

# STORMWATER MANAGEMENT REPORT

For  
3055 Richmond Road, Ottawa

**Prepared by:**

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Revision 1  
December 2022

## 1. Project Description:

### 1.1. Introduction:

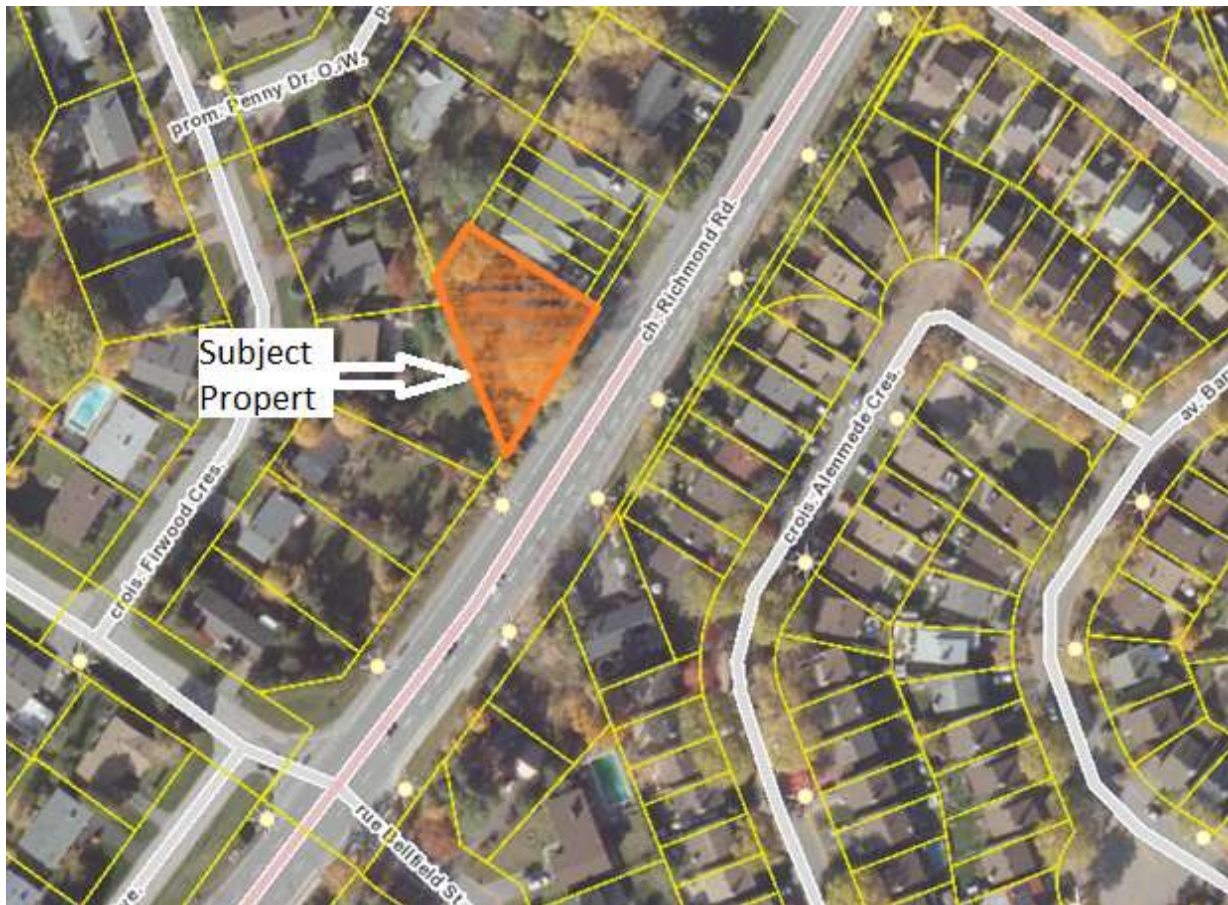
Property at 3055 Richmond Road is located close to intersection of Dumaaurier Avenue and Richmond Road, Ottawa, Ontario. The property is about 0.10 Hectare severed from an existing lot which contain an existing one story building.

Property at 3055 Richmond Road is currently under light residential Zoning. Due to market demand for residential, the idea initiated to use the lot to build four-story dwelling that contains 16 units.

This report will address the servicing (water, sanitary) requirements associated with the proposed development located at 3055 Richmond Road within the City of Ottawa, Ontario. This report is prepared in response to the request from City of Ottawa Planning department.

### 1.2. Existing Conditions:

The existing site located at 3055 Richmond Road. The property measure a total area of approximately 0.10 Hectare. The site is fronting 406mm diameter CI water main and 225mm diameter Concrete sanitary main on Richmond Road.



### 1.3. Guidelines, Previous Studies, And Reports

The following studies were utilized in the preparation of this report:

- Ottawa Sewer Design Guidelines,  
City of Ottawa, SDG002, October 2012.  
(City Standards)
  - Technical Bulletin ISTB-2018-01  
City of Ottawa, March 21, 2018.  
(ISTB-2018-01)
  - Technical Bulletin ISTB-2019  
Technical Bulletin ISTB-2020  
City of Ottawa,
  
- Ottawa Design Guidelines Water Distribution  
City of Ottawa, July 2010.  
(Water Supply Guidelines)
  - Technical Bulletin ISD-2010-2  
City of Ottawa, December 15, 2010.  
(ISD-2010-2)
  - Technical Bulletin ISDTB-2014-02  
City of Ottawa, May 27, 2014.  
(ISDTB-2014-02)
  - Technical Bulletin ISTB-2018-02  
City of Ottawa, March 21, 2018.  
(ISTB-2018-02)
  - Technical Bulletin ISTB-2019  
Technical Bulletin ISTB-2020  
City of Ottawa,
  
- Design Guidelines for Sewage Works,  
Ministry of the Environment, 2008.  
(MOE Design Guidelines)
  
- Stormwater Planning and Design Manual,  
Ministry of the Environment, March 2003.  
(SWMP Design Manual)
  
- Geotechnical Investigation

## **2. Stormwater Management**

### **Design Criteria and Objectives**

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

The allowable release rate for the site is calculated using a runoff coefficient of 0.50 and time of concentration of 10 min. As per the direction from City of Ottawa Planning Department, post-development peak flows from the site should be controlled to pre-development levels for all storms up to and including the 100-year storm (2-year post to 2-year pre, 5-year post to 5-year pre, 100-year post to 100-year pre).

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

### **Minor System Design Criteria**

1. The storm water management has been designed based on the rational formula and the Manning’s Equation under free flow conditions for the 2-year and 5-year storm using a 10-minute inlet time.
2. Inflow rates of the minor system are limited to the pre-development rates for 2-year and 5-year storm, respectively and are based on a time of concentration of 10 minutes.
3. Calculation of the required storage volumes is prepared based on the Modified Rational Method as identified in Section 8.3.10.3 of the City’s Sewer Guidelines. The depth and extent of surface storage will be illustrated on the applicable grading plan and storm drainage plan.

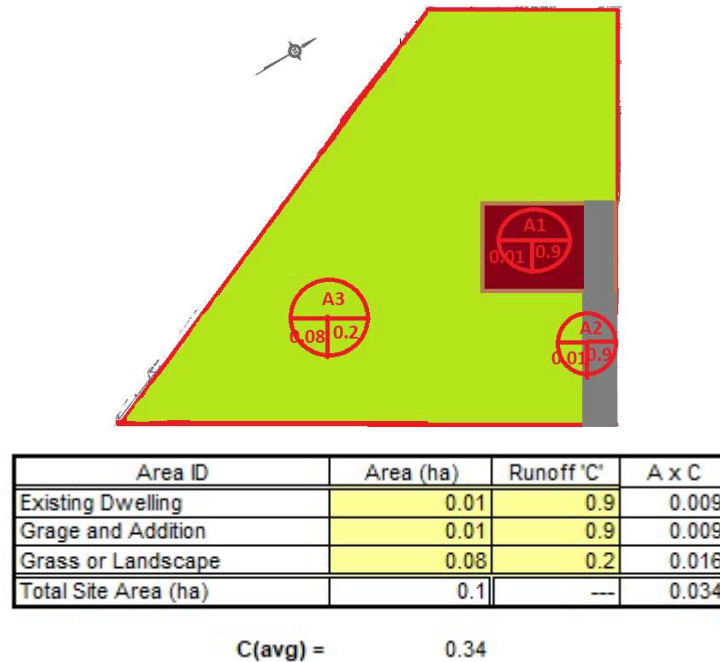
### **Major System Design Criteria**

1. The major system has been designed to accommodate on-site retention with sufficient capacity to attenuate the 100-year design storm. Excess runoff above the 100 year event will flow to the rear of the property as per the natural drainage patten in that area.
2. Inflow rates of the minor system are limited to the pre-development rates for 100-year storm and are based on a time of concentration of 10 minutes.
3. Calculation of the required storage volumes is prepared based on the Modified Rational Method as identified in Section 8.3.10.3 of the City’s Sewer Guidelines. The depth and extent of surface storage will be illustrated on the applicable grading plan and storm drainage plan.

### **Runoff Coefficients**

Runoff coefficients used for either pre-development or post-development conditions were based on actual areas measured in CAD. Runoff coefficients for impervious surfaces (roofs, asphalt, and concrete) were taken as 0.90,

The allowable predevelopment runoff coefficients for the overall site is calculated as below. Currently all area drain to the rear of the property.



Therefore predevelopment runoff C=0.50 as per Sewer Design Guideline.

**Pre-development Stormwater Condition:**

Stormwater runoff from the subject property is tributary to the City of Ottawa sewer system and is located within the Rideau River Conservation Authority. As such, approvals for proposed development within this area are under the approval authority of the City of Ottawa and the Rideau River Conservation Authority for quality control.

The site is currently occupied by an existing dwellings with grass and driveway asphalt. Currently all area drain to the rear of the property. Pre-development conditions will be considered as directed by the City of Ottawa Infrastructure Department for runoff coefficient of 0.5 and time of concentration of 10 min.

The area for runoff coefficients used for either pre-development or post-development conditions were based on actual areas measured in CAD. Runoff coefficients for surfaces such as roof and asphalt driveway were taken as 0.90, for grass landscape were taken as 0.10. Refer to appendixes for detail

It was assumed that the existing development contained no stormwater management controls for flow attenuation. The estimated combined pre-development peak flows for the 2 and 5 storm events are calculated below:

**Allowable Release Rate for 2-year storm event:**

- Time of Concentration = 10 minutes,
  - Drainage Area = 0.10 ha
- $$Q_{\text{allow}} = 2.78 C I A$$

Where:

Q allow	=	Allowable release rate to storm sewer (L/sec)
C	=	Runoff Coefficient (dimensionless) =0.50
I	=	Average Rainfall Intensity for return period (mm/hr)
	=	$732.951 / (T_c + 6.199)^{0.810} = 76.81 \text{ mm/hr}$
TC	=	Time of concentration (minutes) =10 min
A	=	Drainage Area (hectares) = 0.10

$$Q_{\text{Allow}} = 10.68 \text{ L/sec} \quad (2\text{-year})$$

**Allowable Release Rate for 5-year storm event:**

- Time of Concentration = 10 minutes,
  - Drainage Area = 0.10 ha
- $$Q_{\text{allow}} = 2.78 C I A$$

Where:

Q allow	=	Allowable release rate to storm sewer (L/sec)
C	=	Runoff Coefficient (dimensionless) =0.50
I	=	Average Rainfall Intensity for return period (mm/hr)
	=	$998.071 / (T_c + 6.053)^{0.814} = 104.2 \text{ mm/hr}$
TC	=	Time of concentration (minutes) =10 min
A	=	Drainage Area (hectares) = 0.10

$$Q_{\text{Allow}} = 14.48 \text{ L/sec} \quad (5\text{-year})$$

**Allowable Release Rate for 100-year storm event:**

- Time of Concentration = 10 minutes,
  - Drainage Area = 0.10 ha
- $$Q_{\text{allow}} = 2.78 C I A$$

Where:

Q allow	=	Allowable release rate to storm sewer (L/sec)
C	=	Runoff Coefficient (dimensionless) =0.50
I	=	Average Rainfall Intensity for return period (mm/hr)
	=	$1735.688 / (T_c + 6.014)^{0.82} = 178.56 \text{ mm/hr}$
TC	=	Time of concentration (minutes) =10 min
A	=	Drainage Area (hectares) = 0.10

$$Q_{\text{Allow}} = 24.82 \text{ L/sec} \quad (100\text{-year})$$

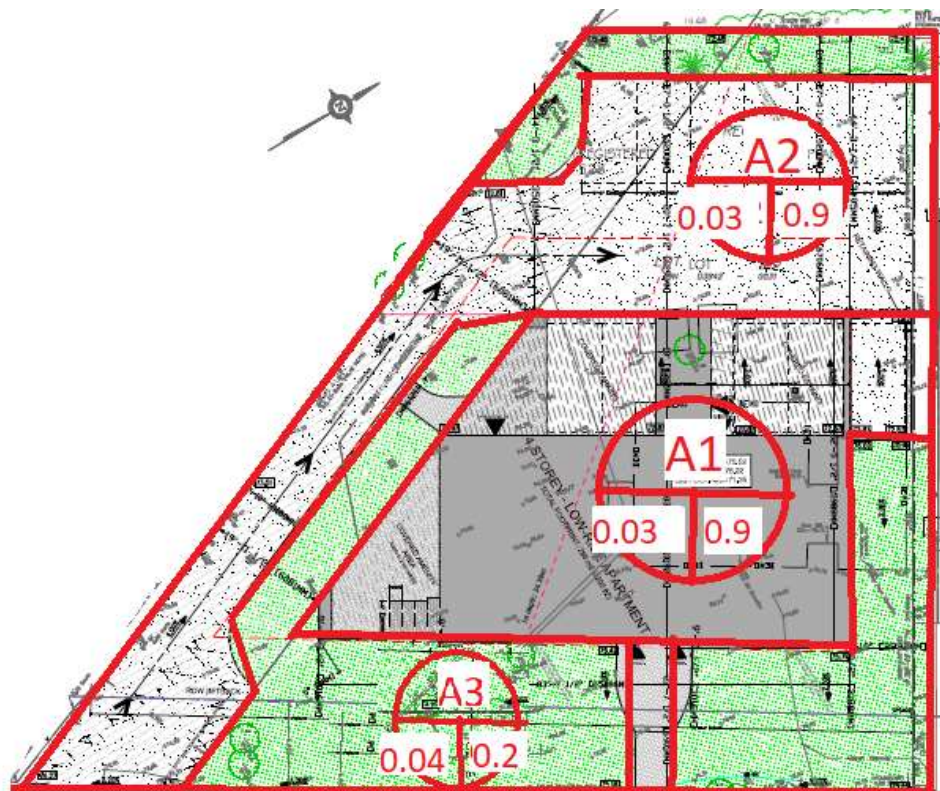
**Post-development Stormwater Management Target:**

Stormwater management requirements for the proposed development was pre-consulted with the City of Ottawa, generating the following requirements for the proposed development:

- Meet a total allowable release rate based on a Rational Method Coefficient of 0.50, employing the City of Ottawa IDF parameters for a 2-year, 5-year and 100-year storm with a time of concentration equal to 10 minutes
- Post-development peak flows from the site should be controlled to pre-development levels for all storms up to and including the 100-year storm (2-year post to 2-year pre, 5-year post to 5-year pre, 100-year post to 100-year pre)..
- During all construction activities, erosion and sediment shall be controlled by techniques outlined in section 3 this report

**Storm Drain Area :**

The post development storm water management design, for this site has been divided to 3 general areas; Roof area, Grass area and asphalt parking area.



**Post-development Stormwater Quantity Control:**

- Grass or landscape area.
- Parking area where the C value is considered as 0.9 for parking and garbage area.
- Roof proposed building: C value for roof is considered as 0.9.

Area ID	Area (ha)	C (5yr)	A x C	C (100yr) (Max of 1.0)	A x C	Type of Flow (Controlled/Uncontrolled)
A1: Proposed Building	0.030	0.9	0.03	1.00	0.03	
A2: Parking area	0.030	0.9	0.03	1.00	0.03	
A3: Grass area	0.040	0.2	0.01	0.25	0.01	
Total Site Area (ha)	0.1	---	0.06	---	0.07	Total

$$C(\text{avg}) = 0.62$$

$$C(\text{avg}) \text{ 100-year} = 0.70$$

**Post-development 2-year storm event:**

- Allowable release rate: 10.68 L/Sec
- Maximum storage volume required: 2.15 m<sup>3</sup>

**Post-development 5-year storm event:**

- Allowable release rate: 14.48 L/Sec
- Maximum storage volume required: 2.96 m<sup>3</sup>

**Post-development 100-year storm event:**

- Allowable release rate: 24.82 L/Sec
- Maximum storage volume required: 6.72 m<sup>3</sup>

Please see detail calculations in appendixes.

Site retention is provided by means of French drains along the property line as shown on the grading plan. The French drain will be sized and installed on the locations that can absorb as much of the storm prior to leaving the property.

Based on the Geotechnical report prepare by Paterson Group, dated June 7, 2022, long term groundwater table is expected at an approximate depth of 3.5m to 4.5m below grade. The bedrock level on borehole tables shows at least 5m below the surface. Type of soil deposit is Silty Clay which means average to high porosity and permeability. All makes the French drain an ideal proposal for stormwater retention and percolation to the soil.



The French drain is proposed to be 3ft wide by 2ft deep filled with ¾" crushed stone. Detail of the French drain is shown on the grading plan. Total length of the French drain is 110m and only 40% of the volume is considered due to the presence of the crushed stone:

$$100\text{m} \times 0.6 \times 0.9 \times 40\% = 21.6 \text{ m}^3$$

This volume is above the minimum requirement of 6.72 m<sup>3</sup> based on 100yr storm event and above additional 20% of 6.72 m<sup>3</sup> = 8.1 m<sup>3</sup> due to the climate change. Therefore, provided French drain satisfactory for stormwater management for this development.

### **3. Foundation/Footing Drain**

Foundation drain is possible by means of sum-pump discharging over the surface. Location of the sum-pump discharge is shown on the grading plan.

### **4. Erosion and Sediment Control**

Following methods will be utilized to control erosion and sediment:

- Silt fence will be installed around the perimeter of the site and will be cleaned and maintained throughout construction. Silt fence will remain in place until the working areas have been stabilized and re-vegetated.
- Catch basins will have SILTSACKS or an approved equivalent installed under the grate during construction to protect from silt entering the storm sewer system.
- A mud mat will be installed at the construction access in order to prevent mud tracking onto adjacent roads.
- Erosion and sediment controls must be in place during construction. The following recommendations to the contractor will be included in contract documents:
  - Limit extent of exposed soils at any given time;
  - Re-vegetate exposed areas as soon as possible;
  - Minimize the area to be cleared and grubbed;
  - Protect exposed slopes with plastic or synthetic mulches;
  - Install silt fence to prevent sediment from entering existing ditches;
  - No refueling or cleaning of equipment near existing watercourses;
  - Provide sediment traps and basins during dewatering;
  - Install filter cloth between catch basins and frames;
  - Plan construction at proper time to avoid flooding;
  - Establish material stockpiles away from watercourses, so that barriers and filters may be installed.
- The contractor will, at every rainfall, complete inspections and guarantee proper performance. The inspection is to include:
  - Verification that water is not flowing under silt barriers;
  - Clean and change filter cloth at catch basins.

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- Construction and maintenance requirements for erosion and sediment controls to comply with Ontario Provincial Standard Specification OPSS 577, and City of Ottawa specifications.
- A visual inspection shall be completed daily on sediment control barriers and any damage repaired immediately. Care will be taken to prevent damage during construction operations.

Should you have any questions or comments, please feel free to contact undersigned.



