ENTUITIVE

Entuitive Corporation
200 University Avenue, 7th Floor
Toronto, Ontario, Canada
M5H 3C6
T. 416.477.5832

April 7, 2025

Mr. Jack Gulas
Stratford Foxrun
6286 Prince of Wales Drive
North Gower, Ontario
K0A 2T0

Re: 5923 Ottawa Street – Richmond, Ontario - Rail Safety / Proximity Review R2
Rail Safety Consulting & Engineering Services
Our Project No. EN024-01926

Stratford Foxrun (the 'Landowner' or 'Applicant') is looking to complete the development application on the lands at 5923 Ottawa Street, Richmond, Ontario (the 'Property' or 'Site').

Entuitive has been retained to review the development plans against the most recent industry guidelines for new development in proximity to rail infrastructure and determine the appropriate measures, if required, to mitigate the safety risks associated with nearby rail operations.

This review considers the comments received from VIA Rail and looks at the site-specific conditions of the property in the context of the local area, the rail corridor operating environment, and ongoing changes to the VIA Rail-owned Smith's Falls Subdivision rail corridor. This review has also been updated in response to comments received from the Municipality and changes to the site plan.

Attached is a memo that outlines our evaluation of the updated site. We trust that the information provided is helpful, but should you have any questions or comments please reach out to our team.

Sincerely,
Entuitive

Jonathan Hendricks, P. Eng
Principal
jonathan.hendricks@entuitive.com
T: 416-561-5245

Jamie Kennedy
Project Manager
jamiekennedy@entuitive.com
T: 416-309-9192

INTRODUCTION

As part of a development application submission, the City of Ottawa has requested the Landowner (or "the Applicant") retain a rail safety consultant to conduct a rail safety study as it relates to the single main line rail track adjacent to the property at 5923 Ottawa Street (the "Project" or "Site").

The Site is an irregularly shaped lot which, in its current condition, is an undeveloped natural area with significant tree coverage. The site is 110m wide along Ottawa Street and varies in depth between 180-230m.

The Site is bound by Ottawa Street to the southeast, the VIA Rail Smith's Falls Subdivision rail corridor to the northwest, an existing commercial building to the southwest and a light-industrial agricultural operation to the northeast. An aerial photograph of the site and surrounding land uses is illustrated in Figure 1 below.

Figure 1: Site Context

The Smiths Falls Subdivision rail corridor immediately northwest of the site is currently comprised of a single track which is classified as a Principal Main Line.

Currently, dense vegetation and forest with over 50% tree coverage are present along the northern extent of the property, extending to the rail corridor property line. Along the rail corridor property line, a ditch and swamp run parallel to the track.

The top of the embankment closest to the tracks is observed at an elevation of approximately 93m. The bottom of the embankment, where the swamp is located, is at an approximate elevation of 91m, with the lowest point being 90.88m difference of more than 2m from the top of the embankment.

The grade then elevates to the south, to an approximately elevation of 93.75m, a difference of more than 2.75m from the lowest point along the property line. The highest point on the property is towards the southern property line at Ottawa Street, where elevations of 94m+ are observed.

These details and elevations are substantiated on the topographic survey, included as part of the development application, and pictured in Figure 2 on the following page.

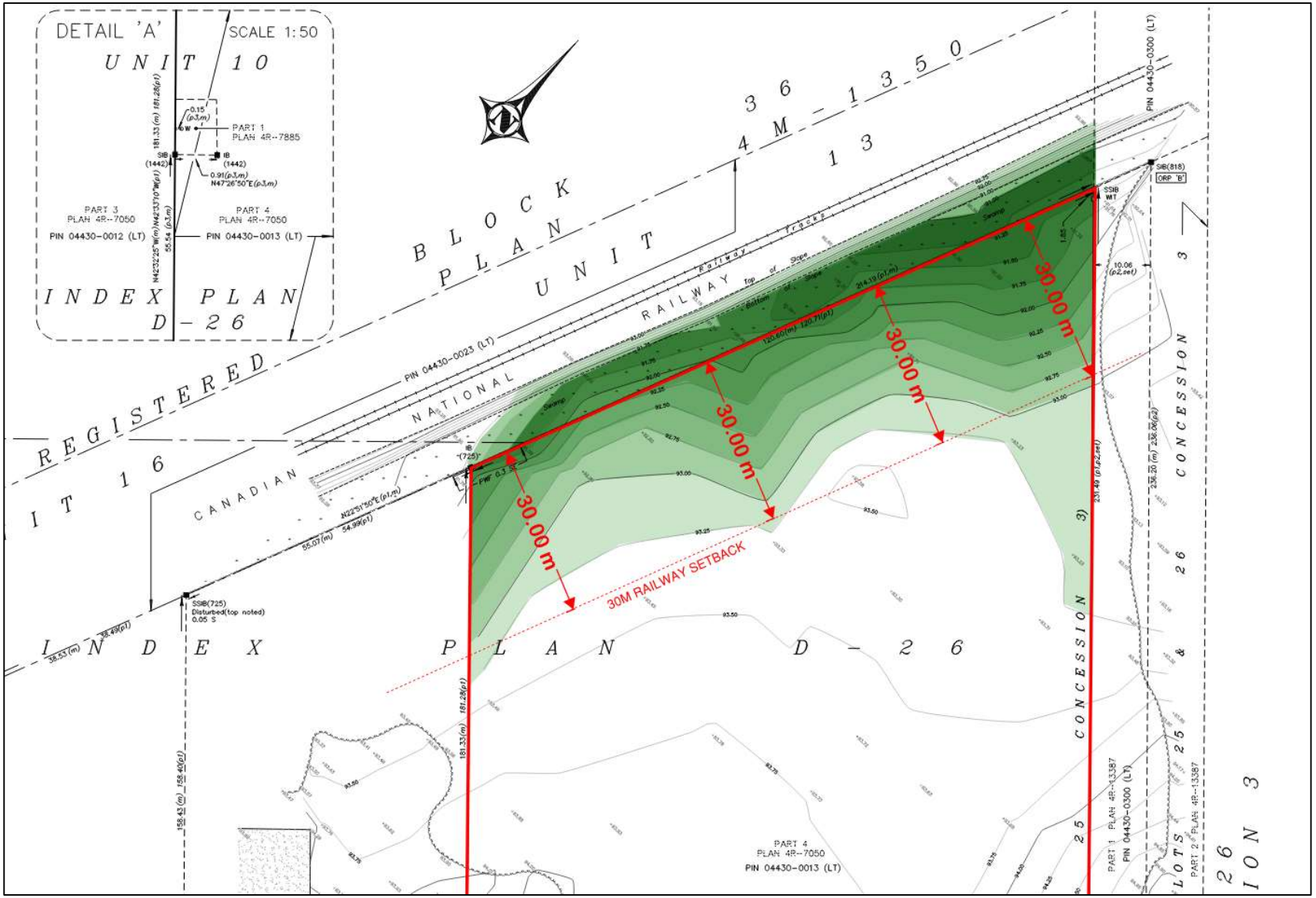


Figure 2: Topographic Survey of 5923 Ottawa Street

The ditch is approximately 30m wide, and as mentioned above, is within the area of the site that is covered by vegetation and forest. It is our understanding that the majority of the existing vegetation will remain as part of the proposed development.

RAIL CORRIDOR DETAILS:

The Smiths Falls Subdivision is owned by VIA Rail and is classified as a principal main line. The rail corridor is comprised of a single track between Mile 0.0 at Federal (Ottawa) and Mile 34.5 at Smiths Falls East.
The Railway Atlas of Canada[1] indicates the Site is located immediately south of Mile Post 12 and both passenger and freight traffic can be accommodated on the main line track.

The Railway Atlas main track classification and track use is identified in Figure 3 below.

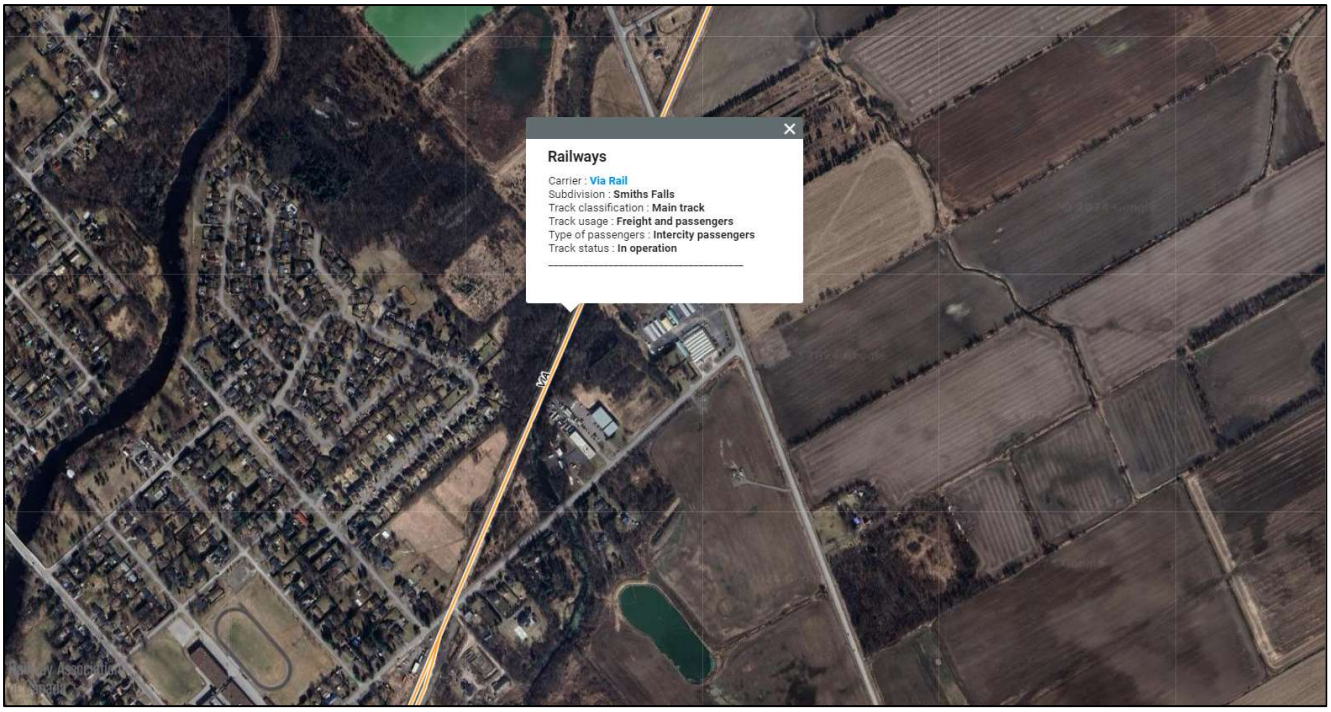


Figure 3: Railway Atlas of Canada Track Classification

The Transportation Safety Board investigation report R09H0010[2] provides the following information about the Smith's Falls Subdivision rail corridor operations:

- The authorized timetable speed is 95 mph for passenger trains.
- Approximately 8 to 10 passenger trains traverse the subdivision on a daily basis; and
- Train movements are governed by the Occupancy Control System (OCS) method of train control, as authorized by the Canadian Rail Operating Rules (CROR).

