PROPOSED

SIX (6) STOREY APARTMENT BUILDING SITE

LOT 1

R-PLAN 268160

917 MERIVALE ROAD

CITY OF OTTAWA

SERVICEABILITY REPORT

REPORT No. R-823-102A

T.L. MAK ENGINEERING CONSULTANTS LTD.

AUGUST 2024

REFERENCE FILE NUMBER 823-102

Introduction

The developer of this property is proposing to redevelop the existing residential lot described as Lot 1 Registered Plan 268160 City of Ottawa by constructing a six (6) storey residential apartment building plus a basement consisting of twenty (20)-units, including ten (1)-bedroom units and ten (10) bachelor units.

The municipal address of this property is referenced as 917 Merivale Road and it is located in the City Ward (16 - River). The site is situated on the east side of Merivale Road, south of Crerar Avenue and north of Anna Avenue, see site plan and legal survey plan in Appendix A for details.

The area of this property is ±0.0482 hectares. In addition to the six (6) storey residential building, the other development features will comprise of an interlock paver access to the front entrance plus a concrete sidewalk access along the south side yard to the waste storage and one vehicular entrance asphalt access road, parking areas and an amenity area is also located in the rear yard including landscaped areas along the north side of the site, etc., to meet the City of Ottawa's site plan requirements.

A site geotechnical report was prepared by the owner's soils engineer Yuri Mendez Engineering entitled "Subsurface Investigation Report" 917 Merivale Road (Report No. 63-SPD-R0) dated September 27, 2023 for this proposed development property.

This serviceability report will provide the City of Ottawa with our serviceability brief to address the proposed servicing scheme for this site.

Existing Site Conditions and Servicing

This property is presently occupied by one and one half (1 ½) storey wooden sided residential building. The existing house is located near the front centre on this property with existing gazebo structures located at the rear yard, asphalt surface along the south side yard and gravel plus interlock walkway located along the north side of the property limit which currently provides pedestrian access to the gazebos. For additional details of the site's pre-development conditions, refer to the coloured Google Image (2023) and aerial photography from (GeoOttawa 2022) in Appendix B.

Approximately one half of this site is currently permeable surface covered and consisting of grass/landscaped areas with the remaining areas being roof area, concrete steps, gravel and asphalt surfaces. Presently, most of the landscape areas are concentrated at the rear of lot and at the front yard.

The topography of the land is found to be graded primarily to drain from rear to the front of the lot (east to west). The existing gradient of the property is sloping approximately 1.9% from back to front.

Water and sanitary service lateral currently servicing the existing dwelling on 917 Merivale Road will be removed. The existing water services shall be blanked at the main and the existing house laterals shall be capped at the front property line for re-development of this lot.

As for the availability of underground municipal services, there are existing municipal services along Merivale Road in front of this property consisting of a 450mm diameter storm sewer, a 375mm diameter sanitary sewer, and a 300mm diameter watermain for development of this property. Refer to the City of Ottawa Merivale Road UCC drawing and As-Built plan and profile drawing included in Appendix C for details.

Because the site will be connecting to and outletting into the separated Merivale Road storm sewer located within the Merivale Road road right of way in the City of Ottawa, therefore, the approval exemption under Ontario Regulations 525/98 would apply since storm water discharges from this site will outlet flow into a downstream storm sewer. Thus, an Environmental Compliance Approval (ECA) application will not be required to be submitted to the Ministry.

Proposed Residential Apartment Building Site

A vehicle entrance located at the northwest corner of the lot is proposed to provide vehicular access to this property along with an access roadway from this entranceway to direct vehicular traffic in and out of the site. Vehicular parking will be available at the rear of the site, east of the proposed building.

A. Water Supply

The proposed building located within Pressure Zone 2W at 917 Merivale Road is a 6-storey residential multiunit building with a basement. The building contains twenty (20) total units, ten (10) 1-bedroom, and ten (10) bachelor units. Each floor covers an average area of around 218 m^2, for a gross floor area of 1,310 m^2 (excluding the basement).

The building is to be serviced by the 300 mm diameter watermain along Merivale Road. The ground elevation along Merivale Road is approximately 77.9 m.

Demand Projections

The domestic demands were calculated using the City of Ottawa's Water Design Guidelines, where the residential consumption rate of 280 L/cap/d was used to estimate average day

demands (AVDY). Persons per unit (PPU) for each unit were estimated based on the City of Ottawa's Water Design Guidelines.

Following discussions with the City, peaking factors are to be estimated from Table 3-3 of the MECP Design Guidelines for Drinking-Water Systems, given that the proposed development population is less than 500 people. Maximum day (MXDY) demands were calculated by multiplying AVDY demands by a factor of 9.5. Peak hour (PKHR) demands were calculated by multiplying AVDY by a factor of 14.3. **Table 1** shows the estimated domestic demands of the proposed building.

Table 1: Estimated Domestic Demand

Unit Type	Unit Count	PPU	Consumption	AVDY		MXDY		PKHR	
				L/d	L/s	L/d	L/s	L/d	L/s
Apartment, 1-Bedroom	10	1.4	280	3,920	0.05	37,240	0.43	56,056	0.65
Apartment, Bachelor	10	1.4		3,920	0.05	37,240	0.43	56,056	0.65
Total	***20***			***7,840***	***0.09***	***74,480***	***0.86***	***112,112***	***1.30***

The fire flow required was determined following the Fire Underwriter Survey (FUS) method and is provided in the attached worksheet. The proposed building will be of wood frame construction. It is understood that the building will be equipped with sprinklers, and that the basement is more than 50% below ground level. The resulting required fire flow is 11,000 L/min (183 L/s) for a duration of 2.25 hours.

Details are provided in the attached **Fire Flow Calculations** (See Appendix D). Furthermore, **Figure 1** found in Appendix D provides separation distances for the FUS calculations. The proposed **Site Plan** attached in Appendix D was used to determine distances from the proposed building to the property lines.

In summary, the estimated water demands for the proposed building are as follows:

- AVDY = 7,840 L/d (0.09 L/s)
- MXDY = 74,480 L/d (0.86 L/s);
- PKHR = 112,112 L/d (1.30 L/s); and,
- Fire Flow (FUS) = 11,000 L/min (183 L/s).

Boundary Conditions

The hydraulic gradeline (HGL) boundary conditions for 917 Merivale Road, as presented in **Table 2**, were provided by the City on May 2, 2024 (see attached **Water Boundary Conditions Email** in Appendix D). Note that slight architectural changes to the buildings were made

following the reception of the boundary conditions, resulting in slightly less water demands. As such, the received boundary conditions are considered conservative and applicable).

Table 2: Boundary Conditions

Demand Scenario	Head (m)
Minimum HGL (Peak Hour)	124.4
Maximum HGL (Average Day)	132.8
Available Fire Flow @ Residual 20 psi	118.0

Hydraulic Analysis

Peak Hour & Average Day

During peak hour demands, the resulting minimum hydraulic gradeline of 124.4 m corresponds to a peak hour pressure of 456 kPa (66 psi). This value is above the minimum pressure objective of 276 kPa (40 psi) for residential buildings up to two storeys. Adding 5 psi per floor above two stories, to account for headloss due to elevation and pipe losses, a minimum pressure of 413 kPa (60 psi) would be required for the sixth floor. The peak hour pressure at ground level is above this objective and therefore considered acceptable.

During average day demands, the resulting maximum hydraulic gradeline of 132.8 m corresponds to a maximum pressure of 538 kPa (78 psi). This value is less than the maximum pressure objective of 552 kPa (80 psi) and therefore considered acceptable.

Supporting hydraulic calculations are attached in Appendix D.

Maximum Day + Fire Flow

A maximum day plus fire flow (11,000 L/min) hydraulic gradeline of 118.0 m corresponds to a residual pressure of 393 kPa (57 psi) at this location, which is above the minimal residual pressure requirement of 140 kPa (20 psi).

Based on Table 1 of Appendix I of the City of Ottawa Technical Bulletin ISTB-2018-02 and a desktop review (i.e., Google Street View) to confirm hydrant class, four (4) hydrants are located in the vicinity of the proposed building. One (1) Class AA hydrants is within 75 m, both with a capacity contribution of up to 5,700 L/min. Three (3) other Class AA hydrants are within 150 m from the site, both with a capacity contribution of up to 3,800 L/min. The combined hydrant flow coverage for 917 Merivale Road is therefore 17,100 L/min, which is above the RFF obtained from the FUS (11,000 L/min) method.

The hydrant coverage is illustrated in **Figure 2** attached in Appendix D. A breakdown of the hydrant coverage is summarized in **Table 3** below.

Table 3: Fire Hydrant Coverage

Building	Fire Flow Demand (L/min)	Fire Hydrants					Combined Hydrant Flow Coverage (L/min)
		Hydrant Class	Within 75 m		Between 76 m and 150 m		
			Quantity	Contribution to RFF	Quantity	Contribution to RFF	
917 Merivale Road	11,000	AA	1	5,700	3	3,800	17,100
		A					
		B					
		C					

Conclusion

In conclusion, based on the boundary condition provided, 300 mm diameter watermain along Merivale Road provides adequate fire flow capacity, as per the Fire Underwriters Survey (FUS) method, to the proposed development 917 Merivale Road. Resulting pressures during anticipated demand flows meet the pressure objectives during average and peak demand conditions, as per the City of Ottawa's Drinking Water Design Guidelines.

B. Sanitary Flow

The peak sanitary flow for the 20 units, which comprise of ten (1)-bedroom and ten (10) bachelor apartment units, is estimated at Q = 0.34 L/s with an infiltration rate of 0.02 L/s. Refer to Appendix E sheet 1 of 1 regarding sanitary flow calculations. This flow will enter the existing 375 mm diameter sanitary sewer on Merivale Road via the proposed 150 mm diameter PVC sanitary service lateral from the six (6)-storey residential apartment building.

The existing peak sanitary flow of the site for single detached dwelling unit is Q = 0.06 L/s with an infiltration rate of 0.02 L/s. The net increase in flow from this proposed development is 0.28 L/s which is not expected to negatively impact the existing 375 mm dia. sanitary sewer.

Waste water from this site outlets into the Merivale Road 375 mm dia. sanitary sewer then continues to outlet north along Merivale Road into the existing downstream 1050 mm dia. concrete sanitary collector sewer located north of Carling Avenue which further direct sewage flow northward crossing Island Park Drive into the Geneva Street 1050 mm dia. sanitary collector sewer.

C. Storm Flow

Stormwater outlet for this proposed development property will be the existing 450 mm dia. storm sewer located on Merivale Road. The proposed residential apartment building has a rooftop that is partially flat and will be able to provide on-site stormwater management (SWM)

storage. Roof water from the building will be drained and controlled by two (2) roof drains which then outlets directly into the existing Merivale Road 450 mm dia. storm sewer via the proposed 300 mm dia. PVC storm sewer from the site.

On-site drainage shall be graded and drained into (2) catch basin manholes where they are interconnected by oversized underground 600 mm dia. storm sewer stormwater flow here will be controlled by the specified ICD located in CB/MH#1 to a rate of 6.0 L/s (min.) permitted by the City.

The building foundation weeping tile drainage system shall have its own separate gravity flow pipe where weeping tile water is outletted via a 150 mm dia. storm pipe to the existing Merivale Road storm sewer. The stormwater outlet for the rooftop water from roof drains will also be a separately designated proposed 150 mm dia. PVC pipe that will also be outletted into the existing Merivale Road storm sewer.

Two (2) roof drains are proposed for this residential building to restrict flow to a rate of 2.84 L/s (1.26 L/s + 1.58 L/s) into the existing municipal storm sewer.

Based on the residential site plan from the owner's architect, the average post-development runoff coefficient is estimated at C = 0.82 and A = 0.0482 hectares.

An estimation of the pre-development flow condition was carried out using the criteria accepted by the City of Ottawa. If post-development C valve exceeds the lesser of the C_{pre} = 0.59 then SWM is required. Because C_{post} = 0.82 for this site exceeds C_{pre} = 0.59 then SWM measures are required.

Therefore, based on our calculation, on-site retention is required for this proposed residential development site, because the site post-development C value of 0.82 is greater than the C_{pre} = 0.59.

The storage volume for the five (5)-Year and up to the 100-Year storm event attenuation will be stored by means of flat rooftop of the proposed residential building and by the oversized underground storm drainage pipe and structures on-site. Also refer to the site storm drainage report (Report No. R-823-102) for further details.

Conclusion

To develop this proposed residential site (±0.0482 ha. in size) and in controlling the 5-Year stormwater release rate off-site to an allowable rate of 5.17 L/s, a calculated site storage volume of approximately 5.26 m^3 (min.) is required during the 5-Year event. We estimate that the required storage volume is 1.69 m^3 (min.) from rooftop storage and 3.57 m^3 (min.) from the

site underground drainage system are necessary to attenuate the 5-Year storm event. Refer to the Storm Drainage Report (Report No. R-823-102) for details.

During the 5-Year storm event for the flat rooftop storage, the ponding depth of rooftop is estimated at 120 mm at Roof Drain No. 1 and Roof Drain No. 2 and 0 mm at the roof perimeter, assuming a 2.0% (min.) roof pitch to the roof drains. The rooftop storage available at Roof Area No. 1 is 1.17 m^3 and Roof Area No. 2 is 1.38 m^3, for a total of 2.55 m^3, which is greater than the required volume of 1.69 m^3.

As for the remaining storage volume of 3.57 m^3 (min.) required from the site development area for the 5-Year storm event, the estimated H.W.L. of 76.48 m will provide a total available underground storage volume of 4.0 m^3 consisting of the proposed underground storm piping and drainage structures. In total, the 5-Year available site storage volume is approximately 4.0 m^3 which is greater than the required site storage volume of 3.57 m^3. See Appendix E for details.

In order to control the 100-Year stormwater release rate off-site to an allowable rate of 5.17 L/s, a calculated site storage volume of approximately 13.37 m^3 (min.) is required during the 100-Year event. We estimate that the required storage volume of 4.65 m^3 (min.) of rooftop storage and 8.72 m^3 (min.) from the site underground drainage system are necessary to attenuate the 5-Year storm event. See Table 4 to 6 inclusive

During the 100-year storm event for the flat rooftop storage, the ponding depth on this rooftop is estimated at 150 mm at Roof Drain No. 1 and Roof Drain No. 2 and 0 mm at the roof perimeter assuming a 2.0% (min.) roof pitch to the drains. The rooftop storage available at Roof Area No. 1 is 2.35 m^3 and Roof Area No. 2 is 2.69 m^3 for a total of 5.04 m^3 which is greater than the required volume of 4.65 m^3.

As for the remaining storage volume of 8.72 m^3 (min.) required from the site development area for the 100-Year storm event, the estimated H.W.L. of 77.18 m will provide a total available underground storage volume of 8.90 m^3 consisting of the proposed underground storm piping and drainage structures. In total, the 100-Year available site storage volume is approximately 8.90 m^3 which is greater than the required site storage volume of 8.72 m^3. See Appendix E for details.

Therefore, by means of flat building rooftop storage, grading the site to the proposed grades and constructing the proposed underground storm piping and drainage system as shown on the Proposed Site Grading and Servicing Plan (Dwg. No. 823-102, G-1) the desirable 5-Year and 100-Year storm event attenuation volume of 4.0 m^3 and 8.90 m^3 respectively will be available on-site.

In order to control the release flow rate off-site from the controlled drainage are of the lot, an inlet control device (ICD) will be installed at the outlet of CB/MH#1 in the 300 mm diameter storm pipe (outlet pipe) with Q = 6.0 L/s under a head of 1.0 m. A rooftop drain with a maximum release rate of 1.26 L/s will be installed at Roof Drain No. 1 and a maximum release rate of 1.58 L/s will be installed at Roof Drain No. 2 under a head of 150 mm at the proposed apartment building flat rooftop as depicted on (Dwg. No. 823-102, G-1).

A specified inlet control device (ICD) will be installed at the outlet of CB/MH#1 in the 300 mm diameter storm pipe (outlet pipe) with Q = 6.0 L/s under a head of 1.0 m. The ICD type recommended is a Hydrovex Regulator (75-VHV-1) or equivalent. The specified ICD at 6.0 L/s is the lowest flow ICD permitted by the City of Ottawa for maintenance purposes.

The building weeping tile drainage will outlet via its separate 150mm diameter PVC storm lateral. The roof drains will be outletted also via a separate 150mm PVC storm lateral from the apartment building whereupon both laterals "wye" into the proposed 300 mm dia. storm pipe due to one (1) connection to the existing Merivale Road storm sewer is permitted. Therefore, both storm laterals and the site storm sewer all outlets to the existing Merivale Road 450 mm diameter storm sewer with only one (1) storm pipe connection. The City of Ottawa recommends that pressurized drain pipe material be used in the building for the roof drain leader pipe in the event of surcharging on the City storm sewer system. Refer to the proposed site grading and servicing plan Dwg. 823-102 G-1 for details.

To achieve a minimum of 80 percent TSS removal, a Stormceptor structure (Model EFO-4) is proposed to be installed for the site development of this property. This Stormceptor structure shall be located downstream of the proposed CB/MH#1, which houses the site's inlet control device (ICD). Based on the Stormceptor system that is proposed for this site, size of the lot, and impervious ratio, a greater than 80 percent TSS removal is estimated for all rainfall events including large storms. (See Appendix D of the Storm Drainage Report {Report No. R-823-102} for details).

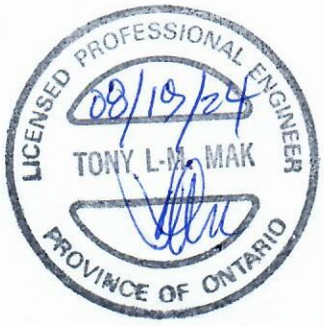
Erosion and Sediment Control

The contractor shall implement Best Management Practices to provide for protection of the receiving storm sewer during construction activities. These practices are required to ensure no sediment and/or associated pollutants are released to the receiving watercourse. These practices include installation of a "siltsack" catch basin sediment control device or equal in catch basins as recommended by manufacturer on-site and off-site within the Merivale Road road right of way adjacent to this property. Siltsack shall be inspected every 2 to 3 weeks and after major storm. The deposits will be disposed of as per the requirements of the contract. See Dwg. #823-102 ESC-1 for details.

Refer to Appendix F for the summary of the Development Servicing Study Checklist that is applicable to this development.

PREPARED BY T.L. MAK ENGINEERING CONSULTANTS LTD.

TONY L. MAK, P.ENG



PROPOSED

SIX (6) STOREY APARTMENT BUILDING SITE

LOT 1

R-PLAN 268160

917 MERIVALE ROAD

CITY OF OTTAWA

APPENDIX A

SITE PLAN

AND

LEGAL SURVEY PLAN

ZONING REQUIREMENTS - TM [2196]

EXISTING ZOINING: TM[2196] Traditional Main Street Zone

PROPOSED ZOINING: TM[2196] Traditional Main Street Zone

PARKING	REQUIRED	PROVIDED	COMPLIES Y/N
OFF-STREET PARKING	4	4	Y
VISITOR PARKING	1	1	Y
BARRIER FREE PARKING	0	0	Y
BICYCLE PARKING	10	22 (STACKED)	Y
SETBACKS			
FRONT YARD	MAX 2M	2M	Y
FRONT YARD ABOVE 15M	MIN 2M	2M	Y
REAR YARD	7.5M	7.5M	Y
SIDE YARD (NORTH)	1.2M	1.20M	Y
SIDE YARD (SOUTH)	1.2M	1.2M	Y
MAX HEIGHT TO ROOF MIDPOINT	20M	20M	Y
MINIMUM LOT WIDTH	0	13.73M	Y
BUILDING COVERAGE/AREA	N/A	50.5%	Y
TOTAL GFA	N/A	1,341 SM	Y
AMENITY SPACE AREA	6 SM PER UNIT = 120SM MIN 50% COMMON	BALCONY = 171 SM COMMON (3rd = 159 SM	Y
TOTAL NUMBER OF UNITS	N/A	20	Y
MIN LANDSCAPE BUFFER	0 - NOT ABUTTING A STREET	N/A	Y

SITE DATA

ITEM	AREA	% TOTAL
LOT AREA	481.5 SM (5,183 SFT)	100%
BUILDING AREA	243 SM (2,622 SFT)	50.5%
GROSS FLOOR AREA	1,341 SM (14,434 SFT)	
ASPHALT/CONC. AREA	168.5 SM (1,813 SFT)	35%
LANDSCAPED AREA	REAR LOT AREA 70 SM (750 SFT)	14.5%

UNIT DATA

LEVEL	STUDIO	1 BED	2 BED	TOTAL	FLOOR AREA
BASEMENT	0	0	0	0	119 SM (1280 SFT)
MAIN FLOOR	0	0	0	0	103 SM (1116 SFT)
2ND FLOOR	2	2	0	4	243 SM (2622 SFT)
3RD FLOOR	2	2	0	4	243 SM (2622 SFT)
4TH FLOOR	2	2	0	4	243 SM (2622 SFT)
5TH FLOOR	2	2	0	4	239 SM (2570 SFT)
6TH FLOOR	2	2	0	4	239 SM (2570 SFT)
TOTAL	10	10	0	20	1341 SM (14,434 SFT) A.G.