Yours truly,  
Wissam Elias  
P. Eng

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APPENDIX A:

GeoOttawa Map

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**APPENDIX B:**

Storm water Management  
Calculations

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Area ID	Area (ha)	C (5yr)	A x C	C (100yr) (Max of 1.0)	A x C	Type of Flow (Controlled/Uncontrolled)
A1: Proposed Building	0.030	0.9	0.03	1.00	0.03	
A2: Parking area	0.030	0.9	0.03	1.00	0.03	
A3: Grass area	0.040	0.2	0.01	0.25	0.01	
Total Site Area (ha)	0.1	---	0.06	---	0.07	Total

C(avg) = 0.62  
 C(avg) 100-year = 0.70

Volume calculation for 2Yr storm event

t(c)min	I (mm/h)	Q(unrestricted) l/s	Q(restricted) l/s	Q(stored) l/s	V(stored) m <sup>3</sup>
5	103.6	17.85	10.68	7.18	2.15
10	76.8	13.24	10.68	2.56	1.54
15	61.8	10.65	10.68	-0.03	-0.03
20	52.0	8.97	10.68	-1.71	-2.05
25	45.2	7.78	10.68	-2.89	-4.34
30	40.0	6.90	10.68	-3.77	-6.79
35	36.1	6.22	10.68	-4.46	-9.37
40	32.9	5.66	10.68	-5.01	-12.03
45	30.2	5.21	10.68	-5.46	-14.75
50	28.0	4.83	10.68	-5.84	-17.53
55	26.2	4.51	10.68	-6.17	-20.34
60	24.6	4.23	10.68	-6.44	-23.20
65	23.2	3.99	10.68	-6.69	-26.07
70	21.9	3.78	10.68	-6.90	-28.98
75	20.8	3.59	10.68	-7.09	-31.90
80	19.8	3.42	10.68	-7.26	-34.84
85	18.9	3.27	10.68	-7.41	-37.79
90	18.1	3.13	10.68	-7.55	-40.76
95	17.4	3.00	10.68	-7.67	-43.74
100	16.7	2.89	10.68	-7.79	-46.74
105	16.1	2.78	10.68	-7.90	-49.74
110	15.6	2.68	10.68	-7.99	-52.75

**Max Vol stored 2.15**

Volume calculation for 5Yr storm event

t(c)min	I (mm/h)	Q(unrestricted) l/s	Q(restricted) l/s	Q(stored) l/s	V(stored) m <sup>3</sup>
5	141.2	24.33	14.48	9.85	2.96
10	104.2	17.96	14.48	3.48	2.09
15	83.6	14.40	14.48	-0.08	-0.07
20	70.3	12.11	14.48	-2.37	-2.85
25	60.9	10.50	14.48	-3.99	-5.98
30	53.9	9.29	14.48	-5.19	-9.34
35	48.5	8.36	14.48	-6.12	-12.85
40	44.2	7.62	14.48	-6.87	-16.48
45	40.6	7.00	14.48	-7.48	-20.20
50	37.7	6.49	14.48	-7.99	-23.98
55	35.1	6.05	14.48	-8.43	-27.82
60	32.9	5.68	14.48	-8.80	-31.70
65	31.0	5.35	14.48	-9.13	-35.62
70	29.4	5.06	14.48	-9.42	-39.57
75	27.9	4.81	14.48	-9.68	-43.54
80	26.6	4.58	14.48	-9.90	-47.54
85	25.4	4.37	14.48	-10.11	-51.56
90	24.3	4.19	14.48	-10.30	-55.60
95	23.3	4.02	14.48	-10.47	-59.66
100	22.4	3.86	14.48	-10.62	-63.72
105	21.6	3.72	14.48	-10.76	-67.81
110	20.8	3.59	14.48	-10.89	-71.90

**Max Vol  
stored      2.96**



Volume calculation for 100Yr storm event

**STORAGE TABLE (100 Yr Storm)**

t(c)min	I(100yr) mm/h	Q(actual) l/s	Q(restricted) l/s	Q(stored) l/s	V(stored) m <sup>3</sup>
5	242.7	47.2	24.8	22.4	6.72
10	178.6	34.7	24.8	9.9	5.96
15	142.9	27.8	24.8	3.0	2.69
20	120.0	23.3	24.8	-1.5	-1.77
25	103.8	20.2	24.8	-4.6	-6.92
30	91.9	17.9	24.8	-6.9	-12.50
35	82.6	16.1	24.8	-8.7	-18.37
40	75.1	14.6	24.8	-10.2	-24.47
45	69.1	13.4	24.8	-11.4	-30.73
50	64.0	12.4	24.8	-12.4	-37.12
55	59.6	11.6	24.8	-13.2	-43.62
60	55.9	10.9	24.8	-13.9	-50.19
65	52.6	10.2	24.8	-14.6	-56.84
70	49.8	9.7	24.8	-15.1	-63.55
75	47.3	9.2	24.8	-15.6	-70.31
80	45.0	8.8	24.8	-16.1	-77.11
85	43.0	8.4	24.8	-16.5	-83.95
90	41.1	8.0	24.8	-16.8	-90.83
95	39.4	7.7	24.8	-17.1	-97.73
100	37.9	7.4	24.8	-17.4	-104.66
105	36.5	7.1	24.8	-17.7	-111.62
110	35.2	6.9	24.8	-18.0	-118.60

**Max Vol  
stored      6.72**

APPENDIX C:  
Engineering Data Sheet  
& Drawings

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See below

Fares Elsabbagh

OGC LTD

1886 Merivale Road, Ottawa, ON K2G1E6  
(613) 225-9991 Ext 202

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**From:** McCreight, Laurel <Laurel.McCreight@ottawa.ca>  
**Sent:** February 3, 2022 9:31 AM  
**To:** Garbos, Justyna <Justyna.Garbos@wsp.com>  
**Subject:** Pre-Consultation Follow-Up: 3055 Richmond Road

Hello Justyna,

Please refer to the below regarding the Pre-Application Consultation Meeting held on Friday January 12, 2022 for the property located at 3055 Richmond Road for a Major Zoning By-law Amendment and Site Plan Control application in order to permit a five-storey apartment. I have also attached the required Plans & Study List for application submission.

Below are staff's preliminary comments based on the information available at the time of pre-consultation meeting.

### **Planning & Urban Design**

- Please note that the New Official Plan was approved by City Council on October 27, 2021 and is subject to review by the Ministry of Municipal Affairs and Housing with approval anticipated in February 2022; the application is expected to fall under the New Official Plan.
- Please review all applicable Official Plan policies to ensure that the proposed development complies with the policies of the New Official Plan.
- The question with this application appears to be one of compatibility, in scale, massing and design.
- As this proposal attempts to align with the new vision in the Official Plan for this stretch of Richmond the City the following questions and recommendations:
  - **Adjacency:** As this project is one of the first in the area to attempt to align with the new Official Plan it will benefit from additional illustration and analysis of the relationship with its existing and future context. It is recommended that the applicant provide illustrations which include the proposal rendered in its context with the future vision on surrounding properties ghosted in, to illustrate its compatibility with this future planned context. These illustrations are detailed in the Design Brief TOR;
  - **Density:** Please illustrate how the site size with this level of density can still provide all of the site plan requirements (amenity, parking, bike storage, protected garbage storage, access, etc.);
  - **Amenity:** It is not clear where the full amount of amenity will be located? What will its usability be for the residents? How will it be accessed from the building? Will there be rooftop amenity?
  - **Garbage storage:** It is recommended that a project of this scale and density provide garbage storage internal to the building;
  - **Balconies:** There is some concern with the projecting balconies indicated on the plans. It is recommended to use inset balconies facing street as detailed on the perspective drawing shown at the pre-consultation;
  - **Parking:** Appreciate that parking is hidden from the street; and
  - **Trees:** New trees/keeping existing trees can help reduce the negative impacts of a change in scale.

- A scoped Design Brief is a required submittal for all Site Plan/Re-zoning applications and can be combined with the Planning Rationale. Please see the Design Brief Terms of Reference provided.
  - *Note- the Design Brief submittal should have a section which addresses these pre-consultation comments.*
- A cash-in-lieu of parkland payment is required; this will be applied through Site Plan Control process.
- The application will be subject to public consultation (conducted through the posting of on-site signage, the notification of community groups, and through the City of Ottawa's DevApps website); the statutory public meeting for Zoning By-law Amendments is Planning Committee.
- Please continue to refine the proposed development based on the above comments.
  - A second pre-application consultation meeting is recommended.
- Please reach out to the Ward Councillor, Theresa Kavanagh, once the plans for the proposed development have been further refined and you are ready to submit formal applications.

## **Forestry.**

- A Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City.
  - An approved TCR is a requirement of Site Plan approval.
  - The TCR may be combined with the LP provided all information is supplied.
- Any removal of privately-owned trees 10cm or larger in diameter, or city-owned trees of any diameter requires a tree permit issued under the Tree Protection Bylaw (Bylaw 2020 – 340); the permit will be based on an approved TCR and made available at or near plan approval.
- The Planning Forester from Planning and Growth Management as well as foresters from Forestry Services will review the submitted TCR.
  - If tree removal is required, both municipal and privately-owned trees will be addressed in a single permit issued through the Planning Forester.
  - Compensation may be required for city owned trees – if so, it will need to be paid prior to the release of the tree permit.
- The TCR must list all trees on site, as well as off-site trees if the Critical Root Zone extends into the developed area, by species, diameter and health condition.
- Please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line).
  - If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained.
  - All retained trees must be shown, and all retained trees within the area impacted by the development process must be protected as per City guidelines available at Tree Protection Specification or by searching [www.Ottawa.ca](http://www.Ottawa.ca)
    - a. The location of tree protection fencing must be shown on the plan.
    - b. Show the critical root zone of the retained trees.
    - c. If excavation will occur within the critical root zone, please show the limits of excavation.
  - The City encourages the retention of healthy trees; if possible, please seek opportunities for retention of trees that will contribute to the design/function of the site.
  - For more information on the process or help with tree retention options, contact Mark Richardson Mark Richardson or on City of Ottawa

LP tree planting requirements:

- For additional information on the following please contact Tracy Smith

Minimum Setbacks

- Maintain 1.5m from sidewalk or MUP/cycle track.
- Maintain 2.5m from curb
- Coniferous species require a minimum 4.5m setback from curb, sidewalk or MUP/cycle track/pathway.
- Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing.
- Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.

Tree specifications

- Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
- Maximize the use of large deciduous species wherever possible to maximize future canopy coverage
- Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and include watering and warranty as described in the specification (can be provided by Forestry Services).
- Plant native trees whenever possible
- No root barriers, dead-man anchor systems, or planters are permitted.
- No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

Hard surface planting

- Curb style planter is highly recommended
- No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.
- Trees are to be planted at grade

Soil Volume

- Please ensure adequate soil volumes are met:

Tree Type/Size	Single Tree Soil Volume (m3)	Multiple Tree Soil Volume (m3/tree)
Ornamental	15	9
Columnar	15	9
Small	20	12
Medium	25	15

Large	30	18
Conifer	25	15

Please note that these soil volumes are not applicable in cases with Sensitive Marine Clay.

#### Sensitive Marine Clay

- Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines

### **Transportation**

#### Follow Traffic Impact Assessment Guidelines

- As the TIA triggers the safety component, further analysis on safety will be required.
- Please provide the 5-year collision history for all modes and any other safety concerns within 500m of the development and any impact this development may have on the existing safety concerns.
- Road Safety from module 4.5 of the TIA will have to be completed.
- Sight line analysis for the proposed access will be required.
- Other modules of the TIA is exempted.
- Noise Impact Studies required for the following:
  - Road
  - Stationary (if there will be any exposed mechanical equipment due to the proximity to neighbouring noise sensitive land uses).
- Ensure the access meets the throat length requirements per TAC guidelines for an arterial road.
- The maximum width of a two- way access is 9m.
- The sidewalk along the frontage of the site is substandard. Please upgrade to a concrete sidewalk as per City standards.
- Please clarify where the lay-by area is and how vehicles are accessing it. Ensure it doesn't conflict with the throat length. Please also clarify the "traffic control system".
- Right of way protection along Richmond is 37.5m. Please ensure this is protected and shown on site plan. Richmond Road at this location is proposed to be widened in the Network Concept of the TMP.
- On site plan:
  - Show all details of the roads abutting the site up to and including the opposite curb; include such items as pavement markings, accesses and/or sidewalks.
  - Turning templates will be required for all accesses showing the largest vehicle to access the site; required for internal movements and at all access (entering and exiting and going in both directions).
  - Please provide passenger turning templates for parking spots 1,2,6 and 10.
  - Show all curb radii measurements; ensure that all curb radii are reduced as much as possible
  - Show lane/aisle widths.
  - Sidewalk is to be continuous across access.
- As the site proposed is residential, AODA legislation applies for all areas accessible to the public (i.e. outdoor pathways, parking, etc.). Consider using the City's Accessibility Design Standard.

Please contact Transportation Project Manager Neeti Paudel for follow-up questions.

### **Engineering**

- The Servicing Study Guidelines for Development Applications are available [here](#).
- Servicing and site works shall be in accordance with the following documents:
  - Ottawa Sewer Design Guidelines (October 2012)
  - Ottawa Design Guidelines – Water Distribution (2010)
  - Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
- Servicing and site works shall be in accordance with the following documents:
  - Ottawa Sewer Design Guidelines (October 2012)
  - Ottawa Design Guidelines – Water Distribution (2010)

- Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
- City of Ottawa Slope Stability Guidelines for Development Applications (revised 2012)
- City of Ottawa Environmental Noise Control Guidelines (January, 2016)
- City of Ottawa Park and Pathway Development Manual (2012)
- City of Ottawa Accessibility Design Standards (2012)
- Ottawa Standard Tender Documents (latest version)
- Ontario Provincial Standards for Roads & Public Works (2013)
  
- Record drawings and utility plans are also available for purchase from the City (Contact the City's Information Centre by email or by phone at (613) 580-2424 x.44455).
- Clearly show and label all the easements on the property, on all plans.
- Watermain Infrastructure:
  - There is an available 406mm diameter CI watermain located within the Richmond Road ROW. A water boundary condition request is needed for the proposed water connection to the City main.
  - Assuming this will be one parcel of land, a perimeter meter is anticipated with subsequent sub-metering at each unit. Sub-metering will be the developer's responsibility.
  - As per Section 4.4.7.2 of the Ottawa Design Guidelines – Water Distribution, a DMA (District Metering Area) chamber will be required for private developments serviced by a connection 150mm or larger.
  - Water Boundary condition requests must include the location of the service and the expected loads required by the proposed development. Please provide an email to Shika Rathnasooriya (Thakshika.Rathnasooriya@ottawa.ca) with the following information:
    - Location of service
    - Type of development and the amount of fire flow required (as per FUS, 1999 – See technical bulletin ISTB 2021-03).
    - Average daily demand: \_\_\_ l/s.
    - Maximum daily demand: \_\_\_ l/s.
    - Maximum hourly daily demand: \_\_\_ l/s.
- Sanitary / Storm Infrastructure:
  - There is an existing available 225mm diameter concrete sanitary sewer located within Richmond Road to make a service connection. A connection directly to the existing sanitary sewer within the easement is not permitted.
  - A monitoring maintenance hole will be required for a private sanitary sewer outletting to a public sanitary sewer. The maintenance hole should be located in an accessible location on private property near the property line (ie. Not in a parking area).
  - All services (STM, SAN, WTR) should be grouped in a common trench to minimize the number of road cuts.
  - Sewer connections to be made above the springline of the sewermain as per:
    - Std Dwg S11.1 for flexible main sewers.
    - Std Dwg S11 (For rigid main sewers).
    - Std Dwg S11.2 (for rigid main sewers using bell end insert method).
    - Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.
- The Stormwater Management Criteria, for the subject site, is to be based on the following:
  - Post development peak flows from the site are to be controlled to pre-development levels for all storms up to and including the 100-year storm
  - There should be no stormwater ponding in parking areas or drive aisles during the 2-year storm event
  - Quality control to be provided as specified by the RVCA. Include correspondence with RVCA in the stormwater/site servicing report.
  - The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less.
  - A calculated time of concentration (Cannot be less than 10 minutes).
- MECP ECA Requirements:
  - An MECP Environmental Compliance Approval (Private Sewage Works) should not be required for the proposed development.
- Phase 1 ESAs and Phase 2 ESAs must conform to clause 4.8.4 of the Official Plan that requires that development applications conform to Ontario Regulation 153/04.

Please contact Project Manager Thakshika Rathnasooriya for follow-up questions.

-

## **Other**

Please refer to the links to the guide to preparing studies and plans and development application fees for general information. Additional information is available related to building permits, development charges, and the Accessibility

Design Standards. Be aware that other fees and permits may be required, outside of the development review process. You may obtain background drawings by contacting [informationcentre@ottawa.ca](mailto:informationcentre@ottawa.ca).

These pre-consultation comments are valid for one year. If you submit a development application(s) after this time, you may be required to meet for another pre-consultation meeting and/or the submission requirements may change. You are as well encouraged to contact us for a follow-up meeting if the plan/concept will be further refined.

Please do not hesitate to contact me if you have any questions.

Regards,

Laurel

**Laurel McCreight MCIP, RPP**

Planner II

Development Review West

Urbaniste

Examen des demandes d'aménagement ouest

City of Ottawa | Ville d'Ottawa

☎ 613.580.2424 ext./poste 16587

[ottawa.ca/planning](http://ottawa.ca/planning) / [ottawa.ca/urbanisme](http://ottawa.ca/urbanisme)

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## APPLICANT'S STUDY AND PLAN IDENTIFICATION LIST

Legend: **S** indicates that the study or plan is required with application submission.

