Plan October 19, 2010
(P3)	"	(725) Plan June 12, 1986
(P4)	"	(AOG) Plan May 31, 1984
(P5)	"	Plan 4R-20351
(P6)	"	Plan 4R-25409
(P7)	"	Plan 5R-11642
BF	"	Board Fence
CLF	"	Chain link Fence
○ UP	"	Utility Pole
◦ AN	"	Anchor
□ GM	"	Gas Meter
○ B	"	Bollard
DS	"	Downspout
	"	Water Shut off Valve

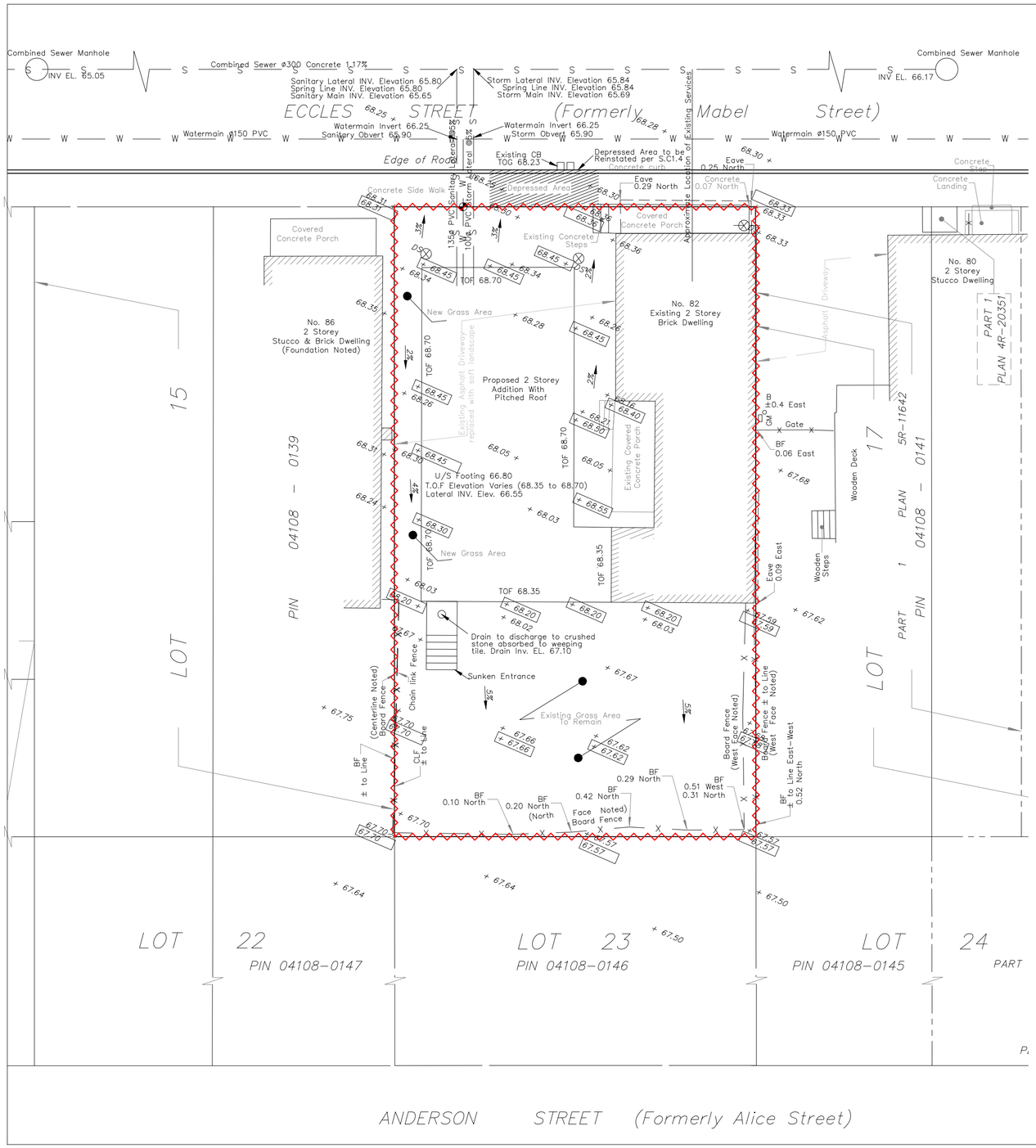
Note: Topographical info ie. existing and proposed levels prepared by EAU Environmental services on May 2018. Remaining survey info provided by official surveyor.