PARKING COUNT

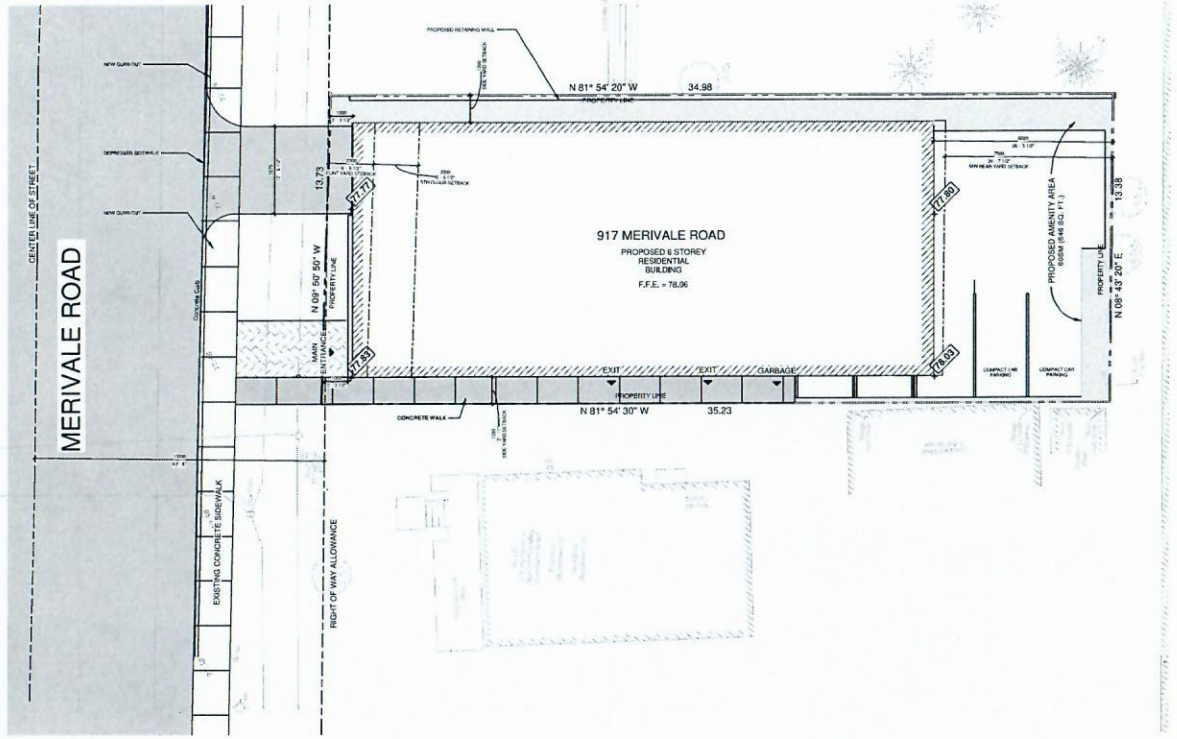
USAGE	COUNT	PARKING RATIO	PARKING REQUIRED	PARKING PROVIDED	COMPLIES (Y/N)
STUDIOS*	10	0-10 UNITS = 0	0	0	Y
1 BED*	10	10-12 UNITS = 0 13-20 UNITS = 0.5	4	4	Y
2 BED					Y
BF SPOTS					Y
VISITOR		0-12 UNITS = 0 13-20 UNITS = 0.1	1	1	Y
TOTAL	20		5	5	Y

ESTABLISHED GRADE ELEVATION DATA

BUILDING CORNER	ELEVATION	CALCULATION
NORTH WEST CORNER	77.77	77.77 + 77.80 + 78.03 + 77.83 = 311.43 311.43 / 4 = 77.8575
NORTH EAST CORNER	77.80	
SOUTH EAST CORNER	78.03	
SOUTH WEST CORNER	77.83	
AVERAGE GRADE ELEVATION		AVG ELEV. = 77.86

WASTE MANAGEMENT DATA

USAGE	WASTE TYPE	REQ. CY	BINS PROVIDED	COMPLIES (Y/N)
GARBAGE	LOOSE	0.11 CY/UNIT = 3	4 x 360L	Y
RECYCLING	LOOSE	0.09 CY/UNIT = 1	4 x 360L	Y
ORGANIC	LOOSE	15 240L BIN PER 50 UNITS	3 x 240L	Y



1 / A101 PROPOSED SITE PLAN
1 : 100

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	SH	ISSUED FOR SPA

REVISION RECORD

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	DS	ISSUED FOR SPA

ISSUE RECORD

BIOSIS DESIGNS

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P 613-292-9642
W

MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON

for

MARC AMYOT

2301 PROJECT — As indicated SCALE

DS, SH DRAWN

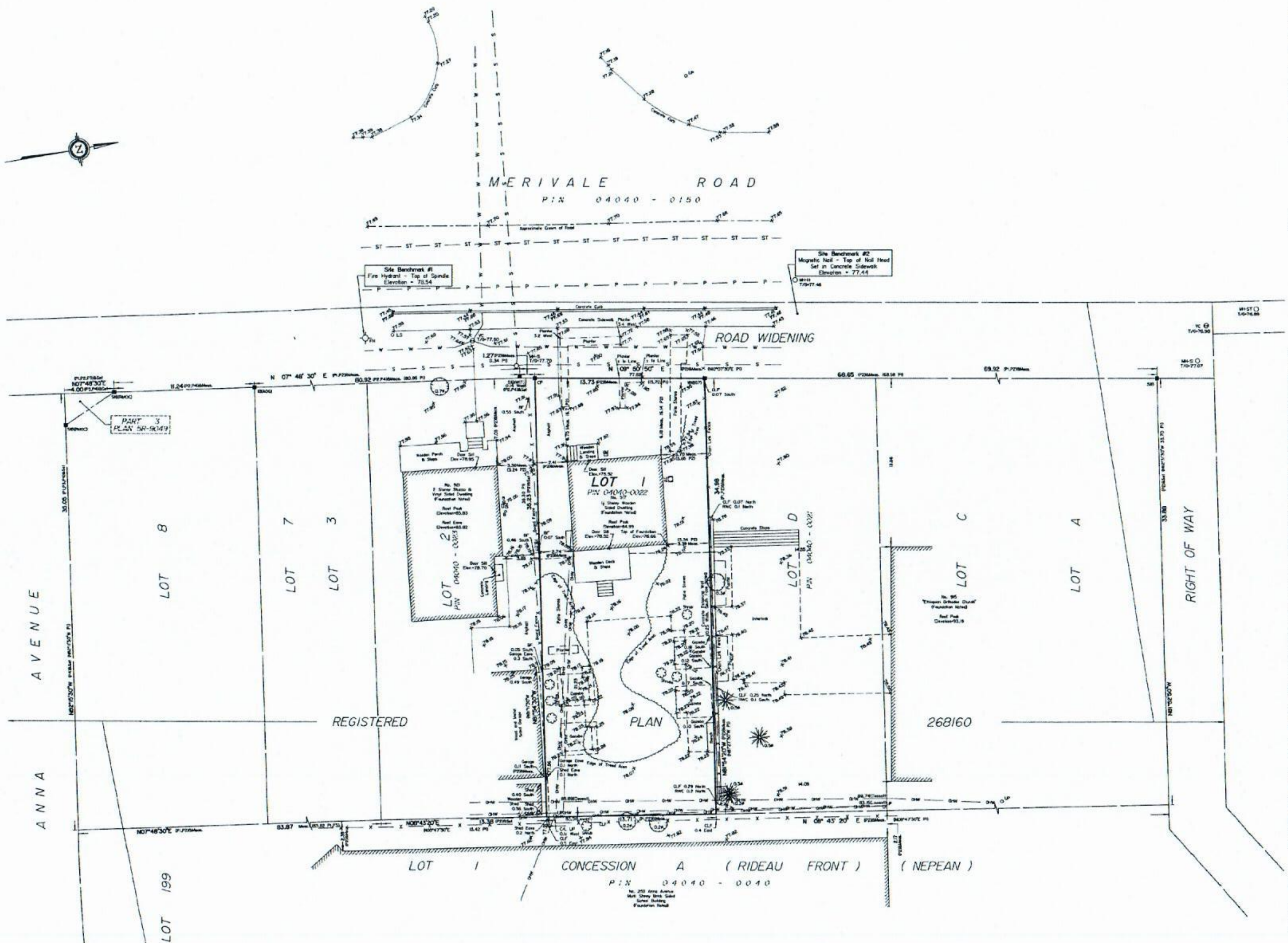
SH REVIEWED

PROPOSED SITE PLAN

A101

917 MERIVALE_RVT 2024_detached.rvt

2024-08-16 8:10:05 AM



SURVEYOR'S REAL PROPERTY REPORT

PART 1 Plan of

LOT 1
REGISTERED PLAN 268160
CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

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

Surveyor's Certificate

I CERTIFY THAT :

1. This survey and plan are correct and in accordance with the Surveys Act and the Surveyors Act and the regulations made under them.
2. The survey was completed on the 7th day of July, 2023.

July 7, 2023
Date

T. Hartwick
Ontario Land Surveyor

PART 2
THIS PLAN MUST BE READ IN CONJUNCTION WITH SURVEY REPORT DATED: July 7, 2023

ANNIS, O'SULLIVAN, VOLLEBEKK LTD. grants to Marc Amyot ("The Client"), their solicitors, mortgagees, and other related parties, permission to use original, signed, sealed copies of the Surveyor's Real Property Report in transactions involving The Client

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-53826

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29 (3).

Notes & Legend

—○—	Denotes	Survey Monument Planted
—■—	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CP	"	Concrete Pin
(WIT)	"	Witness
Meas.	"	Measured
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
(P1)	"	Registered Plan 268160
(P2)	"	(857) Plan dated July 30, 1996
(P3)	"	Plan 5R-9049
(P4)	"	(AOG) Plan dated April 25, 1988
CLF	"	Chain Link Fence
BF	"	Board Fence
RWC	"	Retaining Wall - Concrete
C/L	"	Centreline
T/G	"	Top of Grate
□ CB	"	Catch Basin
○ MH-ST	"	Maintenance Hole (Storm Sewer)
○ MH-S	"	Maintenance Hole (Sanitary)
○ MH-H	"	Maintenance Hole (Hydro)
⊖ VC	"	Valve Chamber (Watermain)
— ST —	"	Underground Storm Sewer
— S —	"	Underground Sanitary Sewer
— W —	"	Underground Water
— P —	"	Underground Power
— OHW —	"	Overhead Wires
FH	"	Fire Hydrant
○ UP	"	Utility Pole
• AN	"	Anchor
○ LS	"	Light Standard
□ AC	"	Air Conditioner
HM	"	Hydro Meter
GM	"	Gas Meter
• B	"	Bollard
	"	Gate
	"	Deciduous Tree
	"	Coniferous Tree
ø	"	Diameter
85.00	"	Location of Elevations
84.00	"	Location of Top of Curb Elevations
85.00	"	Location of Top of Wall Elevations

Bearings are grid, derived from Can-Net 2016 Real Time Network GPS observations and are referenced to Specified Control Points 01919650005 and 01919650105, MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

For bearing comparisons, a rotation of 1°06'30" counter-clockwise was applied to bearings on plans (P1), (P2) and (P4).

ELEVATION NOTES

1. Elevations shown are geodetic and are referred to the CGVD28 geodetic datum, derived from City of Ottawa Benchmark Index No. 86.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

UTILITY NOTES

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. Underground utility data derived from City of Ottawa utility sheet reference G-06-07.
4. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

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Nepean, Ont. K2E 7S6
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Ontario Land Surveyors

Job No. 21142-23 Amyot L1 R-268160 D-E F

PROPOSED

SIX (6) STOREY APARTMENT BUILDING SITE

LOT 1

R-PLAN 268160

917 MERIVALE ROAD

CITY OF OTTAWA

APPENDIX B

SITE PRE-DEVELOPMENT CONDITION

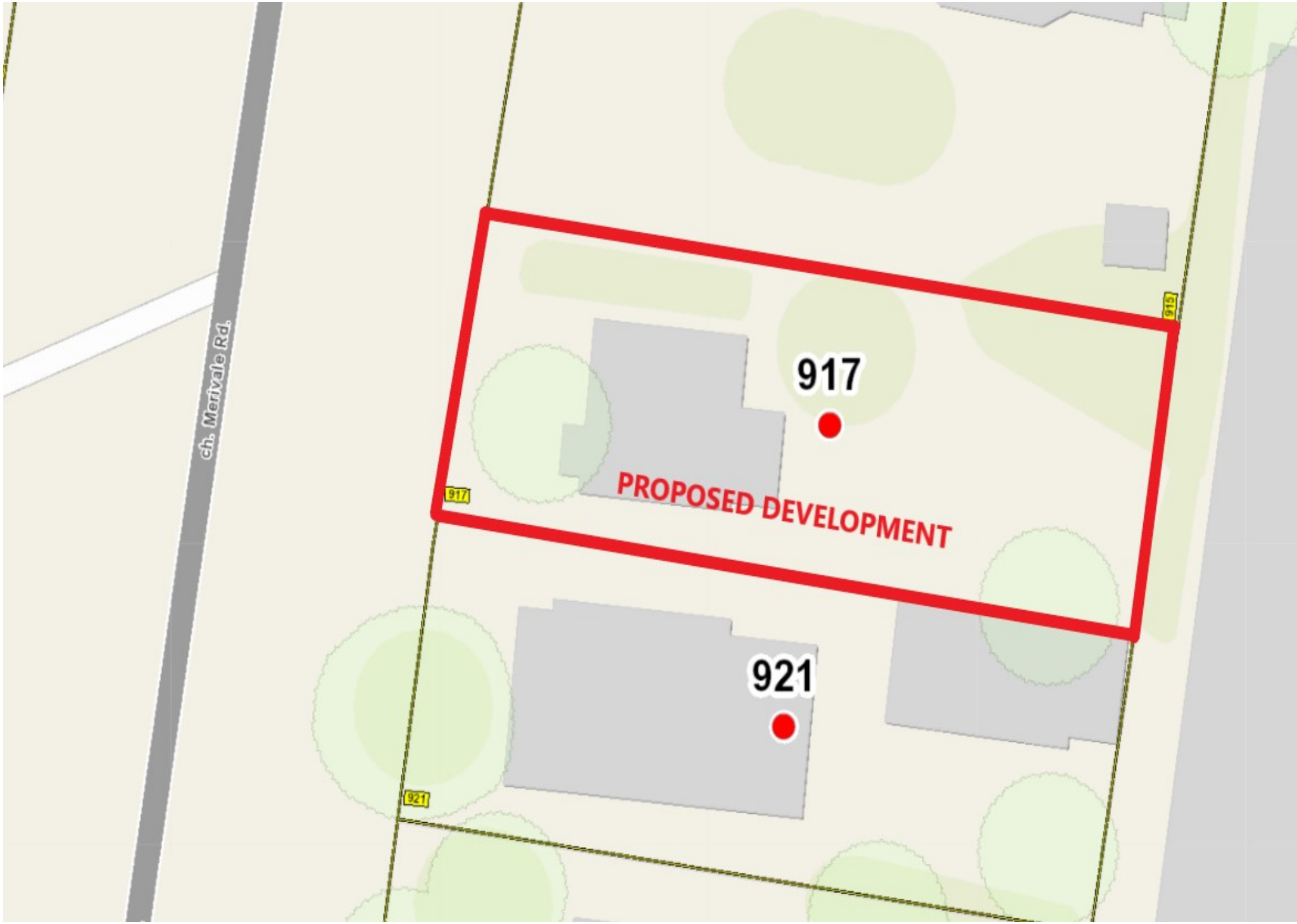
GOOGLE IMAGE (2023)

AND

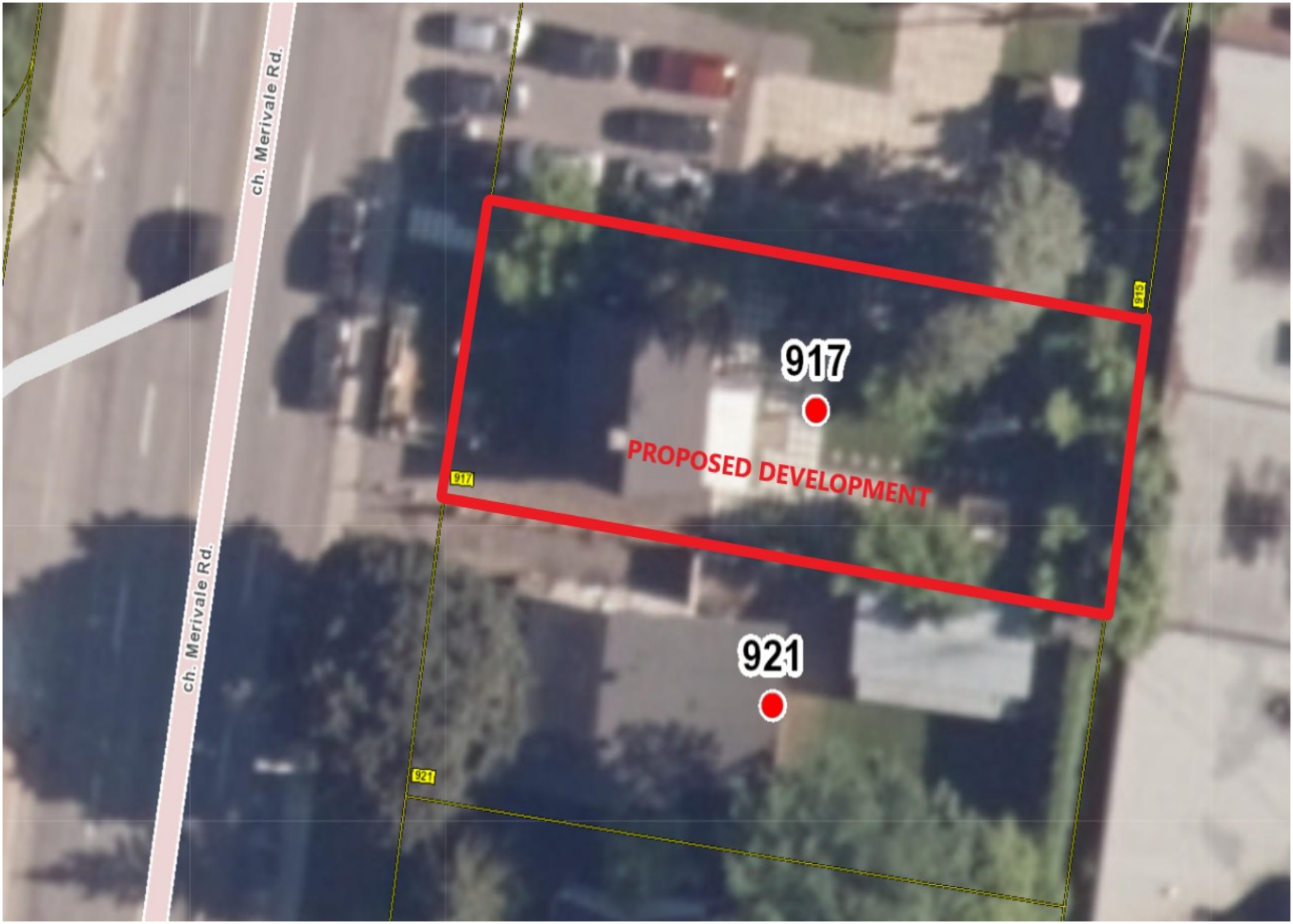
AERIAL PHOTOGRAPHY 2022 (GEOOTTAWA)


FOR SALE
House/Lot/Business
TM ZONING
SAMANTHA NELSON
SOLD
COLLEEN RUSHFORTH
613.788.2502
RE/MAX
our house serves coffee.