A review of VIA Rail's passenger train schedules confirms that there are between 8 to 10 passenger trains per day. The VIA Rail schedule is included in Appendix C – Rail Corridor Details.

[1] Railway Association of Canada. Canadian Rail Atlas. Aug. 2024 online: https://rac.jmaponline.net/canadianrailatlas/
[2] Transportation Safety Board of Canada. 2009. Railway Investigation Report R09H0010.June 10, 2021 online: https://bst.gc.ca/eng/rapports-reports/rail/2009/r09h0010/r09h0010.html?wbdisable=true

RAIL ADJACENT DEVELOPMENT GUIDELINES:

New developments along the rail corridor should be designed and built to provide reasonable protection to the development against rail activities and accidents. A variety of guidelines are used to inform decision making and may vary by Rail Authority and Municipality.

This report has been prepared in accordance with the following guidelines and reference material:

- FCM/RAC Guidelines for New Development in Proximity to Rail Operations, and
- AECOM Crash Wall Design Guidelines

FCM/RAC GUIDELINES

The FCM (Federation of Canadian Municipalities)/RAC (Railway Association of Canada) Guidelines set out requirements for:

- Life Safety: Impact from a derailed train, fire, projectile elements
- Comfort/Quality of Life: Noise, vibration, air quality

Importantly, the FCM/RAC Guidelines do not address new commercial / light-industrial development in proximity to rail corridors. The FCM/RAC Guidelines are intended to be used for new residential and sensitive use development, where land use compatibility risks are greater.

Considering this, the standard mitigation measures described below may be overly onerous for the proposed development. However, the guidelines serve as a useful reference for best practices across Canadian railways and municipalities.

Standard Mitigation

The FCM/RAC Guidelines suggest that mitigation measures are most effective when implemented together. The standard safety mitigation measures recommended by the FCM/RAC Guidelines vary depending on the classification and use of the track adjacent to the property. Table 1 below outlines the standard setback measures as they apply to various track classifications.

Table 1: FCM/RAC Standard Setback Distance.

Classification of Line	Setback
Freight Rail Yard	300m
Principal Main Line	30m
Secondary Main Line	30m
Principal Branch Line	15m
Secondary Branch Line	15m
Spur Line	15m

As stated in the FCM/RAC Guidelines:

> *"Setback distances must be measured from the mutual property line to the building face. This will ensure that the entire railway right-of-way is protected for potential rail expansion in the future." (3.3)*

Further, the FCM/RAC Guidelines assert:

> *"Where larger building setbacks are proposed (or are more practicable, such as in rural situations), reduced berm heights should be considered." (3.3.1).*

In the case of 5923 Ottawa Street, the proposed building setback of approximately 113 metres significantly exceeds the recommended 30-metre setback.

Additionally, the FCM/RAC Guidelines also state:

> *"If applicable to the site conditions, in lieu of the recommended berm, a ditch or valley between the railway and subject new development property that is generally equivalent to or greater than the inverse of the berm could be considered." (3.6.1.2)*

This concept is illustrated in Figure 4 below.

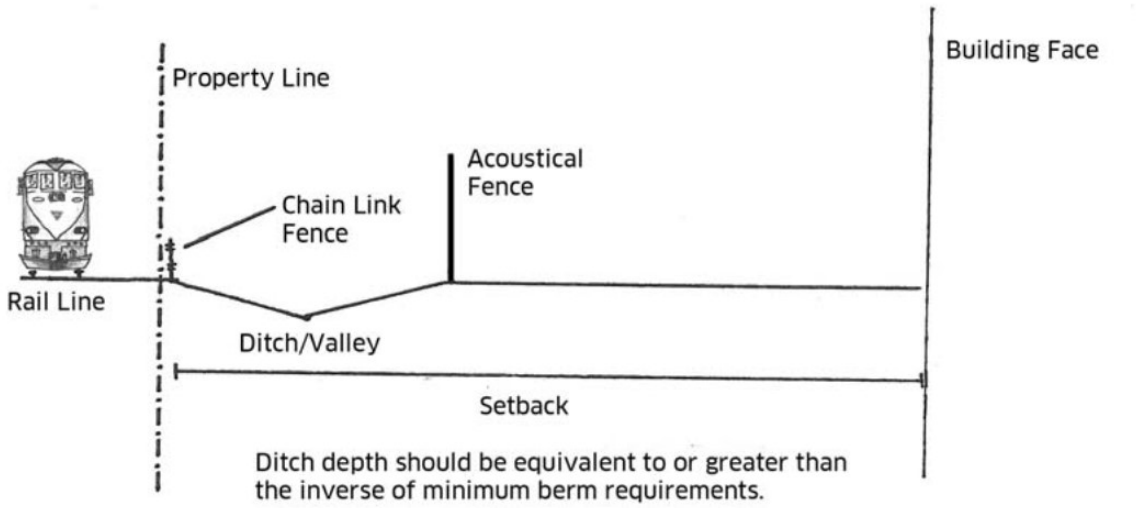


Figure 4: Application of a Ditch or Valley of Equivalent Depth to a Standard Berm

The existing ditch / swamp along the rail corridor property line is considered to meet the condition of the inverse berm as described above.

The FCM/RAC Guidelines (Section 3.3) also indicate that, "appropriate uses within the setback area include public and private roads; parkland and other outdoor recreational space including backyards, swimming pools, and tennis courts; unenclosed gazebos; garages and other parking structures; and storage sheds."

The FCM/RAC Guidelines also discuss a variety of additional risks related to new development including but not limited to stormwater management, air quality, noise, vibration, construction, and trespassing risks. These considerations are typically addressed through additional studies and controls, carried out by qualified professionals, and reviewed as part of a development application.

PROPOSED DEVELOPMENT

The development is proposed as two individual buildings, an 'East' and 'West' building, which will both be used for alcohol storage and production. The two new buildings are pictured in Figure 5 below.

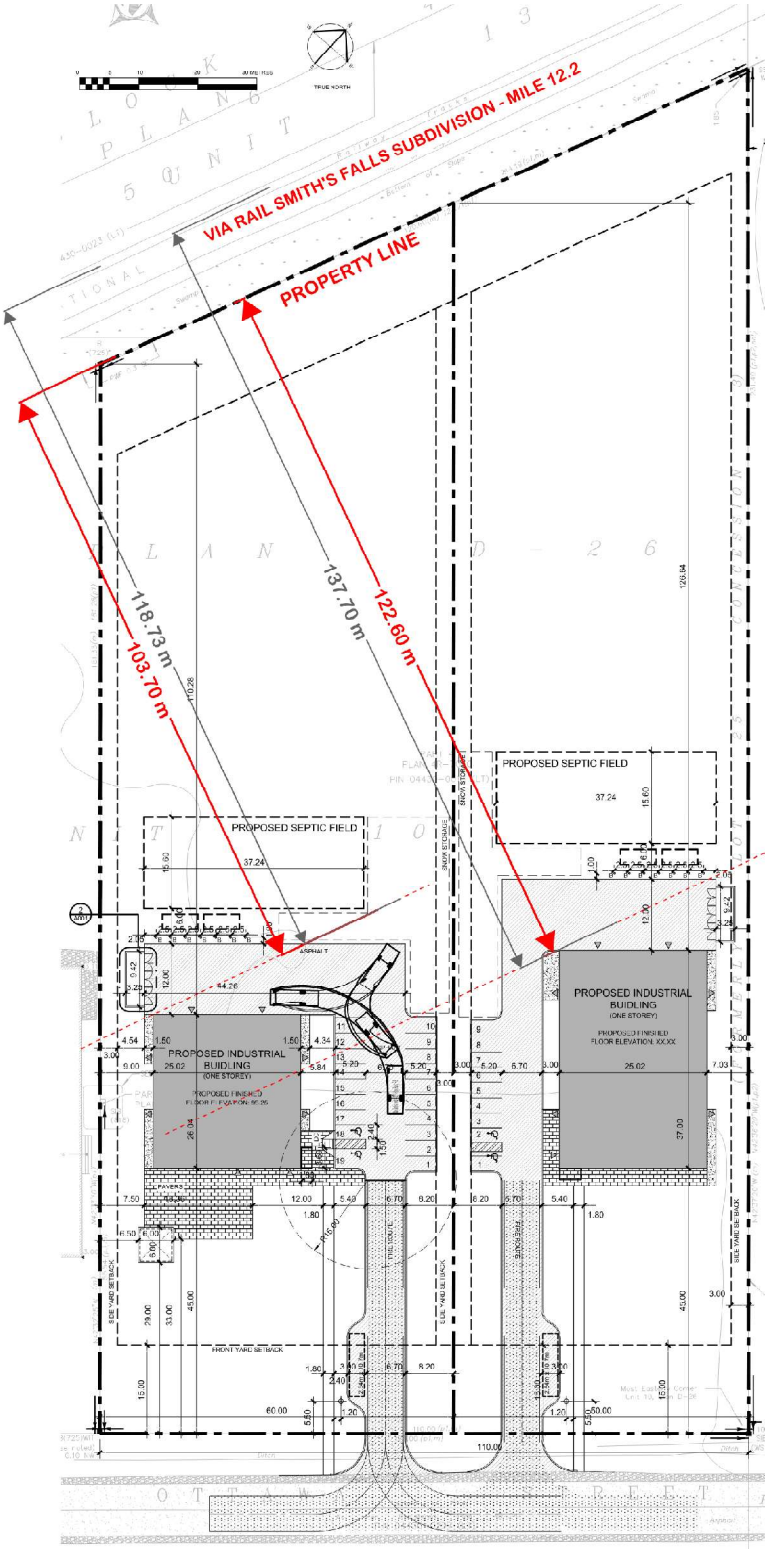


Figure 5: Proposed Location of New Development

The East Building will be setback approximately 123m from the rail corridor property line while the West Building will be setback approximately 104m from the rail corridor property line. These setbacks are illustrated in Figure 5 above. Both buildings will be setback approximately 45m from Ottawa Street, with surface parking provided between the new buildings.

The 'West' building is proposed as a single-storey building, primarily serving as a storage facility with ancillary retail space. The rear portion of the building will function as a warehouse for spirits (e.g., whiskey, gin), while the front section will be dedicated to retail sales and a small on-site bar for consumption. The mezzanine level will feature four small offices and two lounge areas, supporting the property's primary functions.