**A** indicates that the study or plan may be required to satisfy a condition of approval/draft approval.

For information and guidance on preparing required studies and plans refer [here](#):

S/A	Number of copies	ENGINEERING		S/A	Number of copies
<b>S</b>		1. Site Servicing Plan	2. Site Servicing Study	<b>S</b>	
<b>S</b>		3. Grade Control and Drainage Plan	4. Geotechnical Study	<b>S</b>	
■		5. Composite Utility Plan	6. Groundwater Impact Study	■	
■		7. Servicing Options Report	8. Wellhead Protection Study	■	
<b>S</b>		9. Transportation Impact Assessment (TIA)	10. Erosion and Sediment Control Plan	<b>S</b>	
<b>S</b>		11. Storm water Management Report	12. Hydro geological and Terrain Analysis	■	
<b>S</b>		13. Water Main Protection and Contingency Plan	14. Noise and vibration Study	<b>S</b>	
■	PDF only	15. Roadway Modification Functional Design	16. LRT Proximity Study		

S/A	Number of copies	PLANNING / DESIGN / SURVEY		S/A	Number of copies
■		17. Draft Plan of Subdivision	18. Plan Showing Layout of Parking Garage	<b>S</b>	
■		19. Draft Plan of Condominium	20. Planning Rationale	<b>S</b>	
<b>S</b>		21. Site Plan	22. Minimum Distance Separation (MDS)	■	
■		23. Concept Plan Showing Proposed Land Uses and Landscaping	24. Agrology and Soil Capability Study	■	
■		25. Concept Plan Showing Ultimate Use of Land	26. Cultural Heritage Impact Statement	■	
<b>S</b>		27. Landscape Plan	28. Archaeological Resource Assessment Requirements: <b>S</b> (site plan) <b>A</b> (subdivision, condo)	■	
<b>S</b>		29. Survey Plan	30. Shadow Analysis	■	
<b>S</b>		31. Architectural Building Elevation Drawings (dimensioned)	32. Design Brief (includes the Design Review Panel Submission Requirements)	<b>S</b>	
<b>S</b>		33. Wind Analysis		■	

S/A	Number of copies	ENVIRONMENTAL		S/A	Number of copies
<b>S</b>		34. Phase 1 Environmental Site Assessment	35. Impact Assessment of Adjacent Waste Disposal/Former Landfill Site	■	
<b>S</b>		36. Phase 2 Environmental Site Assessment (depends on the outcome of Phase 1)	37. Assessment of Landform Features	■	
		38. Record of Site Condition (condition of Site Plan)	39. Mineral Resource Impact Assessment	■	
<b>S</b>		40. Tree Conservation Report	41. Environmental Impact Statement / Impact Assessment of Endangered Species	■	
■		42. Mine Hazard Study / Abandoned Pit or Quarry Study	43. Integrated Environmental Review (Draft, as part of Planning Rationale)	■	

S/A	Number of copies	ADDITIONAL REQUIREMENTS		S/A	Number of copies
<b>S</b>		44. Applicant's Public Consultation Strategy (may be provided as part of the Planning Rationale)	45. Site Lighting Plan & Certificate		

Meeting Date: January 12, 2022

Application Type: *Site Plan Control & Zoning By-law*

File Lead (Assigned Planner): Laurel McCreight

Infrastructure Approvals PM: Thakshika Rathnasooriya

Site Address (Municipal Address): 3055 Richmond Road \*Preliminary Assessment: 1  2  3  4  5

\*One (1) indicates that considerable major revisions are required before a planning application is submitted, while five (5) suggests that proposal appears to meet the City's key land use policies and guidelines. **This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.**

**It is important to note that the need for additional studies and plans may result during application review. If following the submission of your application, it is determined that material that is not identified in this checklist is required to achieve complete application status, in accordance with the Planning Act and Official Plan requirements, the Planning, Infrastructure and Economic Development Department will notify you of outstanding material required within the required 30 day period. Mandatory pre-application consultation will not shorten the City's standard processing timelines, or guarantee that an application will be approved. It is intended to help educate and inform the applicant about submission requirements as well as municipal processes, policies, and key issues in advance of submitting a formal development application. This list is valid for one year following the meeting date. If the application is not submitted within this timeframe the applicant must again pre-consult with the Planning, Infrastructure and Economic Development Department.**

# CONCEPT RENDERINGS - 3055 Richmond Road

## 2022-06-21

### Proposed 4 Storey Residential Building

client

Azul Designs | 2277 Prospect Aveune, Ottawa ON

architect

unPoised Architecture INC | 5-16 Sweetland Avenue | Ottawa ON

- 01 - 3D views
- 02 - 3D views
- 03 - 3D views
- 04 - 3D views
- 05 - elevations



PROPERTY

---

# CONCEPT RENDERINGS - 3055 Richmond Road

3D VIEWS



# CONCEPT RENDERINGS - 3055 Richmond Road

3D VIEWS



# CONCEPT RENDERINGS - 3055 Richmond Road

3D VIEWS

**WINDOW SURROUNDS**  
- 10" proud around fenestration in wood volume

**LANDSCAPE WALL**

**CANOPY**  
- over roof terrace



# CONCEPT RENDERINGS - 3055 Richmond Road

3D VIEWS



**WOOD LATTICE**  
- surrounding ammenity space



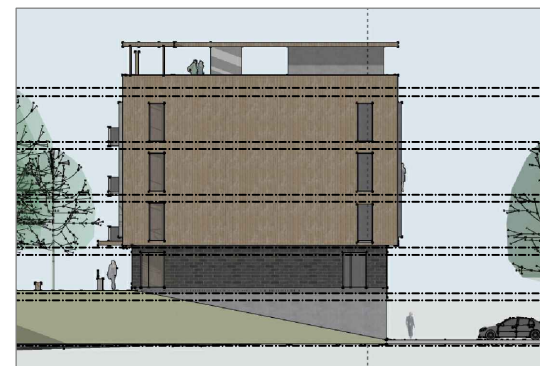
**STAIR VOLUME**

# CONCEPT RENDERINGS - 3055 Richmond Road

## ELEVATIONS



south elevation



east elevation



north elevation



west elevation

**SITE PLAN OF SURVEY PLAN PART 1 PLAN OF LOT 25 REGISTERED PLAN 523, CITY OF OTTAWA**

**ZONING:** R1GG REZONED TO RAM  
**PROPOSED BUILDING TYPE:** 4 STOREY, LOW RISE RENTAL BUILDING  
 16 RESIDENTIAL RENTAL UNITS  
**LOT DEPTH:** 34.39m (112.83ft)  
**ADJACENT ZONING:**  
 NORTH: R1GG  
 SOUTH: R1Y523  
 WEST SIDE: R1FF  
 EAST SIDE: R3M(1710)  
**SCHEDULE 1 AREA: AREA 'C'**  
**SCHEDULE 1A AREA: AREA 'C'**

**LOT INFO - AFTER ZONING AMENDMENT - ALL MEASUREMENTS MADE TO ROW**

B. STANDARD	3055 RICHMOND	3055 RICHMOND	EXISTING	NOTES
LOT WIDTH:	15m	38.44m	42.85m	
LOT AREA:	540m <sup>2</sup>	894.88m <sup>2</sup>	1027.5m <sup>2</sup>	
HEIGHT:	14.5m	-14.5m	-0.0m	
FRONT YARD:	3.0m	3.04m	10.83m	
CORNER YARD:	n/a	n/a	n/a	
REAR YARD:	10.3m	13.49m	17.81m	
INTERIOR YARD:	3m	3.00m	0.34m	
AMENITY AREA:	188m <sup>2</sup>	285.9m <sup>2</sup>	n/a	237m <sup>2</sup> COMM.
PARKING SPACES:	10 res.	11	1	
	4 visitor	0	0	
BIKE SPACES:	8	0	0	
M.L.C.:	NO MAX.			

**BUILDING AREAS**

BASEMENT FL. GFA:	115.7m <sup>2</sup>
FIRST FL. GFA:	180.3m <sup>2</sup>
SECOND FL. GFA:	390.4m <sup>2</sup>
THIRD FL. GFA:	390.4m <sup>2</sup>
FOURTH FL. GFA:	297.3m <sup>2</sup>
STORAGE:	57.5m <sup>2</sup>
GARAGE/CARPORT:	166.0m <sup>2</sup>
EXITS/CORR. (ALL FLOORS):	290.2m <sup>2</sup>
TOTAL GFA:	1374.1m <sup>2</sup>
TOTAL ALL AREAS:	1742.5m <sup>2</sup>

**PROPOSED SITE DEVELOPMENT INFO**

NEW GROSS FLOOR AREA:	1374.1m <sup>2</sup>
EX. GROSS FLOOR AREA:	0.0m <sup>2</sup>
NUMBER OF UNITS:	20
PROPOSED STOREYS:	4
BUILDING COVERAGE:	40.7%
SOFT LANDSCAPING CVG.:	13.1%
HARD LANDSCAPING CVG.:	1.3%
DECK/SOPORCHES:	0.0%
ASPHALT CVG.:	42.5%
OTHER:	2.4%

**SURVEY INFO:**  
 SURVEY INFO TAKEN FROM SURVEYOR'S REAL PROPERTY REPORT PART 1, PLAN OF LOT 25, REGISTERED PLAN 523, CITY OF OTTAWA PREPARED BY: ANNIS, O'SULLIVAN, VOLLEBEKK LTD DEC. 03, 2021

**SITE NOTES**  
 NEW ROOF DOWN SPOUTS SHALL NOT BE DIRECTED TOWARDS THE ADJACENT PROPERTIES  
 EXCAVATED MATERIAL TO BE REMOVED FROM PROPERTY  
 ALL GRADE TO SLOPE 2% AWAY FROM FOUNDATION WALL  
 ALL MEASUREMENTS ARE METRIC (ACCOMPANYING IMPERIAL MEAS. MAY APPEAR)  
 EXISTING GRADING AND DRAINAGE PATTERNS NOT TO BE ALTERED UNLESS OTHERWISE NOTED BY THE CIVIL ENGINEER  
 SNOW ACCUMULATION TO BE REMOVED OFF SITE IMMEDIATELY AS NEEDED

**EXISTING PLANTING MATERIAL**

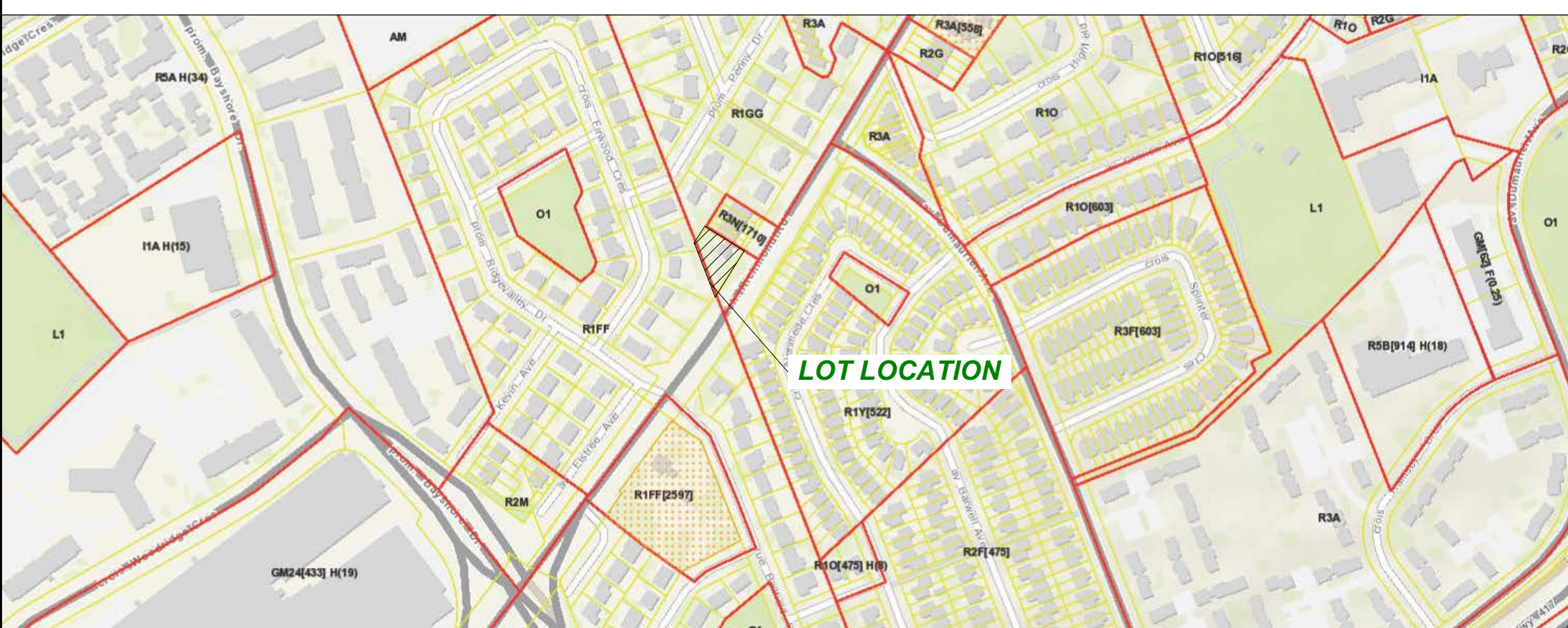
CODE	COMMON NAME	QTY.	SIZE (DIA.)	CONDITION/NOTES
<b>DECIDUOUS TREES</b>				
<b>CONIFEROUS TREES</b>				
<b>SHRUBS</b>				

**NEW PLANTING MATERIAL**

CODE	COMMON NAME	QTY.	SIZE (DIA.)	CONDITION/NOTES
<b>DECIDUOUS TREES</b>				
DT1	RED MAPLE	2	50mm Cal.	
<b>CONIFEROUS TREES</b>				
<b>SHRUBS</b>				

**TREE CONSERVATION NOTES**  
 1. ERECT A FENCE AT THE CRITICAL ROOT ZONE (CRZ) OF TREES;  
 2. DO NOT PLACE ANY MATERIAL OR EQUIPMENT WITHIN THE CRZ OF THE TREE;  
 3. DO NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE;  
 4. DO NOT RAISE OR LOWER THE EXISTING GRADE WITHIN THE CRZ WITHOUT APPROVAL;  
 5. TUNNEL OR BORE WHEN DIGGING WITHIN THE CRZ OF A TREE;  
 6. DO NOT DAMAGE THE ROOT SYSTEM, TRUNK OR BRANCHES OF ANY TREE;  
 7. ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARDS ANY TREE'S CANOPY.  
 \* THE CRITICAL ROOT ZONE (CRZ) IS ESTABLISHED AS BEING 10 CENTIMETRES FROM THE TRUNK OF A TREE FOR EVERY CENTIMETRE OF TRUNK DIAMETER AT BREAST HEIGHT (DBH). THE CRZ IS CALCULATED AS DBH X 10 CM.  
 \* TREE PROTECTION FENCE (PF) TO BE ERECTED BEFORE AND REMAIN UNTIL BUILDING CONSTRUCTION HAS COMPLETED AND TO CONSIST OF 1.8m HIGH PLYWOOD HOARDING (SEE DIAGRAM BELOW).

**3 KEY PLAN & CONTEXT**  
**A1 SCALE NO SCALE**

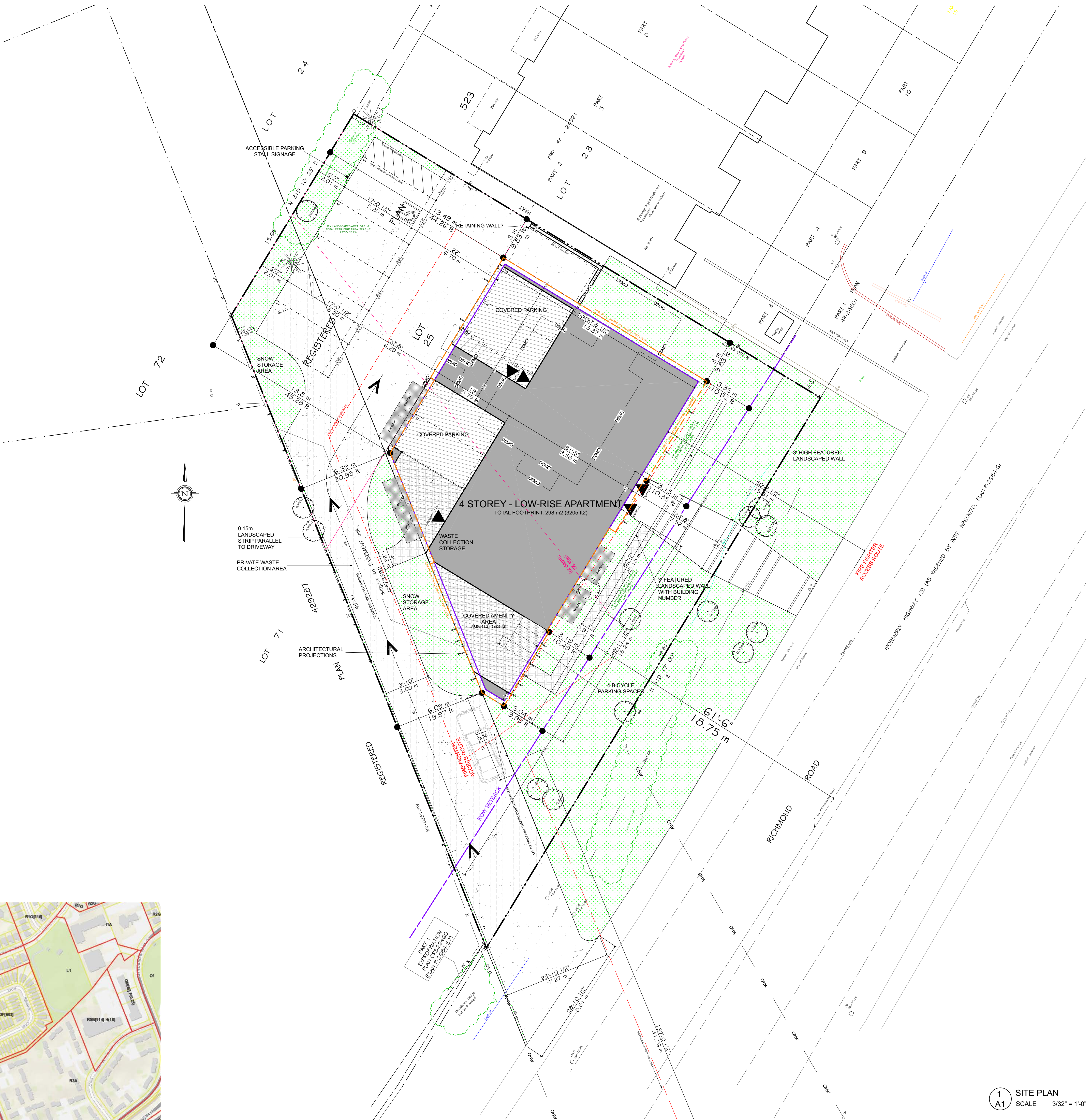


**SITE LEGEND**

- EX. TREE TO BE REMOVED
- NEW CONIFEROUS TREE
- DENOTES SOFT LANDSCAPING
- DENOTES HARD LANDSCAPING
- EXISTING BUILDING FOOTPRINT
- PROPOSED RIVERSTONE
- PROPOSED ASPHALT DRIVEWAY
- PROPOSED WOOD DECKS/ BALCONIES
- CAR PARKING SPACE (ASPHALT)
- BIKCYCLE PARKING (ASPHALT)
- WASTE COLLECTION AREA
- SNOW STORAGE AREA
- PROPOSED/EXISTING ENTRY/EXIT
- PF - TEMPORARY PROTECTION FENCE
- EX. UTILITY POLE
- EX. CHAINED LINK/BOARD FENCE
- PROPERTY LINE
- MOTION SENSING EXT. LIGHTS

**WASTE COLLECTION LEGEND**

- GB 2YD GARBAGE CONTAINER
- BB 360L FIBRE CONTAINER
- B 360L GML CONTAINER
- G 240L ORGANICS
- PRIVATE COLLECTION



**UNPOISED ARCHITECTURE INC.**  
 5-16 SWIFTLAND AVE.  
 OTTAWA, ON K1N 7T5  
 AZUL DESIGNS  
 OTTAWA, ON K1H 3Q2

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

**RESPONSIBILITIES:**  
 DO NOT SCALE DRAWINGS  
 ALL DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH ALL LAWS, REGULATIONS AND BY-LAWS HAVING JURISDICTION  
 ALL CONTRACTORS MUST WORK IN ACCORDANCE WITH ALL LAWS, REGULATIONS AND BY-LAWS HAVING JURISDICTION  
 IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL DISCREPANCIES AND OMISSIONS TO THE ARCHITECT/DESIGNER  
 COPYRIGHT RESERVED  
 GENERAL NOTES:

**3055 RICHMOND ROAD**  
 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

**OWNER/DEVELOPER:**  
 PARISEL DEVELOPMENT  
 1500 SHEPPARD AVE. EAST  
 OTTAWA, ON K1H 1S1  
 AGE 156

**ARCHITECT/DESIGNER:**  
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS  
 5-16 SWIFTLAND AVE.  
 OTTAWA, ON K1N 7T5  
 P16

**APPLICATION NUMBER:**  
 1007 CAMOIA INC.  
 101 LAKEVIEW DRIVE SUITE 300  
 OTTAWA, ON K2B 9K2  
 K2B 9K2

**CIVIL ENGINEER:**  
 MICHAEL ASSOCIATES  
 1000 SHEPPARD AVE. EAST  
 OTTAWA, ON K1H 1S1  
 P16

**LANDSCAPING:**  
 JONAS ASSOCIATES  
 P.O. Box 607, Salem St.  
 OTTAWA, ON  
 P1K 1Y1

**SUBSECTOR:**  
 ANNIS, O'SULLIVAN, VOLLEBEKK LTD  
 14 CONCORD DRIVE SUITE 300  
 OTTAWA, ON K2E 7J9  
 AGE 739

**CONSULTANTS:**  
 STRUCTURAL: TBD  
 MECHANICAL: TBD  
 ELECTRICAL: TBD

NO.	REVISION/ISSUE	DATE
4	REVISED SITE PLAN	10/14/22
3	REVISED SITE PLAN	09/09/22
2	REVISED SITE PLAN	07/22/22
1	PRELIMINARIES	04/12/22

