

FUNCTIONAL SERVICING STUDY REPORT

For
3055 Richmond Road, Ottawa

Prepared by:

W.Elias & Associates
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Revision 0
July 2022

1. Project Description:

1.1. Introduction:

Property at 3055 Richmond Road is located close to intersection of Dumaurier 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-2018-04
City of Ottawa, June 27, 2018.
(ISTB-2018-04)

- 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)

- 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)

- Ontario Building Code Compendium
Ministry of Municipal Affairs and Housing Building Development Branch,
January 1, 2012 Update. (OBC)

- Geotechnical Investigation Report

2. Water Supply

Residential Water Demand:

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

Design Parameter	Value
Residential 1 Bedroom Apartment	1.4 P/unit
Residential 2 Bedroom Apartment	2.1 P/unit
Residential Average Daily Demand	280 L/d/P
Residential Maximum Daily Demand	3.6 x Average Daily *
Residential Maximum Hourly	5.4 x Average Daily *
Commercial Retail	2.5 L/m ² /d
Commercial Maximum Daily Demand	1.5 x avg. day
Commercial Maximum Hour Demand	1.8 x max. day
Minimum Watermain Size	150mm diameter
Minimum Depth of Cover	2.4m from top of watermain to finished grade
During normal operating conditions desired operating pressure is within	350kPa and 480kPa
During normal operating conditions pressure must not drop below	275kPa
During normal operating conditions pressure must not exceed	552kPa
During fire flow operating pressure must not drop below	140kPa

■ Residential occupancy = 1.4 persons per one bedroom apartment and 2.1 persons per 2 bedroom apartment and 3.1 persons per 3 bedroom apartment

□ 16 x 1&2 bedroom units x 1.8 (average) pers./unit = 28.8 persons

Total occupancy taken as = 30 persons

Residential Average Daily Demand = 280 L/c/d.

□ Average daily demand of 280 L/c/day x 30 persons = 8400 Liters/day or 0.10 L/s

□ Maximum daily demand (factor of 2.5) is 0.10 L/s x 2.5 = 0.25 L/s

□ Peak hourly demand (factor of 2.2) = 0.25 L/s x 2.2 = 0.55 L/s

**Fire Fighting Requirement
Based on Fire Underwriter Survey Method**

Fire flow protection requirements were calculated as per the Fire Underwriter's Survey (FUS).

Fire Flow Calculations as per Fire Underwriter's Survey Guidelines

F=220C\A		Address:	
where		File No.:	
F=	Required fire flow in L/min		
C=	Coefficient related to the type of construction		
A=	Total floor area in m ²		
C	Coefficient Related to Type of Construction		C-Value
	• Wood Frame Construction	<input type="checkbox"/>	1.5
	• Ordinary Construction	<input checked="" type="checkbox"/>	1.0
	• Non-Combustible Construction	<input type="checkbox"/>	0.8
	• Fire-Resistive Construction	<input type="checkbox"/>	0.6
			C = 1.0
A	Total Floor Area (m²)		
	12000 ft ²	▶◀	1114.84 m ²
F	Required Fire Flow (L/min)		
	= 220 · C · \A		
	= 7346 L/min		
Occupancy Reductions or Surcharges			
	• Non-Combustible	<input type="checkbox"/>	-25%
	• Limited Combustible	<input checked="" type="checkbox"/>	-15%
	• Combustible	<input type="checkbox"/>	0%
	• Free Burning	<input type="checkbox"/>	15%
	• Rapid Burning	<input type="checkbox"/>	25%
			-15%
			6244 L/min
Sprinkler Reduction			
	• Adequately Designed System	<input type="checkbox"/>	-30%
	• Water Supply is Standard	<input type="checkbox"/>	-10%
	• Fully Supervised System	<input type="checkbox"/>	-10%
			0%
Reduction:		6244 L/min	
Fire Flow		0 L/min	
		6244 L/min	
Exposure Surcharge			
Distance	Charge	# of Sides	
• 0 to 3m	25%	1	25%
• 3.1 to 10m	20%		
• 10.1 to 20m	15%		
• 20.1 to 30m	10%	1	10%
• 30.1 to 45m	5%	2	10%
			45%
Surcharge:		6244 L/min	
Fire Flow:		2810 L/min	
		9053 L/min	
REQUIRED FIRE FLOW			
Cannot exceed 45,000 L/min nor be less than 2,000 L/min			
			9053 L/min
			151 L/s
			1991 IGPM

The city of Ottawa was contacted to obtain boundary conditions associated with the estimated water demand. The followings are boundary conditions, HGL, for hydraulic analysis at 3055 Richmond Road assumed to be connected to the 406mm watermain on Richmond Road. Note that 3055 Richmond Road is located in zone 1W water pressure.

Minimum HGL = 107.2m
Maximum HGL = 115.7m.
Max Day + Fire Flow (150 L/s): 107.1 m,

Average ground elevation of 74.06 m

Analyzing results:

Demand Senario	Head (m)	Pressure (KPa)
Max. HGL	115.70	408
Min HGL	107.20	325

❖ Ground Elevation = 74.06 m

Floor Elevation	Min Head (m) = 107.2	Pressure (KPa) at Each Floor
Ground Floor EL. = 75.56m	31.64	310

Based on City of Ottawa Design Guidelines – Water Distribution existing water service size of 25mm is adequate where the residential water pressure is over 310 kPa. As such, since the calculated pressure is approximately above the minimum requirement, the service diameter for the proposed development recommended to be 25mm.

Note that pressure test will be required at the time of construction to confirm minimum pressure is supplied for proposed development.

Due to the presence of sprinkler and due to the high water demand of the sprinklers, water lateral size of 150mm is considered for this development.

A fire hydrant is presently located at the front of 3055 Richmond Road, which is only 30 meters away from the proposed building. From this location, it is within a 60 meter distance, therefore, no additional fire protection is required for this proposed development.

3. Sanitary Sewage

The sanitary flow is calculated based on the Ministry of Environment Guidelines as follow:

Design Parameter	Value
Residential 1 Bedroom Apartment	1.4 P/unit
Residential 2 Bedroom Apartment	2.1 P/unit
Average Daily Demand	280 L/d/per
Peaking Factor	Harmon's Peaking Factor. Max 4.0, Min 2.0 Harmon Correction Factor 0.8
Commercial Floor/Amenity Space	2.5 L/m ² /d
Commercial Peaking Factor*	1.0
Infiltration and Inflow Allowance	0.05 L/s/ha (Dry) 0.28 L/s/ha (Wet) 0.33 L/s/ha (Total)
Sanitary sewers are to be sized employing the Manning's Equation	$Q = \frac{1}{n} AR^{2/3} S^{1/2}$
Minimum Sewer Size	200 mm diameter
Minimum Manning's 'n'	0.013
Minimum Depth of Cover	2.5 m from crown of sewer to grade
Minimum Full Flowing Velocity	0.6 m/s
Maximum Full Flowing Velocity	3.0 m/s

3.1. Sanitary Sewage Calculation

Design Flows

Residential

□ 16 x 1&2 bedroom units x 1.8 (average) pers./unit = 28.8 persons

Total occupancy = 28.8 persons rounded up to 30 persons

Q Domestic = 30x 280 L/person/day x (1/86,400 sec/day) = 8400 Liters/day or 0.10 L/s

Peaking Factor = $1 + 14 / (4 + (13 / 1000)^{0.5}) = 4.40$ *use 4 maximum

Q Peak Domestic = 0.10 L/sec x 4.0 = 0.4 L/sec

Infiltration

Q Infiltration = 0.20 L/S/Gross hectare x 0.10 ha = 0.02 L/sec

Total Peak Sanitary Flow = 0.4 + 0.02 = 0.42 L/sec

The Ontario Building Code specifies minimum pipe size and maximum hydraulic loading for sanitary sewer pipe. OBC 7.4.10.8 (2) states "Horizontal sanitary drainage pipe shall be designed to carry no more than 65% of its full capacity." A 150 mm diameter sanitary service with a minimum slope of 2.0% has a capacity of 16 Litres per second.

The maximum peak sanitary flows for the site is 0.42 L/s. Since 0.42 L/s is much less than $0.65 \times 16 = 10.4$ L/s, which means existing 150mm sanitary line has enough capacity.

Sewage discharges will be domestic in type and in compliance with the Ministry of Environment guidelines. The peak sanitary flow from the proposed development is less than 10 percent of the capacity of the existing sanitary. As such the proposed increase in sanitary flow as a result of the construction of the proposed development is negligible and there is sufficient available capacity for the proposed development.

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



Yours truly,
Wissam Elias, P. Eng
Senior Project Manager

APPENDIX A:
GeoOttawa Snapshot



APPENDIX B:
**Correspondent
&
Architectural/Engineering Drawings**

From: Dieme, Abi <Abibatou.Dieme@ottawa.ca>
Sent: December 20, 2022 9:11 AM
To: Smith, Molly <molly.smith@ottawa.ca>
Subject: 3055 Richmond - Boundary Conditions

Hi Molly,

Please transfer the boundary conditions to the applicant for [3055 Richmond](#) Road:

The following are boundary conditions, HGL, for hydraulic analysis at 3055 Richmond Road (zone 1W) with an assumed connection to the 406 mm watermain on Richmond Road (see attached PDF for location).