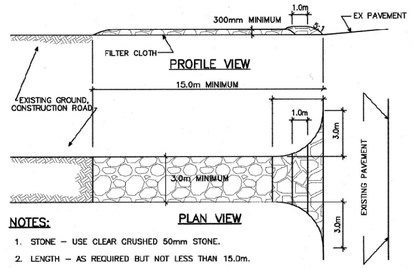
	REVISION DESCRIPTION	DATE
1	FOR REVIEW	MAY 08, 2018
2	PER CITY COMMENT	JULY 10, 2018
3	FOR PERMIT	MARCH 10, 2019
4	REVISED	MARCH 25, 2019
5	REVISED	April 11, 2019

LICENSED PROFESSIONAL ENGINEER
PRClark
D. R. CLARK
5/4/19
PROVINCE OF ONTARIO

CONSULTANT
EAU Structural Environmental Services
Derrick Clark
Professional engineer.
Tel. : 613- 869- 0523
Email : derrick.r.clark@rogers.com

G1

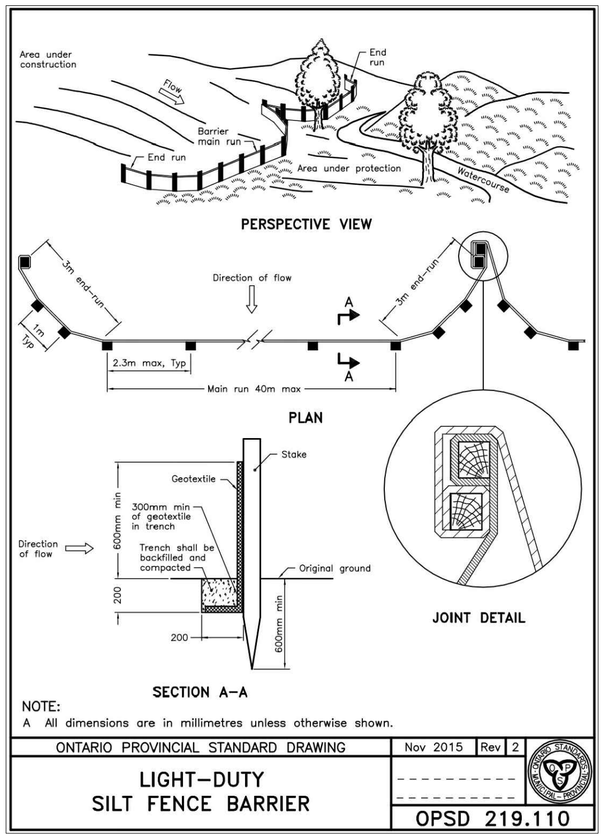




NOTES:

1. STONE – USE CLEAR CRUSHED 50mm STONE.
2. LENGTH – AS REQUIRED BUT NOT LESS THAN 15.0m.
3. THICKNESS – NOT LESS THAN 300mm.
4. WIDTH – 3.0m MINIMUM, NOT LESS THAN THE WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRED PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
7. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

MUD MAT DETAIL
N.T.S



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
LIGHT-DUTY SILT FENCE BARRIER		OPSD 219.110

NOTES FOR CONTRACTOR

1. The Contractor is to respect and adhere to the Erosion & Sediment control measures set by the Rideau Conservation Authority.
2. The Contractor is to respect and adhere to the Erosion & Sediment control measures set by the Ontario Provincial Standards i.e., ref., OPSD 219.110 & OPSS 805 but not limited to these.
3. The Contractor is to adhere to the Erosion & Sediment Plan and notes herein.
4. The Contractor is to limit and restrict his area work or minimize this, when it comes to "clearing & grubbing".
5. The Contractor is to inspect the silt fencing & barriers on a daily basis, for completeness and integrity. (Note the "toe in" detail in the OPSS).
6. The Contractor is to "make good" any area that can be made good because of construction progress. This is not to be left disturbed for an unnecessary period of time.
7. The Contractor must not re-fuel or clean equipment near catch basins or a water course.
8. The Contractor is to install filter cloth between the catch basin grate and frame.
9. The Contractor is to repair and reinstate any damaged lengths of the silt fencing and barriers.
10. The Contractor is to plan construction around "wet days".
11. In the event of rainfall, the Contractor is to visit the site and ensure all silt fencing and barriers are adequate and satisfactory to an official inspector or the Eng.
12. Silt accumulation, behind the silt fencing and barriers, should be removed when it reaches $\frac{1}{3}$ height of fencing.
13. The Contractor is to provide sediment traps & basins during de-watering.
14. When the silt fencing and barriers impede construction progress, the restricting section may be removed during the day but must be reinstated during the night.
15. The Contractor can remove the silt fencing and barriers when directed by the appropriate inspector or the Eng.