The Ground Floor and Mezzanine Floor plans of the west building are illustrated in Figure 6 and Figure 7 below.

Figure 6: Ground Floor Plan (West Building)

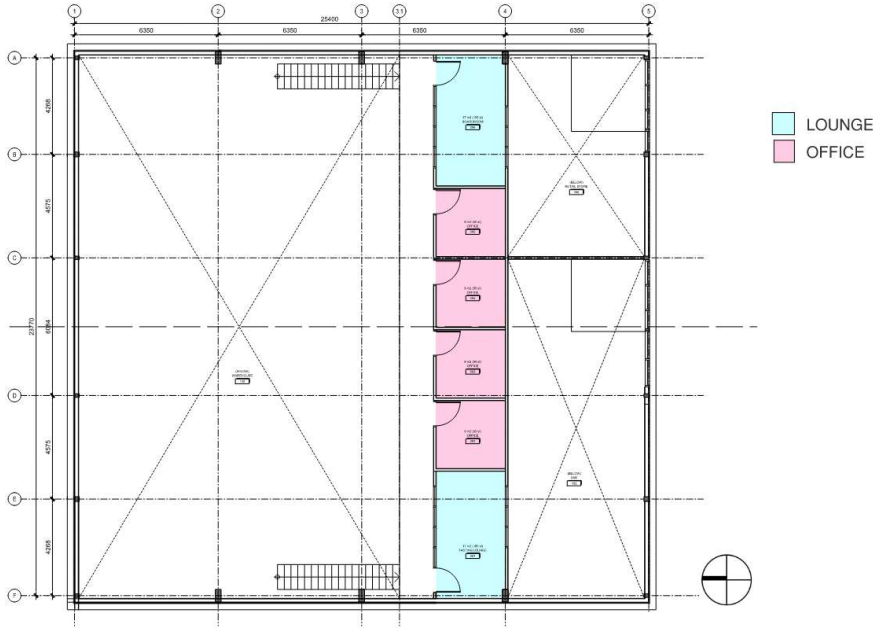


Figure 7: Mezzanine Floor Plan (West Building)

The ‘East’ building is also proposed as a single-storey building, primarily serving as a storage and brewing facility with ancillary office space. The majority of the building will function as a warehouse for brewing and distilling spirits, while a small area at the southwest corner of the building will be dedicated to offices, a staff room, a washroom, and vestibule. The mezzanine level will feature four small offices and two lounge areas, supporting the property's primary functions.

The Ground Floor and Mezzanine Floor plans of the east building are illustrated in Figure 8 and Figure 9 below.

Figure 8: Ground Floor Plan (East Building)

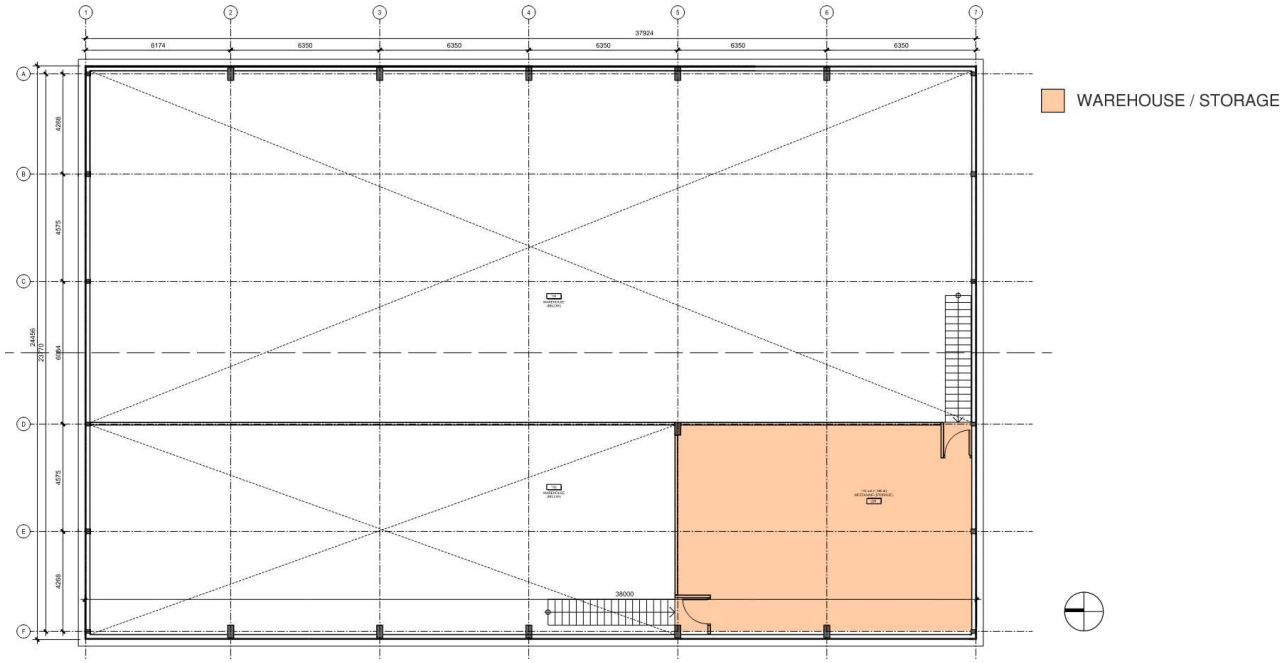


Figure 9: Mezzanine Floor Plan (West Building)

The proposed uses are all considered to be non-sensitive, low occupancy uses. Importantly, given the proposed use, the occupants of these spaces would not be expected to experience adverse impacts from the nearby rail operations.

The property is currently zoned *Rural General Industrial (RG3)*, which typically allows for a range of industrial and commercial activities, with the intent to accommodate light and general industrial uses in rural areas. Permitted uses within the RG3 zones include light industrial and warehouse. The permitted uses generally include:

- Manufacturing and Processing: Activities related to the manufacturing or processing of goods, excluding those that are highly noxious or dangerous.
- Warehousing and Storage: Facilities for the storage of goods and materials.
- Service Industries: Businesses providing services to industrial or commercial operations, such as repair and maintenance services.
- Transport and Logistics: Uses related to the transportation and logistics sector, including truck depots and distribution centers.
- Office Uses: Offices related to industrial or service operations.
- Retail Sales: Limited retail sales, usually related to the products manufactured or processed on-site.
- Agricultural Uses: Some agricultural activities might be permitted, depending on the specific regulations of the RG3 zone.
- Accessory Uses: Includes uses that are complementary to the primary industrial activities, such as employee amenities or facilities.

Our review takes into consideration the approved uses for the property.

Further, according to the zoning by-law, the conditional permitted uses also include a bar, subject to the use being located on the same lot as the permissible uses listed above. The bar must be “ancillary to a permitted brewery, winery, or distillery and, may not have a gross floor area exceeding the lesser of 300 sq. m. or 25% of the floor area of the brewery.”

Considering the allowable uses under the current zoning by-law, the setbacks that are proposed for the new buildings, and the uses proposed within the future buildings, the development plans are consistent with the applicable guidelines for new development in proximity to active rail corridors.

TRAIN DERAILMENT ANALYSIS

As part of this review, the possibility of a train derailment was considered using the methodology outlined in the AECOM Development of Crash Wall Design Loads from Theoretical Train Impact (or 'AECOM Guidelines'), to understand the theoretical outcome of a train derailment under specific scenarios (or 'Load Cases').

The analysis completed includes passenger trains operating at a maximum speed of 95mph and freight trains operating at a maximum speed of 60mph. For this analysis, a derailment angle of 3.5° and 10° was used. These calculations were completed based on the assumption that the track is running straight and parallel to the site, as is the case with this development.

Table 2: Train derailment distances based on AECOM Guidelines

Load Case	Scenario	Max. distance perpendicular to track where the train comes to rest under the derailment scenarios	
		(3.5°)	(10°)
Load Case 1	Freight Train Multi-Car Glancing Blow	<10.6m	<27.1m
Load Case 2	Freight Train Single Car Direct Impact	<8.6m	<8.6m
Load Case 3	Passenger Train Multi-Car Glancing Blow	<24.1m	<65.5m
Load Case 4	Passenger Train Single Car Direct Impact	<13.1m	<13.1m

Based on the analysis above, the Train Derailment Analysis indicates that a passenger train travelling at the maximum allowable speed of 95mph and/or a freight train travelling the maximum allowable speed of 60mph would not travel more than 66m into the property.

As an additional factor of safety, we considered a far more extreme derailment scenario that applies a 10° departure angle, consistent with the FCM/RAC Guidelines. Under this scenario, a derailed train was shown to lose all momentum prior to reaching the location of the proposed buildings

Importantly, this does not account for the existing topographic features along the rail corridor property line that a derailed train would be expected to encounter in a derailment, which would further act to slow and completely contain the derailed train cars.

Theoretically, a train would have to be travelling more than 167mph (more than 1.5x the allowable speed) to reach the face of the building in any of the derailment scenarios outlined in the AECOM Guidelines. Based on our understanding of rail operations and VIA Rail's track specification, a train would be expected to derail before achieving this critical speed, making the likelihood of impact exceptionally low.

The Train Derailment Analysis indicates that the risk of derailment at the site is acceptably low, as a derailed train would be expected to lose all momentum prior to reaching the additional buildings proposed on the site. The supporting calculations are included in Appendix A– Train Derailment Analysis.

ADDITIONAL CONSIDERATIONS:

Under typical development conditions, VIA Rail requires a 1.83m high security fence between the rail corridor property line and a new development to minimize the risk of trespassing. At 5923 Ottawa Street, a chain-link fence is located along the property line, presumed to have been previously installed by the rail authority. Considering the dense forest along the rear property line and the existing swamp, additional trespassing measures are not considered for the development.

EVALUATION AND CONCLUSION:

The proposed development at 5923 Ottawa Street meets the standard recommended mitigation measures as identified by the FCM/RAC Guidelines for New Development in Proximity to Railway Operations.

Natural derailment protection is provided in the form of an approximately 2-metre-deep ditch extends along the rail corridor property line, similar to an inverse berm which would corral a train in the event of a derailment. These topographic details are confirmed through the survey, which has been undertaken by a qualified professional. The existing stock of mature trees on the property is also thought to contribute to a lower risk profile as it relates to rail corridor proximity, limiting the severity of a derailment and reducing trespassing risks.

A setback of 104 metres, measured from the rail corridor property line to the face of the west building and a setback of 123 metres to the face of the east building is proposed. These setbacks significantly exceeds the recommended 30 metre setback and, on their own, are considered sufficient in mitigating the impact of a train derailment. The ditch condition along the property line only enhances the overall level of protection and safety provided to the buildings. If the grading were to change of the ditch were to be filled in, the conclusions of this report would remain the same.