Minimum HGL: 107.2 m

Maximum HGL: 115.7 m

Max Day + Fire Flow (150 L/s): 107.1 m

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

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

Regards,

Abibatou Dieme, EIT

Project Manager

Planning, Real Estate and Economic Development Department / Direction générale de la planification, des biens immobiliers et du développement économique

Development Review – West Branch / Direction de l'examen des projets d'aménagement -Ouest

City of Ottawa | Ville d'Ottawa

[110 Laurier Avenue West Ottawa, ON](#) | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

613.580.2424 ext./poste 16596

abibatou.dieme@ottawa.ca

Boundary Conditions for 3055 Richmond Road



See below

Fares Elsabbagh

OGC LTD

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

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
 - 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.

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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.

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 / 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
S		1. Site Servicing Plan	2. Site Servicing Study	S	
S		3. Grade Control and Drainage Plan	4. Geotechnical Study	S	
■		5. Composite Utility Plan	6. Groundwater Impact Study	■	
■		7. Servicing Options Report	8. Wellhead Protection Study	■	
S		9. Transportation Impact Assessment (TIA)	10. Erosion and Sediment Control Plan	S	
S		11. Storm water Management Report	12. Hydro geological and Terrain Analysis	■	
S		13. Water Main Protection and Contingency Plan	14. Noise and vibration Study	S	
■	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	S	
■		19. Draft Plan of Condominium	20. Planning Rationale	S	
S		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	■	
S		27. Landscape Plan	28. Archaeological Resource Assessment Requirements: S (site plan) A (subdivision, condo)	■	
S		29. Survey Plan	30. Shadow Analysis	■	
S		31. Architectural Building Elevation Drawings (dimensioned)	32. Design Brief (includes the Design Review Panel Submission Requirements)	S	
S		33. Wind Analysis		■	

S/A	Number of copies	ENVIRONMENTAL		S/A	Number of copies
S		34. Phase 1 Environmental Site Assessment	35. Impact Assessment of Adjacent Waste Disposal/Former Landfill Site	■	
S		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	■	
S		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
S		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



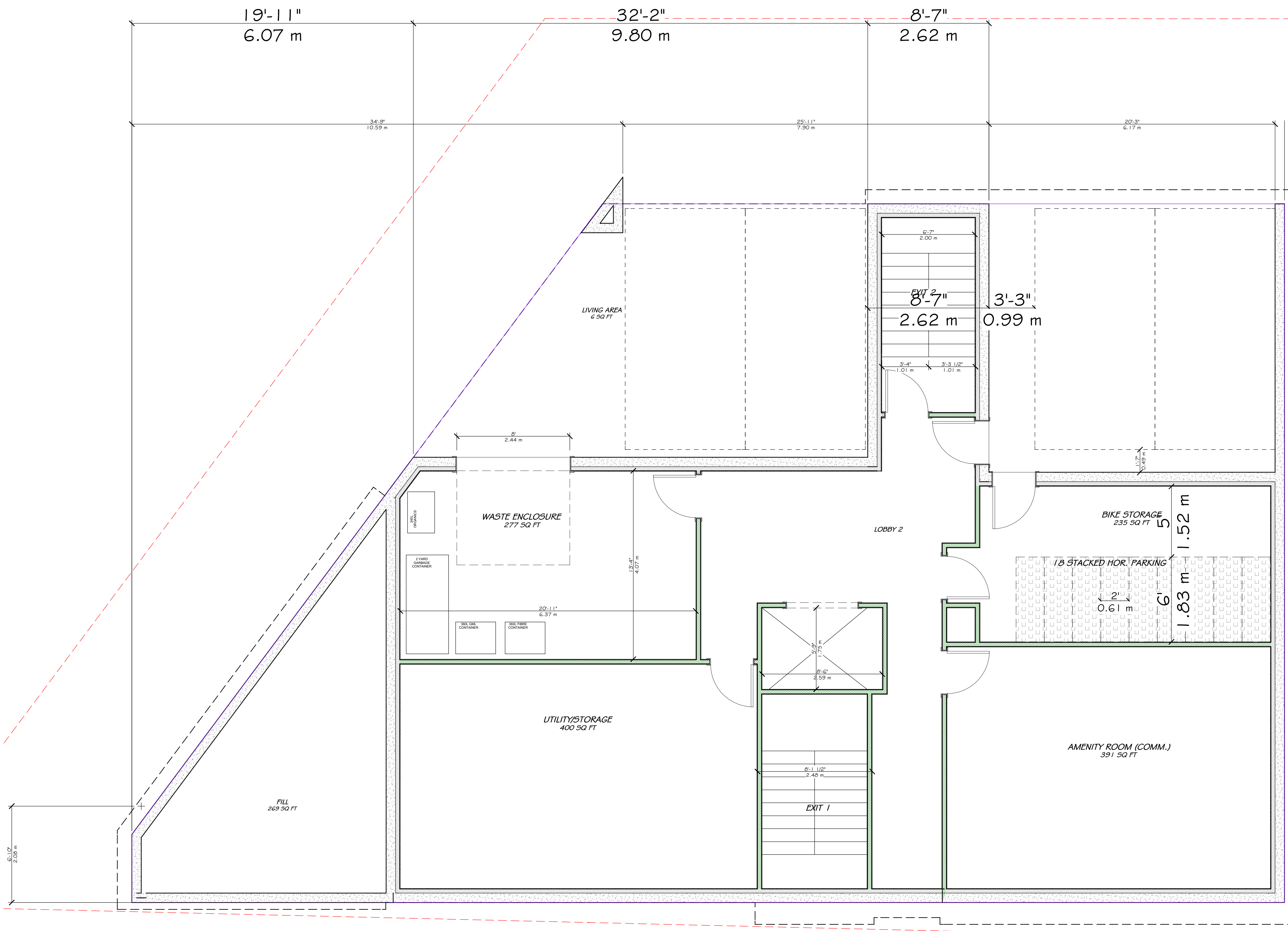
east elevation



north elevation



west elevation



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 1T2

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
 1000 SHEPPARD AVE. E. SUITE 101
 SCARBOROUGH, ON M1S 1T2

LANDSCAPING:
 JOHN R. SCOTT/STANLEY
 P.O. Box 622 / Salem St.
 OTTAWA, ON K1N 7T5

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

CONSULTANTS:
 STRUCTURAL: TBD
 MECHANICAL: TBD
 ELECTRICAL: TBD

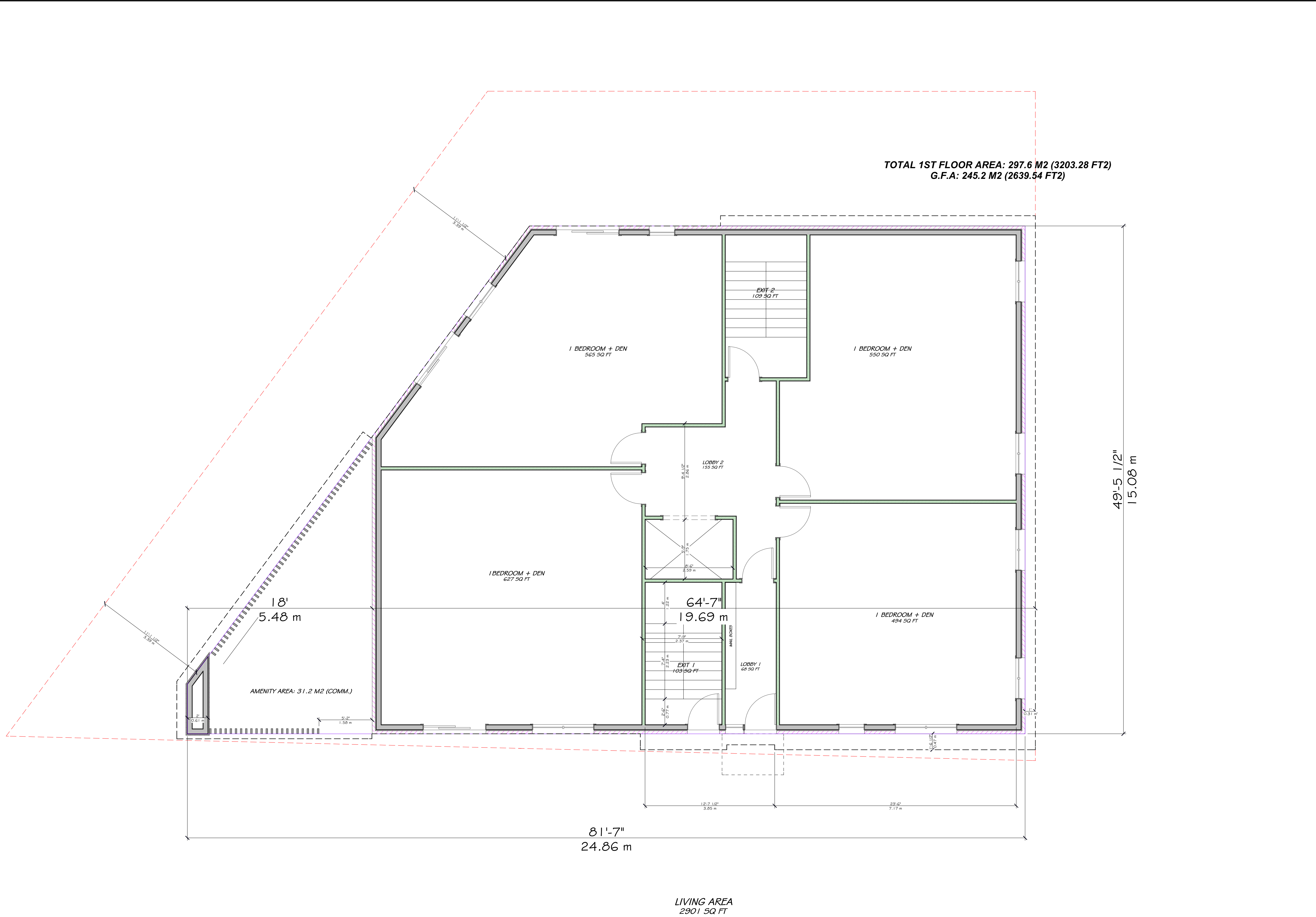
NO.	REVISION/ISSUE	DATE
4	REVISED SITE PLAN	10/14/22
3	REVISED SITE PLAN	08/09/22
2	REVISED SITE PLAN	07/20/22
1	PRELIMINARIES	04/12/22

