PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1062 AND 1066 SILVER STREET

CITY OF OTTAWA

SERVICEABILITY REPORT

REPORT R-821-10A

T.L. MAK ENGINEERING CONSULTANTS LTD.

JULY 2021

REFERENCE FILE NUMBER 821-10

Introduction

The developer of this site is proposing to redevelop the existing (2) residential lots described as Part of Lot 31 Registered Plan 294 City of Ottawa by constructing a three (3) storey residential apartment building consisting of twenty three (23)-units, including seventeen (2)-bedroom units and six (1)-bedroom + den units with underground parking.

The municipal address of the (2) properties are referenced as 1062 and 1066 Silver Street and it is located in the City Ward (16-River). The site is situated on the north side of Summerville Avenue, west of Silver Street and south of Dorchester Avenue. See site plan and legal survey plan in Appendix A for details.

The area of this property is ±0.1115 hectares. In addition to the three (3) storey residential building, the other development features will comprise of an interlock paver access to the front entrances, an amenity area is located in the rear yard, as well as underground parking level below grade including riverstone landscaping along the north and west side of the building and landscaped areas throughout 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 Paterson Group entitled Geotechnical Investigation – Proposed Residential Building (Project No. PG5573-LET.02) dated April 23, 2021 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 two (1) storey stucco siding residential buildings. The buildings each have its own asphalt driveway for vehicle access and parking. Most of the existing site is currently permeable surface covered and consisting of grass/landscaped areas with the remaining areas being roof area, asphalt laneway, porches, decks, and sheds. For additional details of the site's pre-development conditions, refer to the coloured Google Image and aerial photography from (GeoOttawa 2019) in Appendix B.

The existing topography of the land is found to be sloped primarily to drain from south to north across the site. The existing gradient of the (2) amalgamated lots are sloping at an approximate gradient of 4.76%.

The existing house water and sanitary service lateral currently servicing the existing dwellings on 1062 and 1066 Silver Street 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 site.

As for the availability of underground municipal services, there are existing municipal services along Summerville Avenue in front of this property consisting of a 300mm diameter storm sewer, a 225mm diameter sanitary sewer, and a 150mm diameter watermain for development of this property. As well, along Silver Street there are existing municipal services consisting of 375mm diameter storm sewer, a 225mm diameter sanitary sewer and a 150mm diameter watermain available to provide services to this site. Refer to the City of Ottawa Summerville Avenue and Silver Street UCC and As-Built plan and profile drawings included in Appendix C for details.

Because the site will be connecting to and outletting into the separated storm sewer system along Summerville Avenue and Silver Street 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

Vehicle access to underground parking is available for this site and bicycle parking is provided in the underground parking level also. Interlock pavers are proposed at the front of the new building for pedestrian access. An amenity area is provided in the rear yard.

A. Water Supply

The proposed building within Pressure Zone 2W at 1066 Silver Street is a 3-storey residential apartment building with underground parking. The apartment building contains six 1-bedroom + den units, and seventeen 2-bedroom units. Each floor covers an area of 6,926 ft^2 (643 m^2) for a gross floor area of 20,778 ft^2 (1,929 m^2), and the building will be approximately 11m in height. The building is to be serviced by the 150mm diameter watermain along Summerville Avenue (front of the building).

The ground elevation along Summerville Ave in front of the property in question is approximately 83.8m.

Demand Projections

The estimated domestic demands for the proposed building were calculated using the City of Ottawa's Water Design Guidelines. A residential consumption rate of 350 L/cap/d was used to estimate average day demands (AVDY). Maximum day (MXDY) demands were calculated by multiplying AVDY demands by a factor of 2.5. Peak hour (PKHR) demands were calculated by

multiplying MXDY by a factor of 2.2. Persons per unit (PPU) for each unit were applied as per the City of Ottawa's Water Design Guidelines. **Table 1** shows the estimated domestic demands of the proposed building.

Table 1: Estimated Domestic Demand

Unit Type	Unit Count	PPU	Consumption Rate (L/c/d)	AVDY		MXDY		PKHR	
				L/d	L/s	L/d	L/s	L/d	L/s
Apartment, 1-Bedroom + Den	6	1.4	350	2,940	0.03	7,350	0.09	16,170	0.19
Apartment, 2-Bedroom	17	2.1		12,495	0.14	31,238	0.36	68,723	0.80
Total	***23***			***15,435***	***0.18***	***38,588***	***0.45***	***84,893***	***0.98***

The Fire Underwriters Survey (FUS) was initially used to estimate the FUS fire flow requirement. Using ordinary construction equipped with sprinklers, and with the underground parking entirely below ground level, the FUS fire flow was 9,000 L/min (150 L/s) (see attached **FUS Fire Flow Calculations** in Appendix D). Based on boundary conditions provided by the City, the hydrants as modeled cannot provide flows in this range. The City had previously indicated that the City's Fire Marshall and various City departments are currently reviewing fire flow requirements for low- and mid-rise buildings. As per the City of Ottawa's Water Design Guidelines, the FUS method is to be used for fire flow requirements affecting watermain sizing; with regards to fire protection on private property, these are covered by the Ontario Building Code (OBC).

As such, the fire flow required was determined following the Office of the Fire Marshal (OFM) method and is provided in the attached calculation sheet. The proposed building will be of ordinary construction, where fire separations and fire-resistance ratings are provided in accordance with Subsection 3.2.2. of the OBC. The resulting total required fire flow (RFF) for a non-sprinklered building is 6,300 L/min (105 L/s) for a minimum duration of 30 min. Details are provided in the attached **OFM Fire Flow Calculations** in Appendix D. The proposed **Site Plan** attached in Appendix D was used to determine distances (setback) from the proposed building to the property lines. For street facing sides, **Figure 2** in Appendix D provides separation distances from the street.

The building, however, is planned to be equipped with a sprinkler system, in which instance the OFM and the OBC both defer to the National Fire Protection Association (NFPA) 13 *"Standard for the Installation of Sprinkler Systems"*. This standard specifies that, for ordinary hazard occupancy, the minimum residual pressure required is 20 psi, and the acceptable flow at the base of the riser is 3,200-5,700 L/min (50-95 L/s), for a duration of 60-90 minutes.

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

- AVDY = 15,435 L/d (0.18 L/s)
- MXDY = 38,588 L/d (0.45 L/s);
- PKHR = 84,893 L/d (0.98 L/s); and,
- Fire Flow = 3,200 - 5,700 L/min (50 - 95 L/s).

Boundary Conditions

The hydraulic gradeline (HGL) boundary conditions for 1066 Silver Street, as presented in **Table 2**, were provided by the City on June 16, 2021 (see attached **Water Boundary Conditions Email** in Appendix D).

Table 2: Boundary Conditions

Demand Scenario	Head (m)	Flow (L/s)
Minimum HGL (Peak Hour)	124.6	
Maximum HGL (Average Day)	133.1	
Available Fire Flow @ Residual 20 psi		96

Hydraulic Analysis

Peak Hour & Average Day

During peak hour demands, the resulting minimum hydraulic gradeline of 124.6 m corresponds to a peak hour pressure of 400 kPa (58 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, a minimum pressure of 310 kPa (45 psi) would be required for the third floor. The peak hour pressure exceeds this objective, and is therefore considered acceptable.

During average day demands, the resulting maximum hydraulic gradeline of 133.1 m corresponds to a maximum pressure of 483 kPa (70 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

The reported available fire flow at a residual pressure of 20 psi is 96 L/s (5,760 L/min). This meets the RFF of 3,200-5,700 L/min for a sprinkler system, as per NFPA13. It is noted that a sprinkler designer will have to design the sprinkler accordingly with the available flows and pressures.

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, the combined hydrant flow coverage for the building is estimated to be 9,463 L/min, which exceeds the NFPA13 RFF upper value of 5,700 L/min for a sprinkler system. Hydrant coverage and classes are illustrated in **Figure 3** attached in Appendix D. A breakdown of the hydrant coverage is summarized in **Table 3**.

Table 3: Fire Hydrant Coverage

Building	NFPA13 Fire Flow Demand (L/min)	Fire Hydrants					Combined Hydrant Flow Coverage (L/min)
		Hydrant Class	Within 75 m		Between 75 m and 122 m		
			Quantity	Max Contrib. to RFF	Quantity	Max Contrib. to RFF	
1066 Silver Street	3,200 to 5,700 L/min	AA	1	5,678	1	3,785	9,463*
		A					
		B					
		C					

** The hydrant coverage exceeds the available watermain flow per the City's boundary condition. As such, fire flows are limited to the reported available fire flow noted above.*

In conclusion, based on the boundary conditions provided, the watermain along Summerville Ave provides adequate fire flow capacity as per the NFPA13 to the proposed development at 1066 Silver Street. Anticipated demand flows meet the minimum 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 23 units, which comprise of seventeen (2)-bedroom and six 1-bedroom apartment + den, is estimated at Q = 0.60 L/s with an infiltration rate of 0.03 L/s. Refer to Appendix E sheet 1 of 1 regarding sanitary flow calculations. This flow will enter the existing 225mm diameter sanitary sewer on Summerville Avenue via the proposed 150mm diameter PVC sanitary service lateral from the three (3)-storey residential apartment building.

The existing peak sanitary flow of the site for the (2) existing single detached dwelling units is Q = 0.14 L/s with an infiltration rate of 0.03 L/s. The net increase in flow from this proposed development is 0.46 L/s which is not expected to negatively impact the existing 225mm dia. sanitary sewer.

At the front property line, a waste-water sampling and inspection chamber is proposed as per City requirements and as per City of Ottawa detail S18.1.

Waste water from the Summerville Avenue 225mm dia. sanitary sewer then in turn outlets north into the existing downstream 750mm dia. concrete sanitary collector sewer located along Hollington Street which further outlets to the 750mm dia. Shillington Avenue sanitary collector sewer.

C. Storm Flow

The storm-water outlet for the proposed development property will be the existing 300mm diameter concrete storm sewer located on Summerville Avenue. Storm-water attenuation on site will be accomplished by means of rooftop storage with controlled roof drains that regulate flow off site.

The building foundation weeping-tile drainage system shall have its own separate pipe for gravity flow where weeping-tile water is outletted via a 150mm diameter storm pipe to the existing 300mm diameter storm sewer. The storm-water outlet for the rooftop water from roof drains will be a separately designated proposed 150mm diameter PVC pipe that will also be outletted directly into the existing 300mm diameter storm sewer.

Three (3) roof drains are proposed for this apartment building to restrict flow at a rate of 0.95 L/s each or 3 x 0.95 L/s = 2.85 L/s into the Summerville Avenue storm sewer. The calculated net allowable controlled release rate from this site is estimated at 10.04 L/s.

Based on the residential site plan from the owner's architect, the average post-development runoff coefficient is estimated at C = 0.75 and A = 0.1115 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} = 0.42 or C_{allow} = 0.5 (max) then SWM is required. So from our calculations, the C_{pre} = 0.42 value will be used at t_c = 10 minutes for pre-development allowable flow calculation off-site.

The pre-development flow rate calculation into the 300mm dia. storm sewer for this residential area is the lesser of either the two (2)-year storm event where C_{allow} = 0.5 (max.) runoff value or the average C_{pre} value which is 0.42 using t_c = 10 minutes. Because this site C_{post} = 0.75 and C_{pre} = 0.42 then SWM measures are required.

Therefore, based on our calculation, on-site retention is required for this proposed development site, because the site post-development C value of 0.75 is greater than the C_{pre} = 0.42.

The storage volume for the five (5)-year and up to the 100-year storm event will be stored by means of flat rooftop at the top of the low rise apartment building. Also refer to the site storm drainage report (Report No. R-821-10) for further details.

Conclusion

At this proposed residential site and to develop this lot to house a 23 unit apartment building on a 0.1115 ha. parcel of land, the estimated allowable flow off-site is calculated at 10.04 L/s based on City of Ottawa drainage and Stormwater Management (SWM) criteria. For on-site SWM attenuation, the flat roof top of the proposed apartment building will be utilized and (3) controlled roof drains are incorporated each with a controlled release rate of 0.95 L/s (15.0 U.S. gal/min.). The controlled flow from this site totals to 2.85 L/s for the post development condition. The uncontrolled 5 year post-development flow from the remainder of the site is estimated at 7.29 L/s and 15.09 L/s for the 100 year event.

During the five (5)-year storm event for the flat rooftop storage, the ponding depth of rooftop area 1, 2 and 3 is estimated at 120 mm at the drain and 0mm at the roof perimeter, assuming a 1.4% minimum roof pitch to the drain. The rooftop storage available at Roof Area 1 is 5.34 m^3, at Roof Area 2 is 4.90 m^3 and the rooftop storage available at Roof Area 3 is 4.01 m^3, for a total of 14.25 m^3, which is greater than the required volume of 10.86 m^3.

During the 100-year storm event for the flat rooftop storage, the ponding depth of Roof Area 1, 2 and 3 is estimated at 150 mm at the drain and 0mm at the roof perimeter, assuming a 1.4% minimum roof pitch to the drain. The rooftop storage available at Roof Area 1 is 12.09 m^3, Roof Area 2 is 10.98 m^3 and the rooftop storage available at Roof Area 3 is 8.88 m^3, for a total of 31.95 m^3, which is greater than the required volume of 25.65 m^3.

