

NOISE AND VIBRATION IMPACT STUDY

Project: 23245.00

# 725 Westney Road South

Ajax, Ontario

Prepared for:

Firearms Outlet Canada 725 Westney Road South Unit #2 Ajax, ON, L1S 7J7

Prepared by:

Nicholas Zomparelli, M.Eng., EIT

E. A. J. SALT

100214821 April 24, 2025 NCE OF ONT ARIO

Eric Salt, Ph.D., P.Eng.

April 24, 2025

# **Revision History**

Version	Version Description		Reviewed	Date
1	Initial Report	NZ	ES	December 20, 2023
2	Updated for Site Plan Revision	NZ	NSW	July 4, 2024
3	Revision of Noise Mitigation Requirements	NZ	ES	September 30, 2024
4	Updated to Address Peer Review Comments	NZ	ES	November 13, 2024
5	Updated to Address SPA Comments and Proposed Noise Mitigation	NZ	ES	April 24, 2025

# Important Notice and Disclaimer

This report was prepared by Aercoustics Engineering Limited (Aercoustics) solely for the client identified above and is to be used exclusively for the purposes set out in the report. The material in this report reflects the judgment of Aercoustics based on information available to them at the time of preparation. Unless manifestly incorrect, Aercoustics assumes information provided by others is accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented. Unless otherwise required by law or regulation, this report shall not be shared with any Third Party without the express written consent of Aercoustics. Aercoustics accepts no responsibility for damages, if any, suffered by any Third Party which makes use of the results and conclusions presented in this report.



## **Table of Contents**

1	Introduction	1
2	Guidelines and Criteria	2
3	Noise Prediction Methodology	4
4	Noise Predictions	6
5	Noise Mitigation Requirements	9
6	Conclusions	11

# **Appendix A**

**Zoning Map and Architectural Plans** 

# **Appendix B**

**Transportation Traffic Data and Sample Calculations** 

# **Appendix C**

**Sound Power Level Data** 

## 1 Introduction

Firearms Outlet Canada, through the Biglieri Group, has retained the services of Aercoustics Engineering Limited to prepare a Noise and Vibration Impact Study for the proposed commercial development at 725 Westney Road South in Ajax, Ontario, for the purposes of assessing the feasibility of the development in support of a Site Plan Approval application.

The purpose of this study was to examine the existing noise environment in the development area and examine the impact of the proposed development on existing noise sensitive receptors off-site. This report also investigates the noise control features that are required for the development to meet the noise guidelines of the Ontario Ministry of the Environment and Climate Change (MECP) and to satisfy the requirements of the Town of Ajax. This report considers the MECP guideline NPC-300 "Stationary and Transportation Sources – Approval and Planning" (August 2013).

The site is located at 725 Westney Road South in Ajax, Ontario and currently features a commercial plaza consisting of single-storey commercial units. Occupants of these units include a Firearms Outlet Canada retail store, car-detailing facility and accountant office. The proposed development will expand the firearms facility by amalgamating the commercial units and adding a two-storey addition which will include two shooting ranges. The first-floor range is a traditional range to feature 15 lanes and the second-floor shooting range is a clayhouse shotgun range to feature 7 lanes.

Figure 1 provides a key plan showing the location of the proposed development and nearby points of reception. Figure 2 shows the daytime and nighttime minimum ambient background sound levels due to road traffic calculated at the nearby points of reception. Figures 3 shows daytime and nighttime noise impact from on-site steady stationary sources at adjacent worst-case residential receptors. Figure 4 shows daytime noise impact from on-site impulse stationary sources at adjacent worst-case residential receptors.

The site is currently zoned PE - Prestige Employment. The site is adjacent to commercial plazas to the north, east and west (zoned PE - Prestige Employment and General Employment – GE), and residential areas to the south (zoned Low Density Residential – LDR). A zoning map is presented in Appendix A.

This report is based on the following information:

• "Firearms Outlet Canada – Issued For SPA" architectural drawings dated March 19, 2025 and prepared by Wang Architects Inc.

The dominant road traffic sources in the subject study area are Westney Road South to the south and Finley Avenue to the east. The site is located approximately 2.5km south of rail-lines supporting VIA-Rail, GO-Transit and CN Rail services.



This site is not affected by rail, air traffic or sources of vibration.

## 2 Guidelines and Criteria

### 2.1 Stationary Noise Sources

The guidelines of the MECP for planned stationary sources adjacent to noise sensitive points of reception were used to address the potential impact of noise associated with the proposed development onto the nearby residential developments. These guidelines are summarized in the MECP document NPC 300 "Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning", dated August 2013.

The noise level limits pertaining to stationary noise sources measured at noise sensitive points of reception have been established based on the MECP Publication NPC-300. The MECP defines a Class 1 area as an area with an acoustical environment where the background noise is dominated by manmade noises and the activity of people. Due to existing road traffic associated with nearby commercial uses, all residential receptors in this study are Class 1. In this case, road traffic noise from Westney Road South and Finley Avenue are the primary determinant of the background sound level for the area. The sound level limit at a point of reception is set as the higher of either the applicable exclusion limit, or the minimum background sound level.

The MECP stationary source exclusion limits are summarized in Table 1 below.

Table 1: Noise Exclusion Limits Due to Stationary Sources - Class 1

Time of Day	Sound Level Exclusion Limit Plane of Window	Sound Level Exclusion Limit Outdoors		
Day (07:00 to 23:00)	50 dBA	50 dBA		
Night (23:00 to 07:00)	45 dBA	-		

For impulsive noise from a stationary source, the sound level limit at a point of reception, expressed in terms of the Logarithmic Mean Impulse Sound Level ( $L_{LM}$ ), is the higher of the applicable exclusion limit value given in Table 2, or the background sound level for that point of reception.



Table 2: Impulsive Sound Exclusion Limits - Class 1

Impulses Per Hour	Time of Day	Exclusion Limit Plane of Window	Exclusion Limit Outdoor Point of Reception
1	Daytime (07:00 to 23:00)	80 dBAI L <sub>LM</sub>	80 dBAI L <sub>LM</sub>
l '	Nighttime (23:00 to 07:00)	75 dBAI L <sub>LM</sub>	
2	Daytime (07:00 to 23:00)	75 dBAI L <sub>LM</sub>	75 dBAI L <sub>LM</sub>
2	Nighttime (23:00 to 07:00)	70 dBAI L <sub>LM</sub>	
3	Daytime (07:00 to 23:00)	70 dBAI L <sub>LM</sub>	70 dBAI L <sub>LM</sub>
J	Nighttime (23:00 to 07:00)	65 dBAI L <sub>LM</sub>	
4	Daytime (07:00 to 23:00)	65 dBAI L <sub>LM</sub>	65 dBAI L <sub>LM</sub>
4	Nighttime (23:00 to 07:00)	60 dBAI L <sub>LM</sub>	
5-6	Daytime (07:00 to 23:00)	60 dBAI L <sub>LM</sub>	60 dBAI L <sub>LM</sub>
5-0	Nighttime (23:00 to 07:00)	55 dBAI L <sub>LM</sub>	
7-8	Daytime (07:00 to 23:00)	55 dBAI L <sub>LM</sub>	55 dBAI L <sub>LM</sub>
7-0	Nighttime (23:00 to 07:00)	50 dBAI L <sub>LM</sub>	
9+	Daytime (07:00 to 23:00)	50 dBAI L <sub>LM</sub>	50 dBAI L <sub>LM</sub>
9+	Nighttime (23:00 to 07:00)	45 dBAI L <sub>LM</sub>	

Given the total number of lanes to be featured in the shooting range, it is Aercoustics' opinion that more than nine impulses per hour attributed to firearm discharging will occur at the proposed development during a worst-case hour, setting the appropriate sound limit for nearby receptors to 50 dBAI  $L_{LM}$  during the daytime, or the background sound level for the point of reception.

#### 2.1.1 Non-Sensitive Land Uses

The site is adjacent to several commercial and industrial land uses that are not considered noise sensitive per Ministry guidelines, specifically commercial plazas to north, east and west.

The Town of Ajax has requested these facilities be considered in the assessment of firearm noise impact. As a result, predictions of noise levels due to firearm discharges are provided in this study at the worst-case façade locations of these facilities.

Note that in addition to these land uses being considered non-noise sensitive, most of these windows with direct exposure to the proposed facility are inoperable and therefore would not constitute a Point of Reception even if the land use was noise-sensitive. Regardless, this study has assessed the impact of the firearm noise on the commercial land uses at the request of the city.



# 3 Noise Prediction Methodology

#### 3.1 Road Noise Calculation Procedure

The dominant road traffic sources in the subject study area are Westney Road South and Finley Avenue. Road traffic from all other roads is acoustically insignificant. The residential areas to the south of the proposed development are MECP Class 1 areas due to existing road traffic.

Road traffic noise calculations were performed using the U.S. Department of Transportation's Traffic Noise Model Version (TNM) Version 2.5; within Datakustik's CadnaA Noise Prediction Software. The worst-case noise sensitive receptors were assessed. Calculations were performed for both daytime and nighttime conditions. Equivalent minimum background sound levels ( $L_{eq}$ ) were calculated by determining the lowest hourly  $L_{eq}$  based on the traffic information presented in Table 3 and traffic distributions provided by the Institute of Traffic Engineers (ITE). Predicted minimum background sound levels are presented in Section 4.1 and traffic distributions are presented in Appendix B.

Where the minimum background noise level due to road traffic noise is higher than the MECP exclusion limit, the background level is used as the stationary source limit, in accordance with NPC-300.

#### 3.2 Road Traffic Data

Predictions of road traffic noise were based on the road traffic data outlined in Table 3 below. Road traffic volumes and car/truck ratios for Westney Road South and Finley Avenue were calculated from turning movement count data obtained from the Region of Durham. Traffic from other roads adjacent to the proposed development has been assumed to be acoustically insignificant.

Copies of road traffic data are included in Appendix B.

Table 3: Daily Road Traffic Volumes

Data	Westney Road South	Finley Avenue	
AADT	6680	3490	
Minimum Hourly Vehicle Count* (% of AADT)	234 (3.5%)	122 (3.5%)	
Day/Night Split (%)	90 / 10	90 / 10	
Cars/Trucks (%)	98.8 / 1.2	98.3 / 1.7	
Medium/Heavy Trucks (%)	0.6 / 0.6	0.8 / 0.8	



Data	Westney Road South	Finley Avenue
Posted Speed (km/h)	50	50

<sup>\*</sup>determined via traffic distributions provided by the Institute of Traffic Engineers (ITE), as presented in Appendix B

## 3.3 Stationary Noise Source Analysis

The noise prediction model was generated using Datakustik's CadnaA Noise Prediction Software. This model is based on established noise prediction methods outlined in the ISO 9613-2 standard entitled "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method and calculation". Noise levels were predicted using conditions of downwind propagation and generally with hard ground.

#### 3.3.1 Proposed On-Site Steady Stationary Noise Sources

The current drawing set does not include detailed mechanical layouts. For the purposes of modelling, it is assumed that the proposed development will feature six (6) 5-ton rooftop units. A duty cycle of 100% during the daytime and 75% during the nighttime is assumed for each rooftop unit.

Delivery truck movements to the loading bay of the development were also modelled. It was confirmed by the owner that the development will likely receive one (1) truck delivery in a worst-case hour. One idling truck at the loading bay was also modelled, idling for a worst-case of two minutes in accordance with the Town of Ajax's *By-Law Number 25-2023 Public Nuisance and Safety By-law*. It was also confirmed by the owner that no nighttime truck operations are to occur at the development.

#### 3.3.2 Proposed On-Site Impulse Noise Sources

From discussions with the owner, it is understood that a variety of firearms are planned to be used within the shooting range, as summarized below:

- Handguns of the following calibres:
  - o 9mm,
  - o .38 special,
  - o .45 acp.
  - o .50 AE
- Shotguns of the following gauges:
  - o 20GA,
  - o 12GA
- Rifles of the following calibres:
  - o .22 LR,
  - o .223,
  - o 5.56,
  - o .308



From Aercoustics' previous experience and noise measurements with these firearms and similar firearms, the .308 Rifle has been selected as the worst-case loudest firearm noise source. The sound power level for this firearm is listed in Appendix C. It was assumed that more than nine (9) rifle discharges would occur at the range in a worst-case hour.

It is expected that firearm noise from within the proposed development will be audible as impulsive noise exterior to the facility. Due to the inherently high impulse sound levels generated by firearms, consideration must be given to the façades and roof of the second-storey shooting range, as they will effectively act as radiating sources of this noise. These façades are therefore treated as sources of impulse noise. It is understood that the proposed development is planned to feature metal decking with a concrete topping and concrete walls, per the current architectural plans. Mitigation strategies are further discussed in Section 5.2. Sound data used to model these partitions as radiating sources of impulse noise are presented in Appendix C.

In Aercoustics' experience, it was found that openings in the building envelope, including through HVAC systems, in firearms ranges are particularly effective in transmitting firearm noise from within the range outwards. As a result, the openings servicing HVAC systems outlined in Section 3.3.1 for the shooting range are treated as sources of impulse noise.

It was also confirmed by the owner that the facility will not operate during nighttime hours (23:00-07:00).

## 4 Noise Predictions

#### 4.1 Road Noise: Minimum Background Levels

Minimum background sound levels due to road traffic at the identified worst-case receptors were determined by using minimum hourly vehicle count data for Westney Road South and Finley Avenue. Table 4 below presents the predicted sound levels.

Receptor Location (Figure 2)	Receptor Height (m)	Description	Time of Day	Calculated L <sub>eq</sub> (dBA)
R1	4.5	801 Finley Avenue	Day	53
ΚI	4.5	West Façade	Night	41
R1_g	1.5	801 Finley Avenue Backyard OLA	Day	55
R2	4.5	800 Finley Avenue	Day	53
KZ	4.5	West Façade	Night	40
R2_g	1.5	800 Finley Avenue Backyard OLA	Day	53



Receptor Location (Figure 2)	Receptor Height (m)	Description	Time of Day	Calculated L <sub>eq</sub> (dBA)
R3_g	1.5	15 Pridham Court Backyard OLA	Day	53

The predicted sound levels noted in the above table indicate that daytime minimum background sound levels due to road traffic are higher than the MECP exclusion limits for stationary and impulse noise sources. As a result, daytime minimum background sound levels are used as stationary and impulse source limits in the following sections.

It should be noted that the receptors identified in Table 4 are located at residential houses that do no feature windows on their north façades (which face the proposed development). As a result, these north facades specifically are not considered points receptions.

## 4.2 On-Site: Steady Stationary Noise Sources

Table 5 below lists the daytime and nighttime sound levels due to proposed stationary sources associated with the proposed development at the identified worst-case receptor locations.

Table 5: Predicted Unmitigated Noise Levels Due to Proposed On-Site Steady Stationary Sources

Receptor Location		Description	Calcula (dE	ited L <sub>eq</sub> BA)	L <sub>eq</sub> Lim	nit (dBA)	Compliance
(Figures 2 and 3)	(m)	2000.191101.	Day	Night	Day*	Night	
R1	4.5	801 Finley Avenue West Façade	36	35	53	45	Yes
R1_g	1.5	801 Finley Avenue Backyard OLA	36	-	55	45	Yes
R2	4.5	800 Finley Avenue West Façade	40	38	53	45	Yes
R2_g	1.5	800 Finley Avenue Backyard OLA	39	-	53	45	Yes
R3_g	1.5	15 Pridham Court Backyard OLA	40	-	53	45	Yes

<sup>\*</sup>indicates that minimum background sound level due to road traffic is higher than MECP exclusion limit



## 4.3 On-Site: Impulse Noise Sources

Table 6 below lists the daytime sound levels due to on-site impulse noise sources near the proposed development at worst-case receptors. Since at least nine impulses per hour were modelled, the daytime noise exclusion limit for outdoor points of reception and planes-of-windows is 50 dBAI, as described in Table 2. This limit is lower than the minimum ambient background sound levels presented in Table 4. Per NPC-300 guidelines, these background levels are therefore used as the applicable limits. Residential receptors are denoted as Rxx whereas commercial receptors are denoted as COMx, as illustrated in Figure 4.

Table 6: Predicted Unmitigated Noise Levels Due to Off-Site Impulse Stationary Sources

Receptor Location	Receptor Height	Description	Calculated L <sub>Lm</sub> (dBAI)		L <sub>Lm</sub> Limit (dBAI)		Compliance?
(Figure 4)	(m)		Day	Night	Day	Night	
R1	4.5	801 Finley Avenue West Façade	67	-	53	-	No
R1_g	1.5	801 Finley Avenue Backyard OLA	66	-	55	-	No
R2	4.5	800 Finley Avenue West Façade	69	-	53	-	No
R2_g	1.5	800 Finley Avenue Backyard OLA	68	-	53	-	No
R3_g	1.5	15 Pridham Court Backyard OLA	68	-	53	-	No
COM1	4.5	700 Finley Avenue South Façade	75	-	-	-	-
COM2	1.5	765 Westney Road South West Façade	69	-	-	-	-
СОМЗ	1.5	695 Westney Road South West Façade	70	-	-	-	-



# 5 Noise Mitigation Requirements

#### 5.1 On-Site: Steady Stationary Noise Sources

From modelling of the assumed steady stationary rooftop sources for the proposed development and their potential impact on the surrounding areas, no noise mitigation is expected to be required. However, the design team and developer should engage a qualified Acoustic Engineer in the design of the facility to ensure the proposed noise controls are integrated into the design.

## 5.2 On-Site: Impulse Stationary Noise Sources

Based on the modelling detailed above, mitigation strategies have been discussed and reviewed to prevent impulse noise from the discharging of firearms from generating above-compliance noise levels at nearby points of reception.

#### 5.2.1 HVAC Systems

Firearm impulse noise travelling through HVAC systems servicing the ranges is expected to be a dominant source of impulse noise. Based on the noise impact predictions, a total attenuation of 15-20 dB is required through open HVAC ductwork paths to the exterior of the building.

At this time, detailed HVAC layouts were not available for review, however a representative design based on the systems installed at similar facilities has been provided for Aercoustics' review by the supplier engaged to develop the HVAC system. Based on this information, Aercoustics has evaluated the potential noise emissions and level of noise attenuation attainable. It is expected that the noted attenuation of 15-20 dB will be achieved primarily through the use of silencers in duct paths between the ranges and rooftop HVAC equipment. It is anticipated that a minimum 3 m silencer will be required and should be positioned at each opening in the roof where the HVAC penetrates. Supplementary attenuation will be achieved with acoustic lining as required.

It is also expected that acoustic barriers around rooftop HVAC equipment that break line of sight to the nearest receptors will be required. The height of these barriers should be approximately 0.5 m higher than the rooftop equipment. These mitigation measures have been reviewed with the design team and determined to be practically and economically feasible to incorporate into the design of the facility.

#### 5.2.2 Building Envelope Components

While firearm noise travelling through HVAC systems was predicted to be the dominant noise source from the above analysis, due to the inherently high impulse sound levels generated by firearms, consideration must be given to all elements of the building envelope, in particular the façades and roof of the second-storey shooting range, as they



will be directly exposed to the outdoor environment. The following sections provide a review of these architectural elements noted for use based on current architectural plans.

## Roof/Ceiling Structure

From the architectural plans provided, the following assembly is proposed for the secondstorey clayhouse shotgun range roof:

- Metal deck roof with concrete topping (assembly RF-1):
  - TPO waterproof membrane
  - Protection board
  - Tapered rigid insulation
  - 50mm concrete topping
  - Metal deck
  - Structural steel
  - Air cavity filled with glass fibre insulation
  - Suspended drywall ceiling (2 layer of 16mm gypsum board)

This assembly has been reviewed by Aercoustics and determined to be sufficient to mitigate noise transmission through the roof of the second-level range. It should be noted however that the suspended drywall assembly must hang below the structural steel elements and span the full extent of the range.

### Range Façades

The architectural plans note that the following concrete wall assembly is to be used for range walls:

Concrete range wall (assembly W6):

- 75mm precast concrete panel
- 100mm polyiso rigid insulation
- 150mm precast concrete panel

This assembly has been reviewed by Aercoustics and determined to be sufficient to mitigate firearm noise to the outdoor environment.

### Perimeter Doors

Vestibules are an effective means of mitigating sound transmission, as they can create a sound lock between the spaces in which they serve.



The north section of the ground-level range (containing bays 6-15) is adjacent to a corridor, which features a glass access door, viewing windows to the range, as well as an exterior exit door (Exit #9). Given the presence of the glass door and windows, it is expected that a large amount of firearm noise will intrude into this corridor. To minimize the amount of firearm noise that will escape from this corridor to the exterior via the exit door, a wall containing a door that spans between the P4 concrete block walls of the range corridor was recommended, in order to create a vestibule between the range corridor and exterior. This recommendation has been incorporated into the current architectural plans.

The second-level clayhouse shotgun range is serviced by a stairwell that leads to an exterior exit (Exit #10). Given that this stairwell is comprised of P4 concrete block walls with an interior door, this stairwell will form an effective vestibule.

The detailing of vestibules is critical to their functionality. The following recommendations should be implemented into the design of the vestibules spaces noted above:

- Vestibules should incorporate acoustically absorptive material to minimize the buildup of sound. At minimum, the following locations within vestibules should be treated:
  - Ceiling: Include a ceiling finish of minimum NRC 0.8 performance with 100% ceiling area coverage. This has been incorporated into the architectural drawings under the CL-3 ceiling tag.
  - Walls: Treatment on two walls within the vestibule with minimum NRC 0.8 performance. This has been incorporated into the architectural drawings under the P14 wall tag.
- Solid wood core or metal-insulated doors should be installed at the entrances and exits of vestibules. These doors should have fully adjustable acoustic door seals (KN Crowder W-48 or approved equivalent) and feature automatic drop seals along the bottom (KN Crowder CT-52 or approved equivalent).