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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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 M1S 1T2

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

APPLICATOR/OWNER:
 1000 SHEPPARD AVE. E. SUITE 100
 SCARBOROUGH, ON M1S 1T2

CIVIL ENGINEER:
 WILSON ASSOCIATES
 200 UNIVERSITY AVE. SUITE 100
 OTTAWA, ON K1N 6H1

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

SUBMITTER:
 ANNE O'SULLIVAN, VOLLBERG LTD.
 11 CONCORD AVE. SUITE 300
 OTTAWA, ON K2E 7B9

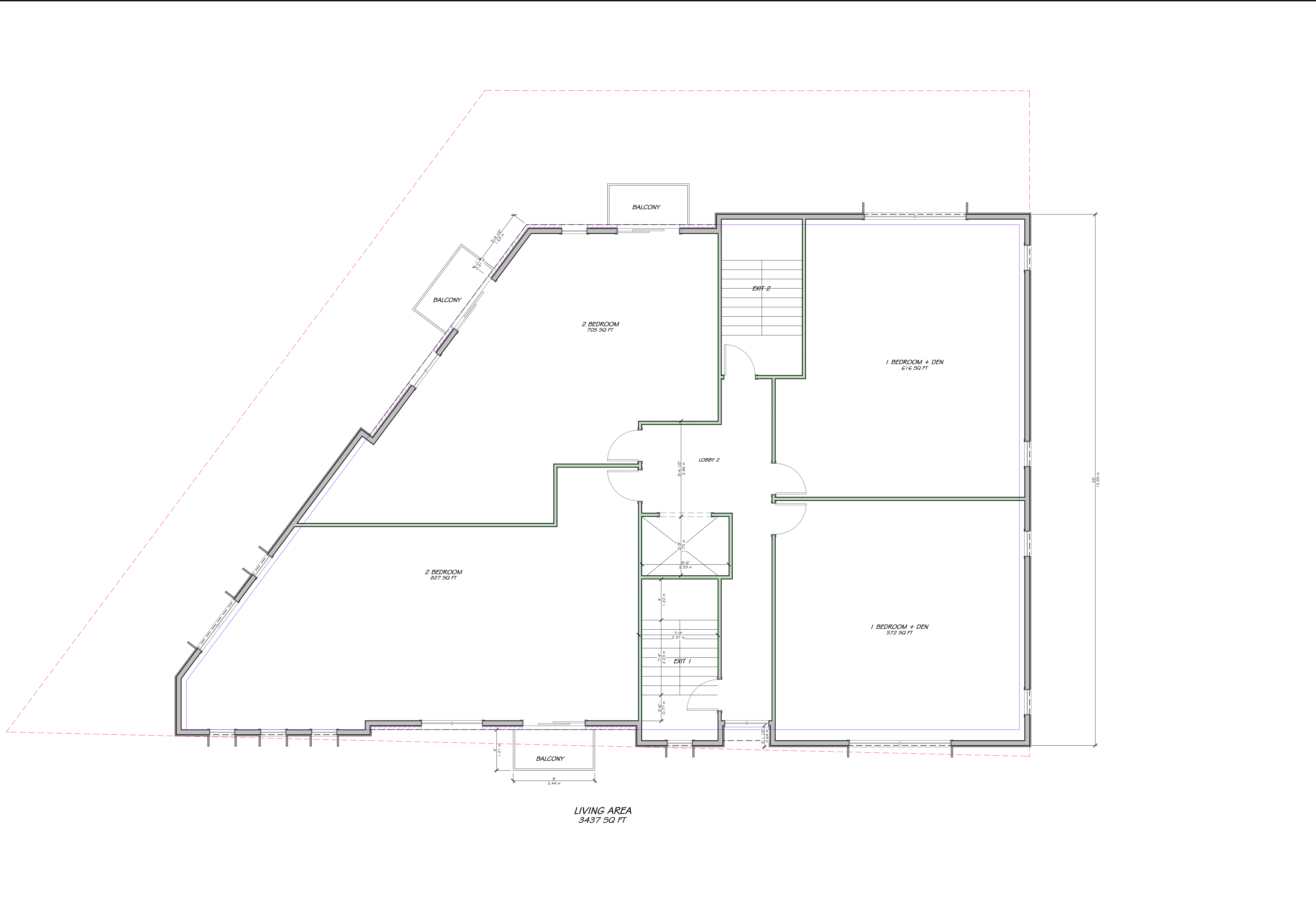
CONSULTANTS:
 STRUCTURAL: TBD
 MECHANICAL: TBD
 ELECTRICAL: TBD

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 K2E 8J6

DRAWING NAME: **FLOOR PLANS**

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



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

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GENERAL NOTES:

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 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 BIRCHLAND 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 STREET
 OTTAWA, ON K1N 6H1

LANDSCAPING:
 JOHN A. 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

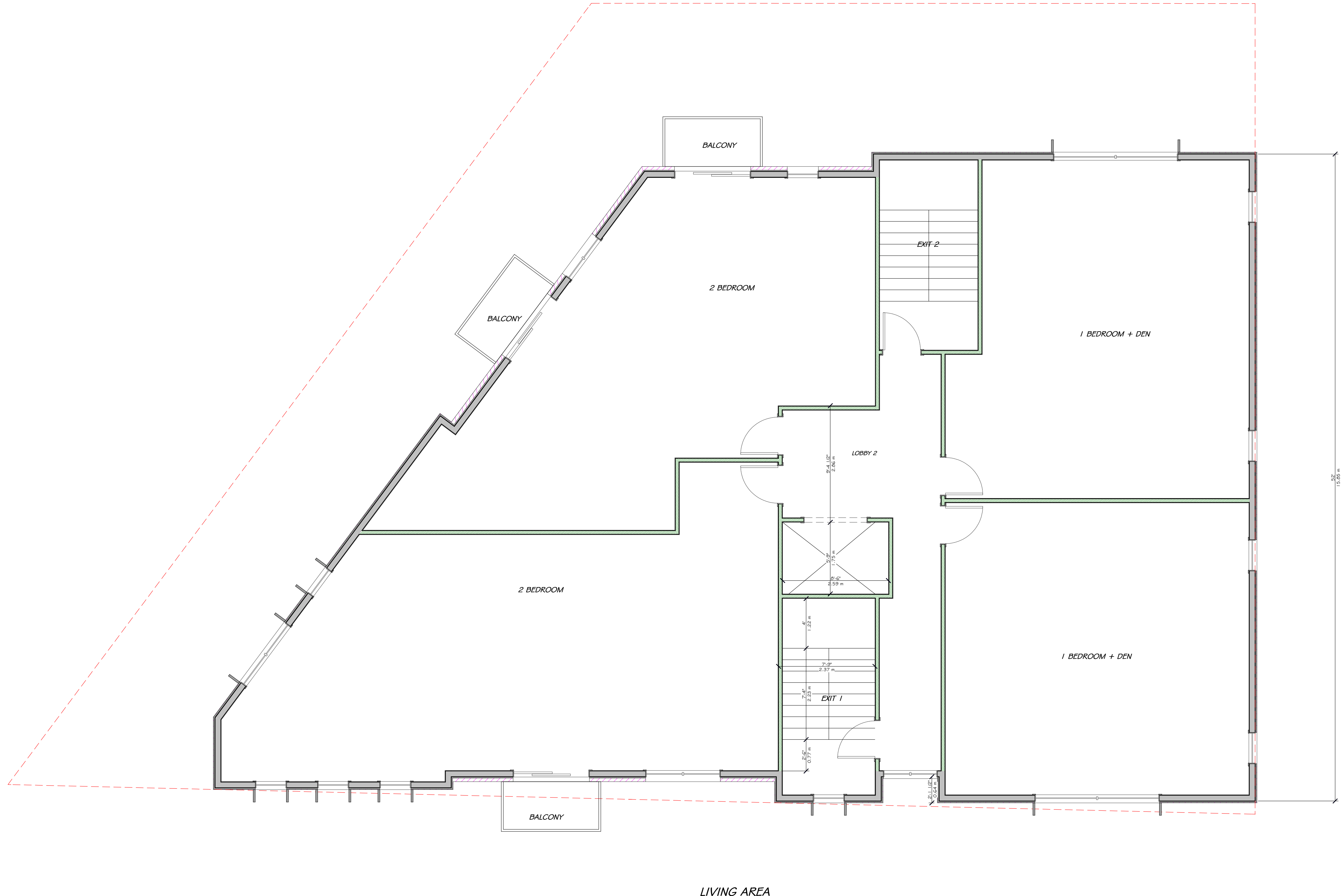
CONSULTANTS:
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 MECHANICAL: TBD
 ELECTRICAL: TBD