Therefore, by means of flat building rooftop storage and grading the site to the proposed grades as shown on the Proposed Grading and Servicing Plan and Proposed Rooftop Stormwater Management Plan Dwg. 821-10 G-1 and 821-10 SWM-1 respectively, the desirable five (5)-year storm and 100-year storm event detention volume of 14.25 m^3 and 31.95 m^3 respectively will be available on site. Refer to Appendix F for detailed calculations of available storage volumes.

Thus for this development site, the 5 year maximum post development flow draining off-site is the controlled roof top flow plus the uncontrolled flow from the remainder of the site totals to 10.14 L/s (2.85 L/s + 7.29 L /s) which is approximately equal to the allowable flow of 10.04 L/s. For event up to and including 100 year, the estimated maximum post development flow draining off-site is 17.94 L/s (2.85 L/s + 15.09 L/s) which exceeds the site allowable of 10.04 L/s by 7.90 L/s which is for this site equals to 3.95 L/s per each of the (2) amalgamated residential lots that comprises the proposed new development site.

In comparing the magnitude of the 5-year and 100-year pre and post development flow, the 5-year post development flow of 10.14 L/s is less than the 5-year pre-development flow of 13.57 L/s. As for the 100-year post development flow of 17.94 L/s is less than the 100-year

pre-development flow of 24.91 L/s. Therefore, drainage from this proposed site with roof top SWM attenuation will reduce current stormwater loading to the existing municipal storm sewer system.

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, where upon both laterals are connected directly to the existing Summerville Avenue 300mm diameter storm sewer. 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 in the City Storm sewer system. Refer to the proposed site grading and servicing plan Dwg. 821-10 G-1 for details. The proposed reversed sloped down ramp to the underground garage parking level will have a trench drain with a 200mm diameter storm pipe to drain the ramp area. Stormwater outlet for this reversed slope ramp area is the existing 375mm diameter Silver Street storm sewer.

Water Quality

For this proposed site, the local conservation authority (RVCA) was pre-consulted regarding the issue of water quality treatment on-site.

Correspondence from RVCA dated July 14, 2021 confirms that on-site water quality treatment is not required for this proposed development property and that Best Management Practices are encouraged to be implemented where possible. See Appendix F.

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 Silver Street and Summerville Avenue 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. #821-10 ESC-1 for details.

Refer to Appendix G 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 THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

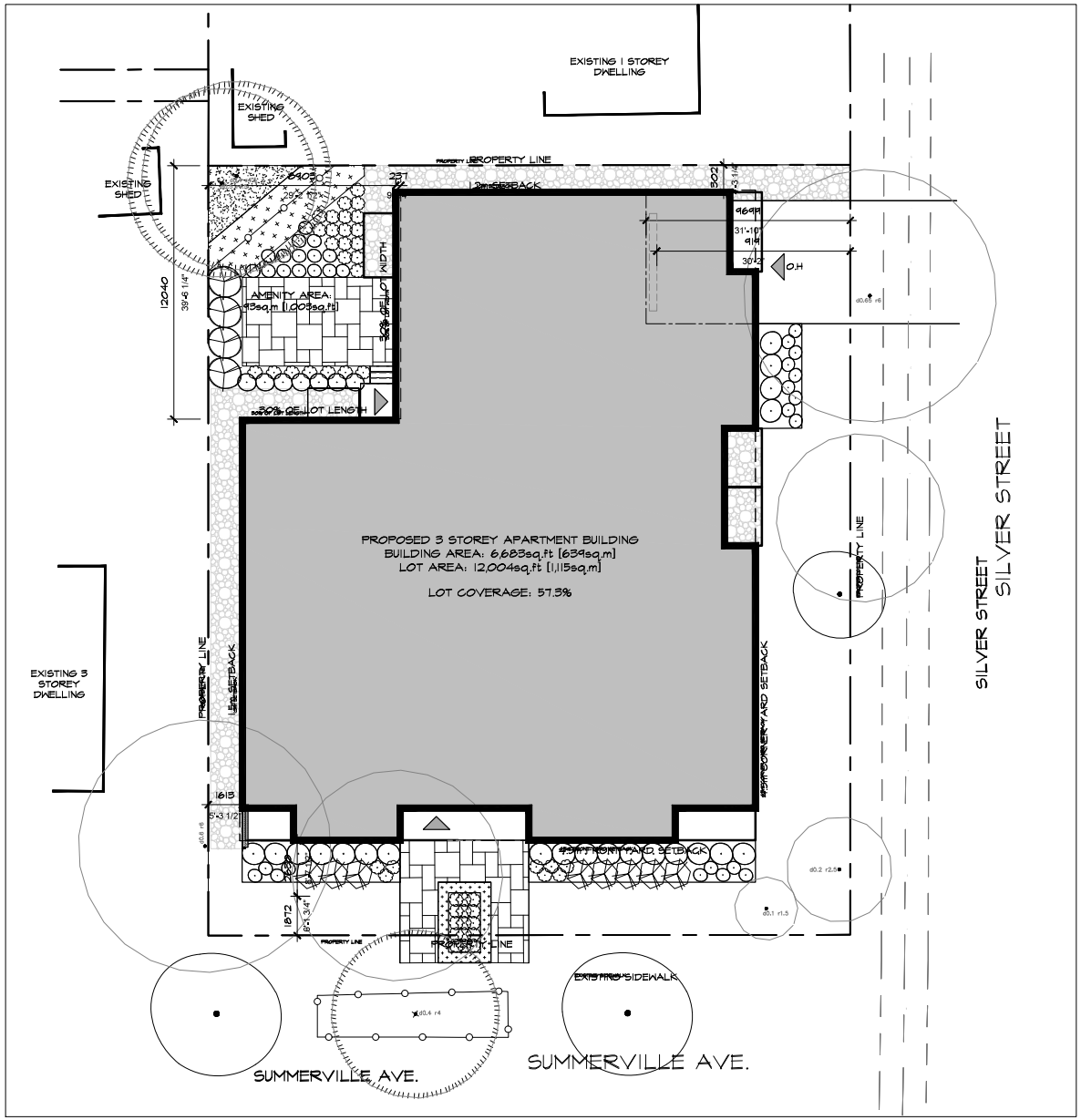
R-PLAN 294

1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX A

SITE PLAN AND LEGAL SURVEY PLAN



01 CONCEPT SITE PLAN
A100 SCALE: 1:100

KEY PLAN

BUILDING AREAS

	CONSTRUCTION AREA [SQ.M]	CONSTRUCTION AREA [SQ.FT]
LOWER LEVEL		
GROUND FLOOR AREA	654sq.m	6,883sq.ft
SECOND FLOOR AREA	654sq.m	6,883sq.ft
THIRD FLOOR AREA	621sq.m	6,686sq.ft
TOTAL	1,849sq.m	20,452sq.ft

BUILDING FLOOR STATISTICS - RENTAL APARTMENT:

FLOOR	SUITES	1 BEDROOM + DEN	2 BEDROOM
LOWER LEVEL	0		
GROUND FLOOR	7	2	5
SECOND FLOOR	8	2	6
THIRD FLOOR	8	2	6
TOTAL	23	6	17
SUITE MIX		26%	74%

CITY OF OTTAWA ZONING BY-LAW

ZONING PROVISIONS	REQUIRED	PROPOSED
R4UC		
MIN. LOT AREA	450sq.m	1,115.2sq.m
MAX. LOT AREA	1,070sq.m	1,115.2sq.m
MIN. LOT WIDTH	15m	30.5m
MAX. LOT WIDTH	38m	30.5m
MIN. FRONT YARD SETBACK	4.5m	4.5m
MIN. CORNER SIDE YARD SETBACK	4.5m	4.5m
MIN. INTERIOR SIDE YARD SETBACK	1.5m	1.6m
MIN. REAR YARD SETBACK	1.2m	1.24m
MIN. INTERIOR YARD SETBACK	9.14m X 12.04m	8.9m x 12.09m
MAX. BUILDING HEIGHT	11m	11m
AMENITY AREA	40% OF FRONT AND CORNER YARDS, 50% OF LOT AREA, 50% OF REAR YARD WITH A 2.5sq.m STRIP.	
LOT COVERAGE	N/A	57.6%

AUTOMOBILE PARKING SUMMARY

REQUIRED PARKING	REQUIRED	PROPOSED
RESIDENT PARKING	0.5/UNIT (AFTER 12) X 11 = 5.5 SPACES	15
VISITOR PARKING	0.1/UNIT (AFTER 12) X 11 = 1 SPACES	1
TOTAL PROVIDED	7 SPACES	16 SPACES
PROVIDED PARKING		
		UNDERGROUND
REGULAR SPACES	MIN. 2.6m x 5.2m	15
ACCESSIBLE SPACES	TYPE B 2.4mX5.2m	1
TOTAL	= 16 PROVIDED PARKING SPACES	

BICYCLE PARKING SUMMARY

REQUIRED PARKING	REQUIRED	PROPOSED
BIKE PARKING	0.5/UNIT X 23 = 12 SPACES	32

LEGEND

- NEW OVERHEAD DOOR
- NEW DOOR/ENTRANCE
- PROPOSED RIVERSTONE MULCH
- EXISTING VEGETATION REFER TO LANDSCAPE DWGS
- BICYCLE PARKING SPACE (1.8mX0.6m)
- NO PARKING LINES
- PROPOSED PRECAST CONCRETE PAVERS
- PROPOSED SOD - REFER TO LANDSCAPE DWGS
- NEW BANGUT CONCRETE SIDEWALK
- PARKING STALL COUNT PER ROW
- NEW SIGN, REFER TO SIGN LEGEND
- STREET LIGHT
- HYDRO POST
- DESIGNATED ACCESSIBLE PARKING SPACE AS PER AODA STANDARDS
- TWO WAY TRAFFIC
- DEPRESSED CURB (DC)
- PROPERTY LINE
- EXISTING FENCE
- MINIMUM SETBACKS (ZONING)
- NEW CONSTRUCTION
- EXISTING BUILDINGS
- *REFER TO LANDSCAPE DWGS

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BY-LAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION AS TO THE CONSIDERATION OF WORK. SUCH DRAWINGS FALL WITHIN THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUBCONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHANE J. LAWRENCE ARCHITECT FOR ANY DRAWING AND/OR DIMENSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW

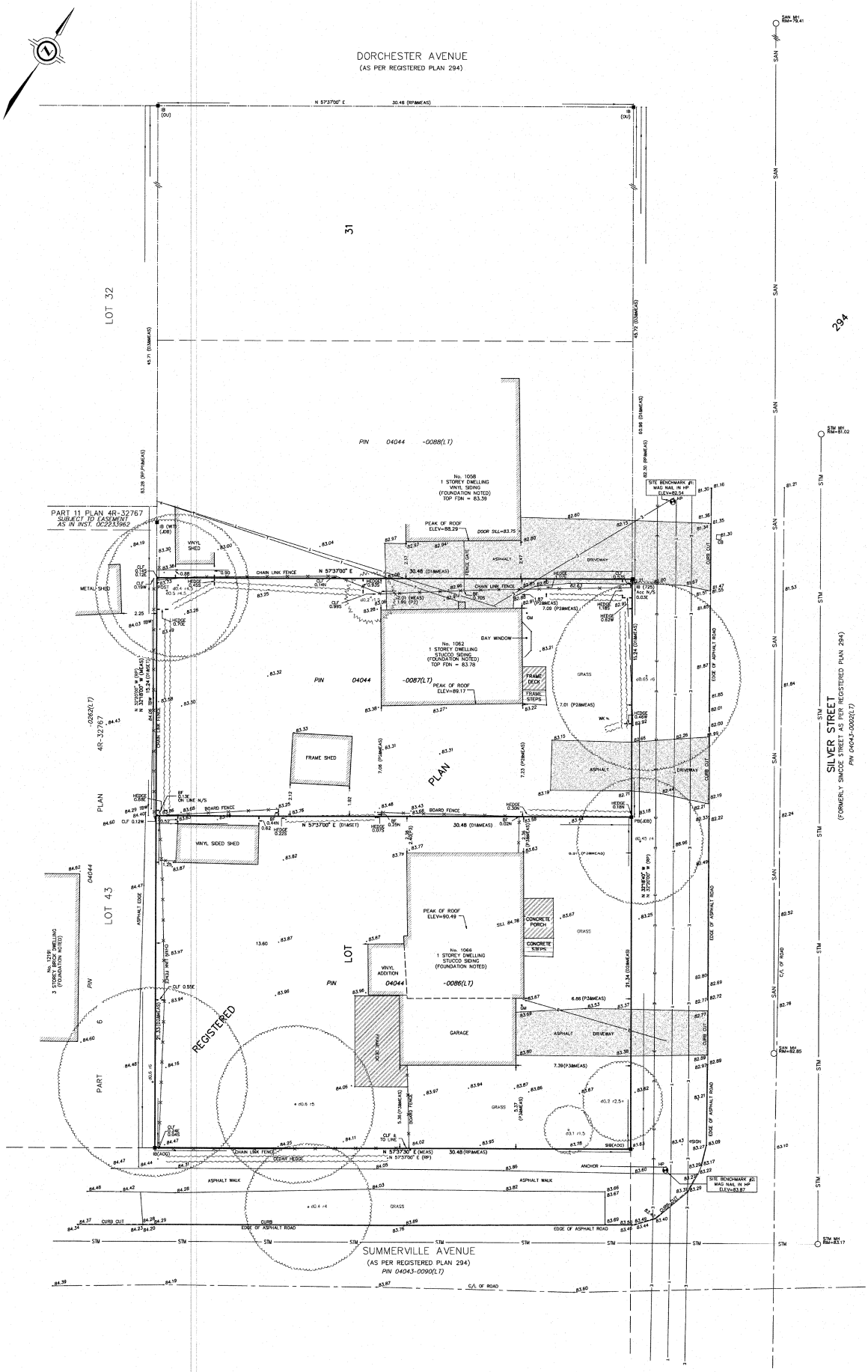
No.	DATE	REVISION
04	2021.09.09	ISSUED FOR COORDINATION
03	2021.08.09	ISSUED FOR REVIEW
02	2021.06.17	ISSUED FOR REVIEW
01	2021.05.03	ISSUED FOR DRAFT REVIEW