Scale 1 : 150

6 4.5 3.0 1.5 0 3 6 Metres

Metric

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Notes & Legend

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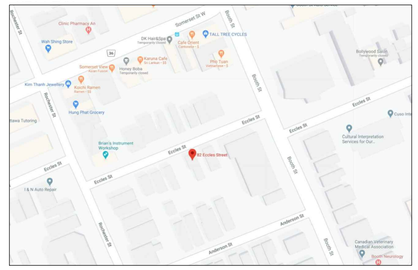
CLF	"	Chain link Fence
UP	"	Utility Pole
AN	"	Anchor
GM	"	Gas Meter
B	"	Bollard
DS	"	Downspout
	"	Water Shut off Valve
	"	Silt Fence Per OPSD 219.110.

KEY PLAN



	REVISION DESCRIPTION	DATE
1	FOR REVIEW	APRIL 20, 2020

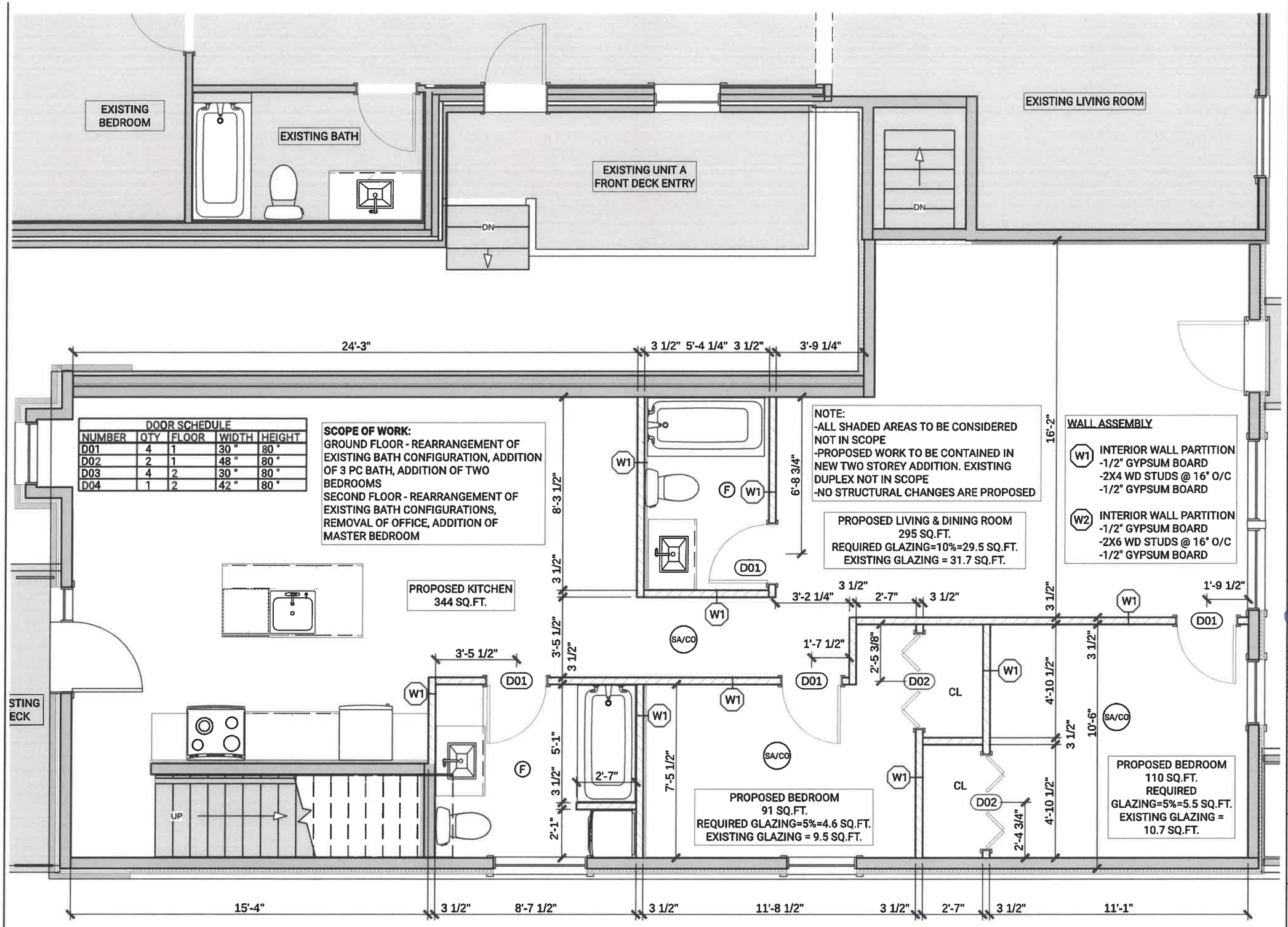
82 ECCLES ST., OTTAWA, ON

EROSION & SEDIMENT CONTROL PLAN

LICENSED PROFESSIONAL ENGINEER D. R. CLARK 5/4/19 PROVINCE OF ONTARIO

CONSULTANT
Structural Environmental Services
Derrick Clark
Professional engineer.
Tel. : 613- 869- 0523
Email : derrick.r.clark@rogers.com

E1



DOOR SCHEDULE				
NUMBER	QTY	FLOOR	WIDTH	HEIGHT
D01	4	1	30 "	80 "
D02	2	1	48 "	80 "
D03	4	2	30 "	80 "
D04	1	2	42 "	80 "

SCOPE OF WORK:
GROUND FLOOR - REARRANGEMENT OF EXISTING BATH CONFIGURATION, ADDITION OF 3 PC BATH, ADDITION OF TWO BEDROOMS
SECOND FLOOR - REARRANGEMENT OF EXISTING BATH CONFIGURATIONS, REMOVAL OF OFFICE, ADDITION OF MASTER BEDROOM

NOTE:
-ALL SHADED AREAS TO BE CONSIDERED NOT IN SCOPE
-PROPOSED WORK TO BE CONTAINED IN NEW TWO STOREY ADDITION. EXISTING DUPLEX NOT IN SCOPE