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2	REVISED SITE PLAN	07/20/22
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



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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 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. #200
 SCARBOROUGH, ON M1B 3Y9

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

APPLICATION NUMBER:
 1057 CANADA INC.
 111 COLLEGE STREET, SUITE 300
 OTTAWA, ON K2B 5K2
 K2B-5K2

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:
 ANNEC, O'SULLIVAN, VOLLEBAEK LTD.
 111 COLLEGE STREET, SUITE 300
 OTTAWA, ON K2B 5K2
 K2B-5K2

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

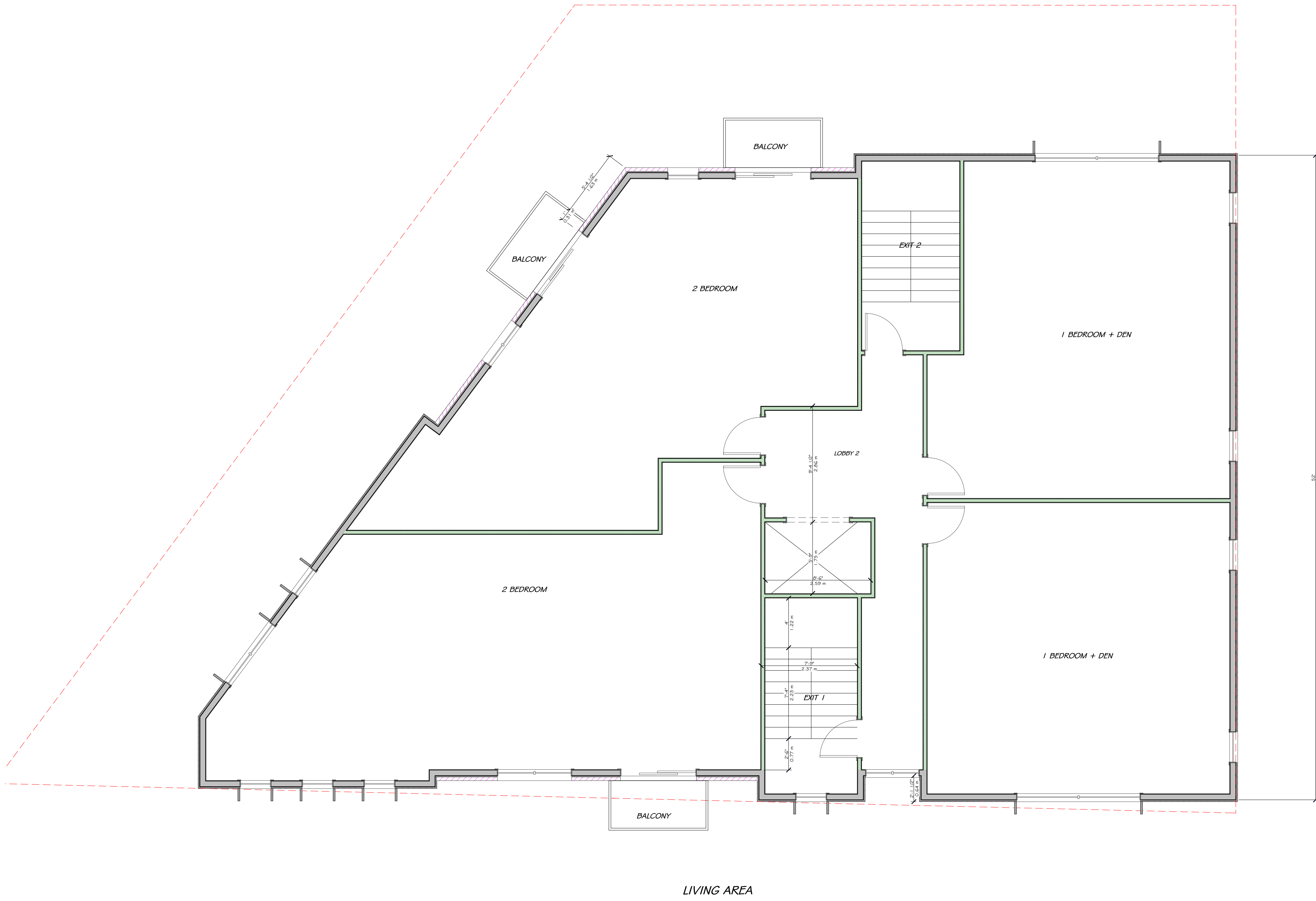
PROJECT: 3055 RICHMOND RD.
 3055 RICHMOND RD.
 OTTAWA, ON K2B 5K2
 613-000-0000

DRAWING NAME:
 ELEVATIONS

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

A5

FILE NUMBER: D00-00-00-000



1 FOURTH FLOOR PLAN
 A6 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 INC.
 1000 SHEPPARD AVE. E. #100
 SCARBOROUGH, ON M1S 1T6

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

APPLICATION NUMBER:
 1057 CAMDRA INC.
 1000 SHEPPARD AVE. E. SUITE 300
 SCARBOROUGH, ON M1S 1T6
 K2B 8P2

CIVIL ENGINEER:
 WILSON ASSOCIATES
 200 SHEPPARD AVE. E.
 OTTAWA, ON K1H 1T1

LANDSCAPING:
 JOHN R. SCOTT/STANLEY
 P.O. Box 622, Salem St.
 OTTAWA, ON K1N 7T5

SUBMITTER:
 ANNEC, O'SULLIVAN, VOLLEBAEK LTD.
 10 CONCORD DRIVE, SUITE 300
 OTTAWA, ON K2B 8S8
 K2E 7J9

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

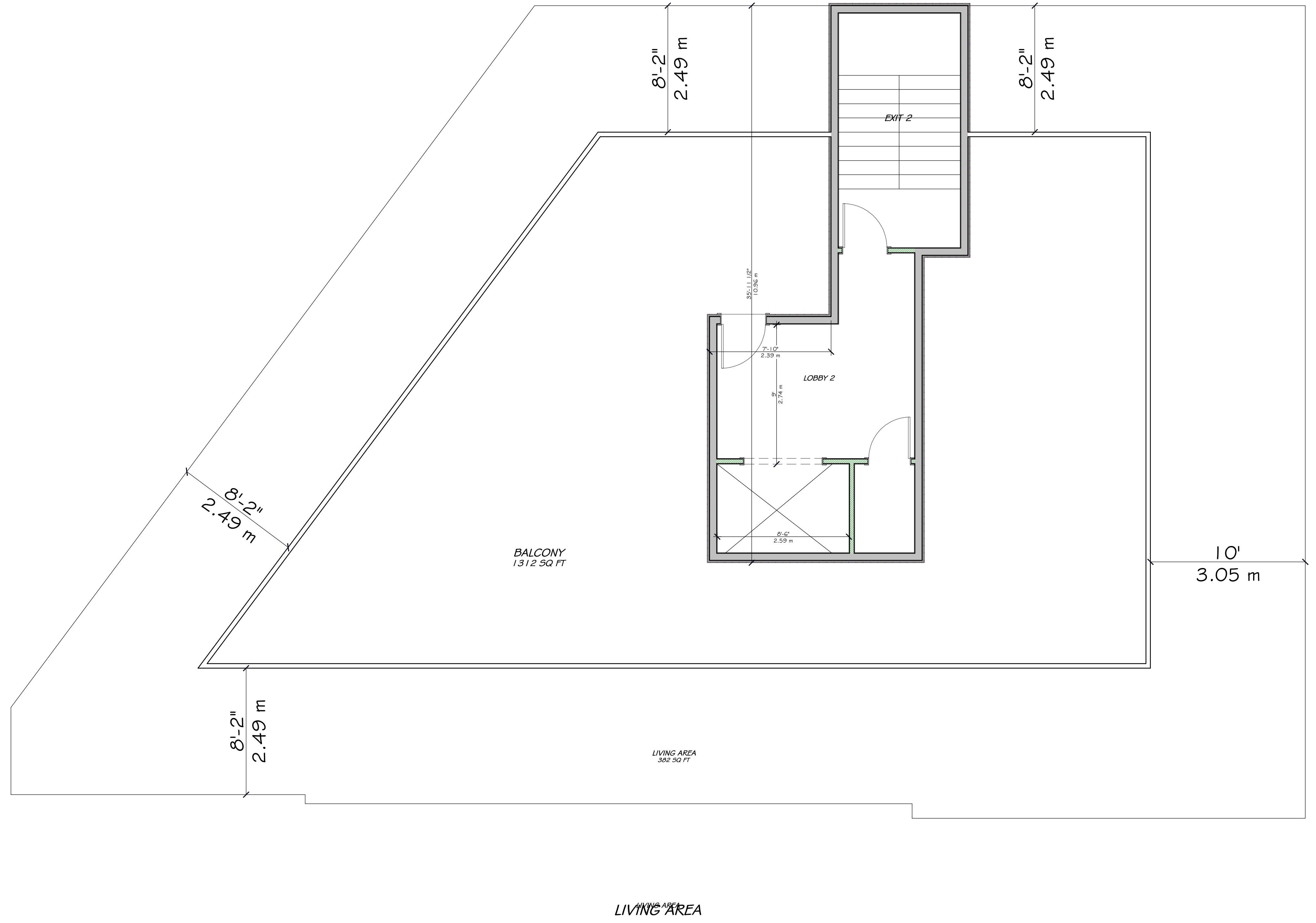
PROJECT: **3055 RICHMOND RD.**
 3055 RICHMOND RD.
 OTTAWA, ON K2B 8S8
 613-000-0000