No changes are proposed to the existing lands within 30 metres of the rail corridor property line, which provide a physical and visual buffer to the railway for future occupants at the site.

Considering the non-sensitive, low occupancy nature of the development, the local conditions which includes adjacent commercial and light-industrial uses, the existing ditch along the rail corridor property line, and the railway operating environment, the risks to the development are acceptably low.

The results of the rail safety study indicate the new development plans proposed at 5923 Ottawa Street align with the most recent guidelines and requirements for new development in proximity to active railways.

As the proposed buildings exceed the required setback from the VIA Rail Smith's Falls Subdivision rail corridor, and the existing grading (inverse berm) and surrounding mature tree-growth/canopy will remain in the future developed condition, no additional rail safety mitigation measures are required.

APPENDICES

Appendix A - Train Derailment Analysis
Appendix B – Topographic Survey & Architectural Plans
Appendix C – Rail Corridor Details.

APPENDIX A – TRAIN DERAILMENT ANALYSIS

DISTANCE FROM CENTRELINE OF TRACK

The train derailment distances for glancing blow load cases were calculated by applying the following equation and rearranging to solve for d_{CL}. The resulting values are summarized in the section below for a derailment at 3.5° and 10°.

$$v_G = \sqrt{v_0^2 + 2a\left(\frac{d_{CL} - 1.625}{sin\theta_G}\right)} \text{ [m/s]}$$

LOAD CASE 1 – GLANCING BLOW – MULTI-CAR FREIGHT		
Description	Variable	Value
Resistance	R	0.25
Grade	G	0
Groundline at wall		0
Base of rail		0
Angle of impact (degrees)	θ_G	3.5
Distance from the centreline of the track for train to come to rest (m)	d_{CL}	10.6
Track speed (mph)	v_o	60
Track speed (km/hr)	v_o	96.56064
Track speed (m/s)	v_o	26.82
Velocity of train at impact (m/s)	v_G	0
Velocity of train at impact (km/hr)		0
Velocity of train at impact (mph)		0
Impact force (kN)	F_G	0
Length to stop (m)	L	146.83
Length of the wall along which the impact force should act (m)	l_G	3.05

LOAD CASE 3: GLANCING BLOW – MULTI-CAR PASSENGER		
Description	Variable	Value
Resistance	R	0.25
Grade	G	0
Groundline at wall		0
Base of rail		0
Angle of impact (degrees)	θ_G	3.5
Distance from the centreline of the track for train to come to rest (m)	d_{CL}	24.1
Track speed (mph)	v_o	95
Track speed (km/hr)	v_o	152.88768
Track speed (m/s)	v_o	42.47
Velocity of train at impact (m/s)	v_G	0
Velocity of train at impact (km/hr)		0
Velocity of train at impact (mph)		0
Impact force (kN)	F_G	0
Length to stop (m)	L	368.10
Length of the wall along which the impact force should act (m)	l_G	3.05

LOAD CASE 1 – GLANCING BLOW – MULTI-CAR FREIGHT		
Description	Variable	Value
Resistance	R	0.25
Grade	G	0
Groundline at wall		0
Base of rail		0
Angle of impact (degrees)	θ_G	10
Distance from the centreline of the track for train to come to rest (m)	d_{CL}	27.1
Track speed (mph)	v_o	60
Track speed (km/hr)	v_o	96.56064
Track speed (m/s)	v_o	26.82
Velocity of train at impact (m/s)	v_G	0
Velocity of train at impact (km/hr)		0
Velocity of train at impact (mph)		0
Impact force (kN)	F_G	0
Length to stop (m)	L	146.83
Length of the wall along which the impact force should act (m)	l_G	3.10

LOAD CASE 3: GLANCING BLOW – MULTI-CAR PASSENGER		
Description	Variable	Value
Resistance	R	0.25
Grade	G	0
Groundline at wall		0
Base of rail		0
Angle of impact (degrees)	θ_G	10
Distance from the centreline of the track for train to come to rest (m)	d_{CL}	65.5
Track speed (mph)	v_o	95
Track speed (km/hr)	v_o	152.88768
Track speed (m/s)	v_o	42.47
Velocity of train at impact (m/s)	v_G	0
Velocity of train at impact (km/hr)		0
Velocity of train at impact (mph)		0
Impact force (kN)	F_G	0
Length to stop (m)	L	368.10
Length of the wall along which the impact force should act (m)	l_G	3.10

The design forces for glancing blow load cases were calculated using the equation below.

$$F_G = \frac{\frac{1}{2}m(v_G sin\theta_G)^2}{d_G} \quad \text{(metric)} \quad [14M]$$

The design forces for the single car load cases were calculated using the equation below.

$$F_A = \frac{\frac{1}{2}m(v_A cos\theta_f)^2}{32.17 d_A} \quad [15]$$

All calculations were performed with a distance between the centreline of the closest track. The resulting values are summarized in the sections below.

LOAD CASE 1: GLANCING BLOW – MULTI-CAR FREIGHT

Description	Variable	Value
Resistance	R	0.25
Grade	G	0
Groundline at wall		0
Base of rail		0
Angle of impact (degrees)	θ_G	3.5
Distance from the centreline of the track (dCL)	d_{CL}	104
Track speed (mph)	v_o	60
Track speed (km/hr)	v_o	96.56064
Track speed (m/s)	v_o	26.82
Velocity of train at impact (m/s)	v_G	0
Velocity of train at impact (km/hr)		0
Velocity of train at impact (mph)		0
Impact force (kN)	F_G	0
Length to stop (m)	L	146.83
Length of the wall along which the impact force should act (m)	l_G	3.05

LOAD CASE 2: DIRECT IMPACT – SINGLE-CAR FREIGHT

Description	Variable	Value
Resistance	R	0.25
Distance from the centreline of the track (dCL)	d_{CL}	104
Track speed (mph)		60
Track speed (km/hr)		96.56064
Angle of rotation at impact (radians)	θ_f	0
Impact speed (m/s)	v_A	0
Impact speed (km/hr)		0
Impact speed (mph)		0
Impact force (kN)	F_A	0
Length of the wall along which the impact force should act	l	0

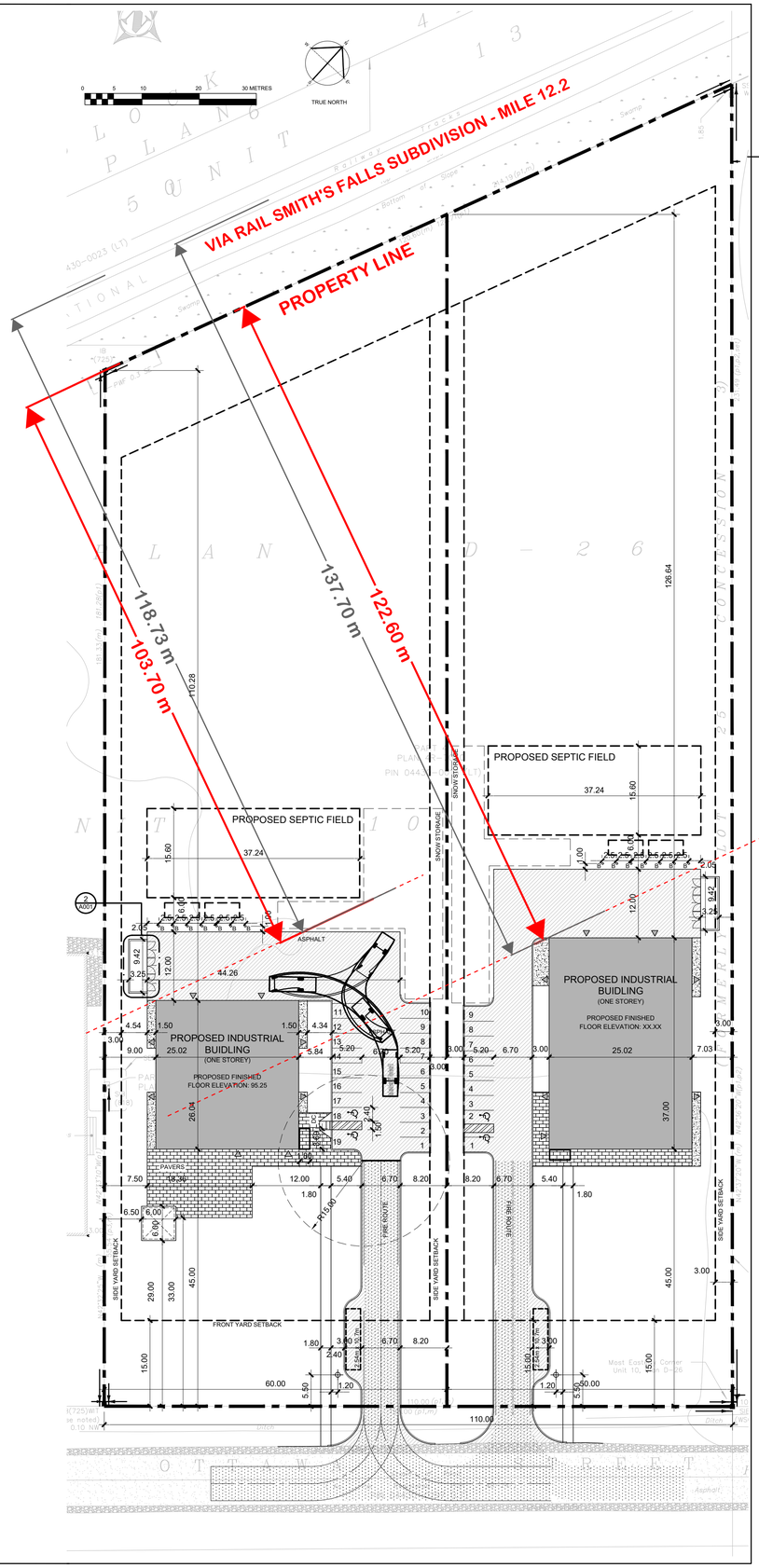
LOAD CASE 3: GLANCING BLOW – MULTI-CAR PASSENGER

Description	Variable	Value
Resistance	R	0.25
Grade	G	0
Groundline at wall		0
Base of rail		0
Angle of impact (degrees)	θ_G	3.5
Distance from the centreline of the track (dCL)	d_{CL}	104
Track speed (mph)	v_o	95
Track speed (km/hr)	v_o	152.88768
Track speed (m/s)	v_o	42.47
Velocity of train at impact (m/s)	v_G	0
Velocity of train at impact (km/hr)		0
Velocity of train at impact (mph)		0
Impact force (kN)	F_G	0
Length to stop (m)	L	368.10
Length of the wall along which the impact force should act (m)	l_G	3.05