#### 5.2.3 Effects of Mitigation on Adjacent Commercial Facilities

With the proposed mitigation outlined in Sections 5.2.1 and 5.2.2, a reduction in sound levels by 15-20 dB is expected and would result in a worst-case sound level of approximately 55-60 dBA at the closest commercial facility façade. It is Aercoustics' opinion that this is a reasonable outdoor façade sound level and would not require further mitigation beyond what is described herein.

## 6 Conclusions

Firearms Outlet Canada, through the Biglieri Group, has retained the services of Aercoustics Engineering Limited to prepare a Preliminary Noise and Vibration Impact



Study for the proposed development at 725 Westney Road South in Ajax, Ontario, for the purposes assessing the feasibility of the development in support of a Site Plan Approval application.

Through Aercoustics' predictions and analysis, it is expected that firearm noise travelling through building HVAC systems servicing the indoor ranges will be a dominant source of noise affecting compliance at nearby residential receptors. From these predictions, mitigation that is capable of achieving an effective attenuation of 15-20 dB would be required. Through Aercoustics' review of the representative HVAC design provided, it is expected that the noted attenuation will be achieved primarily through the use of silencers in duct paths between the ranges and rooftop HVAC equipment. Acoustic barriers around rooftop HVAC equipment that break line of sight to the nearest receptors are also expected to be required.

Further, due to the inherently high impulse sound levels generated by firearms, consideration has been given to all elements of the building envelope of the indoor ranges. Aercoustics has reviewed the proposed roof assemblies, wall assemblies and exterior door layouts in the current architectural plans and found these to be sufficient for minimizing the amount of firearm noise radiating from these elements.

As noted prior, the mitigation measures presented in Section 5 have been reviewed by Aercoustics and with the design team, and have been determined to be practically and economically feasible to implement. However, the detailing of these mitigation measures is key to their functionality, therefore it should be ensured that a qualified Acoustic Engineer is retained throughout detailed design to help integrate the design recommendations.







Scale: NTS Drawn by: NZ

Reviewed by: ES
Date: Nov 4, 2024

Revision: 1

725 Westney Road South

Figure Title

Key plan showing site, adjacent roads and buildings





Scale: NTS Drawn by: NZ

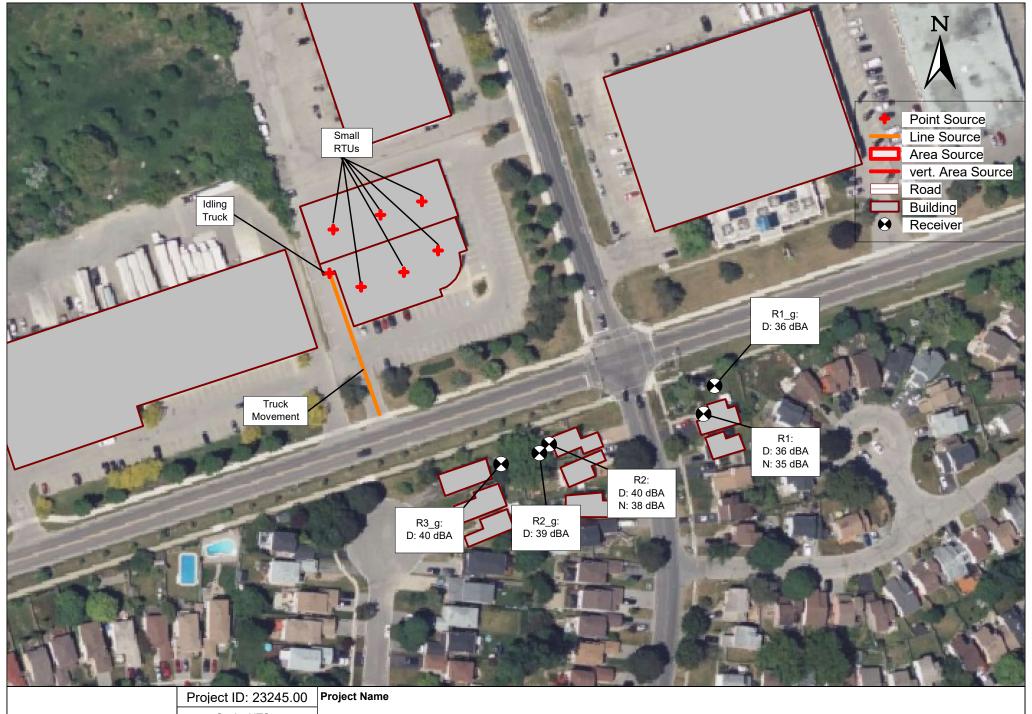
Reviewed by: ES Date: Nov 29, 2023

Revision: 1

725 Westney Road South

#### Figure Title

Minimum ambient background sound levels due to road traffic at worst-case receptors





Scale: NTS Drawn by: NZ

Reviewed by: ES Date: Nov 29, 2023

Revision: 1

725 Westney Road South

Figure Title

On-site steady stationary sources and worst-case receptors for noise impact



aercoustics

Drawn by: NZ Reviewed by: ES

Date: Nov 4, 2024

Revision: 1

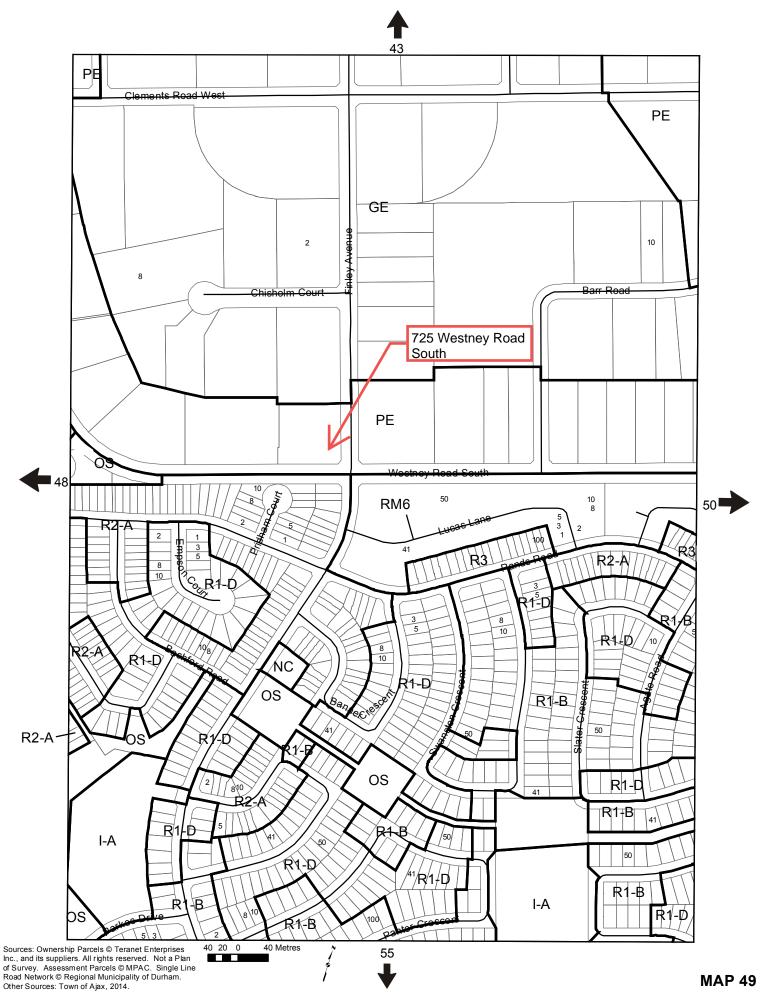
725 Westney Road South

Figure Title

On-site impulse stationary sources and worst-case receptors for noise impact

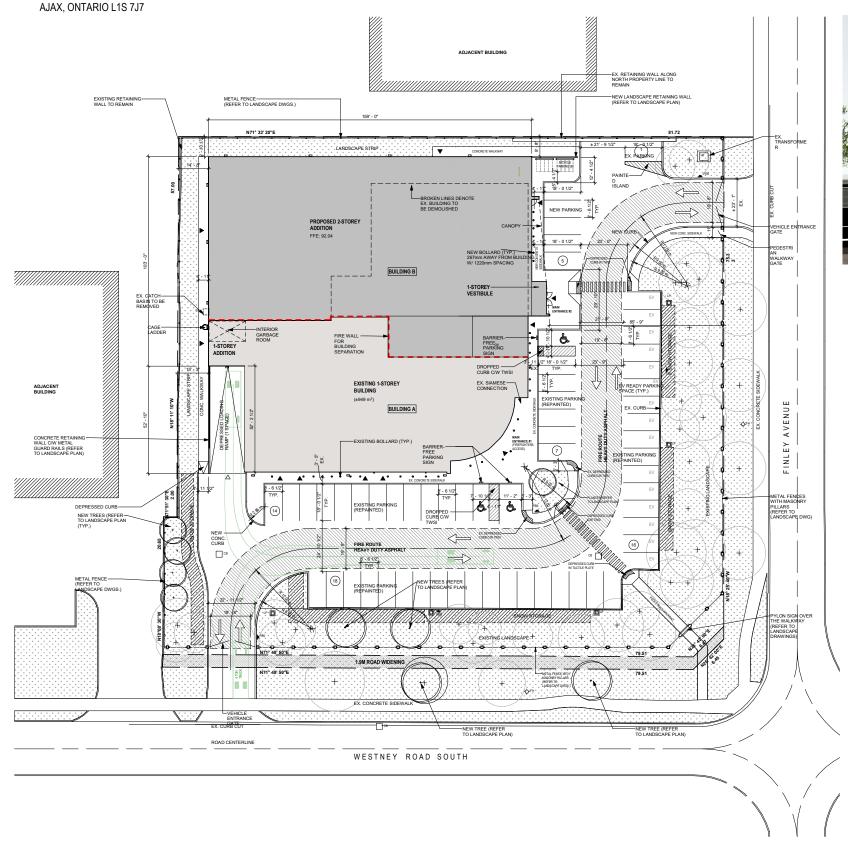
# Appendix A

Zoning Map and Architectural Plans



# FIREARMS OUTLET CANADA INTERIOR RENOVATION & ADDITION

725 WESTNEY ROAD SOUTH



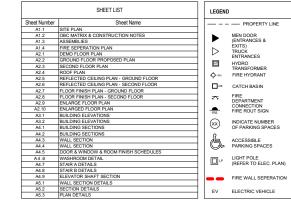


SITE STATISTICS

LOT AREA: ±6,563.15 m²
DEVELOPABLE (NET) LOT AREA: 6,324.71 m²
ZONING CATEGORY: PE



SETBACKS	FRONT YAR	RD: ±26.1m			
	EXTERIOR	SIDE YARD: 27.1m			
	INTERIOR SIDE YARD: 4.5m				
	REAR YARD	): 3.0m			
BUILDING AREA	EXISTING: :	±854 m² (9191 SF)			
	ADDITION:	1.314 m² (14.144 SF)			
	TOTAL: 2.1	68 m² (23,335 SF)			
GFA	EXISTING: :	1854 m² (9191 SF)			
	ADDITION O	GROUND FLOOR: 1,314 m² (14,144 SF)			
		ECOND FLOOR: 1,207 m² (13,001 SF)			
		OTAL: 2,521 m² (27,145 SF)			
		75 m² (36.336 SF)			
LOT COVERAGE	33.9%	10 III (00,000 01)			
FSI	0.53				
BUILDING HEIGHT					
GFA BREAKDOW		1 m2 (89) OF GEA)			
OF A BREARDOWN	OFFICES: 8				
	CLASSROO				
	WASHROO				
	VESTIBULES: 20 m <sup>2</sup>				
	SECURITY ROOM: 17 m <sup>2</sup> STAFF/LUNCH ROOM: 8 m <sup>2</sup>				
	LOBBY: 60 m <sup>2</sup>				
	RESTAURANT: 245 m <sup>2</sup>				
	LOADING: 24 m <sup>2</sup>				
	WAREHOUSE: 311 m <sup>2</sup>				
	SHOOTING RANGES:				
	TRADITIONAL RANGE: 625 m² (BOOTHS:56 m²)(15 LANES) CLAYHOUSE SHOTGUN RANGE: 1.059 m²				
	(BOOTHS: 89 m²)(8 LANES) TOTAL: 1,684 m² (BOOTHS: 145 m²)(23 LANES)				
	OTHER SPA	ACES: 448 m <sup>2</sup> (CORRIDOR/MECH ROOM/ELEC ROOM/ STORAGE/ JANITOR/STAIRS/ LOBBY)			
PARKING	REQUIRED	RETAIL: 10 SPACES (1 PER 28m²)			
	l	CLASSROOMS: 5 SPACES (1 PER 20m²)			
	l	WAREHOUSE: 1 SPACE (1 PER 500m²)			
	l	RESTAURANT: 25 SPACES (1 PER 10m²)			
	l	SHOOTING RANGES: 21 SPACES (0.92 PER LANE)			
		TOTAL: 61 SPACES			
	PROVIDED	61 SPACES			
	(INCLUDING 3 BARRIER-FREE PARKING SPACES) (INCLUDING 16 EV READY PARKING SPACES)				
		8 SPACES (SHORT TERM)			
SNOW STORAGE	PROVIDED	206 m²			
PAVED AREA	2,126 m <sup>2</sup>				
		(/ LOT ADEA)			
LANDSCAPED AR	<b>EM</b> 978 m² (31				



No.	Date:	Issued/Revision:	
1	07/17/2023	ISSUED FOR REVIEW	H
2	07/18/2023	ISSUED FOR REVIEW	H
3	11/06/2023	ISSUED FOR REVIEW	H
4	11/21/2023	ISSUED FOR REVIEW	H
5	12/08/2023	ISSUED FOR REVIEW	H
6	12/18/2023	ISSUED FOR COORDINATION	H
7	12/19/2023	ISSUED FOR REVIEW	H
8	04/09/2024	ISSUED FOR COORDINATION	H
9	05/03/2024	ISSUED FOR COORDINATION	H
10	05/29/2024	ISSUED FOR COORDINATION	H
11	06/05/2024	ISSUED FOR COORDINATION	H
12	06/12/2024	ISSUED FOR COORDINATION	H
	06/21/2024	ISSUED FOR PRE-CON PHASE II	H
	09/17/2024	ISSUED FOR REVIEW	H
15	03/19/2025	ISSUED FOR SPA	H





WANG ARCHITECTS INC. 3950 14th Ave, Unit 609 Markham, ON L3R 0A9 T: 905-604-6960 E: info@wangarchitects.ca www.wangarchitects.ca

Project :

FIREARMS OUTLET CANADA

725 WESTNEY RD. S., AJAX, ON L1S 7J7

Drawing Name :

SITE PLAN

1 SITE PLAN
1" = 20'-0"

		ONTARIO BUILDING CODE DATA MATRIX PART 3 ( BUILDING "A" EXISTING )	BUILDING CODI REFERENCE
3.01	PROJECT TYPE:	NEW CONSTRUCTION	[A] 1.1.2.2.
3.02	MAJOR OCCUPANCY CLASSIFICATION:	OCCUPANCY USE  GROUP F, DIVISION 1 HIGH HAZARDOUS INDUSTRIAL OCCUPANCY WAREHOUSE & RETAIL GROUP E, MERCANTILE OCCUPANCIES	3.1.2.
3.03	SUPERIMPOSED MAJOR OCCUPANCIES:	⊠ NO □ YES	3.2.2.7.
3.04	BUILDING AREA (M²)	DESCRIPTION: EXISTING NEW TOTAL ± 811.4 M² 39.6 M² 851 M²	[A] 1.4.1.2.
3.05	GROSS AREA (M²)	EXISTING   NEW   TOTAL	[A] 1.4.12.
3.07	BUILDING HEIGHT	1 STOREYS ABOVE GRADE 6.48m ABOVE GRADE	[A] 1.4.1.2. & 3.2.1.1.
3.08	HIGH BUILDING	NO ☐ YES	3.2.6.
3.09	NUMBER OF STREETS/ FIREFIGHTER ACCESS	2 STREETS	3.2.2.10. & 3.2.5.
3.10	BUILDING CLASSIFICATION	3.2.2.74 GROUP F, DIVISION 1, UP TO 2 STOREYS, SPRINKLERED	3.2.2.20 - 83.
3.11	SPRINKLER SYSTEM	☑ REQUIRED ☐ NOT REQUIRED	3.2.1.5. &
		PROVIDED   ☐ ENTIRE BUILDING ☐ SELECTED COMPARTMENTS ☐ SELECTED FLOOR AREA ☐ BASEMENT ☐ IN LIEU OF ROOF RATING ☐ NONE	3.2.2.17., 3.2.2.18., 3.2.4.8. TO 3.2.4.10 AND 3.2.5.13
3.12	STANDPIPE SYSTEM	☐ REQUIRED ☑ NOT REQUIRED	3.2.9.
3.13	FIRE ALARM SYSTEM	☑ REQUIRED         □ NOT REQUIRED <u>TYPE PROVIDED:</u> □ SINGLE STAGE         □ TWO STAGE         □ NONE	3.2.4.
3.14	WATER SERVICE / SUPPLY IS ADEQUATE	NO ⊠ YES	3.2.5.7.
3.15	CONSTRUCTION TYPE:	RESTRICTION:   COMBUSTBLE PERMITTED   NON-COMBUSTBLE REQUIRED	3.2.2.2083. &
3.16	IMPORTANCE CATEGORY:	□ LOW □ LOW HUMAN OCCUPANCY □ POST-DISASTRE SHELTER □ NORMAL □ MINOR STORAGE BUILDING □ EXPLOSIVE OR HAZARDOUS SUBSTANCES □ POST-DISASTER	4.1.2.1.(3) & T4.1.2.1.B
3.18	OCCUPANT LOAD (ADDITION ONLY)	FLOOR LEVELAREA OCCUPANCY TYPE BASED ON OCCUPANT LOAD (PERSONS) RETAL AND WHARE HOUSE E & P1 DESIGN LOAD 48 TOTAL 48	3.1.17 AND 3.1.17.1.(2)
3.19	BARRIER-FREE DESIGN: BARRIER-FREE ENTRANCES:	□ NO ☑ YES NUMBER: 1	3.8. 3.1.8.2.
3.20		·	
3.20	HAZARDOUS SUBSTANCES:	□ NO ☑ YES  HORIZONTAL ASSEMBLY RATING (H) SUPPORTING NONCOMBUSTIBLE	3.3.1.2. & 3.3.1.19.
321	RESISTANCE RATINGS		3.21.2, 3.21.4, 3.22.15.
3.22a	SPATIAL SEPARATION	EXPOSING   ER	3.2.3.
3.23a	PLUMBING FIXTURE	RATIO: MALE:FEMALE = 50:50 EXCEPT AS NOTED OTHERWISE	3.7.4., 3.8.2.3.
	REQUIREMENTS:	WATER CLOSETS REQUIRED, (EXISTING) WHARE HOUSE & RETAIL: 2 FIXTURE FOR MALES, 2 FIXTURE FOR FEMALES TOTAL: 2 FIXTURES FOR MALES, 2 FIXTURES FOR FEMALES, WATER CLOSETS PROVIDED: 1 FIXTURES FOR MALES, 1 FIXTURES FOR FEMALES	
		WATER CLOSETS PROVIDED: 1 FIXTURES FOR MALES, 1 FIXTURES FOR FEMALES (SHARE WITH THE PROPOSED EXTENTSION PLUMBING FI: 1 UNIVERSAL WASHROOM	KTURE)

NAME OF PRACTICE: WANG ARCHITECTS INC

		ONTARIO BUILDING CODE DATA MATRIX PART 3 ( BUILDING "B" NEW )	BUILDING COD REFERENCE			
3.01	PROJECT TYPE:	NEW CONSTRUCTION	[A] 1.1.2.2.			
3.02	MAJOR OCCUPANCY CLASSIFICATION:	OCCUPANCY USE GROUP A, DIVISION 2 ASSEMBLY OCCUPANCY SHOOTING RANGE & RESTAURANT	3.1.2.			
3.03	SUPERIMPOSED MAJOR OCCUPANCIES:	⊠ NO □ YES	3.2.2.7.			
3.04	BUILDING AREA (M²)	DESCRIPTION: EXISTING NEW TOTAL 1,284 M <sup>2</sup> 1,284 M <sup>2</sup>	[A] 1.4.1.2.			
3.05	GROSS AREA (MF)	EXISTING NEW TOTAL	[A] 1.4.1.2.			
3.07	BUILDING HEIGHT	2 STOREYS ABOVE GRADE 14.06m ABOVE GRADE 0 STOREY BELOW GRADE	[A] 1.4.1.2. & 3.2.1.1.			
3.08	HIGH BUILDING	⊠ NO □ YES	3.2.6.			
3.09	NUMBER OF STREETS/ FIREFIGHTER ACCESS	2 STREETS	3.2.2.10. & 3.2.5.			
3.10	BUILDING CLASSIFICATION	3.2.2.26 GROUP A, DIVISION 2, UP TO 2 STOREYS, INCREASED AREA, SPRINKLERED	3.2.2.20 - 83.			
3.11	SPRINKLER SYSTEM	M REQUIRED	3.2.1.5. & 3.2.2.17., 3.2.2.18 3.2.4.8. TO 3.2.4.1 AND 3.2.5.13			
3.12	STANDPIPE SYSTEM	☐ REQUIRED ☑ NOT REQUIRED	3.2.9.			
3.13	FIRE ALARM SYSTEM	⊠ REQUIRED	3.2.4.			
3.14	WATER SERVICE / SUPPLY IS ADEQUATE	□ NO 🔀 YES	3.2.5.7.			
3.15	CONSTRUCTION TYPE:	RESTRICTION: COMBUSTBLE PERMITTED   NON-COMBUSTBLE REQUIRED				
3.16	IMPORTANCE CATEGORY:	DIOW DOMAIL DIOM DIAMAL DIOMAL DIOMAL DIOMAL DIOMAL DIOMAL DIOMAC	3.2.1.4. 4.1.2.1.(3) & T4.1.2.1.B			
3.18	OCCUPANT LOAD (ADDITION ONLY)	FLOOR LEVELUAREA	3.1.17 AND 3.1.17.1.(2)			
3.19	BARRIER-FREE DESIGN: BARRIER-FREE ENTRANCES:	□ NO ☑ YES NUMBER: 2	3.8.			
3.20	HAZARDOUS SUBSTANCES:	□ NO ☑ YES	3.3.1.2. & 3.3.1.19			
3.21	REQUIRED FIRE RESISTANCE RATINGS	MONIZONTAL ASSEMBLY	3.2.2.2083., 3.2.1.2., 3.2.1.4., 3.2.2.15.			
3.22a	SPATIAL SEPARATION	EXPOSING ERF   LD_LM  LH   REQUIRED   S_LMPROTECTED   S_LMPROTECTED   S_LMPROTECTED	3.2.3.			
3.23a	PLUMBING FIXTURE REQUIREMENTS:	BATIO. MALE FEMALE = 59.59 EXCEPT AS NOTED OTHERWISE  WATER CLOSETS REQUIRED: CLASSROOM, OFFICE AND SHOOTING RANGE: CLASSROOM, OFFICE AND SHOOTING RANGE: 2 FIXTURES FOR MALES,	3.7.4., 3.8.2.3. FEMALES DR FEMALES LES			
		TOTAL: 3 FIXTURES FOR MALES, 3 FIXTURES FOR FEMALES, 1 FIXTURE FOR RESTAURANT EMPLOYEES				
		WATER CLOSETS PROVIDED: 3 FIXTURES FOR MALES, 3 FIXTURES FOR FEMALES, 1 UNIVERSAL WASHROOM 1 FIXTURE FOR RESTAURANT EMPLOYEES				