DRAWING NAME:
DETAILS & SECTIONS

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

A6

FILE NUMBER: D00-00-00-000



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 1S6

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 K1S 1S1

SUBMITTER:
 ANNEC, OSULLIVAN, VOLLEBAEK LTD
 11 CONQUEST SQUARE SUITE 300
 OTTAWA, ON K2E 7J9

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	PRELIMINARY	04/12/22

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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 SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

OWNER/DEVELOPER:
 FARRIS DEVELOPMENT INC.
 OTTAWA, ON
 K2E 5E6

ARCHITECT/DESIGNER:
 UNPOISED ARCHITECTURE INC./AZUL DESIGNS
 OTTAWA, ON
 K1N 7T5

APPLICATION NUMBER:
 1057 CANADA INC.
 111 COLLEGE STREET, SUITE 300
 OTTAWA, ON
 K2E 6K2

CIVIL ENGINEER:
 WELLS ASSOCIATES
 OTTAWA, ON
 K1N 6Y1

LANDSCAPING:
 JOHN S. SCOTT/STANLEY
 P.O. Box 627, St. Catharines
 ONTARIO, ON
 L2R 6K1

SUBMITTER:
 ANNE O'SULLIVAN, VOLLBERG LTD.
 111 COLLEGE STREET, SUITE 300
 OTTAWA, ON
 K2E 6K2

CONSULTANTS:
 STRUCTURAL: TBD
 MECHANICAL: TBD
 ELECTRICAL: TBD

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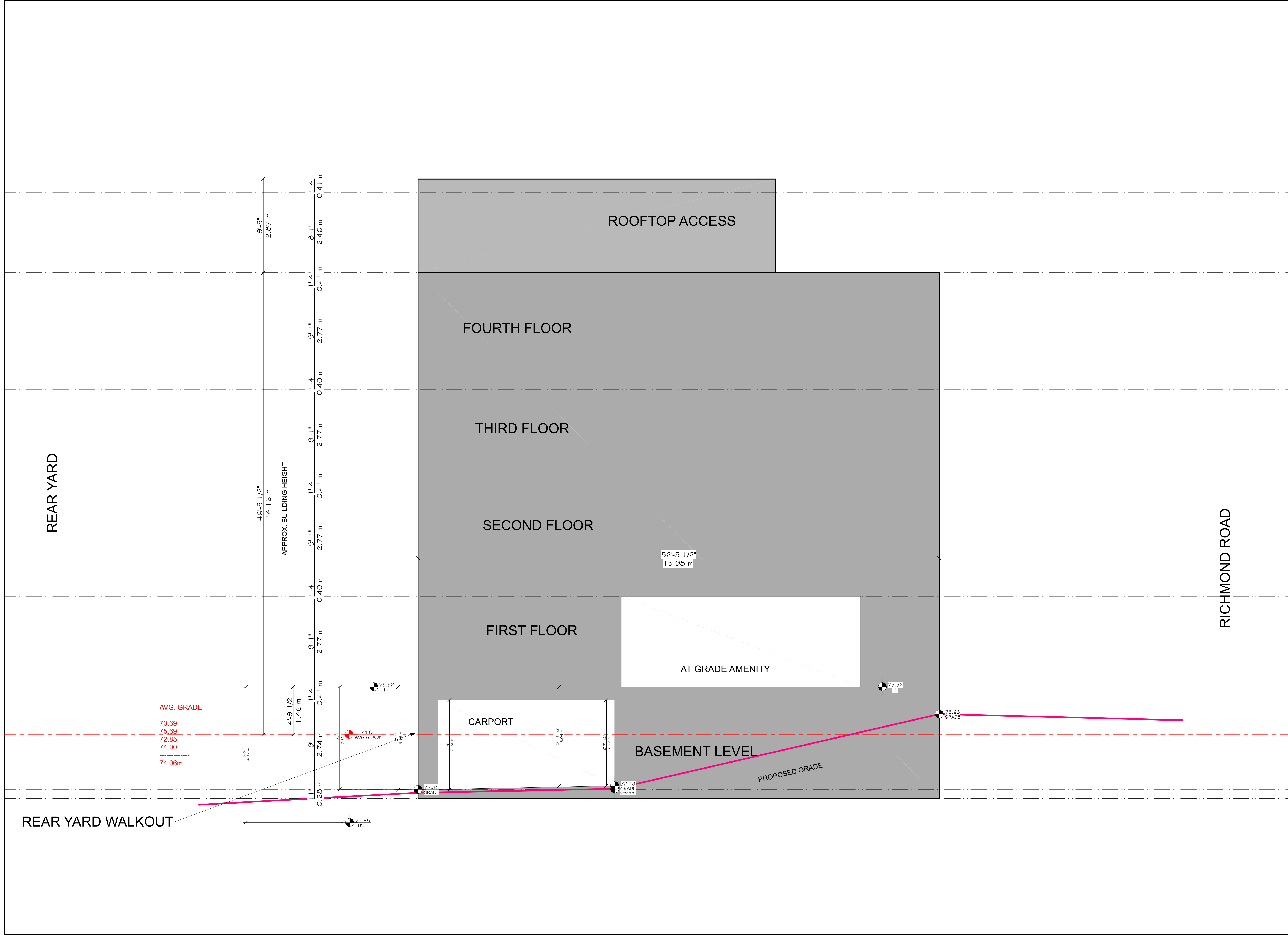
PROJECT: 3055 RICHMOND RD.
 3055 RICHMOND RD.
 OTTAWA, ON K2E 5E6 813-000-0000

DRAWING NAME: FLOOR PLANS

DATE: APRIL 12, 2022

SCALE: AS NOTED

FILE NUMBER: D00-00-00-0000



AVG. GRADE
 73.69
 75.69
 72.85
 74.00
 74.06m

REAR YARD WALKOUT

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.

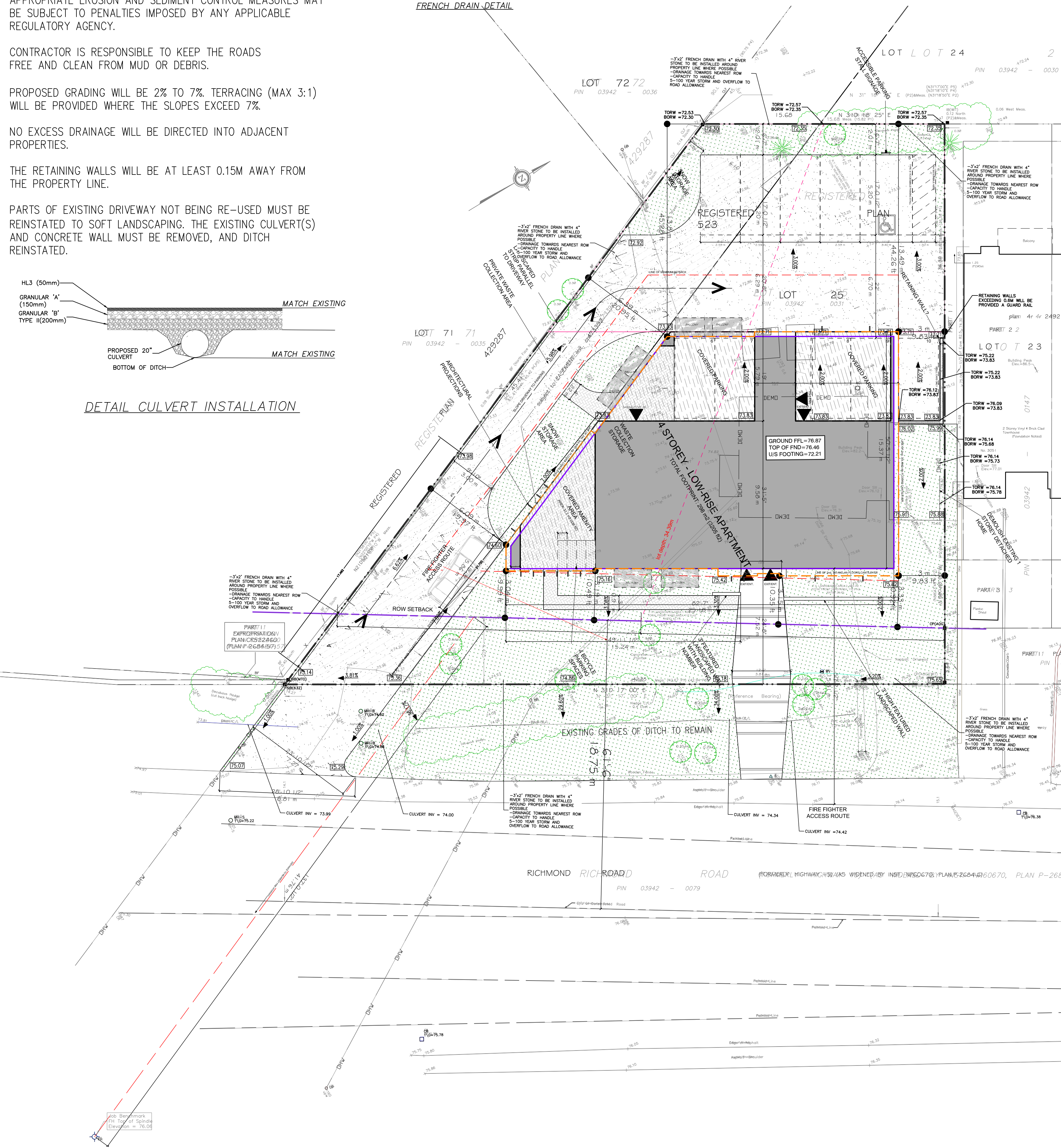
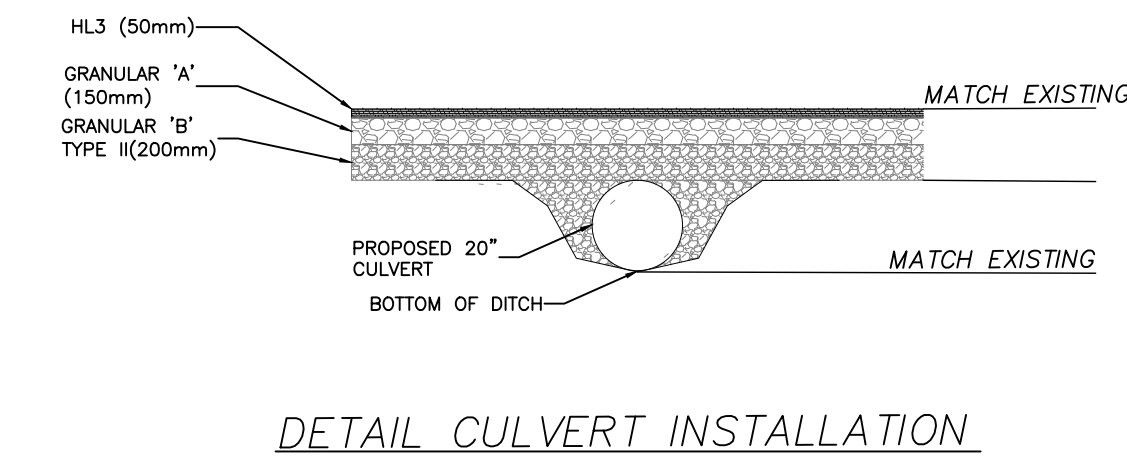
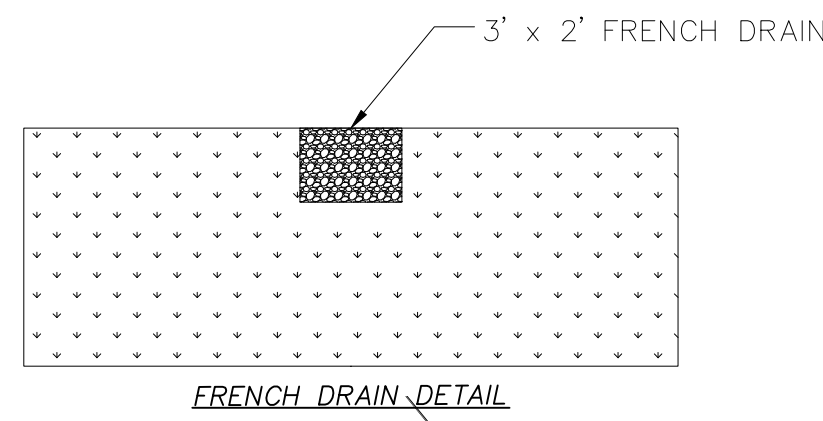
CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.