PROJECT: 3055 RICHMOND RD.  
 3055 RICHMOND RD.  
 OTTAWA, ON K2B 9J6  
 813-000-0000

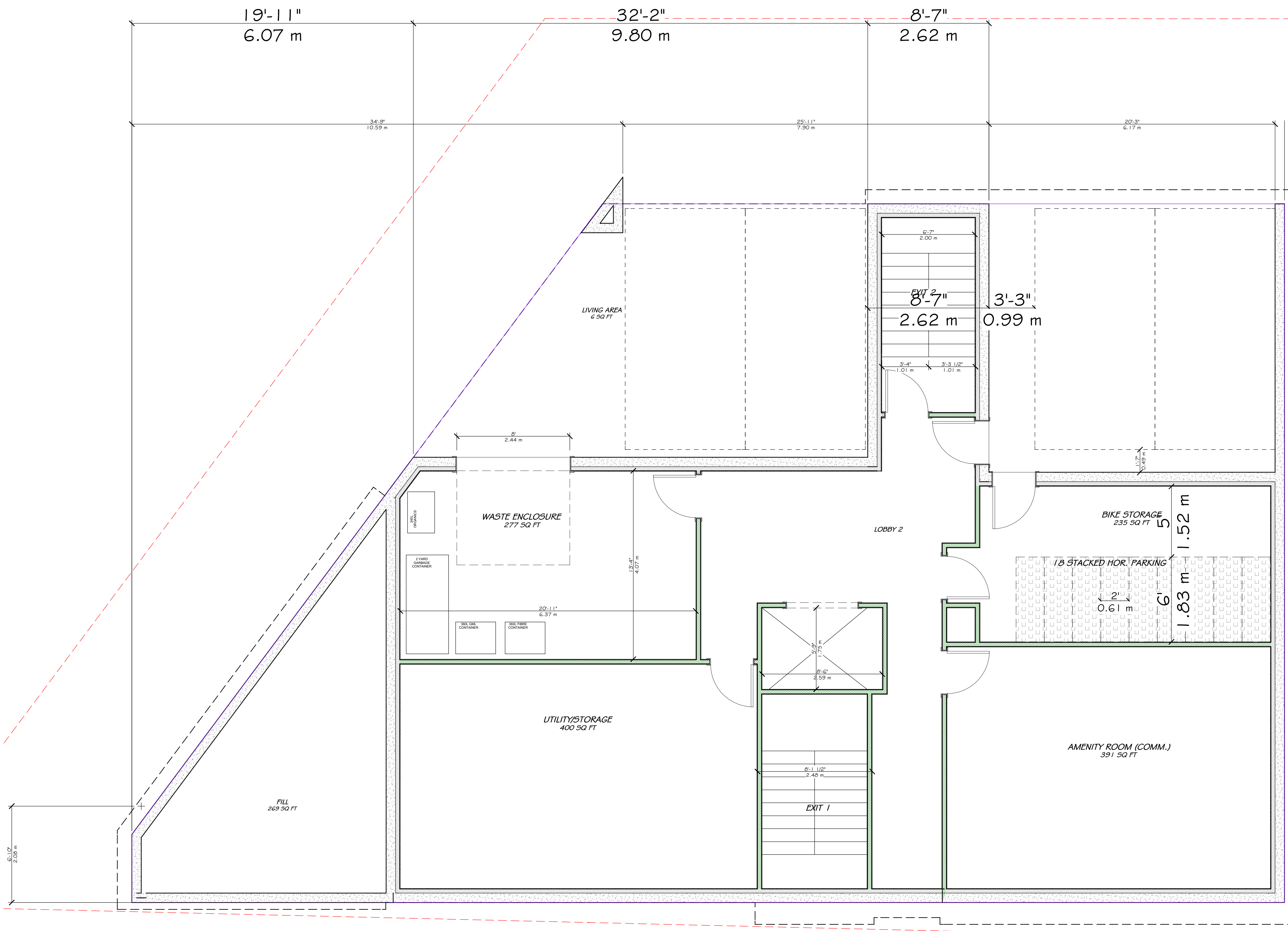
DRAWING NAME: SITE PLAN

BRN: --- SHEET: A1  
 DATE: APRIL 12, 2022  
 SCALE: AS NOTED

FILE NUMBER: D00-00-00-00-000

**1 SITE PLAN**  
**A1 SCALE 3/32" = 1'-0"**





1 BASEMENT PLAN  
 A2 SCALE 1/4" = 1'-0"

UNPOISED ARCHITECTURE INC.  
 5-16 BIRCHLAND AVE.  
 OTTAWA, ON K1N 7T5  
 AZUL DESIGNS  
 OTTAWA, ON K1H 7G2

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

**RESPONSIBILITIES:**  
 DO NOT SCALE DRAWINGS  
 ALL DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2006  
 ALL CONTRACTORS MUST WORK IN ACCORDANCE WITH ALL LAWS, REGULATIONS AND BYLAWS HAVING JURISDICTION  
 IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT/DESIGNER  
 COPYRIGHT RESERVED  
 GENERAL NOTES:

**3055 RICHMOND ROAD**  
 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

**OWNER/DEVELOPER:**  
 FARRIS DEVELOPMENT  
 1000 SHEPPARD AVE. E. SUITE 101  
 SCARBOROUGH, ON M1S 1T6

**ARCHITECT/DESIGNER:**  
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS  
 5-16 BIRCHLAND AVE.  
 OTTAWA, ON K1N 7T5

**APPLICATION NUMBER:**  
 1057 CANADA INC.  
 1111 COLLEGE STREET DR. SUITE 300  
 OTTAWA, ON K2B 9K2

**CIVIL ENGINEER:**  
 MERRICK ASSOCIATES  
 200 UNIVERSITY STREET  
 OTTAWA, ON K1N 6F1

**LANDSCAPING:**  
 JOHN R. SCOTT/STANLEY  
 P.O. Box 622, Salem St.  
 OTTAWA, ON K1N 6F1

**SUBMITTER:**  
 ANNE'S CONSULTING/VALERIE LTD.  
 111 COLLEGE STREET SUITE 300  
 OTTAWA, ON K2B 9K2

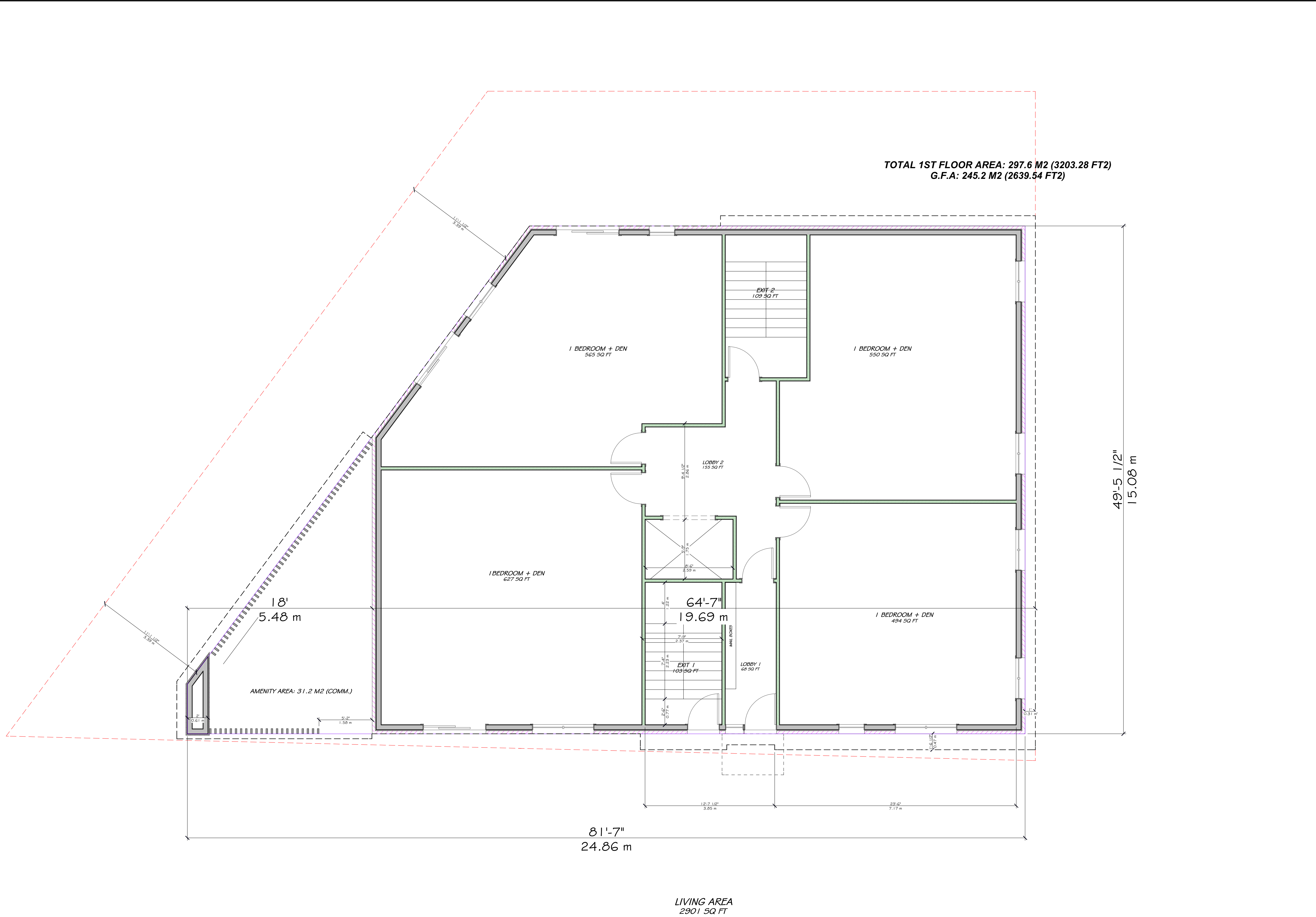
**CONSULTANTS:**  
 STRUCTURAL: TBD  
 MECHANICAL: TBD  
 ELECTRICAL: TBD

NO.	REVISION/ISSUE	DATE
4	REVISED SITE PLAN	10/14/22
3	REVISED SITE PLAN	08/09/22
2	REVISED SITE PLAN	07/20/22
1	PRELIMINARIES	04/12/22

PROJECT: 3055 RICHMOND RD.  
 3055 RICHMOND RD.  
 OTTAWA, ON K2B 9K2  
 DRAWING NAME: FLOOR PLANS

DRAWN BY: ... SHEET: A2  
 DATE: APRIL 12, 2022  
 SCALE: AS NOTED

FILE NUMBER: D00-00-00-000



UNPOISED ARCHITECTURE INC.  
 5-16 BIRCHLAND AVE.  
 OTTAWA, ON K1N 7T5  
 AZUL DESIGNS  
 OTTAWA, ON K1H 7Q2

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 ALL CONTRACTORS MUST WORK IN ACCORDANCE WITH ALL LAWS, REGULATIONS AND BYLAWS HAVING JURISDICTION  
 IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT/DESIGNER  
 COPYRIGHT RESERVED

GENERAL NOTES:

**3055 RICHMOND ROAD**  
 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

**OWNER/DEVELOPER:**  
 FERRIS DEVELOPMENT  
 1000 SHEPPARD AVE. E. SUITE 100  
 SCARBOROUGH, ON M1B 4Y1

**ARCHITECT/DESIGNER:**  
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS  
 5-16 BIRCHLAND AVE.  
 OTTAWA, ON K1N 7T5

**APPLICATION NUMBER:**  
 1057 CANADA INC.  
 1011 GARDENWAY DR. SUITE 300  
 OTTAWA, ON K2B 8K2

**CIVIL ENGINEER:**  
 WELLS ASSOCIATES  
 200 HURON STREET  
 OTTAWA, ON K1N 6F1

**LANDSCAPING:**  
 JOHN A. SCOTT/STANLEY  
 P.O. Box 622, Salem St.  
 OTTAWA, ON K1N 6F1

**SUBMITTER:**  
 ANNE O'SULLIVAN, VOLLBERG LTD.  
 11 CONQUEST DRIVE, SUITE 300  
 OTTAWA, ON K2E 7B9

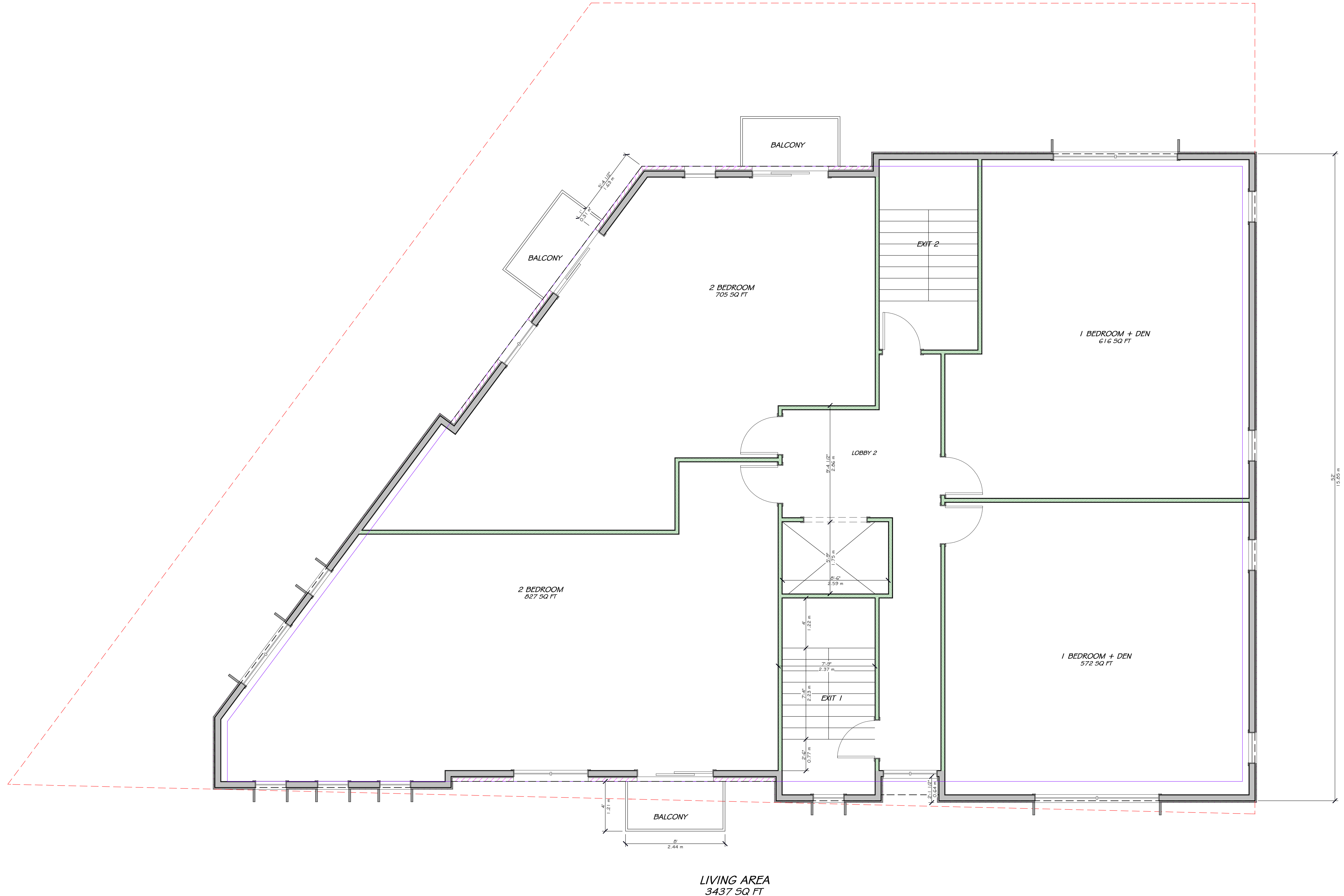
**CONSULTANTS:**  
 STRUCTURAL: TBD  
 MECHANICAL: TBD  
 ELECTRICAL: TBD

NO.	REVISION/ISSUE	DATE
4	REVISED SITE PLAN	10/14/22
3	REVISED SITE PLAN	08/09/22
2	REVISED SITE PLAN	07/20/22
1	PRELIMINARIES	04/12/22

PROJECT: 3055 RICHMOND RD.  
 3055 RICHMOND RD.  
 OTTAWA, ON K2B 8J6

DRAWING NAME: FLOOR PLANS

DRAWN BY: ... SHEET: ...  
 DATE: APRIL 12, 2022  
 SCALE: AS NOTED



UNPOISED ARCHITECTURE INC.  
 5-16 SIRETLAND AVE.  
 OTTAWA, ON K1N 7T5  
 AZUL DESIGNS  
 OTTAWA, ON K1H 7Q2

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

**RESPONSIBILITIES:**  
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 GENERAL NOTES:

**3055 RICHMOND ROAD**  
 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

**OWNER/DEVELOPER:**  
 FARRIS DEVELOPMENT  
 1000 SHEPPARD AVE. E.  
 OTTAWA, ON K1H 1S1

**ARCHITECT/DESIGNER:**  
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS  
 5-16 SIRETLAND AVE.  
 OTTAWA, ON K1N 7T5

**APPLICATION NUMBER:**  
 1057 CANADA RD.  
 111 COLLEGE STREET SUITE 300  
 OTTAWA, ON K2B 8K2

**CIVIL ENGINEER:**  
 WILSON ASSOCIATES  
 200 UNIVERSITY AVE.  
 OTTAWA, ON K1N 6H1

**LANDSCAPING:**  
 JOHN R. SCOTT/STANLEY  
 P.O. Box 622, Salem St.  
 OTTAWA, ON K1N 6H1

**SUBMITTER:**  
 ANNE O'SULLIVAN, VOLLEBAEK LTD.  
 111 COLLEGE STREET SUITE 300  
 OTTAWA, ON K2B 8K2

**CONSULTANTS:**  
 STRUCTURAL: TBD  
 MECHANICAL: TBD  
 ELECTRICAL: TBD

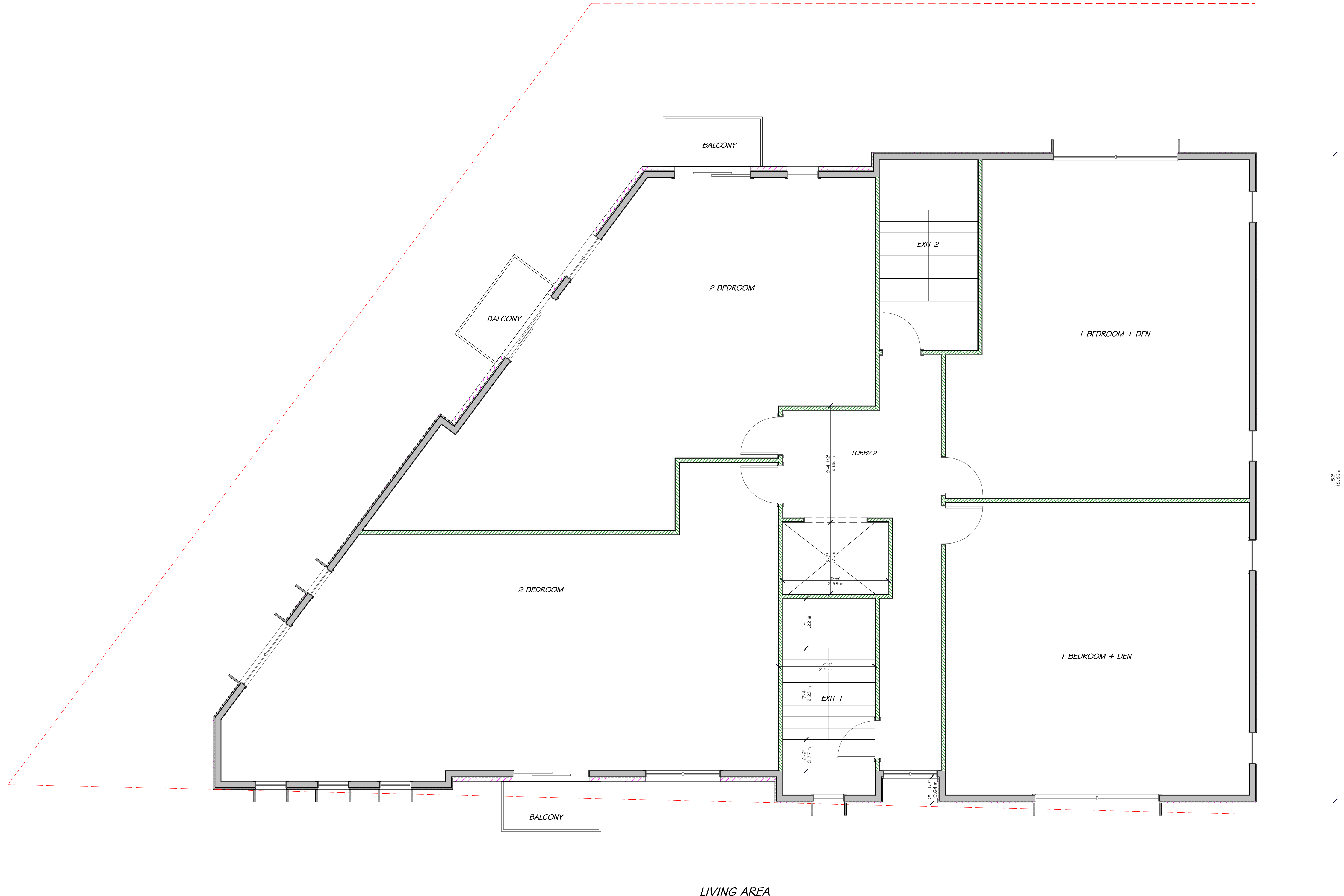
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1	PRELIMINARIES	04/12/22