2023



2022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ch. Merivale Rd.
917
PROPOSED DEVELOPMENT
921
917
921

2022

PROPOSED

SIX (6) STOREY APARTMENT BUILDING SITE

LOT 1

R-PLAN 268160

917 MERIVALE ROAD

CITY OF OTTAWA

APPENDIX C

MERIVALE ROAD

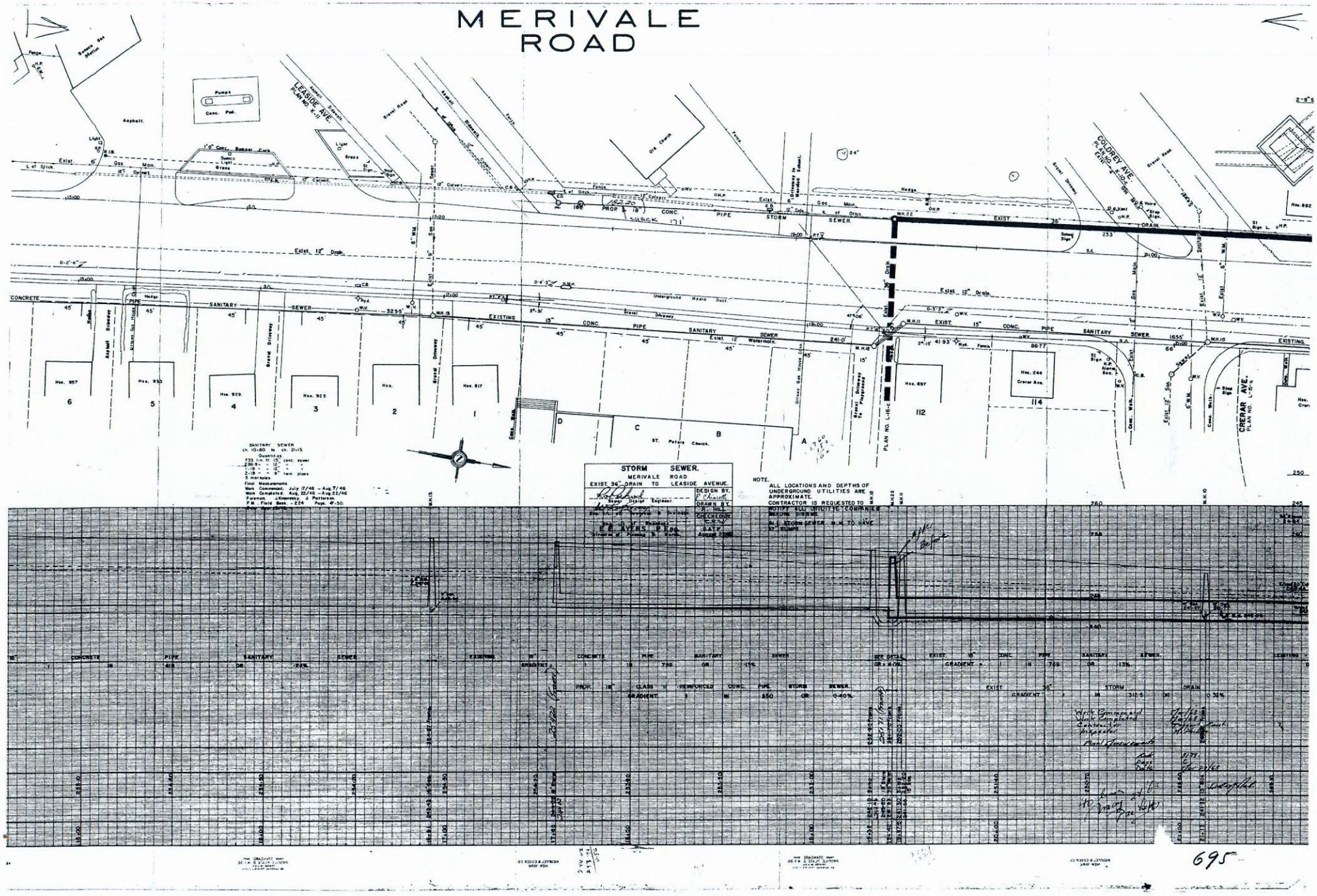
CITY OF OTTAWA

PLAN AND PROFILE

AND

UCC DRAWINGS

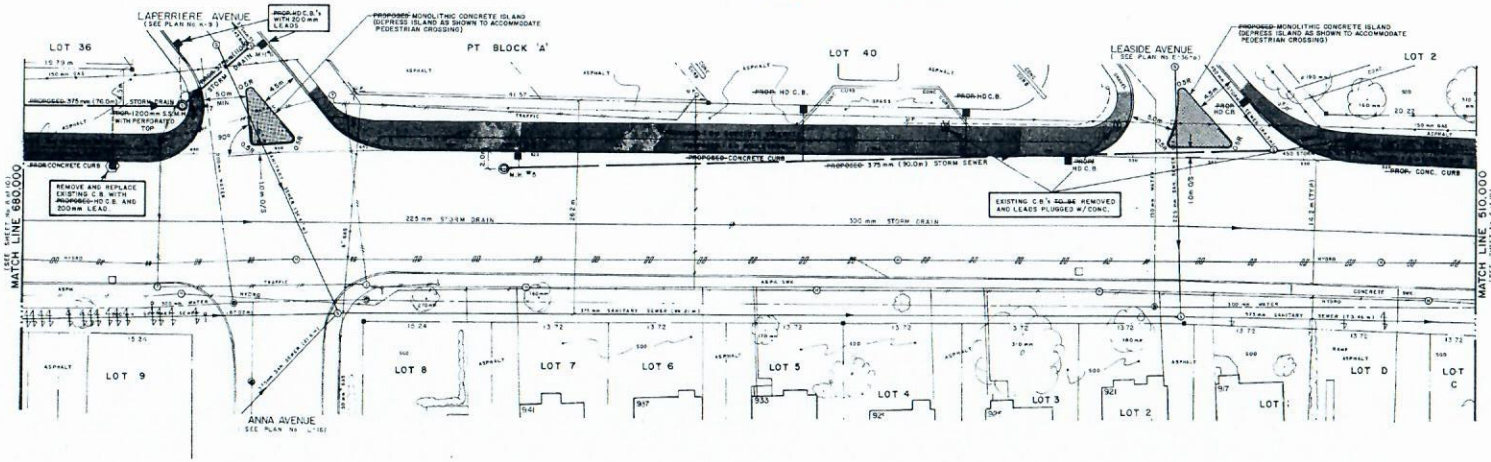
MERIVALE ROAD

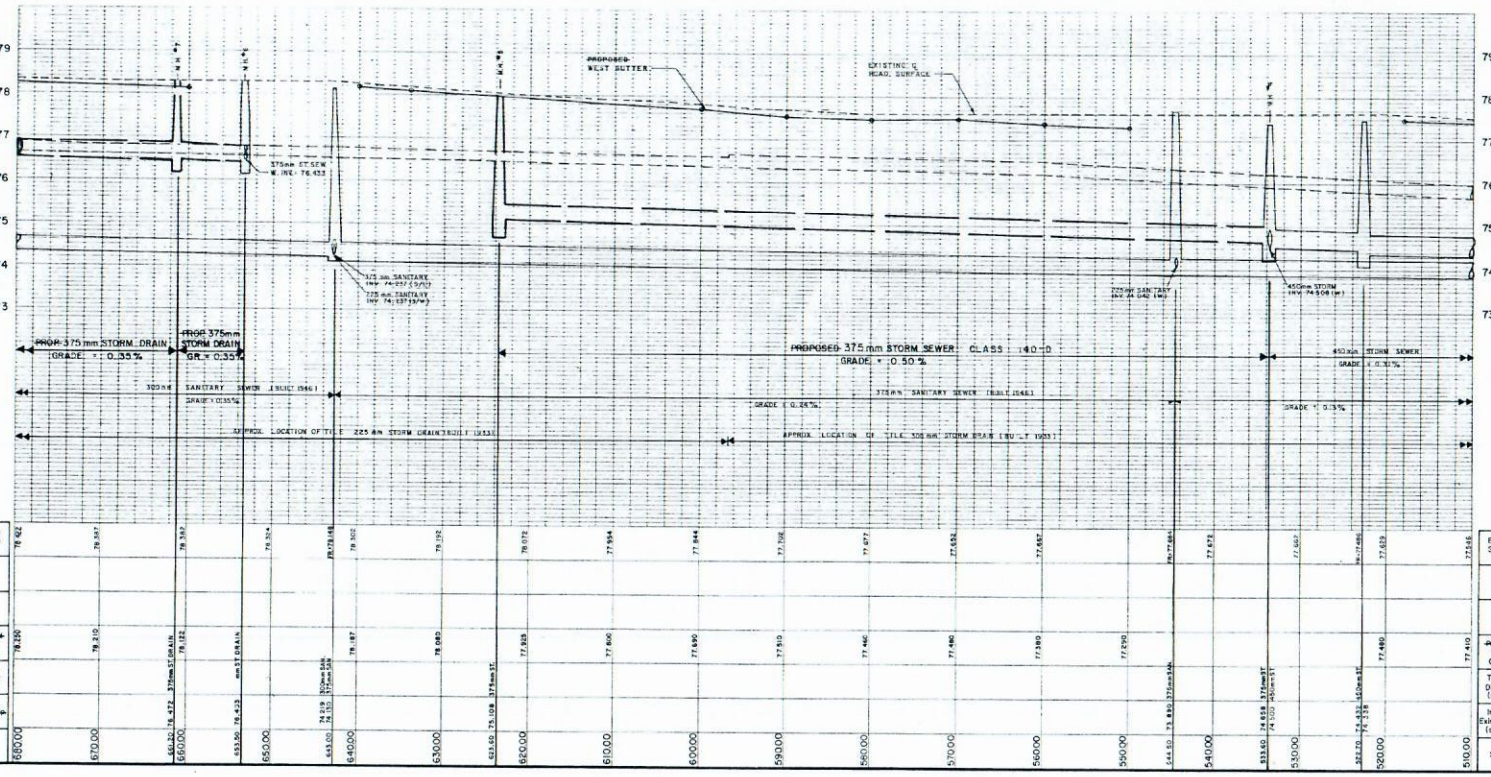


2268 2700 SERV.
MERIVALE ROAD (7 of 10)

* ALSO SEE 2268

MERIVALE ROAD





Revisions:

No	Date	Description	Drawn By	Appr'd By

Final Measurements:

Construction Type	PLANT AS PER DESIGN	Inspector	M. SPERO
Work Commenced	JULY 93	Instrumentman	M SPERO
Work Completed	AUG 93	Field Book #	—
Contractor	C.P.M.	Date	MAY 27/94
Drafting Revisions	M. SPERO	Checked By	S. BRADLEY

Designed By	D.DOUGHERTY	MAY/93	Date Checked By		Date
Survey Detail By	AERIAL	MAY/93	Date Checked By	M SPERO	MAY/93 Date
Drafting By	M.S., B.C., K.D.	MAY/93	Date Checked By	G QUIROUETTE	MAY/93 Date
Chief Design & Const. Eng.					

LICENSED PROFESSIONAL ENGINEER PAUL E. SAUVE PROVINCE OF ONTARIO

Notes:

Utilities shown are taken from best available records. Contractor is requested to check with all utility companies before digging.

Soil information shown is not guaranteed and contractors are advised to collect additional soils information as deemed necessary.

Reference bench mark: Mon # N-25, Index # 68

Proposed storm and sanitary sewers may be constructed in a common trench provided that a minimum horizontal distance of 460mm is maintained between outside barrels of pipe.

All pipes shall conform to the Canadian Standards Association (C.S.A.) A257.2 reinforced concrete sewer pipe with approved rubber gaskets.

A minimum of 460 mm vertical clearance to be maintained between sewers and watermains where practical.

Borehole soil descriptions are not based on sieve analysis but on visual inspection only, except where otherwise noted.

Soil information taken from:

Date of television inspection: Sept./Oct./83, Tomasack

This plan supersedes (in whole or in part) plan no.

Actual rock line recorded during construction of existing / sewer

Registered plan no. 5R-9050, 5R-9049

Caution, while illustrations and utilities shown are taken from best available information, they cannot be guaranteed.

When reduced, the scale of this drawing is approximately 1:4 in horizontally and 1:8 vertically. Do not scale this plan.

See additional notes on Sheet No. 1.

City of Ville d' Ottawa

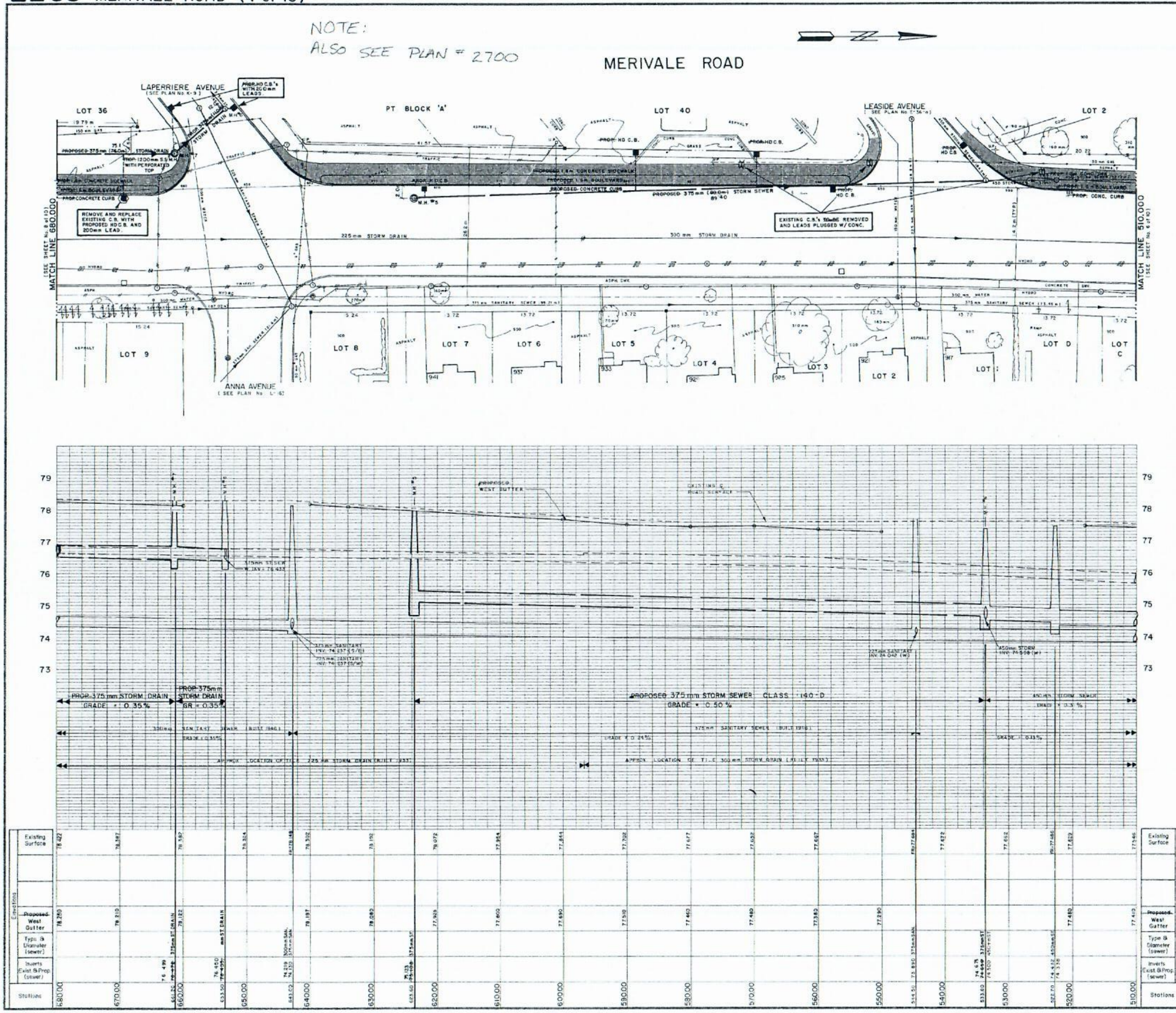
Department Of Engineering And Works
Engineering Branch
Design And Construction Division
400 SCOTT STREET OTTAWA ONTARIO K1Y 4A7

D.G. Curry P. Eng. — Commissioner
W.R. Cole P. Eng. — Branch Director

MERIVALE ROAD

Contract No.	Drawer Books	Scales (UNLESS NOTED)	Plan No.
92P2268	AERIAL	HOR. 1:250 VERT. 1:50	2700 SER Sheet 4 of 7

2268 MERIVALE ROAD (7 of 10)



Revisions:				
No	Date	Description	Drawn By	Appr'd By

Final Measurements:

Construction Type	SIDEWALK + SEWER	Inspector	M. SPERO
Work Commenced	JULY 92'	Instrumentman	M SPERO
Work Completed	NOV 92'	Field Book #	—
Contractor	LAURENT LEBLANC	Date	APR. 27/94
Drafting Revisions	M. SPERO	Checked By	J. BRADLEY

Designed By	D. DOUGHERTY	MAY/92	Checked By	
Survey Detail By	AERIAL	MAY/92	Checked By	M. SPERO MAY/92
Drafting By	M.S., B.C., K.D.	MAY/92	Checked By	G. QUINOUETTE MAY/92

Chief Design & Const. Eng.

LICENSED PROFESSIONAL ENGINEER
PAUL E. SAUVE
PROVINCE OF ONTARIO

Notes:

- Utilities shown are taken from best available records. Contractor is requested to check with all utility companies before digging.
- Soil information shown is not guaranteed and contractors are advised to collect additional soils information as deemed necessary.
- Reference bench mark: Mon #N-29, Index #68
- Proposed storm and sanitary sewers may be constructed in a common trench provided that a minimum horizontal distance of 460mm is maintained between outside barrels of pipe.
- All pipes shall conform to the Canadian Standards Association (C.S.A.) A257.2 reinforced concrete sewer pipe with approved rubber gaskets.
- A minimum of 460mm vertical clearance to be maintained between sewers and watermains where practical.
- Borehole soil descriptions are not based on sieve analysis but on visual inspection only, except where otherwise noted.
- Soil information taken from
- Date of television inspection: Sept.,Oct., /83, Tamarack
- This plan supercedes (in whole or in part) plan no.
- Actual rock line recorded during construction of existing / sewer
- Registered plan no. 5R-9050, 5R-9049
- Caution, while illustrations and utilities shown are taken from best available information, they cannot be guaranteed.
- When reduced, the scale of this drawing is approximately 1:4:0 horizontally and 1:8: vertically. Do not scale this plan.
- See additional notes on sheet No. 1.