S.J. LAWRENCE ARCHITECT INCORPORATED
18 DERBY STREET
SUITE 200
OTTAWA, ONTARIO
K2E 8S7
T (613) 733-2700
F (613) 733-7700
sjl@sjlarchitect.com

PROJECT:
SILVER STREET DEVELOPMENT
1982 & 1200 SILVER STREET, OTTAWA ON

SHEET TITLE:
CONCEPT SITE PLAN

DRAWN BY: AJ. CHECKED BY: S.J.L.
PLOT DATE: 2021.07.29 PROJECT DATE: 2021.JO.09
JOB NUMBER: SL-1046-21 SCALE: AS SHOWN
SHEET NUMBER: A1.0
PLAN #
APPLICATION #



SURVEYOR'S REAL PROPERTY REPORT
PART 1 - PLAN SHOWING

PART OF LOT 31
REGISTERED PLAN 294
CITY OF OTTAWA

J.D. BARNES LIMITED

SCALE 1 : 100

5 0 5 metres

METRIC DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

PART 2 - SURVEY REPORT

- DESCRIPTION
PART OF LOT 31, REGISTERED PLAN 294 BEING ALL OF PIN 04044-0086(LT), IN THE CITY OF OTTAWA

PART OF LOT 31, REGISTERED PLAN 294 BEING ALL OF PIN 04044-0087(LT), IN THE CITY OF OTTAWA

- REGISTERED EASEMENTS AND/OR RIGHTS-OF-WAY
NONE

- BOUNDARY FEATURES
NOTE LOCATION OF THE CHAINLINK FENCE, BOARD FENCE, CEDAR HEDGE, ASPHALT PATH WAY AND OVERHEAD WIRES/CABLES ALONG THE NORTHERLY LIMIT OF PIN 04044-0087(LT)

NOTE LOCATION OF THE CEDAR HEDGE ALONG THE EASTERLY LIMIT OF PIN 04044-0087(LT)

NOTE LOCATION OF THE CHAIN LINK FENCES AND CEDAR HEDGE ALONG THE WESTERLY LIMIT OF THE SUBJECT PROPERTIES

NOTE LOCATION OF THE CHAIN LINK FENCE ALONG THE SOUTHERLY LIMIT OF PIN 04044-0086(LT)

NOTES

BEARINGS ARE MTM GRID, AND DERIVED FROM GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) BY REAL TIME NETWORK (RTN) OBSERVATIONS, MTM ZONE 9, NAD 83, (CSRS) (2010).

FOR BEARING COMPARISONS, A COUNTER-CLOCKWISE ROTATION OF 0°46'00" WAS APPLIED TO BEARINGS ON REGISTERED PLAN 294

DISTANCES ARE GROUND.

ALL BUILDING TIES ARE TAKEN TO CONCRETE FOUNDATION

COMPLIANCE WITH ONTARIO BUILDING CODE SETBACK REQUIREMENTS ARE NOT VERIFIED BY THIS SURVEY.

NOTES ON TREES
-TREE DIMENSIONS ARE SHOWN +/- HEREON
-DIAMETER OF TREES TAKEN AT 1.0m ABOVE GRADE
-RADIUS DENOTES MEASUREMENT OF CROWN FROM CENTER OF TREE

LEGEND

■	DENOTES	SURVEY MONUMENT FOUND
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
PB	DENOTES	PLASTIC BAR
Acc	DENOTES	ACCEPTED
WIT	DENOTES	WITNESS
MEAS	DENOTES	MEASURED
RP	DENOTES	REGISTERED PLAN 294
P1	DENOTES	PLAN 5R-7867
P2	DENOTES	BUILDING LOCATION SURVEY BY R.W.ARNETT JUNE 8, 1983
P3	DENOTES	PLAN BY J. ERIC KRIL, O.L.S., DATED MAY 16, 1972
D1	DENOTES	INSTRUMENT NS202020
D2	DENOTES	INSTRUMENT CR612978
D3	DENOTES	INSTRUMENT NS17308
JDB	DENOTES	J.D. BARNES LTD.
AOS	DENOTES	ANNIS O'SULLIVAN VOLLEBEKK
LJW	DENOTES	WILLIAM J. WEBSTER
OU	DENOTES	UNDER UNKNOWN
HP	DENOTES	HYDRO POST
WM	DENOTES	HYDRO METER
CB	DENOTES	SWALE CATCHBASIN
SAN	DENOTES	SANITARY MANHOLE
STM	DENOTES	STORM MANHOLE
R	DENOTES	RADIUS
DIA	DENOTES	DIAMETER
-H-	DENOTES	OVERHEAD UTILITY CABLE (HYDRO)
-T-	DENOTES	OVERHEAD UTILITY CABLE (TELEPHONE)
HB	DENOTES	HYDRO JUNCTION BOX
BF	DENOTES	BOARD FENCE
CLF	DENOTES	CHAIN LINK FENCE
GM	DENOTES	GAS METER

N=NORTH S=SOUTH E=EAST W=WEST

ELEVATION NOTE:

1. ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM (GSC/CGVD28) AND ARE DERIVED FROM CITY OF OTTAWA PUBLISHED CONTROL MONUMENT 2018A0328 HAVING A PUBLISHED ELEVATION OF 82.472 METRES.

2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE SITE BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2155170
THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR
In accordance with Regulation 1026, Section 29(8).

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON FEBRUARY 2, 2021.

MARCH 1, 2021
DATE

SHAWN LEROUX
ONTARIO LAND SURVEYOR

J.D.BARNES LIMITED
SURVEYING MAPPING GIS
INFRASTRUCTURE SPECIALISTS
60 STACEY DRIVE, SUITE 101, KANATA, ON K2M 2A9
T: (613) 731-7244 F: (613) 254-8659 www.jdbarnes.com

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
CE	SL	21-10-008-00

FILE: G:\21-10-008\DOT\Dwg\21-10-008.dgn

DATED: 2/24/2021 PLOTTED: 3/1/2021

PREPARED FOR: HASLETT CONSTRUCTION

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX B

SITE PRE-DEVELOPMENT CONDITION

GOOGLE IMAGE (2019)

AND

AERIAL PHOTOGRAPHY 2019 (GEOOTTAWA)


1280
1058
1062
PROPOSED
DEVELOPMENT
SITE
1066
1291
1295
rue Silver St.
av. Summerville Ave.
av. Summerville Ave.
rue Silver St.
1061
1063
1065
1267
1269
1271

2019


1280
1267
1061
1063
1269
1058
1271
1062
1065
PROPOSED
DEVELOPMENT
SITE
1066
rue Silver St.
av. Summerville
av. Summerville Ave
rue Silver St
av. Summerville Ave.
rue Silver St.
1291
1295

2019

2019

2019

2019

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX C

SILVER STREET AND SUMMERVILLE AVENUE

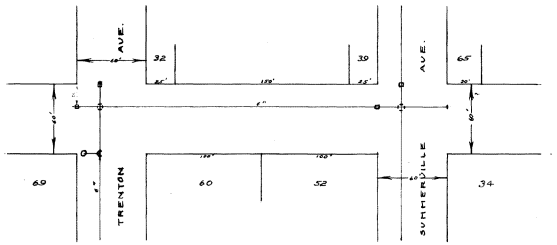
CITY OF OTTAWA

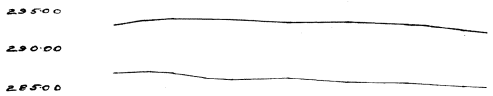
PLAN AND PROFILE

AND

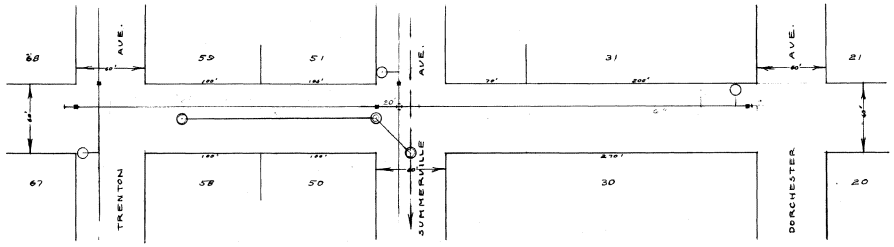
UCC DRAWINGS

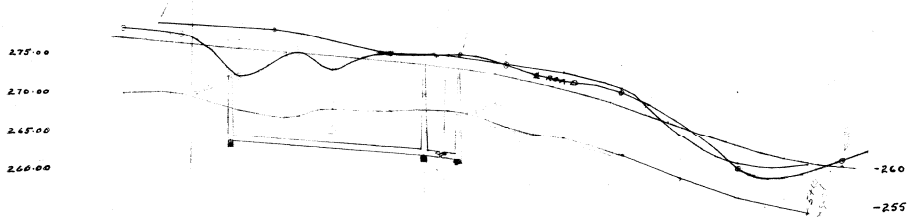
PRINCE AVE.