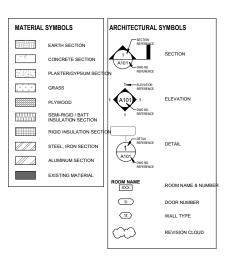
# GENERAL NOTES

- THE CONTRACTOR SHALL COMPLY WITH RULES AND REGULATIONS FOR CONSTRUCTION WITHIN THE BUILDING AS SET OUT IN THE ONTARIO BUILDING CODE
- THESE DRAWINGS ARE NOT FOR CONSTRUCTION UNTIL A PERMIT IS ISSUED BY MUNICIPALITY.
- GENERAL CONTRACTOR TO SITE VERIFY ALL EXISTING DIMENSIONS.
- THESE DRAWINGS MUST NOT BE SCALED. DIMENSIONS ARE SHOWN IN MILLIMETERS. ELEVATIONS AND COORDINATES ARE IN METERS. UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL LEVEL, BUILDING WORKPOINT COORDINATES DATUM AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK. ALL DISCREPANCIES MUST BE REPORTED TO THE ARCHITECT IMMEDIATELY.
- ANY REVISIONS TO THE DOCUMENTS OR CHANGES PRIOR TO, DURING, OR AFTER CONSTRUCTION THAT ARE DONE WITHOUT WRITTEN AUTHORIZATION FROM THE ARCHITECT SHALL NOT BE RESPONSIBILITY OF THE ARCHITECT.
- READ ARCHITECTURAL DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL SPECIFICATIONS, INTERFACE BETWEEN DISCIPLINES (CIVIL, STRUCTURAL, PLUMBING, MECHANICAL HYAC AND ELECTRICAL) AND WORK BETWEEN ALL TRADES SHALL BE COORDINATED PRIOR TO PROCEEDING WITH CONSTRUCTION
- GENERAL CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL BUILDING COMPONENTS TO ARCHITECT AND ENGINEERS FOR REVIEW PRIOR AT PARRICATION, ALL SHOP DRAWINGS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO UNLESS ALTERNATE ARRANGEMENTS HAVE BEEN PREVIOUSLY AGREED UPON.

#### CONSTRUCTION NOTES

- . ALL EXISTING COLUMNS, BEAMS AND ROOF JOISTS SHALL REMAIN INTACT UNLESS OTHERWISE INDICATED.
- GENERAL CONTRACTOR TO CUT OPENINGS ON EXISTING EXTERIOR WALLS FOR NEW DOORS, GENERAL CONTRACTOR TO ENSURE THE CUT IS NEAT AND CLEAN, NOT DAMAGING ADJACENT WALLS, FLOORS AND CEILINGS.
- GENERAL CONTRACTOR TO ENSURE ALL FLOOR AREAS ARE FREE OF DEBRIS AND HAZARDOUS MATERIAL AFTER DEMOLITION IS COMPLETED.
- STUD PARTITION FRAMING TO BE MINIMUM 20 GAUGE UNLESS OTHERWISE NOTED.
- GENERAL CONTRACTOR TO PROVIDE GYPSUM WALL BOARD CONTROL JOINTS IN ALL WALLS. CONTROL JOINTS TO BE STRAIGHT, CONTINUOUS AND INSTALLED 30 FEET OC MAX.
- PROVIDE FIBERGLASS SOUND ATTENUATION BATT IN ALL SUITE PARTITIONS AND AREA WHERE THERE IS MECHANICAL EQUIPMENT.
- PROVIDE FIBERGLASS SOUND ATTENUATION BATT IN ALL PLUMBING SPACE WITH VERTICAL SANITARY STACK PIPE.
- CONCRETE BLOCK WALL AND PARTITION NOTES:
  -ALL CONCRETE BLOCK PARTITIONS AND WALLS TO EXTEND TO UIS OF FLOOR
  OR ROOF SLAB ROPEL PLUES SO PHERWISE MOICATED.
  OR ROOF SLAB ROPEL THE SO THE PRINCIPLE TO POPEL BLOCK
  WALLS AND PARTITIONS.
  -CAULK JOINT WHERE EXPOSED.
  -PROVIDE FIRESTOP AND SIMOKE SEALS AT PERIMETER JOINTS AND
  PENETRATIONS IN FIRE RATED PARTITIONS.
- PENETRATIONS IN FIRE RATED PARTITIONS.

   PROVIDE LATERAL BRACING AT TOP OF CONCRETE BLOCK WALLS AND
  PARTITIONS. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
- . WASHROOM TO BE PROVIDED WITH EXHAUST VENT DIRECTLY TO OUTSIDE WITH MIN 1 AIR EXCHANGE PER HOUR, REFER TO MECH. DWGS) TAPE AND INSULATE WITH MIN, RS 14, 4 (R8) AT WHERE DUCT PASSES THROUGH COLD SPACES. PROVIDE EXTERIOR WALL CAP COMPLETE WITH INSECT SCREEN.
- PROVIDE SOUND ATTENUATION BATT INSULATION IN ALL WASHROOM CEILINGS.
- PROVIDE PLYWOOD BACKING IN WASHROOMS FOR GRAB BAR IN WASHROOMS. TRANSPARENT DOORS AND PANELS IN PUBLIC AREAS SHALL BE OF TEMPERED GLASS OR LAMINATED GLASS AND SHALL BE APPROVED BY ATTACHING NON-TRANSPARENT HARDWARE AS REQUIRED BY 3.1.18 OBC
- . NEW WINDOWS AND DOORS
   ALL WINDOWS SHALL BE THERMALLY BROKEN, LOW-E ALUMINUM WINDOWS
   SEAL EXTERIOR WINDOW AND DOOR FRAMES WITH FOAMED IN-PLACE AIR
  SEALANT.
- 5. GUARD RAIL DESIGN TO MEET REQUIREMENTS OF PART 4.1.5.15 OF THE OBC.
- . TRANSPARENT DOORS AND PANELS IN PUBLIC AREAS SHALL BE CONSTRUCTED WITH TEMPERED GLASS OR LAMINATED GLASS, AND SHALL BE APPROVED BY ATACHING NON-TRANSPARENT HARDWARE AS REQUIRED BY OBC 3.3.1.18.
- ALL FIXTURES IN WASHROOMS SHALL BE INSTALLED COMPLYING WITH OBC
- 8. FIRESTOP ALL PENETRATIONS THROUGH FIRE SEPARATIONS.
- ALL COMBUSTIBLE PIPING MATERIALS SHALL COMPLY WITH OBC 3.1.5.16. ALL CABLES AND WIRES SHALL COMPLY WITH OBC 3.1.5.18. BUILDING SERVICES THAT PENETRATE A FIRE WALL OR FIRE SEPARATION SHAL BE SEALED BY A FIRE STOP SYSTEM THAT HAS A FIRE RATING NOT LESS THAN THE FIRE RESISTANCE RATING FOR THE FIRE SEPARATION. (OBC DIV. B - 3.1.9.)
- ALL BARRIER-FREE SIGH SHALL COMPLY WITH OBC 38.3.1.
- 22. GENERAL CONTRACTOR TO ENSURE ALL NEW AND EXISTING COMBUSTIBLE ELECTRICAL AND DATA WIRING IS CONCEALED IN A NON-COMBUSTIBLE RACEWAY WITHIN THE RETURN ARE PLENUM.







TYPE	CONSTRUCTIONS	DESCRIPTION	FIRE	COMMENTS
TYPE	CONSTRUCTIONS	DESCRIPTION	RATE	COMMENTS
<b>₩</b> ⊅	EXT.	HARDENED CONC. BLOCK WALL - PREFINISH METAL COMPOSITE PANEL SYSTEM - ARE BARRIER - ARE BARRIER - GENERAL STATE OF THE STATE OF T		
₩ž	EXT.	HARDENED CONC. BLOCK WALL  - PREFINISH METAL COMPOSITE PANEL SYSTEM - AIR BARRIER - 4" POLYSIO RIGID INSULATION (R17 MIN.) - 8" HARDENED CONC. BLOCK - PAINT FINISH		
₩³	EXT.	METAL PANEL STUD WALL ON BOTH SIDES - PREFINISH METAL COMPOSITE PANEL SYSTEM - AIR BARRIER - 2º POLYSIO RIGID INSULATION (R12 MIN.) - 1/2º EXT. GRADE SHEATHING - 6º METAL STUD @ 16º O.C. C/W BATT INSUL. (R13 MIN 1/2º INVENCOS SHEATHING - 6 MIR. POLY VAPOUR BARRIER - METAL FANEL FINGH		
•••		DOUBLE METAL STUD WI METAL PANEL - PREFINISH METAL COMPOSITE PANEL SYSTEM - VAPOUR RARRIER - EXT. GRADE SHEATHING - 6" METAL STUD @ 16" O.C - 6" METAL STUD @ 16" O.C - EXT. GRADE SHEATHING - VAPOUR BARRIER - VAPOUR BARRIER - VAPOUR BARRIER - PREFINISH METAL COMPOSITE PANEL SYSTEM		WRAP THE METAL PANEL AROUND THE WALL
€₩\$	EXT.	INSULATED PRECAST CONC. PANEL WALL - 3" PRECAST CONC. PANEL - 4" POLYSIG RIGID INSULATION (R17 MIN.) - 6" PRECAST CONC. PANEL - 1 SIG* METAL PURRING & 16" O.C 1 LAYER OF 56" GYPSUM BOARD	2 HR (FIRE WALL)	PRE-MANUFACTURED INSULATED PRECAST CONC.WALL
₩Ď	EXT.	INSULATED PRECAST CONC. PANEL WALL  -3° PRECAST CONC. PANEL  -4° POLYSIO RIGID INSULATION (R17 MIN.)  -6° PRECAST CONC. PANEL	2HR (FIRE WALL)	PRE-MANUFACTURED INSULATED PRECAST CONC.WALL
ŵ <b>&gt;</b>		EXISTING WALL PANEL ( SITE VERIFY) - PREFINISHED METAL COMPOSITE PANEL SYSTEM.		
INTERIO	R WALL TYPES			
TYPE	CONSTRUCTIONS	DESCRIPTION		
(P1)	EXISTING WAREHOUSE	HARDENED CONC. BLOCK WALL (FIRE WALL)  - 8" HARDENED CONC. BLOCK - 15 8" FURRING CHANNEL @ 16" O.C1 LAYER OF 5/8" GYPSUM BOARD	4 HR	W/ 1-25M VERTI. REINFORCING @ 16" O.C GROUTED SOLID C/W HORIZONAL REINF. EVERY 2ND BLOCK COURSE (FULL HEIGH 3'-0" ABOVE FINISH ROOF
(P2)		HARDENED CONC. BLOCK WALL (FIRE WALL) - 8" HARDENED CONC BLOCK	4 HR	W/ 1-25M VERTI. REINFORCING @ 16" O.C GROUTED SOLID C/W HORIZONAL REINF. EVERY 2MD BLOCK COURSE (FULL HEIGH 3'-0" ABOVE FINISH ROOF
(P3)		8" LIGHTWEIGHT CONC. BLOCK - PAINTED FINISH ON BOTH SIDES		HEIGHT TO U/S OF FLOOR SLAB OR ROOF SLAB
(P4)		8" HARDENED CONC. BLOCK ( FIRE WALL) - PAINTED FINISH ON BOTH SIDES	1 HR	HEIGHT TO U/S OF FLOOR SLAB OR ROOF SLAB
(P5)		LIGHTWEIGHT CONC.  - 8" LIGHTWEIGHT CONC. BLOCK - 1 5/8" FURRING CHANNEL @ 16" O.C - 1 LAYER OF 5/8" GYPSUM BOARD		
(P6)		HARDENED CONC. BLOCK (FIRE WALL)  -8° CONC. BLOCK  -1 5/8° FURRING CHANNEL @ 16° O.C  -1 LAYER OF 5/8° GYPSUM BOARD	1 HR	CARRY GYPSUM WALLBOARD 4" ABOVE CEILING
(P7)	44	3 5/8" METAL STUD WALL (WASHROOM )  -1 LAYER OF 5/8" GYPSUM BOARD  -3 5/8" METAL STUDS AT 16" O.CBATT INSULATION -1 LAYER OF 5/8" GYPSUM BOARD		
(P8)	PLUMBING SHAFT  WASHROOM	3 5/8" METAL STUD WALL - CHASE WALL - 3 5/8" METAL STUDS @ 16" O.C. - 1 LAYER OF 5/8" GYPSUM BOARD		
<b>⟨</b> P9 <b>⟩</b>	<u> </u>	METAL STUD WALL W/ INSUL.  - 1 LAYER OF 5/8" GYPSUM BOARD  -6" METAL STUDS @ 16" O.C.  -BATT INSULATION  -1 LAYER OF 5/8" GYPSUM BOARD		
⟨P10⟩		METAL STUD WALL  - 1 LAYER OF 5/8" GYPSUM BOARD  - 6" METAL STUDS @ 16" O.C.		
(P11)	1 1	METAL STUD WALL  - 1 LAYER OF 5/8" GYPSUM BOARD  - 3 5/8" METAL STUDS @ 16" O.C.  - 1 LAYER OF 5/8" GYPSUM BOARD		
(P12)		LIGHT WEIGHT CONC. BLOCK W FINISH -1 LAYER OF 5/6" GYPSUM BOARD -1 5/6" FURRING CHANNEL @ 16" O.C -8" CON OLDOX -1 6/6" FURRING CHANNEL @ 16" O.C -1 6/6" FURRING CHANNEL @ 10" O.C -1 A/FER OF 5/6" GYPSUM BOARD		
(P13)	1 1 1	DOUBLE 3 5/8" METAL STUD WALL  -1 LAYER OF 5/8" GYPSLM BOARD -3 5/8" METAL STUDS @ 16" O.C3 5/8" METAL STUDS @ 16" O.C1 LAYER OF 5/8" GYPSLM BOARD		
(P14)	VESTIBLLE  SHOOTING RANGE	HARDENED CONC. BLOCK WALL - 8" HARDENED CONC. BLOCK - ACOUSTICS PANEL		NRC 0.8 TREATMENT

TYPE	CONSTRUCTIONS	DESCRIPTION	FIRE RATE	COMMENTS	
(P15)	1 1	2 1/2" METAL STUD WALL - 2 1/2" METAL STUDS @ 16" O.C 1 LAYER OF 5/8" GYPSUM BOARD			
(P16)		FURRING WALL -1 LAYER OF SIG" GYPSUM BOARD -1 SIG" METAL FURRING			
ROOF TY	PES CONSTRUCTIONS	DESCRIPTION		COMMENTS	
TIPE	CONSTRUCTIONS		- OT 11 (F)	COMMENTS	
RF-1		- TPO WATERPROOF MEMBRANE (HIGH REFLE PROTECTION BOARD - TAPERED RIGID INSULATION (R3S MIN.) TO 0 - 2" CONORMETE TOPPING - METAL DECK - METAL DECK - FIBERGLASS INSULATION FOR SOUND ATTE! - SUSPENDED DRYWALL CEILING (1 LAYER OF	CREATE ROOF SLOPE		
RF-2	I	- PROTECTION BOARD	- TAPERED RIGID INSULATION ( R35 MIN.) TO CREATE ROOF SLOPE - 6MIL POLY VAPOUR BARRIER - METAL DECK		
RF-3	19.1	- 6" METAL STUD @ 2-9" O.C. ( GAUGE 16) - SUSPENDED ACOUSTIC TILE CEILING	-6" METAL STUD @ 2-0" O.C ( GAUGE 16) - SUSPENDED ACOUSTIC TILE CEILING		
RF-4	Line	- TPO WATERPROOF MEMBRANE (HIGH REFLE - PROTECTION BOARD - TAPERED RIGID INSULATION ( R35 MIN.) TO C ROOF SLOPE - 2" CONCRETE OPPING - METAL DESCRIPTION - STRUCTURE STEEL			
RF-5		-TPO ROOFING MEMBRANE - PROTECTION BOARD - TAPREED INSULATION TO FORM SLOPES - M SLOPE TO DRAIN - MORE TO THE TO STRUC, DWGS.) - MOGE STRUCTURE (REFER TO STRUC, DWGS.) - COLD FORMED STUDIFURFING FRAMING (F - 1/2" EXTERIOR GRADE PLYWOOD SHEATHIN - VAPOUR IMPERIMEABLE AIR BARRIER - ALUMINUM SOFFIT			
FLOOR	TYPES				
FL-1		TYPICAL COMPOSITE FLOOR  -FLOOR FINISH AS SEPCIFIED -3" CONCRETE TOPPING (REFER TO STRUC. IMETAL DECK (REFER TO STRUC. DWGS.) - STRUCTURE STEEL (REFER TO STRUC. DWG	DWGS.) is.)		
FL-2		CONCRETE SLAB ON GRADE  - FLOOR FINISH AS SPECIFIED - CONCRETE SEALER - OF CAST-IN-PLACE OF MOST THE SLAB (REFER - 3" RIGID INSULATION AT FOLINGATION PERIM FASTENED TO A DEPTH OF 4" - GRAVEL OR CRUSHED STONE DRAINAGE CO -			
CEILING					
TYPE	CONSTRUCTIONS	DESCRIPTION			
CL-1		SUSPENDED ACOUSTIC TILE CEILING  - SUSPENSION SYSTEM WITH HANGING WIRE ATTACHED TO STRUCTURE ABOVE  -ACOUSTIC CEILING TILE			
CL-2		SUSPENDED CYPSUM BOARD CEILING - SUSPENSION SYSTEM WITH HANGING WIRE ATTACHED TO STRUCTURE ABOVE - 20 GA. IMM. METAL FURRING CHANNEL - 1/2" GYPSUM BOARD			
CL-3		ACOUSTIBUILT CEILING SYSTEM  - ACOUSTICAL SUSPENSION SYSTEM - METAL FRAMING - ACOUSTIBUILT PANEL			



ASSEMBLY NOTES

1. PROVIDE FULL HEIGHT SOUND ATTENUATION BLANKET AT ALL WASHROOM PARTITIONS.

2. PROVIDE FULL HEIGHT SOUND ATTENUATION BLANKET IN ALL PARTITIONS AROUND SHAFTS AND SERVICE ROOMS. 3. SEAL ALL FIRE RATED PARTITIONS TO FLOOR SLAB AND THE UNDERSIDE OF STRUCTURE ABOVE WITH RIES STOP AND FREE PROPERTY SEALANT. SEAL ALL PENETRATIONS THROUGH FIRE SEPARATIONS WITH ULCAPPROVED PRESTOP SYSTEMS.

4. ALL GYPSUM BOARD FINISH, FURRING MATERIALS AND INTERIOR VENEER MATERIALS SHALL EXTEND A MINIMUM OF 4.4 ABOVE THE HIGHEST ADJACENT FINISHED CEILING UNLESS NOTED OTHERWISE ON DRAWINGS. 5. SUBSTITUTE GYPSUM BOARD WITH MOISTRUE RESISTANT GYPSUM BOARD WHERE MOISTRUE IS A FACTOR AND THE SUBSTITUTE OF THE MOISTRUE RESISTANT GYPSUM BOARD WHERE MOISTRUE IS A FACTOR AND THE SUBSTITUTE OF THE MOISTRUE RESISTANT GYPSUM BOARD WHERE MOISTRUE IS A FACTOR AND THE SUBSTITUTE OF THE MOISTRUE RESISTANT GYPSUM BOARD WHERE MOISTRUE IS A FACTOR AND THE SUBSTITUTE OF THE MOISTRUE RESISTANT GYPSUM BOARD WHERE MOISTRUE IS A FACTOR AND THE SUBSTITUTE OF THE MOISTRUE RESISTANT GYPSUM BOARD WHERE MOISTRUE IS A FACTOR AND THE SUBSTITUTE OF THE SUBSTITUTE OF

7. FOR STEEL FRAMING, PROVIDE SHOP DRAWINGS DESIGNED AND STAMPED BY STRUCTURAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.