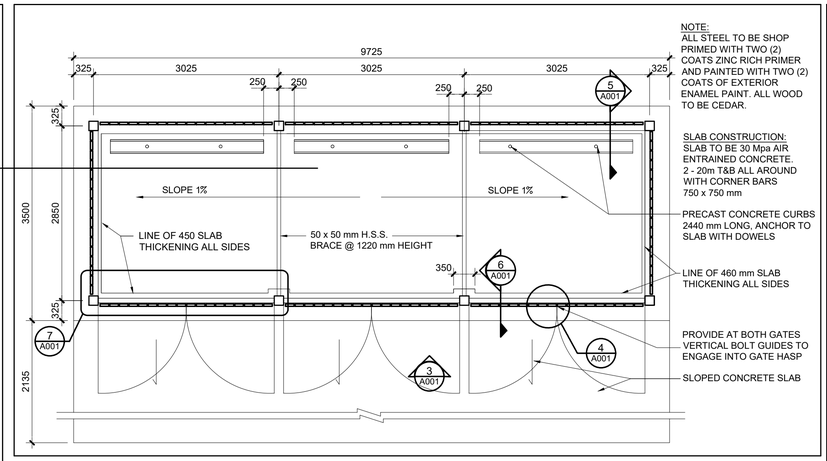
LOAD CASE 4: DIRECT IMPACT – SINGLE-CAR PASSENGER

Description	Variable	Value
Resistance	R	0.25
Distance from the centreline of the track (dCL)	d_{CL}	104
Track speed (mph)		95
Track speed (km/hr)		152.88768
Angle of rotation at impact (radians)	θ_f	0
Impact speed (m/s)	v_A	0
Impact speed (km/hr)		0
Impact speed (mph)		0
Impact force (kN)	F_A	0
Length of the wall along which the impact force should act	l	0

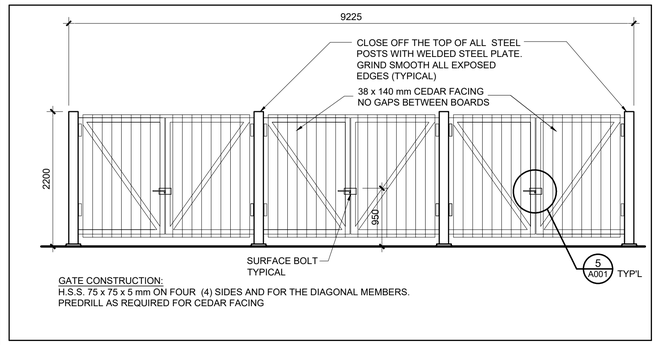
APPENDIX B – TOPOGRAPHIC SURVEY AND ARCHITECTURAL PLANS



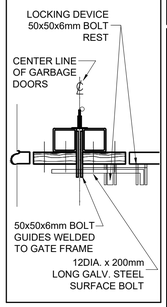
1 SITE PLAN
A-001 SCALE 1:500



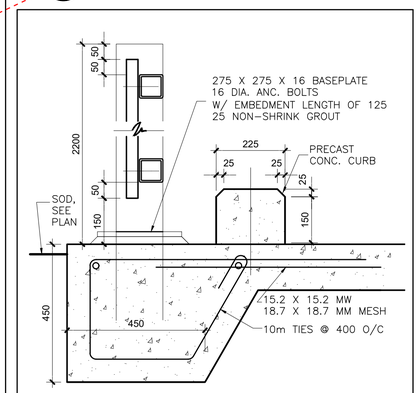
2 A001 GARBAGE ENCLOSURE PLAN
SCALE 1:50



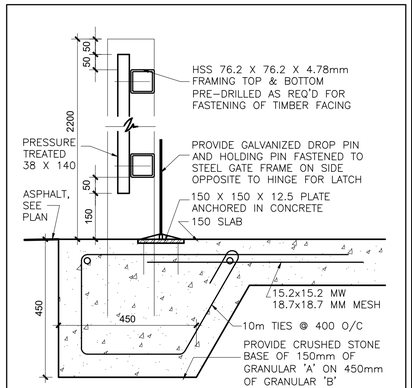
3 A001 GARBAGE ENCLOSURE ELEVATION
SCALE 1:50



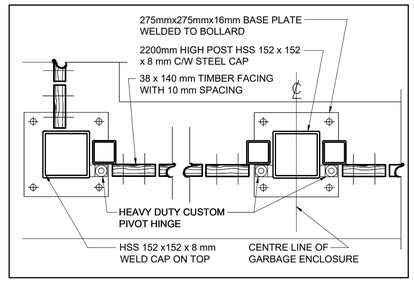
4 A001 PLAN DETAIL
SCALE 1:10



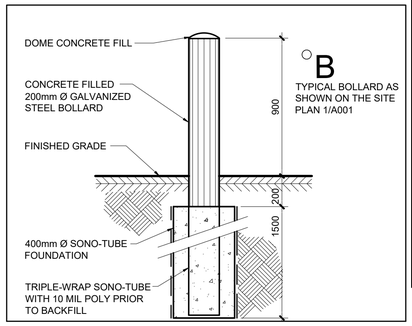
5 A001 GARBAGE ENCLOSURE SECTION DETAIL
SCALE 1:10



6 A001 GARBAGE ENCLOSURE SECTION DETAIL
SCALE 1:10



7 A001 GARBAGE ENCLOSURE PLAN DETAIL
SCALE 1:10



8 A001 BOLLARD DETAIL
SCALE 1:20

ZONING INFORMATION

NOTE: ALL ZONING DEFINITIONS AND REQUIREMENTS AS PER CITY OF OTTAWA ZONING BY-LAW 2008-250

ZONING MECHANISM	REQUIRED	PROVIDED
DEFINITION	RG3 [385r] RURAL GENERAL INDUSTRIAL ZONE	WAREHOUSE, RETAIL STORE, BAR (ANCILLARY, 25%)
MIN. LOT WIDTH	30.0 m	110.0 m
MIN. LOT AREA	2,000 m²	22,680 m² (± 5.6 Acres)
MIN. FRONT YARD SETBACK	15.0 m	45.0 m
MIN. REAR YARD SETBACK	15.0 m	110.0 m
MIN. INTERIOR SIDE YARD SETBACK	3.0 m	9.0 m
MAX. LOT COVERAGE	35%	2.85%
PARKING LANDSCAPE BUFFER	FOR A PARKING LOT CONTAINING 10-100 SPACES: ABUTTING A STREET = 3 m NOT ABUTTING A STREET = 1.5 m	ABUTTING A STREET 3 m NOT ABUTTING A STREET 3 m
STANDARD PARKING SPACE	2.6m WIDTH x 5.2m LENGTH	2.6m WIDTH x 5.2m LENGTH
PARALLEL PARKING SPACE	2.6m WIDTH x 6.7m LENGTH	2.6m WIDTH x 6.7m LENGTH
ACCESSIBLE PARKING SPACE	3.4x5.2m (A); 2.4x5.2m(B)	3.4x5.2m (A); 2.4x5.2m(B)
PARKING REQUIREMENTS	LIGHT INDUSTRIAL USE (N49): 0.8 PER 100 m2 FOR THE FIRST 5,000 m2 OF GFA (3.495 REQUIRED) RETAIL STORE (N79): 3.4 PER 100m2 OF GFA (2.75 REQUIRED) BAR (N15): 6 PER 100m2 OF GFA (6.48 REQUIRED) TOTAL REQUIRED: 12.725	19 PARKING SPACES
BARRIER FREE ACCESSIBLE	AS PER CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS, PARGRAPH 3.1.2, TABLE 3 1 TYPE 'A', 1 TYPE 'B'	2 ACCESSIBLE PARKING SPACES (1xTYPE 'A' + 1xTYPE 'B')
LOADING SPACES	GFA 350-999m2 - 0 required	0 PROVIDED
BICYCLE PARKING RATE	LIGHT INDUSTRIAL USE: 1 PER 1,000 m2 OF GFA (0.4365 REQUIRED) RETAIL STORE: 1 PER 250 m2 OF GFA (0.32 REQUIRED) BAR: 1 PER 1,500 m2 OF GFA (0.072) TOTAL REQUIRED: 0.8285	6 BICYCLE SPACES

BUILDING AREAS

Building Overall	(m2)	(ft2)
101 Vestibule	5.6	60.0
102 Bar	95.0	1,025.0
103 Kitchen	13.5	145.0
104 Storage	3.5	40.0
105 Washrooms	33.0	355.0
106 Retail	75.3	810.0
107 Storage	8.0	85.0
108 Vestibule	5.6	60.0
109 Warehouse	350.0	3,770.0
201 Tasting Lounge	17.0	185.0
202 Office	9.0	95.0
203 Office	9.0	95.0
204 Office	9.0	95.0
205 Office	9.0	95.0
206 Tasting Lounge	17.0	185.0
	659.5	7,100.0
Building Footprint	623.0	6,705.0
Gross Floor Area	738.0	7,945.0

Brewery / Distillery	(m2)	(ft2)	
Warehouse			
109 Warehouse	355.0	3,825.0	
201 Tasting Lounge	17.0	185.0	
202 Office	9.0	95.0	
203 Office	9.0	95.0	
204 Office	9.0	95.0	
205 Office	9.0	95.0	
206 Tasting Lounge	17.0	185.0	
104 Storage	3.5	40.0	
107 Storage	8.0	85.0	
	436.5	4,700.0	
Retail			
106 Retail	75.3	810.0	
108 Vestibule	5.6	60.0	
	80.9	870.0	
TOTAL DISTILLERY	512.4	5,515.0	69.41%
Bar			
101 Vestibule	5.6	60.0	
102 Bar	90.0	970.0	
103 Kitchen	13.0	140.0	
TOTAL BAR	108.6	1,170.0	14.73% (Warehouse + Retail) 24.89% (Warehouse Only)

Parikng Requirememnts	Bycicle Parking Requirements
Light Industrial Use - Area D	Light Industrial Use
0.8 per 100m2 for the first 5,000m2 of GFA	1 per 1,000m2 of GFA
0.8 x 4,365 / 100 = 3.495	1 x 436.5 / 1000 = 0.4365
Retail Store - Area D	Retail Store
3.4 per 100 m2 of GFA	1 per 250m2 of GFA
3.5 x 80.9 / 100 = 2.75	1 x 80.9 / 250 = 0.32
Bar - Area D	Restaurant
6 per 100 m2 of GFA	1 per 250m2 of GFA
6 x 108.6 / 100 = 6.48	1 x 108.6 / 250 = 0.435
12.725	1.1915
13	2

PROJECT INFORMATION:

BUILDING CLASSIFICATION:
THE BUILDING IS CLASIFIED AND DESIGN TO CONFORM TO THE ONTARIO BUILDING CODE 2012 (CURRENT EDITION) PART 3