SILVER STREET





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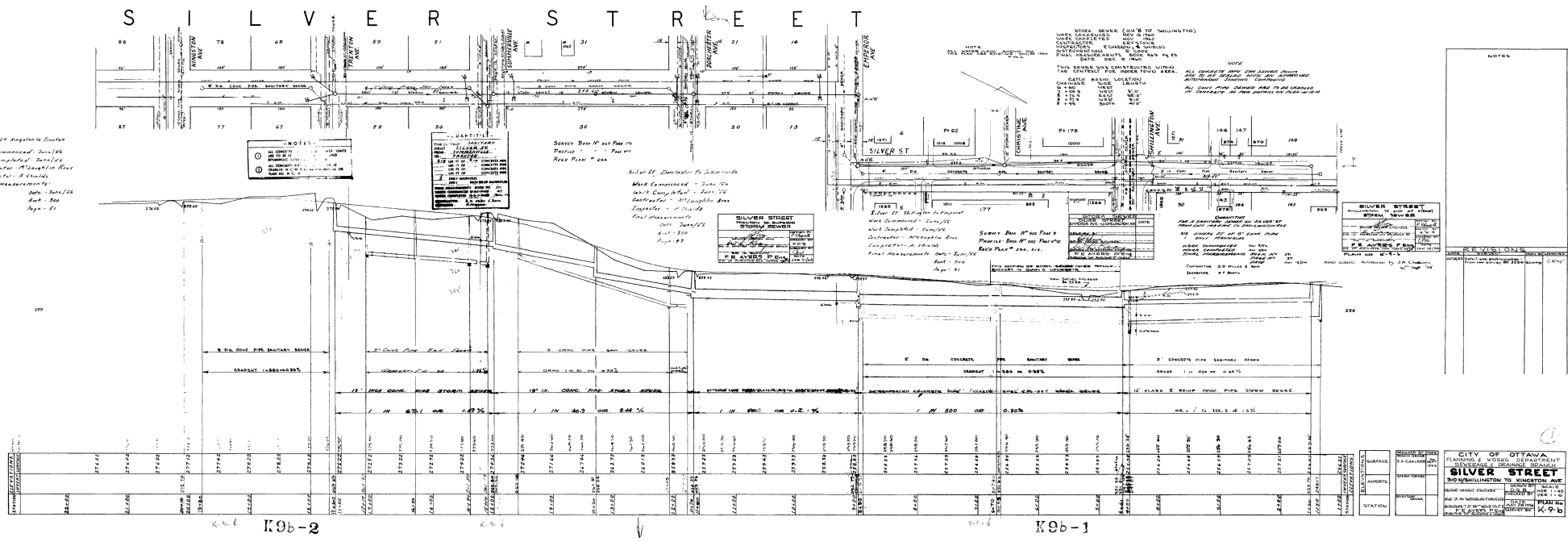
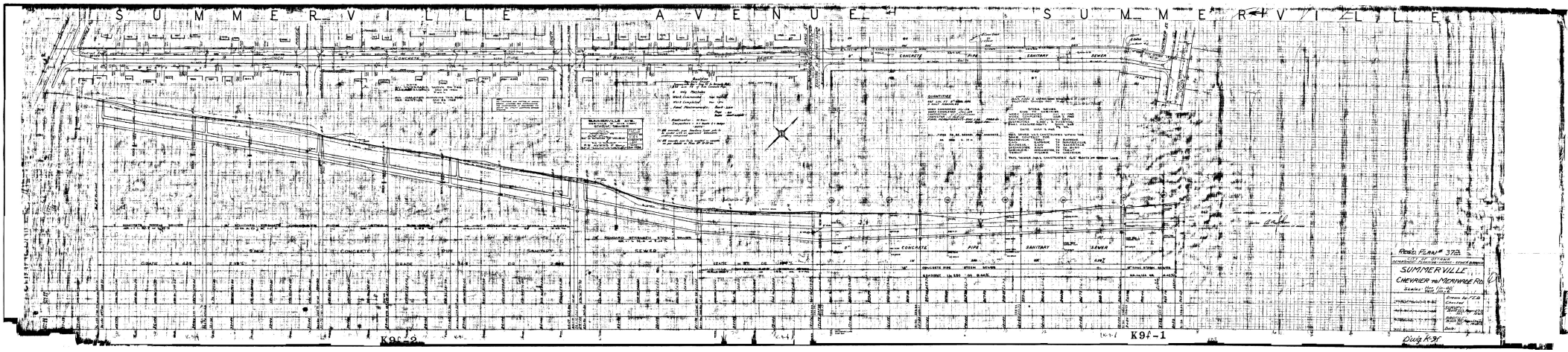
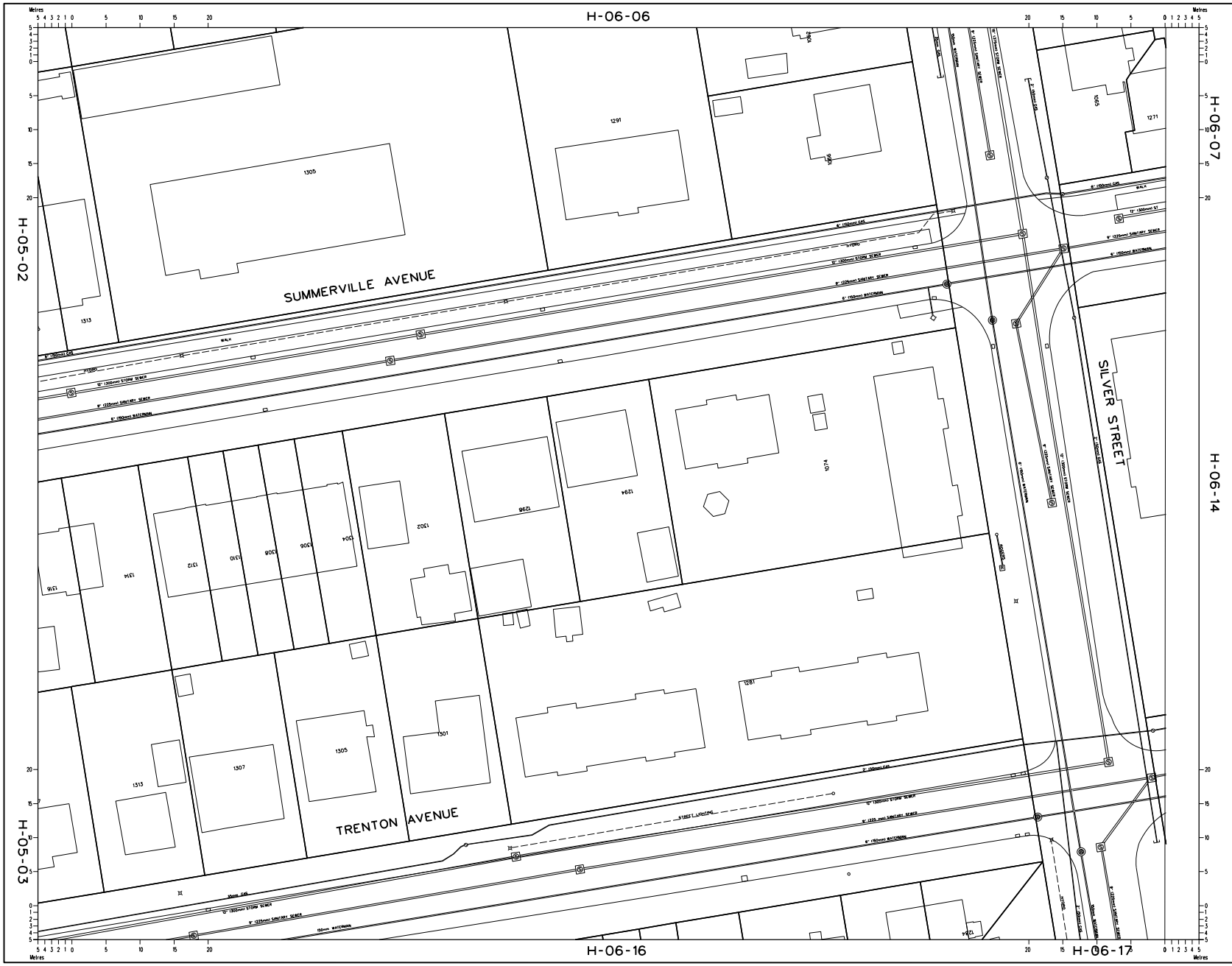

S I L V E R S T R E E T
K9b-2
K9b-1
SILVER ST
NOTES
REVISIONS
CITY OF OTTAWA
PLANNING & WORKS DEPARTMENT
SEWERAGE & DRAINAGE BRANCH
SILVER STREET
SHILLINGTON TO KINGSTON AVE.
PLAN No K-9-b


SUMMERVILLE AVENUE
SUMMERVILLE
K9f-1
K9f-1
Roads Plan # 373
SUMMERVILLE
CHEVRIER to MERIVALE Rd.



REVISIONS / RÉVISIONS	DATE	BY
REDRAWN FROM VOIDED UTILITY PLAN H-06-15	JULY 2007	XMG

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
- R.L Hand Hole, R.L. Camera
- Scada: Hand Hole, Monitoring Panel
- Reducer
- Pipe, Duct, Conduit, Lateral
- Culvert
- Abandoned
- Capped
- Buried Cable
- Property Line
- Install Year (2015)

TELECOM GLOSSARY

A.....Allstream	P.....Primus
AT.....Aris	P2P.....Canadian P2P Fibre
B.....Bell	R.....Rogers
BH.....Birch Hill	S.....Sprint
F.....Fibre Noir	SL.....Street Lighting
G.....Glosilty	T.....Traffic
GT.....Group Telecom	TO.....Telecom Ottawa
H.....Hydro Ottawa	TU.....Telus
H1.....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
OTC.....OCTranspo	UP.....Utility Pole (owner unknown)
SCD.....Scada	

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 indexing 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'indexation 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 / Gerre Etage Est, Ottawa, ON K2G 5J8

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 / INFORMATION CENTRE UNIT

SCALE: 1 : 250

SHEET NUMBER
H-06-15

REVISIONS / RÉVISIONS	DATE	BY
REDRAWN FROM VOIDED UTILITY PLAN H-06-06	JULY 2007	XMG

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 (BR, BP, CP, DP)
- Amp, Hand Hole, Vault, Gas Valve
- OC Transpo Bus Shelter-No Power, Energized, Isolated (BUS, BUS, BUS)
- Streetscape: Planter Box, Grate Square, Eng. Soil (TCB)
- Traffic Connect Box / Disconnect Box, SL Disconnect
- R.L Hand Hole, R.L. Camera
- Scada: Hand Hole, Monitoring Panel
- Reducer
- Pipe, Duct, Conduit, Lateral
- Culvert
- Abandoned
- Capped
- Bulked Cable
- Property Line
- Install Year (2015)

TELECOM GLOSSARY

A.....Allstream	P.....Primus
AT.....Aliis	P2P.....Canadian P2P Fibre
B.....Bell	R.....Rogers
BH.....Birch Hill	S.....Sprint
F.....Fibre Noir	SL.....Street Lighting
G.....Glotelity	T.....Traffic
GT.....Group Telecom	TO.....Telecom Ottawa
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L / L3.....Level 3	Z.....Zayo

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CAUTION/ATTENTION

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

PRODUCED BY: GIS & DATA MANAGEMENT BRANCH / INFORMATICA CENTRE UNIT

SCALE: 1 : 250

SHEET NUMBER
H-06-06

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1062 AND 1066 SILVER STREET

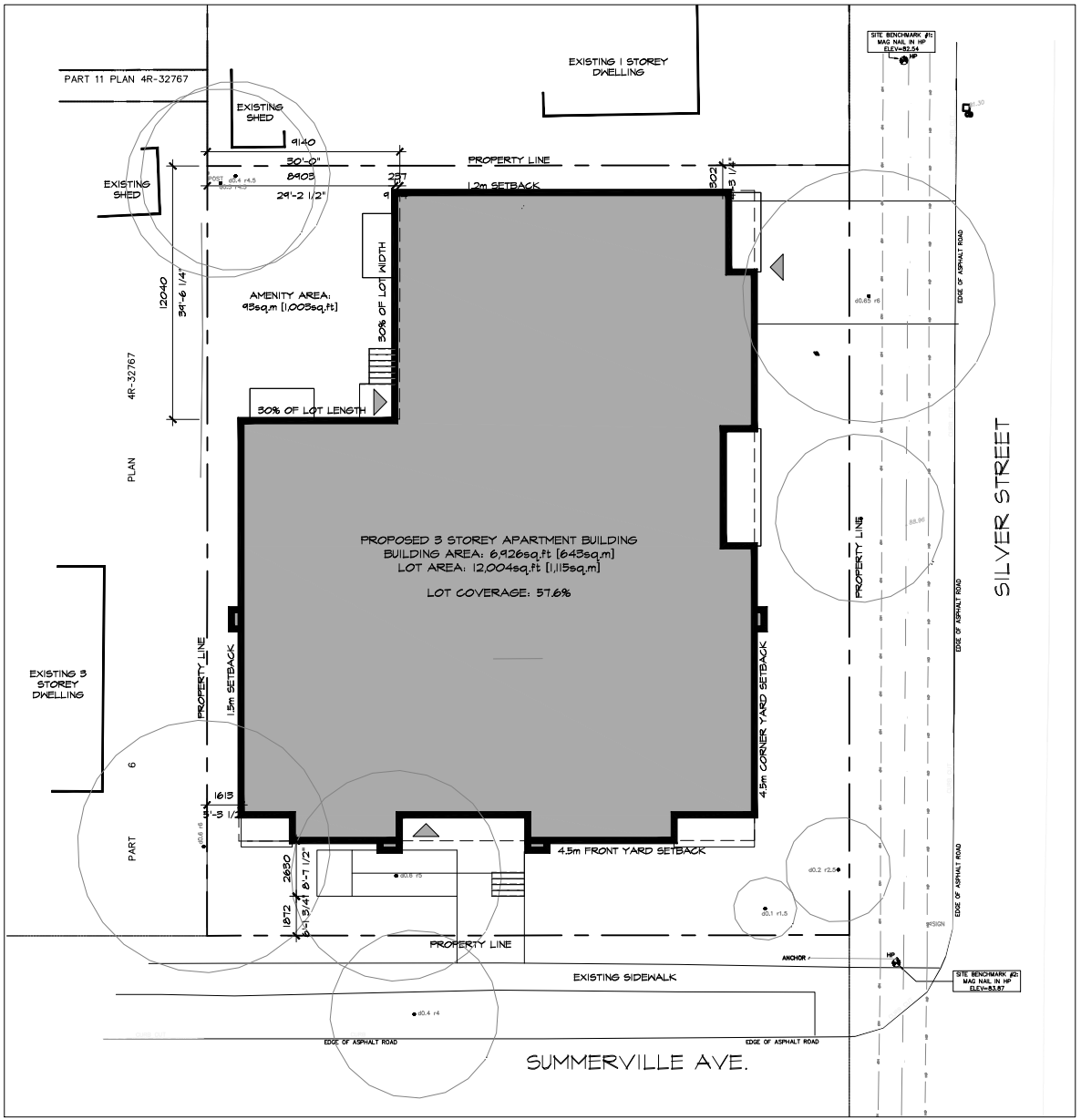
CITY OF OTTAWA

APPENDIX D

CITY OF OTTAWA

- **SITE PLAN AND ARCHITECTURAL DRAWINGS**
- **FUS FIRE FLOW CALCULATIONS**
- **FUS EXPOSURE DISTANCE (FIGURE 1)**
- **OFM FIRE FLOW CALCULATION**
- **OFM EXPOSURE DISTANCES TO STREET (FIGURE 2)**
- **WATER BOUNDARY CONDITIONS**
- **SUPPORTING HYDRAULIC CALCULATIONS**
- **HYDRANT SPACING (FIGURE 3)**

ATTACHMENT 1: SITE PLAN



01 CONCEPT SITE PLAN
A100 SCALE:1:100

KEY PLAN

BUILDING AREAS

	CONSTRUCTION AREA [SQ.M]	CONSTRUCTION AREA [SQ.FT]
LOWER LEVEL		
GROUND FLOOR AREA	643sq.m	6,926sq.ft
SECOND FLOOR AREA	643sq.m	6,926sq.ft
THIRD FLOOR AREA	643sq.m	6,926sq.ft
TOTAL	1,929sq.m	20,778sq.ft

BUILDING FLOOR STATISTICS - RENTAL APARTMENT:

FLOOR	SUITES	1 BEDROOM + DEN	2 BEDROOM
LOWER LEVEL	0		
GROUND FLOOR	7	3	4
SECOND FLOOR	8	4	4
THIRD FLOOR	8	4	4
TOTAL	23	11	12
SUITE MIX		48%	52%