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 LESTONE), 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 LESTONE), 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.
- 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

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 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.

NOTES: 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
- EXISTING GRADE ELEVATION
- 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)
- 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]

ISSUES: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WELAS 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.

ISSUE 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 **REV #:** -

DATE OF: 2022-06-10

W. Elias & Associates CONSULTING ENGINEERS

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

CIVIL STRUCTURE ELECTRICAL MECHANICAL

REGISTERED PROFESSIONAL ENGINEER

W. Elias & Associates Inc. 13065 50th AVE. OTTAWA, ONTARIO K1V 6K7

DECEMBER 30 2022

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



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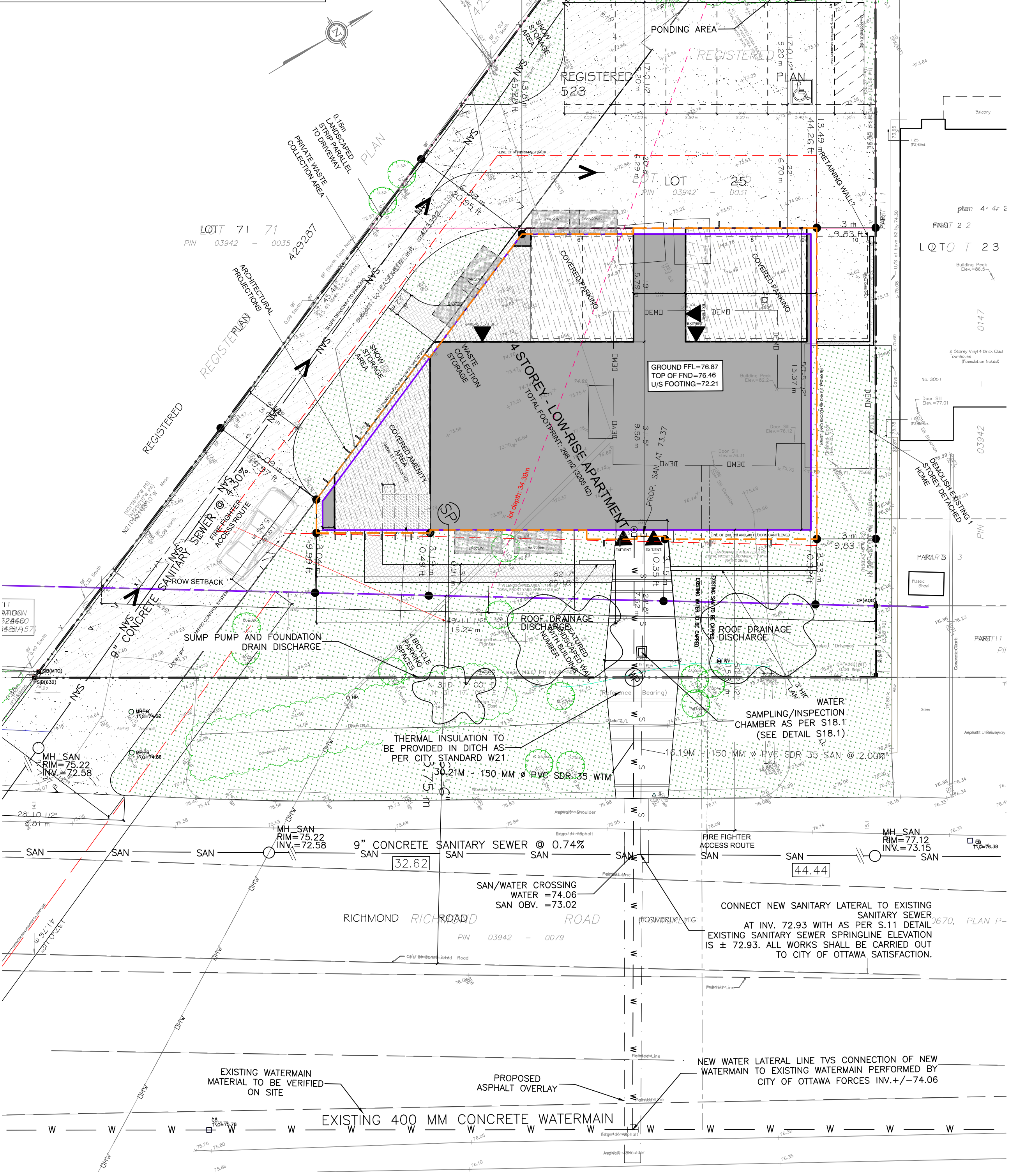
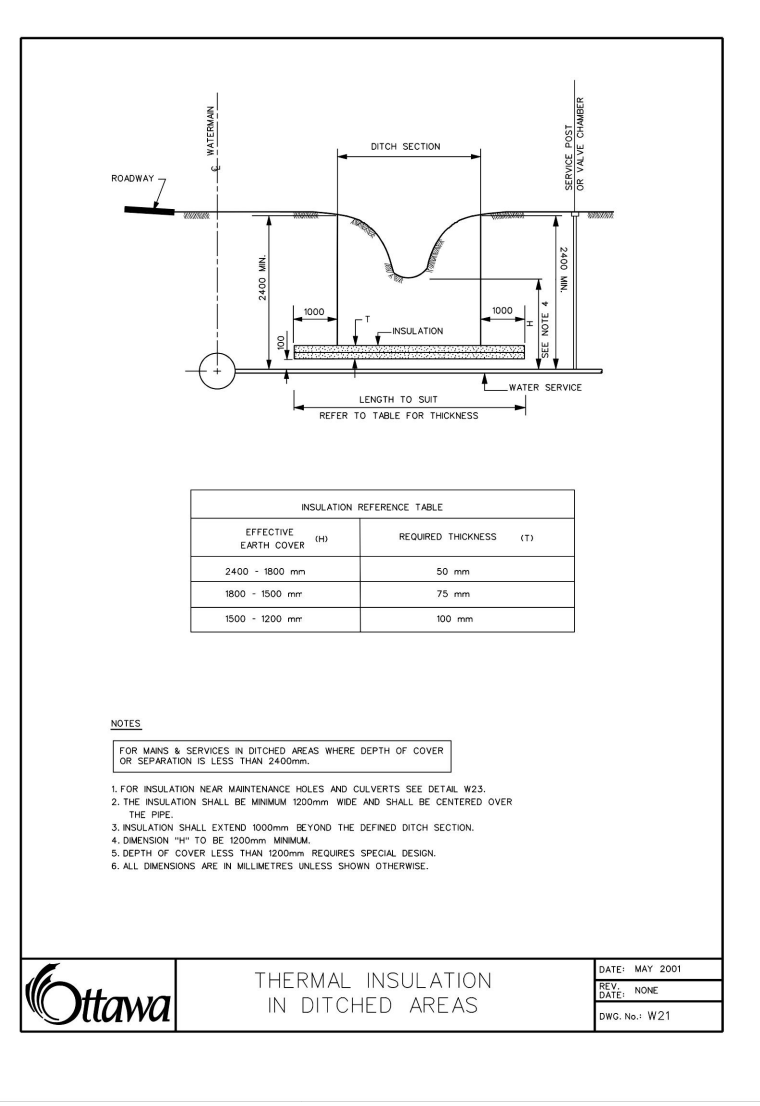
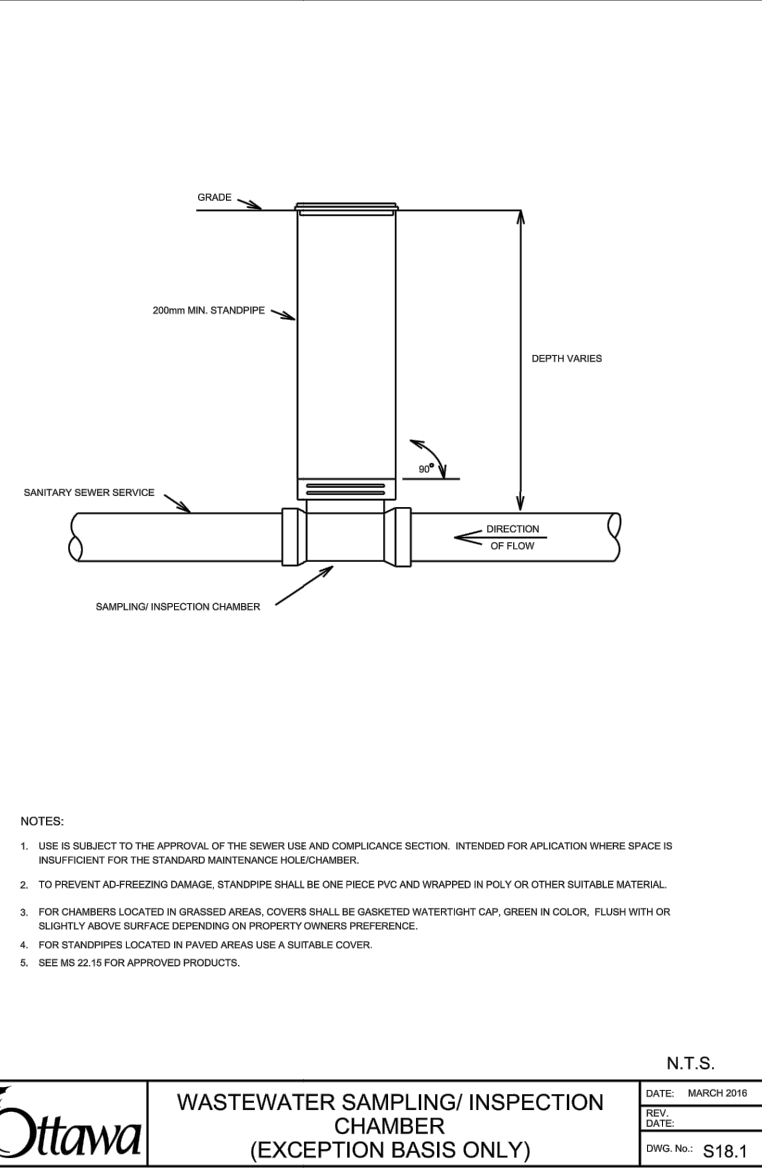
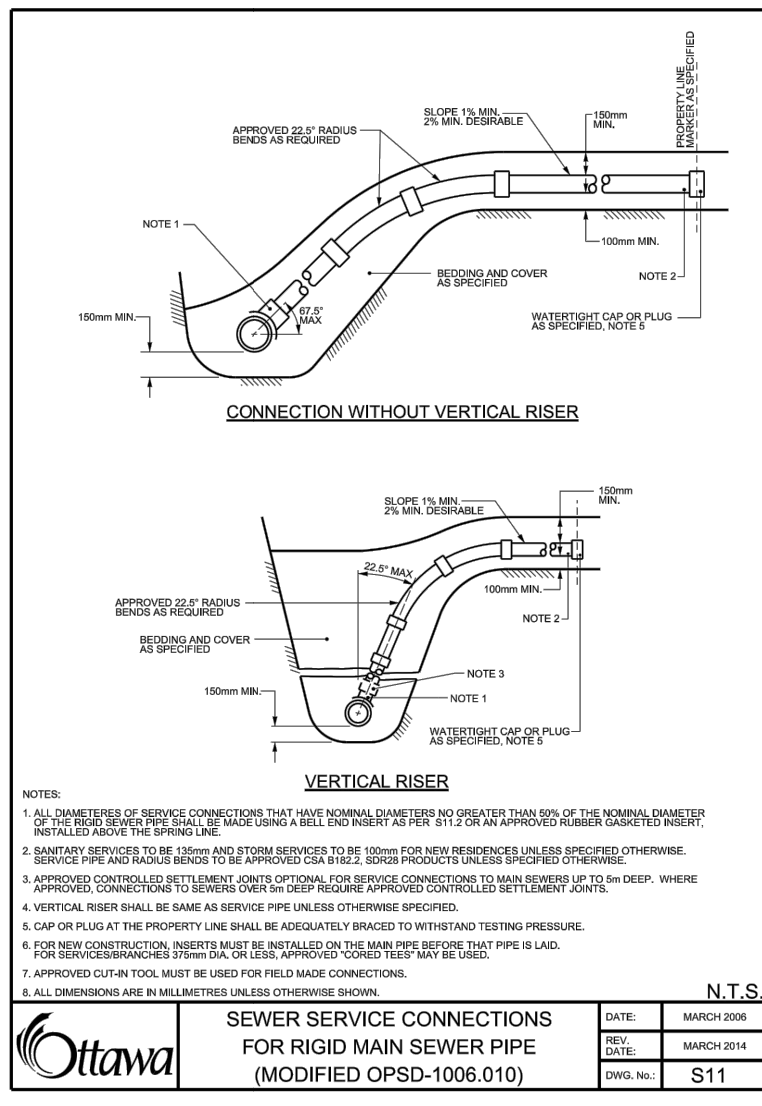
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NOTE:
 FOUNDATION DRAINAGE TO BE DRAINED TO SUMP PIT WHICH WILL THEN BE PUMPED TO THE FRONT YARD.

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

NOTE:
 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.

NOTE:
 A) THE PROPOSED SANITARY SEWER SHALL HAVE A MINIMUM COVER OF 2.0M
 B) THE EXISTING WATER SERVICE WILL BE BLENDED 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 ARCHITECTS 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.
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- 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

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

- 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 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 OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARDS 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

- 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
- 350mm Ø s - PROPOSED SANITARY LATERAL SEWER
- 350mm Ø st - PROPOSED STORM LATERAL SEWER
- 450mm Ø 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 2% 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 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:

ISSUES:

NO.	DATE	REVISION
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 **IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.**