MAJOR OCCUPANCY:
GROUP F, DIVISION 2, SPRINKLERED, UP TO TWO STOREY (3.2.2.72)
MINOR OCCUPANCIES:
GROUP E, AND GROUP D

BUILDING STATISTICS:

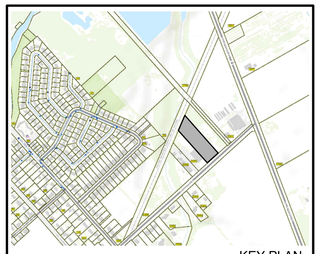
BUILDING AREA (FOOTPRINT):	623 sq.m.
BUILDING GFA:	738 sq.m.
NUMBER OF STOREYS:	1 (+MEZZANINE)
BUILDING SPRINKLERED:	YES
# OF STREET ACCESS ROUTES:	1
CONSTRUCTION TYPE:	NON-COMB.
FLOOR ASSEMBLY & F.R.R.:	1 HOUR

TOPOGRAPHICAL PLAN INFORMATION:

SURVEY PROPERTY BOUNDARIES TAKEN FROM TOPOGRAPHICAL PLAN, PLAN OF SURVEY OF PART OF UNIT 10, INDEX PLAN D-26, GEOGRAPHIC TOWNSHIP OF GOULBOURN, CITY OF OTTAWA

PREPARED BY EGIS SURVEYING INC, JULY 9, 2024

STRATFORD FOX RUN
GROUP OF COMPANIES



KEY PLAN

no.	revision	date
1	ISSUED FOR SITE PLAN CONTROL	07OCT24

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

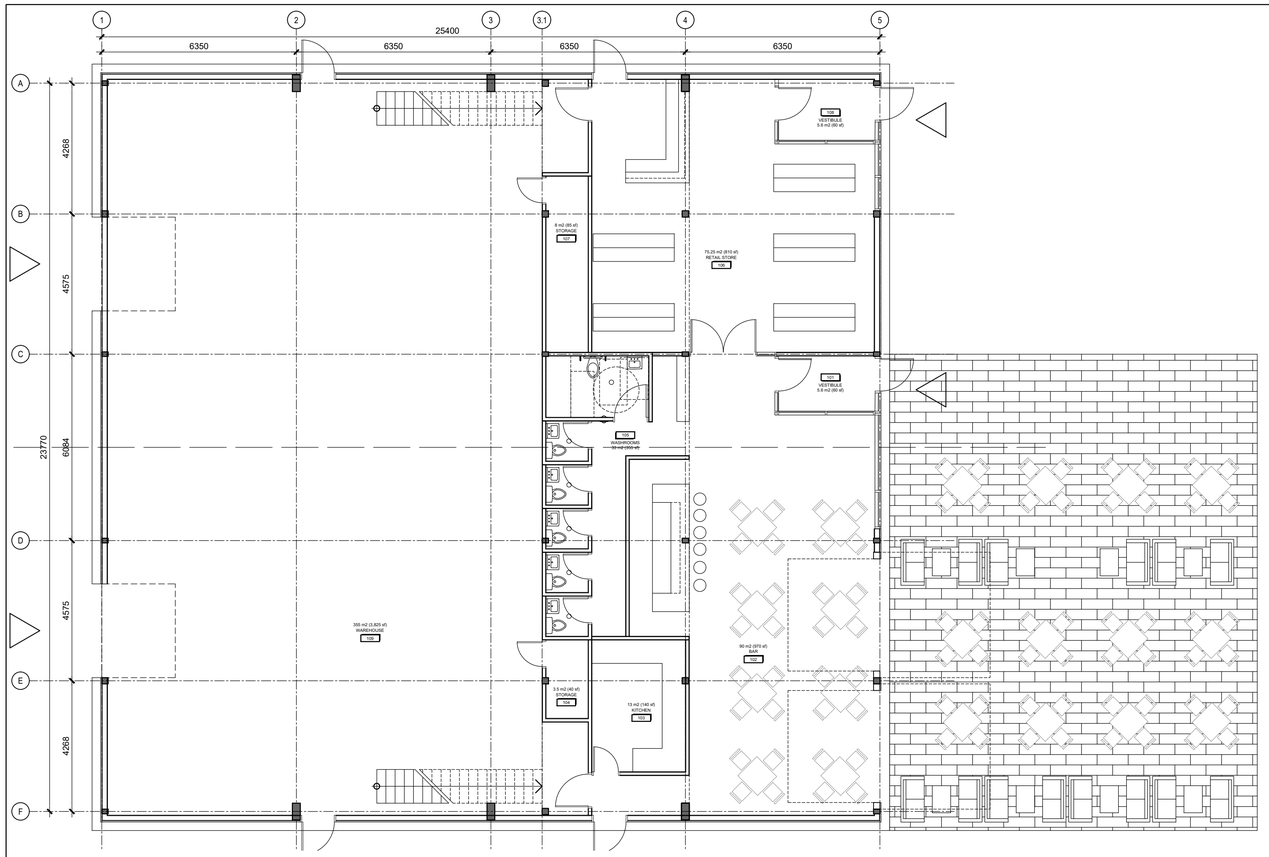
project north | seal

drawing title
SITE PLAN

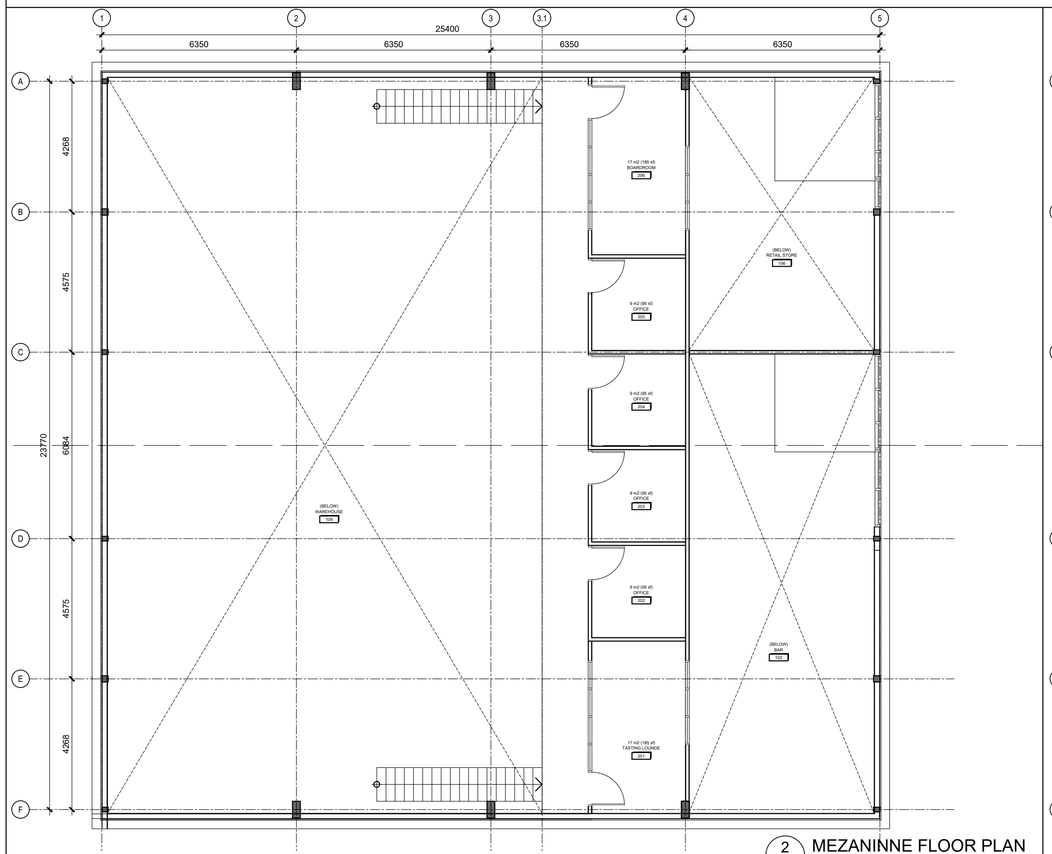
scale AS NOTED	drawn by NF
date JUNE 2022	checked by VP
project number 24-826	drawing number A-001

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

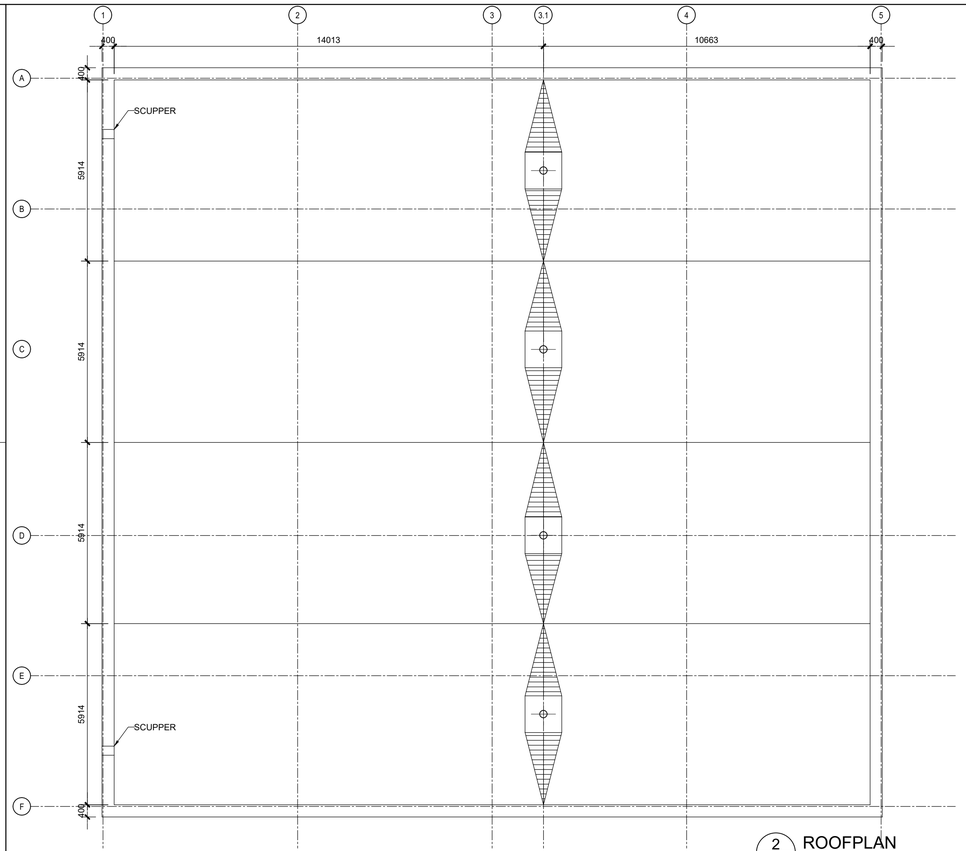
revision -



1 A-002 GROUND FLOOR PLAN
SCALE 1:100



2 A-002 MEZANINNE FLOOR PLAN
SCALE 1:100



2 A-002 ROOFPLAN
SCALE 1:100

STRATFORD FOX RUN
GROUP OF COMPANIES

no.	revision	date
2	ISSUED FOR SITE PLAN CONTROL	19NOV24
1	ISSUED FOR SITE PLAN CONTROL	07OCT24