CITY OF OTTAWA ZONING BY-LAW

ZONING PROVISIONS	REQUIRED	PROPOSED
R4UC		
MIN. LOT AREA	450sq.m	1,115.2sq.m
MAX. LOT AREA	1,070sq.m	1,115.2sq.m
MIN. LOT WIDTH	15m	30.5m
MAX. LOT WIDTH	38m	30.5m
MIN. FRONT YARD SETBACK	4.5m	4.5m
MIN. CORNER SIDE YARD SETBACK	4.5m	4.5m
MIN. INTERIOR SIDE YARD SETBACK	1.5m	1.6m
MIN. REAR YARD SETBACK	1.2m	1.24m
MIN. INTERIOR YARD SETBACK	9.14m X 12.04m	8.9m x 12.09m
MAX. BUILDING HEIGHT	11m	11m
AMENITY AREA	40% OF FRONT AND CORNER YARDS, 50% OF LOT AREA, 50% OF REAR YARD WITH A 2Sq.m STRIP.	
LOT COVERAGE	N/A	57.6%

AUTOMOBILE PARKING SUMMARY

REQUIRED PARKING	REQUIRED	PROPOSED
RESIDENT PARKING	0.5/UNIT (AFTER 12) X 11 = 5.5 SPACES	15
VISITOR PARKING	0.1/UNIT (AFTER 12) X 11 = 1 SPACES	1
TOTAL PROVIDED	7 SPACES	16 SPACES
PROVIDED PARKING		
		UNDERGROUND
REGULAR SPACES	MIN. 2.7m x 5.5m	15
ACCESSIBLE SPACES	TYPE B	1
TOTAL	= 16 PROVIDED PARKING SPACES	

BICYCLE PARKING SUMMARY

REQUIRED PARKING	REQUIRED	PROPOSED
BIKE PARKING	0.5/UNIT X 23 = 12 SPACES	34

LEGEND

- NEW OVERHEAD DOOR
- O/H NEW DOOR/ENTRANCE
- PROPOSED RIVERSTONE MULCH
- EXISTING VEGETATION REFER TO LANDSCAPE DWGS
- BICYCLE PARKING SPACE (1.8m/0.6m)
- NO PARKING LINES
- PROPOSED PRECAST CONCRETE PAVERS
- PROPOSED SOD - REFER TO LANDSCAPE DWGS
- NEW SAWCUT CONCRETE SIDEWALK
- PARKING STALL COUNT PER ROW
- SW NEW SIGN, REFER TO SIGN LEGEND
- SL STREET LIGHT
- HP HYDRO POST
- DESIGNATED ACCESSIBLE PARKING SPACE AS PER AODA STANDARDS
- TWO WAY TRAFFIC
- DEPRESSED CURB (DC)
- PROPERTY LINE
- EXISTING FENCE
- MINIMUM SETBACKS (ZONING)
- NEW CONSTRUCTION
- EXISTING BUILDINGS
- *REFER TO LANDSCAPE DWGS

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BY-LAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION AS TO THE INTENT OF THE WORK. SUCH DRAWINGS WILL HAVE THE SAME STANDING AND INTENT AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY

5) NOTIFY SHAWN J. LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW:

No.	DATE	REVISION
02.	2021.04.27	ISSUED FOR REVIEW
01.	2021.02.08	ISSUED FOR DRAFT REVIEW

S.J.LAWRENCE ARCHITECT INCORPORATED
18 DEAKIN STREET SUITE 309 OTTAWA, ONTARIO K2E 8B7
T: (613) 724.7710
F: (613) 724.7705
sjla@architect.com

LAWRENCE ARCHITECT INCORPORATED

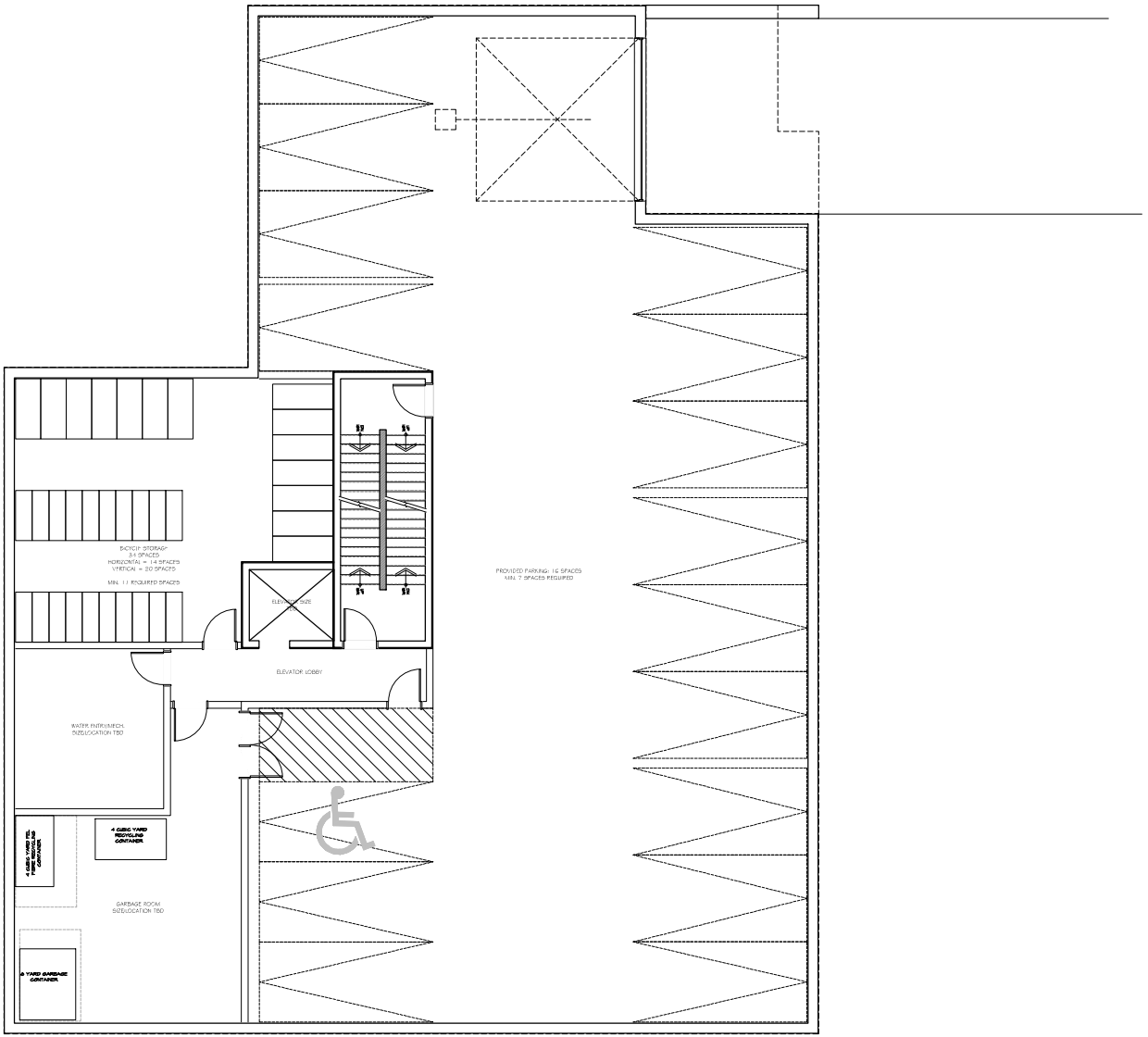
PROJECT:
SILVER STREET DEVELOPMENT
1082 & 1088 SILVER STREET, OTTAWA ON

SHEET TITLE:
CONCEPT SITE PLAN

DRAWN BY:	CHECKED BY:
AL	S.J.L.
PLOT DATE: 2021.04.27	PROJECT DATE: 2021.02.08
JOB NUMBER: SL-1046-21	SCALE: AS SHOWN

SHEET NUMBER:
A100

PLAN •
APPLICATION •



01 A2.0 CONCEPT LOWER LEVEL
SCALE: 3/32" = 1'-0"

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BY-LAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION AS TO THE INTENT OF THE WORK. SUCH DRAWINGS INCLUDED WITH THE DATED WORKING AND INTENT AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY

5) NOTIFY SHAW J.L LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW:

No.	DATE	REVISION
02	2021.04.27	ISSUED FOR REVIEW
01	2021.02.08	ISSUED FOR DRAFT REVIEW

S.J.LAWRENCE ARCHITECT INCORPORATED
18 DEAKIN STREET
SUITE 309
OTTAWA, ONTARIO
K2E 8S7
T. (613) 724.7770
F. (613) 724.7705
sjla@lawrencearchitect.com

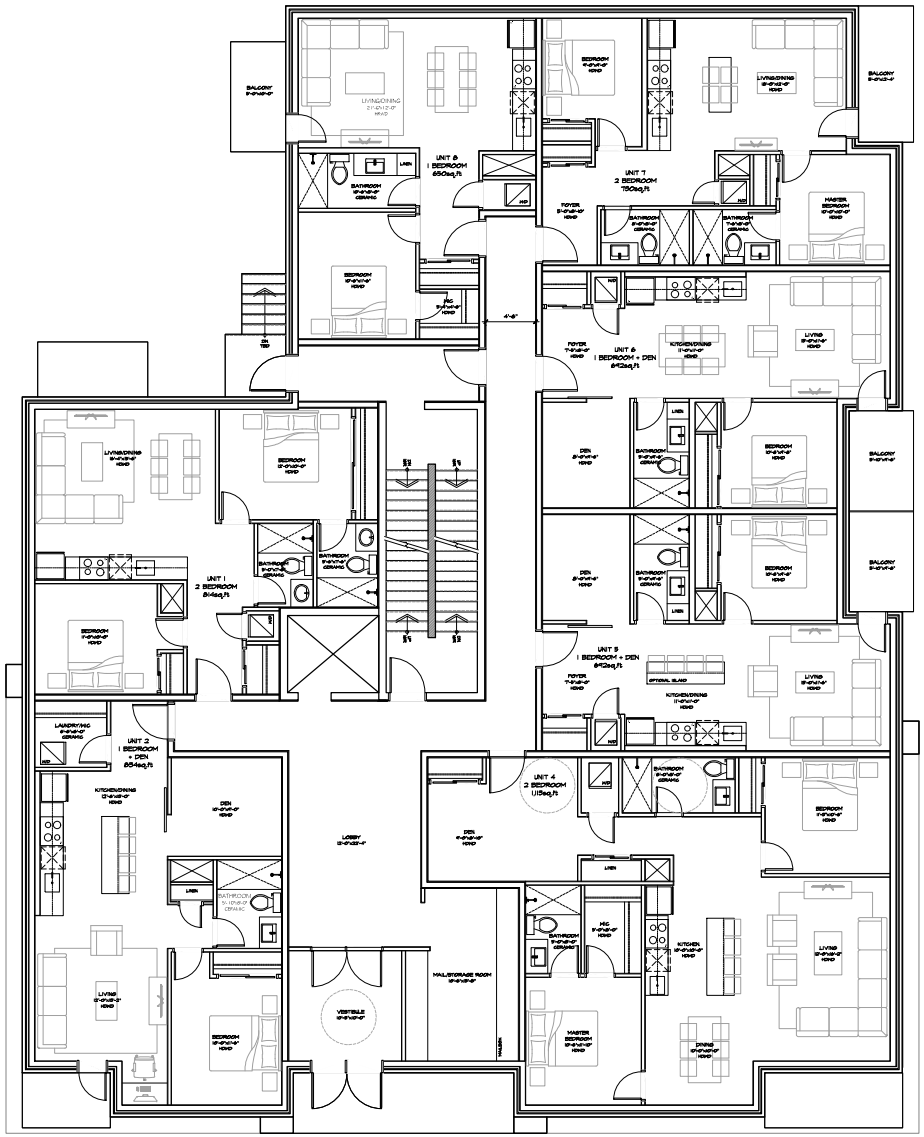
PROJECT:
SILVER STREET DEVELOPMENT
1062 & 1066 SILVER STREET, OTTAWA, ON

SHEET TITLE:
CONCEPT FLOOR PLANS

DRAWN BY: SJL	CHECKED BY: S.J.L.
PLOT DATE: 2021.04.27	PROJECT DATE: 2021.02.08
JOB NUMBER: SL-1046-21	SCALE: AS SHOWN

SHEET NUMBER:
A2.0

PLAN ●
APPLICATION ●



01 CONCEPT GROUND FLOOR
A2.1 SCALE:1/4" = 1'-0"

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BY-LAWS.

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3) DO NOT SCALE DRAWINGS.

4) ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY

5) NOTIFY SHAWN J.L LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW:

No.	DATE	REVISION
03	2021.04.27	ISSUED FOR REVIEW
01	2021.02.08	ISSUED FOR DRAFT REVIEW

S.J.LAWRENCE ARCHITECT INCORPORATED
18 DEAKIN STREET
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sjl@sjlarchitect.com

LAWRENCE ARCHITECT INCORPORATED

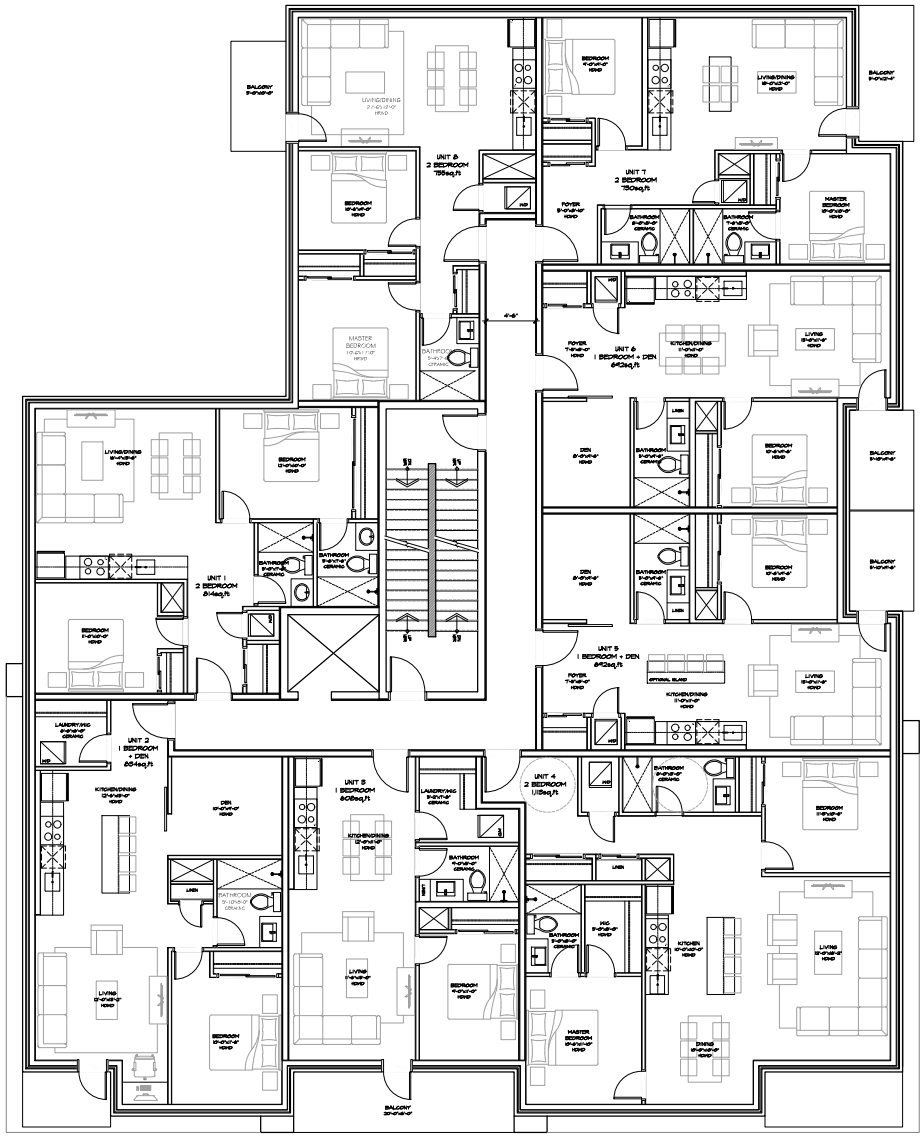
PROJECT:
SILVER STREET DEVELOPMENT
1062 & 1066 SILVER STREET, OTTAWA, ON

SHEET TITLE:
CONCEPT FLOOR PLANS

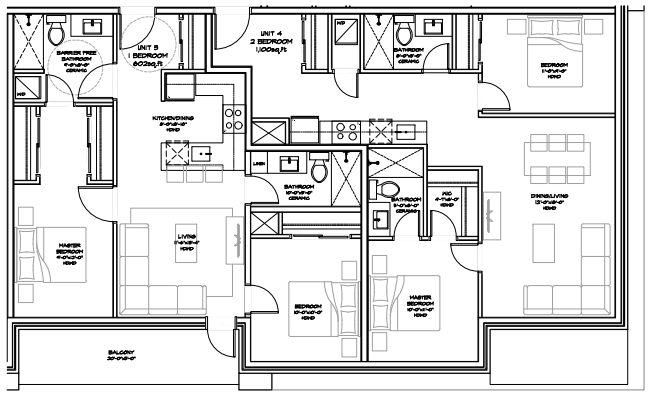
DRAWN BY:	CHECKED BY:
S.L.	S.J.L.
PLOT DATE:	PROJECT DATE:
2021.04.27	2021.02.08
JOB NUMBER:	SCALE:
SL-1046-21	AS SHOWN

SHEET NUMBER:
A2.1

PLAN ●
APPLICATION ●



01 A2.1 CONCEPT TYPICAL FLOOR
SCALE:3/16" = 1'-0"



02 A2.1 OPTIONAL LAYOUT FOR ADDITIONAL 2ND BEDROOM
SCALE:3/16" = 1'-0"

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BY-LAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION AS THE CONSIDERED NECESSARY FOR THE PROPER EXECUTION OF THE WORK. SUCH DRAWINGS WILL HAVE THE SAME STANDING AND INTENT AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY

5) NOTIFY SHAWN LI LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW:

No.	DATE	REVISION
02	2021.04.27	ISSUED FOR REVIEW
01	2021.02.08	ISSUED FOR DRAFT REVIEW

S.LI LAWRENCE ARCHITECT INCORPORATED
18 DEAKIN STREET
SUITE 309
OTTAWA, ONTARIO
K2E 8S7
T. (613) 724.7770
F. (613) 724.7705
sli@lawrencearchitect.com

LAWRENCE ARCHITECT INCORPORATED

PROJECT:
SILVER STREET DEVELOPMENT
1062 & 1066 SILVER STREET, OTTAWA, ON

SHEET TITLE:
CONCEPT FLOOR PLANS

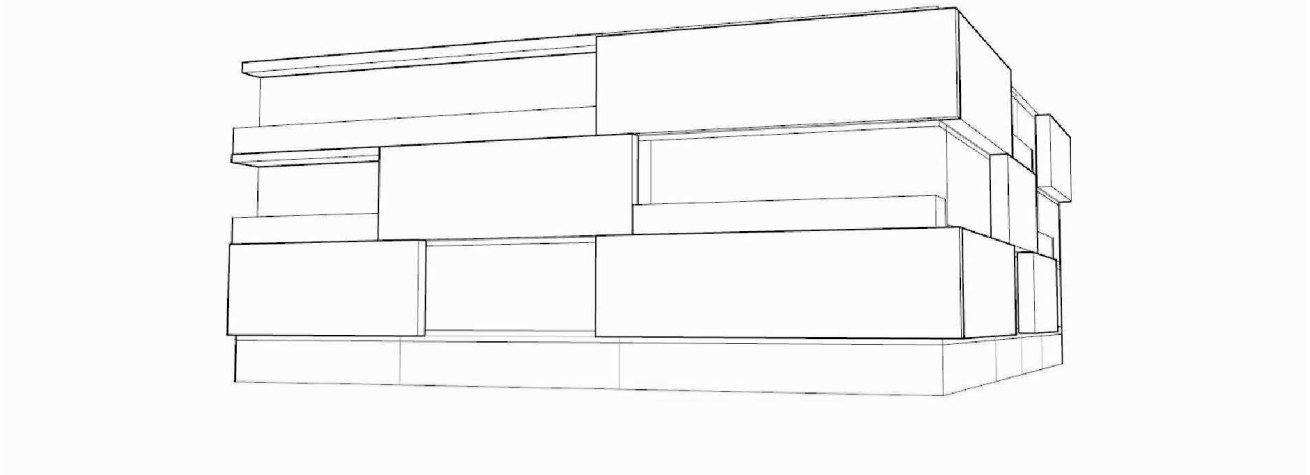
DRAWN BY:	CHECKED BY:
S.L.	S.LI.
PLOT DATE:	PROJECT DATE:
2021.04.27	2021.02.08
JOB NUMBER:	SCALE:
SL-1046-21	AS SHOWN

SHEET NUMBER:
A2.2

PLAN ●
APPLICATION ●

01 A4.0 SOUTH [FRONT] ELEVATION - OPTION 02

SCALE: 1/8" = 1'-0"



02 A4.0 SOUTH [FRONT] MASSING

SCALE: 1/8" = 1'-0"

CLIENT NAME:

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BYLAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR VERIFICATION.

5) NOTIFY SHAWN J. LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW

NO	DATE	REVISION
03	2021.04.28	ISSUED FOR REVIEW
02	2021.03.11	ISSUED FOR REVIEW
01	2021.02.08	ISSUED FOR DRAFT REVIEW

S.J. LAWRENCE ARCHITECT INCORPORATED
18 DERALIN STREET
SUITE 205
OTTAWA, ONTARIO
K2B 8S7
T: (613) 724 7770
F: (613) 724 7703
sj@sjlarchitect.com

LAWRENCE ARCHITECT INCORPORATED

PROJECT:

SILVER STREET DEVELOPMENT

1062 & 1066 SILVER STREET, OTTAWA, ON

SHEET TITLE:

SCHEMATIC ELEVATION OPTION 01

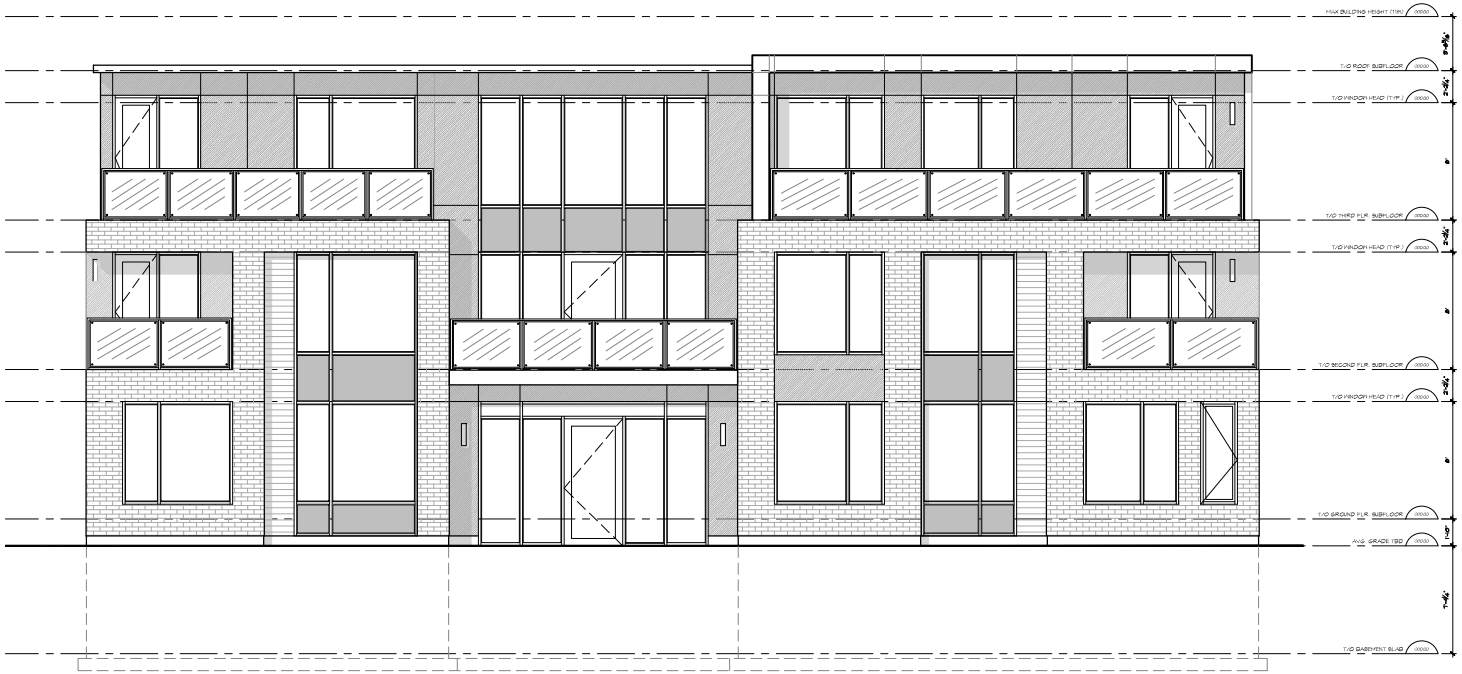
DRAWN BY:	CHECKED BY:
SL.	SL.
PLOT DATE:	PROJECT DATE:
2021.04.28	2021.02.08
JOB NUMBER:	SCALE:
SL-1046-21	AS SHOWN

SHEET NUMBER:

A4.0

PLAN #

APPLICATION #



01 A4.1 SOUTH [FRONT] ELEVATION - OPTION 02

SCALE: 1/4" = 1'-0"

02 A4.1 SOUTH [FRONT] MASSING

SCALE: 1/4" = 1'-0"

CLIENT NAME:

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BYLAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND EXIST AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHAWN J. LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW

NO	DATE	REVISION
03	2021.04.28	ISSUED FOR REVIEW
02	2021.03.11	ISSUED FOR REVIEW
01	2021.02.08	ISSUED FOR DRAFT REVIEW

S.J. LAWRENCE ARCHITECT INCORPORATED
18 DEAKIN STREET
SUITE 205
OTTAWA, ONTARIO
K1S 3S7
T: (613) 724 7710
F: (613) 724 7703
sj@sjlarchitect.com