PROJECT: 3055 RICHMOND RD.  
 3055 RICHMOND RD.  
 OTTAWA, ON K2B 8K2  
 613-000-0000

DRAWING NAME: PLANS

DRAWN BY: ... SHEET: A4  
 DATE: APRIL 12, 2022  
 SCALE: AS NOTED

FILE NUMBER: D00-00-00-000



1 THIRD FLOOR PLAN  
 A5 SCALE 1/4" = 1'-0"

UNPOISED ARCHITECTURE INC.  
 5-16 SWEETLAND AVE.  
 OTTAWA, ON K1N 7T5  
 AZUL DESIGNS  
 OTTAWA, ON K1H 7Q2

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 GENERAL NOTES:

**3055 RICHMOND ROAD**  
 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

OWNER/DEVELOPER:  
 FARRIS DEVELOPMENT  
 1000 SHEPPARD AVE. E. #200  
 SCARBOROUGH, ON M1B 3Y9

ARCHITECT/DESIGNER:  
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS  
 OTTAWA, ON

APPLICATION NUMBER:  
 1057 CANADA INC.  
 1011 COLLEGE STREET DR. SUITE 300  
 OTTAWA, ON K2B 8K2

CIVIL ENGINEER:  
 WILSON ASSOCIATES  
 200 UNIVERSITY STREET  
 OTTAWA, ON K1N 6Y1

LANDSCAPING:  
 JOHN R. SCOTT/STANLEY  
 P.O. Box 622, Salem St.  
 OTTAWA, ON K1N 6Y1

SUBMITTER:  
 ANNE O'SULLIVAN, VOLLBERG LTD.  
 10 CONQUEST SQUARE SUITE 300  
 OTTAWA, ON K2E 7J9

CONSULTANTS:  
 STRUCTURAL: TBD  
 MECHANICAL: TBD  
 ELECTRICAL: TBD

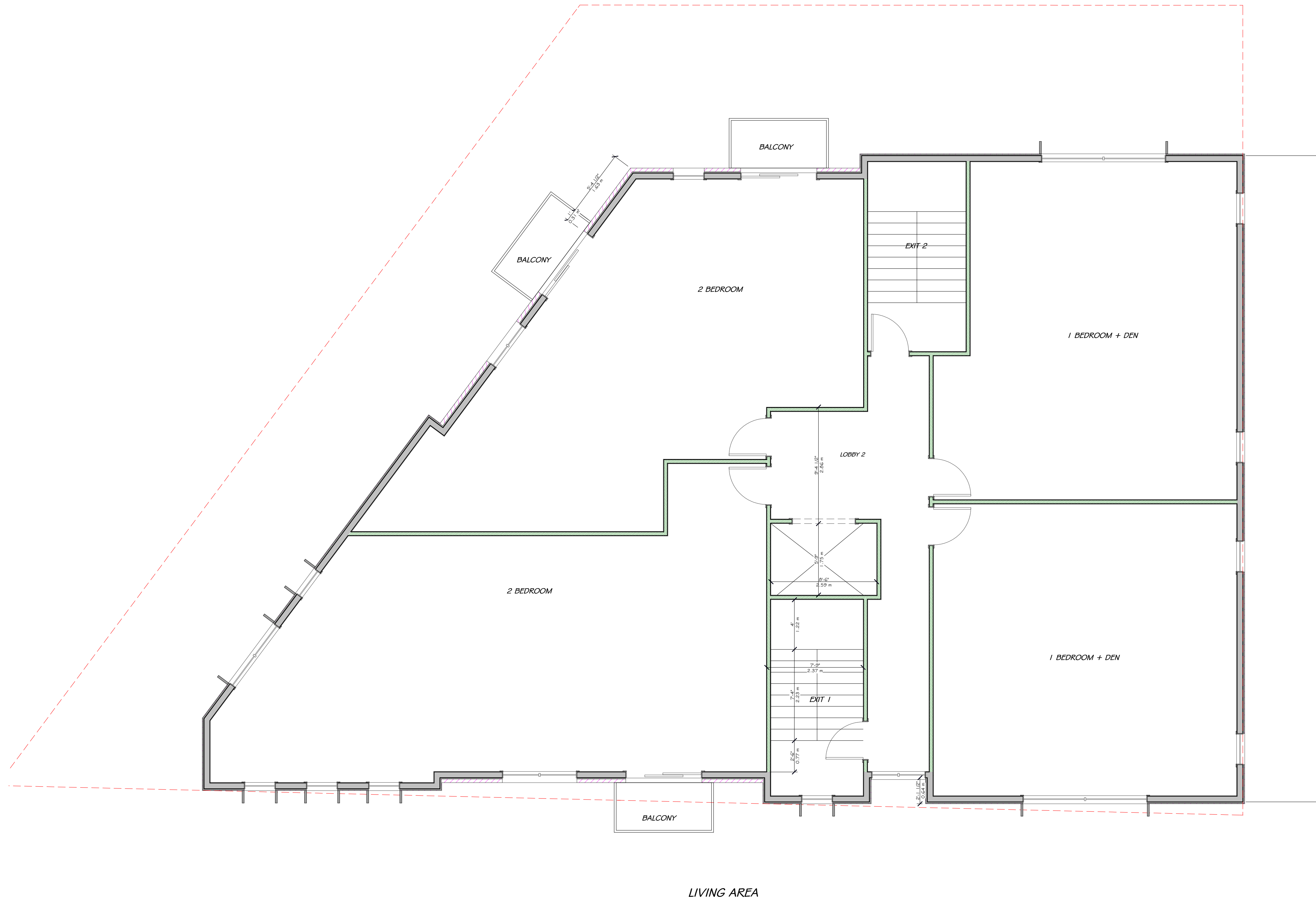
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PROJECT: 3055 RICHMOND RD.  
 3055 RICHMOND RD.  
 OTTAWA, ON K2B 8J6 613-000-0000

DRAWING NAME:  
 ELEVATIONS

DRAWN BY: ... SHEET: ...  
 DATE: APRIL 12, 2022  
 SCALE: AS NOTED

FILE NUMBER: D00-00-00-000



UNPOISED ARCHITECTURE INC.  
 5-16 SIRETLAND AVE.  
 OTTAWA, ON K1N 7T5  
 AZUL DESIGNS  
 OTTAWA, ON K1H 7Q2

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GENERAL NOTES:

**3055 RICHMOND ROAD**  
 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

**OWNER/DEVELOPER:**  
 FERRIS DEVELOPMENT INC.  
 1000 SHEPPARD AVE. EAST  
 OTTAWA, ON K1H 1S6

**ARCHITECT/DESIGNER:**  
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS  
 5-16 SIRETLAND AVE.  
 OTTAWA, ON K1N 7T5

**APPLICATION NUMBER:**  
 1057 CAMDRA INC.  
 1111 COLLEGE STREET, SUITE 300  
 OTTAWA, ON K2B 9K2  
 K2B-9K2

**CIVIL ENGINEER:**  
 WILSON ASSOCIATES  
 200 SHEPPARD AVE. EAST  
 OTTAWA, ON K1H 1S6

**LANDSCAPING:**  
 JOHN A. SICKERMAN INC.  
 P.O. Box 622, Salem St.  
 OTTAWA, ON K1H 1S6

**SUBMITTER:**  
 ANNO, OSTLUND, VOLLEBAEK LTD.  
 111 COLLEGE STREET, SUITE 300  
 OTTAWA, ON K2B 9K2  
 K2B-9K2

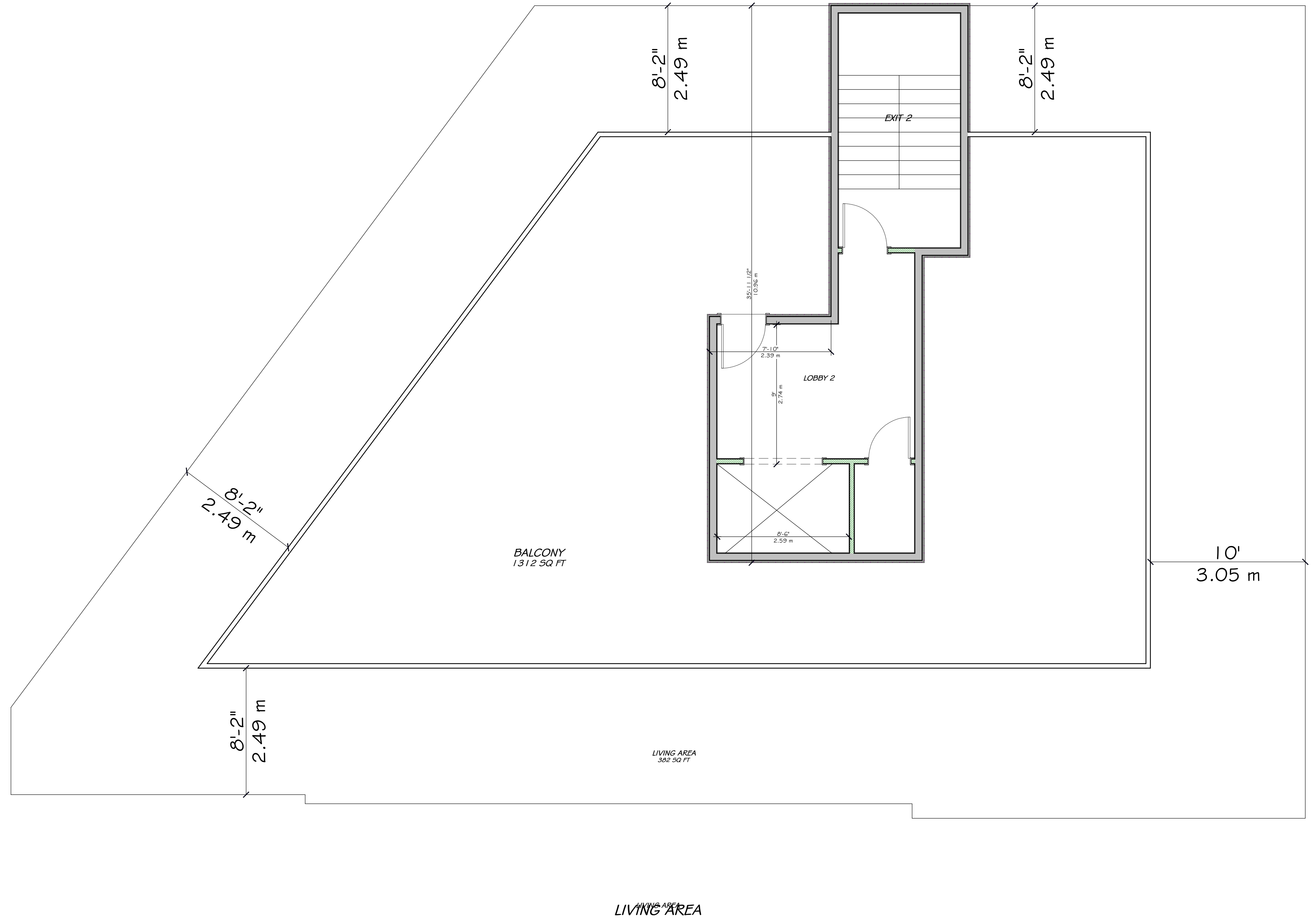
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1	PRELIMINARY	04/12/22

PROJECT: 3055 RICHMOND RD.  
 3055 RICHMOND RD.  
 OTTAWA, ON K2B 9K2

DRAWING NAME:  
**DETAILS & SECTIONS**

DRAWN BY: ... SHEET: ...  
 DATE: APRIL 12, 2022  
 SCALE: AS NOTED



UNPOISED ARCHITECTURE INC.  
 5-16 SWEETLAND AVE.  
 OTTAWA, ON K1N 7T5  
 AZUL DESIGNS  
 OTTAWA, ON K1H 7Q2

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 GENERAL NOTES:

**3055 RICHMOND ROAD**  
 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

**OWNER/DEVELOPER:**  
 FARRIS DEVELOPMENT  
 1000 BROADVIEW AVE  
 OTTAWA, ON K1K 5E1

**ARCHITECT/DESIGNER:**  
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS  
 5-16 SWEETLAND AVE.  
 OTTAWA, ON K1N 7T5

**APPLICATION NUMBER:**  
 1057 CANADA INC.  
 211 COLLEGE STREET DR. SUITE 300  
 OTTAWA, ON K2B 8K2

**CIVIL ENGINEER:**  
 WELLS ASSOCIATES  
 200 UNIVERSITY AVE.  
 OTTAWA, ON K1K 0T1

**LANDSCAPING:**  
 JOHN R. SCOTT/STANLEY  
 P.O. Box 627, Salem St.  
 OTTAWA, ON K1N 7T5

**SUBMITTER:**  
 ANNE'S OFFSHORE VOLLBERG LTD  
 11 CONQUEST QUAY SUITE 300  
 OTTAWA, ON K2E 7J9

**CONSULTANTS:**  
 STRUCTURAL: TBD  
 MECHANICAL: TBD  
 ELECTRICAL: TBD

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PROJECT: 3055 RICHMOND RD.  
 3055 RICHMOND RD.  
 OTTAWA, ON K2B 8J6  
 613-000-0000

DRAWING NAME:  
 FLOOR PLANS

DRAWN BY: ... SHEET: A7  
 DATE: APRIL 12, 2022  
 SCALE: AS NOTED

FILE NUMBER: D00-00-00-0000

UNPOISED ARCHITECTURE INC.  
 5-16 BIRCHLAND AVE.  
 OTTAWA, ON K1N 7T5  
 AZUL DESIGNS  
 OTTAWA, ON K1H 3Q2

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**3055 RICHMOND ROAD**  
 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

**OWNER/DEVELOPER:**  
 FARRIS DEVELOPMENT INC.  
 OTTAWA, ON K1N 7T5  
**ARCHITECT/DESIGNER:**  
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS  
 OTTAWA, ON  
**APPLICATION NUMBER:**  
 1057 CANADA INC.  
 111 COLLEGE STREET, SUITE 300  
 OTTAWA, ON  
 K2E 7R2  
**CIVIL ENGINEER:**  
 WILSON ASSOCIATES  
 OTTAWA, ON  
 K1N 6Y1  
**LANDSCAPING:**  
 JOHN S. SCHERER INC.  
 P.O. Box 607, Salem St.  
 OTTAWA, ON  
 K1N 7K5  
**SUBMITTER:**  
 ANNE O'SULLIVAN, VOLLBERG LTD.  
 11 COLLEGE STREET, SUITE 300  
 OTTAWA, ON  
 K2E 7R2

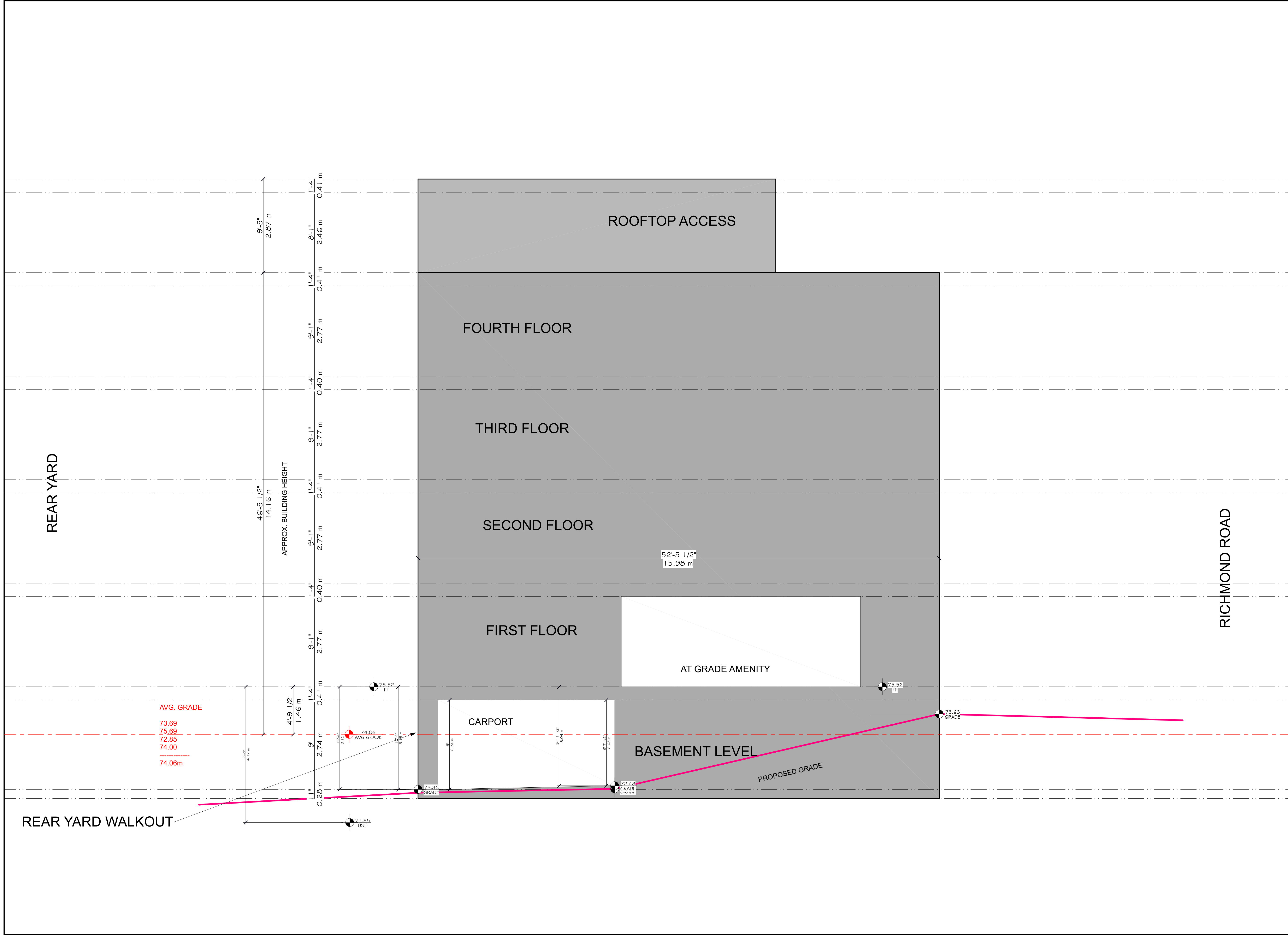
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PROJECT: **3055 RICHMOND RD.**  
 3055 RICHMOND RD.  
 OTTAWA, ON K2E 7R2  
 DRAWING NUMBER: **FLOOR PLANS**

DRAWN BY: ... SHEET: ...  
 DATE: **APRIL 12, 2022**  
 SCALE: AS NOTED

FILE NUMBER: D00-00-00-0000



PROVIDE FROST PROTECTION FOR FOOTING ABOVE 1.5m BELOW THE SURROUNDING GRADE

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES.

THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

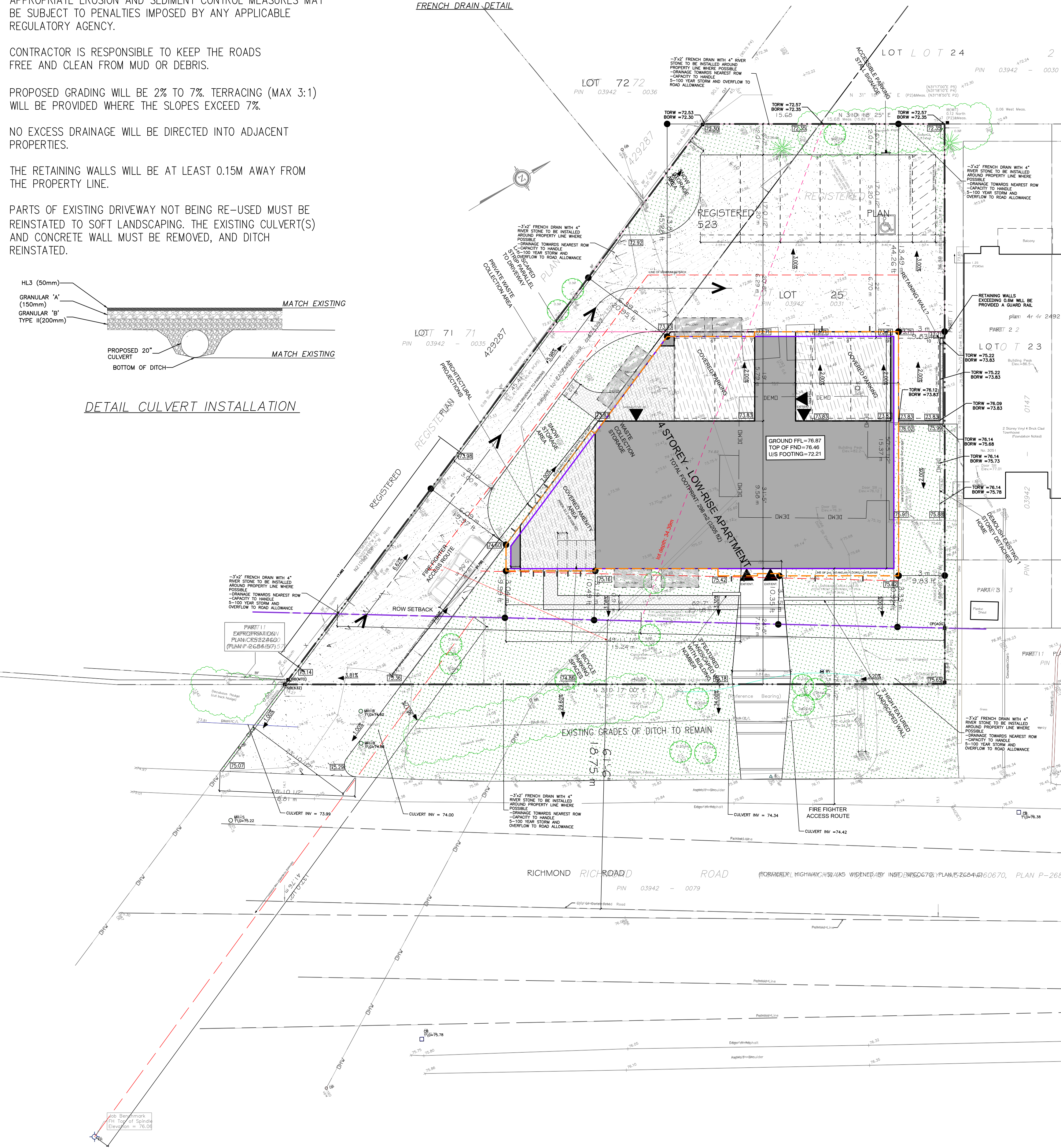
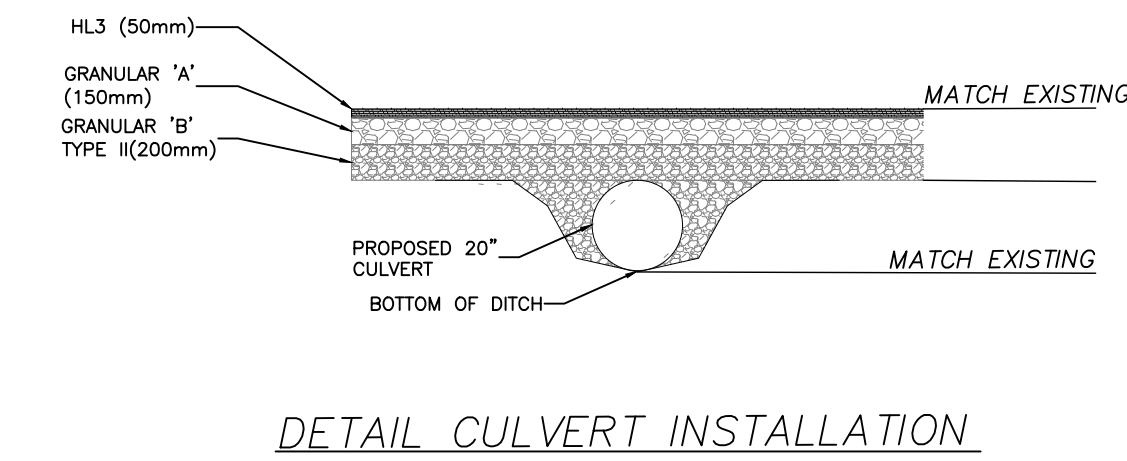
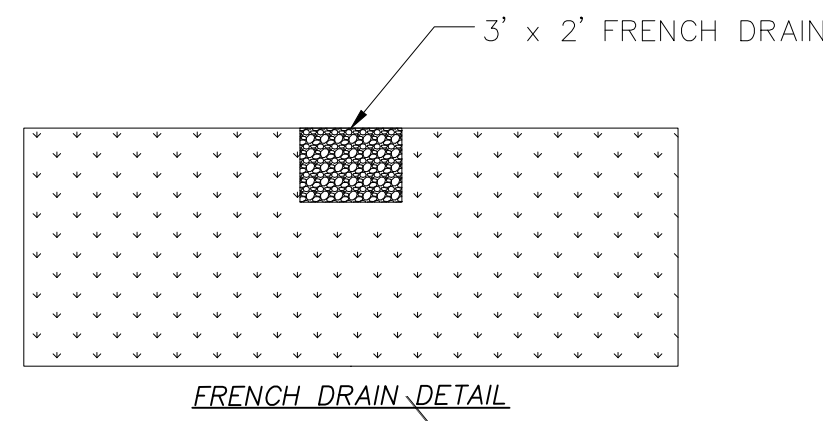
CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.

PROPOSED GRADING WILL BE 2% TO 7% TERRACING (MAX 3:1) WILL BE PROVIDED WHERE THE SLOPES EXCEED 7%.

NO EXCESS DRAINAGE WILL BE DIRECTED INTO ADJACENT PROPERTIES.

THE RETAINING WALLS WILL BE AT LEAST 0.15M AWAY FROM THE PROPERTY LINE.

PARTS OF EXISTING DRIVEWAY NOT BEING RE-USED MUST BE REINSTATED TO SOFT LANDSCAPING. THE EXISTING CULVERT(S) AND CONCRETE WALL MUST BE REMOVED, AND DITCH REINSTATED.



GENERAL NOTES FOR SERVICING

- ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS OF THE CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD SPECIFICATION (OPSS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED, TO THE SATISFACTION OF THE CITY AND THE CONSULTANT.
- THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMANS SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
- THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL, CABLE TV, AND CONSUMERS GAS LINES.
- ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- REFER TO ARCHITECT'S PLANS FOR BUILDING DIMENSIONS LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- TOPOGRAPHIC SURVEY COMPLETED ON 17TH DAY OF NOVEMBER 2021 AND PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEK LTD. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE LOCATION OF UNDERGROUND SERVICES ARE BASED ON THE SURVEY PROVIDED WITH THE INFORMATION FROM THE CITY OF OTTAWA DRAWINGS "P&P - RICHMOND ROAD SANITARY SEWER", DATED NOVEMBER 7TH, 1962. HOWEVER, CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
- JOB BENCH MARK AS INDICATED ON THE DRAWINGS
- ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
- ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
- ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
- ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
- ABUTTING PROPERTY GRADES TO BE MATCHED.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
- MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
- AT PROPOSED UTILITIES CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
- SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
- PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.
- FOR ANY SOILS RELATED INFORMATION, REFER TO THE GEOTECHNICAL INVESTIGATION REPORT BY EXP Services
- PAVEMENT STRUCTURE SHALL CONSIST OF FOR CAR ONLY PARKING AREAS:
  - 40 mm ASPHALTIC CONCRETE (PG 58-34), 92% TO 97 % MRD
  - 150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMD
  - 300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMD
  - SUBGRADE - APPROVED FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL.
- PAVEMENT STRUCTURE SHALL CONSIST OF FOR ACCESS LANES AND HEAVY TRUCK PARKING/LOADING AREAS:
  - 40 mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
  - 50 mm HL-8 OR SUPERPAVE 19 ASPHALTIC CONCRETE
  - 150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMD
  - 300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMD
  - SUBGRADE - APPROVED FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL.
- CONTRACTOR TO REINSTATE PAVEMENT STONES IN CITY ROW.
- ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.
- ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 18 MEETING ANWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 50MM IS COPPER TYPE 'K'.
- ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMANS CROSS OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE FROM UTILITIES OVERT SHALL BE MAINTAINED. WHERE WATERMANS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W22.
- WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.
- VALVE BOX TO BE AS PER CITY OF OTTAWA STANDARD W24.
- CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 & W25.4.
- CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 & W42.
- FIRE HYDRANTS TO BE AS PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED)
- IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
- TYPICAL WATER SERVICE LINE AS PER W26/ FOR 19MM & 25MM DIA. WATER SERVICES), AND TO BE INSTALLED AT 1 M FROM THE FOUNDATION WALLS
- SANITARY SEWER AND MANHOLES
- ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
- SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
- ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.
- ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARD S25 AND S24. (NOT APPLICABLE)
- SANITARY BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2
- STORM BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14
- STORM SEWERS AND STRUCTURES
- ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

**LEGEND**

- 250mm# SAN - EXISTING MAIN SANITARY SEWER
- 300mm# SAN - EXISTING MAIN STORM SEWER
- 300mm# SAN - EXISTING MAIN WATERMAIN
- 6" GAS - EXISTING MAIN GAS LINE
- EXISTING CENTRE OF ROAD
- EXISTING SANITARY LATERAL
- EXISTING WATER LATERAL
- EXISTING STORM LATERAL
- EXISTING BURIED TELEPHONE
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD HYDRO
- EXISTING UNDERGROUND HYDRO
- BUILDING FOUNDATION
- BUILDING ROOF
- PROPERTY LINE
- SETBACK LINE
- RIGHT OF WAY
- EXISTING WOOD FENCE
- EXISTING CHAIN LINK FENCE
- EXISTING SIDEWALK
- EXISTING DEPRESSED CURB
- EXISTING CONCRETE CURB
- BENCHMARK RIM SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING CATCHBASIN
- EXISTING VALVE AND VALVE CHAMBER
- EXISTING VALVE AND VALVE BOX
- EXISTING FIRE HYDRANT
- EXISTING GAS METER
- EXISTING HYDRO POLE
- EXISTING CORNER POST
- x 58.14 - EXISTING GRADE ELEVATION
- AC - EXISTING AIR CONDITIONER
- 350mm#s - PROPOSED SANITARY LATERAL SEWER
- 350mm#st - PROPOSED STORM LATERAL SEWER
- 150mm#s - PROPOSED WATERMAIN LATERAL
- PROPOSED DEMOLITION
- PROPOSED SILT FENCING
- PROPOSED SEVERANCE
- PROPOSED SWALE
- PROPOSED DEPRESSED CURB
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED WATER REMOTE METER
- PROPOSED WATER METER
- PROPOSED CURB STOP
- FINISHED FLOOR LEVEL ELEVATION
- BASEMENT FLOOR LEVEL ELEVATION
- UNDERSIDE OF THE FOOTING
- FLOOR DRAIN
- BUILDING ENTRY
- DOWNSPOUTS LOCATION W/ SPLASH PAD
- WATER POST
- PROPOSED ELEVATION
- PROPOSED GRADING SLOPE BETWEEN 2-7%, GRADING OVER 7% MUST BE TERRACED TO A MAXIMUM SLOPE OF 3:1
- GRASS
- EXISTING INTERLOCK
- LIGHT DUTY (PARKING) 50mm HL3
- 150mm GRANULAR 'A'
- 300mm GRANULAR 'B' TYPE II sub-grade in situ soil/compacted fill or opss granular B placed over in situ soil or compacted materials
- PROPOSED CONCRETE
- PROPOSED STREET ASPHALT OVERLAY
- EXTENT OF EXCAVATION FOR SERVICES
- ROOF DRAIN RESTRICTOR TO L/S
- 5 YEAR FLOOD PONDING LIMITS
- 10 YEAR FLOOD PONDING LIMITS
- LEVEL AREA
- PROPOSED SCUPPERS
- WATER SAMPLING CHAMBER
- SUMP PUMP FOR FOUNDATION DRAINAGE
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- EXISTING TREES TO BE REMOVED
- PROPOSED TREE
- PROPOSED SHRUBS
- PROPOSED ANNUAL GRASSES
- STORM DRAINAGE AREA NUMBER
- STORM DRAINAGE AREA IN HECTARES
- RUN-OFF COEFFICIENT

**CLIENT:** OTTAWA ONTARIO

**PROJECT:** 4 STOREY LOW-RISE APARTMENT BUILDING 3055 RICHMOND ROAD OTTAWA, ON K2B 6S6

**KEY PLAN:** [Map showing project location in Ottawa]

**ISSUED FOR - REVISION:**

NO.	DATE	DESCRIPTION
4	12/30/2022	REVISED AS PER CITY COMMENTS
3	10/06/2022	REVISED FOR DISCUSSION
2	09/28/2022	REVISED AS PER LATEST SITEPLAN
1	06/10/2022	ISSUED FOR REVIEW

**PROJECT NO:** 2022-120 **DATE:** 2022-06-10

**ORIGINAL SCALE:** 1:100 **IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.**

**DESIGNED BY:** R.E. **DRAWN BY:** R.E. **CHECKED BY:** W.E.

**DISCIPLINE:**

**TITLE:** GRADING PLAN

**SHEET NUMBER:** G1

**ISSUE:** ISSUED FOR REVIEW **DATE OF:** 2022-06-10

**W. Elias & Associates CONSULTING ENGINEERS**

204 BOREALIS CR. OTTAWA, ON K1K 4V1 TEL 613-763-7800 WWW.BELIASAS.COM

CIVIL STRUCTURE ELECTRICAL MECHANICAL

**REGISTERED PROFESSIONAL ENGINEER**

W. Elias & Associates 13065 50<sup>th</sup> AVENUE

DECEMBER 30 2022

**CLIENT:** OTTAWA ONTARIO

**PROJECT:** 4 STOREY LOW-RISE APARTMENT BUILDING 3055 RICHMOND ROAD OTTAWA, ON K2B 6S6



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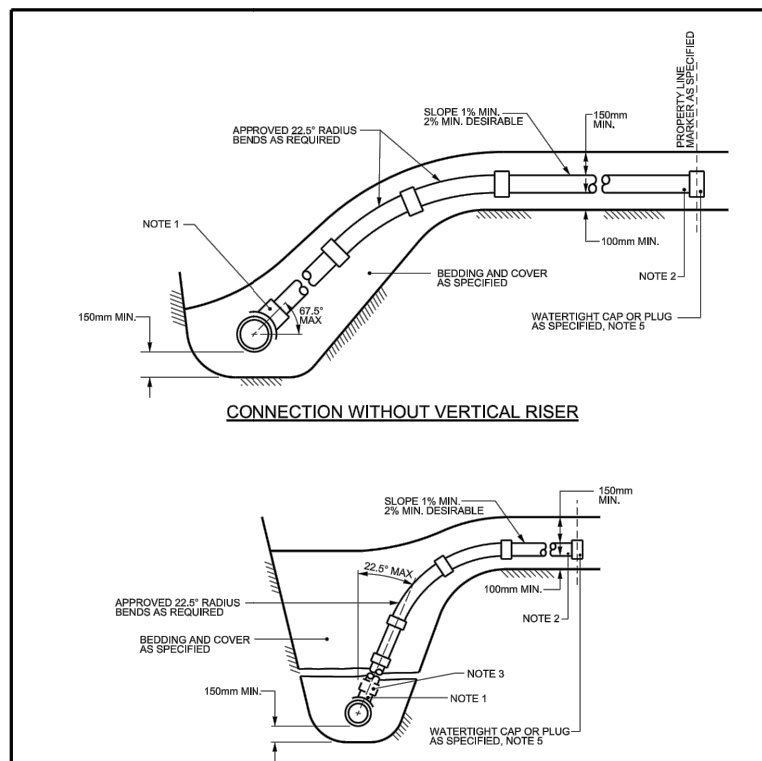
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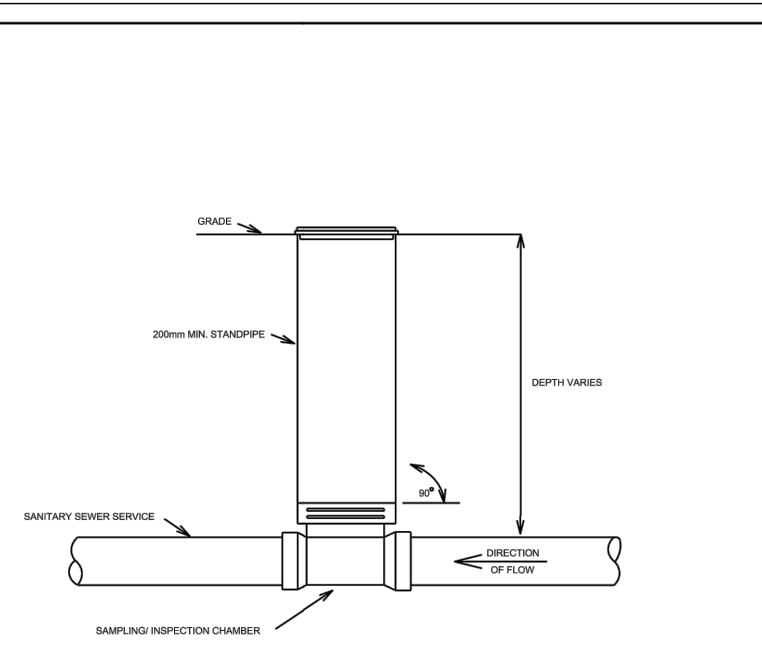
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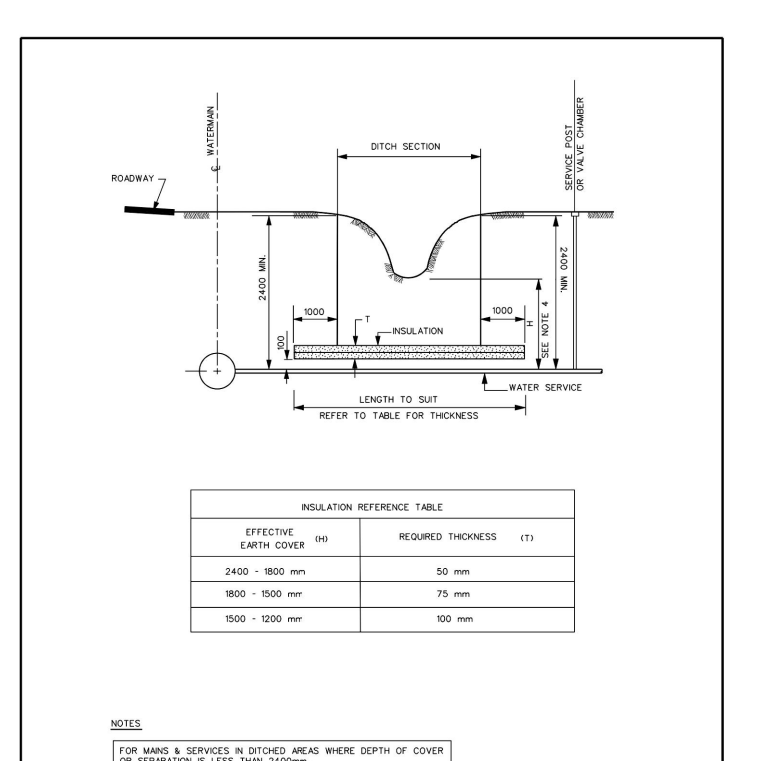
**SEWER SERVICE CONNECTIONS FOR RIGID MAIN SEWER PIPE (MODIFIED OPSD-1006.010)**