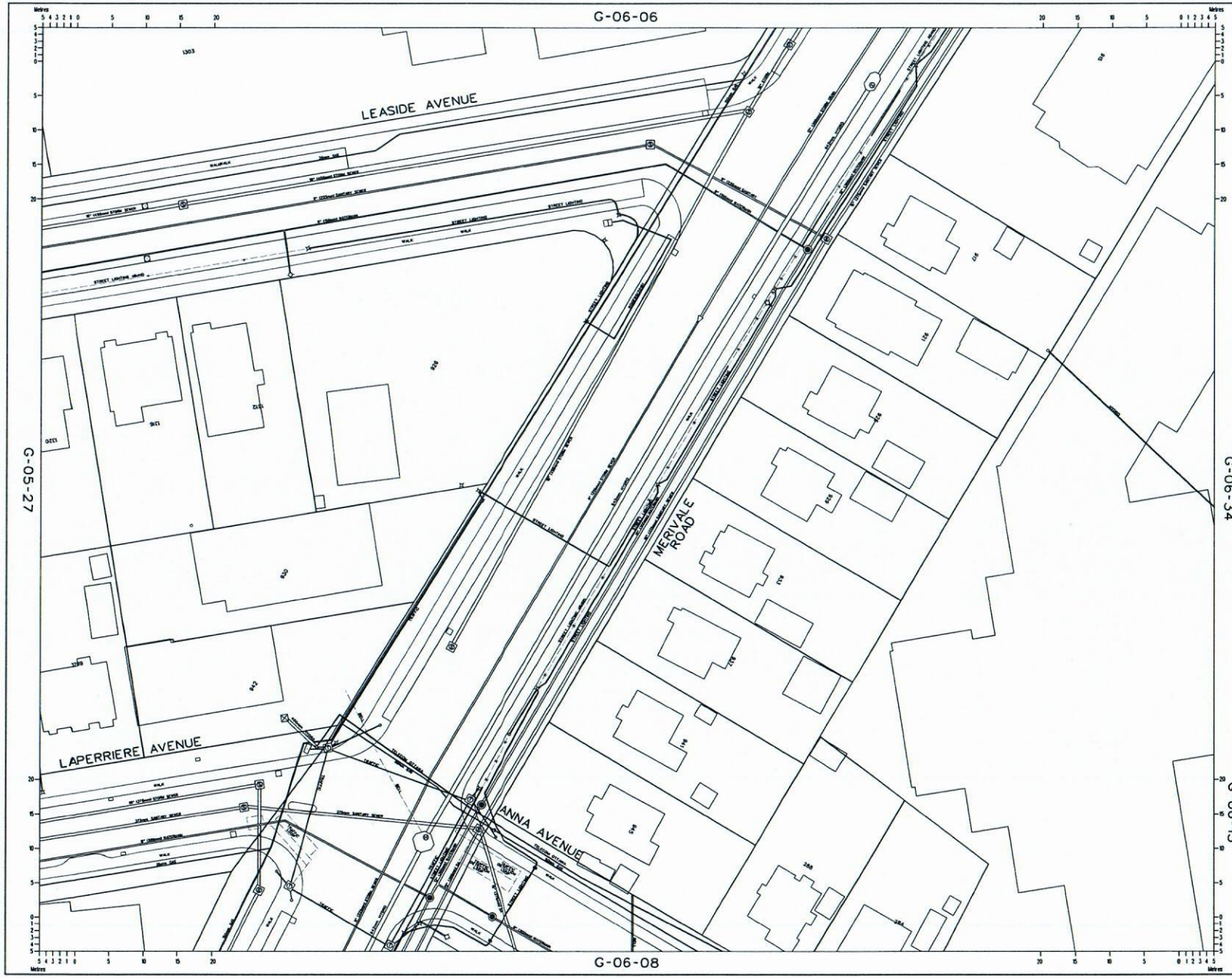
City of / Ville d' Ottawa

Department Of Engineering And Works
Engineering Branch
Design And Construction Division
1600 SCOTT STREET OTTAWA ONTARIO K1Y 4N7

D.G. Curry P.Eng — Commissioner
W.R. Cole P.Eng — Branch Director

MERIVALE ROAD

Contract No.	Survey Scales	Scales	Plan No.
92P2268	AERIAL	HOR. 1:250 VERT. 1:50	2268 Sheet 7 of 10



REVISIONS / RÉVISIONS	DATE	BY
TELECOM OTTAWA TELEGRAPHE TAXILAY 2007: APPLIED AS-BUILT MERIVALE/ANNA	AUG 2007	CK
HYDRO OTTAWA: SAN, ST, WM, TRAFFIC & HYDRO APPL.	MAY 2009	LZ
ROGERS: TRAFFIC APPLIED	JUNE 2009	LZ
TELECOM BELL, UPR 2010: CONDUIT ADDED/ABAND ON MERIVALE	JUL 2017	JM
ROGERS - MERIVALE FTTP 2019: ROGERS - VAULT/CONDUIT ADDED	AUG 2022	CR
HYDRO OTTAWA, CITY: SEWER, WATER, TRAFFIC, SL: DIGITIZED FROM DATA RECEIVED	NOV 2023	PV

LEGEND

- Water Valve, Valve Chamber, Fire Hydrant
- Sewer Manhole, Catch Basin Manhole
- Catch Basin / Drainage, Wing Wall, Head Wall
- Pole, Pole w/ Light, Decorative, Lawn Light
- Power Supply, Panel, Pedestal, Transformer, Tower, Regulator
- Amp, Hand Hole, Vault, Gas Valve
- OC Transpo: Bus Shelter-No Power, Energized, Isolated
- Streetscape: Planter Box, Grate Square, Eng. Soil
- Traffic Connect Box / Disconnect Box, SL Disconnect
- Red Light Hand Hole, Red Light Camera
- Scadic Hand Hole, Monitoring Panel
- Reducer
- Pipe, Duct, Conduit, Lateral
- Culvert
- Ditch
- Abandoned
- Capped
- Buried Cable
- Property Line
- Install Year (2015)

TELECOM GLOSSARY

A	Allstream	P	Primus
AT	Aliant	P2P	Canadian P2P Fibre
B	Bell	R	Rogers
BH	Birch Hill	S	Sprint
F	Fibre Hub	SL	Street Lighting
G	Glosbiry	T	Traffic
GT	Group Telecom	TO	Telecom Ottawa
H	Hydro Ottawa	TU	Telus
HT	Hydro One	V	Videotron
L / L3	Level 3	Z	Zayo

GLOSSARY - OTHER

DD	Dept. of Defence	PED	Pedestal (owner unknown)
MH	Manhole (owner unknown)	PW	Public Works
O/OC	OCTranspo	UP	Utility Pole (owner unknown)
SCD	Scadia		

CAUTION/ATTENTION

Although utility locations are established using the best available information, they cannot be guaranteed.
Property lines were compiled from plans and documents recorded in the Land Registry System and are for boarding purposes only.

Bien que l'emplacement des services publics soient établis en utilisant la meilleure information disponible, ils ne peuvent pas être garantis.
Des lignes de propriété ont été compilées en utilisant des plans et des documents enregistrés dans le système de cadastre et sont pour l'indication seulement.

Ottawa

Right of Way, Heritage, and Urban Design Services / Gestionnaire, Services des emprises, du patrimoine, et du design urbain
Planning, Infrastructure and Economic Development Department / Direction générale de la planification, de l'infrastructure et du développement économique
100 Constellation Cres., 6th Floor East / 6ème Étage Est, Ottawa, ON K2G 6J8

OTTAWA UTILITY COORDINATING COMMITTEE
CENTRAL REGISTRY
COMITÉ DE COORDINATION DES SERVICES PUBLICS D'OTTAWA
ENREGISTREMENT CENTRAL

UCC Ottawa CCSP

PRODUCED BY / GIS & DATA MANAGEMENT BRANCH
INFRASTRUCTURE UNIT

SCALE: 1:250

SHEET NUMBER
G-06-07

PROPOSED

SIX (6) STOREY APARTMENT BUILDING SITE

LOT 1

R-PLAN 268160

917 MERIVALE ROAD

CITY OF OTTAWA

APPENDIX D

CITY OF OTTAWA

- **SITE PLAN AND ARCHITECTURAL DRAWINGS**
- **WATER BOUNDARY CONDITIONS E-MAIL**
- **FUS FIRE FLOW CALCULATION**
- **FUS EXPOSURE DISTANCES – FIGURE 1**
- **SUPPORTING HYDRAULIC CALCULATIONS**
- **HYDRANT SPACING – FIGURE 2**

ATTACHMENT 1 : SITE PLAN AND ARCHITECTURAL DRAWINGS

MARC AMYOT | 917 MERIVALE ROAD, OTTAWA, ON

Project No. 2301
Date 24.05.17
Issued For Internal Review

PROJECT DESCRIPTION:
6 storey apartment building with basement storage

1. ARCHITECT
Samuel Herschorn
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sherschorn@biosisdesigns.com

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D+M Structural
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Colin@dm-structural.ca

3. MECHANICAL ENGINEER
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LRL Engineering
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(613) 842-3434
hsingh@lrl.ca

4. ELECTRICAL ENGINEER
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LRL Engineering
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Gloucester ON K1J 9G3
(613) 842-3434
ebeck@lrl.ca

5. CONTRACTOR
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613-829-2777
eric@demarcoconstruction.ca

6. OWNER
Marc Amyot
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Orleans, Ontario
K4A0Z1
613-614-3092
marc@assera.ca

7. PROJECT MANAGER
Victor Merasce
Y-Street Capital
PO BOX 193, Carleton Place, Ontario
K7P-3P4
+1 (844) 978-7338
victorm@ystreetcapital.com

INDEX OF ARCHITECTURAL DRAWINGS

- ○ INDICATES PACKAGE OR ADDENDUM THAT DRAWING WAS ISSUED OR RE-ISSUED FOR PERMIT OR FOR REFERENCE ONLY
- ✓ INDICATES PACKAGE OR ADDENDUM THAT DRAWING WAS ISSUED OR RE-ISSUED FOR TENDER
- ● INDICATES PACKAGE OR ADDENDUM THAT DRAWING WAS ISSUED OR RE-ISSUED FOR CONSTRUCTION
- ● INDICATED PACKAGE OR ADDENDUM THAT DRAWING WAS ISSUED OR RE-ISSUED FOR CONTRACTUAL PURPOSES

ISSUE RECORD		SD	SPA	TP #1	PERMIT	CLIENT	DD	TP #2	DD	90% CD	CLIENT	TP #3	SPA	DRAFT	100% CD	PERMIT	PERMIT	CONTRACT	BA-001	BA-004	IFC
		ISSUED FOR SCHEMATIC DESIGN	ISSUED FOR SITE PLAN APPLICATION	ISSUED FOR EXCAVATION PERMIT / TENDER	ISSUED FOR BUILDING PERMIT	ISSUED FOR PROGRESS REVIEW	ISSUED FOR DESIGN DEVELOPMENT	ISSUED FOR STRUCTURAL TENDER	RE-ISSUED FOR DESIGN DEVELOPMENT	ISSUED FOR 90% CONTRACT DOCUMENTS	ISSUED FOR PROGRESS	ISSUED FOR INTERIORS TENDER	RE-ISSUED FOR SITE PLAN APPLICATION	ISSUED FOR DRAFT 100% CONTRACT DOCUMENTS	ISSUED FOR 100% CONTRACT DOCUMENTS	ISSUED FOR STRUCTURAL PERMIT	ISSUED FOR BUILDING PERMIT	ISSUED FOR CONTRACT	ISSUED FOR BA-001	ISSUED FOR BA-004	ISSUED FOR CONSTRUCTION
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1	22 JUL 2024	SH	ISSUED FOR SPA

REVISION RECORD

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	DS	ISSUED FOR SPA

ISSUE RECORD

BIOSIS DESIGNS

E: info@biosisdesigns.com
P: 613-292-9642
W:

MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON
for
MARC AMYOT

2301 PROJECT
1 : 1 SCALE
DS, SH DRAWN
SH REVIEWED

COVER PAGE

A001

2024-08-15 8:15:26 AM

917 MERIVALE_RVT 2024_detached.rvt

ARCHITETCURAL PARTITION ASSEMBLIES

TAG	FRR	STC	ASSEMBLY
P1	1 HR	32	**FIRE RATED PARTITION WALL** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING, INSULATED • 15.9mm (5/8") TYPE 'X' GYPSUM WALL BOARD • 184mm (7 1/4") WOOD STUDS @ 400mm (16") O.C. • 15.9mm (5/8") TYPE 'X' GYPSUM WALL BOARD. SBG REFERENCE: W4d
P1a	1 HR	51	**FIRE RATED PARTITION WALL w/ CHANNELS** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING, INSULATED • 15.9mm (5/8") TYPE 'X' GYPSUM WALL BOARD • 25mm 16GA FURRING CHANNELS SPACED AT 610mm O.C. MAX • 184mm (7 1/4") WOOD STUDS @ 400mm (16") O.C. • 2 LAYERS OF 15.9mm (5/8") TYPE 'X' GYPSUM WALL BOARD. SBG REFERENCE: W4a
P2	30min	32	**WOOD FRAME PARTITION WALL - 139mm STUD** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING, INSULATED • 15mm (5/8") GYPSUM WALL BOARD • 139mm (5 3/4") WOOD STUDS @ 400mm (16") O.C. • 139mm (5 1/2") ATTENUATION BATT INSULATION • 15mm (5/8") GYPSUM WALL BOARD. SBG REFERENCE: W1c
P3	30min	32	**WOOD FRAME PARTITION WALL - 89mm STUD** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING, INSULATED • 13mm (1/2") GYPSUM WALL BOARD • 89mm (3 1/2") WOOD STUDS @ 400mm (16") O.C. • 89mm (3 1/2") ATTENUATION BATT INSULATION • 13mm (1/2") GYPSUM WALL BOARD. SBG REFERENCE: W1c
P4	30min	32	**WOOD FRAME PARTITION WALL - 89mm STUD** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING, INSULATED • 13mm (1/2") GYPSUM WALL BOARD • 89mm (3 1/2") WOOD STUDS @ 400mm (16") O.C. • 13mm (1/2") GYPSUM WALL BOARD. SBG REFERENCE: W1c

ARCHITECTURAL WALL ASSEMBLIES

TAG	FRR	STC	ASSEMBLY
W1	1.5 HR	50	**C.I.P. FOUNDATION WALL** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING INSULATED • 250mm CIP CONCRETE POUR • AIR / MOISTURE BARRIER • 75mm (3") RIGID INSULATION. SBG REFERENCE: B1b
W1a	1.5 HR	50	**C.I.P. AIR ENTRAINED FOUNDATION / CURB WALL** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING INSULATED • 250mm CIP CONCRETE POUR c/w 7% AIR ENTRAINMENT • WEATHER RESISTANT PAINT. SBG REFERENCE: B1b
W2	1 HR	32	**EXTERIOR CEMENT PANEL WALL 1** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING INSULATED • 12.5mm (1/2") GYPSUM WALL BOARD • 6 mil POLY AIR / VAPOUR BARRIER • 139mm (5 3/4") WOOD STUDS @ 400mm (16") O.C. • 139mm (5 1/2") ATTENUATION BATT INSULATION • 13mm (1/2") GYPSUM WALL BOARD • 13mm (1/2") PLYWOOD SHEATHING • AIR / MOISTURE BARRIER • 75mm (3") RIGID INSULATION • 1" x 3" WOOD FURRING c/w SLOPED TOP EDGE • CEMENT BOARD PANELLING. SBG REFERENCE: W1a
W2a	1 HR	32	**EXTERIOR CEMENT PANEL WALL 2** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING INSULATED • 12.5mm (1/2") GYPSUM WALL BOARD • 6 mil POLY AIR / VAPOUR BARRIER • 184mm (5 3/4") WOOD STUDS @ 400mm (16") O.C. • 184mm (7 1/4") ATTENUATION BATT INSULATION • 13mm (1/2") PLYWOOD SHEATHING • AIR / MOISTURE BARRIER • 75mm (3") RIGID INSULATION • 1" x 3" WOOD FURRING c/w SLOPED TOP EDGE • CEMENT BOARD PANELLING. SBG REFERENCE: W1a
W3	1 HR	32	**EXTERIOR WOOD PANEL WALL** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING INSULATED • 12.5mm (1/2") GYPSUM WALL BOARD • 6 mil POLY AIR / VAPOUR BARRIER • 139mm (5 3/4") WOOD STUDS @ 400mm (16") O.C. • 139mm (5 1/2") ATTENUATION BATT INSULATION • 13mm (1/2") GYPSUM WALL BOARD • 13mm (1/2") PLYWOOD SHEATHING • AIR / MOISTURE BARRIER • 75mm (3") RIGID INSULATION • 1" x 3" WOOD FURRING c/w SLOPED TOP EDGE • VERTICAL WOOD SIDING. SBG REFERENCE: W1a
W4	1.5HR	50	**INSULATED METAL PANEL WALL** SLAB TO U/S OF (SPECIFY TYPE OF) CEILING INSULATED • CORE WALL ASSEMBLY (VARIES) • 13mm (1/2") PLYWOOD SHEATHING • AIR / MOISTURE BARRIER • 75mm (3") RIGID INSULATION • INSULATED METAL PANEL. SBG REFERENCE: B1b

ARCHITECTURAL FLOOR ASSEMBLIES

TAG	FRR	STC	ASSEMBLY
F1	2 HR	51	**CIP CONCRETE SLAB** • 300mm CIP CONCRETE SLAB • WATERPROOFING MEMBRANE • 50mm (2") RIGID INSULATION. SBG REFERENCE: F1b
F2	2 HR	52	**CIP CONCRETE SLAB w/ FINISH** • 9.5mm CERAMIC TILE • 6.4mm MORTAR BED • 200mm CIP CONCRETE SLAB. SBG REFERENCE: F1b
F3	1 HR	60	**ENGINEERED FLOOR w/ WOOD FINISH** • 19mm (1/2") VINYL PLANK FLOORING • 5mm UNDERLAYMENT • 25mm (1") CONCRETE TOPPING • 19.2mm (3/4") PLYWOOD SHEATHING • 300mm ENGINEERED WOOD JOIST • 19.2mm (3/4") BONOPAN SHEET • 12.7mm (1/2") RESILIENT CHANNELS @ 400mm O.C. • 15.9mm (5/8") TYPE X GYPSUM BOARD CEILING. SBG REFERENCE: F1fb

ARCHITECTURAL ROOF ASSEMBLIES

TAG	FRR	STC	ASSEMBLY
R1	1 HR	53	**EPDM MONO-SLOPE ROOF** • EPDM ROOFING MEMBRANE • 12.5mm HIGH DENSITY COVER BOARD • 200mm (8") RIGID TAPERED INSULATION • WATERPROOFING MEMBRANE • 6.35mm (1/4") T&G TREATED PLYWOOD SHEATHING • 19.2mm (3/4") T&G TREATED PLYWOOD SHEATHING • 300mm ENGINEERED WOOD JOIST • 300mm (12") BATT INSULATION • 6mil POLY AIR / VAPOUR BARRIER • 25mm (1") WOOD STRAPPING @ 400mm O.C. • 12.5mm (1/2") GYPSUM BOARD CEILING. SBG REFERENCE: F10e

1 A005 ARCHITECTURAL ASSEMBLIES
1 : 20

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	SH	ISSUED FOR SPA

REVISION RECORD

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	DS	ISSUED FOR SPA

ISSUE RECORD

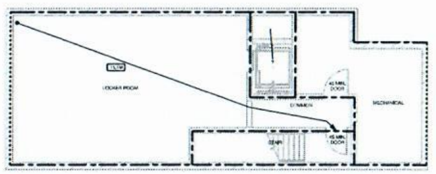
BIOSIS DESIGNS
E info@biosisdesigns.com
P 613-292-9642
W

MERIVALE APARTMENT
917 MERIVALE RD
OTTAWA ON
for
MARC AMYOT

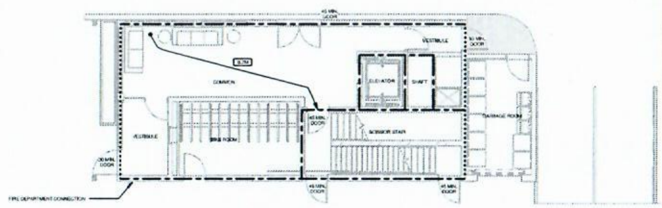
2301 PROJECT 1 : 20 SCALE
DS, SH DRAWN
SH REVIEWED

ARCHITECTURAL ASSEMBLIES

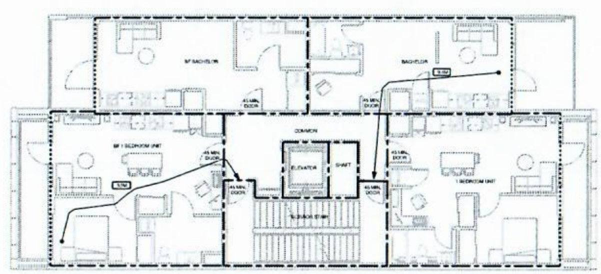
A005



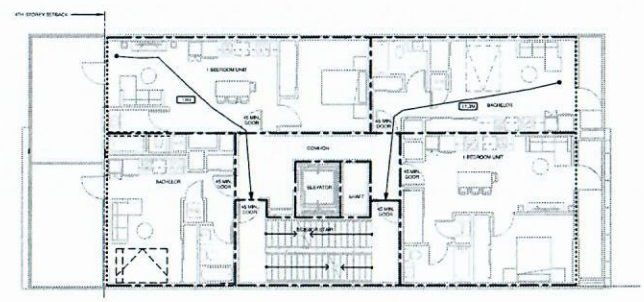
1 BASEMENT LEVEL FLS PLAN
A006 1 : 100



2 FIRST LEVEL FLS PLAN
A006 1 : 100



3 FLS PLAN - LEVELS 2-4
A006 1 : 100



4 FIFTH LEVEL FLS PLAN
A006 1 : 100

LIFE & SAFETY LEGEND :

"REFER TO MECHANICAL ENGINEER DRAWINGS"

SYMBOL	DESCRIPTION
	CONTRACTOR TO ENSURE PROPER SPRINKLER COVERAGE IS MAINTAINED THROUGHOUT THE SPACE AS PER NFPA-13 AND OBC REQUIREMENTS. ALL SPRINKLER WORK SHALL BE TO THE APPROVAL OF THE OWNERS / LANDLORDS INSURANCE UNDERWRITER AND CONFORMANCE TO THE BASE BUILDING SPECIFICATIONS, NATIONAL FIRE PROTECTION ASSOCIATION SECTION #13, ONTARIO BUILDING CODE AND ALL GOVERNING AUTHORITIES. ALL COMPONENTS SHALL BE ULC APPROVED.
	UPRIGHT SPRINKLER HEAD AND PIPING 'E' DENOTES EXISTING TO REMAIN 'RR' DENOTES EXISTING TO BE REMOVED / RELOCATED 'N' DENOTES NEW
	CONCEALED SPRINKLER HEAD 'E' DENOTES EXISTING TO REMAIN 'RR' DENOTES EXISTING TO BE REMOVED / RELOCATED 'N' DENOTES NEW
	PENDANT SPRINKLER HEAD 'E' DENOTES EXISTING TO REMAIN 'RR' DENOTES EXISTING TO BE REMOVED / RELOCATED 'N' DENOTES NEW
	SIDEWALL OR WINDOW SPRINKLER HEAD 'E' DENOTES EXISTING TO REMAIN 'RR' DENOTES EXISTING TO BE REMOVED / RELOCATED 'N' DENOTES NEW
	ELECTRONIC MAGNETIC LOCKING DEVICE (MAGLOCK) BY ENGINEER
	PUSH BUTTON RELEASE OR SENSOR BY ENGINEER
	FIRE PULL STATION BY ENGINEER
	EXIT LIGHT WALL MOUNTED C/W FACES AND ARROWS AS INDICATED
	EXIT CEILING MOUNTED
	EXIT SIGNS ARE TO BE REVIEWED ON SITE TO ENSURE THEY ARE VISIBLE ALONG ALL PATHS OF EGRESS/EXITS AS OBSTRUCTIONS BY DUCTS, PIPES, ETC. MAY NOT BE OBVIOUS ON PLANS. ADD, RELOCATE AND ADJUST SIGNS AND EMERGENCY LIGHTING AS REQUIRED TO ACHIEVE THEIR INTENDED PERFORMANCE OBJECTIVE. CONTRACTOR TO CARRY FOR (2) ADDITIONAL EXIT SIGNS, TO SUPPLY AND INSTALL, IN CASE INSPECTOR REQUESTS.