LAWRENCE ARCHITECT INCORPORATED

PROJECT:

SILVER STREET DEVELOPMENT

1062 & 1066 SILVER STREET, OTTAWA, ON

SHEET TITLE:

SCHEMATIC ELEVATION OPTION 02

DRAWN BY:	CHECKED BY:
SL.	SL.
PLOT DATE:	PROJECT DATE:
2021.04.28	2021.02.08
JOB NUMBER:	SCALE:
SL-1046-21	AS SHOWN

SHEET NUMBER:

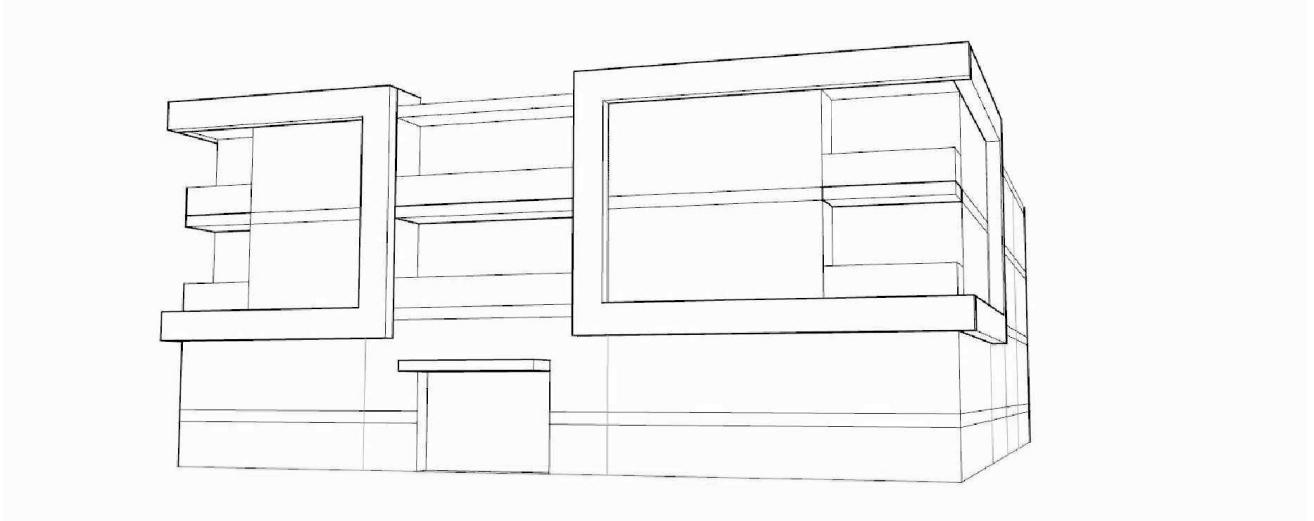
A4.1

PLAN #

APPLICATION #

01 A4.2 SOUTH [FRONT] ELEVATION - OPTION 03

SCALE: 1/4" = 1'-0"



02 A4.2 SOUTH [FRONT] MASSING

SCALE: 1/4" = 1'-0"

CLIENT NAME:

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BYLAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND EFFECT AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHAWN J. LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW

NO	DATE	REVISION
03	2021.04.26	ISSUED FOR REVIEW
02	2021.03.19	ISSUED FOR REVIEW
01	2021.02.08	ISSUED FOR DRAFT REVIEW

SJL LAWRENCE ARCHITECT INCORPORATED

18 DRAKE STREET
SUITE 205
OTTAWA, ONTARIO
K2E 8S7

T: (613) 724 7770
F: (613) 724 7703
sjl@sjlarchitect.com

LAWRENCE ARCHITECT INCORPORATED

PROJECT:

SILVER STREET DEVELOPMENT

1062 & 1066 SILVER STREET, OTTAWA, ON

SHEET TITLE:

SCHEMATIC ELEVATION OPTION 03

DRAWN BY:	CHECKED BY:
SL.	SL.
PLOT DATE:	PROJECT DATE:
2021.04.26	2021.02.08
JOB NUMBER:	SCALE:
SL-1046-21	AS SHOWN

SHEET NUMBER:

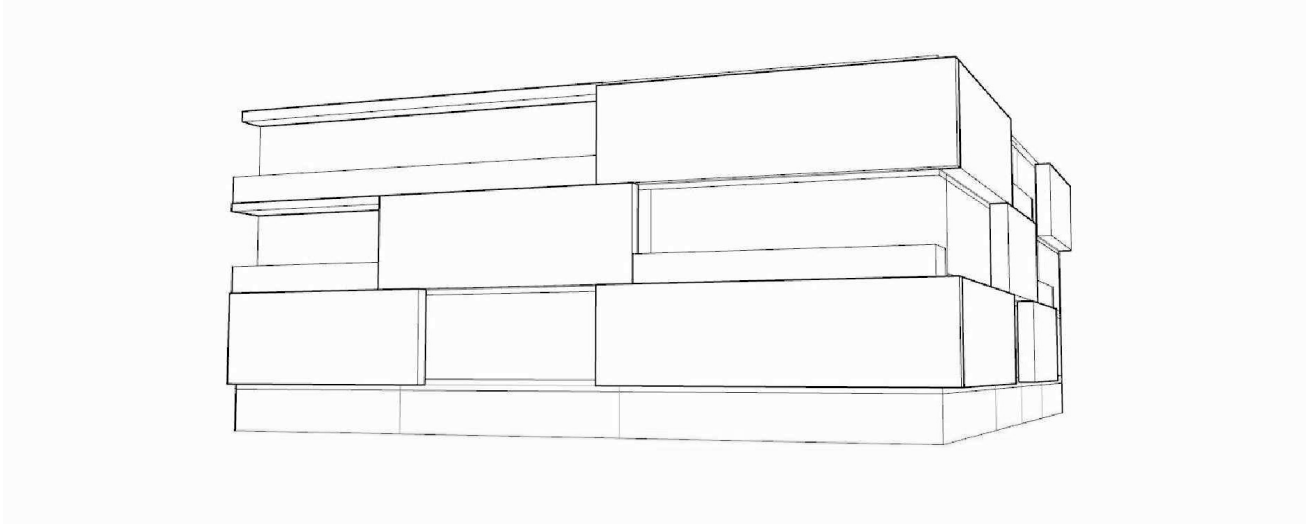
A4.2

PLAN #

APPLICATION #

01 A4.3 SOUTH [FRONT] ELEVATION - OPTION 04

SCALE: 1/4" = 1'-0"



02 A4.3 SOUTH [FRONT] MASSING

SCALE: 1/4" = 1'-0"

CLIENT NAME:

POWER-TEK GROUP

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BYLAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHAWN J. LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

SEAL:

NORTH ARROW

NO	DATE	REVISION
03	2021.04.26	ISSUED FOR REVIEW
02	2021.03.11	ISSUED FOR REVIEW
01	2021.02.08	ISSUED FOR DRAFT REVIEW

SJ LAWRENCE ARCHITECT INCORPORATED

18 DERALIN STREET
SUITE 205
OTTAWA, ONTARIO
K2B 8S7

T: (613) 724 7710
F: (613) 724 7705
sj@sjlarchitect.com

LAWRENCE ARCHITECT INCORPORATED

PROJECT:

SILVER STREET DEVELOPMENT

1062 & 1066 SILVER STREET, OTTAWA, ON

SHEET TITLE:

SCHEMATIC ELEVATION OPTION 04

DRAWN BY:	CHECKED BY:
SL.	SL.
PLOT DATE:	PROJECT DATE:
2021.04.26	2021.02.08
JOB NUMBER:	SCALE:
SL-1046-21	AS SHOWN

SHEET NUMBER:

A4.3

PLAN #

APPLICATION #

ATTACHMENT 2: FUS FIRE FLOW CALCULATIONS

FUS Fire Flow Calculation

Calculations based on: "*Water Supply for Public Fire Protection*" by Fire Underwriters' Survey, 1999

Stantec Project #: 163401084
Project Name: 1066 Silver St
Date: April 28, 2021
Data inputted by: Christène Razafimaharo, M.Sc., EIT
Data reviewed by: Kevin Alemany, M.A.Sc., P.Eng.

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

Notes: *Basement (parking) is more than 50% below grade.*
Ordinary construction type.
Sprinklers proposed.

Table A: 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)	Wood Frame	1.5	Ordinary construction	1	m	
			Ordinary construction	1				
			Non-combustible construction	0.8				
			Fire resistive construction (< 2 hrs)	0.7				
			Fire resistive construction (> 2 hrs)	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.)	23	Units	
			Townhouse - indicate # of units	1				
			Other (Comm, Ind, Apt etc.)	23				
2.2	# of Storeys	Number of Floors/Storeys in the Unit (do not include basement if 50% below grade):			3	3	Storeys	
3	Enter Ground Floor Area of One Unit	Average Floor Area (A) based total floor area of all floors (non-fire resistive construction):			643	1,929	Area in Square Meters (m^2)	
					Square Metres (m2)			
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						10,000
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	8,500
			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	-2,550
			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	-850
			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	-850
			Sprinkler not fully supervised or N/A	0				
5.3	Choose Separation Distance Between Units	Exposure Distance Between Units	North Side	3.1 to 10.0m	0.2	0.6	m	5,100
			East Side	20.1 to 30.1m	0.1			
			South Side	20.1 to 30.1m	0.1			
			West Side	3.1 to 10.0m	0.2			
6	Obtain Required Fire Flow, Duration & Volume	*Total Required Fire Flow, rounded to nearest 1,000 L/min, with max/min limits applied:*						9,000
		Total Required Fire Flow (above) in L/s:						150
		Required Duration of Fire Flow (hrs)						1.75
		Required Volume of Fire Flow (m^3)						945

ATTACHMENT 3: FIGURE 1 – FUS EXPOSURE DISTANCES

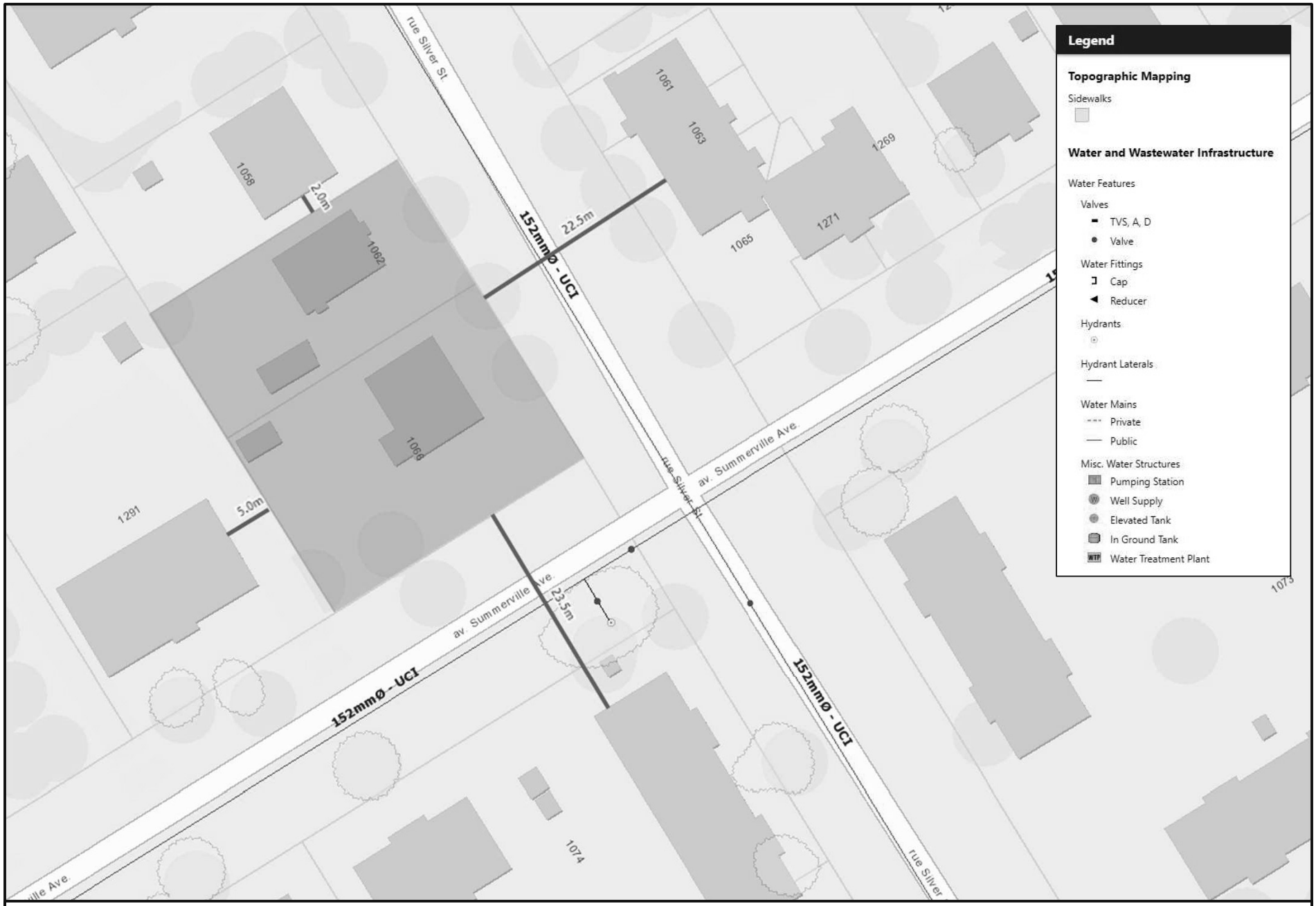


Figure 1: FUS Exposure Distances (Property Line to Adjacent Buildings)

Source: geoOttawa 2020; *Contains information licensed under the Open Government Licence – City of Ottawa.*

ATTACHMENT 4: OFM FIRE FLOW CALCULATIONS

Fire Flow Calculations as per the Ontario Building Code (OBC)

Stantec

OFM Fire Flow Calculation

Calculations based on *Fire Protection Water Supply Guideline for Part 3 in the Ontario Building Code* by the Office of the Fire Marshal (OFM 1999)

Stantec Project #: 163401084
Project Name: 1066 Silver St
Date: June 21, 2021
Data inputted by: Christène Razafimaharo, M.Sc., EIT
Data reviewed by: Kevin Alemany, M.A.Sc., P.Eng.