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

project north

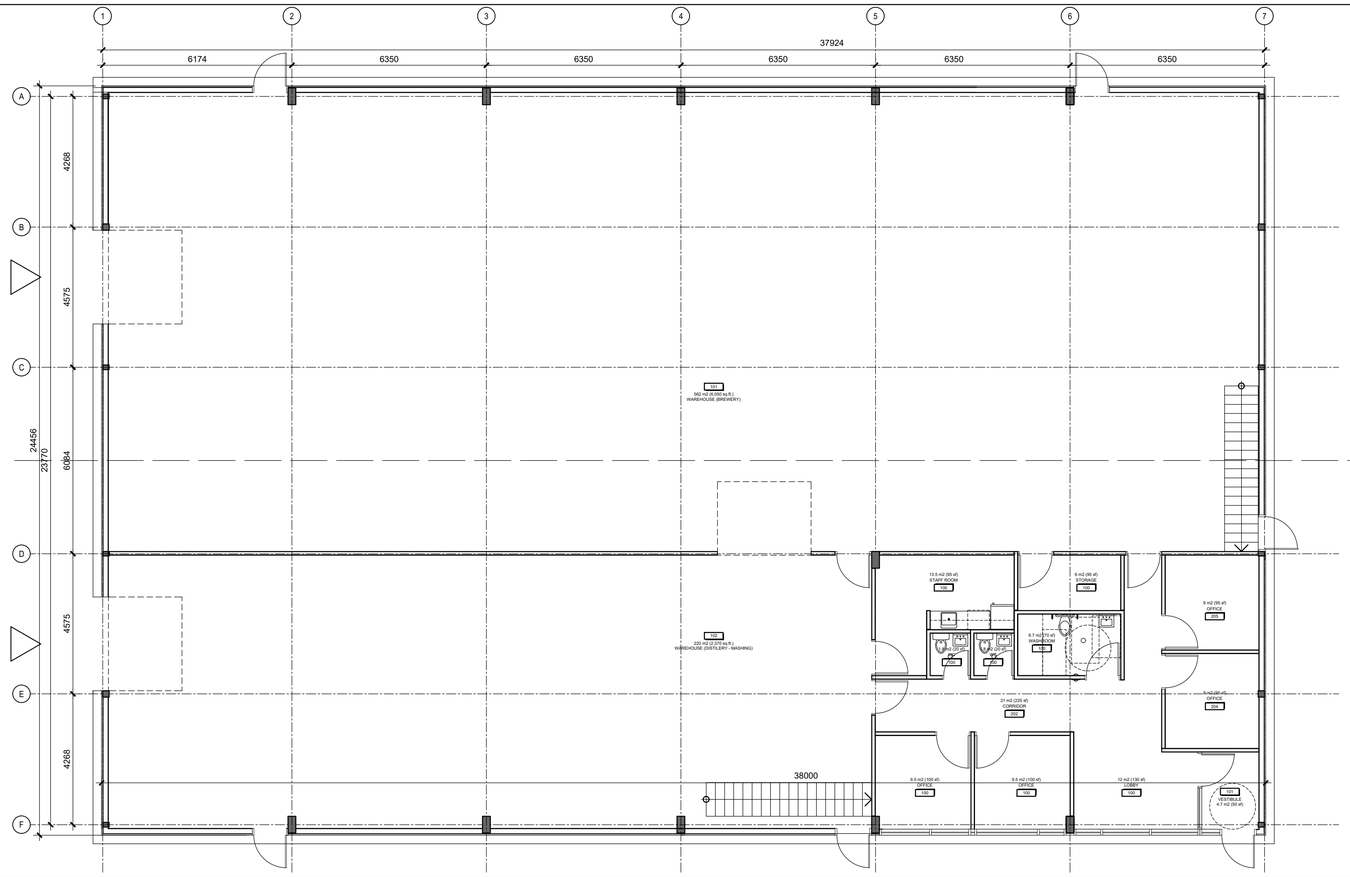
seal
ONTARIO ASSOCIATION OF ARCHITECTS
VLADIMIR POPOVIC
LICENCE
5918

drawing title
FLOOR PLANS

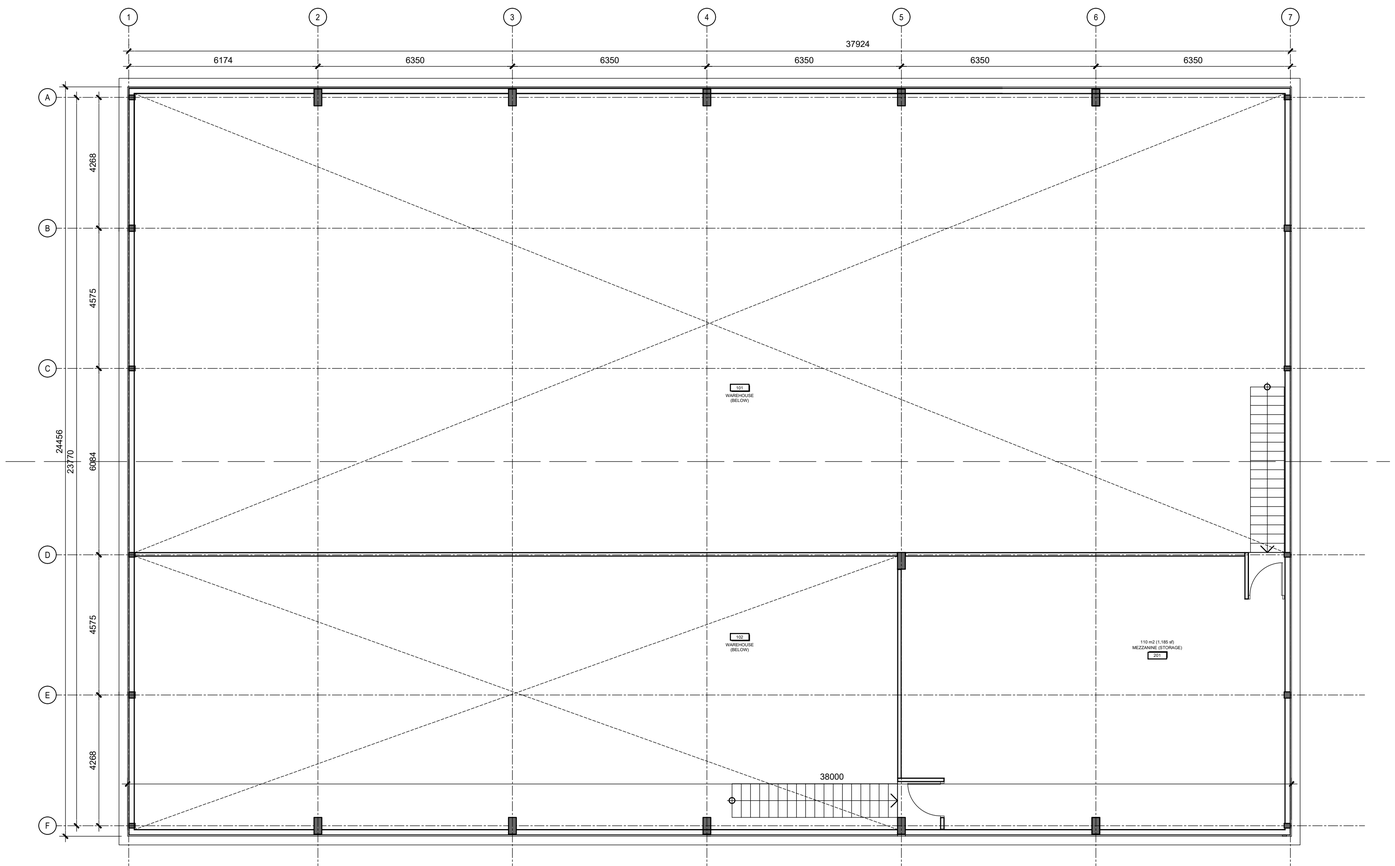
scale AS NOTED	drawn by NF
date OCT 2022	checked by VP
project number 24-826	drawing number A-002

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision
-



1 GROUND FLOOR PLAN
A-004 SCALE 1:100



2 MEZZANINE FLOOR PLAN
A-004 SCALE 1:100

no.	revision	date
-		
-		

STRATFORD FOX RUN
GROUP OF COMPANIES

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

project north

seal

drawing title
BREWERY BUILDING
FLOOR PLANS

scale	drawn by
AS NOTED	NF
date	checked by
MARCH 2025	VP
project number	drawing number
24-826	A-004

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision -

PLAN OF SURVEY OF PART OF UNIT 10 INDEX PLAN D–26 GEOGRAPHIC TOWNSHIP OF GOULBOURN CITY OF OTTAWA

EGIS SURVEYING INC.

SCALE 1 : 400

0 10 20 30 40 Metres

THE INTENDED PLOT SIZE OF THIS PLAN IS 762mm IN WIDTH BY 762mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1 : 400.

METRIC :

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

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 3RD DAY OF JULY, 2024.

JULY 9, 2024
DATE

JOHN GAUTHIER
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V–77353.

LEGEND AND NOTES

□	DENOTES	MONUMENT PLANTED
■	DENOTES	MONUMENT FOUND
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
(m)	DENOTES	MEASURED
(p1)	DENOTES	PLAN 4R–7050
(p2)	DENOTES	PLAN 5R–13387
(p3)	DENOTES	PLAN 4R–7885
(725)	DENOTES	ARNETT, KENNEDY, RIDDELL & JASON SURVEYING LTD. SURVEYING LTD, O.L.S.
(818)	DENOTES	J. R. HILEY, O.L.S.
(1442)	DENOTES	J. H. KENNEDY, O.L.S.
(WSG)	DENOTES	W. S. GIBSON, O.L.S.
WIT	DENOTES	WITNESS
N	DENOTES	NORTH
E	DENOTES	EAST
S	DENOTES	SOUTH
W	DENOTES	WEST
ORP	DENOTES	OBSERVED REFERENCE POINT
PWF	DENOTES	POST & WIRE FENCE
WV	DENOTES	WATER VALVE
W	DENOTES	WELL
MW	DENOTES	MONITORING WELL
H	DENOTES	HYDRO POLE
— OHW —	DENOTES	OVERHEAD WIRES
Ø	DENOTES	DIAMETER
HDPE	DENOTES	HIGH DENSITY POLYETHYLENE
◁	DENOTES	SIGN
TBM	DENOTES	TEMPORARY BENCHMARK
*93.45	DENOTES	SPOT ELEVATION
	DENOTES	BUSH
	DENOTES	DECIDUOUS TREE

MONUMENTATION:

SSIBS HAVE BEEN SET IN LIEU OF SIBS DUE TO SHALLOW OVERBURDEN AND/OR THE PRESENCE OF SUBSURFACE UTILITIES.