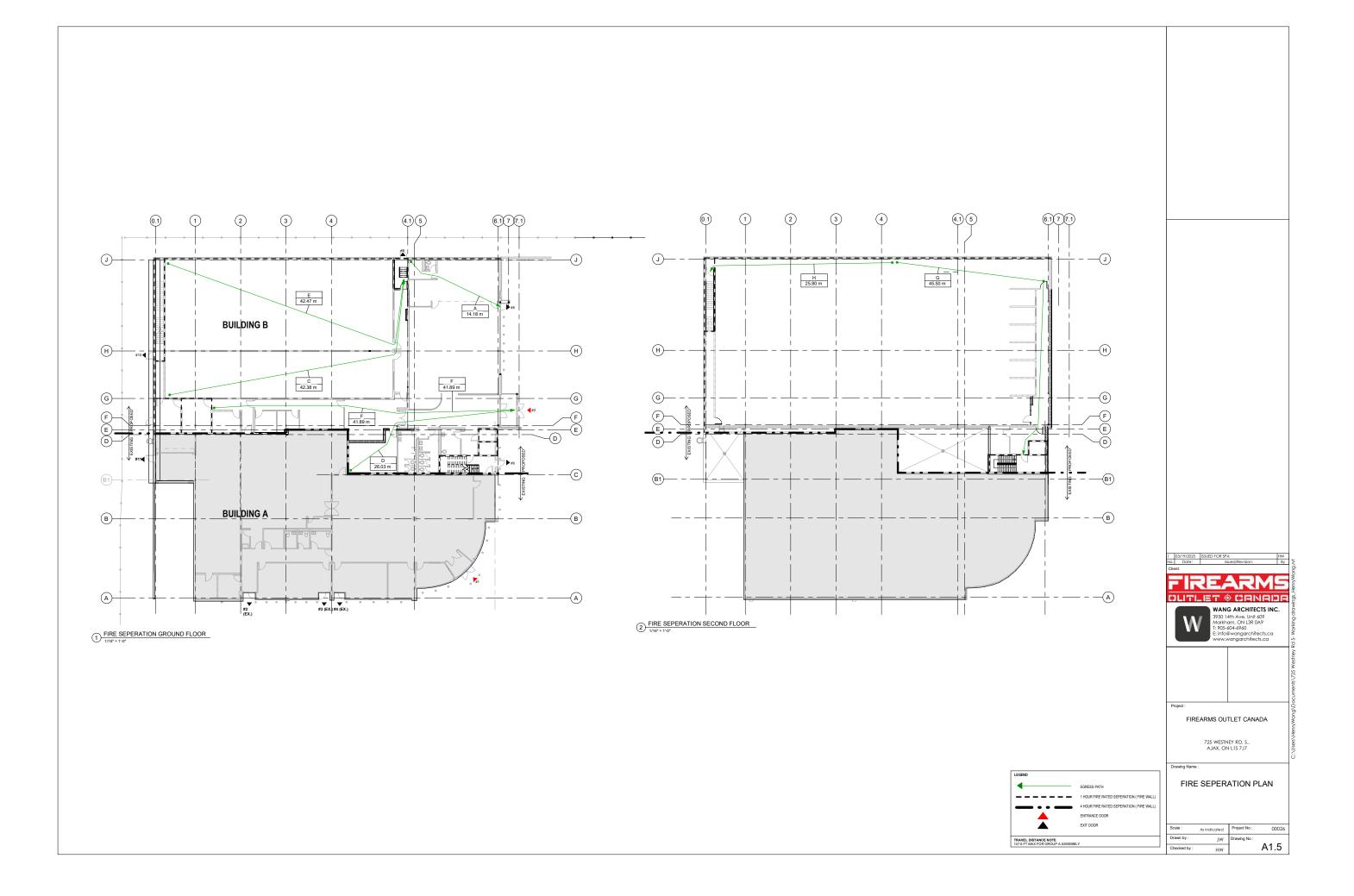
## FIREARMS OUTLET CANADA

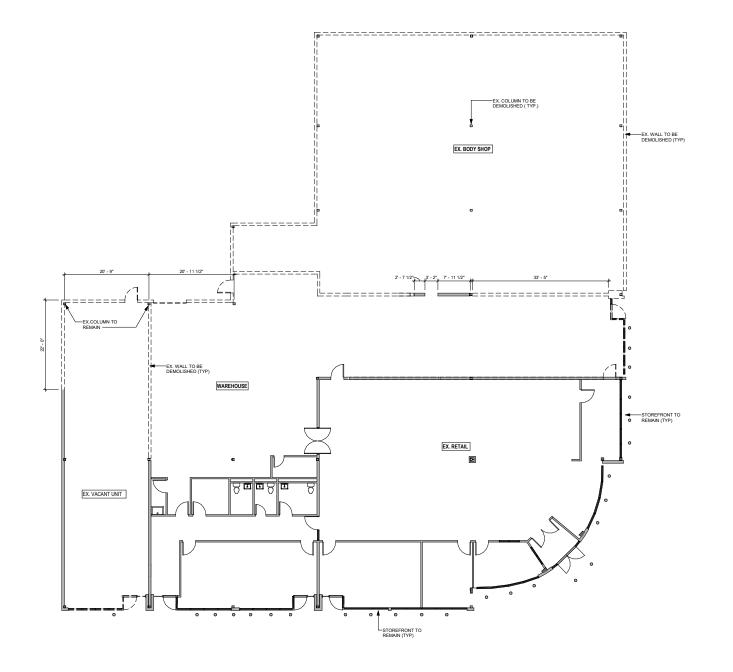
725 WESTNEY RD. S., AJAX, ON L1S 7J7

Drawing Name :

ASSEMBLIES

Scale :	As indicated	Project No :	00026
Drawn by :	JW	Drawing No :	
Checked by :	HW		A1.3







- READ ARCHITECTURAL DRAWINGS IN CONJUNCTION
  WITH THE ARCHITECTURAL SPECIFICATIONS. INTERFAC
  BETWEEN DISCIPLINES (STRUCTURAL, MECHANICAL,
  HVAC, PLUMBING AND ELECTRICAL) AND WORK
  BETWEEN TRADES SHALL BE COORDINATED PRIOR TO
- DRAWINGS FOR ALL RELATED COMPONENTS OF
- ALL DIMENSIONS ON THIS DRAWING HAVE BEEN ROUNDED TO THE NEAREST 1" FOR CLARITY UNL OTHERWISE NOTED.
- GENERAL CONTRACTOR TO SITE VERIFY ALL EXISTING DIMENSIONS.
- GENERAL CONTRACTION TO PROTECT ALEXISTING COMPONENTS, FINISHES THAT ARE NOT DESIGNATED T BE DEMOLISHED FROM DAMAGE DURING DEMOLITION, MAKE GOOD ALL DAMAGE RESULTING FROM THE WORL CARRIED OUT UNDER THIS CONTRACT AT NO EXTRA CHARGE.
- DEMOLITION WORK WITH APPROPRIATE UTILITY COMPANIES PRIOR TO STARTING WORK.
- GENERAL CONTRACTOR TO CUT OPENINGS ON EXISTING EXTERIOR AND INTERIOR WALLS FOR NEW WINDOWS AND DOORS BASED ON PROPOSED FLOOR PLANS. GENERAL CONTRACTOR TO ENSURE THESE CUTS ARE NET AND CLEAN, NOT DAMAGING ADJACENT WALLS, FLOORS AND CEILINGS.
- 8. EXISTING DOORS BEING REMOVED ARE TO BE KEPT FOR REUSE IF POSSIBLE.
- EXISTING WALLS TO BE REMOVED, MAKE GOOD ALL ADJACENT WALLS, FLOORS AND CEILING FINISHES AS REQUIRED.
- GENERAL CONTRACTOR TO ENSURE ALL FLOOR AREA ARE FREE OF DEBRIS AND HAZARDOUS MATERIAL AFTER DEMOLITION IS COMPLETED.
- ALL EXISTING STRUCTURES REMAIN INTACT UNLES OTHERWISE NOTED
- ALL EXISTING PLUMBING AND DRAINAGE LINES SHALL BE CAPPED OFF WHERE EXISTING PLUMBING FUTURES AND DRAINAGE LINES TO BE REMOVED AND DISPOSED OF. MAKE GOOD ALL ADJACENT SURFACES AS REQUIRED, ISEE MECHANICAL)
- ALL EXISTING WINDOWS ARE TO REMAIN INTACT UNLESS OTHERWISE INDICATED.
- GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL ONGOING AND FINAL CLEAN UP.

FIREARMS

CLITLET © CRINDLE

WANG ARCHITECTS INC.

WANG ARCHITECTS INC.
3950 14th Ave, Unit 609
Markham, ON, LAB (0.49
T; 905-604-6940
E: info@wangarchitects.ca
www.wangarchitects.ca

ы.