-NO STRUCTURAL CHANGES ARE PROPOSED

WALL ASSEMBLY

W1 INTERIOR WALL PARTITION
-1/2" GYPSUM BOARD
-2X4 WD STUDS @ 16" O/C
-1/2" GYPSUM BOARD

W2 INTERIOR WALL PARTITION
-1/2" GYPSUM BOARD
-2X6 WD STUDS @ 16" O/C
-1/2" GYPSUM BOARD

01 A3.1 PROPOSED GROUND FLOOR PLAN
SCALE:1/4"=1'0"

2B DEVELOPMENTS

- DO NOT SCALE DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND NOTIFY THE DESIGNER OF ANY DIMENSIONAL ERRORS, OMISSIONS OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK.
- DESIGN IS IN ACCORDANCE WITH LOCAL BYLAWS AND THE 2012 ONTARIO BUILDING CODE. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL BYLAWS, BUILDING CODE & REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.
- THIS DRAWING SET IS THE EXCLUSIVE PROPERTY OF 2B DEVELOPMENTS.
- ANY CHANGES MADE ON THE PLANS AFTER PRINTS ARE MADE ARE AT THE OWNER'S AND/ OR CONTRACTOR'S EXPENSE AND RESPONSIBILITY.

#	REVISION	DATE
01	ISSUED FOR BUILDING PERMIT	01/15/19
02	REVISION TO BUILDING PERMIT	06/24/19

STATUTORY DECLARATION
The undersigned has reviewed and takes responsibility for this design and has the qualifications and meets the requirements setout in the Ontario Building Code to design the work shown in the attached documents.
DESIGNER — BCIN 4/1555