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

TITLE: **SERVICING PLAN**

SHEET NUMBER: S1

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
 WEB@ELIASAS.COM

CIVIL STRUCTURE ELECTRICAL MECHANICAL

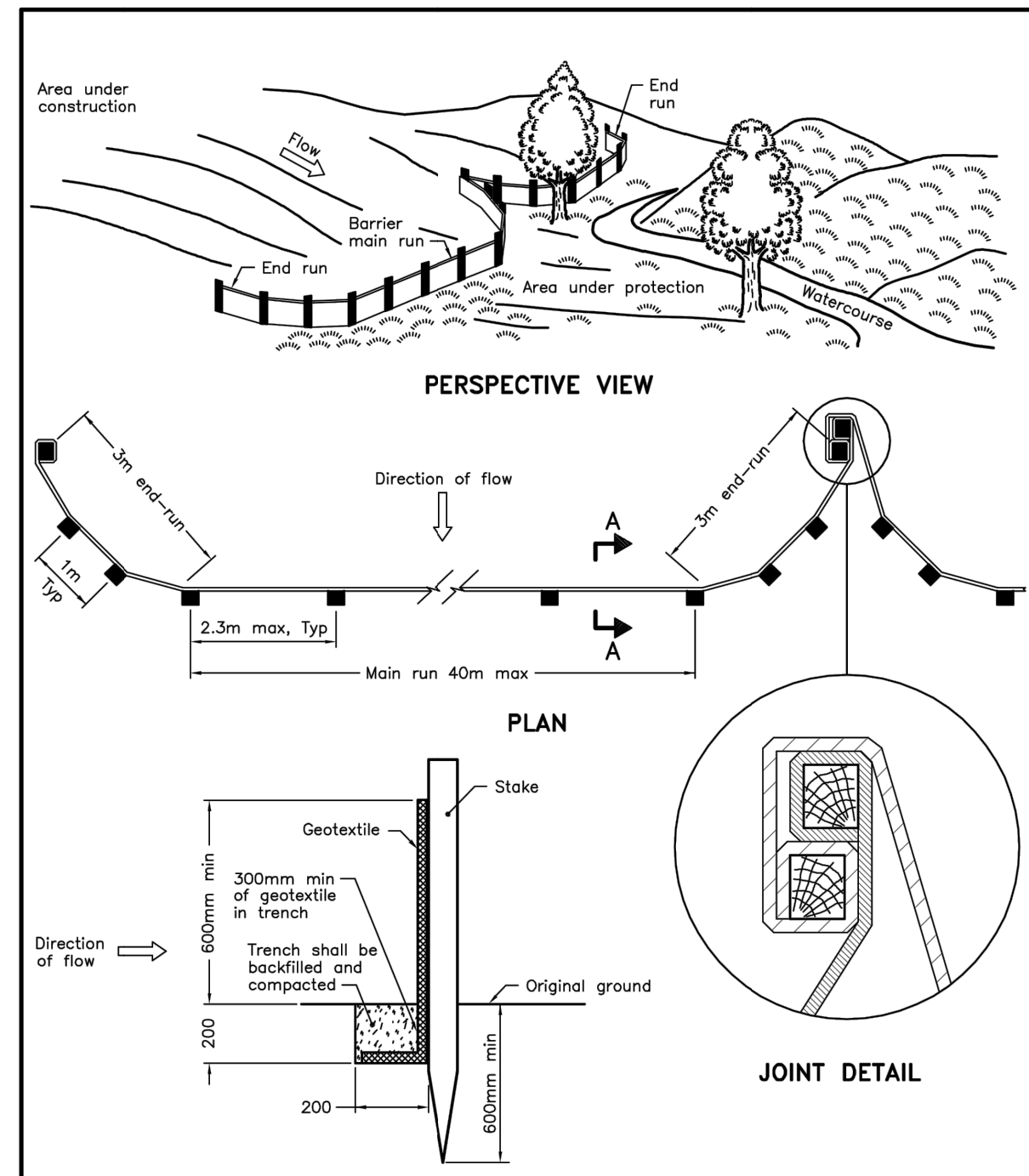
CONSULTANT:

SEAL:

PROFESSIONAL ENGINEER

W. Elias & Associates Inc. 1406550
 PROVINCE OF ONTARIO

DECEMBER 30 2022



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.

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**
- 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 ARCHITECTS 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
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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 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 W25.2. 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
 - 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
 - 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
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- ROOF DRAIN RESTRICTOR TO L/S
- 5 YEAR FLOOD PONDING LIMITS
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- 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]

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WELAS 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:	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

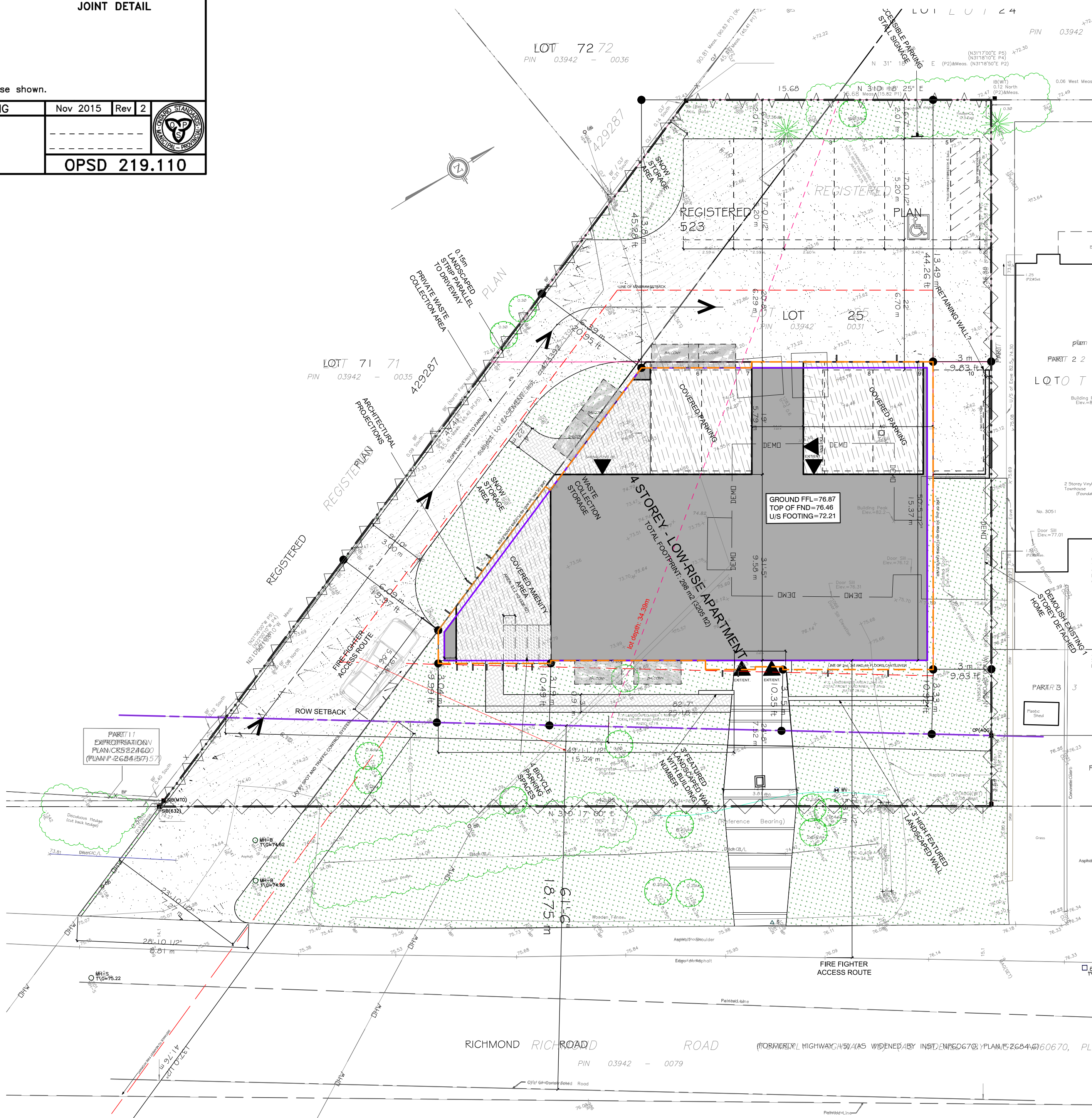
ORIGINAL SCALE: 1:100 **IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.**

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

TITLE: EROSION PLAN

SHEET NUMBER: E1

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



17769

NOTE:

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

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11. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO LAYING 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
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 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.

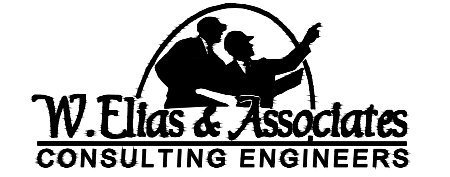
- NOTES WATERMAIN**
24. ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.
 25. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 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 SHALL 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

- 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
- T — EXISTING OVERHEAD TELEPHONE
- H — EXISTING OVERHEAD HYDRO
- U — EXISTING UNDERGROUND HYDRO
- ▭ - BUILDING FOUNDATION
- ▭ - BUILDING FOOTING
- ▭ - 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 CONDITIONNER
- 435mm^s - PROPOSED SANITARY LATERAL SEWER
- 435mmst - PROPOSED STORM LATERAL SEWER
- 435mm^w - PROPOSED WATERMAIN LATERAL
- - - - - PROPOSED DEMOLITION
- - - - - PROPOSED SILT FENCING
- - - - - PROPOSED SEVERANCE
- - - - - PROPOSED SWALE
- - - - - PROPOSED DEPRESSED CURB
- - SANMH - PROPOSED SANITARY MANHOLE
- - STMHM - PROPOSED STORM MANHOLE
- - CBMH - 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



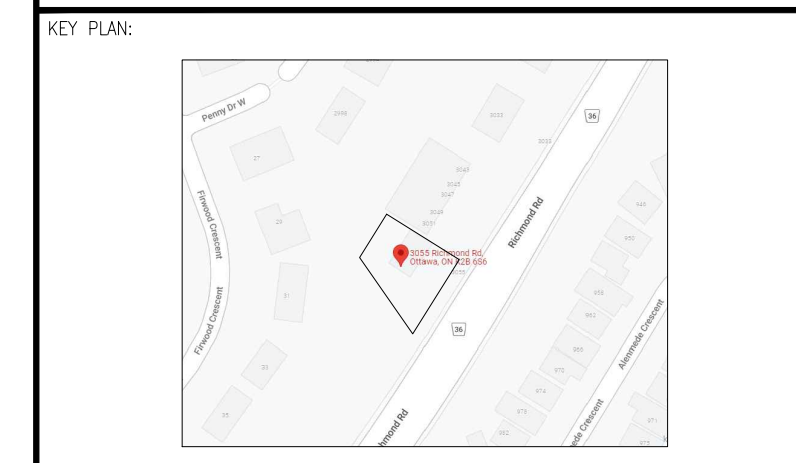
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CIVIL STRUCTURE ELECTRICAL MECHANICAL

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REGISTERED PROFESSIONAL ENGINEER
W. Elias & Associates
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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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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
ORIGINAL SCALE: 1:100
DESIGNED BY: R.E.
DRAWN BY: R.E.
CHECKED BY: W.E.
DISCIPLINE:
DATE: 2022-06-10
IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.

TITLE:
DRAINAGE PLAN

SHEET NUMBER:
D1

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