FIREARMS OUTLET CANADA

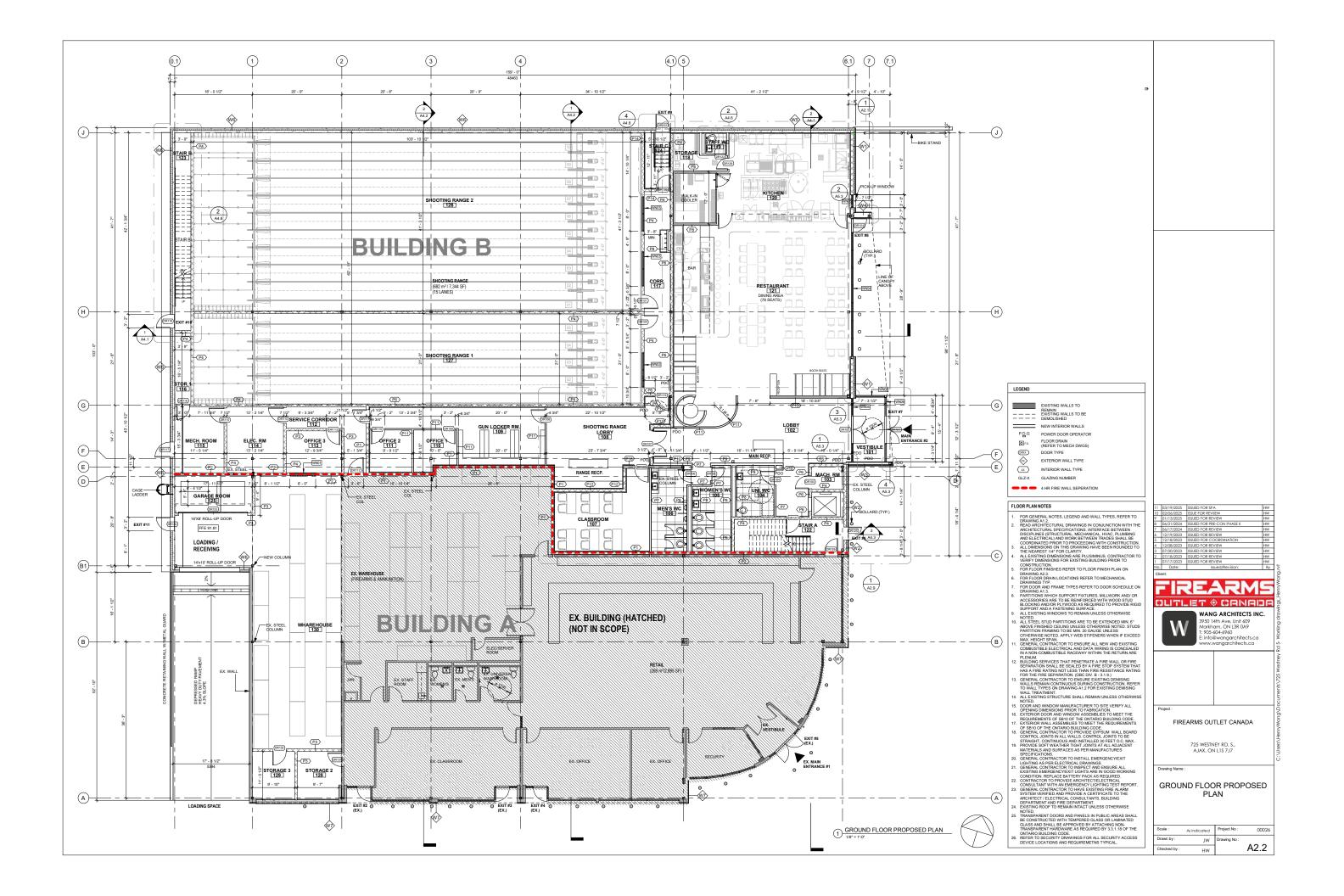
725 WESTNEY RD. S., AJAX, ON L1S 7J7

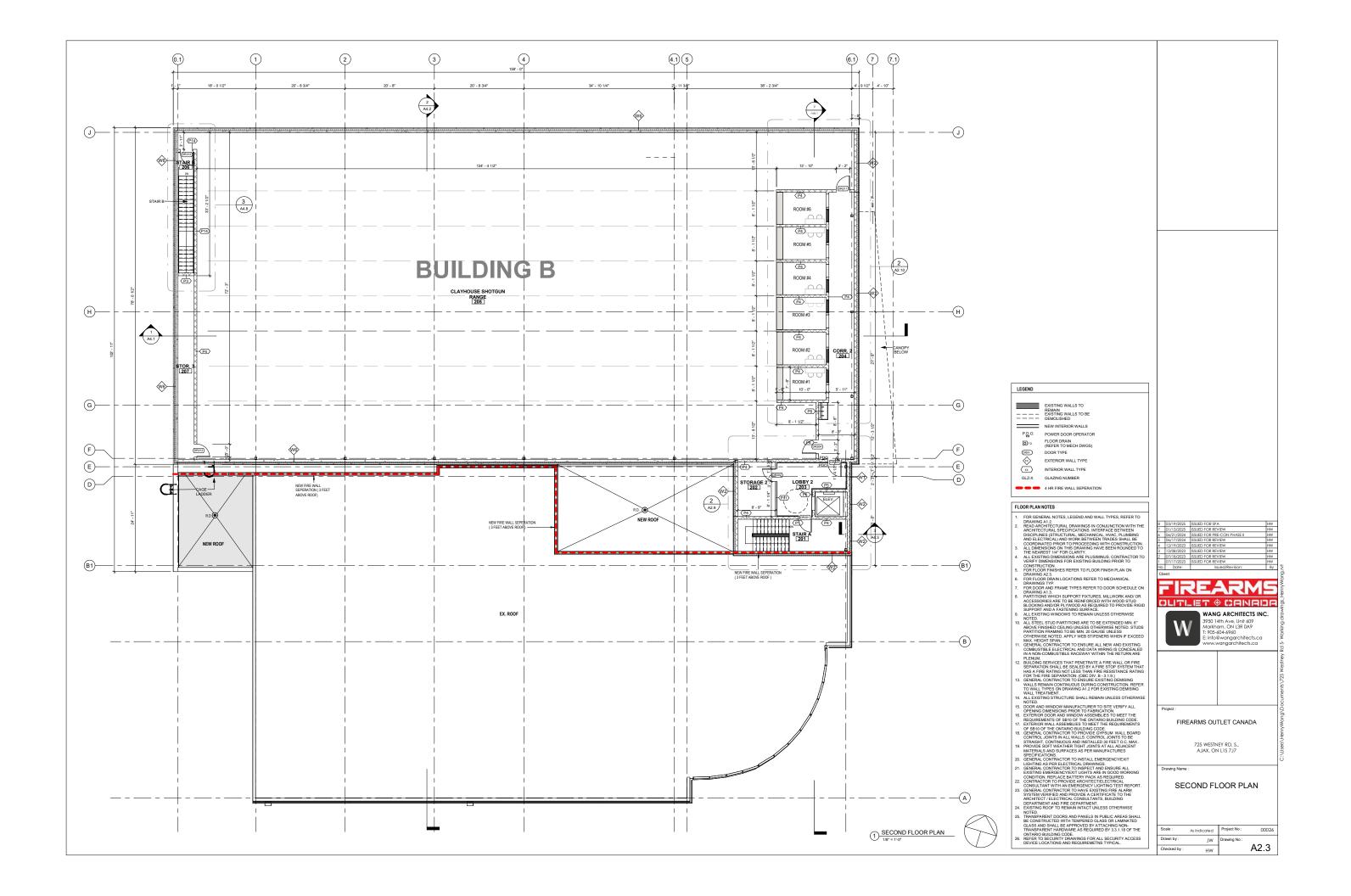
Drawing Name

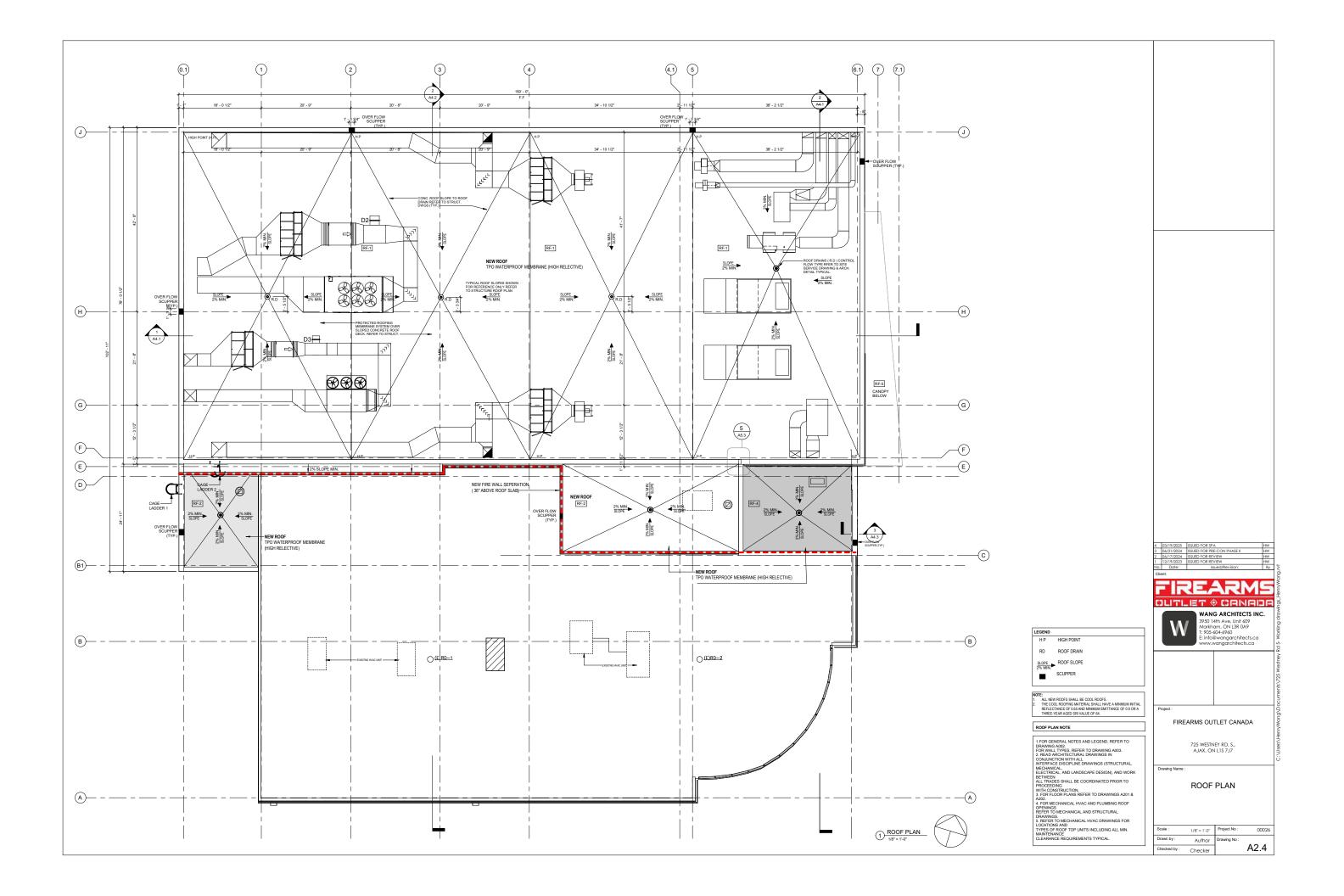
DEMO FLOOR PLAN

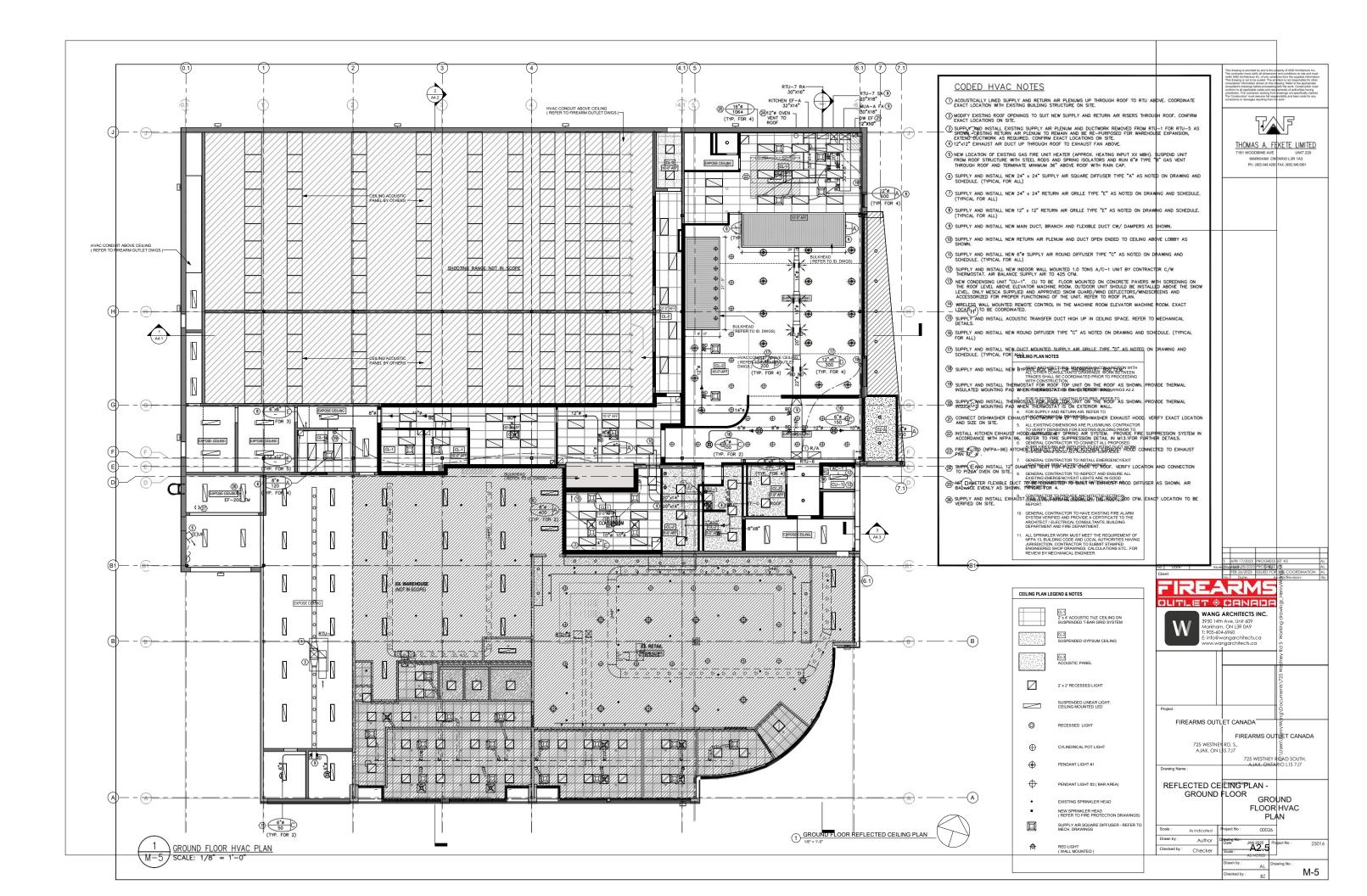
GROUND FLOOR DEMOLITION PLAN

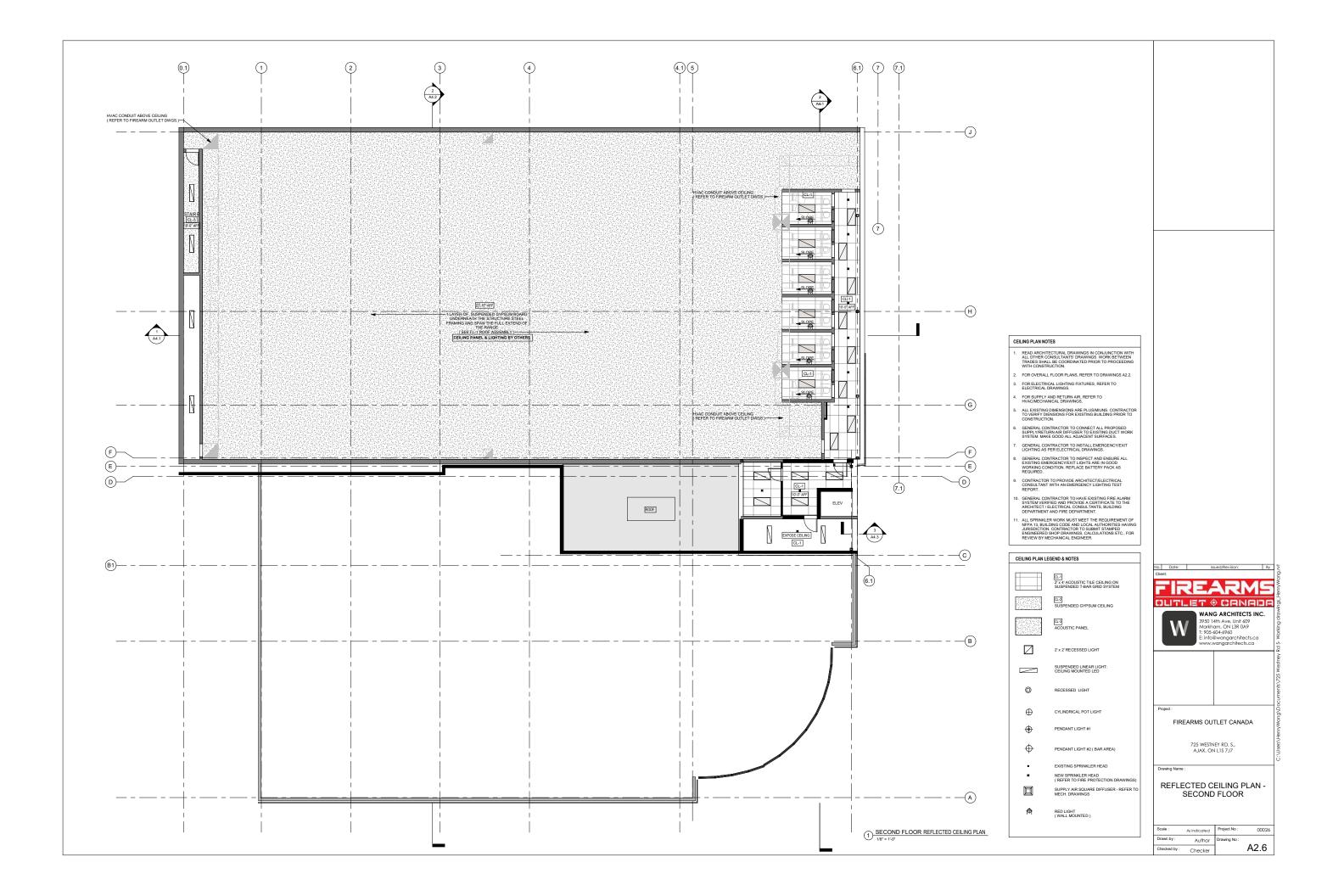
1" = 10'-0"