FIRE ALARM LEGEND :

SYMBOL	DESCRIPTION
FD	CEILING MOUNTED FIRE DETECTOR
SA	CEILING MOUNTED SMOKE ALARM
CD	CEILING MOUNTED EMERGENCY STROBE LIGHT
F	CEILING MOUNTED FIRE ALARM TO BE VISUAL AND AUDIBLE - SHALL COMPLY WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE AND IN CONFORMANCE WITH CAN/ULC-S524 "INSTALLATION OF FIRE ALARM SYSTEMS." TO BE COMPATIBLE WITH REMAINING DEVICES. UPON COMPLETION OF WORK ALL EXISTING ANCILLARY SYSTEMS, DEVICES, SMOKE CONTROL AND EXHAUST SYSTEMS SHALL BE RECONNECTED AND SHALL FUNCTION AND OPERATE AS ORIGINALLY DESIGNED.

NOTES:

NO STRUCTURAL MODIFICATIONS HAVE BEEN MADE TO AFFECT LOAD BEARING WALLS AND/OR ASSEMBLIES.

REFER TO MECHANICAL AND ELECTRICAL ENGINEERS DRAWINGS FOR OTHER LIFE SAFETY REQUIREMENTS.

FLOOR SAFETY LEGEND :

SYMBOL	DESCRIPTION
	DENOTES AREA NOT IN CONTRACT
	DISTANCE BETWEEN EGRESS XX MIN.
	FIRE HOSE COVERAGE MAX. (75 FT) + (10 FT) STREAM = 85 FT MAX. 100FT + 10FT STREAM = 110FT
	TRAVEL DISTANCE TO EXIT MAX. 25 m (82'-0")
EGRESS	EGRESS DOOR W/ CLOSURE & POSITIVE LATCH (MIN. 45 MIN. LABEL STEEL FRAME W/ CLOSURE OR EXISTING) BY OTHERS
EXIT	DENOTES LOCATION OF EXIT
AID	FIRST AID STATION
FHC	DENOTES FIRE HOSE CABINET
	1,800 mm X 1,800 mm (71" X 71") UNOBSTRUCTED SPACE LOCATED AT EVERY 30 m (98'-5") IF THE CORRIDOR IS LESS THAN 1,800 mm (83") IN WIDTH
	DENOTES 45 MINUTE FIRE RATING PERIMETER
	DENOTES 1 HOUR FIRE RATING PERIMETER
	DENOTES 1.5 HOUR FIRE RATING PERIMETER
	DENOTES 2 HOUR FIRE RATING PERIMETER

NOTES:

PUBLIC / MAJOR CORRIDORS
ALL PUBLIC AND MAJOR CORRIDORS WIDTH TO BE A MINIMUM OF 3'-7" (1,100 mm). 5'-0" TO 5'-6" RECOMMENDED

SUBSIDIARY AISLES
ALL SUBSIDIARY AISLES TO BE A MINIMUM OF 3'-0" (900 mm) MAY NOT BRANCH OFF FOR MORE THAN 24'-7" (7.5M). 3'-7" IS RECOMMENDED

CORRIDOR LENGTHS
THE MAXIMUM CORRIDOR LENGTH WITH A WIDTH OF 3'-7" (1,100 mm) SHALL BE [illegible]

WORKSTATION LENGTHS
THE MAXIMUM AISLE LENGTH WITH A WIDTH OF 3'-0" (900 mm) SHALL BE 24'-7" (7.5 M)

FLAME SPREAD RATING CLASSIFICATION FOR INTERIOR FINISHES:

ITEM	FLAME SPREAD RATING
-CEILING	25 FSR MAXIMUM
-PUBLIC CORRIDOR WALLS	75 FSR MAXIMUM
- WORKSTATIONS MOVABLE PARTITIONS - WALLCOVERING - PAINT - WOOD VENEER - PLASTIC LAMINATE - CARPET	150 FSR MAXIMUM
- VINYL FLOORING - WOOD FLOORING	300 FSR MAXIMUM

PATH OF TRAVEL SCHEDULE

MARK	LENGTH
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

2012 ONTARIO BUILDING CODE - DATA MATRIX

NO.	ITEM	DESCRIPTION	CODE REFERENCE
1	PROJECT DESCRIPTION	☒ NEW CONST. ☐ ALTERATION ☐ TENANT FITUP ☐ ADDITION ☐ CHANGE OF USE ☐ OTHER	PART 3 // PART 9
2	MAJOR OCCUPANCY(S) PROPOSED	GROUP C, UP TO 6 STOREYS, SPRINKLERED, COMBUSTIBLE CONSTRUCTION	3.2.2.43A 9.10.1.3.
3	BUILDING AREA	TOTAL COMPLEX BUILDING AREA 243 m² PROPOSED RENOVATION AREA - m²	3.2.2.43.(1)(d)(v) 1.4.1.2.
4	GROSS AREA (Above Grade)	TOTAL COMPLEX GROSS FLOOR AREA 1341 m² PROPOSED RENOVATION AREA - m²	1.4.1.2.
5	NUMBER OF STOREYS (Existing Building)	ABOVE GRADE 6 BELOW GRADE 1	1.4.1.2. & 3.2.1.1.
6	NUMBER OF STREETS / ACCESS ROUTES	1 STREET - MERIVALE RD	3.2.2.10. & 3.2.5.
7	BUILDING CLASSIFICATION	GROUP C, UP TO 6 STOREYS, SPRINKLERED, COMBUSTIBLE CONSTRUCTION	3.2.2.43A., 9.10.2.
8	SPRINKLER SYSTEM PROPOSED	YES	3.2.2.18., 3.2.2.43A., 3.2.4.7.(2), 3.2.4.9.(2), 3.2.5.13., & NFPA 13
9	STANDPIPE REQUIRED	YES	3.2.9.1.(1), 3.2.9.2., 3.2.9.3.(1), 3.2.9.4., & NFPA 14-2007
10	FIRE ALARM REQUIRED	YES	3.2.4.1.
11	WATER SERVICE / SUPPLY IS ADEQUATE	TBC BY ENGINEER	3.2.5.7.
12	HIGH BUILDING	NO, TOP FLOOR IS LESS THAN 18M ABOVE GRADE	3.2.6.1.(1)(d)
13	CONSTRUCTION RESTRICTIONS	PERMITTED CONSTRUCTION: COMBUSTIBLE W/ NON-COMBUSTIBLE CLADDING ACTUAL CONSTRUCTION: COMBUSTIBLE W/ NON-COMBUSTIBLE CLADDING	3.2.2.43A
14	MEZZANINE(S) AREA (sm)	N/A	3.2.1.1.
15	OCCUPANT LOAD BASED ON BUILDING CODE AREA PER SQUARE METRE	AS PER 3.1.17.1.1 (b), (i) BACHELOR UNITS = 1 PERSON PER UNIT (X10) 1 BEDROOM UNITS = 2 PERSONS PER UNIT (X10) 2 BEDROOM LOFT = 4 PERSONS PER UNIT (X1) TOTAL NUMBER OF OCCUPANTS: 34	3.1.17. & TABLE 3.1.17.1.
16	BARRIER-FREE DESIGN	YES	3.8.
17	HAZARDOUS SUBSTANCES	NO	3.3.1.2.
18	REQUIRED FIRE RESISTANCE RATING (FRR)	FLOORS: 1 HR ROOF: 1 HR LOADBEARING WALLS: 1 HR DEMISING UNIT WALLS: 1 HR	3.3.1.1. 3.3.4.2. 9.10.8. 9.10.9
19	SPATIAL SEPARATION		3.2.3.
20	PLUMBING FIXTURE REQUIREMENTS	see plumbing fixture table below	3.7.4.3. 3.7.4.2(3): URINALS SUBSTITUTED FOR WATER CLOSET IN MEN'S
21	TRAVEL DISTANCE	TO EXIT 37m MAX.	3.4.2.5.(1)(c) 3.4.2.5(1)(b)
22	SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS	see spatial separation table below	

Item 20 – PLUMBING FIXTURE REQUIREMENTS:

WATER CLOSTES PROVIDED PER DWELLING UNIT	OCCUPANT LOAD	WATER CLOSETS REQUIRED – MALE	WATER CLOSETS REQUIRED – FEMALE	WATER CLOSETS PROVIDED – MALE	WATER CLOSETS PROVIDED – FEMALE
TOTAL 20 WATER CLOSETS	34 RESIDENTS	N/A	N/A	N/A	N/A

Item 22 – SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS:

WALL	AREA OF EBF (m²)	L.D. (m)	PERM. MAX % OPENINGS	PROP. % OPENINGS	FRR (hrs)	LIST DESIGN	COMB. CONST.	COMB. CONST. NONC. CLAD.	NON-COMB. CONST.
NORTH	556	1.2	14	12.4	1 hr	-	-	YES	-
SOUTH	458	1.2	14	3.5	1 hr	-	-	YES	-
EAST	215	8.29	82	61.2	45 min	-	-	YES	-
WEST	215	14.8	100	48.7	45 min	-	-	YES	-

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MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON
for
MARC AMYOT

2301 PROJECT
As indicated SCALE
DS / SH DRAWN
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LIFE & SAFETY PLAN

A006

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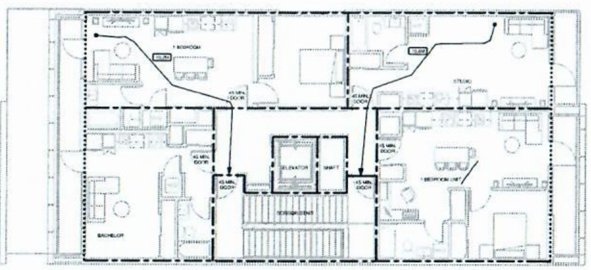
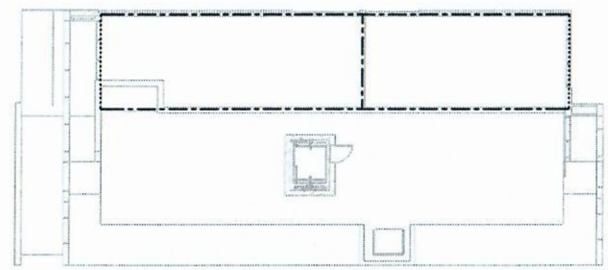
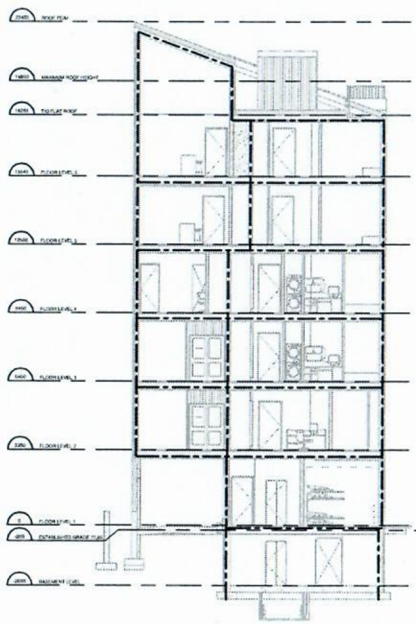
917 MERIVALE_RVT 2024_detached.rvt



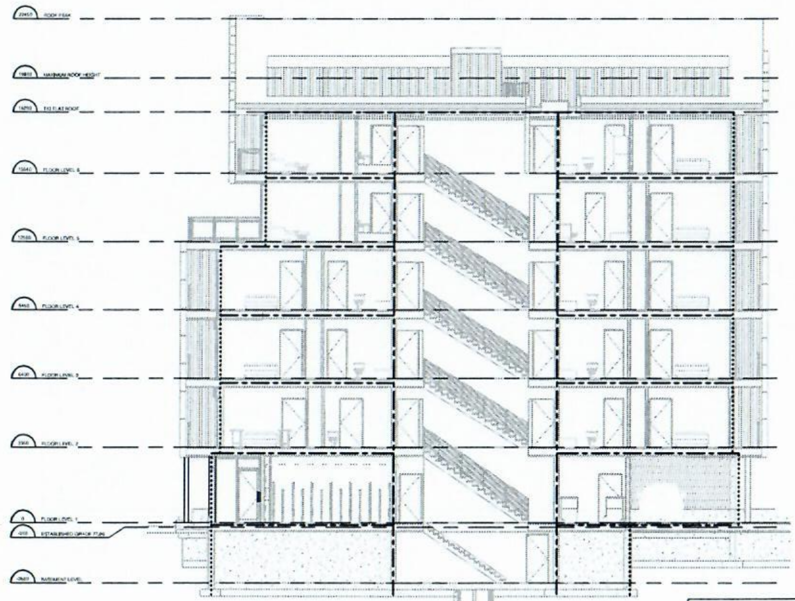
2 SIXTH LEVEL FLS PLAN
A007 1 : 100



1 FLAT ROOF FLS PLAN
A007 1 : 100



3 NORTH/SOUTH FLS SECTION
A007 1 : 100



4 EAST/WEST FLS SECTION
A007 1 : 100

FLOOR SAFETY LEGEND :

LIFE & SAFETY LEGEND :

REFER TO MECHANICAL ENGINEER DRAWINGS

FIRE ALARM LEGEND :

PATH OF TRAVEL SCHEDULE

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Author DRAWN

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LIFE & SAFETY PLAN

A007

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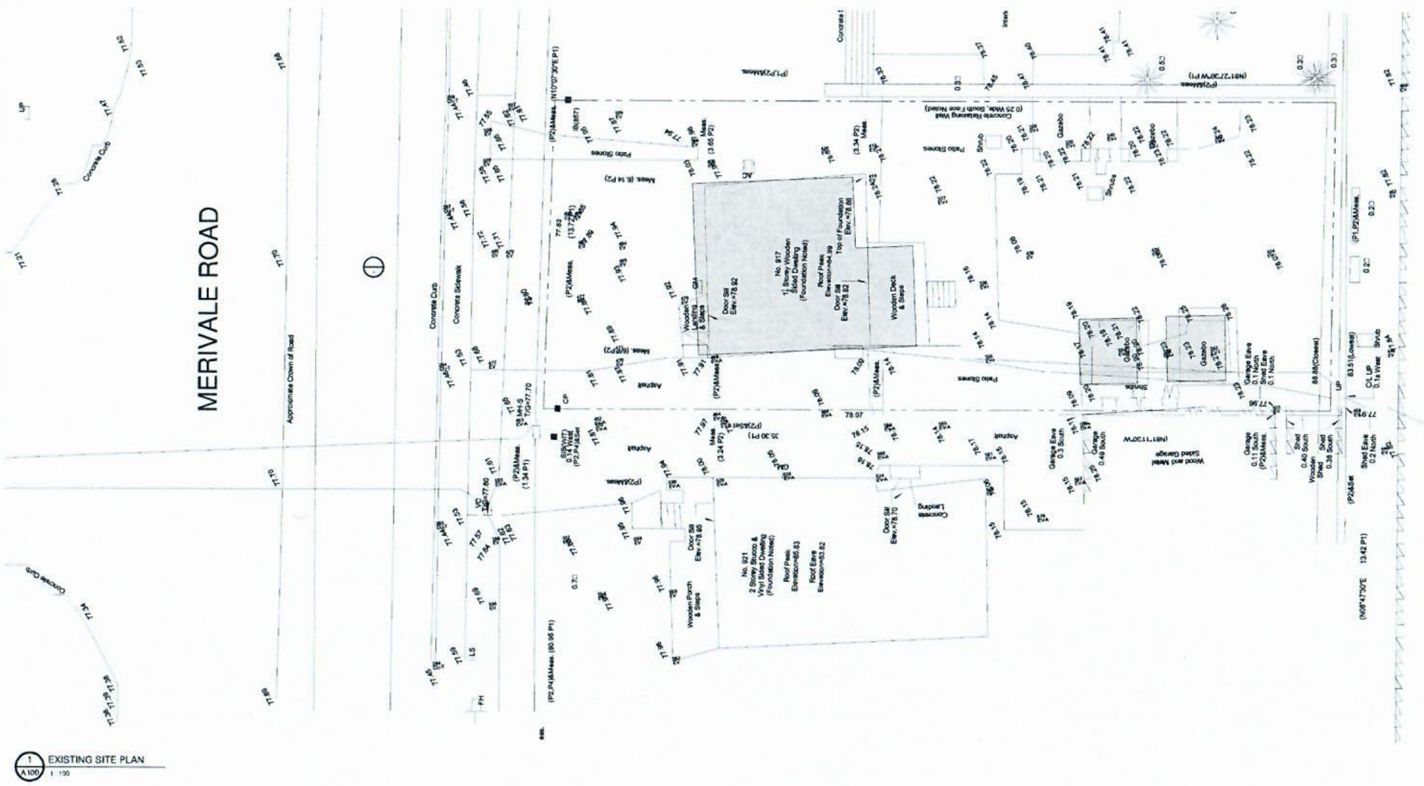

1 EXISTING SITE PLAN
A100 1 : 100

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EXISTING SITE PLAN

A100

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ZONING REQUIREMENTS - TM [2196]

EXISTING ZOINING: TM[2196] Traditional Main Street Zone

PROPOSED ZOINING: TM[2196] Traditional Main Street Zone

PARKING	REQUIRED	PROVIDED	COMPLIES Y/N
OFF-STREET PARKING	4	4	Y
VISITOR PARKING	1	1	Y
BARRIER FREE PARKING	0	0	Y
BICYCLE PARKING	10	22 (STACKED)	Y
SETBACKS			
FRONT YARD	MAX 2M	2M	Y
FRONT YARD ABOVE 15M	MIN 2M	2M	Y
REAR YARD	7.5M	7.9M	Y
SIDE YARD (NORTH)	1.2M	1.22M	Y
SIDE YARD (SOUTH)	1.2M	1.2M	Y
MAX HEIGHT TO ROOF MIDPOINT	20M	20M	Y
MINIMUM LOT WIDTH	0	13.73M	Y
BUILDING COVERAGE/AREA	N/A	50.5%	Y
TOTAL GFA	N/A	1,341 SM	Y
AMENITY SPACE AREA	6 SM PER UNIT = 120SM MIN 50% COMMON	BALCONY = 171 SM COMMON SP = 159 SM	Y
TOTAL NUMBER OF UNITS	N/A	20	Y
MIN LANDSCAPE BUFFER	0 - NOT ABUTTING A STREET	N/A	Y

SITE DATA

ITEM	AREA	% TOTAL
LOT AREA	481.5 SM (5,183 SFT)	100%
BUILDING AREA	243 SM (2,622 SFT)	50.5%
GROSS FLOOR AREA	1,341 SM (14,434 SFT)	
ASPHALT/CONC. AREA	169.5 SM (1,813 SFT)	35%
LANDSCAPED AREA	REAR LOT AREA 70 SM (759 SFT)	14.5%

UNIT DATA

LEVEL	STUDIO	1 BED	2 BED	TOTAL	FLOOR AREA
BASEMENT	0	0	0	0	119 SM (1280 SFT)
MAIN FLOOR	0	0	0	0	103 SM (1116 SFT)
2ND FLOOR	2	2	0	4	243 SM (2622 SFT)
3RD FLOOR	2	2	0	4	243 SM (2622 SFT)
4TH FLOOR	2	2	0	4	243 SM (2622 SFT)
5TH FLOOR	2	2	0	4	239 SM (2570 SFT)
6TH FLOOR	2	2	0	4	239 SM (2570 SFT)
TOTAL	10	10	0	20	1341 SM (14,434 SFT) A.G.