DRAWN BY: O. GAUTHIER
CHECKED BY: BCIN
DRAWING APPROVALS: CLIENT / REVIEWER

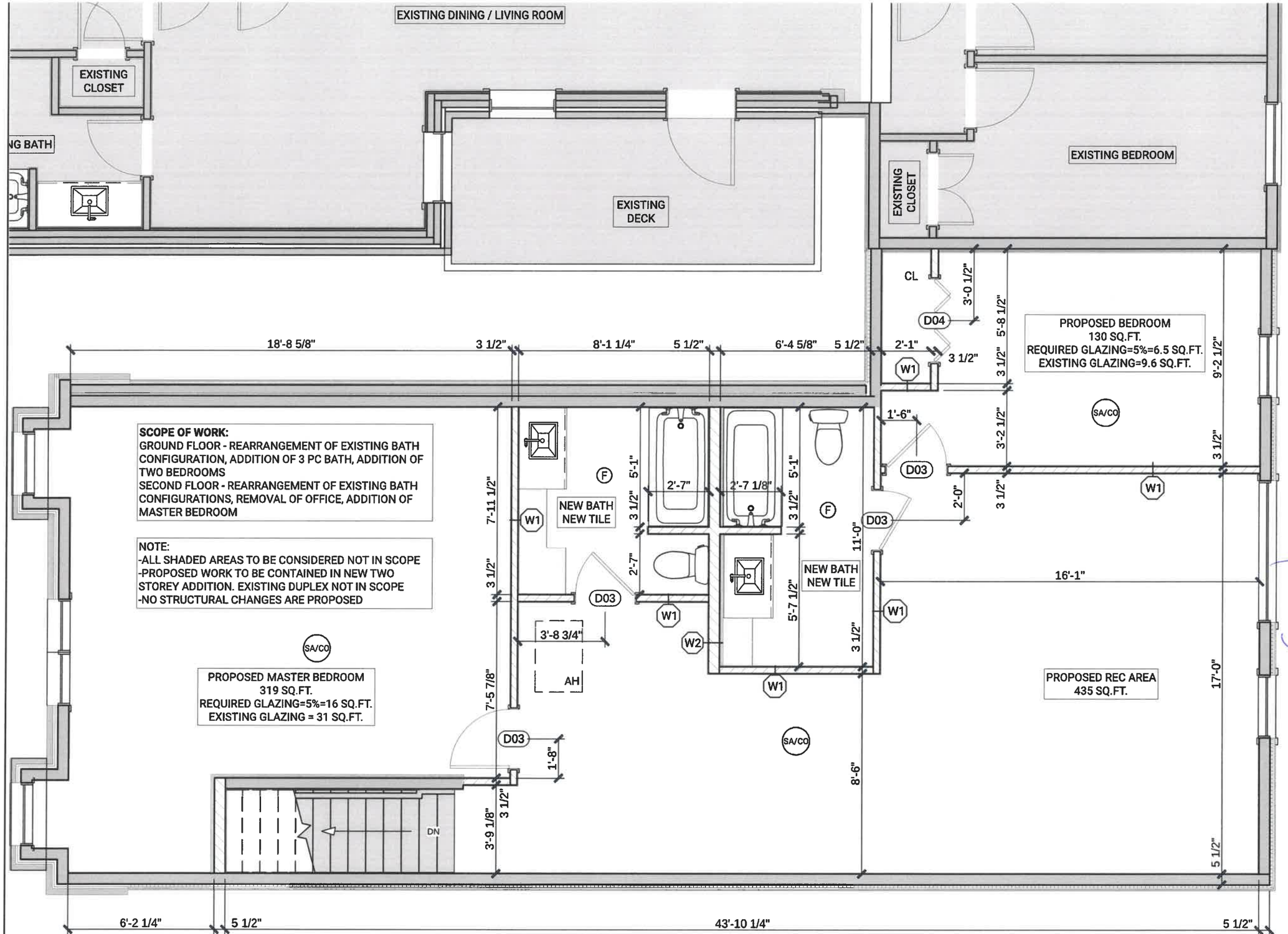
BUILDING PERMIT

82 ECCLES STREET

PROPOSED GROUND FLOOR PLAN

SCALE: AS SHOWN
DATE: JUNE 24 2019

A3.1



SA/CO

PROPOSED MASTER BEDROOM
319 SQ.FT.
REQUIRED GLAZING=5%=16 SQ.FT.
EXISTING GLAZING = 31 SQ.FT.

01 A3.2 PROPOSED SECOND FLOOR PLAN
SCALE:1/4"=1' 0"

2B DEVELOPMENTS

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STATUTORY DECLARATION
The undersigned has reviewed and takes responsibility for this design and has the qualifications and meets the requirements setout in the Ontario Building Code to design the work shown in the attached documents.
Alexandre Drouin 44555
DESIGNER BCIN

DRAWN BY: O. GAUTHIER
CHK'D BY: BCIN
DRAWING APPROVALS CLIENT
REVIEWER

BUILDING PERMIT

82 ECCLES STREET

PROPOSED SECOND FLOOR PLAN

SCALE: AS SHOWN
DATE: JUNE 24 2019

A3.2