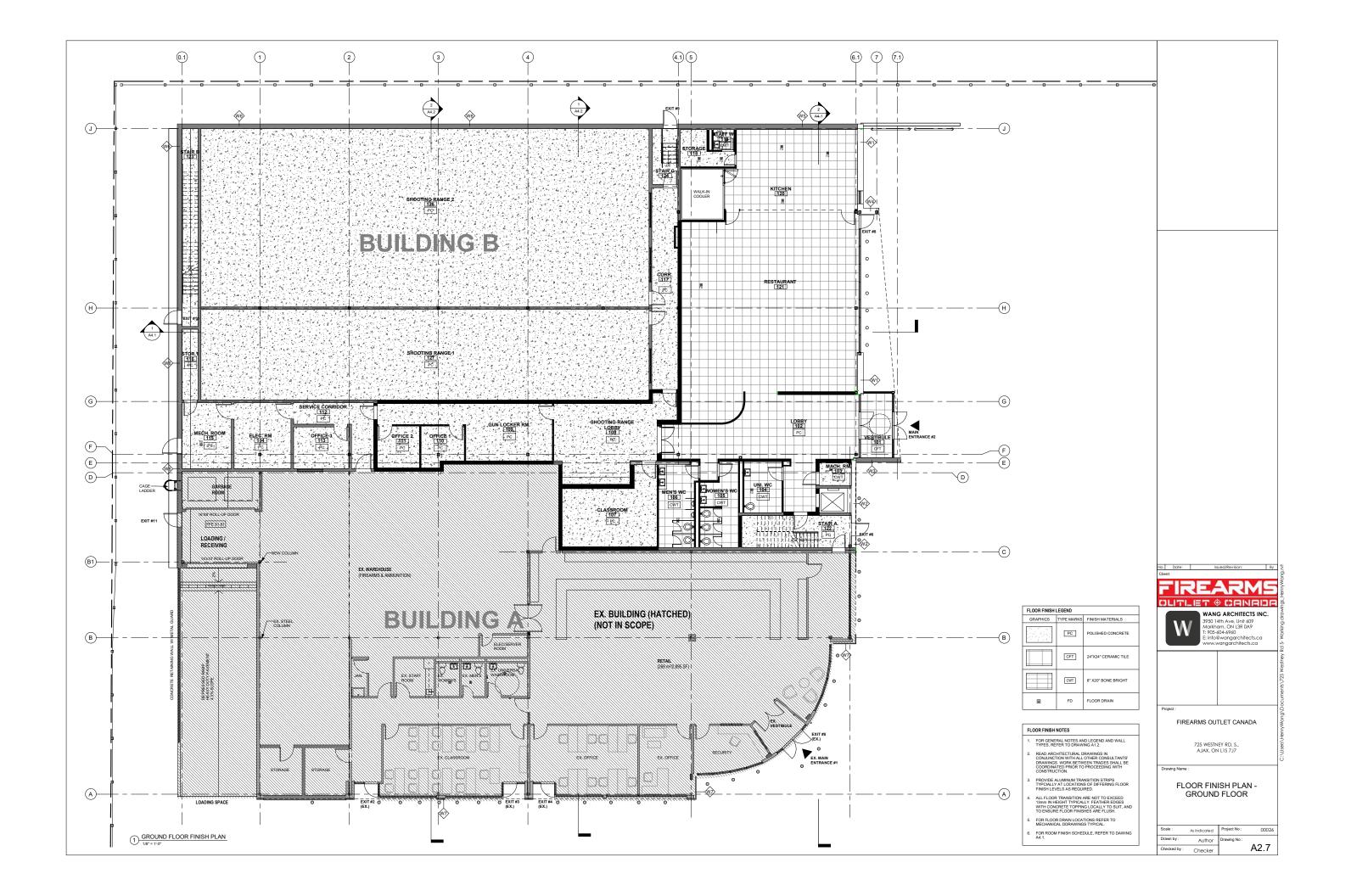


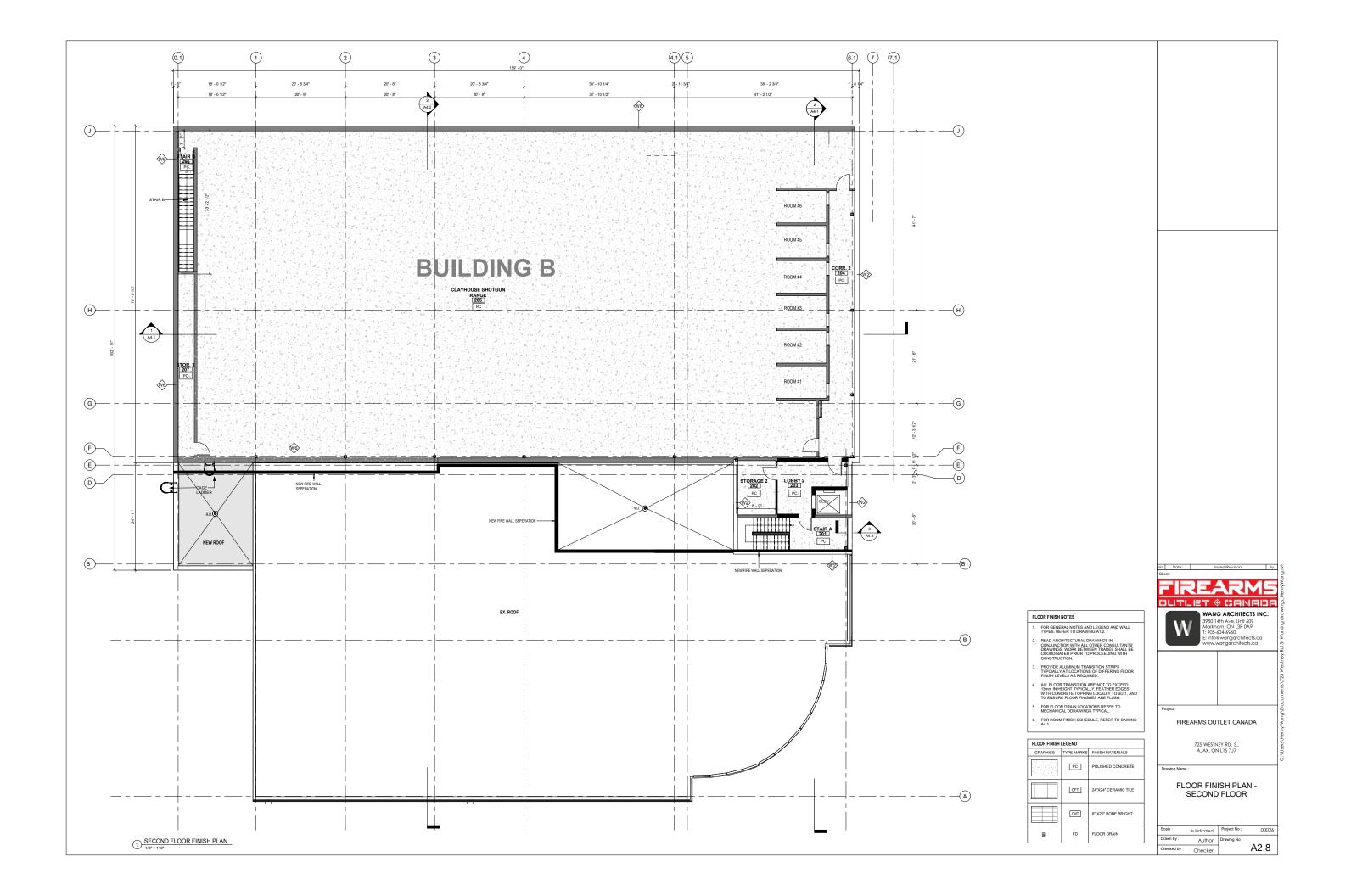


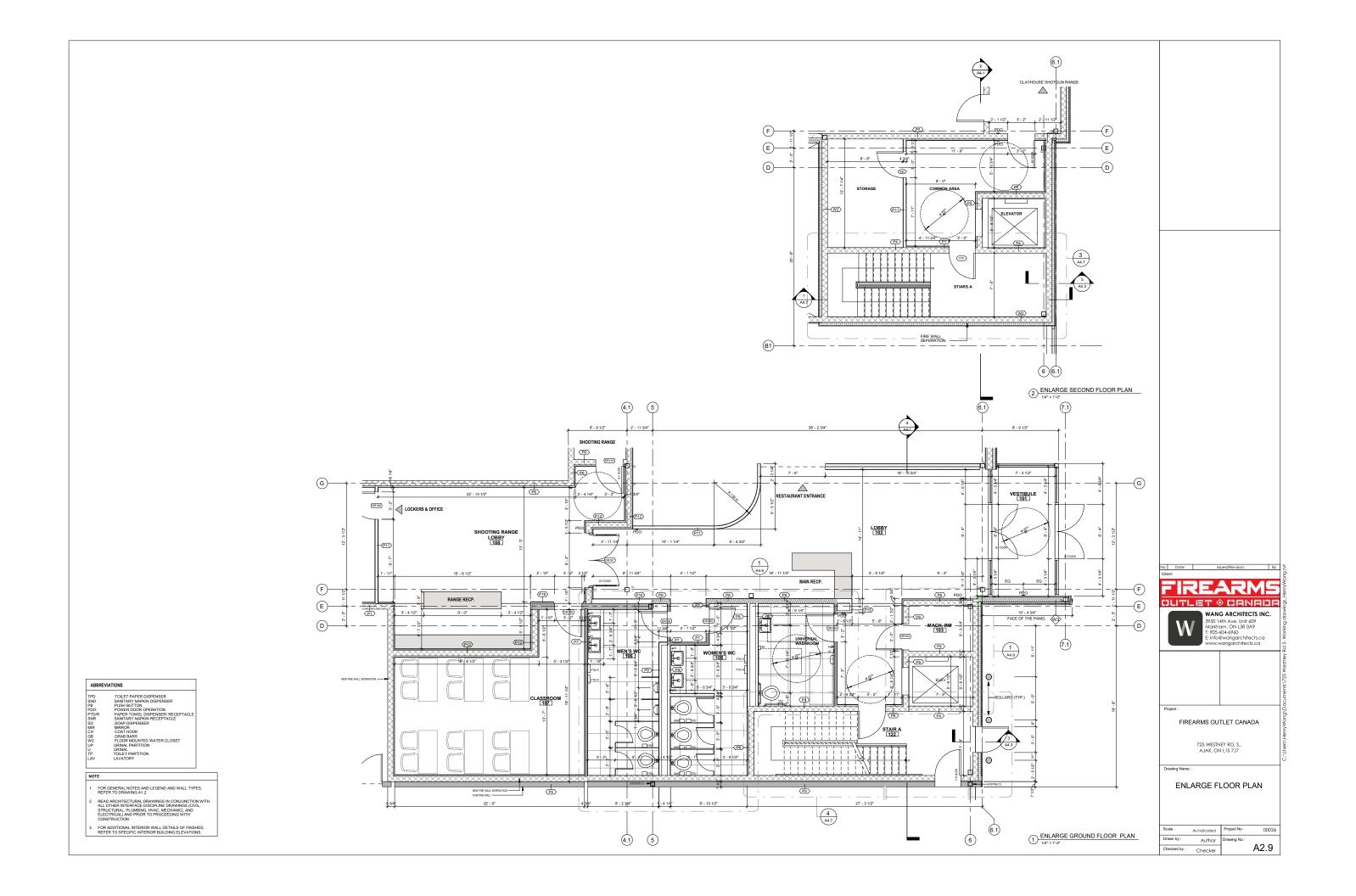


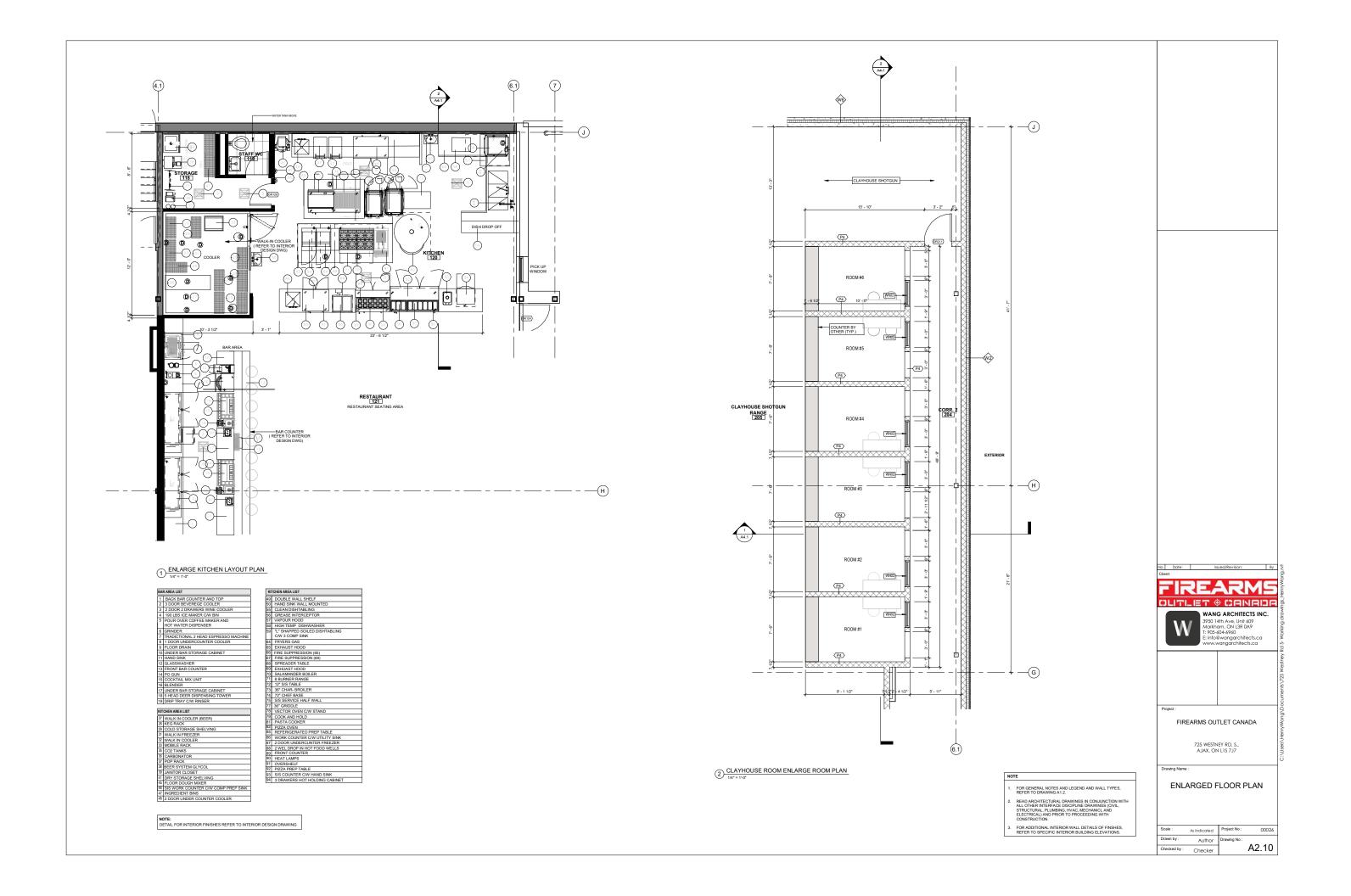


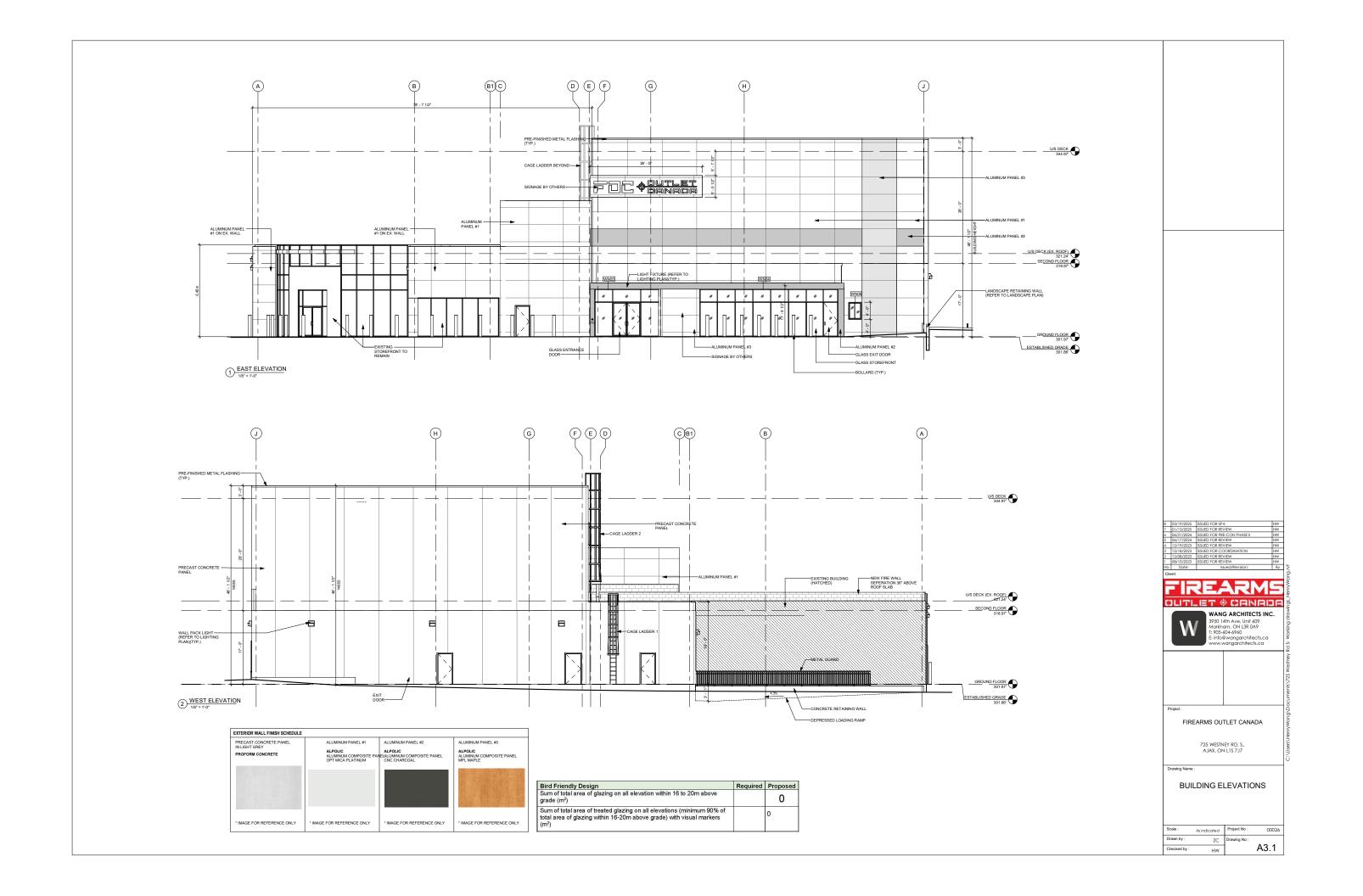


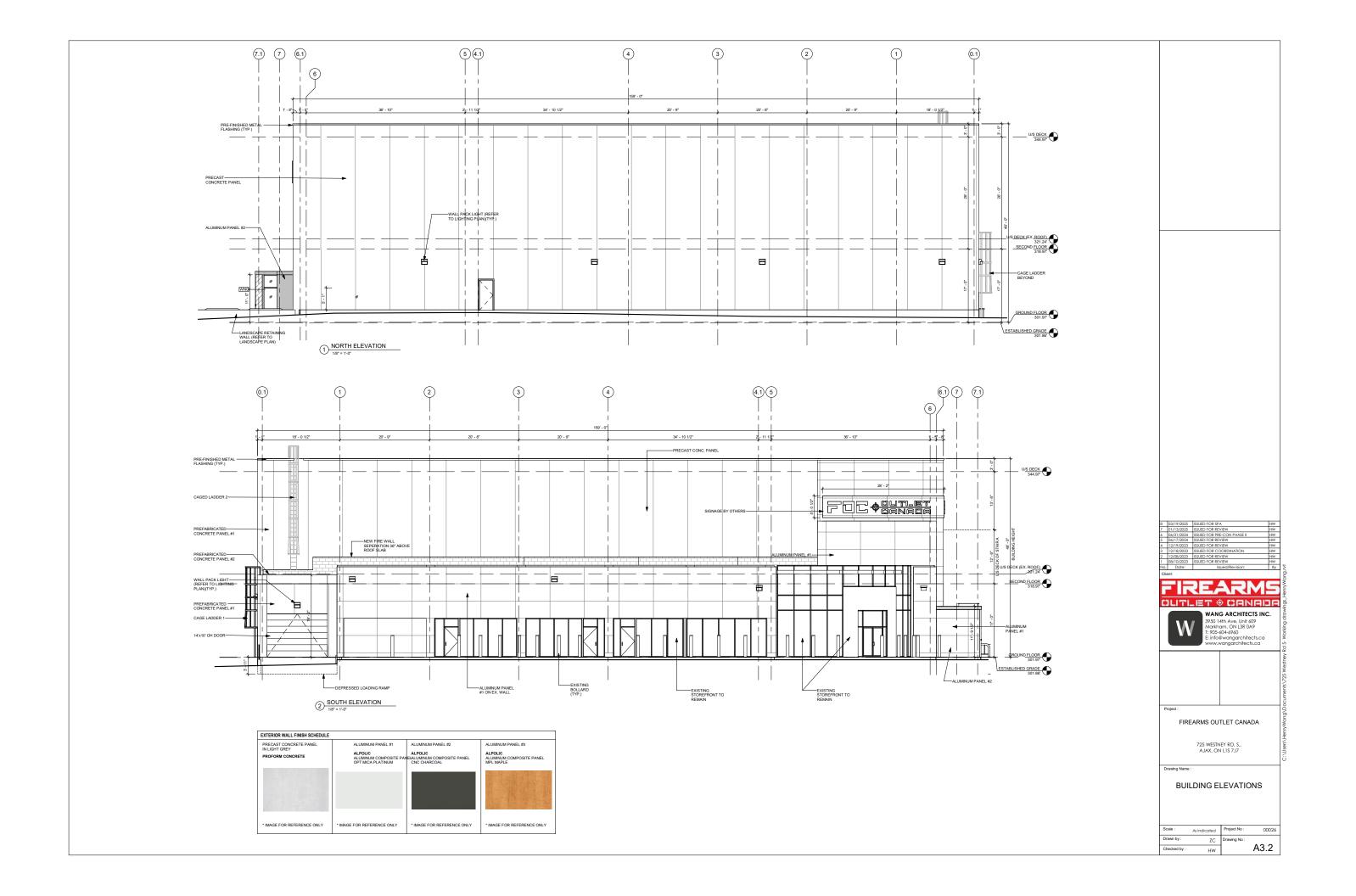


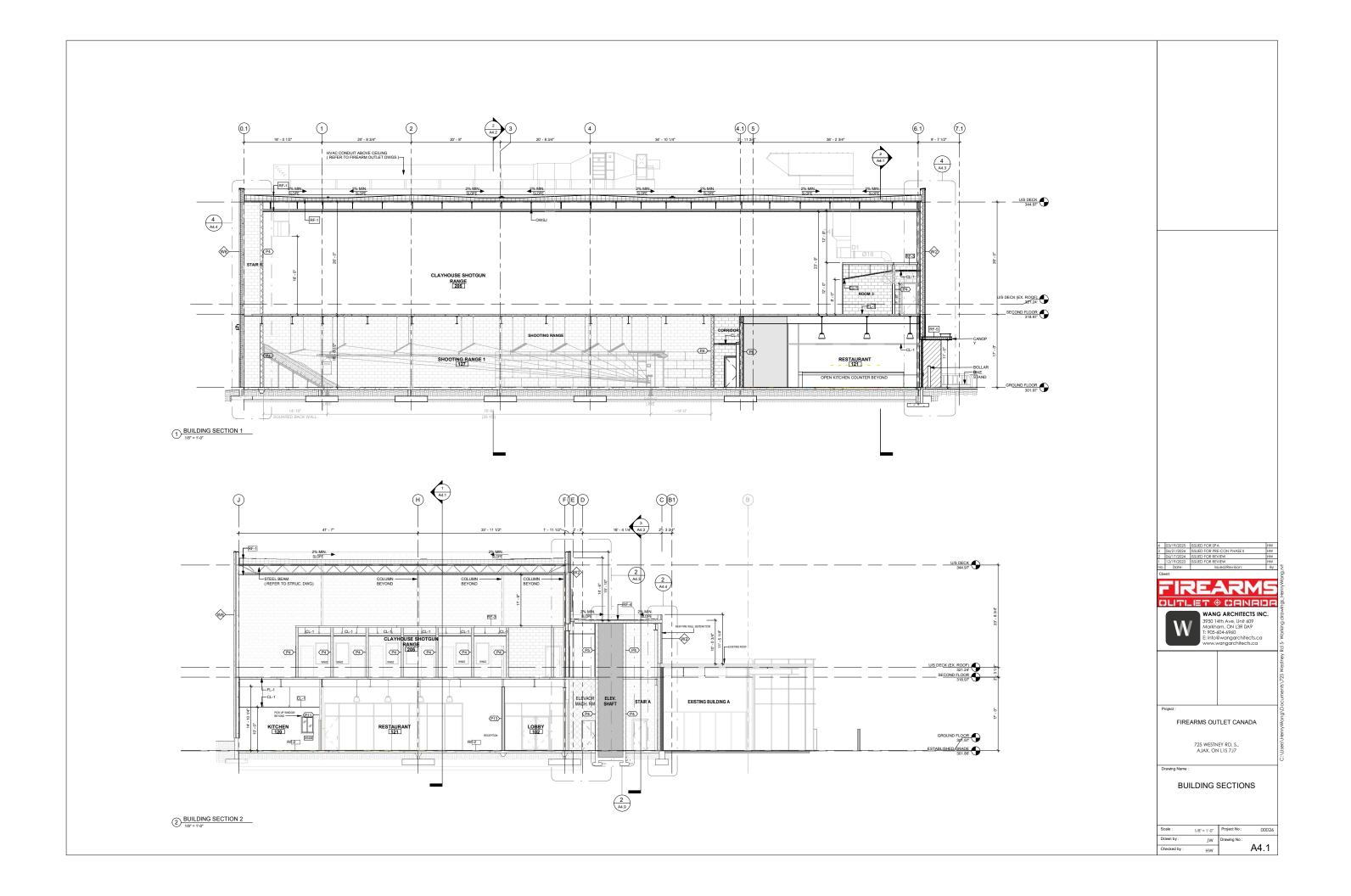


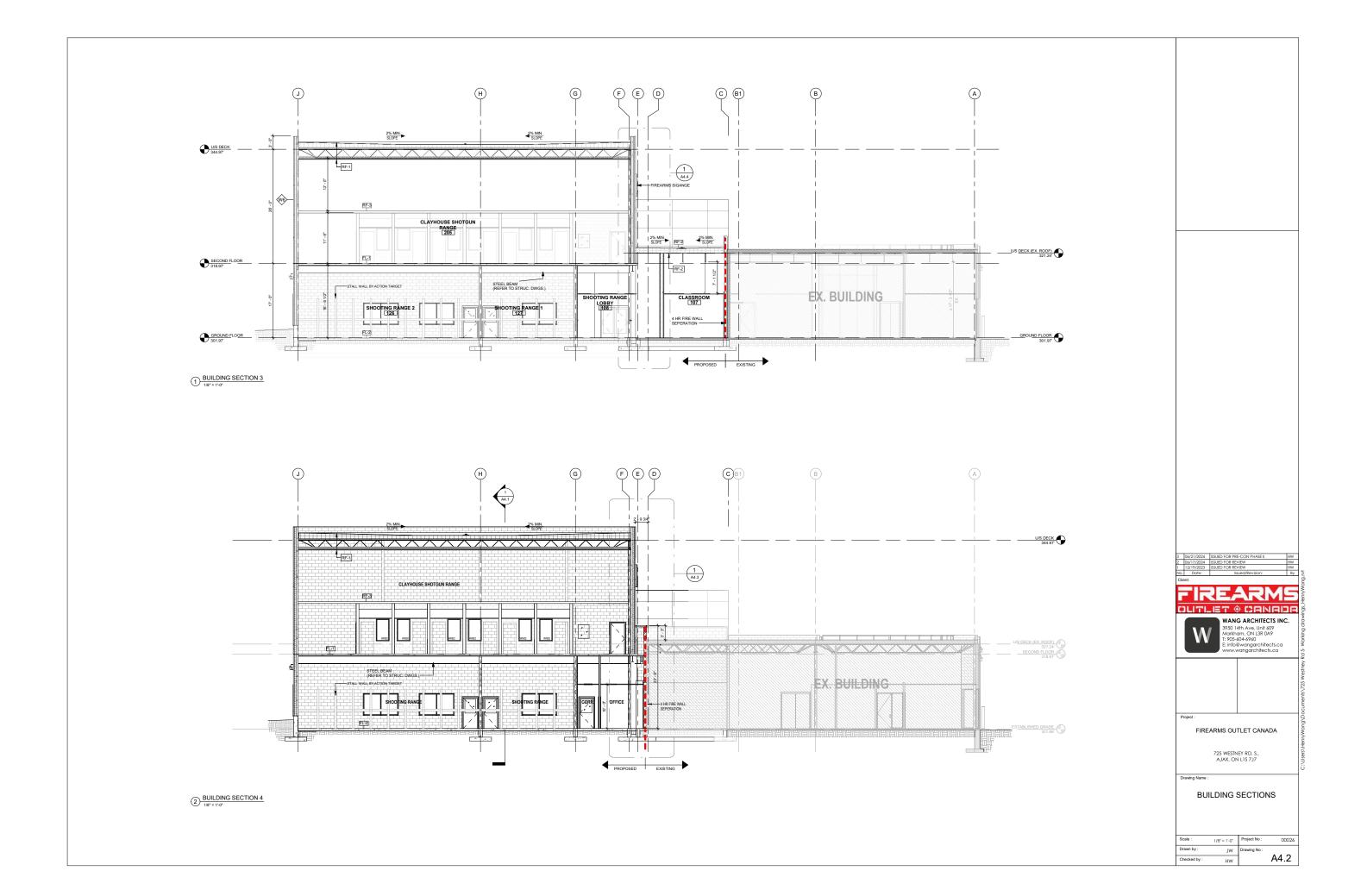


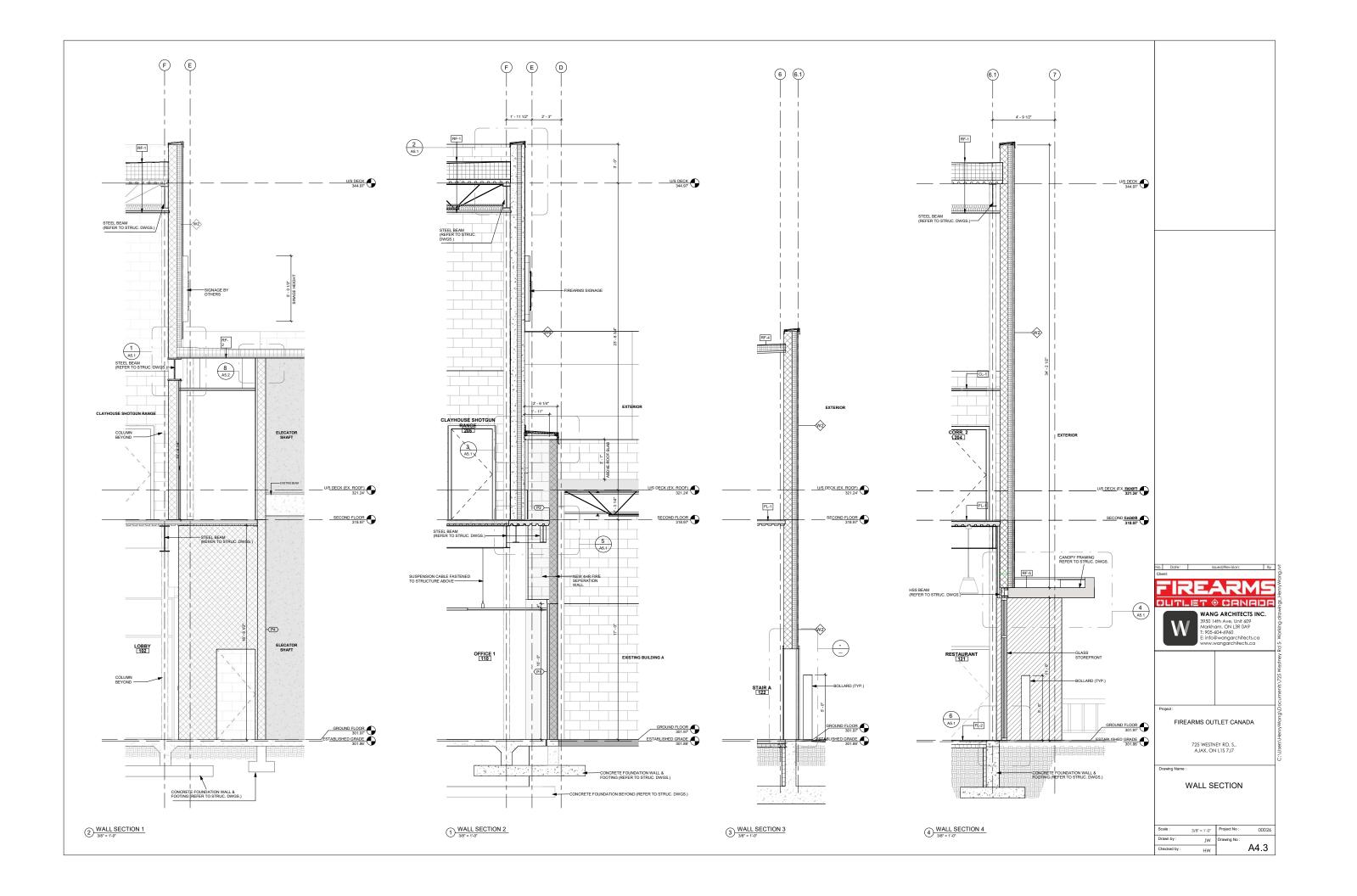


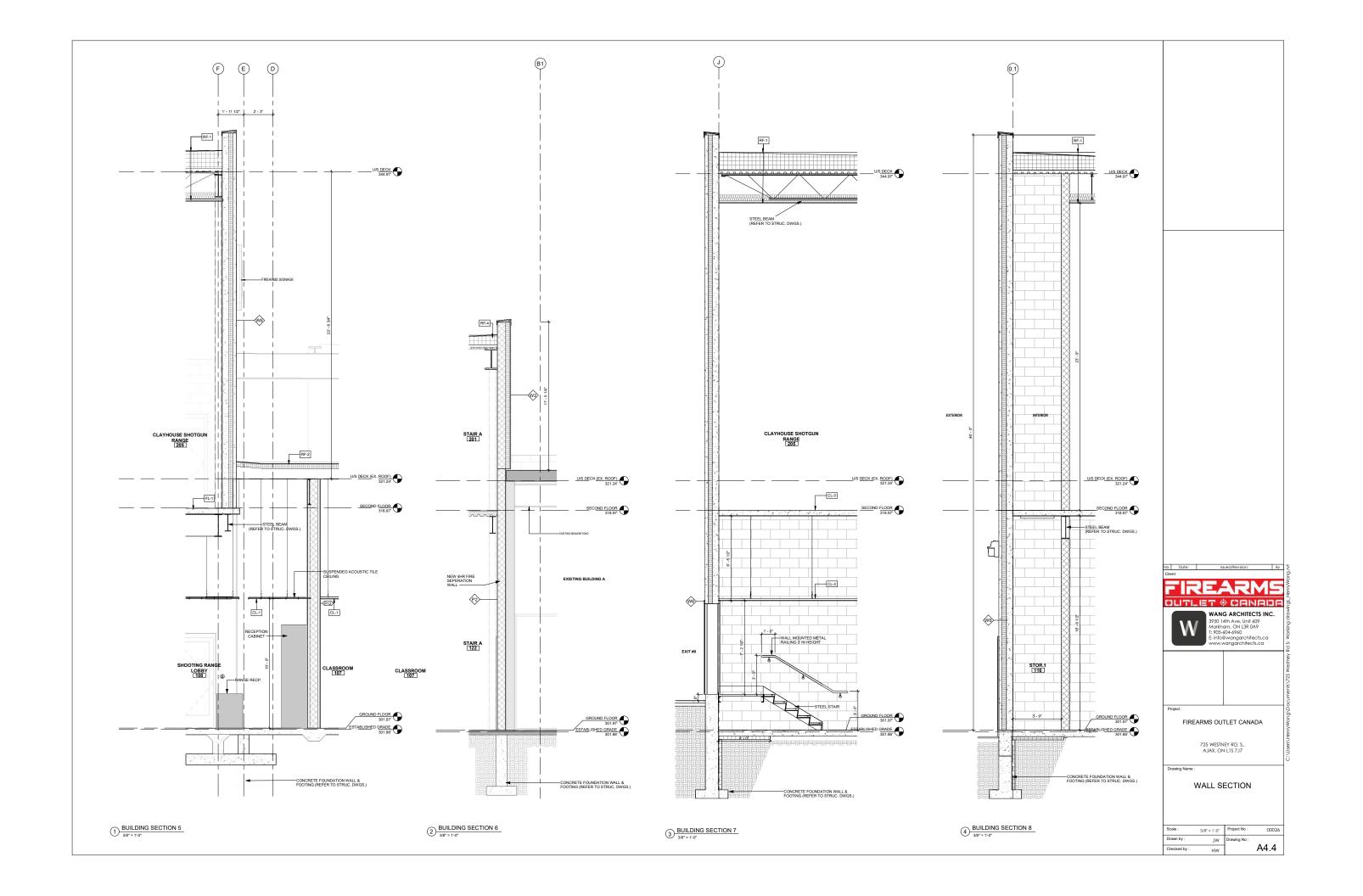


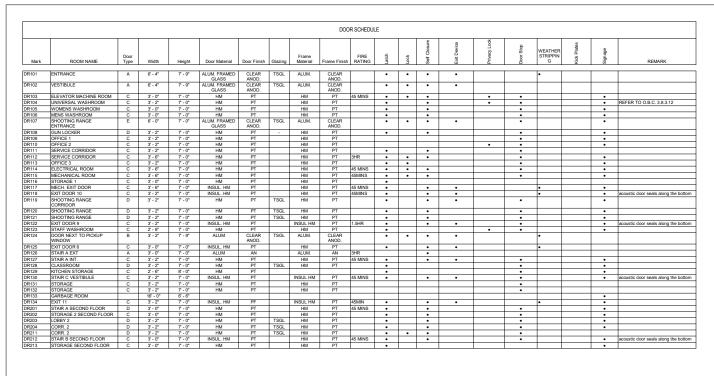


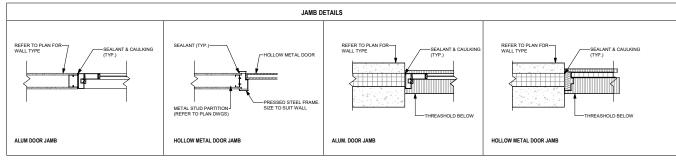


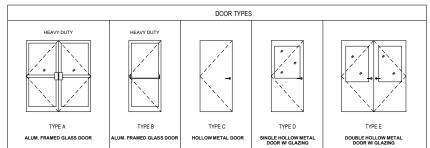












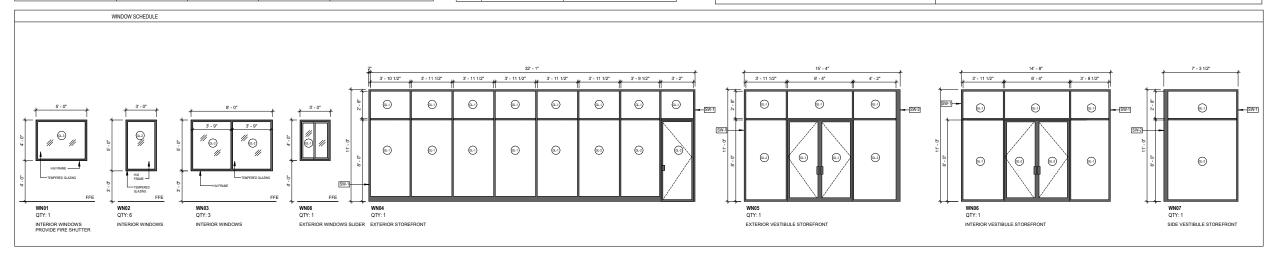
	2. ALL DIME 3. READ THI (STRUCTUR TRADES SH	2. ALL DIMENSIONS ARE IN MERSHAL IN LESS OTHERWISE NOTES.  SHEAD THESE PROMINESS INCOLLINATION WITH ALL INTERPRACE DISCIPLINE DRAWINGS (STRUCTURAL, INCOMPANCIA, LECTRICAL, AND LAUGICAPE DESIGN, AND WORK BETWEEN ALL TRACES SHALL BE CONCONNICTED PRIOR OF PROCEEDING WITH LOCKSTRUCTION.  4. FIELD VERFLY ROUGH OPENING PRIOR TO ALL WINDOW FABRICATION AND INSTALLATIONS.								
`\ /	WINDOW SO	CHEDULE LEGEND								
	TYPE	DESCRIPTION	REMARK							
	SW-1	2" X 5" BLACK ANODIZED	SINGLE GLAZED STOREFRONT SYSTEM							
TYPE E	SW-2	SW-2 5" X 5" BLACK ANODIZED SINGLE GLAZED STOREFRONT SYSTEM								

	ROOM	FLO	OOR				WAI	LS				CE	ILING	REMARKS
	1			NOR	TH	sou		EA:	ST.	WE	ST			
NO	NAME	MAT.	FINISH	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FINISH	
GROUND FL	LOOR- REFER TO DWG. A2.7													
101	VESTIBULE	CON	CFT	GL	-	GB	ALUM PANEL	GL	-	GL	-	GL	PT	REFER TO ID DWGS.
102	LOBBY	CON	CFT	GB	-	GB	-	GL	-	CON / BLK	-	-	-	REFER TO ID DWGS.
103	MACHINE ROOM	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	EC	PT	
104	UNIVERSAL WASHROOM	CON	CFT	GB	CWT	CON / BLK	CWT	GB	CWT	GB	CWT	GB	PT	
105	WOMEN'S WASHROOM	CON	CFT	GB	CWT	CON / BLK	CWT	STUD W. CON / BLK	CWT	GB	CWT	GB	PT	
106	MEN'S WASHROOM	CON	CFT	GB	CWT	CON / BLK	CWT	GB	CWT	GB	CWT	GB	PT	
107	CLASSROOM	CON	PC	GB	PT	CON / BLK	PT	GB	PT	CON / BLK	PT	AT	PF	
108	SHOOTING RANGE LOBBY	CON	PC	GB	-	GB	-	GB	-	GB	-	AT	PF	REFER TO ID DWGS.
109	GUN LOCKER ROOM	CON	PC	GB	PT	GB	PT	GB	PT	GB	PT	AT	PF	
110	OFFICE 1	CON	PC	GB	PT	GB	PT	GB	PT	GB	PT	AT	PF	
111	OFFICE 2	CON	PC	GB	PT	GB	PT	GB	PT	GB	PT	AT	PF	