DATE	BY	REVISION
MARCH 2008	R.E.	ISSUED FOR DISCUSSION
MARCH 2014	R.E.	ISSUED FOR REVIEW
MARCH 2014	R.E.	ISSUED FOR REVIEW



**WASTEWATER SAMPLING/INSPECTION CHAMBER (EXCEPTION BASIS ONLY)**

DATE	BY	REVISION
MARCH 2014	R.E.	ISSUED FOR REVIEW
MARCH 2014	R.E.	ISSUED FOR REVIEW



**INSULATION REFERENCE TABLE**

DEPTH (mm)	REQUIRED THICKNESS (mm)
0 - 100	50
100 - 200	75
200 - 300	100
300 - 400	125
400 - 500	150
500 - 600	175
600 - 700	200
700 - 800	225
800 - 900	250
900 - 1000	275



**INSULATION REFERENCE TABLE**

DEPTH (mm)	REQUIRED THICKNESS (mm)
0 - 100	50
100 - 200	75
200 - 300	100
300 - 400	125
400 - 500	150
500 - 600	175
600 - 700	200
700 - 800	225
800 - 900	250
900 - 1000	275

**NOTE:**  
FOUNDATION DRAINAGE TO BE DRAINED TO SUMP PIT WHICH WILL THEN BE PUMPED TO THE FRONT YARD.

**NOTE:**  
PROVIDE FROST PROTECTION FOR FOOTING ABOVE 1.5m BELOW THE SURROUNDING GRADE.

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES.

THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES WILL BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

**NOTE:**  
A) THE PROPOSED SANITARY SEWER SHALL HAVE A MINIMUM COVER OF 2.0M  
B) THE EXISTING WATER SERVICE WILL BE BUNKED AT THE WATERMAIN.  
C) THE EXISTING SANITARY SEWER WILL BE CAPPED NEAR THE PROPERTY, AWAY FROM THE TREES TO BE RETAINED.

**GENERAL NOTES FOR SERVICING**

- ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS OF THE CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD SPECIFICATION (OPSS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED, TO THE SATISFACTION OF THE CITY AND THE CONSULTANT.
- THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMANS SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
- THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL, CABLE TV, AND CONSUMERS GAS LINES.
- ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- REFER TO ARCHITECT'S PLANS FOR BUILDING DIMENSIONS LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- TOPOGRAPHIC SURVEY COMPLETED ON 17TH DAY OF NOVEMBER 2021 AND PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEK LTD. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE LOCATION OF UNDERGROUND SERVICES ARE BASED ON THE SURVEY PROVIDED WITH THE INFORMATION FROM THE CITY OF OTTAWA DRAWINGS "P&P - RICHMOND ROAD SANITARY SEWER", DATED NOVEMBER 7TH, 1962. HOWEVER, CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
- JOB BENCH MARK AS INDICATED ON THE DRAWINGS
- ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
- ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
- ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
- ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
- ABUTTING PROPERTY GRADES TO BE MATCHED.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
- MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
- AT PROPOSED UTILITIES CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
- SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
- PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.

**LEGEND**

- 250mm Ø SW - EXISTING MAIN SANITARY SEWER
- 300mm Ø SW - EXISTING MAIN STORM SEWER
- 400mm Ø SW - EXISTING MAIN WATERMAIN
- 6" - EXISTING MAIN GAS LINE
- - - - - EXISTING CENTRE OF ROAD
- - - - - EXISTING SANITARY LATERAL
- - - - - EXISTING WATER LATERAL
- - - - - EXISTING STORM LATERAL
- - - - - EXISTING BURIED TELEPHONE
- - - - - EXISTING OVERHEAD TELEPHONE
- - - - - EXISTING OVERHEAD HYDRO
- - - - - EXISTING UNDERGROUND HYDRO
- - - - - BUILDING FOUNDATION
- - - - - BUILDING ROOF
- - - - - PROPERTY LINE
- - - - - SETBACK LINE
- - - - - RIGHT OF WAY
- - - - - EXISTING WOOD FENCE
- - - - - EXISTING CHAIN LINK FENCE
- - - - - EXISTING SIDEWALK
- - - - - EXISTING DEPRESSED CURB
- - - - - EXISTING CONCRETE CURB
- - - - - BENCHMARK RIM SANITARY MANHOLE
- - - - - EXISTING SANITARY MANHOLE
- - - - - EXISTING STORM MANHOLE
- - - - - EXISTING CATCHBASIN
- - - - - EXISTING VALVE AND VALVE CHAMBER
- - - - - EXISTING VALVE AND VALVE BOX
- - - - - EXISTING FIRE HYDRANT
- - - - - EXISTING GAS METER
- - - - - EXISTING HYDRO POLE
- - - - - EXISTING CORNER POST
- - - - - EXISTING GRADE ELEVATION
- - - - - EXISTING AIR CONDITIONER

**W. Elias & Associates**  
CONSULTING ENGINEERS

204 BOREALIS CR.  
OTTAWA, ON K1K 4V1  
TEL 613-763-7800  
WEB@ELIASAS.COM

CIVIL  
STRUCTURE  
ELECTRICAL  
MECHANICAL

CONSULTANT:

SEAL:

REGISTERED PROFESSIONAL ENGINEER  
W. Elias & Associates  
13005 50<sup>th</sup> ST  
OTTAWA, ONTARIO  
K1W 1A7  
PROVINCE OF ONTARIO

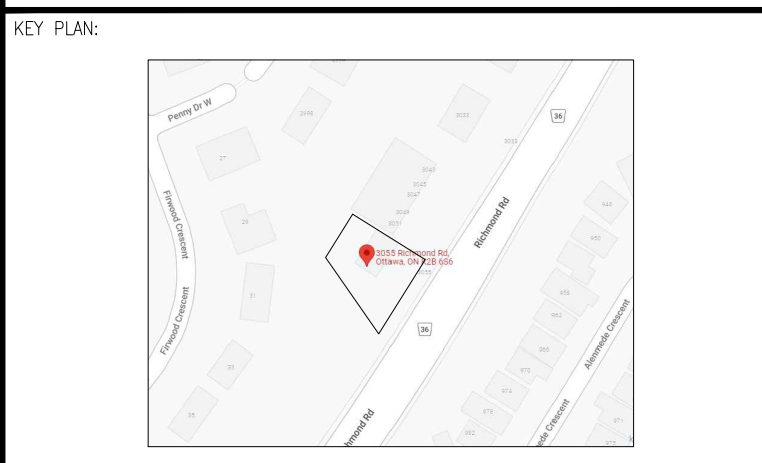
DECEMBER 30 2022

CLIENT:

OTTAWA ONTARIO

PROJECT:

4 STOREY LOW-RISE APARTMENT BUILDING  
3055 RICHMOND ROAD  
OTTAWA, ON K2B 6S6



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PROJECT NO: 2022-120  
DATE: 2022-06-10

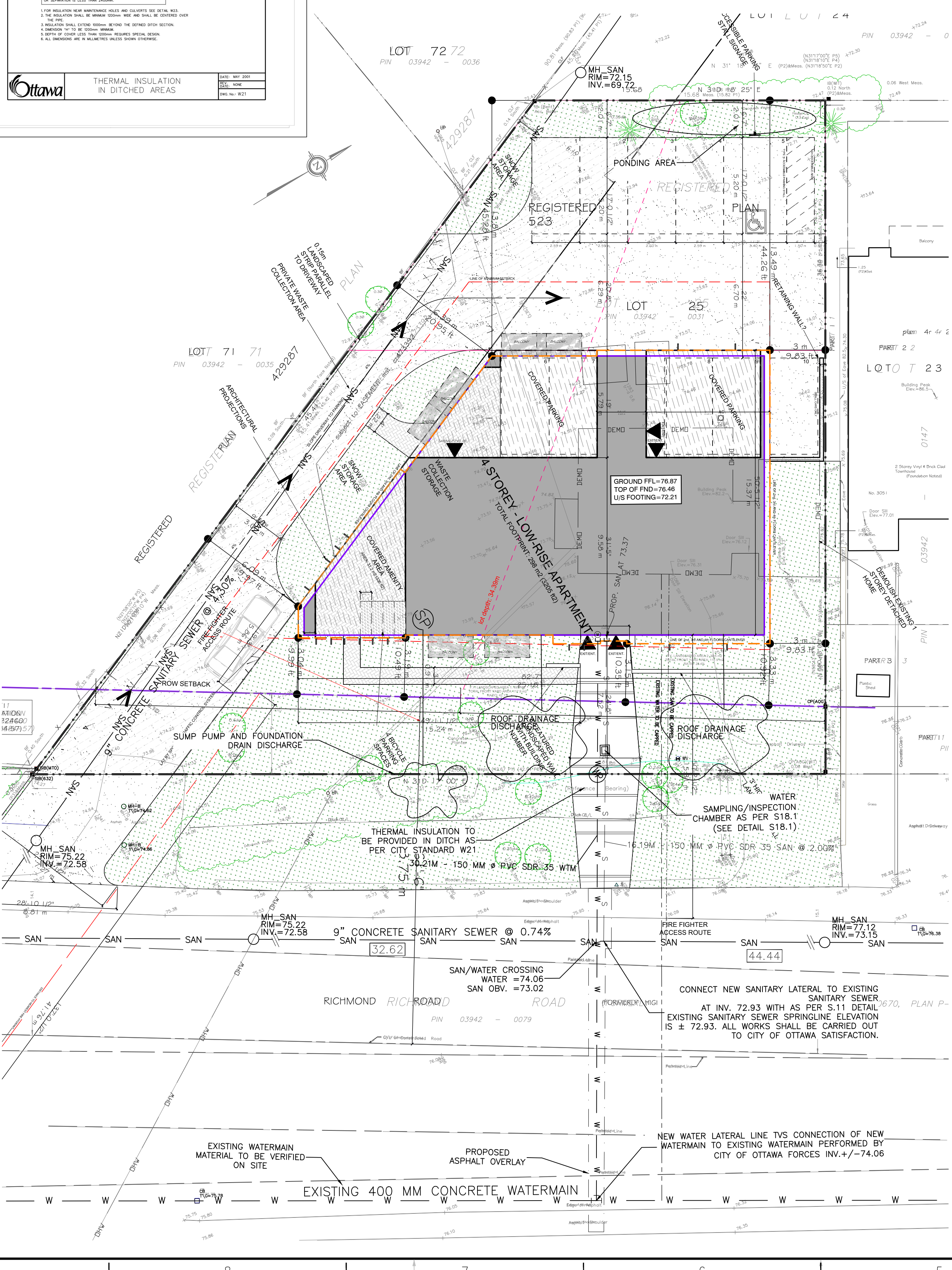
ORIGINAL SCALE: 1:100  
DESIGNED BY: R.E.  
DRAWN BY: R.E.  
CHECKED BY: W.E.

IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.

**SERVICING PLAN**

SHEET NUMBER: S1

ISSUE: ISSUED FOR REVIEW  
DATE: 06/10/2022



21. a) PAVEMENT STRUCTURE SHALL CONSIST OF FOR CAR ONLY PARKING AREAS:  
40 mm ASPHALTIC CONCRETE (PG 58-34), 92% TO 97% MRD  
150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMD  
300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMD  
SUBGRADE - APPROVED FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL.

b) PAVEMENT STRUCTURE SHALL CONSIST OF FOR ACCESS LANES AND HEAVY TRUCK PARKING/LOADING AREAS:  
40 mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE  
50 mm HL-8 OR SUPERPAVE 19 ASPHALTIC CONCRETE  
150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMD  
300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMD  
SUBGRADE - APPROVED FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL.

22. CONTRACTOR TO REINSTATE PAVEMENT STONES IN CITY ROW.

**NOTES WATERMAIN**

24. ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.

25. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 18 MEETING ANWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 50MM IS COPPER TYPE 'K'.

26. ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE, WHERE WATERMANS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE FROM UTILITIES OVERT SHALL BE MAINTAINED. WHERE WATERMANS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W22.

27. WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.

28. VALVE BOX TO BE AS PER CITY OF OTTAWA STANDARD W24.

29. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 & W25.4.

30. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 & W42.

31. FIRE HYDRANTS TO BE AS PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED)

32. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

\*TYPICAL WATER SERVICE LINE AS PER W26/(FOR 19MM & 25MM DIA. WATER SERVICES), AND TO BE INSTALLED AT 1 M FROM THE FOUNDATION WALLS.

**NOTES: SANITARY SEWER AND MANHOLES**

34. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

36. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.

37. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.

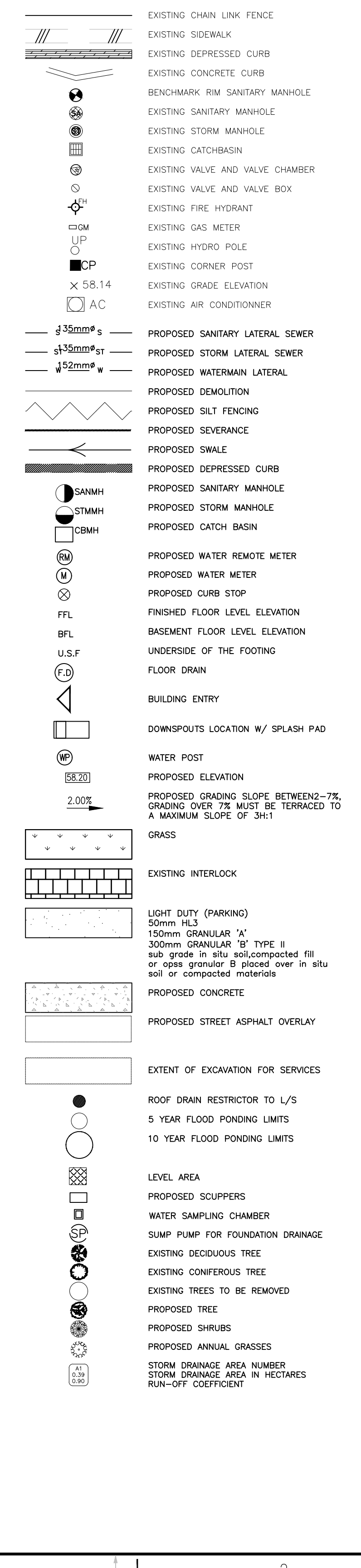
38. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSS 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARDS S25 AND S24. (NOT APPLICABLE)

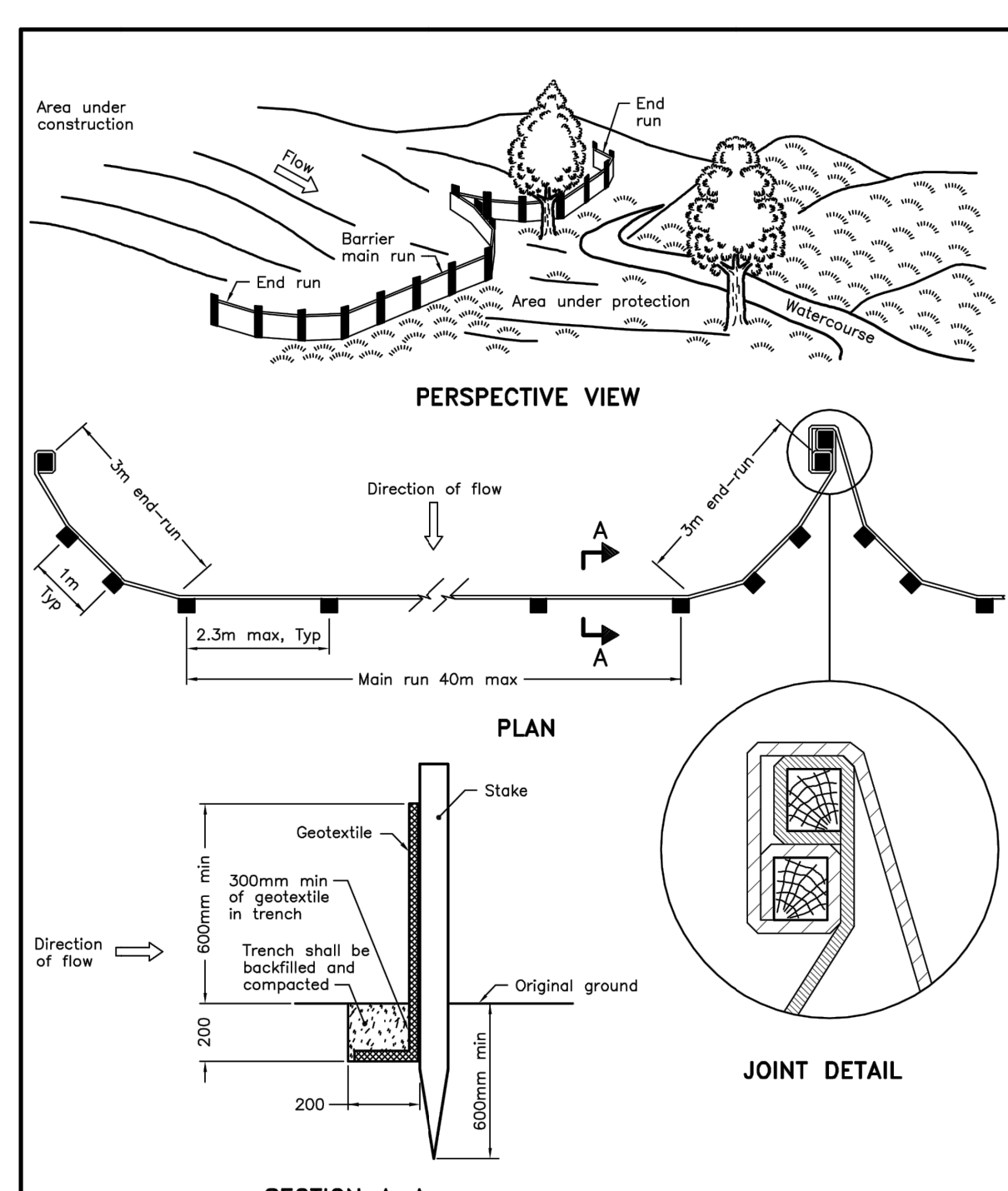
39. SANITARY BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2.