DISTANCES:

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES AND CAN BE USED TO COMPUTE GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999926.

BEARINGS

BEARINGS ARE UTM GRID BEARINGS, DERIVED BY REAL TIME NETWORK GNSS OBSERVATIONS ON OBSERVED REFERENCE POINTS 'A' AND 'B' SHOWN HEREON, AND ARE REFERRED TO THE NAD83 CSRS (2010) MTM ZONE 9 COORDINATE SYSTEM.

BEARING ROTATION:

FOR THE PURPOSE OF COMPARISON, ASTRONOMIC BEARINGS HAVE BEEN ROTATED AS FOLLOWS:

PLAN	ROTATION	DIRECTION
(p1) (p3)	0°00'50"	CLOCKWISE

INTEGRATION DATA:

OBSERVED REFERENCE POINTS (ORPs) DERIVED FROM GNSS OBSERVATIONS USING THE CANNET REAL TIME NETWORK (RTN) SERVICE. COORDINATES ARE CONFIRMED BY THE NRCAN RTK COMPLIANCE AGREEMENT.

COORDINATE SYSTEM : NAD83 CSRS (2010), MTM ZONE 9.

COORDINATES TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10.

POINT ID	NORTHING	EASTING
ORP 'A'	5005838.10	358302.62
ORP 'B'	5006150.58	358293.69

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE–ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

VERTICAL DATUM :

ELEVATIONS ARE GEODETIC (CGVD 2013) AND ARE DERIVED FROM GNSS OBSERVATIONS REFERENCED TO THE CGG 2013 GEOID MODEL.

PLEASE NOTE, OBSERVED LOCAL DIFFERENCE BETWEEN THIS DATUM AND CGVD28:78 IS APPROXIMATELY –0.31m. CARE SHOULD BE TAKEN TO UNDERSTAND THE VERTICAL DATUM USED WHEN REVIEWING THIS AND OTHER RELATED GEOGRAPHIC INFORMATION.

CONTOURS:

THE CONTOUR INTERVAL IS 0.25 METRES.

BENCHMARKS:

TEMPORARY SITE BENCHMARK – SPIKE IN IN HYDRO POLE, HAVING AN ELEVATION OF 94.86m.

CAUTION:

THE LOCATION AND CONFIGURATION OF UNDERGROUND SERVICES AND UTILITIES IS NOT WITHIN THE SCOPE OF THIS SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE CONFIGURATION AND LOCATION OF UNDERGROUND SERVICES AT THE SITE PRIOR TO CONSTRUCTION.

JOB No. CCO 25–0415	DRAWING # CCO 25–0415 OTTAWA ST.
PREPARED FOR: EGIS CANADA LIMITED	

egis SURVEYING INC.
info.north-america@egis-group.com
www.egis-group.com
3240 Drummond Con. 5A, R.R. #7
Perth, ON K7H 3C9
Tel: 613-267-6524 Fax: 613-267-7992

EXAMINED: JG	CAD: JB, CC

DETAIL 'A' SCALE 1:50

UNIT 10

0.15 (p3,m) W — PART 1 PLAN 4R–7885

SIB (1442) — IB (1442)

0.91(p3,m) N47°26'50"E(p3,m)

181.33 (m) 181.28(p1)

N42°32'25"W(m) N42°33'10"W(p1) 55.54 (p3,m)

PART 3 PLAN 4R–7050 PIN 04430–0012 (LT)

PART 4 PLAN 4R–7050 PIN 04430–0013 (LT)

INDEX PLAN D–26

BLOCK 13 PLAN 4M–1350 UNIT 3

LOT 31 REGISTERED PLAN UNIT 16

PIN 04430–0023 (LT) NATIONAL CANADIAN RAILWAY

Railway Tracks — Top of Slope — Bottom of Slope

214.19 (p1,m) 220.71(p1) 120.60(m)

30.00 m 30.00 m 30.00 m

30M RAILWAY SETBACK

IB (725) PWF 0.3 S

N22°51'50"E(p1,m) 55.07(m) 54.99(p1)

SSIB(725) Disturbed(top noted) 0.05 S

38.53 (m) 38.49(p1)

IB (725) ORP 'A'

142.39 (p1,m) N42°35'00"W (m) N42°33'10"W(p1)

158.43 (m) N42°34'00"W (m) N42°33'10"W(p1)

181.33(m) 181.28(p1)

PART 1 PLAN 4R–7050

PART 2 PLAN 4R–7050

PART 3 PLAN 4R–7050 PIN 04430–0012 (LT)

PART 4 PLAN 4R–7050 PIN 04430–0013 (LT)

PART 1 PLAN 4R–7885

UNIT 10

Asphalt Parking Lot

Gravel

No. 5935 2 Storey Block and Metal Clad Building

Steps

SEE DETAIL 'A'

SIB (818)

MW

W

N42°33'10"W(p1) 3.00

N42°32'25"W(m) 55.54 (p3,m)

IB(725)WIT Disturbed (base noted) 0.10 NW

50.00(p1,set) N47°26'50"E (p1,m)

35.00(p1,m)

SSIB (725)

Asphalt Driveway

OTTAWA STREET (As Per Registered Plan 4D–24) PIN 04430–0297 (LT)

Crown of Road

Gravel Shoulder

Asphalt

Ditch

TBM 94.86 SPIKE IN HYDRO POLE

300mmø HDPE CULVERT INVERT=93.58 OBVERT=93.89

Most Easterly Corner Unit 10, Plan D–26

110.00 (p1,m) 195.00 (p1,m)

N47°15'20"E (p2,m) 10.06(p2,m)

SSIB (WSG) SSIB (818)

SIB(818) ORP 'B'

SSIB WIT

1.85

10.06 (p2,set)

PIN 04430–0300 (LT)

PART 1 PLAN 4R–13387

PART 2 PLAN 4R–13387

CONCESSION 3 & 26 LOTS BETWEEN LOT 25 (FORMERLY ROAD ALLOWANCE BETWEEN CONCESSIONS 2 & 3)

LOT 26 CONCESSION 3

231.49 (p1,p2,set)

236.20 (m) 236.06(p2)

N42°36'20"W(p2) N42°36'20"W(m) N42°37'30"W(m)

ROAD ALLOWANCE BETWEEN CONCESSIONS 2 & 3

APPENDIX C – RAIL CORRIDOR DETAILS.

OTTAWA → KINGSTON → TORONTO

TRAIN		41	641	43	51	643	45	53	47	645	55	647	59
DAYS / JOURS		1234567	1234567	1234567	1234567	1234567	1234567	1234567	1234567	1234567	1234567	1234567	1234567
BUSINESS AFFAIRES		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ottawa, ON	DP	05:30	06:40	07:20	08:35	08:40	10:27	11:40	12:28	14:30	15:30	17:20	18:26
Fallowfield		05:55	06:59	07:40	08:55	09:01	10:46	12:00	12:49	14:55	15:49	17:39	18:52
Smiths Falls		06:22	07:26		09:24	09:29							19:25
Brockville		06:51	07:55		09:53	09:58			13:56		16:54		19:58
Gananoque									14:22				
Kingston	AR	07:31	08:35	09:10	10:33	10:38	12:24	13:35	14:41	16:32	17:34	19:18	20:38
	DP	07:34	08:38	09:13	10:36	10:41	12:26	13:39	14:45	16:35	17:38	19:20	20:41
Napanee						11:02							
Belleville		08:16	09:19			11:25		14:21	15:28	17:16	18:18		21:22
Trenton Jct.						11:37							21:32
Cobourg		08:51	09:54		11:46	12:03					18:52		22:00
Port Hope						12:11							
Oshawa		09:27	10:29			12:43		15:29	16:38	18:23	19:25	21:12	22:33
Guildwood			10:46		12:36	13:01			16:58				22:50
Toronto ✈	AR	10:02	11:02	11:25	12:52	13:16	14:48	16:03	17:15	19:05	19:57	21:45	23:07

No local service between Ottawa and Fallowfield, or Guildwood and Toronto. / Pas de service local entre Ottawa et Fallowfield, ainsi qu'entre Guildwood et Toronto.

✈ Travel between Union Station and Pearson Airport on UP Express trains in 25 minutes, with departures every 15 minutes. / Voyagez entre la gare Union et l'aéroport Pearson à bord des trains UP Express. Trajet de 25 minutes et départs toutes les 15 minutes.

Available on most trains.

Offert dans la plupart des trains.

TORONTO → KINGSTON → OTTAWA

TRAIN		50	52	40	42	644	44	46	646	54	48
DAYS / JOURS		1234567	1234567	1234567	1234567	1234567	1234567	1234567	1234567	1234567	1234567
BUSINESS AFFAIRES		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Toronto, ON	DP	06:40	08:35	10:40	12:20	13:20	14:20	15:40	16:35	17:40	18:40
Guildwood		07:00								17:58	18:58
Oshawa		07:19	09:08		12:52	13:53	14:54	16:17	17:06	18:14	19:16
Port Hope										18:40	19:43
Cobourg		07:54	09:40			14:26		16:50		18:48	19:53
Trenton Jct.										19:15	20:19
Belleville		08:29				15:03			18:11	19:30	20:36
Napanee										19:50	20:54
Kingston	AR	09:07	10:49	12:49	14:32	15:39	16:32	17:59		20:09	21:13
	DP	09:11	10:53	12:51	14:34	15:42	16:36	18:02		20:12	21:16
Gananoque											21:38
Brockville		10:08	11:48				17:20	18:47			22:03
Smiths Falls		10:39					17:50				22:33
Fallowfield		11:12	12:47	14:35	16:17	17:41	18:24	19:47	20:24	21:49	23:00
Ottawa, ON	AR	11:29	13:09	14:57	16:34	17:58	18:46	20:09	20:42	22:07	23:16

No local service between Toronto and Guildwood, or Fallowfield and Ottawa. / Pas de service local entre Toronto et Guildwood, ainsi qu'entre Fallowfield et Ottawa.

Travel between Union Station and Pearson Airport on UP Express trains in 25 minutes, with departures every 15 minutes. / Voyagez entre la gare Union et l'aéroport Pearson à bord des trains UP Express. Trajet de 25 minutes et départs toutes les 15 minutes.