112	SERVICE CORRIDOR	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	EC	PT	
113	OFFICE 3	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	AT	PF	
114	ELECTRICAL ROOM	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	EC	PT	
115	MECHANICAL ROOM	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	EC	PT	
116	STORAGE 1	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	PRECAST	PT	EC	PT	
117	CORRIDOR	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	PRECAST	PT	AT	PF	
118	STORAGE (KITCHEN)	CON	PC	GB	PT	GB	PT	GB	PT	CON / BLK	PT	EC	PT	
119	STAFF WASHROOM	CON	CFT	PRECAST	CWT	GB	CWT	GB	CWT	GB	CWT	GB	PT	
120	KITCHEN	CON	CFT	-	-	-		-	-	-	-	-	-	REFER TO ID DWGS.
121	RESTAURANT	CON	CFT	-	-	-		-	-	-	-	-	-	REFER TO ID DWGS.
122	STAIR A	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	EC	PT	
123	STAIR B	CON	PC	PRECAST	PT	CON / BLK	PT	CON / BLK	AWP	PRECAST	PT	AP	PF	
124	STAIR C	CON	PC	PRECAST	PT	CON / BLK	AWP	CON / BLK	PT	CON / BLK	AWP	AP	PF	
125	GARGE ROOM	CON	PC	CON / BLK		CON / BLK		CON / BLK		PRECAST		EC	-	
126	SHOOTING RANGE 1	CON	PC	CON / BLK	-	CON / BLK		CON / BLK	-	CON / BLK		-	-	REFER TO ACTION TARGET I
127	SHOOTING RANGE 2	CON	PC	CON / BLK		CON / BLK		CON / BLK		CON / BLK		-	-	REFER TO ACTION TARGET
128	STORAGE 2	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	EC	-	
129	STORAGE 3	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	EC		
GROUND FL	LOOR- REFER TO DWG. A2.8			-										
201	STAIR A	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	EC	PT	
202	STORAGE 2	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	GB	PT	AT	PF	
203	LOBBY 2	CON	PC	GB	PT	GB	PT	GB	PT	GB	PT	AT	PF	
204	CORRIDOR 2	CON	PC	CON / BLK	PT	CON / BLK	PT	PRECAST	PT	CON / BLK	PT	AT	PF	
205	CLAYHOUSE SHOT GUN RANGE	CON	PC	PRECAST	-	PRECAST		PRECAST	-	CON / BLK	-	-	-	REFER TO ACTION TARGET
206	STAIR B	CON	PC	CON / BLK	AWP	CON / BLK	PT	CON / BLK	AWP	PRECAST	PT	AP	PF	
207	STORAGE 3	CON	PC	CON / BLK	PT	CON / BLK	PT	CON / BLK	PT	PRECAST	PT	EC	PT	



 ALL DOORS WITHIN A BARRIER-FREE PATH OF TRAVEL SHALL BE INSTALLED WI LEVEL TYPE DOOR HANDLES.
 ALL EXIT DOOR SHALL BE INSTALLED WITH EXIT HARDWARE THAT COMPLIES WITH OBG 3.3.1.12 AND 3.4.6.16.

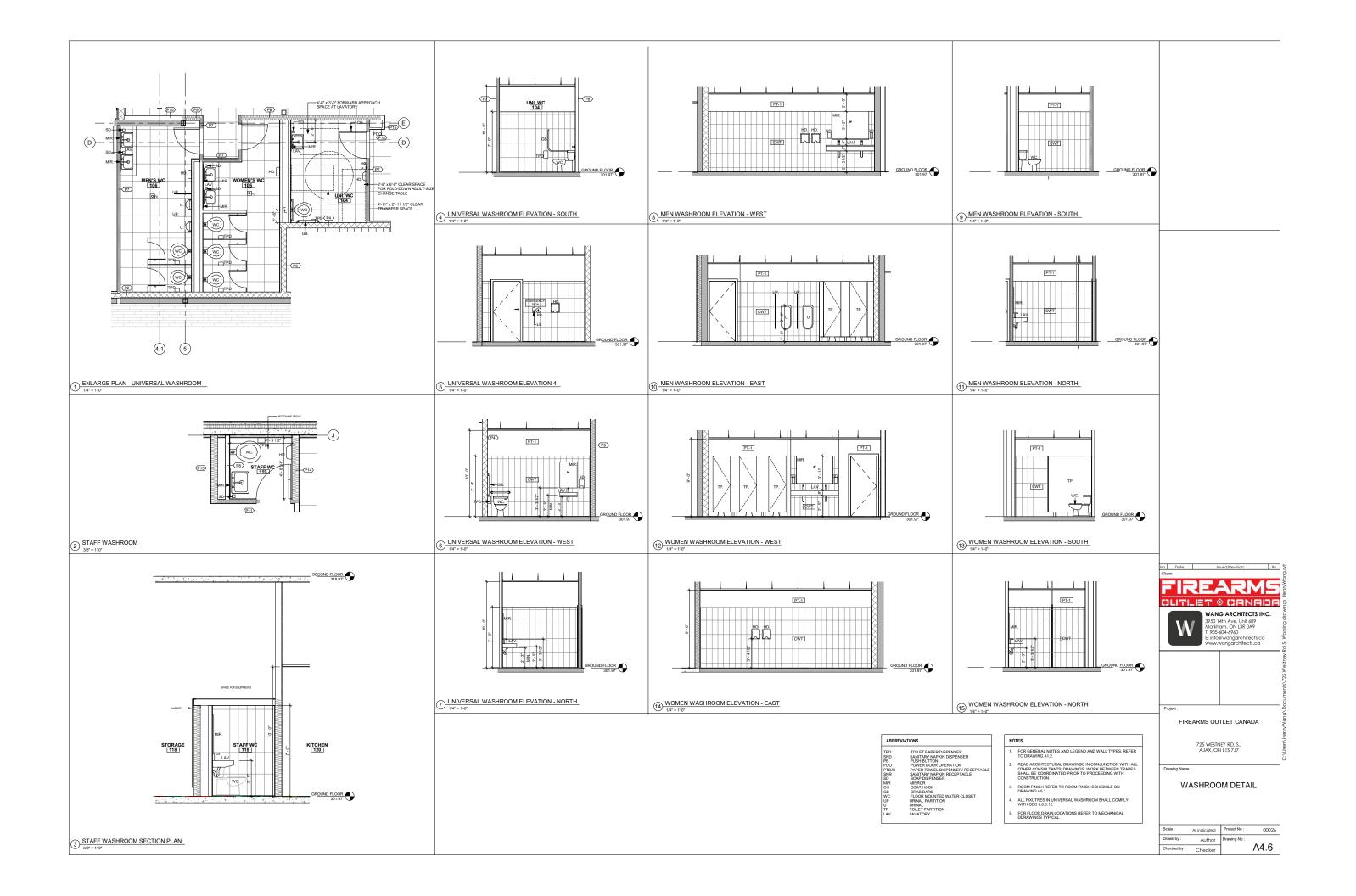
11. OPAQUE STRIPS SHALL COMPLY WITH O.B.C. 3.8.3.3.(15).