Fire Flow Calculation #: 2
Building Type/Description/Name: Residential

Table A: Office of the Fire Marshal Determination of Required Fire Protection Water Supply

Step	Task	Term	Options	Multiplier Associated with Option	Choose:	Value Used	Unit
1	**General Building Details**						
1.1	Enter Number of Storeys	Number of Floors/Storeys in the Unit (incl. basement):			4	4	Storeys
1.2	Choose Type of Housing (if TH, Enter Number of Units Per TH Block)	Type of Housing	Single Family	0	Other (Comm, Ind, Apt etc.)	23	Units
			Townhouse - indicate # of units	0			
			Other (Comm, Ind, Apt etc.)	23			
1.3	Choose Presence of Sprinklers	Sprinklers?			Yes	Yes	N/A
1.4	Choose Presence of Firewalls	Firewall separations?			None	None	N/A
1.5	Choose Presence of Stand-Pipe System	Stand-pipe system?			None	None	N/A
2	**Determining Water Supply Coefficient K**						
2.1	Choose Type of Construction	**Type of Construction**					
		Type of Construction	Non-combustible construction + fire separations + fire-resistance ratings in accordance with Section 3.2.2 of OBC	Type I	Type III	N/A	N/A
			Non-combustible construction + fire separations + no fire-resistance rating	Type II			
			Combustible construction + fire separations + fire-resistance ratings in accordance with Section 3.2.2 of OBC	Type III			
			Combustible construction + fire separations + no fire-resistance rating	Type IV			
2.2	Choose Classification	**Building Classification**					
		Occupancy Classification (OBC)	A-2, B-1, B-2, B-3, C, D	18	C	A-2, B-1, B-2, B-3, C, D	N/A
			A-4, F-3	22			
			A-1, A-3	25			
			E, F-2	31			
			F-1	41			
2.3	Water Supply Coefficient (K)	Water Supply Coefficient K				18	N/A
3	**Determining Building Volume V**						
3.1	Enter Ground Floor Area of One Unit	**Floor Space Area**					
		Average Floor Area (A) :			643 Square Metres (m2)	643	Area in Square Meters (m^2)
3.2	Building Height (h)	**Building Height**					
		Bottom Elevation :			0.0 Meters (m)	11.0	Height in Meters (m)
		Top Elevation :			11.0 Meters (m)		
3.3	Building Volume (V)	Building Volume V = A * h				7,080	Volume in Meters Cube (m^3)
4	**Determining Spatial Coefficient S**						
4.1	Choose Exposure Distances from Building to Property Line	Exposure Distance from Building to Property Line in Meters (m)	**North Side**	1.3	0.50	1.00	Distance in Meters (m)
			Property Line to Street Centreline (Street Facing)	0			
			Total Exposure Distance	1.3			
			East Side	4.5	0.00		
			Property Line to Street Centreline (Street Facing)	8.0			
			Total Exposure Distance	12.5			
			South Side	4.5	0.00		
			Property Line to Street Centreline (Street Facing)	8.5			
			Total Exposure Distance	13.0			
			West Side	1.6	0.50		
			Property Line to Street Centreline (Street Facing)	0			
			Total Exposure Distance	1.6			
4.2	Total Spatial Coefficient	Total Spatial Coefficient $S_{tot} = 1 + \Sigma S_x$				2.00	N/A
5	**Determining Required Minimum Supply of Water Q and Fire Flow**						
5.1	Obtain Required Fire Volume, Flow & Duration	*Minimum Supply of Water, rounded to nearest 1,000 L; $Q = K*V*S_{tot}$*				255,000	L
		Required Minimum Water Supply Flow Rate (L/min)				6,300	L/min
		Required Minimum Water Supply Flow Rate (L/s)				105	L/s
		Required Minimum Duration of Fire Flow (min)				30	min

ATTACHMENT 5: FIGURE 2 – OFM EXPOSURE DISTANCES TO STREET

Figure 2: OFM Exposure Distances (Property Line to Street)

Source: geoOttawa 2021; *Contains information licensed under the Open Government Licence – City of Ottawa.*

ATTACHMENT 6: WATER BOUNDARY CONDITIONS

Razafimaharo, Christene

From: TL MaK <tlmakecl@bellnet.ca>
Sent: Wednesday, June 16, 2021 11:58 AM
To: Alemany, Kevin
Cc: Razafimaharo, Christene
Subject: FW: 1066 Silver Street - Water Boundary Conditions Request
Attachments: 1066 Silver Street June 2021.pdf

Hi Kevin,

Attached please find water boundary conditions received today from the City of Ottawa regarding 1066 Silver Street.

Could you please proceed with your calculations at your earliest convenience for our serviceability report preparation.

Let us know if you have any questions or comments.

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

From: Harrold, Eric [mailto:eric.harrold@ottawa.ca]
Sent: June 16, 2021 10:26 AM
To: TL MaK
Cc: Cassidy, Tyler; 'Amanda Lawrence'
Subject: RE: 1066 Silver Street - Water Boundary Conditions Request

Hi Tony,

Please see the water boundary condition information provided below:

The following are boundary conditions, HGL, for hydraulic analysis at 1066 Silver Street (zone 2W2C) assumed to be connected to the 152 mm on Summerville Avenue (see attached PDF for location).

Minimum HGL = 124.6 m

Maximum HGL = 133.1 m

Available fire flow at 20 psi = 96 L/s, assuming ground elevation of 83.8 m

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

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

assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation.

Please let me know if you have any follow-up questions.

Best,
Eric

From: TL MaK <tlmakecl@bellnet.ca>
Sent: June 09, 2021 9:59 AM
To: Harrold, Eric <eric.harrold@ottawa.ca>
Cc: Cassidy, Tyler <tyler.cassidy@ottawa.ca>; 'Amanda Lawrence' <amanda@sjlarchitect.com>
Subject: RE: 1066 Silver Street - Water Boundary Conditions Request

Hi Eric,

This will serve to confirm that the proposed building is for 23 units. We had confirmation from the project architect yesterday.

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

From: Harrold, Eric [mailto:eric.harrold@ottawa.ca]
Sent: June 8, 2021 3:45 PM
To: tlmakecl@bellnet.ca
Cc: Cassidy, Tyler
Subject: 1066 Silver Street - Water Boundary Conditions Request

Hi Tony,

Adam forwarded me the attached email regarding the water boundary condition request for 1066 Silver Street. I can submit the request to the City now that the pre-consultation is complete. I just wanted to confirm that the criteria in the request is up to date; the pre-consultation documents indicate that there are 25 units, whereas the water boundary request email indicates 23. Once you've confirmed that the details are correct I can send the request.

Additionally, please note that I confirmed that 30 cm of freeboard is required from the spillpoint for the site to the top of the ramp for the underground parking garage.

Best,
Eric
Eric Harrold, P.Eng

Planning, Infrastructure and Economic Development Department - Services de la Planification, de l'Infrastructure et du Développement Économique
Development Review
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West, Ottawa, ON | 110, Avenue. Laurier Ouest, Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 21447, eric.harrold@ottawa.ca

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'

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'


Boundary Conditions for 1066 Silver Street
rue Silver St.
av. Summerville Ave.
152
1280
1058
1062
1066
1291
1061
1063
1065
1269
1271
1267
1265
N
Legend
PRIVATE
PUBLIC
City of Ottawa

ATTACHMENT 7: SUPPORTING HYDRAULIC CALCULATIONS

Supporting Hydraulic Calculations

Stantec Project #: 163401084
Project Name: 1066 Silver St
Date: June 21, 2021
Data inputted by: Christène Razafimaharo, M.Sc., EIT
Data reviewed by: Kevin Alemany, M.A.Sc., P.Eng.

Boundary Conditions provided by the City:

Scenario 1: Peak Hour (Min HGL): 124.6 m;
Scenario 2: Average Day (Max HGL): 133.1 m; and
Scenario 3: Maximum Day plus Fire Flow: 97.9 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) = 124.6 and hz (m) = 83.8.

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

hp (m) = HGL - hz
∴ hp = 124.6 - 83.8 m = 40.8 m.

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

P (kPa) = (ρ * 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 (hp) as follow:

P (kPa) = (1000 * 9.81 * 40.8) / 1000
∴ P = 400 kPa.

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

P = 58 psi.

Applying the same procedures, the pressures under Scenario 2 and Scenario 3 are calculated as follows:
Scenario 2: P = 70 psi; and Scenario 3: P = 20 psi.

To summarize:

Scenario 1: Minimum Pressure under Peak Hour Demand: 400 kPa (58 psi)
Scenario 2: Maximum Pressure under Average Day Demand: 483 kPa (70 psi)
Scenario 3: Minimum Pressure under Maximum Day + Fire Flow Demand: 138 kPa (20 psi)

ATTACHMENT 8: FIGURE 3 – HYDRANT SPACING

Figure 3: Hydrant Spacing

Source: geoOttawa 2021; *Contains information licensed under the Open Government Licence – City of Ottawa.*

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX E

CITY OF OTTAWA

SANITARY SEWER DESIGN SHEET

SHEET No. 1 OF 1

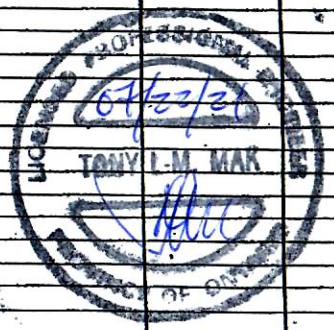
SANITARY SEWER DESIGN SHEET

q = average daily per capita flow (280 L/cap. d)
I = unit of peak extraneous flow (0.28 L/ha. s)
M = peaking factor
Q (p) = peak population flow (L/s)
Q (i) = peak extraneous flow (L/s)
Q (d) = peak design flow

RESIDENTIAL DENSITY
2 BEDROOM – 2.1 ppu
1 BEDROOM – 1.4 ppu

$M = 1 + \frac{14}{4 + \sqrt{P}}$ where P population in 1000's
$Q(p) = \frac{PqM}{86.4}$ (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)
1062 AND 1066 SILVER STREET	SITE	EX. 225Ø SANITARY SEWER	44.1	0.1115	44.1	0.1115	4	0.57	0.03	0.60	15.5	150	PVC	1.0 (min)	19.8	1.12	



DESIGN	TLM	PROJECT	1062 AND 1066 SILVER STREET – PROPOSED THREE STOREY APARTMENT BUILDING SITE – OTTAWA
CHECKED	TLM		
DATE	JULY 2021		

SHEET No. 1 of 1

(File # 821-10)

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX F

CITY OF OTTAWA

CORRESPONDENCE FROM RVCA

DATED JULY 14, 2021

TL MaK

From: Eric Lalande [eric.lalande@rvca.ca]
Sent: July 14, 2021 10:24 AM
To: TL MaK
Subject: RE: 1066 Silver Street

Hi Tony,

Based on the provided Site plan, the RVCA would require no additional water quality protection be provided on-site.

Thank you,

Eric Lalande, MCIP, RPP
Planner, RVCA
613-692-3571 x1137

From: TL MaK <tlmakecl@bellnet.ca>
Sent: Monday, July 12, 2021 3:26 PM
To: Eric Lalande <eric.lalande@rvca.ca>
Subject: 1066 Silver Street

Hi Eric,

Presently we are contacting the RVCA for pre-consultation regarding our project at 1066 Silver Street.

Could you please review and let us know whether there are any water quality requirements for the proposed development at 1066 Silver Street. We will be implementing storm water management regarding quantity control as required by the City of Ottawa (by means of flat rooftop SWM attenuation only).

Attached please find the PDFs of our engineering drawings for your review and comments. They are as follows:

1. Proposed Site Grading and Servicing Plan (Dwg. #821-10, G-1 Rev. 1)
2. Landscape Plan (Dwg. No. 121139-L1, Rev. No. 1)
3. Concept Site Plan (Dwg. No. A1.0, Rev. No. 4)

Let us know if you have any questions.

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

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX G

DEVELOPMENT SERVICING STUDY CHECKLIST SUMMARY

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.

- [x] 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.
- [x] 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.
- [x] 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.
- [x] Descriptions of how the conveyance and storage capacity will be achieved for the development.
- [x] 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.
- [x] 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