PARKING COUNT

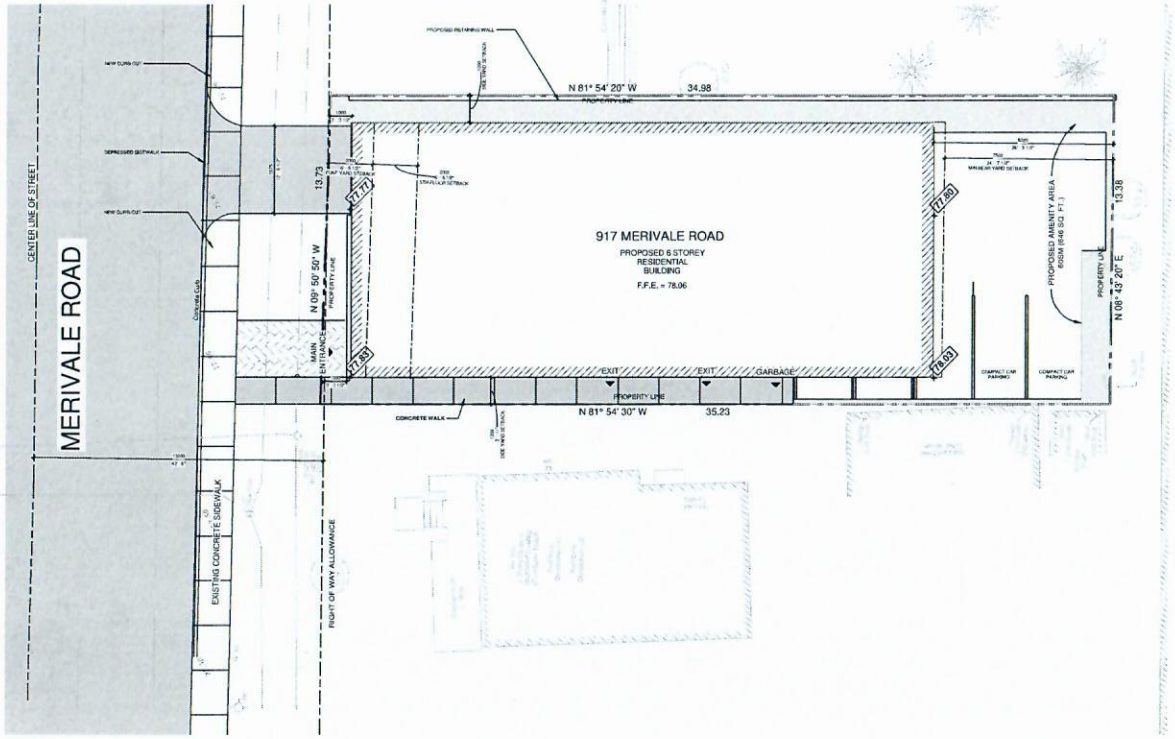
USAGE	COUNT	PARKING RATIO	PARKING REQUIRED	PARKING PROVIDED	COMPLIES (Y/N)
STUDIOS*	10	0-10 UNITS = 0	0	0	Y
1 BED*	10	10-12 UNITS = 0 13-20 UNITS = 0.5	4	4	Y
2 BED					Y
BF SPOTS					Y
VISITOR		0-12 UNITS = 0 13-20 UNITS = 0.1	1	1	Y
TOTAL	20		5	5	Y

ESTABLISHED GRADE ELEVATION DATA

BUILDING CORNER	ELEVATION	CALCULATION
NORTH WEST CORNER	77.77	77.77 + 77.80 + 78.03 + 77.83 = 311.43 311.43 / 4 = 77.8575
NORTH EAST CORNER	77.80	
SOUTH EAST CORNER	78.03	
SOUTH WEST CORNER	77.83	
AVERAGE GRADE ELEVATION		AVG ELEV. = 77.86

WASTE MANAGEMENT DATA

USAGE	WASTE TYPE	REQ. CY	BINS PROVIDED	COMPLIES (Y/N)
GARBAGE	LOOSE	0.11 CY/UNIT x 2	4 x 360L	Y
RECYCLING	LOOSE	0.08 CY/UNIT x 1	4 x 360L	Y
ORGANIC	LOOSE	(1) 240L BIN PER SU (UNIT)	3 x 240L	Y



1 / A101 PROPOSED SITE PLAN 1 : 100

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2301 PROJECT — As indicated SCALE

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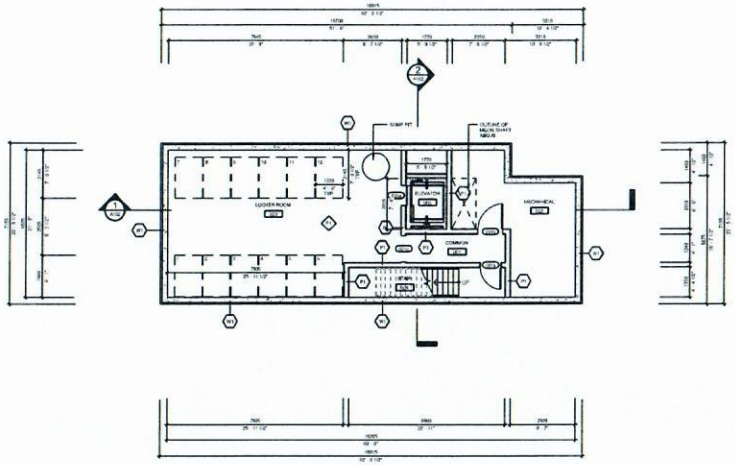
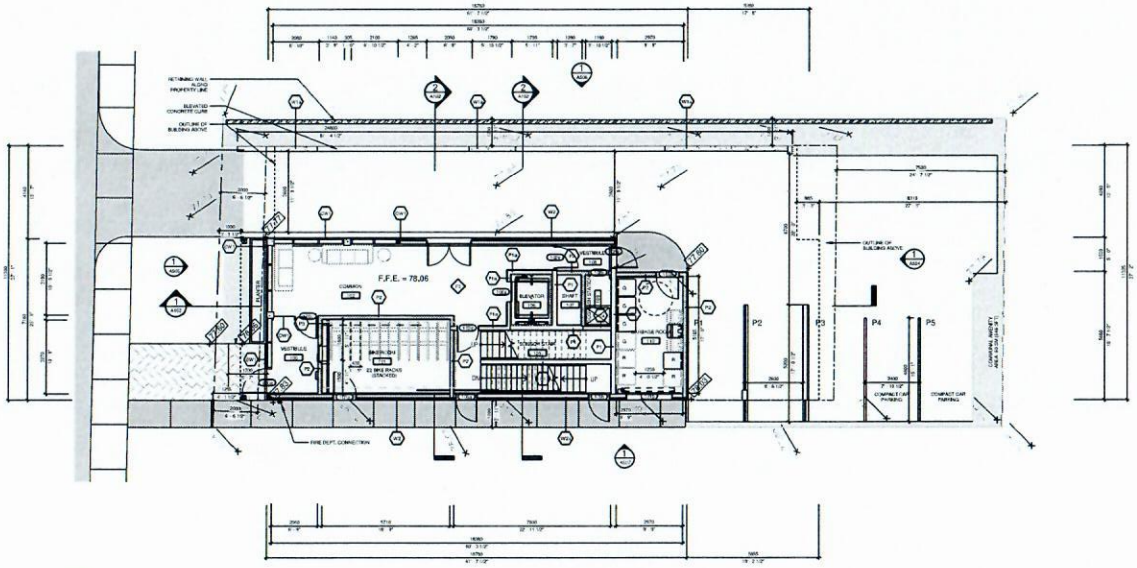
PROPOSED SITE PLAN

A101



3 A102 BASEMENT LEVEL FLOOR PLAN
1 : 100



1 A102 FIRST LEVEL FLOOR PLAN
1 : 100

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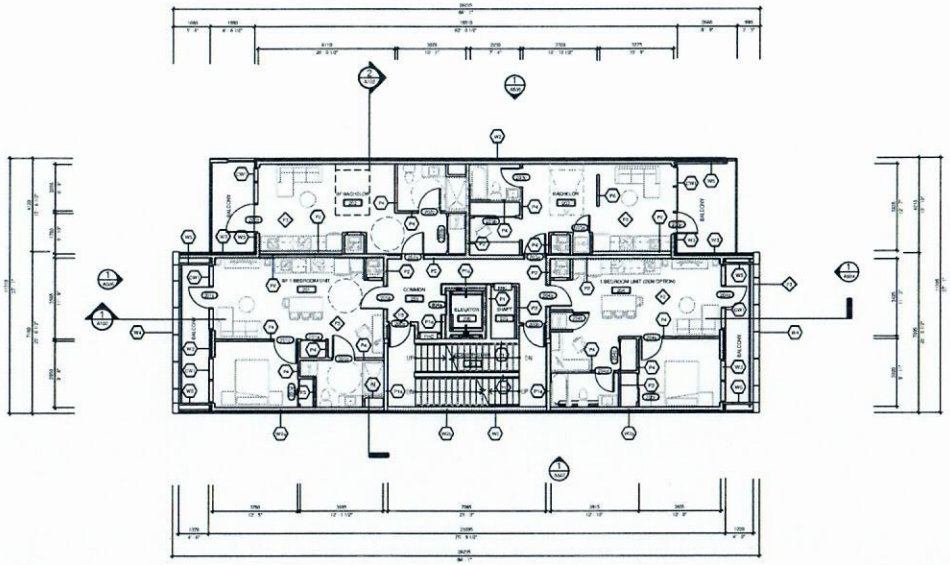
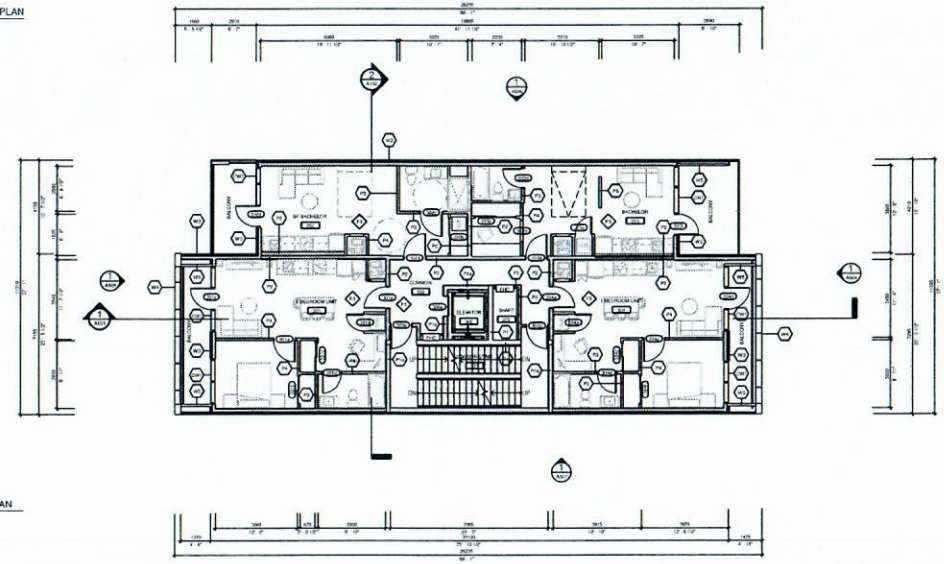
FLOOR PLANS

A102



2 / A103 SECOND LEVEL FLOOR PLAN
1 : 100



1 / A103 THIRD LEVEL FLOOR PLAN
1 : 100

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FLOOR PLANS

A103

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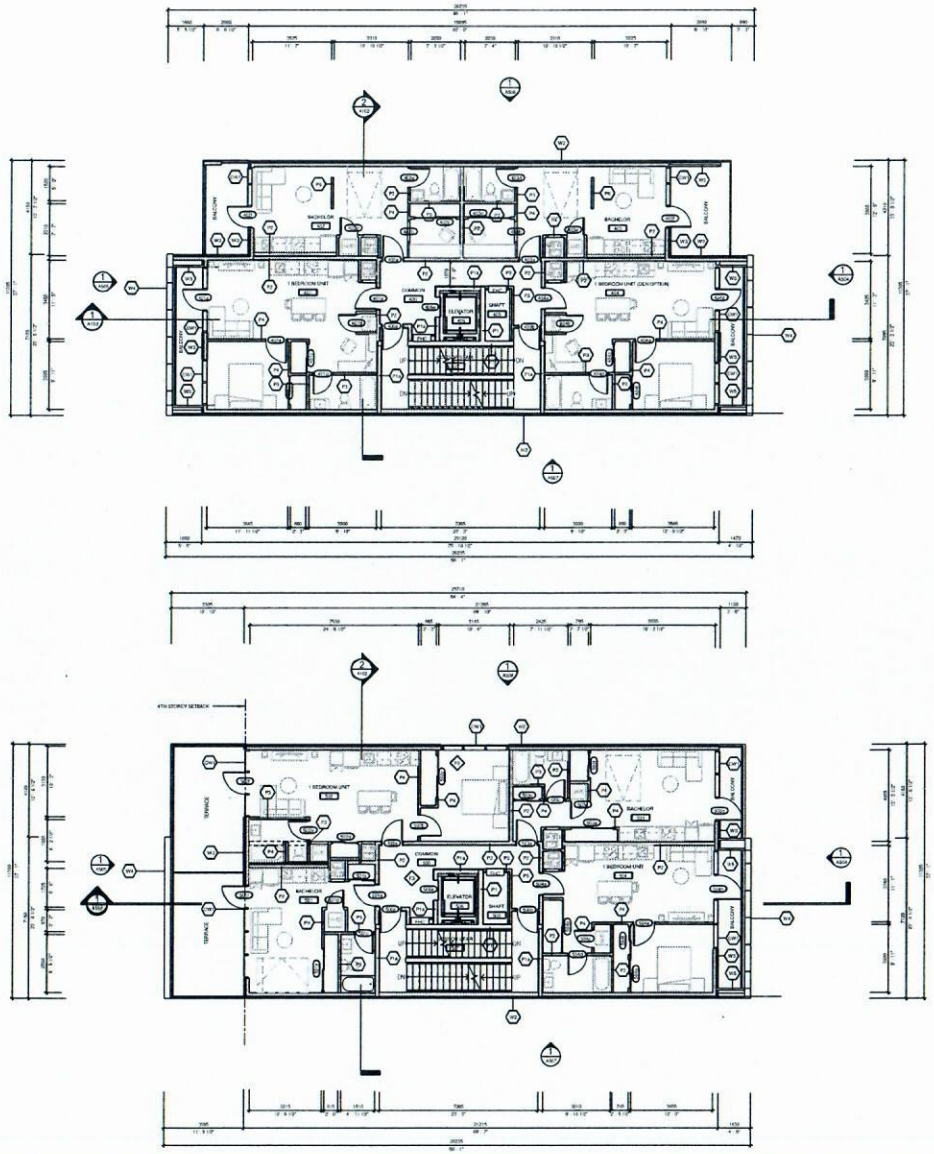

1 / A104 FOURTH LEVEL FLOOR PLAN
1 : 100

2 / A104 FIFTH LEVEL FLOOR PLAN
1 : 100

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FLOOR PLANS

A104

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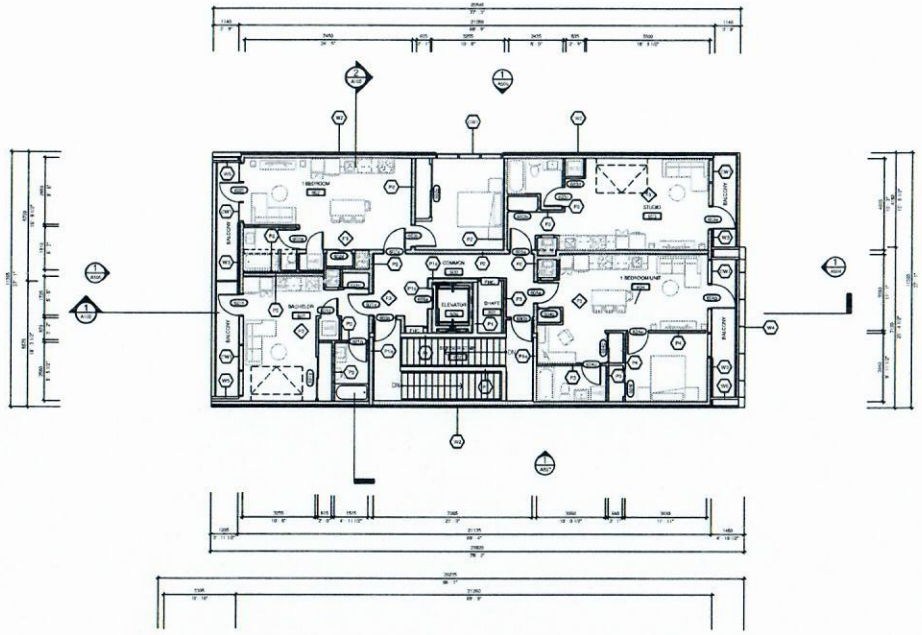
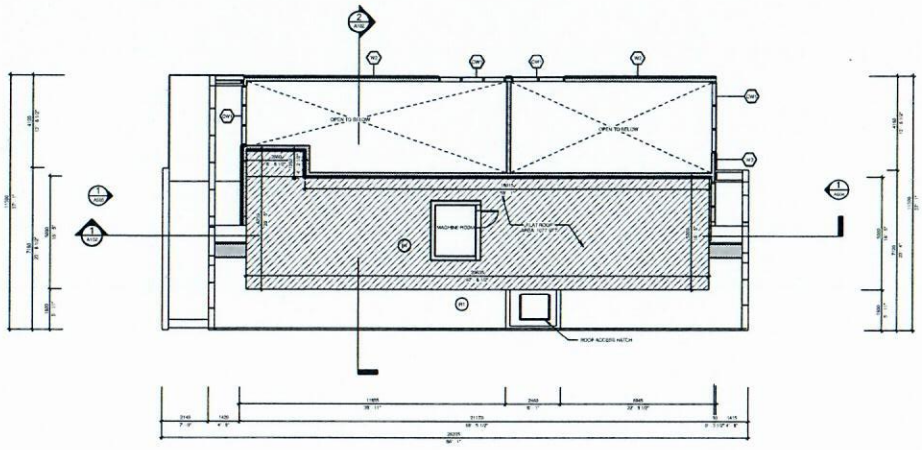


1 / A105 SIXTH LEVEL FLOOR PLAN
1 : 100



2 / A105 FLAT ROOF PLAN
1 : 100

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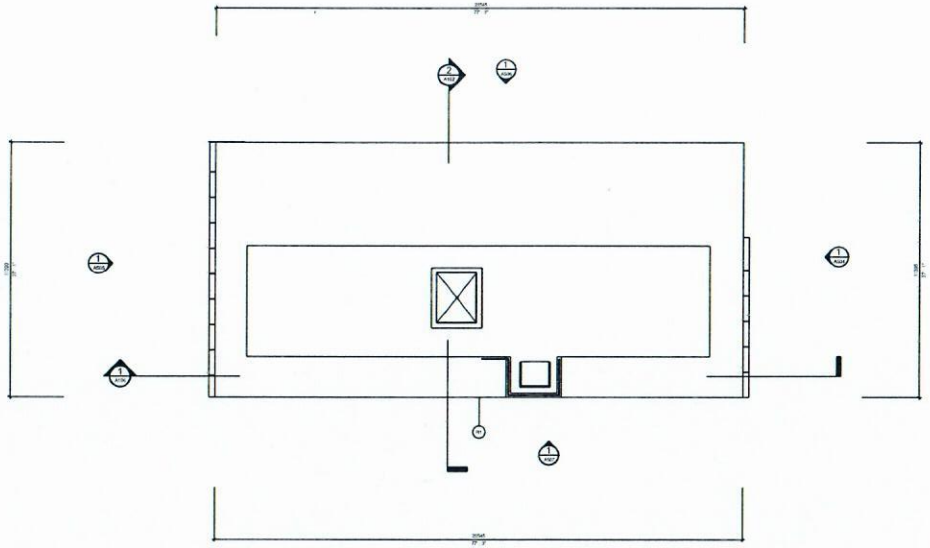
2301 PROJECT
1 : 100 SCALE