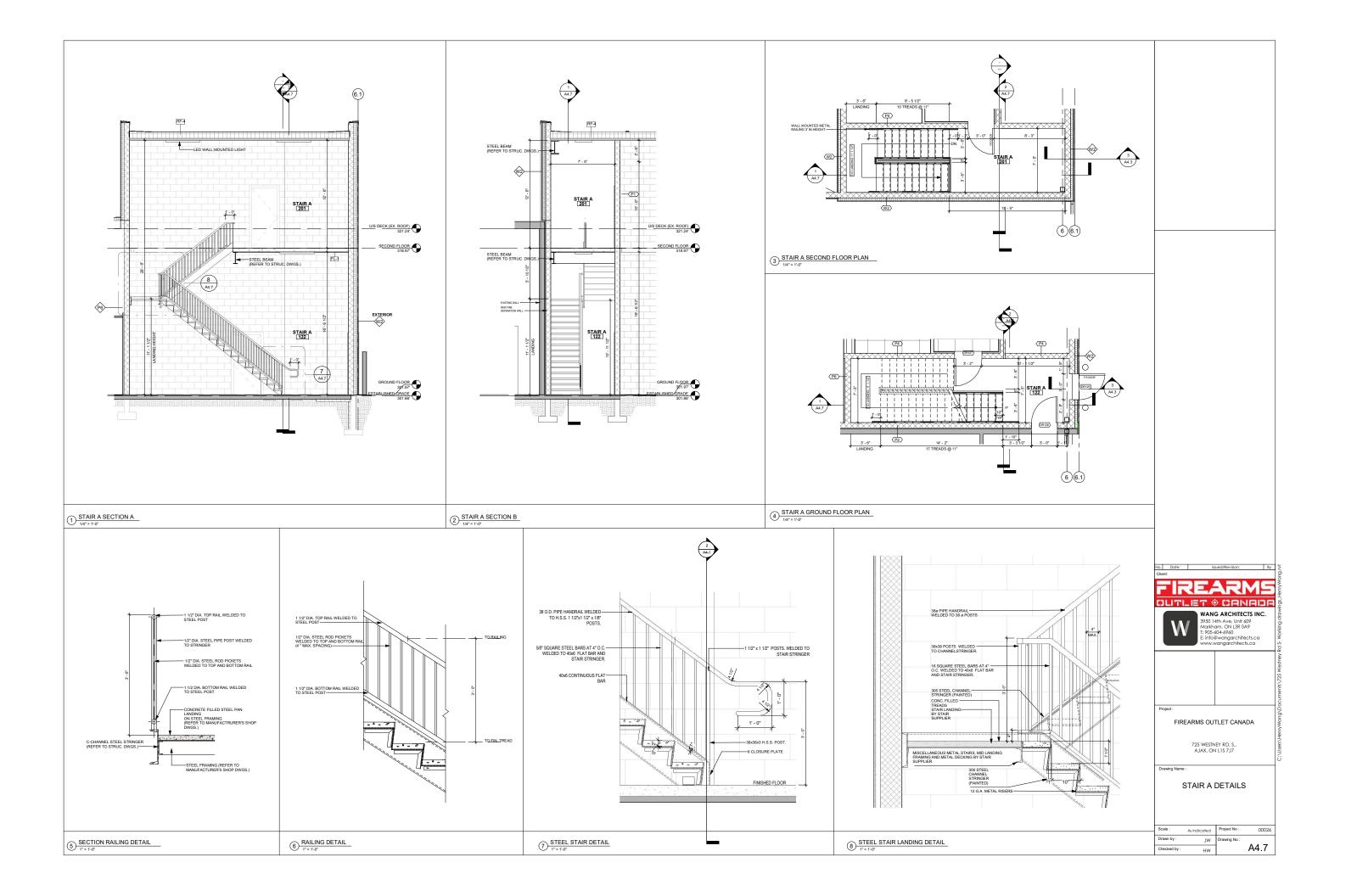


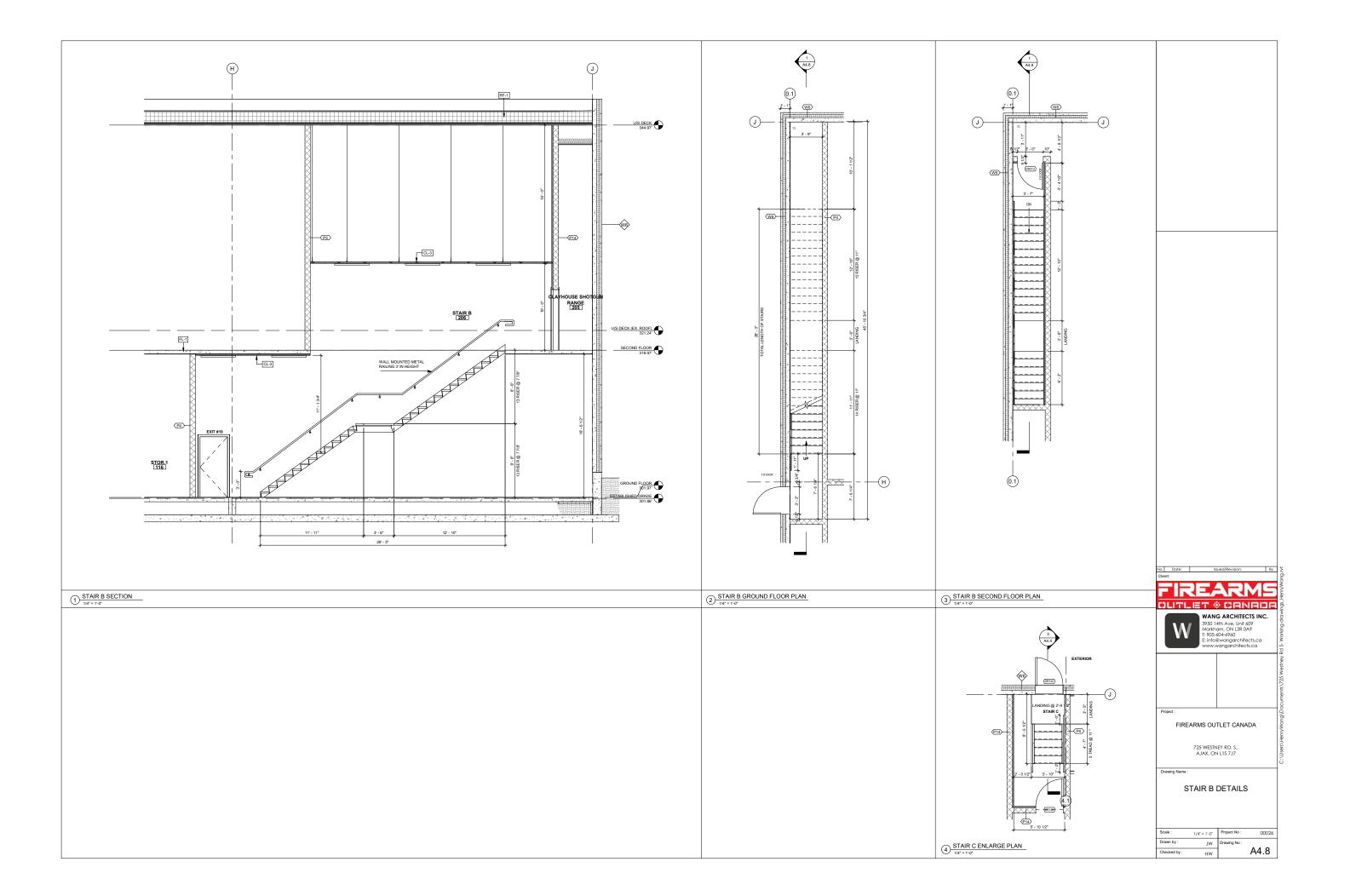


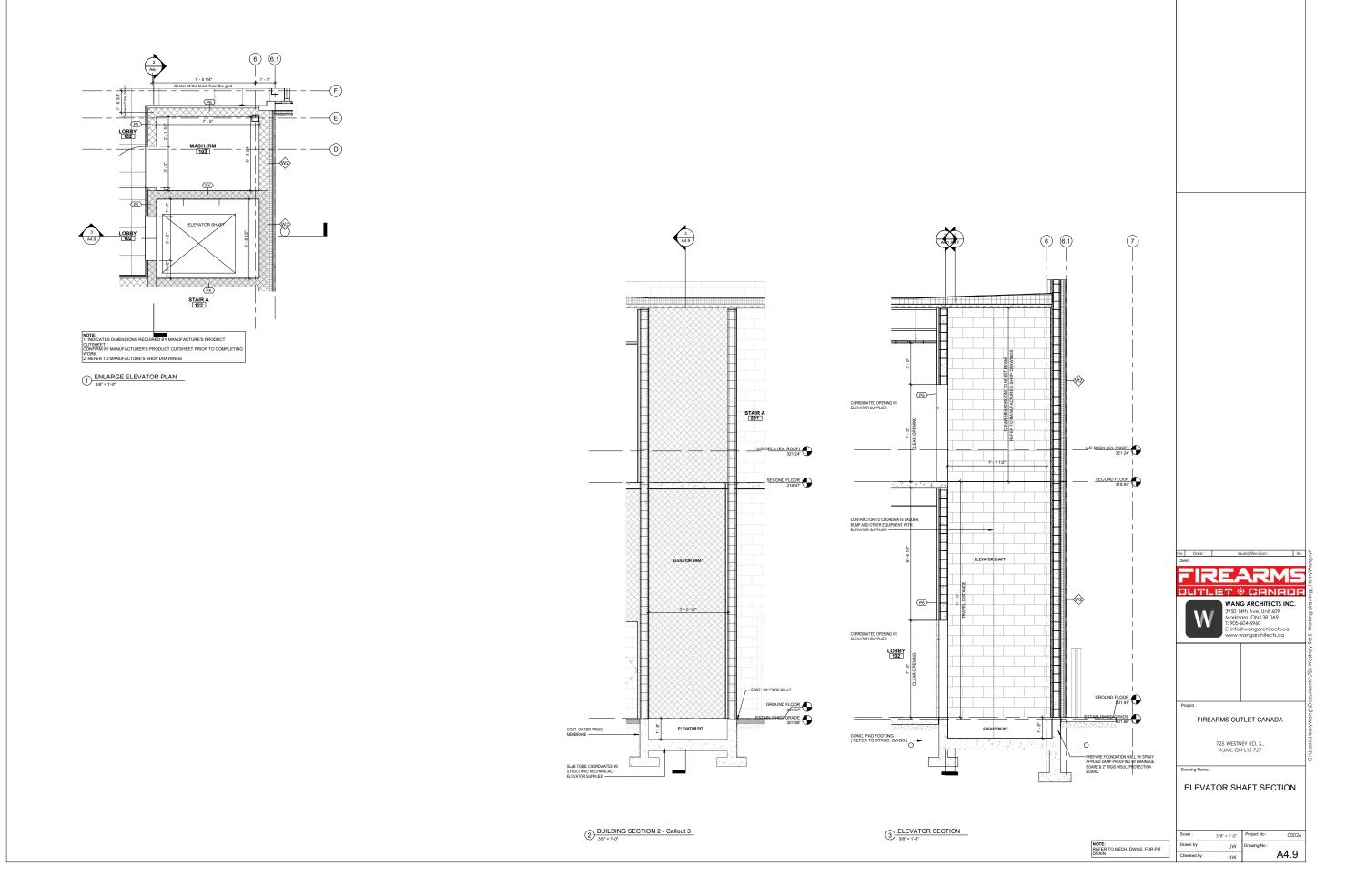
DOOR & WINDOW & ROOM FINISH SCHEDULES

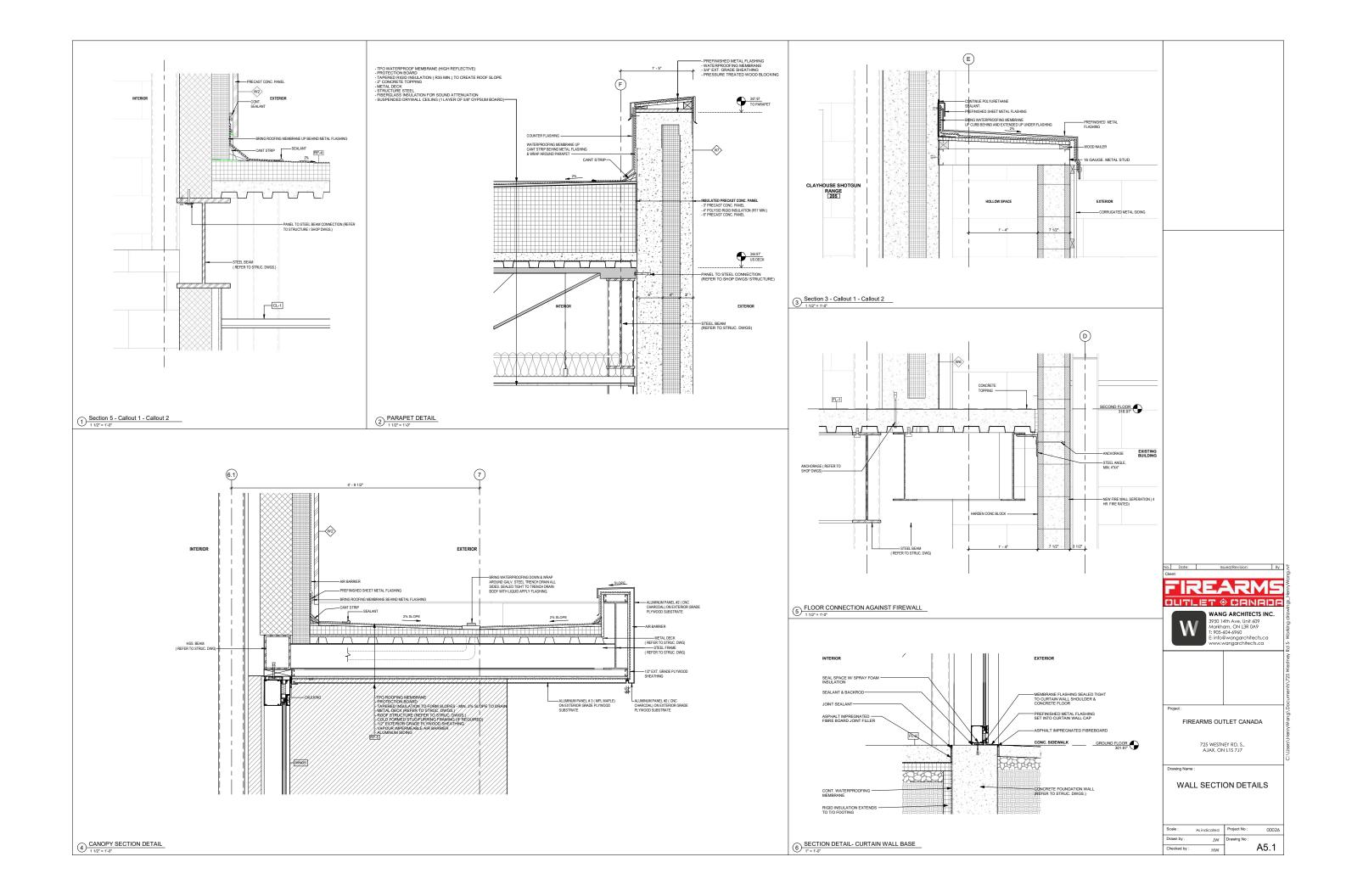
1			
Scale :	As indicated	Project No :	00026
Drawn by :	JW	Drawing No :	
Checked by :	1.047	1	A4.5

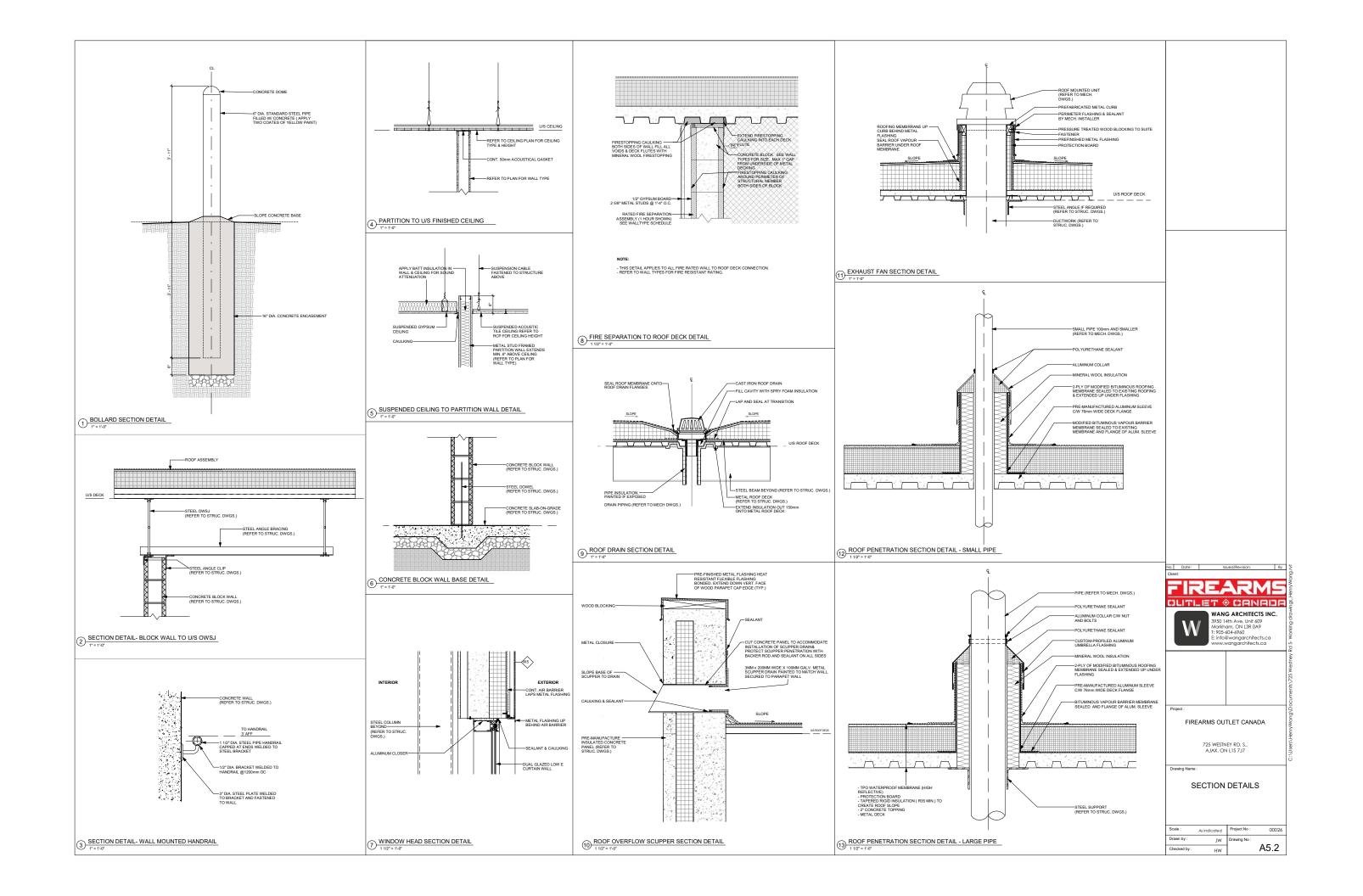


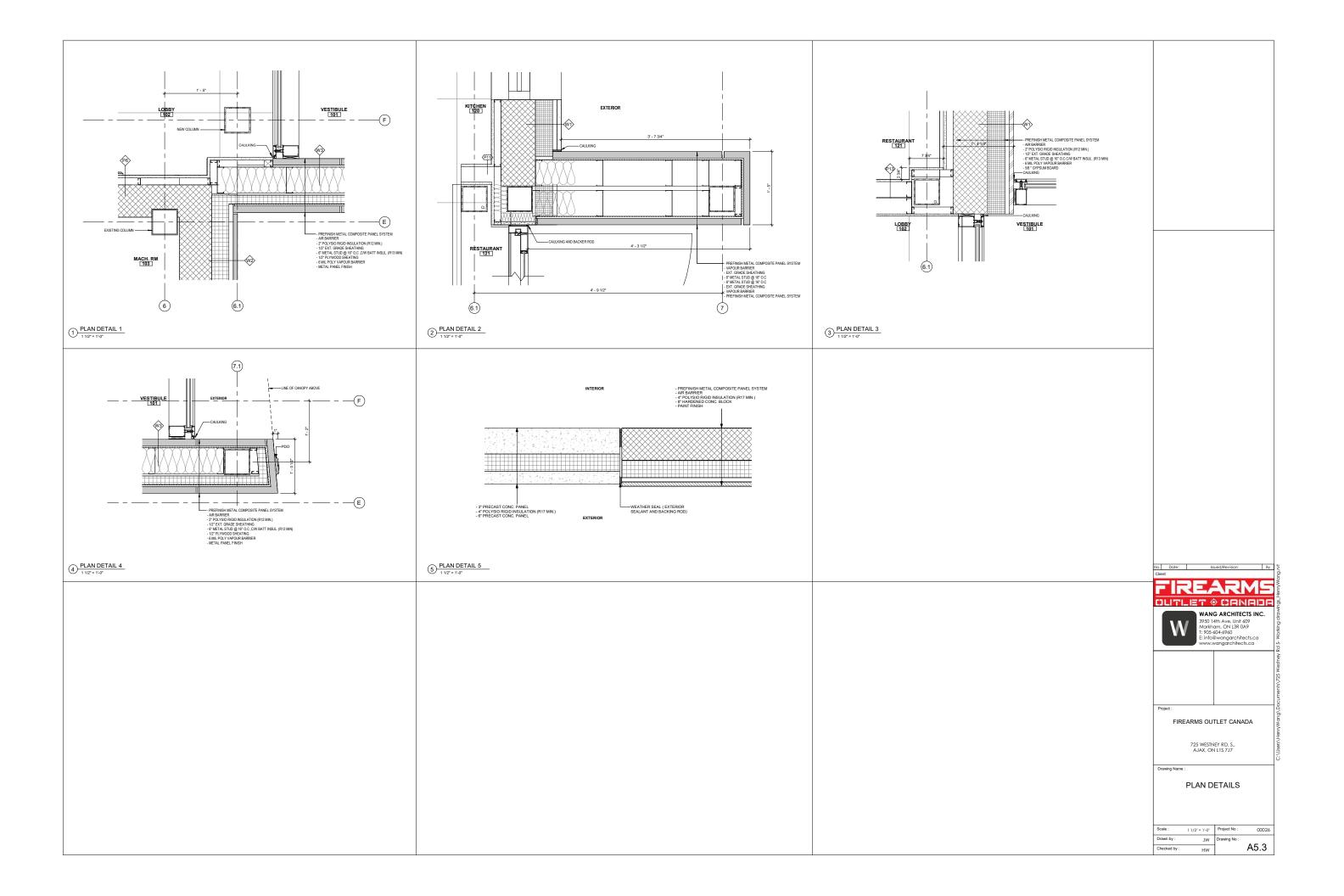










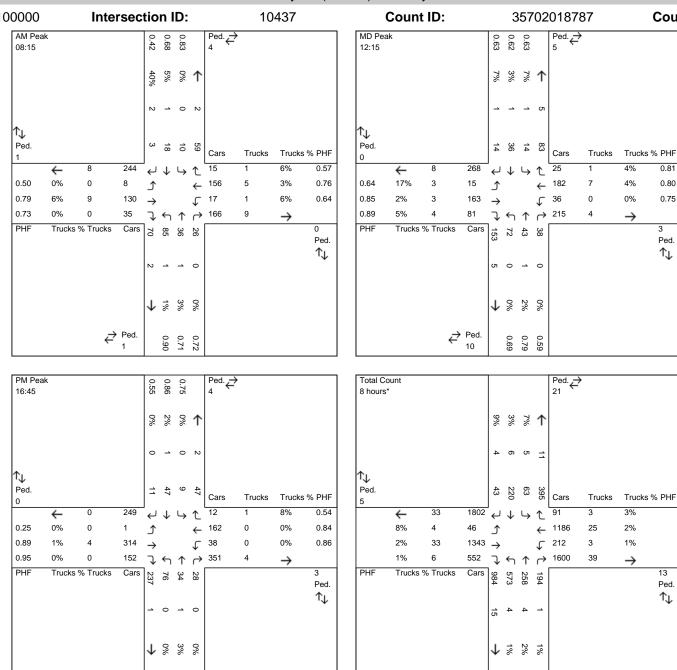


## **Appendix B**

Transportation Traffic Data and Sample Calculations

# Westney Rd (R.R.31) @ Finley Av 0310100000 Intersection ID: 10437 Count ID: 35702018787 Count Date: 05/12/2021, Wed

→ Ped.



 $\stackrel{\textstyle >}{\leftarrow}$  Ped.

0.78 0.73 0.83

TMC No:

### TMC 15 Min Report

### Westney Rd (R.R.31) @ Finley Av

TMC No: 05/12/2021, Wed 0310100000 Intersection ID: 10437 **Count ID:** 35702018787 **Count Date:** SOUTH APPROACH NORTH APPROACH EAST APPROACH **WEST APPROACH** Cars Trucks Heavies Ped Cars Heavies Ped Cars Heavies Ped Heavies Ped Trucks Trucks Cars Trucks Total Left Thru Thru Thru Right Thru Thru Thru Thru Thru Thru Right Thru Right Thru Right Thru Right Period 1 06:00 0 80 06:15 0 06:30 0 28 35 75 06:45 0 27 100 07:00 07:15 1 96 07:30 07:45 08:00 0 42 0 26 10 16 137 08:15 3 23 120 23 08:30 2 22 31 151 08:45 3 16 23 12 137 13 42 09:15 0 Period 2 11:30 0 11:45 2 10 23 158 12:00 14 19 35 168 36 12:30 6 12:45 2 191 49 16 13:00 3 14 38 0 11 11 178 5 5 0 2 13:15 9\* 14\* 47\* 15\* 15\* 45\* 22\* 0\* 197\* 13:30 5\* 11\* 0\* 0\* 14\* 49\* 2\* 0\* 14\* 10\* 46\* 21\* 0\* 0\* 0\* 193\* 13:45 0\* Period 3 15:00 0 15:15 2 11 47 15 68 22 211 15 56 28 15:30 10 177 15:45 3 13 65 29 209 16:00 13 33 11 203 16:15 3 27 216 16:30 3 33 202 13 16:45 2 229 13 72 17:00 2 13 38 48 23 11 254 75 40 17:15 3 42 13 220 17:30 2 17:45 0 25 208 18:00 12 35 16 21 0 185

0

0 0 0 0

0 0

0

0 0

18:15 0

18:30 0

0 0

0 0 0

0 0

<u>[</u>	Type of Traffic	c Distribution: Re	esidential Area				
	AADT: Roadway: AADT: MT% HT% Posted Speed Limit: Grade: Growth Rate	6,680 <b>Westney Rd S</b> 6,680 0.6% 0.6% 50 kr 0% 0%	n/hr				
Hour Ending	Projected Years % of AADT	Total	Cars	MT	НТ	Lref	Period
0:00	3.0%	200	198	1	<u>пі</u> 1	56.74	reilou
1:00	2.4%	160	158	1	1	55.77	
2:00	0.8%	53	53	0	0	51.00	
3:00	0.3%	20	20	0	0	46.74	
4:00	0.2%	13	13	0	0	44.98	Night
5:00	0.2%	13	13	Ö	Ö	44.98	
6:00	0.6%	40	40	0	0	49.75	
7:00	2.7%	180	178	1	1	56.28	
8:00	5.7%	381	376	2	2	59.53	
9:00	6.9%	461	455	3	3	60.35	
10:00	4.2%	281	277	2	2	58.20	
11:00	4.1%	274	271	2	2	58.09	
12:00	4.6%	307	304	2	2	58.59	
13:00	5.3%	354	350	2	2	59.21	
14:00	5.5%	367	363	2	2	59.37	
15:00	5.2%	347	343	2	2	59.13	Dane
16:00	6.3%	421	416	3	3	59.96	Day
17:00	8.5%	568	561	3	3	61.26	
18:00	8.2%	548	541	3	3	61.10	
19:00	6.8%	454	449	3	3	60.29	
20:00	6.2%	414	409	2	2	59.89	
21:00	4.7%	314	310	2	2	58.69	
22:00	4.1%	274	271	2	2	58.09	
23:00	3.5%	234	231	1	1	57.41	

AERCOUSTICS Engineering Limited 2023-11-27

<u>[</u>	Type of Traffic	Distribution: Res	dential Area				
	AADT: Roadway: AADT: MT% HT% Posted Speed Limit: Grade: Growth Rate	3,490 Finley Ave 3,490 0.8% 0.8% 50 km// 0%	nr				
Hour Ending	Projected Years % of AADT	0 Total	Cars	MT	HT	Lref	Period
0:00	3.0%	105	103	1	1	54.35	
1:00	2.4%	84	82	1	1	53.38	
2:00	0.8%	28	27	0	0	48.61	
3:00	0.3%	10	10	0	0	44.35	NI: aula 4
4:00	0.2%	7	7	0	0	42.59	Night
5:00	0.2%	7	7	0	0	42.59	
6:00	0.6%	21	21	0	0	47.36	
7:00	2.7%	94	93	1	1	53.89	
8:00	5.7%	199	196	2	2	57.13	
9:00	6.9%	241	237	2	2	57.96	
10:00	4.2%	147	144	1	1	55.81	
11:00	4.1%	143	141	1	1	55.70	
12:00	4.6%	161	158	1	1	56.20	
13:00	5.3%	185	182	1	1	56.82	
14:00	5.5%	192	189	2	2	56.98	
15:00	5.2%	181	179	1	1	56.74	Dow
16:00	6.3%	220	216	2	2	57.57	Day
17:00	8.5%	297	292	2	2	58.87	
18:00	8.2%	286	282	2	2	58.71	
19:00	6.8%	237	234	2	2	57.90	
20:00	6.2%	216	213	2	2	57.50	
21:00	4.7%	164	161	1	1	56.30	
22:00	4.1%	143	141	1	1	55.70	
23:00	3.5%	122	120	1	1	55.02	

AERCOUSTICS Engineering Limited 2023-11-27

**Appendix C**Sound Power Level Data

### Sound Power Level Data – Stationary Sources

Name	Source	Octave Spectrum (dB)										
		63	125	250	500	1000	2000	4000	8000	dBA		
Small RTU	5 Ton Carrier RTU	57	76	72	73	75	75	71	69	81		
Truck Idling and Passby	Aercoustics Database	97	101	100	97	93	90	83	76	99		

### Sound Power Level Data - Impulse Sources

		Octave Spectrum (dB)										
Name	Source	63	125	250	500	1000	2000	4000	8000	dBAI		
.308 Calibre Rifle	Aercoustics Database	120	126	135	135	135	135	130	125	145		
.308 Calibre Rifle (Radiated through roof/ceiling)	Calculations based on estimated partition transmission loss	110	106	100	86	81	80	71	66	95		
.308 Calibre Rifle (Radiated through façades)	Calculations based on estimated partition transmission loss	98	92	95	92	84	78	65	60	92		

# **End of Report**