40. STORM BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.

**NOTES: STORM SEWERS AND STRUCTURES**

41. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.





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

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

**NOTE:**  
PROVIDE FROST PROTECTION FOR FOOTING ABOVE 1.5m BELOW THE SURROUNDING GRADE.

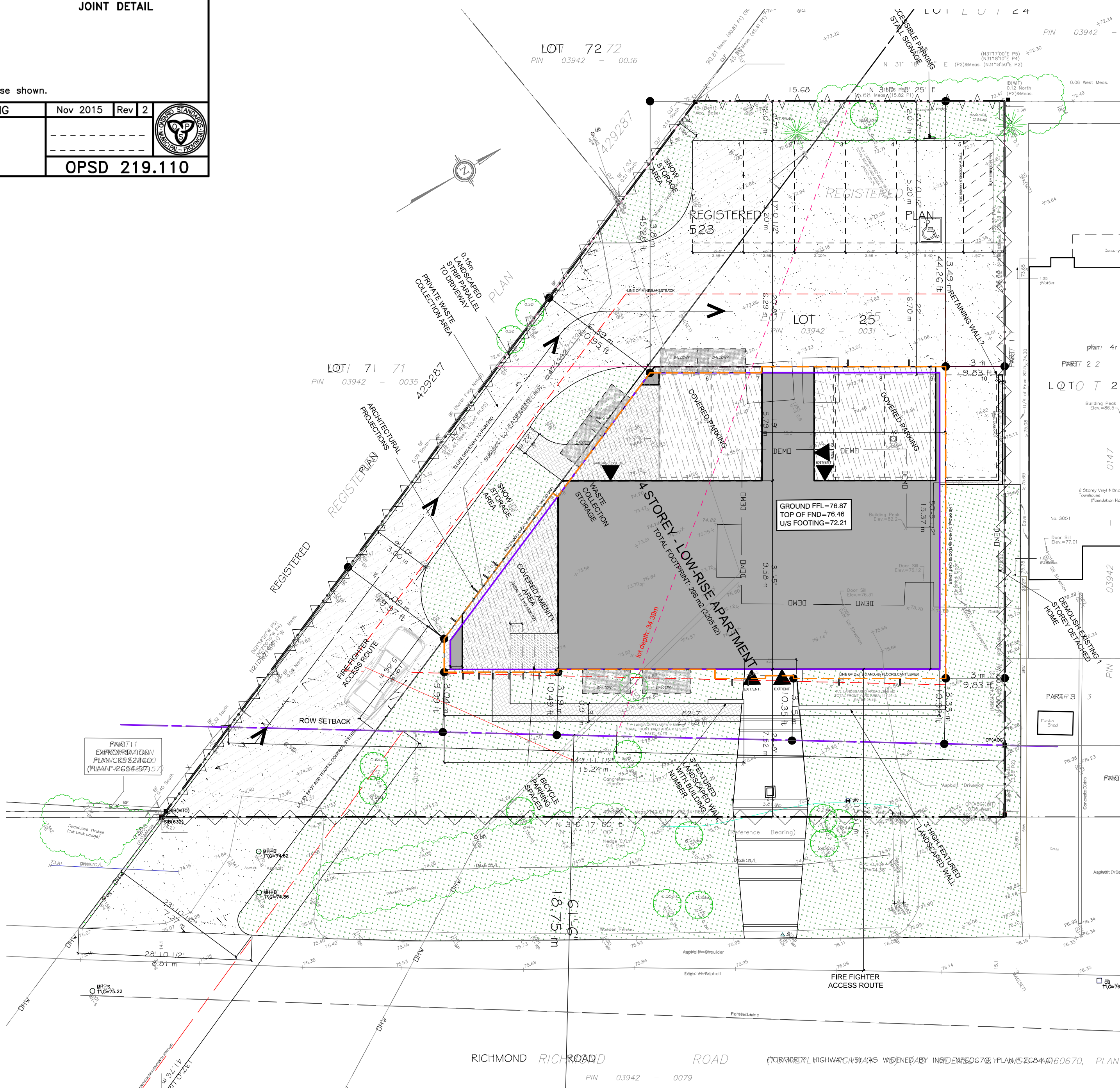
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  - THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMANS SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
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  - ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
  - REFER TO ARCHITECT'S PLANS FOR BUILDING DIMENSIONS LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
  - TOPOGRAPHIC SURVEY COMPLETED ON 17TH DAY OF NOVEMBER 2021 AND PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
  - THE LOCATION OF UNDERGROUND SERVICES ARE BASED ON THE SURVEY PROVIDED WITH THE INFORMATION FROM THE CITY OF OTTAWA DRAWINGS "P&P - RICHMOND ROAD SANITARY SEWER", DATED NOVEMBER 7TH, 1962. HOWEVER, CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
  - ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
  - JOB BENCH MARK AS INDICATED ON THE DRAWINGS.
  - ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
  - ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm MINIMUM.
  - ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
  - ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
  - ABUTTING PROPERTY GRADES TO BE MATCHED.
  - CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
  - MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
  - REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
  - AT PROPOSED UTILITIES CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
  - SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
  - PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.
  - FOR ANY SOILS RELATED INFORMATION, REFER TO THE GEOTECHNICAL INVESTIGATION REPORT BY EXP SERVICES.
  - PAVEMENT STRUCTURE SHALL CONSIST OF FOR CAR ONLY PARKING AREAS:  
40 mm ASPHALTIC CONCRETE (PG 58-34), 92% TO 97% MRD  
150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMD  
300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMD  
SUBGRADE- APPROVED FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL.
  - PAVEMENT STRUCTURE SHALL CONSIST OF FOR ACCESS LANES AND HEAVY TRUCK PARKING/LOADING AREAS:  
40 mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE  
50 mm HL-8 OR SUPERPAVE 19 ASPHALTIC CONCRETE  
150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMD  
300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMD  
SUBGRADE- APPROVED FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL.
  - CONTRACTOR TO REINSTATE PAVER STONES IN CITY ROW.
  - NOTES WATERMAIN**
  - ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.
  - ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 1B MEETING AWWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 50MM IS COPPER TYPE "K".
  - ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMANS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE FROM UTILITIES OVERT SHALL BE MAINTAINED. WHERE WATERMANS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W22.
  - WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.
  - VALVE BOX TO BE AS PER CITY OF OTTAWA STANDARD W24.
  - CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 & W25.4.
  - CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 & W42.
  - FIRE HYDRANTS TO BE AS PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED)
  - IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
  - TYPICAL WATER SERVICE LINE AS PER W26(FOR 19MM & 25MM DIA. WATER SERVICES), AND TO BE INSTALLED AT 1 M FROM THE FOUNDATION WALLS.
  - NOTES: SANITARY SEWER AND MANHOLES**
  - ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
  - SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
  - ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.
  - ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSS 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARD S25 AND S24. (NOT APPLICABLE)
  - SANITARY BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2
  - STORM BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.
  - NOTES: STORM SEWERS AND STRUCTURES**
  - ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

**LEGEND**

- 260mm SW - EXISTING MAIN SANITARY SEWER
- 300mm SW - EXISTING MAIN STORM SEWER
- 300mm WM - EXISTING MAIN WATERMAIN
- 6" - EXISTING MAIN GAS LINE
- - - - - EXISTING CENTRE OF ROAD
- - - - - EXISTING SANITARY LATERAL
- - - - - EXISTING WATER LATERAL
- - - - - EXISTING STORM LATERAL
- - EXISTING BURIED TELEPHONE
- - - - - EXISTING OVERHEAD TELEPHONE
- - - - - EXISTING OVERHEAD HYDRO
- - - - - EXISTING UNDERGROUND HYDRO
- - - - - BUILDING FOUNDATION
- - - - - BUILDING FOOTING
- - - - - PROPERTY LINE
- - - - - SETBACK LINE
- - - - - RIGHT OF WAY
- - - - - EXISTING WOOD FENCE
- - - - - EXISTING CHAIN LINK FENCE
- - - - - EXISTING SIDEWALK
- - - - - EXISTING DEPRESSED CURB
- - - - - EXISTING CONCRETE CURB
- - BENCHMARK RIM SANITARY MANHOLE
- - EXISTING SANITARY MANHOLE
- - EXISTING STORM MANHOLE
- - EXISTING CATCHBASIN
- - EXISTING VALVE AND VALVE CHAMBER
- - EXISTING VALVE AND VALVE BOX
- - EXISTING FIRE HYDRANT
- - EXISTING GAS METER
- - EXISTING HYDRO POLE
- - EXISTING CORNER POST
- - EXISTING GRADE ELEVATION
- - EXISTING AIR CONDITIONNER
- 435mm S - PROPOSED SANITARY LATERAL SEWER
- 435mm ST - PROPOSED STORM LATERAL SEWER
- 435mm W - PROPOSED WATERMAIN LATERAL
- - - - - PROPOSED DEMOLITION
- - - - - PROPOSED SILT FENCING
- - - - - PROPOSED SEVERANCE
- - - - - PROPOSED SWALE
- - - - - PROPOSED DEPRESSED CURB
- - PROPOSED SANITARY MANHOLE
- - PROPOSED STORM MANHOLE
- - PROPOSED CATCH BASIN
- - PROPOSED WATER REMOTE METER
- - PROPOSED WATER METER
- - PROPOSED CURB STOP
- - FINISHED FLOOR LEVEL ELEVATION
- - BASEMENT FLOOR LEVEL ELEVATION
- - UNDERSIDE OF THE FOOTING
- - FLOOR DRAIN
- - BUILDING ENTRY
- - DOWNSPOUTS LOCATION W/ SPLASH PAD
- - WATER POST
- - PROPOSED ELEVATION
- - PROPOSED GRADING SLOPE BETWEEN -7% GRADING OVER 7% MUST BE TERRACED TO A MAXIMUM SLOPE OF 3H:1
- - GRASS
- - EXISTING INTERLOCK
- - LIGHT DUTY (PARKING)  
50mm HL3  
150mm GRANULAR A  
300mm GRANULAR B TYPE II  
sub grade in situ soil/compacted fill or opss granular B placed over in situ soil or compacted materials
- - PROPOSED CONCRETE
- - PROPOSED STREET ASPHALT OVERLAY
- - EXTENT OF EXCAVATION FOR SERVICES
- - ROOF DRAIN RESTRICTOR TO L/S
- - 5 YEAR FLOOD PONDING LIMITS
- - 10 YEAR FLOOD PONDING LIMITS
- - LEVEL AREA
- - PROPOSED SUPPERS
- - WATER SAMPLING CHAMBER
- - SUMP PUMP FOR FOUNDATION DRAINAGE
- - EXISTING DECIDUOUS TREE
- - EXISTING CONIFEROUS TREE
- - EXISTING TREES TO BE REMOVED
- - PROPOSED TREE
- - PROPOSED SHRUBS
- - PROPOSED ANNUAL GRASSES
- - STORM DRAINAGE AREA NUMBER
- - STORM DRAINAGE AREA IN HECTARES
- - RUN-OFF COEFFICIENT



**W. Elias & Associates CONSULTING ENGINEERS**  
204 BOREALIS CR. OTTAWA, ON K1K 4V1  
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CIVIL STRUCTURE ELECTRICAL MECHANICAL

CONSULTANT:

CLIENT:

OTTAWA ONTARIO

PROJECT:  
4 STOREY LOW-RISE APARTMENT BUILDING  
3055 RICHMOND ROAD  
OTTAWA, ON K2B 6S6

KEY PLAN:

ISSUER:  
THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WELIAS ENGINEERING. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK. THIS DRAWING IS NOT TO BE SCALED.

ISSUED FOR - REVISION:

NO	DATE	DESCRIPTION
1	06/10/2022	ISSUED FOR REVIEW
2	09/28/2022	REVISED AS PER LATEST SITEPLAN
3	10/06/2022	REVISED FOR DISCUSSION
4	12/30/2022	REVISED AS PER CITY COMMENTS

PROJECT NO: 2022-120 DATE: 2022-06-10  
ORIGINAL SCALE: 1:100  
DESIGNED BY: R.E.  
DRAWN BY: R.E.  
CHECKED BY: W.E.  
DISCIPLINE:  
TITLE:  
E1  
SHEET NUMBER:  
ISSUE:  
ISSUED FOR REVIEW  
DATE OF: 2022-06-10

**NOTE:**

PROVIDE FROST PROTECTION FOR FOOTING ABOVE 1.5m BELOW THE SURROUNDING GRADE.

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES.

THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

**GENERAL NOTES FOR SERVICING**

1. ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS OF THE CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD (OPSS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED, TO THE SATISFACTION OF THE CITY AND THE CONSULTANT.
2. THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMANS SEWERS AND OTHER UNDERGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL, CABLE TV, AND CONSUMERS GAS LINES.
4. ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
5. REFER TO ARCHITECT'S PLANS FOR BUILDING DIMENSIONS LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. TOPOGRAPHIC SURVEY COMPLETED ON 17TH DAY OF NOVEMBER 2021 AND PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
7. THE LOCATION OF UNDERGROUND SERVICES ARE BASED ON THE SURVEY PROVIDED WITH THE INFORMATION FROM THE CITY OF OTTAWA DRAWINGS "P&P - RICHMOND ROAD SANITARY SEWER", DATED NOVEMBER 7TH, 1962. HOWEVER, CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
8. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
9. JOB BENCH MARK AS INDICATED ON THE DRAWINGS.
10. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
11. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
12. ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
13. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
14. ABUTTING PROPERTY GRADES TO BE MATCHED.
15. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
16. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
17. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
18. AT PROPOSED UTILITIES CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
19. SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
20. PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.

21. a) PAVEMENT STRUCTURE SHALL CONSIST OF FOR CAR ONLY PARKING AREAS:  
 40 mm ASPHALTIC CONCRETE (PG 58-34), 92% TO 97% MRD  
 150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMD  
 300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMD  
 SUBGRADE- APPROVED FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL.  
 b) PAVEMENT STRUCTURE SHALL CONSIST OF FOR ACCESS LANES AND HEAVY TRUCK PARKING/LOADING AREAS:  
 40 mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE  
 50 mm HL-8 OR SUPERPAVE 19 ASPHALTIC CONCRETE  
 150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMD  
 300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMD  
 SUBGRADE- APPROVED FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL.
22. CONTRACTOR TO REINSTATE PAVER STONES IN CITY ROW.

- NOTES WATERMAIN**
24. ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.
  25. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 1B MEETING AWWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 50MM IS COPPER TYPE 'K'.
  26. ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMANS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE FROM UTILITIES OVERT SHALL BE MAINTAINED. WHERE WATERMANS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W22.
  27. WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.
  28. VALVE BOX TO BE AS PER CITY OF OTTAWA STANDARD W24.
  29. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 & W25.4.
  30. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 & W42.
  31. FIRE HYDRANTS TO BE AS PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED)
  32. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

- NOTES: SANITARY SEWER AND MANHOLES**
34. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
  36. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
  37. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.
  38. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSS 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARD S25 AND S24. (NOT APPLICABLE)
  39. SANITARY BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2.
  40. STORM BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.

- NOTES: STORM SEWERS AND STRUCTURES**
41. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

**LEGEND**

	EXISTING MAIN SANITARY SEWER
	EXISTING MAIN STORM SEWER
	EXISTING MAIN WATERMAIN
	EXISTING MAIN GAS LINE
	EXISTING CENTRE OF ROAD
	EXISTING SANITARY LATERAL
	EXISTING WATER LATERAL
	EXISTING STORM LATERAL
	EXISTING BURIED TELEPHONE
	EXISTING OVERHEAD TELEPHONE
	EXISTING OVERHEAD HYDRO
	EXISTING UNDERGROUND HYDRO
	BUILDING FOUNDATION
	BUILDING FOOTING
	PROPERTY LINE
	SETBACK LINE
	RIGHT OF WAY
	EXISTING WOOD FENCE
	EXISTING CHAIN LINK FENCE
	EXISTING SIDEWALK
	EXISTING DEPRESSED CURB
	EXISTING CONCRETE CURB
	BENCHMARK RIM SANITARY MANHOLE
	EXISTING SANITARY MANHOLE
	EXISTING STORM MANHOLE
	EXISTING CATCHBASIN
	EXISTING VALVE AND VALVE CHAMBER
	EXISTING VALVE AND VALVE BOX
	EXISTING FIRE HYDRANT
	EXISTING GAS METER
	EXISTING HYDRO POLE
	EXISTING CORNER POST
	EXISTING GRADE ELEVATION
	EXISTING AIR CONDITIONNER
	PROPOSED SANITARY LATERAL SEWER
	PROPOSED STORM LATERAL SEWER
	PROPOSED WATERMAIN LATERAL
	PROPOSED DEMOLITION
	PROPOSED SILT FENCING
	PROPOSED SEVERANCE
	PROPOSED SWALE
	PROPOSED DEPRESSED CURB
	PROPOSED SANITARY MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED WATER REMOTE METER
	PROPOSED WATER METER
	PROPOSED CURB STOP
	FINISHED FLOOR LEVEL ELEVATION
	BASEMENT FLOOR LEVEL ELEVATION
	UNDERSIDE OF THE FOOTING
	FLOOR DRAIN
	BUILDING ENTRY
	DOWNSPOUTS LOCATION W/ SPLASH PAD
	WATER POST
	PROPOSED ELEVATION
	PROPOSED GRADING SLOPE BETWEEN-7% GRADING OVER 7% MUST BE TERRACED TO A MAXIMUM SLOPE OF 3H:1
	GRASS
	EXISTING INTERLOCK
	LIGHT DUTY (PARKING) 50mm HL3 150mm GRANULAR 'A' 300mm GRANULAR 'B' TYPE II sub grade in situ soil/compacted fill or opss granular B placed over in situ soil or compacted materials
	PROPOSED CONCRETE
	PROPOSED STREET ASPHALT OVERLAY
	EXTENT OF EXCAVATION FOR SERVICES
	ROOF DRAIN RESTRICTOR TO L/S
	5 YEAR FLOOD PONDING LIMITS
	10 YEAR FLOOD PONDING LIMITS
	LEVEL AREA
	PROPOSED SUPPERS
	WATER SAMPLING CHAMBER
	SUMP PUMP FOR FOUNDATION DRAINAGE
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING TREES TO BE REMOVED
	PROPOSED TREE
	PROPOSED SHRUBS
	PROPOSED ANNUAL GRASSES
	STORM DRAINAGE AREA NUMBER
	STORM DRAINAGE AREA IN HECTARES
	RUN-OFF COEFFICIENT

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CIVIL  
STRUCTURE  
ELECTRICAL  
MECHANICAL

CONSULTANT:  
W. Elias & Associates  
1305E 50<sup>th</sup> ST  
PROVINCE OF ONTARIO  
DECEMBER 30 2022

CLIENT:  
OTTAWA ONTARIO

PROJECT:  
4 STOREY LOW-RISE APARTMENT BUILDING  
3055 RICHMOND ROAD  
OTTAWA, ON K2B 6S6

KEY PLAN:

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ISSUED FOR - REVISION:	DATE	DESCRIPTION
4	12/30/2022	REVISED AS PER CITY COMMENTS
3	10/06/2022	REVISED FOR DISCUSSION
2	09/28/2022	REVISED AS PER LATEST SITEPLAN
1	06/10/2022	ISSUED FOR REVIEW

PROJECT NO: 2022-120      DATE: 2022-06-10  
 ORIGINAL SCALE: 1:100  
 DESIGNED BY: R.E.  
 DRAWN BY: R.E.  
 CHECKED BY: W.E.  
 DISCIPLINE:  
 TITLE: **DRAINAGE PLAN**

SHEET NUMBER: **D1**

ISSUE: ISSUED FOR REVIEW  
 DATE OF: 2022-06-10