DS, SH DRAWN

SH REVIEWED

FLOOR PLANS

A105



1 / A106 ROOF PLAN
1 : 100

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MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON

for

MARC AMYOT

2301 PROJECT
1 : 100 SCALE

Author
DRAWN

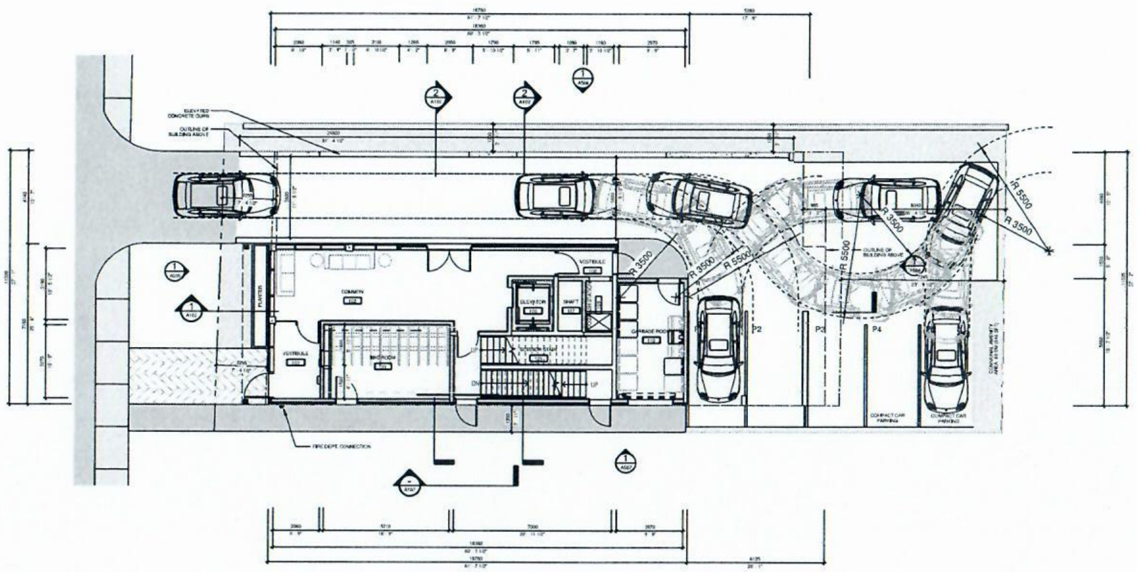
Checker
REVIEWED

FLOOR PLANS

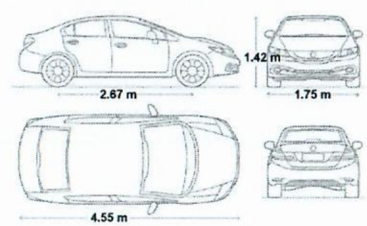
A106

917 MERIVALE_REV 2024_detached.rvt

2024-08-19 8:10:42 AM



1 A107 FIRST LEVEL VEHICLE TURNING - MID SIZED SEDAN
1 : 100



2 A107 TYP. VEHICLE DIMENSIONS
1 : 25

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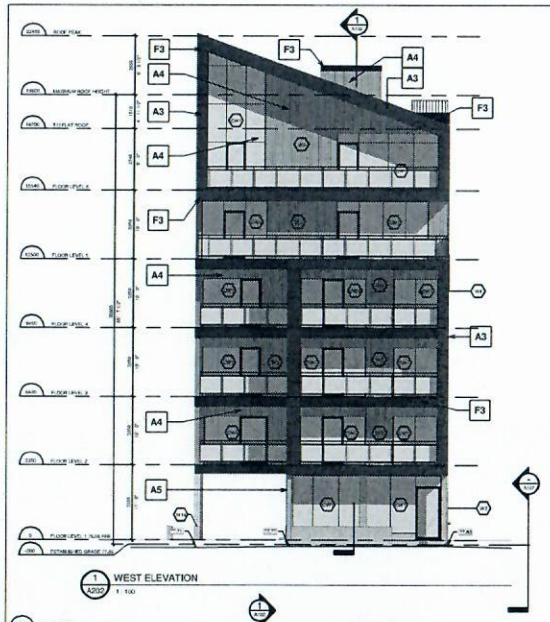
MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON
for
MARC AMYOT

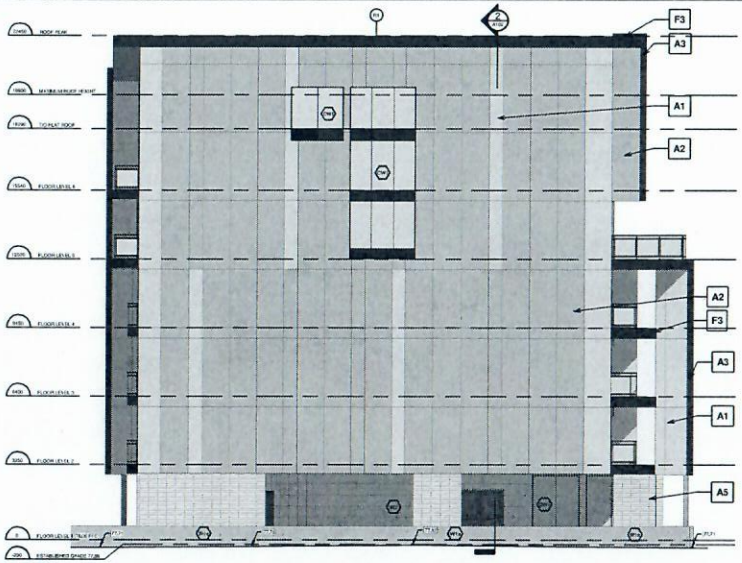
2301 PROJECT
As indicated SCALE
DS, SH DRAWN
SH REVIEWED

VEHICLE TURNING PLAN

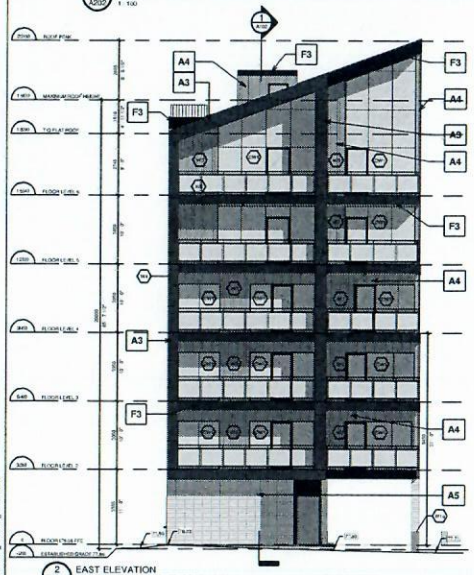
A107



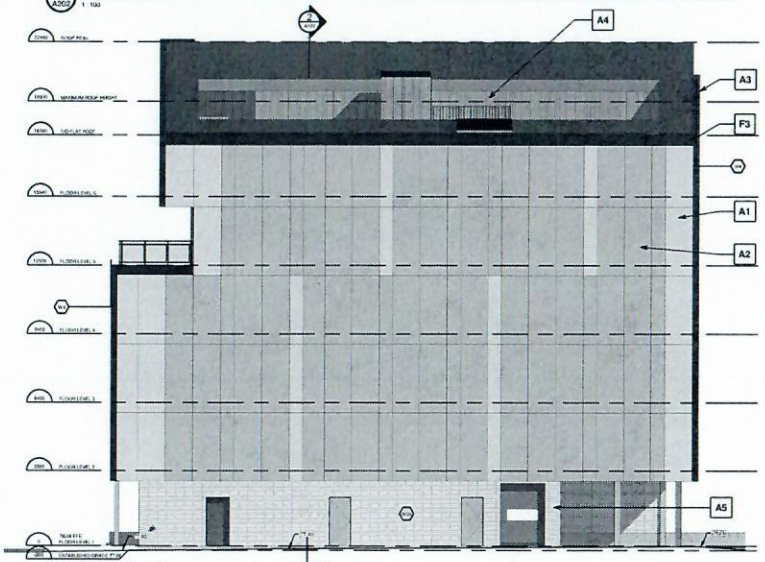
1 WEST ELEVATION
A202 1 : 100



4 NORTH ELEVATION
A202 1 : 100



2 EAST ELEVATION
A202 1 : 100



3 SOUTH ELEVATION
A202 1 : 100

EXTERIOR FINISH LEGEND

A1 - VERTICAL HARDIE PANEL
COLOUR: BIRCH TREE
STYLE: SMOOTH
PATTERN: STACKED

A2 - VERTICAL HARDIE PANEL
COLOUR: IT'S ALL ABOUT THYME
STYLE: SMOOTH
PATTERN: STACKED

A3 - ALUCOBOND ACM PANEL
COLOUR: BLACK ANODIZED
PATTERN: NO PATTERN

F3 - METAL FLASHING
COLOUR: BLACK ANODIZED
PATTERN: NO PATTERN

A4 - NORTWOOD FLUTED PANELS
COLOUR: WALNUT
STYLE: TIMBER
PATTERN: VERTICAL LOUVERS

A5 - BRAMPTON BRICK - BRICK
COLOUR: POLAR WHITE
STYLE: CONTEMPORARY
PATTERN: HORIZONTAL BRICK

5 MATERIAL LEGEND
A202 1 : 50

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MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON
for
MARC AMYOT

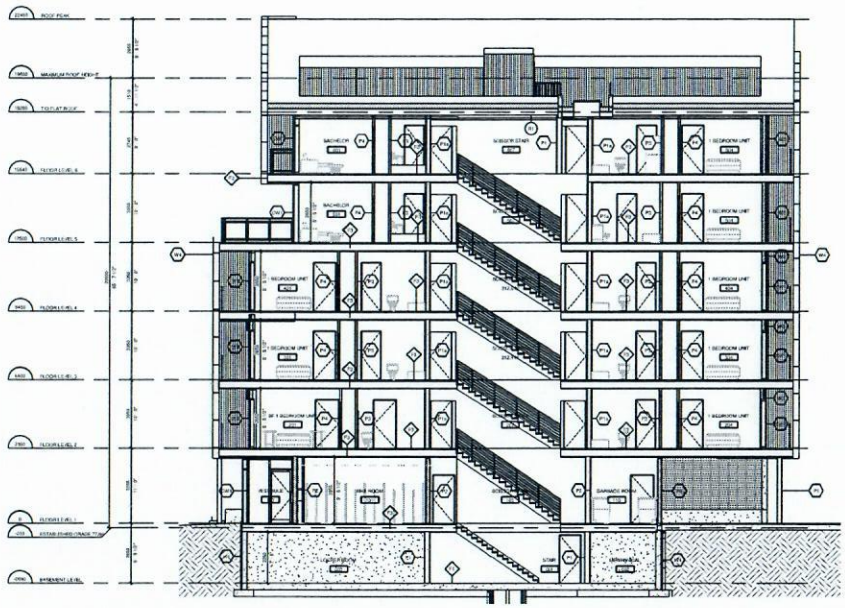
2301 PROJECT
As indicated SCALE

DS,SH DRAWN

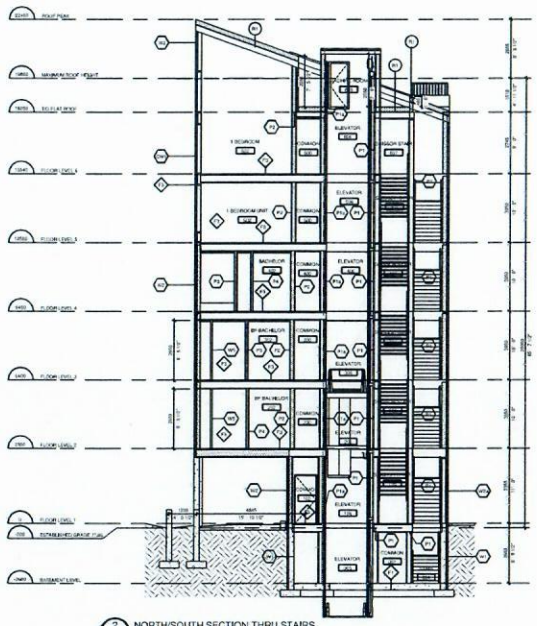
SH REVIEWED

BUILDING ELEVATIONS

A202



1 / A301 EAST/WEST SECTION THRU STAIRS
1 : 100



2 / A301 NORTH/SOUTH SECTION THRU STAIRS
1 : 100

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	SH	ISSUED FOR SPA

REVISION RECORD

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	DS	ISSUED FOR SPA

ISSUE RECORD

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P: 613-292-8642
W:

MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON
for
MARC AMYOT

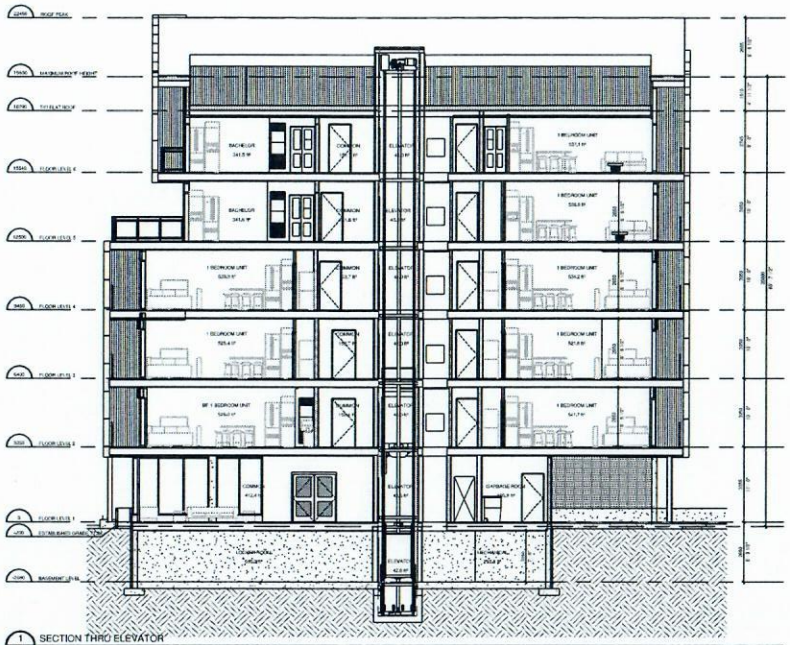
2301 PROJECT
1 : 100 SCALE

SH, DS DRAWN

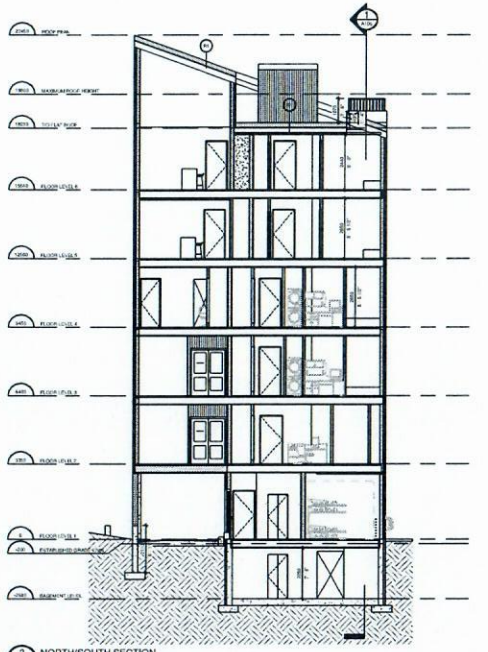
DS REVIEWED

BUILDING SECTIONS

A301



1 A302 SECTION THRO ELEVATOR
1 : 100



2 A302 NORTH/SOUTH SECTION
1 : 100

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	SH	ISSUED FOR SPA

REVISION RECORD

NO.	DATE	BY	DESCRIPTION
1	22 JUL 2024	DS	ISSUED FOR SPA

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P: 613-292-9642
W:

MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON
for
MARC AMYOT

2301 PROJECT
1 : 100 SCALE

DS, SH DRAWN

SH REVIEWED

BUILDING SECTIONS

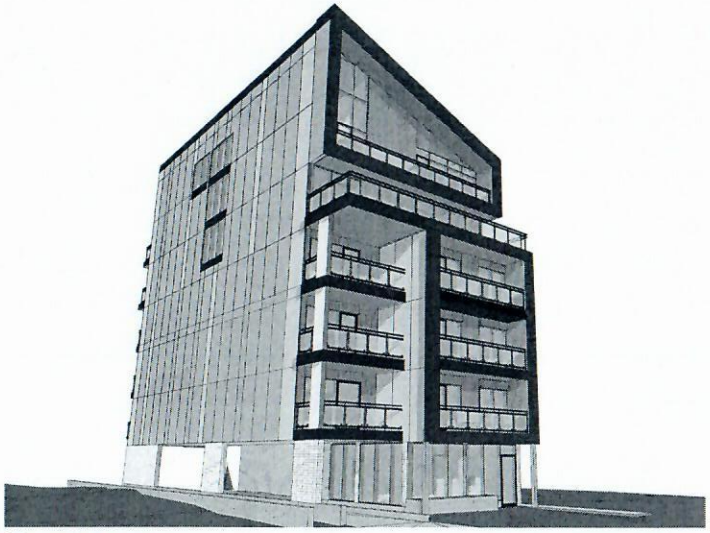
A302

917 MERIVALE_RVT 2024_detached.rvt

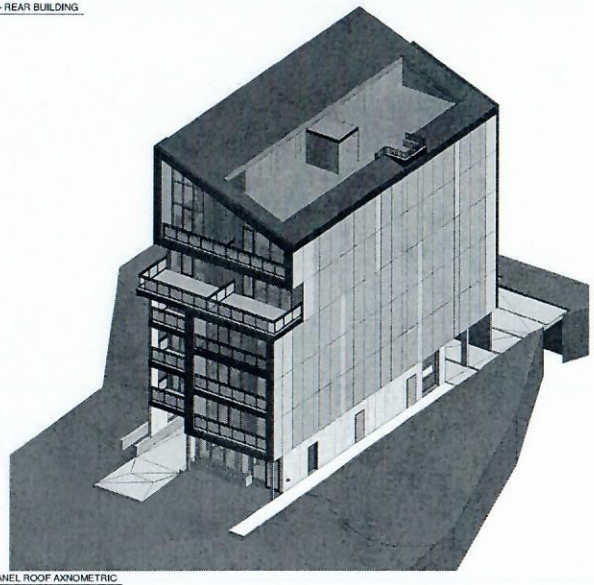
2024-08-02 8:11:08 AM

2 A501 3D VIEW - FRONT ENTRANCE

3 A501 3D VIEW - REAR BUILDING



1 A501 3D VIEW - CAR ENTRANCE



4 A501 SOLAR PANEL ROOF AXNOMETRIC

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1	22 JUL 2024	SH	ISSUED FOR SPA

REVISION RECORD

NO.	DATE	BY	DESCRIPTION
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P: 613-292-9642
W:

MERIVALE APARTMENT

917 MERIVALE RD
OTTAWA ON
for
MARC AMYOT

2301
PROJECT SCALE

DS, SH
DRAWN

SH
REVIEWED

3D VIEWS

A501

917 MERIVALE_RVT 2024_detached.rvt

2024-08-19 8:11:13 AM

ATTACHMENT 2 : WATER BOUNDARY CONDITIONS E-MAIL

Mineault-Guitard, Alexandre

From: TL MaK <tlmakecl@bellnet.ca>
Sent: Friday, May 3, 2024 11:01 AM
To: Mineault-Guitard, Alexandre
Cc: Alemany, Kevin
Subject: RE: 917 Merivale Road - Water Boundary Conditions Request
Attachments: 917 Merivale Road April 2024.pdf

Hi Alex,

Attached please find the Water Boundary Conditions received from the City on May 2, 2024 for your calculation use.

Have a good weekend.

Thank you,

Tony Mak

T.L. Mak Engineering Consultants Ltd.
1455 Youville Drive, Suite 218
Ottawa, ON. K1C 6Z7
Tel. 613-837-5516 | Fax: 613-837-5277
E-mail: tlmakecl@bellnet.ca

From: Adams, Reed [mailto:reed.adams@ottawa.ca]
Sent: May 2, 2024 2:50 PM
To: TL MaK
Subject: RE: 917 Merivale Road - Water Boundary Conditions Request

Hi Tony,

Here are the boundary conditions for 917 Merivale:

The following are boundary conditions, HGL, for hydraulic analysis at 917 Merivale Road (zone 2W2C) assumed to be connected to the 305 mm watermain on Merivale Road (see attached PDF for location).

Min HGL: 124.4 m
Max HGL: 132.8 m
Max Day + Fire Flow (183 L/s): 118.0 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,

Reed

From: Adams, Reed
Sent: April 18, 2024 1:59 PM
To: TL MaK <tlmakecl@bellnet.ca>
Subject: RE: 917 Merivale Road - Water Boundary Conditions Request

Hi Tony,

I've sent the request to our water resources group and should get a response back in two weeks max.

Thanks,

Reed

From: TL MaK <tlmakecl@bellnet.ca>
Sent: April 18, 2024 1:41 PM
To: Adams, Reed <reed.adams@ottawa.ca>
Subject: 917 Merivale Road - Water Boundary Conditions Request

Hi Reed,

Regarding this site, we are requesting for water boundary conditions from the City of Ottawa to be provided for our hydraulic analysis. The particulars are as follows:

The proposed building located within Pressure Zone 2W at 917 Merivale Road is a 6-storey residential multi-unit building with a basement. The building contains twenty (20) total units, one (1) 2-bedroom, nine (9) 1-bedroom, and ten (10) bachelor units. Each floor covers an area of around 224 m^2, for a gross floor area of 1,341 m^2. The building is to be serviced by the 300 mm diameter watermain along Merivale Road.

The domestic demands were calculated using the City of Ottawa's Water Design Guidelines, where the residential consumption rate of 280 L/cap/d was used to estimate average day demands (AVDY). Persons per unit (PPU) for each unit were estimated based on the City of Ottawa's Water Design Guidelines. Following discussions with the City, peaking factors are to be estimated from Table 3-3 of the MECP Design Guidelines for Drinking-Water Systems, given that the proposed development population is less than 500 people. Maximum day (MXDY) demands were calculated by multiplying AVDY demands by a factor of 9.5. Peak hour (PKHR) demands were calculated by multiplying AVDY by a factor of 14.3. Table 1 shows the estimated domestic demands of the existing building.

Table 1: Estimated Domestic Demand

Unit Type	Unit Count	PPU	Consumption	AVDY		MXDY		PKHR	
				L/d	L/s	L/d	L/s	L/d	L/s

Apartment, 2-Bedroom	1	2.1	280	588	0.01	5,586	0.06	8,408	0.10
Apartment, 1-Bedroom	9	1.4		3,528	0.04	33,516	0.39	50,450	0.58
Apartment, Bachelor	10	1.4		3,920	0.05	37,240	0.43	56,056	0.65
Total	***20***			***8,036***	***0.09***	***76,342***	***0.88***	***114,915***	***1.33***

The fire flow required was determined following the Fire Underwriter Survey (FUS) method and is provided in the attached worksheet. The proposed building will be of wood frame construction. It is understood that the building will be equipped with sprinklers, and that the basement is more than 50% below ground level. The resulting required fire flow is 11,000 L/min (183 L/s) for a duration of 2.25 hours.

In summary:

- AVDY = 8,036 L/d (0.09 L/s);
- MXDY = 76, 342 L/d (0.88 L/s);
- PKHR = 114,915 L/d (1.33 L/s); and,
- Fire Flow = 11,000 L/min (183 L/s).

The City is requested to provide boundary conditions for the Average Day, Maximum Day, Peak Hour and Fire Flow conditions indicated above.

Thank you for your prompt attention to this matter. Please forward the boundary conditions as soon as possible.

Have a good day.

Regards,

Tony Mak

T.L. Mak Engineering Consultants Ltd.
1455 Youville Drive, Suite 218
Ottawa, ON. K1C 6Z7
Tel. 613-837-5516 | Fax: 613-837-5277
E-mail: tlmakecl@bellnet.ca


Boundary Conditions for 917 Merivale Road
51mm
900
305mm
915
N
av. Leeside Ave
917
921
152mm
925
ch. Merivale Rd.
929
926
933
Legend
Private
Public
City of Ottawa

ATTACHMENT 3 : FUS FIRE FLOW CALCULATION

Stantec

FUS Fire Flow Calculation - Long Method

Calculations based on: "*Water Supply for Public Fire Protection*" by Fire Underwriters' Survey, 2020

Stantec Project #: 163401084
Project Name: 917 Merivale Road
Date: August 14, 2024
Data inputted by: Melissa Nelson, EIT
Data reviewed by: Alexandre Mineault-Guitard, P.Eng

Fire Flow Calculation #: 1
Building Type/Description/Name: Residential

Notes: *Multi-unit building*
Wood frame, with sprinklers. 6-storey residential multi-unit building with a basement that is more than 50% below grade. The building contains twenty (20) total units, ten (10) 1-bedroom, and ten (10) bachelor units.
The average floor area is 218 sq.meters, for a gross floor area of 1,310 sq.meters.

Fire Underwriters Survey Determination of Required Fire Flow - Long Method

Step	Task	Term	Options	Multiplier Associated with Option	Choose:	Value Used	Unit	Total Fire Flow (L/min)
1	Choose Frame Used for Construction of Unit	**Framing Material**						
		Coefficient related to type of construction (C)	Type V - Wood Frame	1.5	Type V - Wood Frame	1.5	m	
			Type IV-A - Mass Timber	0.8				
			Type IV-B - Mass Timber	0.9				
			Type IV-C - Mass Timber	1				
			Type IV-D - Mass Timber	1.5				
			Type III - Ordinary construction	1				
			Type II - Non-combustible construction	0.8				
			Type I - Fire resistive construction	0.6				
2	Choose Type of Housing (if TH, Enter Number of Units Per TH Block)	**Floor Space Area**						
		Type of Housing	Single Family	1	Other (Comm, Ind, Apt etc.)	20	Units	
			Townhouse - indicate # of units	0				
			Other (Comm, Ind, Apt etc.)	20				
2.2	# of Storeys	Number of Floors/Storeys in the Unit (do not include basement if 50% below grade):			6	6	Storeys	
3	Enter Ground Floor Area of One Unit	Average Floor Area (A) based on total floor area of all floors for one unit (non-fire resistive construction):			218	218	Area in Square Metres (m^2)	
					Square Metres (m2)			
3.1	Obtain Total Effective Building Area	Total Effective Building Area (# of Storeys x # of Units (if single family or townhouse) x Average Floor Area):			1,310	1310		
4	Obtain Required Fire Flow without Reductions	Required Fire Flow (without reductions or increases per FUS) (F = 220 * C * √A) Round to nearest 1,000 L/min						12,000
5	Apply Factors Affecting Burning	**Reductions/Increases Due to Factors Affecting Burning**						
5.1	Choose Combustibility of Building Contents	Occupancy Content Hazard Reduction or Surcharge	Non-combustible	-0.25	Limited combustible	-0.15	N/A	10,200
			Limited combustible	-0.15				
			Combustible	0				
			Free burning	0.15				
			Rapid burning	0.25				
5.2	Choose Reduction Due to Presence of Sprinklers	Sprinkler Reduction	Adequate Sprinkler conforms to NFPA13	-0.3	Adequate Sprinkler conforms to NFPA13	-0.3	N/A	-3,060
			None	0				
		Water Supply Credit	Water supply is standard for sprinkler and fire dept. hose line	-0.1	Water supply is standard for sprinkler and fire dept. hose line	-0.1	N/A	-1,020
			Water supply is not standard or N/A	0				
		Sprinkler Supervision Credit	Sprinkler system is fully supervised	-0.1	Sprinkler system is fully supervised	-0.1	N/A	-1,020
			Sprinkler not fully supervised or N/A	0				
5.3	Choose Presence of Sprinklers for Exposures within 30m	Sprinkler Conforms to NFPA13	Adequate sprinkler for exposures conforms to NFPA13		None for exposures	0	N/A	0
			None for exposures					
		Water Supply	Water supply is standard for sprinkler and fire dept. hose line of exposures		Water supply is not standard or N/A for exposures		N/A	
			Water supply is not standard or N/A for exposures					
		Sprinkler Supervision	Sprinkler system of exposures is fully supervised		Sprinkler not fully supervised or N/A for exposures		N/A	
			Sprinkler not fully supervised or N/A for exposures					
5.4	Choose Separation Distance Between Units	Exposure Distance Between Units	Front Yard	30.1m or greater	0	0.6	m	6,120
			Right Side	3.1 to 10.0m	0.2			
			Rear Yard	10.1 to 20.0m	0.15			
			Left Side	0 to 3.0m	0.25			
6	Obtain Required Fire Flow, Duration & Volume	*Total Required Fire Flow, rounded to nearest 1,000 L/min, with max/min limits applied:*						11,000
		Total Required Fire Flow (above) in L/s:						183
		Required Duration of Fire Flow (hrs)						2.25
		Required Volume of Fire Flow (m^3)						1,485

ATTACHMENT 4 : FIGURE 1 – FUS EXPOSURE DISTANCES

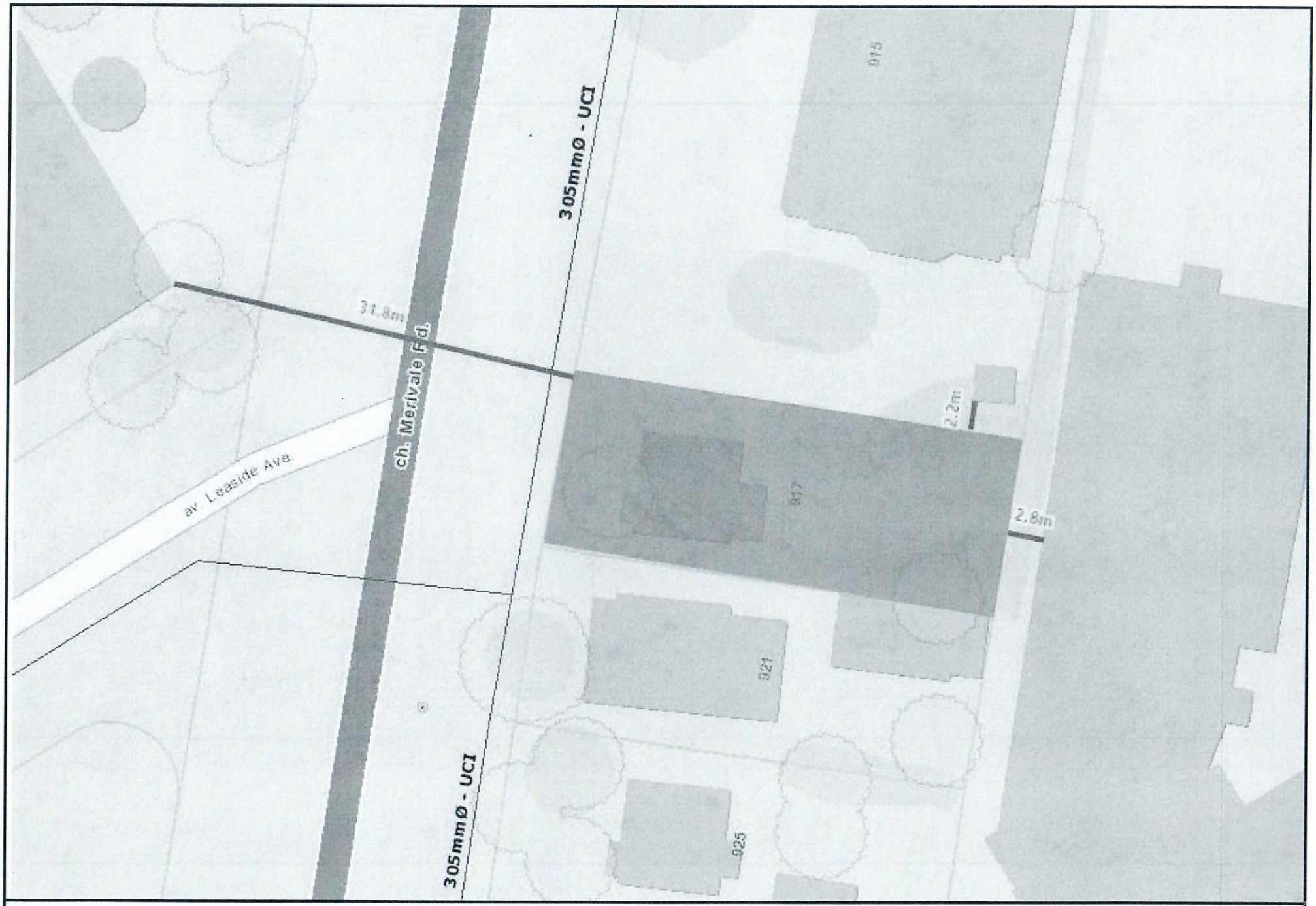

Figure 1: FUS Exposure Distances (Property Line to Adjacent Buildings)

Source: geoOttawa 2024; *Contains information licensed under the Open Government License – City of Ottawa.*

ATTACHMENT 5 : SUPPORTING HYDRAULIC CALCULATIONS

Stantec

Supporting Hydraulic Calculations

Stantec Project #: 163401084
Project Name: 917 Merivale Road
Date: May 9, 2024
Data inputted by: Alexandre Mineault-G, P.Eng.
Data reviewed by: Alexandre Mineault-G, P.Eng.

Boundary Conditions provided by the City:

Scenario 1: Peak Hour (Min HGL): 124.4 m;
Scenario 2: Average Day (Max HGL): 132.8 m; and
Scenario 3: Maximum Day plus Fire Flow: 118.0 m.

Sample Calculations

$HGL\ (m) = hp + hz$ *(1)*

where: hp = Pressure Head (m); and hz = Elevation Head (m), estimated from topography.

For Scenario 1, we have:

HGL(m) = 124.4 and hz (m) = 77.9.

Rearranging Equation 1, we can calculate the Pressure Head (hp) as follow:

$hp\ (m) = HGL - hz$

$\therefore$ hp = 124.4 - 77.9 m = 46.5 m.

To convert from Pressure Head (m) to a pressure value (kPa), the following equation can be used:

$P\ (kPa) = (\rho * g * hp) / 1000$ *(2)*

where: ρ = density of water = 1000 kg/m^3; and g = gravitational acceleration = 9.81 m/s^2.

Using Equation 2, we can calculate the Pressure Head (hp) as follow:

P (kPa) = (1000 * 9.81 * 46.5) / 1000

$\therefore$ P = 456 kPa.

Considering that 1 kPa = 0.145 psi, the pressure under Scenario 1 is equal to:

P = 66 psi.

Applying the same procedures, the pressures under Scenario 2 and Scenario 3 are calculated as follows:
Scenario 2: P = 78 psi; and Scenario 3: P = 57 psi.

To summarize:

Scenario 1: Minimum Pressure under Peak Hour Demand: 456 kPa (66 psi)
Scenario 2: Maximum Pressure under Average Day Demand: 538 kPa (78 psi)
Scenario 3: Minimum Pressure under Maximum Day + Fire Flow Demand: 393 kPa (57 psi)

ATTACHMENT 6 : FIGURE 2 – HYDRANT SPACING

Figure 2: Hydrant Spacing

Source: geoOttawa 2024; *Contains information licensed under the Open Government License – City of Ottawa.*

PROPOSED

SIX (6) STOREY APARTMENT BUILDING SITE

LOT 1

R-PLAN 268160

917 MERIVALE ROAD

CITY OF OTTAWA

APPENDIX E

CITY OF OTTAWA

SANITARY SEWER DESIGN SHEET

SHEET No. 1 OF 1

SANITARY SEWER DESIGN SHEET

q = average daily per capita flow (280 L/cap. d)
I = unit of peak extraneous flow (0.33 L/ha. s)
M = peaking factor 4 (MAX.)
Q (p) = peak population flow (L/s)
Q (i) = peak extraneous flow (L/s)
Q (d) = peak design flow

DENSITY
- 1 BEDROOM
- BACHELOR

$M = 1 + \frac{14}{4 + \sqrt{P}} \times K$ where P population in 1000's $K = 0.8$

$Q(p) = \frac{PqM}{86.4}$ (L/s)

Q(i) = IA (L/s) where A = area in hectares

Q(d) = Q(p) + Q(i) (L/s)

LOCATION			INDIVIDUAL		CUMULATIVE		Peaking factor M	Pop. flow Q(p) (L/s)	Peak extraneous flow Q(i) (L/s)	Peak design flow Q(d) (L/s)	PROPOSED SEWER						
STREET	FROM	TO	Pop.	Area A (hectares)	Pop.	Area A (hectares)					Length (m)	Pipe size (mm)	Type of pipe	Grade %	Capacity (L/s) n=0.013	Full flow velocity (m/s)	Actual velocity at Q(d)
917 MERIVALE ROAD	SITE	EX. 375Ø SAN. SWR	28	0.048	28	0.048	3.49	0.32	0.02	0.34	3.5	150	PVC	1.0	19.8	1.12	

LICENSED PROFESSIONAL ENGINEER
08/29/24
TONY L.M. MAK
PROVINCE OF ONTARIO

(FILE# 823-102)

DESIGN	TLM
CHECKED	TLM
DATE	AUGUST, 2024

PROJECT 917 MERIVALE ROAD
PROPOSED SIX (6) STOREY APARTMENT
BUILDING SITE - CITY OF OTTAWA

SHEET No. 1 of 1

PROPOSED

THREE (3) STOREY APARTMENT BUILDING SITE

LOT 75

R-PLAN 263

370 ATHLONE AVENUE

CITY OF OTTAWA

APPENDIX F

DEVELOPMENT SERVICING STUDY CHECKLIST SUMMARY

Servicing study guidelines for development applications

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

- ☐ Executive Summary (for larger reports only).
- ☒ Date and revision number of the report.
- ☒ Location map and plan showing municipal address, boundary, and layout of proposed development.
- ☒ Plan showing the site and location of all existing services.
- ☐ 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.
- ☐ Summary of Pre-consultation Meetings with City and other approval agencies.
- ☐ Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defendable design criteria.
- ☒ Statement of objectives and servicing criteria.
- ☒ Identification of existing and proposed infrastructure available in the immediate area.
- ☐ 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).
- ☐ 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.
- ☐ 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.
- ☐ Proposed phasing of the development, if applicable.

☒ Reference to geotechnical studies and recommendations concerning servicing.

☒ All preliminary and formal site plan submissions should have the following information:
- Metric scale
- North arrow (including construction North)
- Key plan
- Name and contact information of applicant and property owner
- Property limits including bearings and dimensions
- Existing and proposed structures and parking areas
- Easements, road widening and rights-of-way
- Adjacent street names

4.2 Development Servicing Report: Water

☐ Confirm consistency with Master Servicing Study, if available
☒ Availability of public infrastructure to service proposed development
☒ Identification of system constraints
☒ Identify boundary conditions
☒ Confirmation of adequate domestic supply and pressure
☒ 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.
☒ 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.
☐ Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design
☐ Address reliability requirements such as appropriate location of shut-off valves
☒ Check on the necessity of a pressure zone boundary modification.
☒ 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

- ☒ 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.
- ☐ Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.
- ☒ Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.
- ☒ Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.

4.3 Development Servicing Report: Wastewater

- ☒ 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).
- ☐ Confirm consistency with Master Servicing Study and/or justifications for deviations.
- ☐ 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.
- ☒ Description of existing sanitary sewer available for discharge of wastewater from proposed development.
- ☐ 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)
- ☒ Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.
- ☐ Description of proposed sewer network including sewers, pumping stations, and forcemains.
- ☐ 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).
- ☐ Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.
- ☐ Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.
- ☐ Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.
- ☐ Special considerations such as contamination, corrosive environment etc.

4.4 Development Servicing Report: Stormwater Checklist

- ☒ Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)
- ☐ Analysis of available capacity in existing public infrastructure.
- ☒ A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.
- ☒ 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.
- ☐ Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.
- ☒ Description of the stormwater management concept with facility locations and descriptions with references and supporting information.
- ☐ Set-back from private sewage disposal systems.
- ☐ Watercourse and hazard lands setbacks.
- ☐ Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.
- ☐ Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.
- ☒ Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5 year return period) and major events (1:100 year return period).
- ☐ Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.
- ☒ 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.
- ☐ Any proposed diversion of drainage catchment areas from one outlet to another.
- ☒ Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.
- ☐ 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.
- ☐ Identification of potential impacts to receiving watercourses
- ☐ Identification of municipal drains and related approval requirements.
- ☒ Descriptions of how the conveyance and storage capacity will be achieved for the development.
- ☒ 100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.

- ☐ Inclusion of hydraulic analysis including hydraulic grade line elevations.
- ☒ Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.
- ☐ 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.
- ☐ Identification of fill constraints related to floodplain and geotechnical investigation.

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:

- ☐ 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.
- ☐ Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.
- ☐ Changes to Municipal Drains.
- ☐ Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)

4.6 Conclusion Checklist

- ☒ Clearly stated conclusions and recommendations
- ☐ Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.
- ☒ All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario