JLR No.: 25205-100
Revision: 1

February 6, 2020

Prepared for:

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NOISE CONTROL DETAILED STUDY

99 PARKDALE AVENUE

J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

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1.0 INTRODUCTION

Brigil, under the umbrella company 11034936 Canada Inc. (the Owner) retained the services of J.L. Richards & Associates Limited (JLR) to prepare a Noise Control Detailed Study for their condominium development known as 99 Parkdale Avenue, located in the Tunney's Pasture area, within the City of Ottawa (City). The purpose of this study is to assess the potential environmental noise impact on the development, due to vehicular traffic on Parkdale Avenue.

This study is prepared to satisfy the Ministry of the Environment and Climate Change (MOECC) Environmental Noise Guidelines NPC-300 and the City of Ottawa Environmental Noise Control Guidelines (ENCG) (approved by City Council January 2016) and in particular Part 4, Section 3.2 of the Phase 2 Noise Control Detailed Study Requirements.

2.0 PROJECT DESCRIPTION

The proposed 99 Parkdale Avenue Condominium Development is situated on four (4) properties of approximately 0.14 ha. The current addresses of these properties are 99, 101, 105, and 107 Parkdale Avenue, respectively. The site is bounded by an existing condominium building to the east, a 28-storey condominium building (in-progress) to the south, Parkdale Avenue to the west and an existing 9-storey condominium building to the north, as shown on Figure 1 – Location Plan. The legal description of the 99 Parkdale Avenue Condominium Development is Lots 4, 5, and 6 East Parkdale Avenue (formerly Fifth Street) Registered Plan 41 City of Ottawa as indicated on the Site Plan provided in Appendix 'A'.

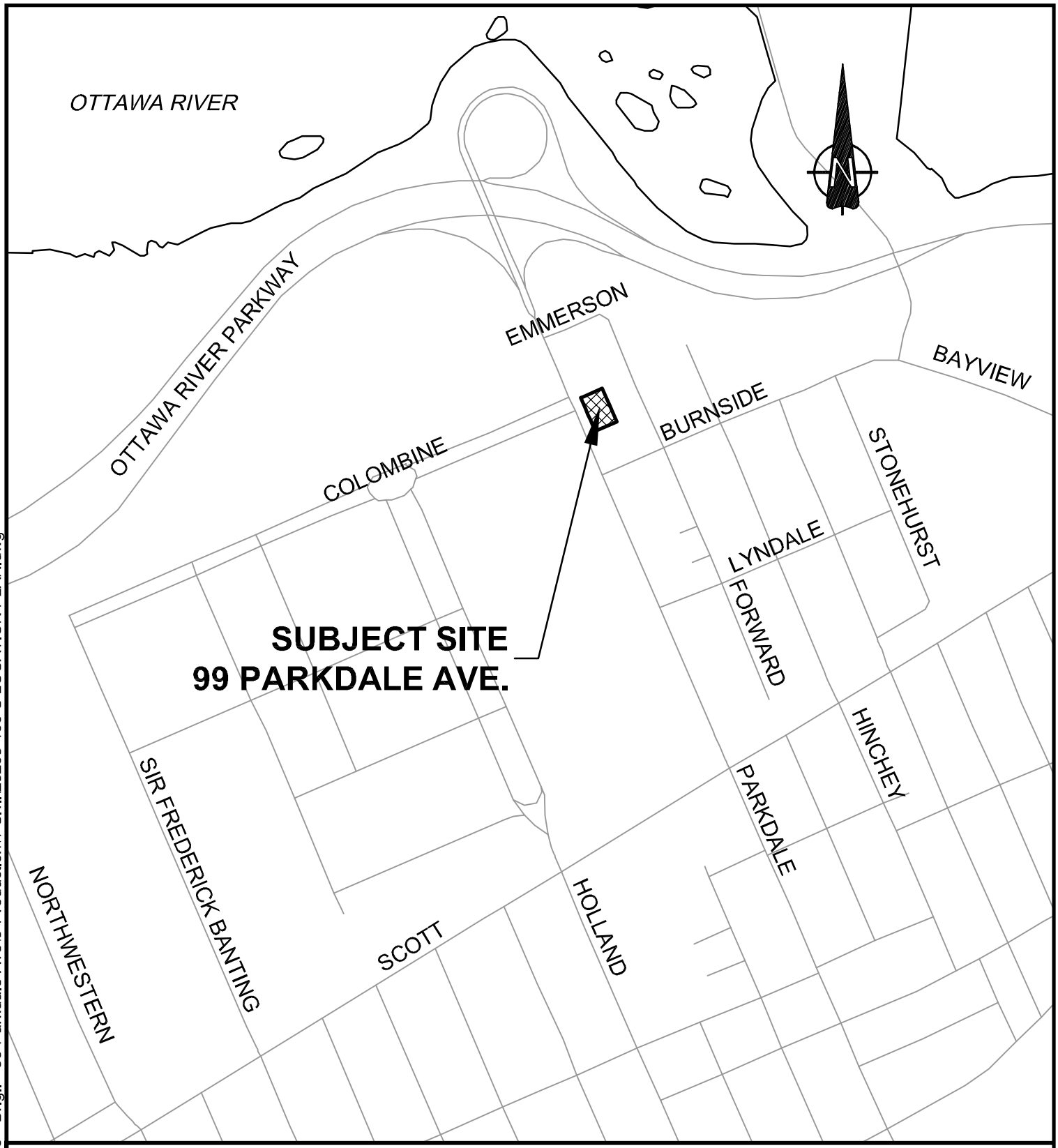
The 99 Parkdale Avenue Condominium Development will consist of 24 Studio units, 100 1-Bedroom units and 115 2-Bedroom units for a total of 239 residential units.

3.0 TRANSPORTATION NOISE SOURCE

The transportation noise sources include Parkdale Avenue. Drawing N1, in Appendix 'A', shows the location of the existing and proposed roadways in relation to the proposed development. Sir John A. MacDonald Parkway is not considered a transportation noise source for this study because it is more than 100 m away from the proposed development, as shown on Drawing N1. Burnside Avenue, Emmerson Avenue, Forward Avenue, and Colombine Driveway are considered local streets and therefore are not transportation noise sources.

3.1 Transportation Sound Level Criteria

For the purpose of determining the predicted noise levels, and based on the sound level criteria established by the City of Ottawa Environmental Noise Control Guidelines (ENCG), the following will be used as the maximum acceptable sound levels (Leq) for residential development and other land uses, such as nursing homes, schools and daycare centres:



PROJECT:

99 PARKDALE AVENUE CONDOMINIUM BUILDING

99 PARKDALE AVENUE, OTTAWA

DRAWING:

LOCATION PLAN

www.jlrichards.ca

J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

DESIGN:	TB
DRAWN:	TB
CHECKED:	LD
JLR #:	25205-100

DRAWING #:

FIGURE 1

File Location: P:\25000\25205-100 - Brigil - 99 Parkdale Ave\5-Production\1-Civil\25205-100 C LOCATION PLAN.dwg

PLOT DATE: Monday, September 9, 2019 7:53:42 AM

Receiver Location	Criteria	Time Period
Outdoor Living Area:	55 dBA	Daytime (0700 - 2300 hrs.)
Indoor Living/Dining Rooms (inside):	45 dBA	Daytime (0700 - 2300 hrs.)
General Office, Reception Area (inside):	50 dBA	Daytime (0700 - 2300 hrs.)
Sleeping Quarters (inside):	40 dBA	Nighttime (2300 - 0700 hrs.)

Outdoor Living Areas (OLA) are defined as that portion of the outdoor amenity area of a dwelling for the quiet enjoyment of the outdoor environment during the daytime period. Typically, the point of assessment in an OLA is 3.0 m from the building façade mid-point and 1.5 m above the ground within the designated OLA for each individual unit. OLAs commonly include backyards, balconies (with a minimum depth of 4 m as per NPC-300), common outdoor living areas, and passive recreational areas.

3.2 Transportation Noise Attenuation Requirements

When the sound levels are equal to or less than the specified criteria, per the City of Ottawa ENCG and/or MOECC NPC-300, no noise attenuation (control) measures are required.

The following tables outline noise attenuation measures to achieve the required dBA Leq for surface transportation noise, per the City of Ottawa ENCG.

Table 1: Outdoor Noise Control Measures for Surface Transportation Noise

<table>
<tr><th rowspan="2">Primary Mitigation Measure
(in order of preference)</th><th colspan="2">Secondary Mitigation Measures</th></tr>
<tr><th>Landscape Plantings and/or Non-acoustic Fence to Obscure Noise Source</th><th>Warning Clauses</th></tr>
<tr><td>Distance setback with soft ground</td><td rowspan="2">Recommended</td><td rowspan="2"></td></tr>
<tr><td>Insertion of noise insensitive land uses between the source and receiver receptor</td></tr>
<tr><td>Orientation of buildings to provide sheltered zones in rear yards</td><td rowspan="4">Required</td><td rowspan="4">Warning Clauses necessary and to include:
- Reference to specific noise mitigation measures in the development.
- Whether noise is expected to increase in the future.
- That there is a need to maintain mitigation.</td></tr>
<tr><td>Shared outdoor amenity areas</td></tr>
<tr><td>Earth berms (sound barriers)</td></tr>
<tr><td>Acoustic barriers (acoustic barriers)</td></tr>
</table>

Table 2: Indoor Noise Control Measures for Surface Transportation Noise

Primary Mitigation Measure (in order of preference)	Secondary Mitigation Measures	
	Landscape Plantings and/or Non-acoustic Fence to Obscure Noise Source	Warning Clauses
Distance setback with soft ground	Recommended	Not necessary
Insertion of noise insensitive land uses between the source and receiver receptor		
Orientation of buildings to provide sheltered zones or modified interior spaces and amenity areas	Required	Warning Clauses necessary and to include: - Reference to specific noise mitigation measures in the development. - Whether noise is expected to increase in the future. - That there is a need to maintain mitigation.
Enhanced construction techniques and construction quality		
Earth berms (sound barriers)		
Indoor isolation – air conditioning and ventilation, enhanced dampening materials (indoor isolation)		

The following tables outline the noise level limits per the MOECC NPC-300 and City of Ottawa ENCG.

Table 3: Outdoor Living Area (OLA) Noise Limit for Surface Transportation

Time Period	Leq (16 hr) (dBA)
16 hr., 07:00 am - 23:00	55

Table 4: Indoor Noise Limit for Surface Transportation

Type of Space	Time Period	Leq (dBA)	
		Road	Rail
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	07:00-23:00	45	40
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	23:00-07:00	45	40
Sleeping quarters	07:00-23:00	45	40
	23:00-07:00	40	35

In addition to the implementation of noise attenuation features, if required, and depending on the severity of the noise problem, warning clauses may be recommended to advise the prospective purchasers/tenants of affected units of the potential environmental noise. These warning clauses should be included in the Site Plan and Subdivision Agreements, in the Offers of Purchase and Sale, and should be registered on Title. Warning clauses may be included for any development, irrespective of whether it is considered a noise sensitive land use.

Where site measures are required to mitigate noise levels, the City of Ottawa requires that notices be placed on Title informing potential buyers and/or tenants of the site conditions.

3.3 Prediction of Noise Levels (Transportation)

3.3.1 Road Traffic Data

The following traffic data was used to predict noise levels:

Table 5: Road Traffic Data to Predict Noise Levels

	Parkdale Avenue
Total Traffic Volume (AADT)	15,000
Day/Night Split (%)	92/8
Medium Trucks (%)	7
Heavy Trucks (%)	5
Posted Speed (km/hr.)	50
Road Gradient (%)	1
Road Classification	2-Lane Urban Arterial (2-UAU)

Schedule ‘E’ and Annex 1 of the City of Ottawa Official Plan (May 2003) were utilized to determine the correct road classification and protected right-of-way. These road classifications were compared to Map 6 of the City of Ottawa Transportation Master Plan (Road Network – Urban). All findings were then compared to Table B1 (Part 4, Appendix ‘B’) of the City of Ottawa Environmental Noise Control Guidelines in order to determine an appropriate AADT value.

3.3.2 Noise Level Calculations (Transportation)

The noise levels for the daytime and nighttime periods were calculated for a number of representative receivers described in Table 6 and shown on Drawing N1, using the MOECC Road Traffic Noise Computer program STAMSON, Version 5.03.

In addition, noise levels were calculated for both absorptive and reflective ground surfaces to determine the impact of each. Absorptive ground surfaces, such as greenspace, do not reflect noise and therefore moderate the noise impact. Reflective ground surfaces, such as hard surface parking lots, allow sound to reflect back to a receiver thereby amplifying the noise impact.

Computer printouts are included in Appendix ‘B’.

Table 6: Predicted Freefield Noise Levels (Transportation)

Receiver No. (File Name)	Receiver Height (m)	Receiver Description and Location	Noise Levels (dBA)	
			Daytime	Nighttime
R1 (99P_R1)	9	Outdoor Living Area at 3rd Floor (Amenity Area) fronting on Parkdale Avenue at a distance of 26.6 m from the centerline of Parkdale Avenue. Reflective ground surface.	50.90	N/A
R2 (99P_R2)	5.8	Plane of Window (west facade) 2nd Storey fronting on Parkdale Avenue at a distance of 16.4 m from the centerline of Parkdale Avenue.	66.65	59.06
R2 (99P_R2re)	5.8	Plane of Window (west facade) 2nd Storey fronting on Parkdale Avenue at a distance of 16.4 m from the centerline of Parkdale Avenue. Reflective ground surface.	68.09	60.50
R2a (99P_R2a)	42.3	Plane of Window (west facade) 14th Storey fronting on Parkdale Avenue at a distance of 16.4 m from the centerline of Parkdale Avenue.	68.09	60.50
R2a (99P_R2ar)	42.3	Plane of Window (west facade) 14th Storey fronting on Parkdale Avenue at a distance of 16.4 m from the centerline of Parkdale Avenue. Reflective ground surface.	68.09	60.50
R2b (QP3_R2b)	84.3	Plane of Window (west facade) 28th Storey fronting on Parkdale Avenue at a distance of 16.4 m from the centerline of Parkdale Avenue.	68.09	60.50
R3 (99P_R3)	5.8	Plane of Window (north facade) 2nd Storey siding on Parkdale Avenue at a distance of 26.9 m from the centerline of Parkdale Avenue. Reflective ground surface.	57.10	49.50
R3 (99P_R3re)	5.8	Plane of Window (north facade) 2nd Storey siding on Parkdale Avenue at a distance of 26.9 m from the centerline of Parkdale Avenue. Reflective ground surface.	58.58	50.98
R3a (99P_R3a)	42.3	Plane of Window (north facade) 14th Storey siding on Parkdale Avenue at a distance of 26.9 m from the centerline of Parkdale Avenue.	62.93	55.34
R3b (99P_R3b)	84.3	Plane of Window (north facade) 28th Storey siding on Parkdale Avenue at a distance of 26.9 m from the centerline of Parkdale Avenue.	62.93	55.34
R4 (99P_R4)	9.2	Plane of Window (south facade) 3rd Floor siding on Parkdale Avenue at a distance of 28.6 m from the centerline of Parkdale Avenue.	59.27	51.67
R4 (99P_R4re)	9.2	Plane of Window (south facade) 3rd Floor siding on Parkdale Avenue at a distance of 28.6 m from the centerline of Parkdale Avenue. Reflective ground surface.	60.83	53.24
R4a (99P_R4a)	42.3	Plane of Window (south facade) 14th Storey siding on Parkdale Avenue at a distance of 28.6 m from the centerline of Parkdale Avenue.	60.83	53.24
R4b (99P_R4b)	84.3	Plane of Window (south facade) 28th Storey siding on Parkdale Avenue at a distance of 28.6 m from the centerline of Parkdale Avenue.	60.83	53.24

Receiver No. (File Name)	Receiver Height (m)	Receiver Description and Location	Noise Levels (dBA)	
			Daytime	Nighttime
R5 (99P_R5)	86.6	Outdoor Living Area at Roof Top (Amenity Area) fronting on Parkdale Avenue at a distance of 19.5 m from the centerline of Parkdale Avenue. Reflective ground surface.	50.30	N/A

3.4 Summary of Findings (Transportation)

Noise levels at representative receivers were calculated using absorptive and reflective ground surfaces to determine the noise level impact. Refer to Table 6 for a summary of predicted noise levels and Appendix 'B' for STAMSON printouts ranging from the 2nd to 28th storey. In general, regardless of the ground surface, noise levels increase as the sound reaches higher receivers, until it peaks at a maximum noise level. For 99 Parkdale, the reflective surface only affects the first 7 floors. At the ground floor a maximum difference of approximately 1.5 dBA higher is predicted with a reflective surface rather than an absorptive surface. This difference progressively reduces to 0 dBA. At the 8th floor and above the noise levels for an absorptive surface versus a reflective surface are predicted to be the same.

A summary of the minimum noise requirements and required Warning Clauses is shown on Table 7. The units will require notices to be registered on Title, advising the occupants of the environmental noise problems and/or of the noise attenuation measures being implemented.

Table 7: Minimum Required Control Features/Warning Clauses (Transportation)

Receiver Location	Noise Attenuation Barrier	Central Air Conditioning	Provision for Central Air Conditioning	Forced Air Heating	Warning Clauses	Detailed Building Components Study
Third Floor Amenity Area	No	-	-	-	-	-
West Façade (All Floors) (All units with west exposure, interior and corner)	No	Yes	-	Yes	C	Yes

Noise levels for the outdoor amenity area (R1) on the 3rd level are expected to be 50.90 dBA during the daytime hours. This noise level meets the City's ENCG and MOECC criteria for outdoor noise. Noise barrier and warning clauses are not required.

3.5 Summary of Findings (Building Component)

JLR completed preliminary analysis of a typical residential unit to determine if sufficient acoustical insulation is provided with standard building construction to mitigate interior noise levels to MOECC and City of Ottawa criteria. The Acoustical Insulation Factor (AIF) Method, as described in the Ministry of the Environment Ontario, Ontario Publication, Environmental Noise Assessment in Land Use Planning (ENALUP) 1987 (Page 10-29), was used to assess the building construction required to mitigate exterior noise to meet interior noise criteria. Exterior freefield noise levels at the plane of the windows were calculated individually for each unit type. A Freefield noise level

of 68 dBA was conservatively utilized to determine wall and window construction for the west façade.

Brigil provided floor plan and building elevation drawings, for representative units within the 99 Parkdale Condominium Tower. Floor and elevation drawings are included in Appendix 'C'. Using Brigil's drawings, JLR calculated the window areas, floor areas and wall areas for the each of the rooms within one (1) interior unit and one (1) corner unit. This data was then used to calculate the window to floor area ratios and wall to floor area ratios. Design tables provided in ENALUP were then utilized to identify minimum window and wall AIF requirements to mitigate the plane of window noise levels. Tables 13 and 14 in Appendix 'D' present the working calculations for the window and wall requirements necessary to acoustically insulate each of the noise sensitive rooms within each of the representative units. Based on the ENALUP, the following table presents a summary of the analysis with the minimum standard window and wall construction required per unit type.

Table 8: Minimum Window and Wall Construction Types

Unit Type	Room	Window Type Glass Thickness (Spacing) Glass Thickness (Spacing) Glass Thickness	Exterior Wall Type
Interior (West Façade)	Bedroom	3(6)3(40)3 Triple Pane	-
	Kitchen/Living Room	2(13)2 Double Pane	-
Corner (North/South-West Façades)	Bedroom	3(6)3(80)6 Triple Pane	EW3
	Kitchen/Living Room	4(6)4 Double Pane	EW1

For this analysis, sliding glass doors are treated as windows. The acoustic insulation factor methodology does not account for sliding glass doors as a door type. It is noted that no additional doors are identified with a connection to the noise sensitive interior rooms such as the living room, bedroom or kitchen area.

Exterior wall type construction notes:

- EW1 – Standard wall construction (noted above), with sheathing, wood or metal siding and fibre backer board.
- EW2 – Standard wall construction (noted above), with rigid insulation (25-30 mm), wood or metal siding, and fibre backer board.
- EW3 – Standard wall construction (noted above), with sheathing, 28 x 89 mm framing, sheathing and asphalt roofing material.
- EW4 – Standard wall construction (noted above), with sheathing and 20 mm stucco.

Window and wall construction details, to achieve the minimum noise mitigation, will be established during the detailed building component study in consultation with Brigil.

Tables A2 and A3 from Canada Mortgage and Housing's (CMHC) publication, Airport Noise, revised 1981 were used to convert AIF values to the more widely recognized Sound Transmission Class (STC) values. Appendix 'E' presents these CMHC tables.

AIF and equivalent STC values are presented in Table 9 for the unit bedroom with the highest AIF requirement. It is recommended that at the time of building permit application that the AIF/STC be confirmed to suit the specific units.

Table 9: AIF Value Conversion to STC Value

Type of Unit	Room	AIF Required	Windows			Walls		
			Window/Floor Area Ratio	AIF Conversion Formula	STC	Wall/Floor Area Ratio	AIF Conversion Formula	STC
Interior (West Façade)	Bedroom	30	94%	STC – 6	36	0%	-	-
	Kitchen/Living Room	25	43%	STC – 3	28	0%	-	-
Corner (North/South – West Façades)	Bedroom	36	62%	STC – 4	40	106%	STC – 7	43
	Kitchen/Living Room	28	38%	STC – 2	30	12%	STC – 7	37

4.0 STATIONARY NOISE SOURCES

The sole stationary noise source for this study are the air handling units. The proposed mechanical room will be an enclosed room at the penthouse level of the 99 Parkdale Tower, above the 28th floor. Stationary noise analysis is not required for the air handling units since the enclosed mechanical room will mitigate any potential noise generated at the source. It is recommended that the mechanical room building components (windows and walls) match the building components required for the residential units.

5.0 OPINION OF PROBABLE COSTS (OPC) FOR MITIGATION MEASURES

Based on discussions with Brigil, the following table summarizes our opinion of probable costs for the mitigation measures identified in this report.

Table 10: Opinion of Probable Costs for Mitigation Measures

Item	Estimated Cost per square foot	Estimated Quantity	Estimated Sub-Total
Window Wall (west façade)	$80	18,750 sq.ft.	$1,500,000
Estimated Total			**$1,500,000**

It is noted that Central Air Conditioning will be provided for all units irrespective of noise mitigation requirements. In addition, the structural window requirements will determine assembly costs rather than the acoustic mitigation requirements.

6.0 CONCLUSION AND RECOMMENDATIONS

Predicted noise levels are not expected to exceed the City of Ottawa ENCG and MOECC criteria for daytime outdoor living areas for the 3rd Floor amenity area.

Predicted noise levels are expected to exceed the City of Ottawa ENCG and MOECC criteria at the west façade Plane of Window. Standard Building Component construction will not meet the minimum requirements to mitigate the exterior noise levels to meet the MOECC and City of Ottawa indoor noise criteria. It is recommended that a Detailed Building Component Study be completed for all units that have exposure to the west façade.

6.1 Outdoor Features

Outdoor noise control features are not required.

6.2 Indoor Features

6.2.1 Forced Air Heating System

Units on all floors without exposure to the west façade shall be fitted with a forced air heating system, and with the provision for the future installation of central air conditioning.

6.2.2 Central Air Conditioning System

Units on all floors with exposure to the west façade shall be fitted with central air conditioning.

6.3 Warning Clauses

6.3.1 Warning Clause Type B

Clause B is to be registered on Title for all units without exposure to the west façade.

"Purchasers/tenants are advised that despite the inclusion of noise control features within the building units, sound levels due to increasing road/transitway traffic may, on occasion, interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the City and the Ministry of the Environment.

To help address the need for sound attenuation this dwelling unit includes:

- *single/multi-pane glass windows;*
- *provision for central air conditioning.*

To ensure that provincial sound level limits are not exceeded it is important to maintain these sound attenuation features.

This dwelling unit has also been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning will

allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City and the Ministry of the Environment.“

6.3.2 Warning Clause Type C

Clause C is to be registered on Title for all units with exposure to the west façade.

“Purchasers/tenants are advised that despite the inclusion of noise control features within the building units, sound levels due to increasing road/transitway traffic may, on occasion, interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the City and the Ministry of the Environment.

To help address the need for sound attenuation this dwelling unit includes:

- *single/multi-pane glass windows;*
- *Central air conditioning.*

To ensure that provincial sound level limits are not exceeded, it is important to maintain these sound attenuation features.

This dwelling unit has been supplied with a central air conditioning system and other measures which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City and the Ministry of the Environment.”

6.4 Site Plan Agreement and Notices on Title

It is recommended that the previous recommendations and Warning Clauses are included in the Site Plan Agreement and in the Offers of Purchase and Sale and/or lease of the affected units, and be registered on Title.

6.5 Building Permit Requirements

A report prepared and stamped by a Professional Engineer / Acoustical Consultant detailing building components (e.g. glazing/window, wall sections) to provide acoustical insulation to satisfy the City of Ottawa Environmental Noise Control Guidelines for indoor noise levels is required prior to the issuance of a Building Permit for all units with exposure to the west façade.

This report has been prepared for the exclusive use of Brigil Communities Inc., for the stated purpose, for the named facility. Its discussions and conclusions are summary in nature and cannot be properly used, interpreted or extended to other purposes without a detailed understanding and discussions with the client as to its mandated purpose, scope and limitations. This report was prepared for the sole benefit and use of Brigil Communities Inc. and may not be used or relied on by any other party without the express written consent of J.L. Richards & Associates Limited.

J.L. RICHARDS & ASSOCIATES LIMITED

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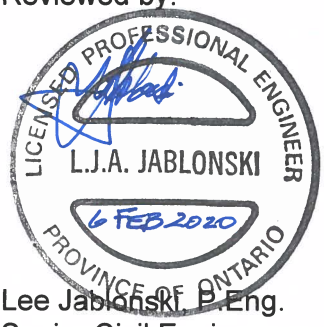
Reviewed by:

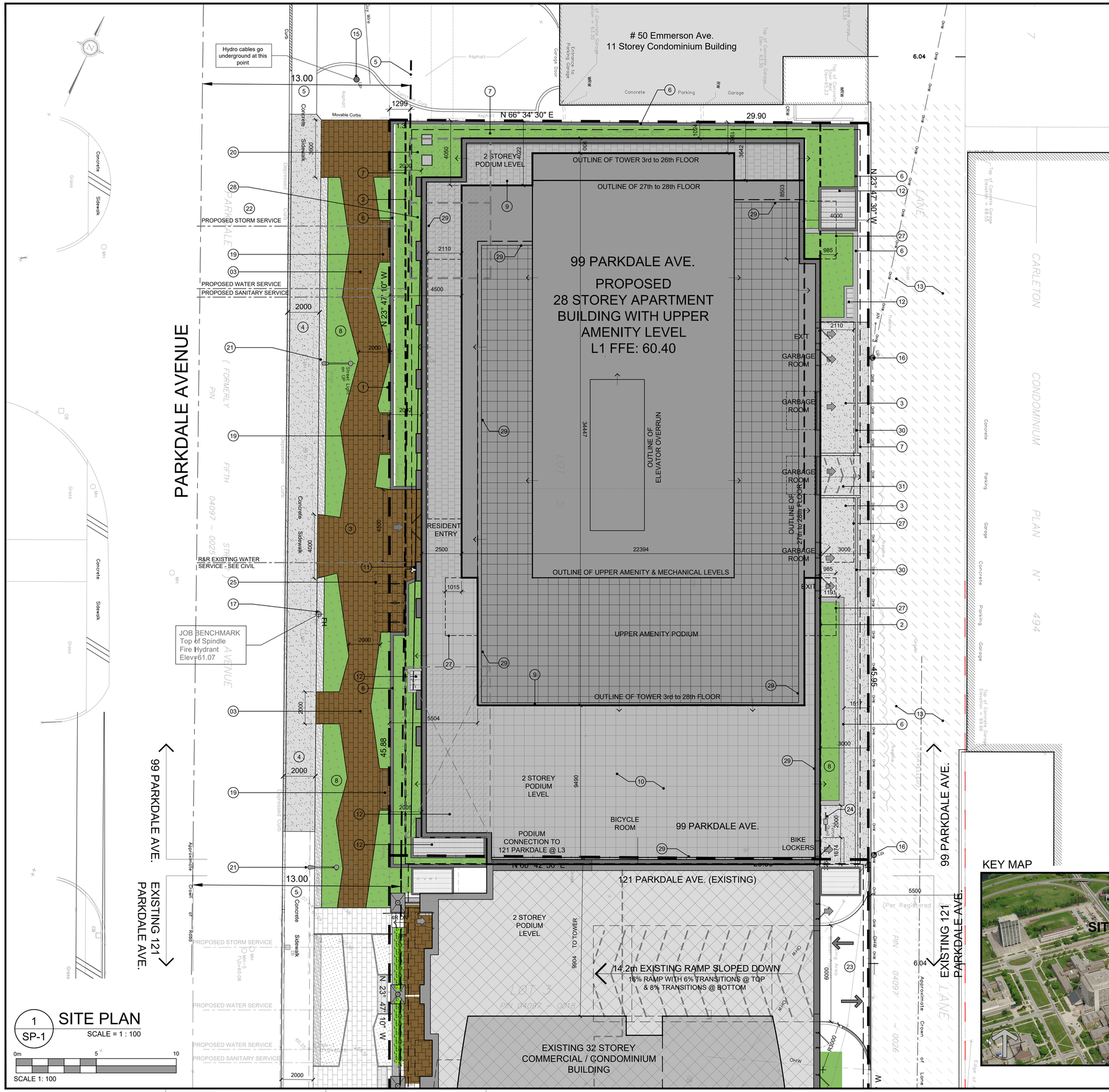


Lee Jablonski, P.Eng.
Senior Civil Engineer

Appendix A

Drawings

- Plan of Subdivision
- Concept Plan
- Grading Plan
- Noise Receiver Locations (Roads) – N1



SITE PLAN

1 SP-1

SCALE = 1 : 100

0m 5 10

SCALE 1: 100

SITE PLAN SYMBOLS

▦	CONCRETE UNIT PAVERS SURFACE
▒	CONCRETE WALK / DRIVING SURFACE
▦	3rd FLOOR EXTERIOR AMENITY SPACE
▦	29th FLOOR EXTERIOR AMENITY SPACE
▨	ASPHALT LANE WAY
▨	SOFT LANDSCAPING
→	OVERFLOW ROOF SCUPPER
⇩⇧	TWO WAY VEHICLE CIRCULATION
➡	MAIN ENTRANCE
⇨	SERVICE / FIRE EXIT
━ ╎ ━	PROPERTY LINE
━ ╎ ━ ╎ ━	PROPOSED ROAD WIDENING / BUILDING SETBACKS

DRAWING NOTES

1. PROPERTY LINE
2. BUILDING SETBACKS
3. HARD SURFACE PAVING, SEE LANDSCAPE PLAN FOR PATTERN AND TYPE
4. 2000mm WIDE SIDEWALK WITH STREET CURB TO CITY OF OTTAWA STANDARDS
5. ROAD ALLOWANCE (ROW)
6. LOW PLANTER WALL
7. OUTLINE OF UNDERGROUND PARKING LEVELS
8. SOFT LANDSCAPING, SEE LANDSCAPE PLAN
9. OUTLINE OF TOWER ABOVE
10. EXTERIOR AMENITY AT 3rd FLOOR
11. SIAMESE CONNECTION
12. AIR INTAKE / EXHAUST GRILL
13. EXISTING GRAVEL LANE WAY TO BE PAVED
14. CONCRETE WALK, WIDTH AS SHOWN
15. EXISTING OVERHEAD HYDRO LINES
16. EXISTING UTILITY POLE (BELL / ROGERS)
17. EXISTING FIRE HYDRANT RELOCATE AS REQUIRED
18. OUTLINE OF PRIVATE TERRACE ABOVE
19. SITE FURNITURE (AS PER LANDSCAPE PLAN)
20. CISTERN IN P1 PARKING LEVEL WITH ACCESS C.B.
21. EXISTING STREET LIGHT
22. PROPOSED U/G BUILDING SERVICE LINE - SEE CIVIL
23. EXISTING VEHICLE ENTRANCE RAMP TO U/G GARAGE LOCATED AT 121 PARKDALE
24. GAS PRESSURE RELEASE STATION
25. BICYCLE RACKS, SEE LANDSCAPE PLAN FOR EXACT LOCATION AND SPEC
26. ELECTRICAL VAULT BELOW
27. LINE OF L4-26 BALCONIES ABOVE
28. P1 LEVEL SERVICES & WATER ENTRY ROOM
29. 1.07M H. GLASS GUARD @ PODIUM FLOOR
30. DEPRESSED CURB AS PER CITY STANDARDS. SEE CIVIL
31. 10% SLOPED RAMP FROM GARBAGE ROOM

URBAN PLANNER

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E-Mail: rlevstek@larocquelevstek.com

PROJECT INFORMATION

ZONING	R5B[1929] S284-h
SITE AREA	1,372.7 sq. m. (14,776 sq. ft.)

PROJECT STATISTICS

GRADE (ZONING DEFINITION)	60.50 M (geo.)
BUILDING HEIGHT	84.0 M
YARD SETBACKS - AS PER ZONING SCHEDULE	S284
LANDSCAPE OPEN SPACE (REQ'D)	30.0% (411.81 sq. m.)
PROVIDED:	50.5% (693.50 sq. m.)
AMENITY SPACE REQUIRED	6 sq.m x 238 units = 1,440 sq.m
PROVIDED:	3,329 sq.m

GROSS BUILDING - AREAS

(CITY OF OTTAWA ZONING DEFINITION)

PARKING LEVEL (P1 to P6)		0 sq. m. 000 sq. ft.
GROUND FLOOR		0 sq. m. 000 sq. ft.
2nd FLOOR		792.0 sq. m. 8,525 sq. ft.
3rd FLOOR		503.3 sq. m. 5,417 sq. ft.
4th to 26th FLOOR	23 x 577.21 sq. m. 23 x 6,213 sq. ft.	13,275.7 sq. m. 142,899 sq. ft.
27th to 28th FLOOR	2 x 506 sq. m. 2 x 5,447 sq. ft.	1,012 sq. m. 10,894 sq. ft.
29th & 30th LEVEL MECHANICAL & AMENITY PENTHOUSE		0 sq. m. 000 sq. ft.
TOTAL BUILDING AREA		15,583.1 sq. m. 167,735 sq. ft.

UNIT STATISTICS

STUDIO UNIT	06
1 BEDROOM	127
2+ BEDROOM UNIT	107
TOTAL	240

CAR PARKING

ZONING - AREA 'Z' ON SCHD. 1A

REQUIRED		
RESIDENCE	- NOT REQUIRED	0
VISITOR	- 0.1 PER DWELLING UNIT (AFTER 12 UNITS)	23
TOTAL		23
PROVIDED		
RESIDENCE	- 0.76 PER UNIT (240 UNITS)	184
VISITOR	- 0.1 PER DWELLING UNIT (AFTER 12 UNITS)	23
TOTAL		207

NOTE:
2 TYPE 'A' & 2 TYPE 'B' B/F SPACES PROVIDED. (3 REQUIRED TOTAL)
78 PROVIDED STALLS (38%) ARE REDUCED SIZE

BICYCLE PARKING

REQUIRED		
RESIDENCE	- 0.5 PER UNIT (240 UNITS)	120
PROVIDED		
INTERIOR		248
EXTERIOR		6
TOTAL		254

LOT COVERAGE

PAVED SURFACE =	103.0 sq. m.	7.5%
BUILDING FOOTPRINT =	1,120.5 sq. m.	81.6%
LANDSCAPE OPEN SPACE :	149.2 sq. m.	10.9%
TOTAL =	1,372.7 sq. m.	100.0%
TOTAL LANDSCAPED AREA:		
GROUND FLOOR =	149.2 sq. m.	10.9%
3rd FLOOR PODIUM =	248.9 sq. m.	18.1%
AMENITY ROOF TERRACE =	295.4 sq. m.	21.5%
TOTAL =	693.5 sq. m.	50.1%

AMENITY SPACE

PRIVATE BALCONIES =	2,179.0 sq. m.
PRIVATE PATIOS =	122.0 sq. m.
1st FLOOR COMMUNAL INTERIOR =	320.2 sq. m.
3rd FLOOR COMMUNAL INTERIOR =	69.3 sq. m.
3rd FLOOR COMMUNAL EXTERIOR =	229.7 sq. m.
29th FLOOR COMMUNAL INTERIOR =	170.0 sq. m.
29th FLOOR COMMUNAL EXTERIOR =	295.4 sq. m.
TOTAL =	3,385.6 sq. m.
(TOTAL COMMUNAL) =	1,084.6 sq. m.
REQUIRED - 6.0M² PER UNIT (240) =	1,440.0 sq. m.
REQUIRED COMMUNAL @ 50% =	720.0 sq. m.

LEGAL DESCRIPTION

TOPOGRAPHICAL PLAN OF THE

LOTS 4, 5 and 6
EAST PARKDALE AVENUE
(Formerly Firth Street)
REGISTERED PLAN 41
CITY OF OTTAWA
Prepared by Annis, O'Sullivan, Vollebekk Ltd.
&
TOPOGRAPHICAL PLAN OF THE LANE
(BETWEEN FORWARD AVE. & PARKDALE AVE.)
REGISTERED PLAN 41
CITY OF OTTAWA
Prepared by Annis, O'Sullivan, Vollebekk Ltd.

PROJECT DEVELOPER

BRIGIL Construction
98, Lois street
Gatineau, Qc, J8Y 3R7
Tel: (819) 243-7392
Fax: (819) 243-5126
E-Mail: brigil@brigil.com

SURVEYOR

Annis O'Sullivan Vollebekk Ltd.
Ontario Land Surveyors
14 Concourse Gate, Suite 500,
Nepean, Ontario K2E 7S6
Tel: (613) 727-0850
Fax: (613) 727-1079
E-Mail: EdH@aovltd.com

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND TO REPORT ALL ERRORS AND/OR OMISSIONS TO THE ARCHITECT.

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.

THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

DO NOT SCALE DRAWINGS.

NOTATION SYMBOLS:

00	INDICATES DRAWING NOTES, LISTED ON EACH SHEET.
◇ 00	INDICATES ASSEMBLIE TYPE; REFER TO TYPICAL ASSEMBLIES SCHEDUAL.
⬡ 00	INDICATES WINDOW TYPE; REFER TO WINDOW ELEVATIONS AND DETAILS ON A900 SERIES.
000	INDICATES DOOR TYPE; REFER TO DOOR SCHEDULE AND DETAILS ON A900 SERIES.

00 TITLE SCALE
A000 A000
DETAIL NUMBER
DETAIL REFERENCE PAGE
DETAIL CROSS REFERENCE PAGE

GENERAL NOTES:

- Ⓐ REFER TO TYPICAL ASSEMBLIES SHEET FOR WALL, PARTITION, ROOF CEILING & FLOOR TYPES.
- Ⓑ FOR DOOR TYPES AND HARDWARE REQUIREMENTS REFER TO DOOR SCHEDULE ON A900 SERIES.
- Ⓒ ALL INTERIOR DIMENSIONS ARE TAKEN FROM THE FACE OF DRYWALL.
- Ⓓ ALL EXTERIOR DIMENSIONS ARE TAKEN FROM THE FACE OF CLADDING.
- Ⓔ ALL EXTERIOR WALLS ARE TO BE TYPE 'W1' UNLESS NOTED OTHER WISE.
- Ⓕ ALL INTERIOR PARTITIONS ARE TO BE TYPE 'P1' UNLESS NOTED OTHER WISE.

No.	DESCRIPTION	DATE
9		
8		
7		
6		
5	ISSUED FOR REVISED SPC - R2	Feb.07, 20
4	ISSUED FOR SITE PLAN CONTROL	Oct. 22, 19
3	ISSUED FOR CONSULTANT COORDINATION	Oct. 10, 19
2	ISSUED FOR REVISED LAYOUT	July 16, 19
1	ISSUED FOR DESIGN CONCEPT	Ap. 08, 19

REVISIONS:

ARCHITECT SEAL:

RODERICK I. LAHEY
LICENCE
4375

SEAL DATE: STAMP DATE

NORTH ARROW:

CLIENT:

BRIGIL

ARCHITECT:

RODERICKLAHEY
ARCHITECT INC
56 Beech Street, Ottawa, Ontario K1S 3J6
t.613.724.9932 f.613.724.1209 www.rodericklahey.ca

PROJECT TITLE:

99 PARKDALE

OTTAWA ONTARIO

SHEET TITLE:

SITE PLAN

DRAWN: RV	CHECKED: R.L.A.
SCALE: 1:100	SHEET No. SP-1
PROJECT No. 1918	

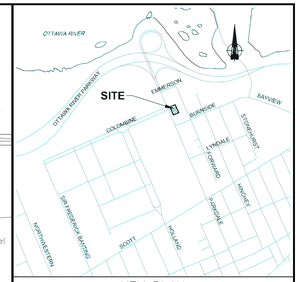
D07-12-19-0176

PAPER SIZE: ISO Full Bleed B1 (707.00 X 1000.00 MM) PLOT DATE: Tuesday, February 04, 2020 PLOT SCALE: 1:1 PEN STYLE: 0-RLA-MASTER-100%.ctb F:\2019\1918 - 99 Parkdale - Dumaurier (Brigil)\01_Design Development\1918 SP-1 Site Plan 2020 01 17.dwg

#18067

CARLETON CONDOMINIUM PLAN N° 494

KEY MAP



KEY PLAN

LEGEND:

- OUTDOOR RECEIVER
- PLANE OF WINDOW RECEIVER
- 45° ANGLE OF NOISE SOURCE TO RECEIVER
- R1(9m) RECEIVER (HEIGHT ELEVATIONS BETWEEN NOISE SOURCE AND RECEIVER) REFER TO DRAWING N2 FOR WEST ELEVATION PROFILE VIEW

LANE

Gravel

Top of Concrete Garage Elevation = 68.55

Top of Concrete Garage Elevation = 69.66

Edge of Asphalt

EXISTING 121 PARKDALE AVE.

Approximate Crown of Lane

(TRAVELLED)

(Per Registered Plan)

PIN 04097 – 0026

Treeline

AN

UP

OHW

Board Fence

Parking Area Broken Asphalt

50 Emmerson Ave. 11 Storey Condominium Building

99 PARKDALE AVE.

PROPOSED 28 STOREY APARTMENT BUILDING WITH UPPER AMENITY LEVEL

L1 FFE: 60.40
USF: ±41.40

LOT 5

EXIT

GARBAGE ROOM

BIKE LOCKERS

BICYCLE ROOM

UPPER AMENITY & MECHANICAL LEVEL

UPPER AMENITY PODIUM

OUTLINE OF ELEVATOR OVERRUN

OUTLINE OF TOWER 3rd to 28th FLOOR

OUTLINE OF 27th to 28th FLOOR

OUTLINE OF UPPER AMENITY & MECHANICAL LEVELS

2 STOREY PODIUM LEVEL

RESIDENT ENTRY

R3b(84.3m)
R3a(42.3m)
R3(5.8m)

R4b(84.3m)
R4a(42.3m)
R4(9.2m)

R1(9m)

R2b(84.3m)
R2a(42.3m)
R2(5.8m)

R5(86.6m)

33°

59°

24°

26.9m

28.6m

26.6m

19.5m

16.4m

13.0m

99 PARKDALE AVE.

121 PARKDALE AVE. (EXISTING)

16% RAMP WITH 6% TRANSITIONS @ TOP & 8% TRANSITIONS @ BOTTOM

14.2m EXISTING RAMP SLOPED DOWN

EXISTING 32 STOREY COMMERCIAL / CONDOMINIUM BUILDING

LOT 3 PIN 04097 – 0018

PODIUM CONNECTION TO 121 PARKDALE @ L3

Asphalt

Grass

Concrete Sidewalk

Depressed Curb

Movable Curbs

Street Sign on BP

MH

GV

PROPOSED ROAD

PARKDALE (FORMERLY FIFTH STREET) AVENUE

PARKDALE AVENUE (AADT 15,000)

Crown of Road

Approximate Crown of Road

JOB BENCHMARK
Top of Spindle
Fire Hydrant
Elev=61.07

EXISTING 121 PARKDALE AVE.

No.	ISSUE / REVISION	DD/MM/YY
2	ISSUED TO CITY FOR REVIEW - 2ND SUBMISSION	07/02/20
1	ISSUED TO CITY FOR REVIEW - FIRST SUBMISSION	XX/09/19

VERIFY SHEET SIZE AND SCALES. BAR TO THE RIGHT IS 25mm IF THIS IS A FULL SIZE DRAWING. 0 25mm

SCALE: 1:100

CLIENT: BRIGIL

CONSULTANT: www.jlrichards.ca

J.L.Richards ENGINEERS · ARCHITECTS · PLANNERS

CONSULTANT:

PROFESSIONAL STAMP

PROFESSIONAL STAMP

PROJECT:

99 PARKDALE CONDOMINIUM BUILDING

99 PARKDALE AVENUE, OTTAWA

DRAWING:

NOISE RECEIVER LOCATIONS

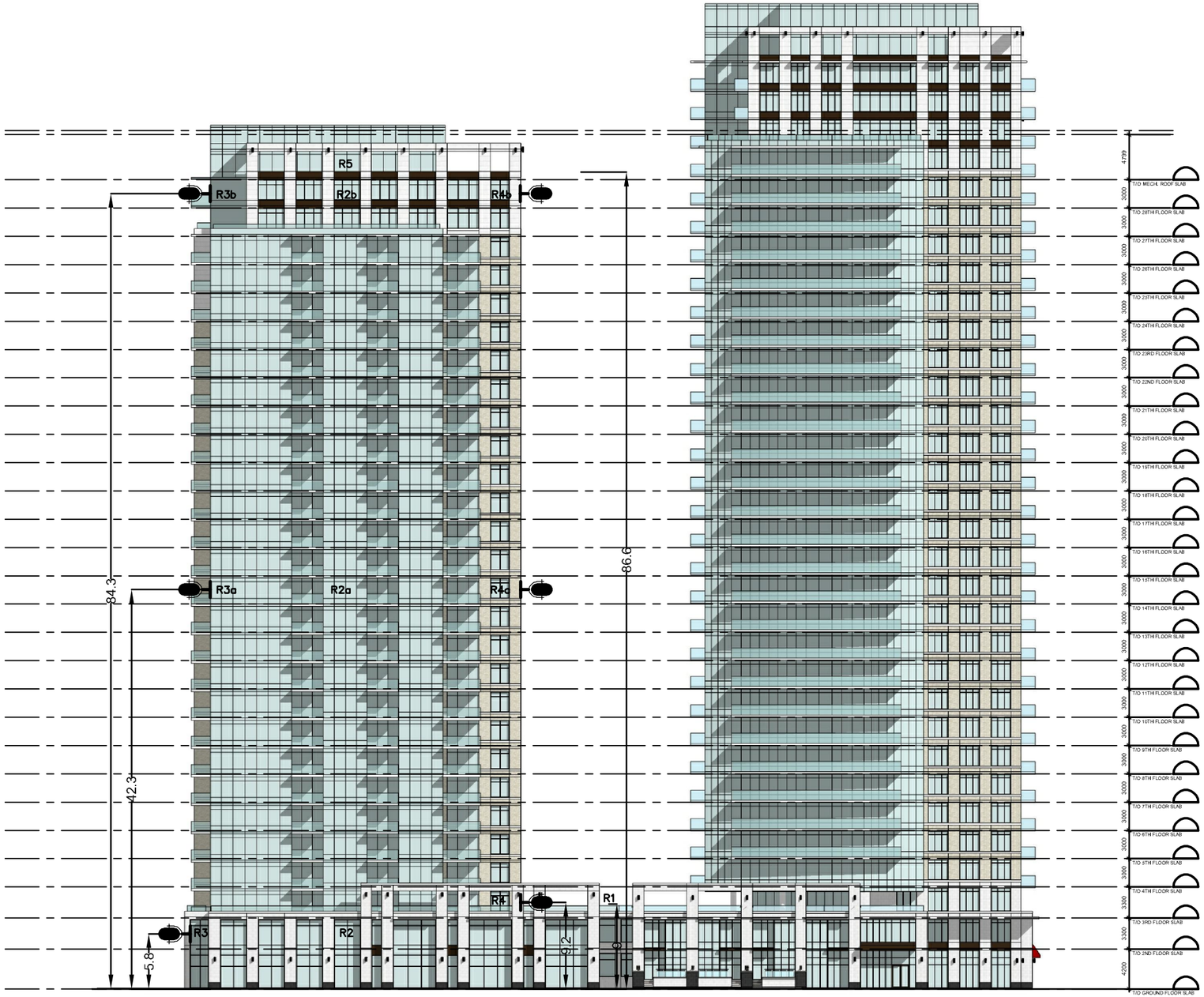
DESIGN: TB	
DRAWN: TB	DRAWING #: N1
CHECKED: LJ	
JLR #: 25205-100	

D07-12-19-0176

PLOT DATE: Thursday, February 6, 2020 8:04:20 AM

File Location: V:\25000\25205-100 - Brigil - 99 Parkdale Ave\2-Design\1-City\Noise\2. Noise Control Detailed Study - Feb 2020\25205-100 C N1.dwg

#18607



1
N2

WEST ELEVATION

Scale: 1:500

PROJECT:

99 PARKDALE AVENUE CONDOMINIUM BUILDING

CITY OF OTTAWA

DRAWING:

NOISE RECEIVER LOCATIONS - WEST ELEVATION

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ENGINEERS · ARCHITECTS · PLANNERS

DESIGN:	OTHERS
DRAWN:	OTHERS
CHECKED:	OTHERS
JLR #:	25205-100

DRAWING #: N2

File Location: V:\25000\25205-100 - Brigil - 99 Parkdale Ave\2-Design\1-Civil\Noise\2. Noise Control Detailed Study - Feb 2020\25205-100 C N2.dwg

PLOT DATE: Monday, January 20, 2020 2:05:22 PM

Appendix B

Transportation Noise Source Predictions

- Detailed Predicted Noise Level Calculations

STAMSON 5.0 NORMAL REPORT Date: 17-09-2019 08:48:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r1.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 3rd Floor amenity area ola r1

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2 : -24.00 deg 59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 26.60 / 26.60 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -24.00 deg Angle2 : 59.00 deg
Barrier height : 7.50 m
Barrier receiver distance : 12.40 / 12.40 m
Source elevation : 60.10 m
Receiver elevation : 67.50 m
Barrier elevation : 60.10 m
Reference angle : 0.00

Results segment # 1: parkdale (day)

Source height = 1.50 m

Barrier height for grazing incidence

```
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !        5.45 !        65.55

ROAD (0.00 + 50.90 + 0.00) = 50.90 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -24     59   0.00  68.48   0.00  -2.49  -3.36   0.00   0.00 -11.73  50.90
-------------------------------------------------------------------------------

Segment Leq : 50.90 dBA

Total Leq All Segments: 50.90 dBA

↟
Results segment # 1: parkdale (night)
-------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        4.50 !        7.05 !        67.15

ROAD (0.00 + 49.49 + 0.00) = 49.49 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -24     59   0.00  60.88   0.00  -2.49  -3.36   0.00   0.00  -5.55  49.49
-------------------------------------------------------------------------------

Segment Leq : 49.49 dBA

Total Leq All Segments: 49.49 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 50.90
                           (NIGHT): 49.49
↟
↟
STAMSON 5.0        NORMAL REPORT        Date: 17-10-2019 09:06:14
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r2.te            Time Period: Day/Night 16/8 hours
```

Description: 99 Parkdale 2nd Floor Plane of Window r2

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 16.40 / 16.40 m
Receiver height : 5.80 / 5.80 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 66.65 + 0.00) = 66.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.53	68.48	0.00	-0.59	-1.23	0.00	0.00	0.00	66.65

Segment Leq : 66.65 dBA

Total Leq All Segments: 66.65 dBA

Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 59.06 + 0.00) = 59.06 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.53	60.88	0.00	-0.59	-1.23	0.00	0.00	0.00	59.06

Segment Leq : 59.06 dBA

Total Leq All Segments: 59.06 dBA

♠

TOTAL Leq FROM ALL SOURCES (DAY): 66.65
(NIGHT): 59.06

♠
♠

STAMSON 5.0 NORMAL REPORT Date: 30-01-2020 12:58:27
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r2re.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 2nd floor PoW r2 reflective

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: parkdale (day/night)

```
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  16.40 / 16.40  m
Receiver height           :   5.80 / 5.80   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 68.09 + 0.00) = 68.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	68.48	0.00	-0.39	0.00	0.00	0.00	0.00	68.09

Segment Leq : 68.09 dBA

Total Leq All Segments: 68.09 dBA

Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 60.50 + 0.00) = 60.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.88	0.00	-0.39	0.00	0.00	0.00	0.00	60.50

Segment Leq : 60.50 dBA

Total Leq All Segments: 60.50 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 68.09
(NIGHT): 60.50

STAMSON 5.0 NORMAL REPORT Date: 17-10-2019 09:09:25
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r2a.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 14th Floor Plane of Window r2a

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 16.40 / 16.40 m
Receiver height : 42.30 / 42.30 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 68.09 + 0.00) = 68.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	68.48	0.00	-0.39	0.00	0.00	0.00	0.00	68.09

Segment Leq : 68.09 dBA

Total Leq All Segments: 68.09 dBA

↟
Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 60.50 + 0.00) = 60.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.88	0.00	-0.39	0.00	0.00	0.00	0.00	60.50

Segment Leq : 60.50 dBA

Total Leq All Segments: 60.50 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 68.09
(NIGHT): 60.50

↟
↟
STAMSON 5.0 NORMAL REPORT Date: 30-01-2020 13:05:18
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r2ar.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 2nd floor PoW r2a reflective

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 16.40 / 16.40 m
Receiver height : 42.30 / 42.30 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 68.09 + 0.00) = 68.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	68.48	0.00	-0.39	0.00	0.00	0.00	0.00	68.09

Segment Leq : 68.09 dBA

Total Leq All Segments: 68.09 dBA

Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 60.50 + 0.00) = 60.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.88	0.00	-0.39	0.00	0.00	0.00	0.00	60.50

Segment Leq : 60.50 dBA

Total Leq All Segments: 60.50 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 68.09
(NIGHT): 60.50

STAMSON 5.0 NORMAL REPORT Date: 17-10-2019 09:10:22
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r2b.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 28th Floor Plane of Window r2b

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 16.40 / 16.40 m
Receiver height : 84.30 / 84.30 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 68.09 + 0.00) = 68.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	68.48	0.00	-0.39	0.00	0.00	0.00	0.00	68.09

Segment Leq : 68.09 dBA

Total Leq All Segments: 68.09 dBA

↟
Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 60.50 + 0.00) = 60.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.88	0.00	-0.39	0.00	0.00	0.00	0.00	60.50

Segment Leq : 60.50 dBA

Total Leq All Segments: 60.50 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 68.09
(NIGHT): 60.50

↟
↟
STAMSON 5.0 NORMAL REPORT Date: 17-10-2019 09:11:50
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r3.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 2nd Floor Plane of Window r3

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00

```
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: parkdale (day/night)
------------------------------------------
Angle1   Angle2           :   0.00 deg   33.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  26.90 / 26.90  m
Receiver height           :   5.80 / 5.80   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Results segment # 1: parkdale (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 57.10 + 0.00) = 57.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     33   0.53  68.48   0.00  -3.88  -7.50   0.00   0.00   0.00  57.10
-------------------------------------------------------------------------------

Segment Leq : 57.10 dBA

Total Leq All Segments: 57.10 dBA
```

↟

```
Results segment # 1: parkdale (night)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 49.50 + 0.00) = 49.50 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     33   0.53  60.88   0.00  -3.88  -7.50   0.00   0.00   0.00  49.50
-------------------------------------------------------------------------------

Segment Leq : 49.50 dBA

Total Leq All Segments: 49.50 dBA
```

↟

TOTAL Leq FROM ALL SOURCES (DAY): 57.10
(NIGHT): 49.50

STAMSON 5.0 NORMAL REPORT Date: 30-01-2020 13:12:41
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r3re.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 2nd floor PoW r3 reflective

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2 : 0.00 deg 33.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 26.90 / 26.90 m
Receiver height : 5.80 / 5.80 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 58.58 + 0.00) = 58.58 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	33	0.00	68.48	0.00	-2.54	-7.37	0.00	0.00	0.00	58.58

Segment Leq : 58.58 dBA

Total Leq All Segments: 58.58 dBA

↟
Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 50.98 + 0.00) = 50.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	33	0.00	60.88	0.00	-2.54	-7.37	0.00	0.00	0.00	50.98

Segment Leq : 50.98 dBA

Total Leq All Segments: 50.98 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 58.58
(NIGHT): 50.98

STAMSON 5.0 NORMAL REPORT Date: 17-10-2019 09:13:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r3a.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 14th Floor Plane of Window r3a

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000

```
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: parkdale (day/night)
------------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  26.90 / 26.90  m
Receiver height           :  42.30 / 42.30  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Results segment # 1: parkdale (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 62.93 + 0.00) = 62.93 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  68.48   0.00  -2.54  -3.01   0.00   0.00   0.00  62.93
-------------------------------------------------------------------------------

Segment Leq : 62.93 dBA

Total Leq All Segments: 62.93 dBA
```

↟

```
Results segment # 1: parkdale (night)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.34 + 0.00) = 55.34 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  60.88   0.00  -2.54  -3.01   0.00   0.00   0.00  55.34
-------------------------------------------------------------------------------

Segment Leq : 55.34 dBA

Total Leq All Segments: 55.34 dBA
```

↟

TOTAL Leq FROM ALL SOURCES (DAY): 62.93
(NIGHT): 55.34

STAMSON 5.0 NORMAL REPORT Date: 17-10-2019 09:14:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r3b.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 28th Floor Plane of Window r3b

Road data, segment # 1: parkdale (day/night)

Car traffic volume	: 12144/1056	veh/TimePeriod *
Medium truck volume	: 966/84	veh/TimePeriod *
Heavy truck volume	: 690/60	veh/TimePeriod *
Posted speed limit	: 50 km/h	
Road gradient	: 1 %	
Road pavement	: 1 (Typical asphalt or concrete)	

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	15000
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2	: 0.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 0 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 26.90 / 26.90	m
Receiver height	: 84.30 / 84.30	m
Topography	: 1	(Flat/gentle slope; no barrier)
Reference angle	: 0.00	

Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 62.93 + 0.00) = 62.93 dBA

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  68.48   0.00  -2.54  -3.01   0.00   0.00   0.00  62.93
-------------------------------------------------------------------------------

Segment Leq : 62.93 dBA

Total Leq All Segments: 62.93 dBA

🠝
Results segment # 1: parkdale (night)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 55.34 + 0.00) = 55.34 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  60.88   0.00  -2.54  -3.01   0.00   0.00   0.00  55.34
-------------------------------------------------------------------------------

Segment Leq : 55.34 dBA

Total Leq All Segments: 55.34 dBA

🠝



TOTAL Leq FROM ALL SOURCES (DAY): 62.93
                           (NIGHT): 55.34

🠝
🠝
STAMSON 5.0        NORMAL REPORT        Date: 17-10-2019 09:50:55
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r4.te            Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 3rd Floor Plane of Window r4


Road data, segment # 1: parkdale (day/night)
---------------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)
```

* Refers to calculated road volumes based on the following input:

```
    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00
```

Data for Segment # 1: parkdale (day/night)

```
Angle1   Angle2           :   0.00 deg   59.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  28.60 / 28.60  m
Receiver height           :   9.20 / 9.20   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 59.27 + 0.00) = 59.27 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	59	0.43	68.48	0.00	-4.01	-5.20	0.00	0.00	0.00	59.27

Segment Leq : 59.27 dBA

Total Leq All Segments: 59.27 dBA

↟

Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 51.67 + 0.00) = 51.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	59	0.43	60.88	0.00	-4.01	-5.20	0.00	0.00	0.00	51.67

Segment Leq : 51.67 dBA

Total Leq All Segments: 51.67 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 59.27
(NIGHT): 51.67

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 30-01-2020 13:02:42
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r4re.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 2nd floor PoW r4 reflective

Road data, segment # 1: parkdale (day/night)

Car traffic volume	: 12144/1056	veh/TimePeriod *
Medium truck volume	: 966/84	veh/TimePeriod *
Heavy truck volume	: 690/60	veh/TimePeriod *
Posted speed limit	: 50 km/h	
Road gradient	: 1 %	
Road pavement	: 1 (Typical asphalt or concrete)	

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT):	15000
Percentage of Annual Growth :	0.00
Number of Years of Growth :	0.00
Medium Truck % of Total Volume :	7.00
Heavy Truck % of Total Volume :	5.00
Day (16 hrs) % of Total Volume :	92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2	: 0.00 deg	59.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 0 / 0	
Surface	: 2	(Reflective ground surface)
Receiver source distance	: 28.60 / 28.60	m
Receiver height	: 9.20 / 9.20	m
Topography	: 1	(Flat/gentle slope; no barrier)
Reference angle	: 0.00	

↟
Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 60.83 + 0.00) = 60.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	59	0.00	68.48	0.00	-2.80	-4.84	0.00	0.00	0.00	60.83

Segment Leq : 60.83 dBA

Total Leq All Segments: 60.83 dBA

Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 53.24 + 0.00) = 53.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	59	0.00	60.88	0.00	-2.80	-4.84	0.00	0.00	0.00	53.24

Segment Leq : 53.24 dBA

Total Leq All Segments: 53.24 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.83
(NIGHT): 53.24

STAMSON 5.0 NORMAL REPORT Date: 17-10-2019 09:16:54
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r4a.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 14th Floor Plane of Window r4a

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *

```
Posted speed limit  :    50 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: parkdale (day/night)
------------------------------------------
Angle1   Angle2           :   0.00 deg   59.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  28.60 / 28.60  m
Receiver height           :  42.30 / 42.30  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: parkdale (day)
-----------------------------------

Source height = 1.50 m

ROAD (0.00 + 60.83 + 0.00) = 60.83 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     59   0.00  68.48   0.00  -2.80  -4.84   0.00   0.00   0.00  60.83
-------------------------------------------------------------------------------

Segment Leq : 60.83 dBA

Total Leq All Segments: 60.83 dBA

Results segment # 1: parkdale (night)
-------------------------------------

Source height = 1.50 m

ROAD (0.00 + 53.24 + 0.00) = 53.24 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     59   0.00  60.88   0.00  -2.80  -4.84   0.00   0.00   0.00  53.24
```

Segment Leq : 53.24 dBA

Total Leq All Segments: 53.24 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 60.83
(NIGHT): 53.24

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 17-10-2019 09:17:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r4b.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale 28th Floor Plane of Window r4b

Road data, segment # 1: parkdale (day/night)

Car traffic volume : 12144/1056 veh/TimePeriod *
Medium truck volume : 966/84 veh/TimePeriod *
Heavy truck volume : 690/60 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: parkdale (day/night)

Angle1 Angle2 : 0.00 deg 59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 28.60 / 28.60 m
Receiver height : 84.30 / 84.30 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Results segment # 1: parkdale (day)

Source height = 1.50 m

ROAD (0.00 + 60.83 + 0.00) = 60.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	59	0.00	68.48	0.00	-2.80	-4.84	0.00	0.00	0.00	60.83

Segment Leq : 60.83 dBA

Total Leq All Segments: 60.83 dBA

↟
Results segment # 1: parkdale (night)

Source height = 1.50 m

ROAD (0.00 + 53.24 + 0.00) = 53.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	59	0.00	60.88	0.00	-2.80	-4.84	0.00	0.00	0.00	53.24

Segment Leq : 53.24 dBA

Total Leq All Segments: 53.24 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 60.83
(NIGHT): 53.24
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 17-10-2019 09:02:09
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 99p_r5.te Time Period: Day/Night 16/8 hours
Description: 99 Parkdale Roof Top Amenity Area ola R5

Road data, segment # 1: parkdale (day/night)

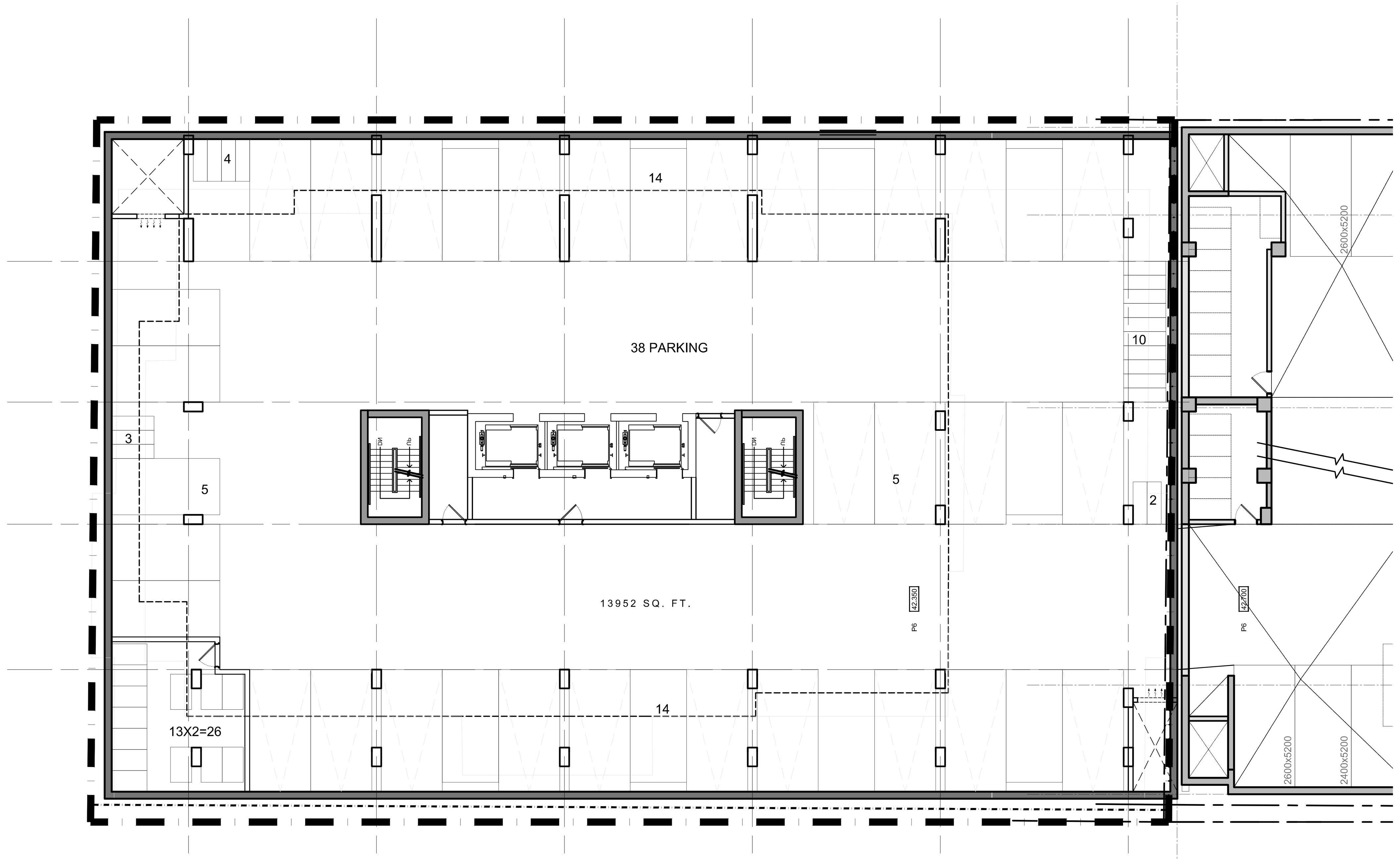
```
-----------------------------------------
Car traffic volume  : 12144/1056  veh/TimePeriod  *
Medium truck volume :   966/84    veh/TimePeriod  *
Heavy truck volume  :   690/60    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  15000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 1: parkdale (day/night)
-----------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  19.50 / 19.50  m
Receiver height           :   1.50 / 4.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :  86.60 m
Barrier receiver distance :   5.60 / 12.40  m
Source elevation          :  60.10 m
Receiver elevation        : 146.70 m
Barrier elevation         :  60.10 m
Reference angle           :   0.00

♠
Results segment # 1: parkdale (day)
-----------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        1.50 !       63.23 !       123.33

ROAD (0.00 + 50.30 + 0.00) = 50.30 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
```

```
   -90     90   0.00  68.48   0.00  -1.14   0.00   0.00   0.00 -17.04  50.30
-------------------------------------------------------------------------------

Segment Leq : 50.30 dBA

Total Leq All Segments: 50.30 dBA

🠉
Results segment # 1: parkdale (night)
-------------------------------------

Source height = 1.50 m

Barrier height for grazing incidence
-------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.50 !        4.50 !       34.12 !        94.22

ROAD (0.00 + 41.38 + 0.00) = 41.38 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  60.88   0.00  -1.14   0.00   0.00   0.00 -18.36  41.38
-------------------------------------------------------------------------------

Segment Leq : 41.38 dBA

Total Leq All Segments: 41.38 dBA

🠉



TOTAL Leq FROM ALL SOURCES (DAY): 50.30
                           (NIGHT): 41.38
🠉
🠉
```

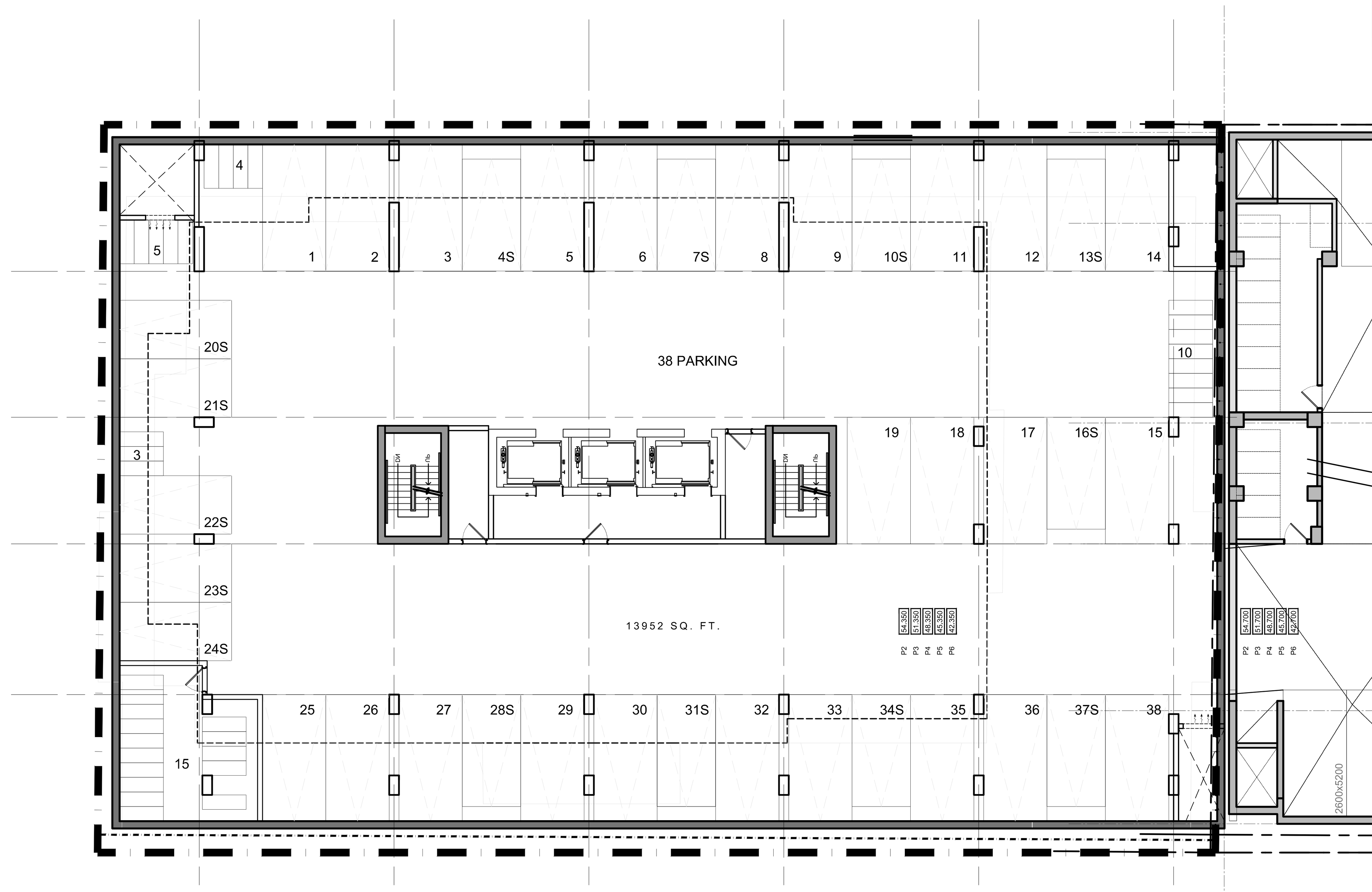
Appendix C

Floor Plans & Building Elevation Drawings

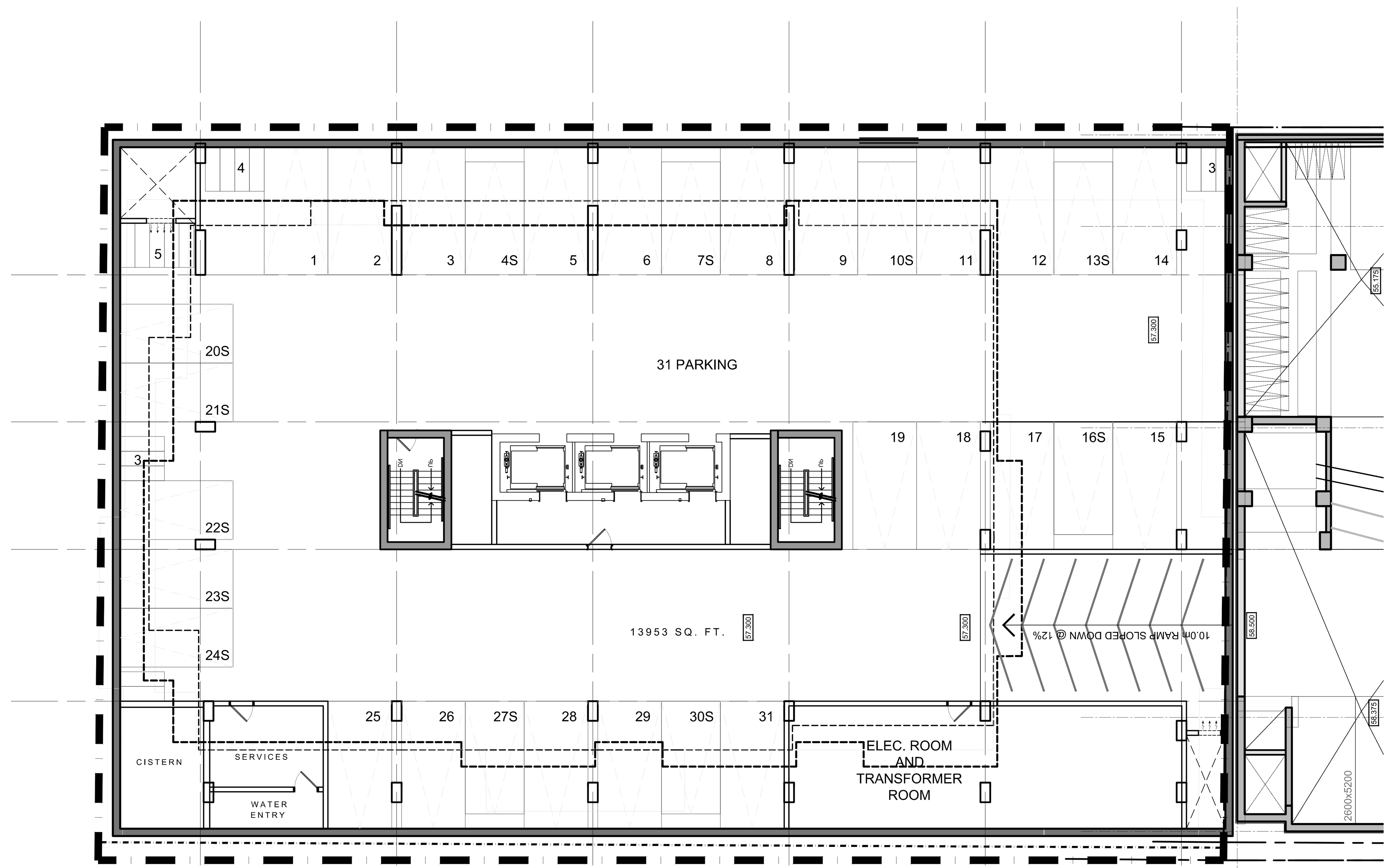
- A-1, A-2, A-3, A-4



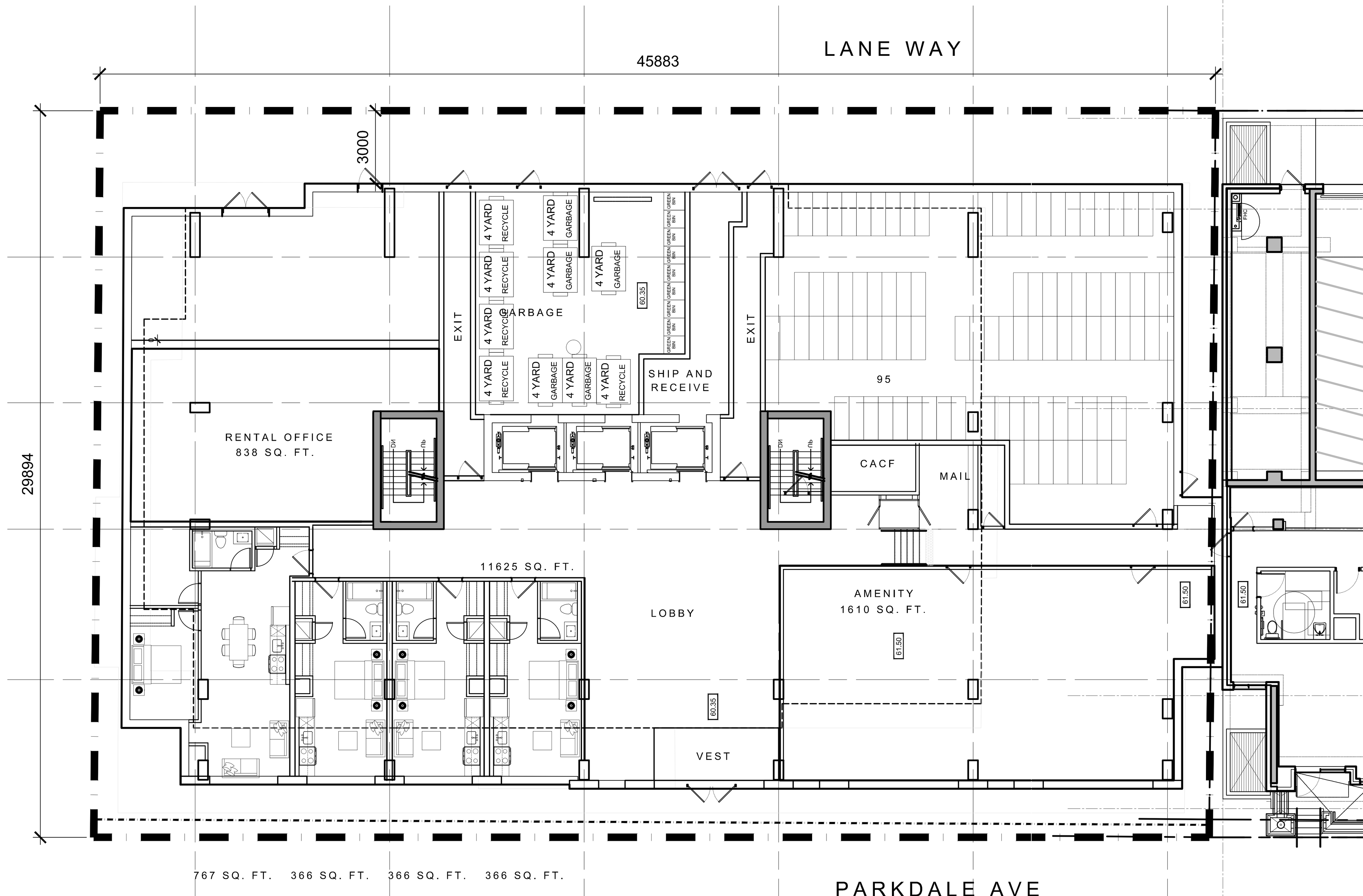
P6 PARKING PLAN



P2-P5 PARKING PLAN



P1 PARKING PLAN



GROUND FLOOR PLAN

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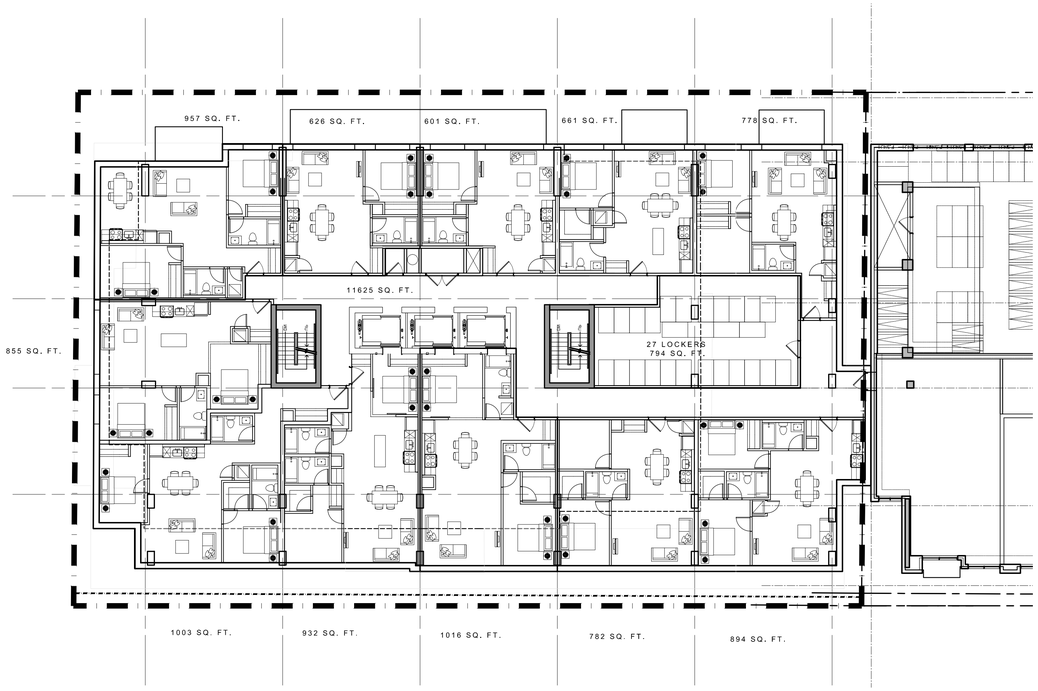
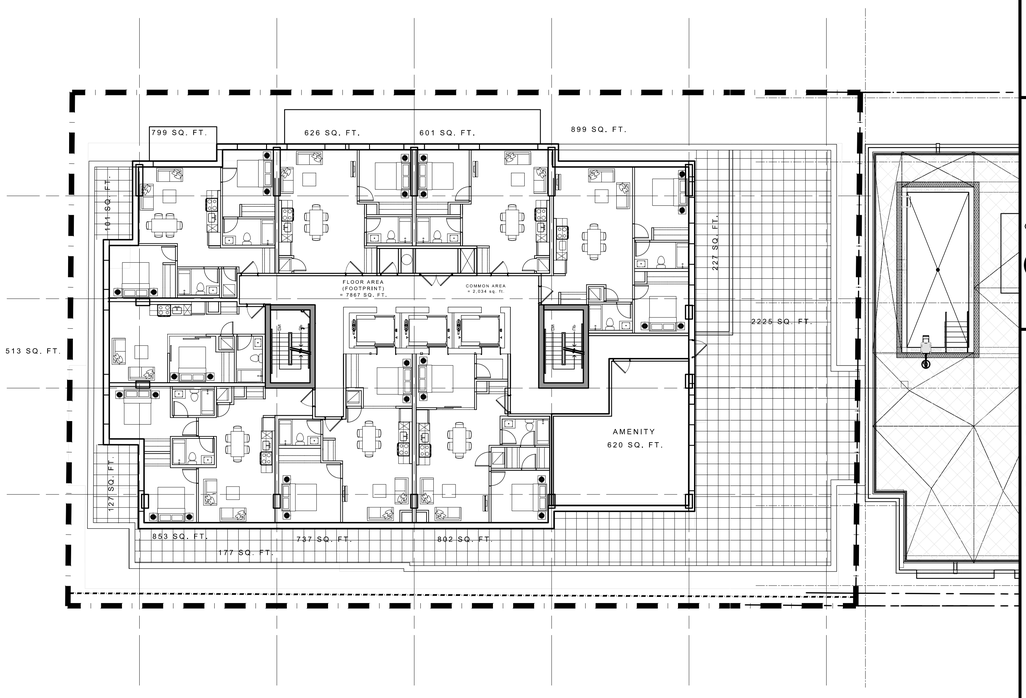


L2 PARKING PLAN



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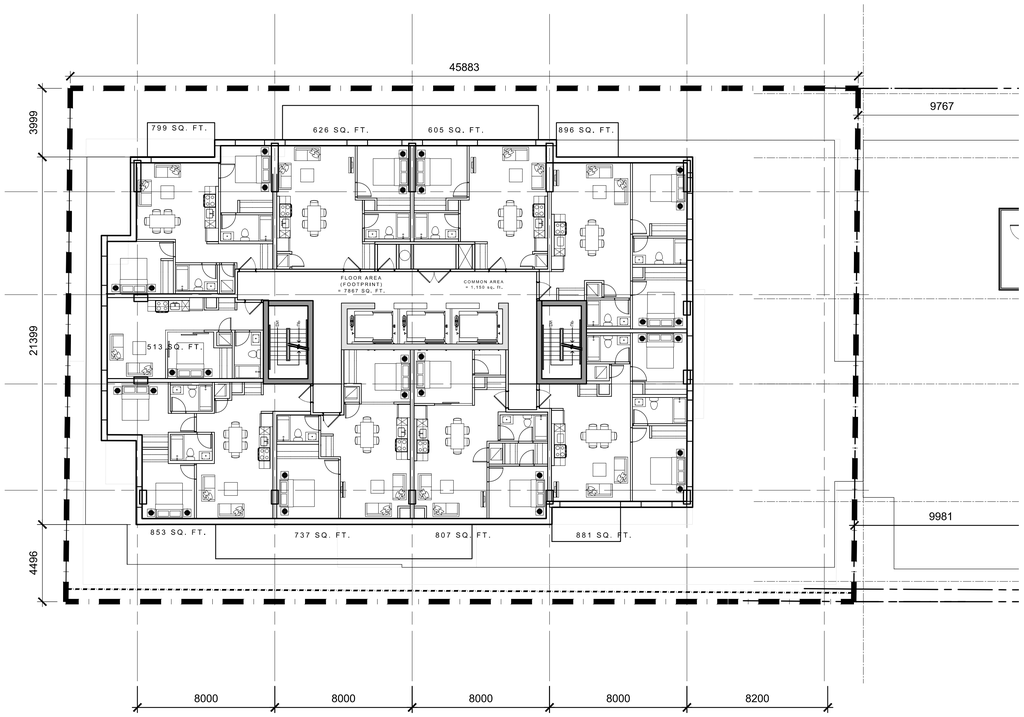
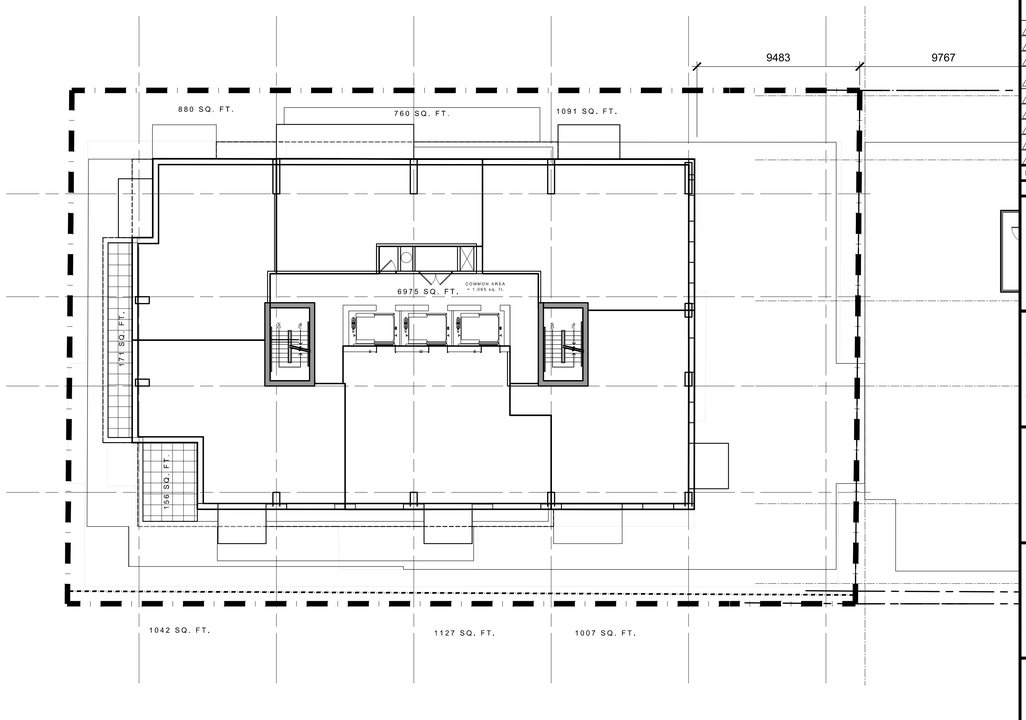


L4-26 FLOOR PLAN



L27-28 FLOOR PLAN

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- TITLE / SCALE
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LICENCE
4375

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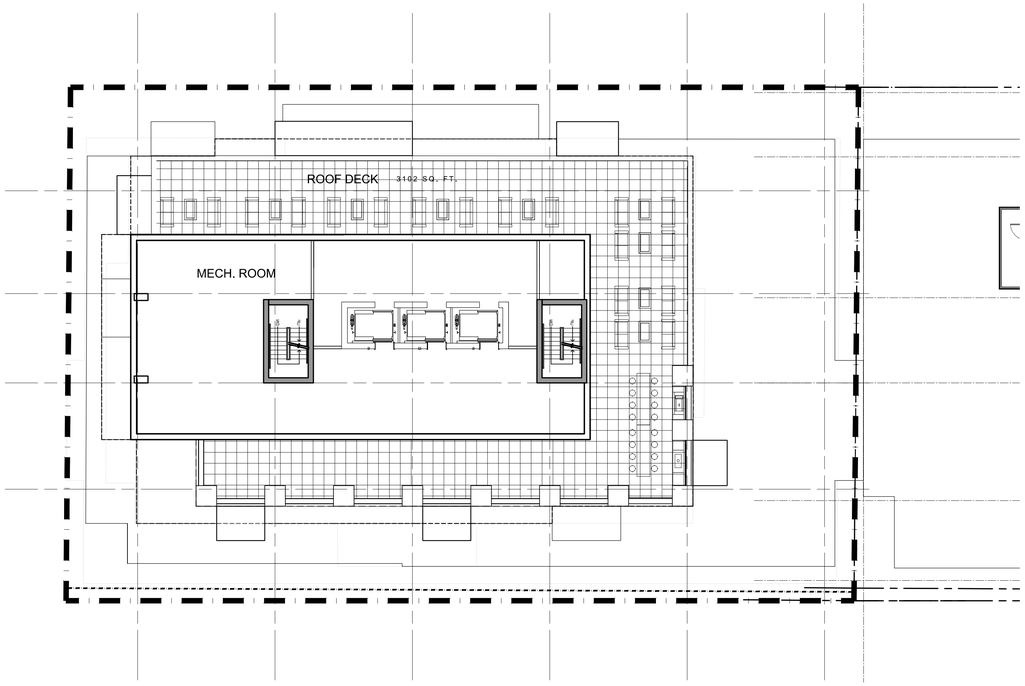
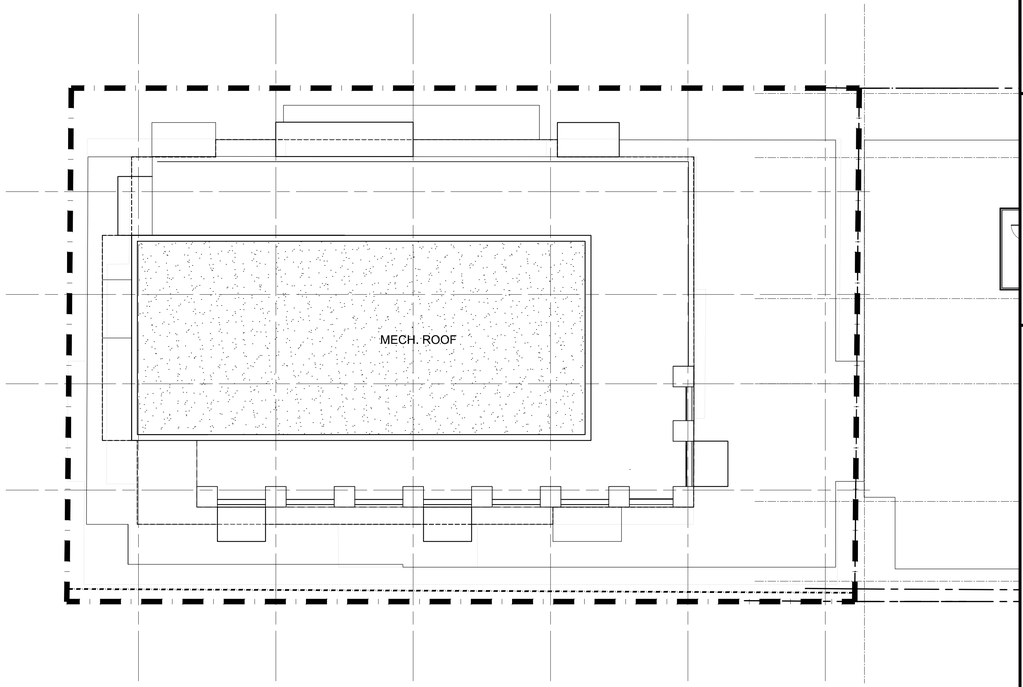
PROJECT No. 1918	



MECH.PENTHOUSE FLOOR PLAN



MECH.PENTHOUSE UPPER FLOOR PLAN

ROOF PLAN

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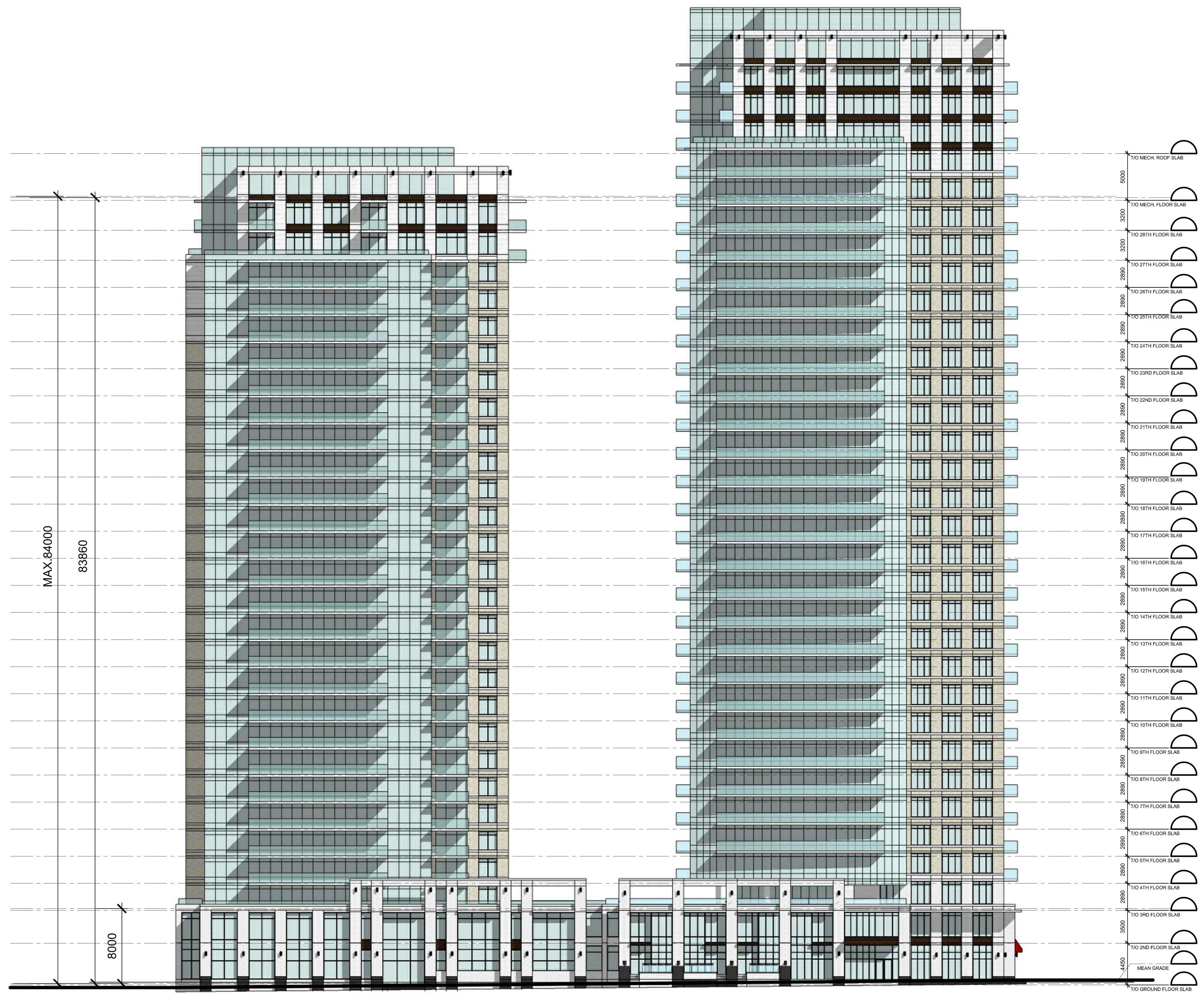

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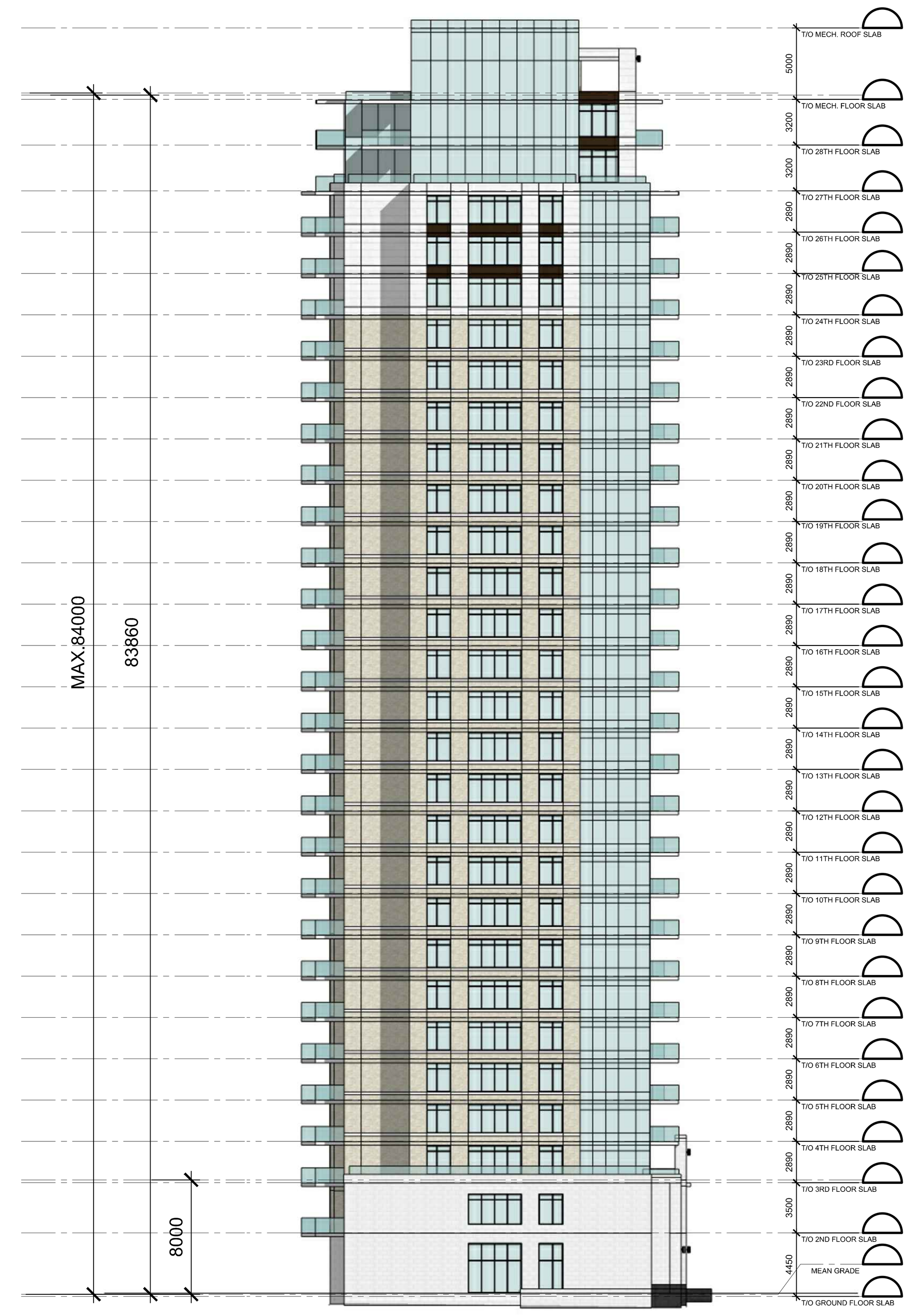

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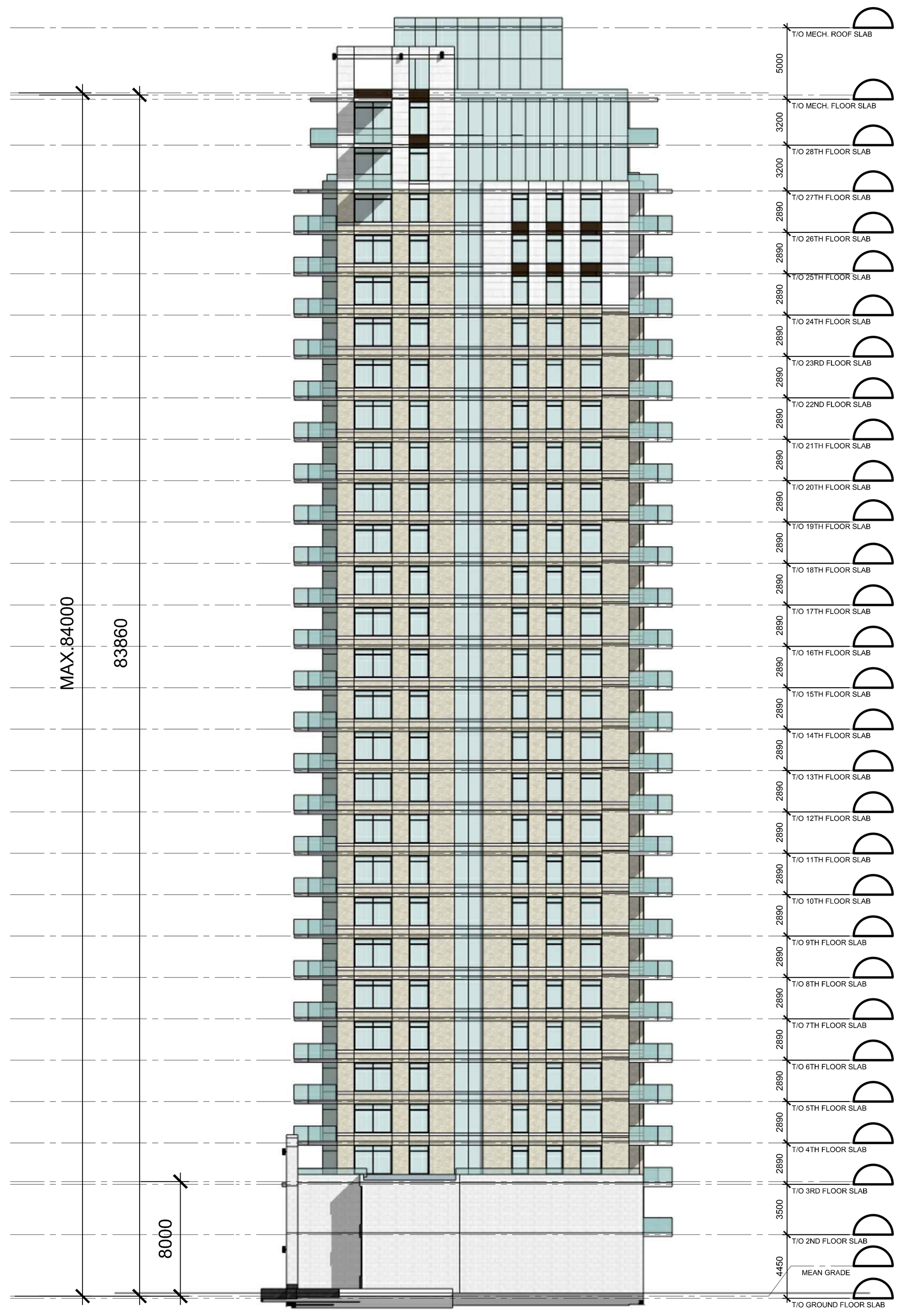
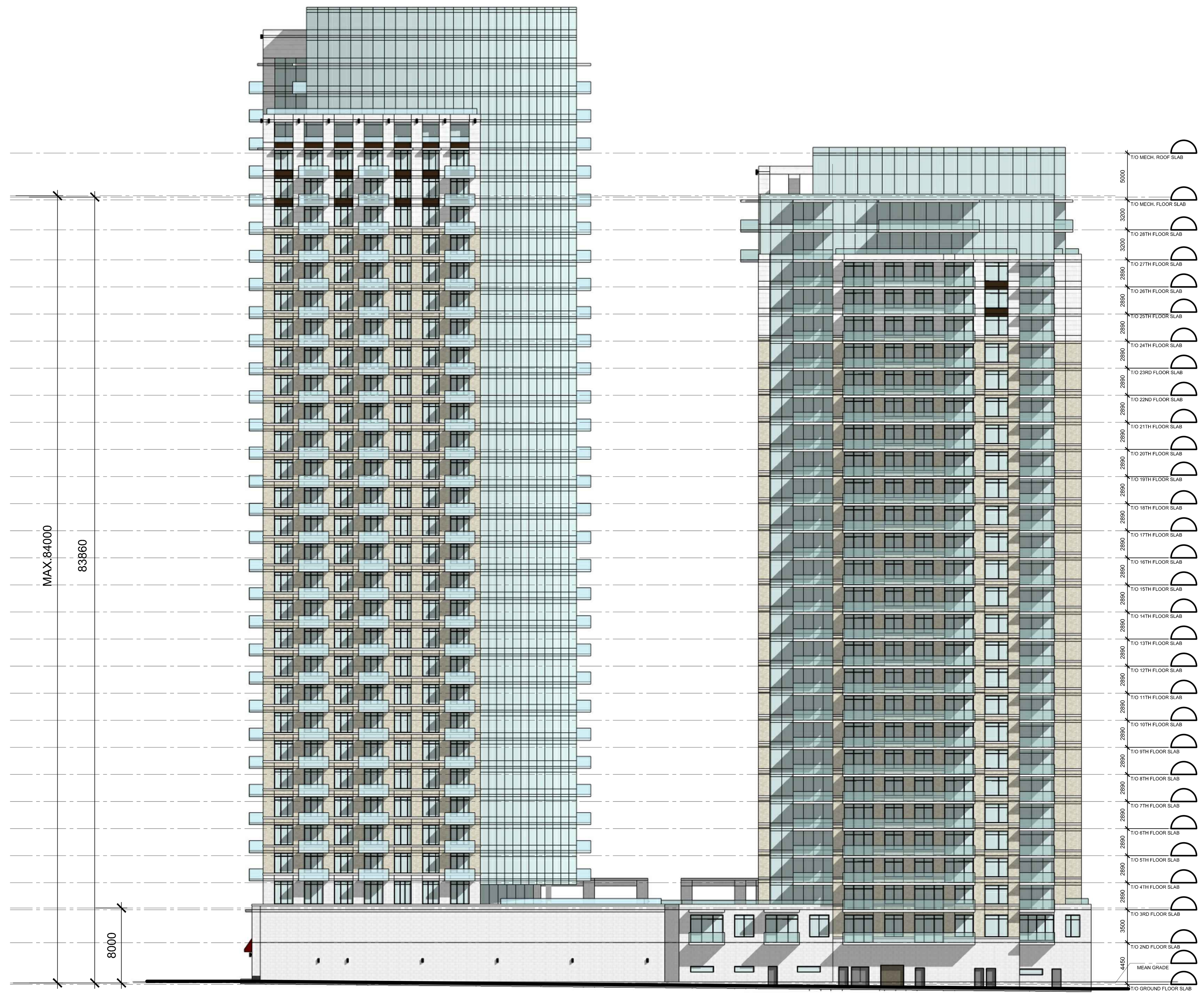


SOUTH ELEVATION



EAST ELEVATION

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PROJECT No. 1918

Appendix D

Building Component Calculations

- Room Calculations
- Table 11: Building Component Template (Interior Unit)
- Table 12: Building Component Template (Corner Unit)

ROOM BY ROOM CALCULATIONS - INTERIOR UNIT

Kitchen / Living Room

Floor Area (sq.m) 34.6

	Width	Height	Area	
Window 1 (front)	4.5	3.3	14.9	
			14.85	Total Window Area
			42.92%	% of Floor Area

	Width	Height	Area	
Exterior Door	0	0	0	
			0	Total Door Area
			0.00%	% of Floor Area

	Width	Height	Area	Area minus windows/doors
Exterior Wall (rear)	0.0	0.0	0.00	
Exterior Wall (side)	0.0	0.0	0.00	
			0.00	Total Exterior Wall Area
			0.00%	% of Floor Area

Master Bedroom

Floor Area (sq.m) 11.55

	Width	Height	Area	
Window 1 (front)	3.3	3.3	10.89	
			10.89	Total Window Area
			94.29%	% of Floor Area

	Width	Height	Area	
Exterior Door	0	0	0	
			0	Total Door Area
			0.00%	% of Floor Area

	Width	Height	Area	Area minus windows/doors
Exterior Wall (rear)	0.0	0.0	0.00	
			0.00	Total Exterior Wall Area
			0.00%	% of Floor Area

ROOM BY ROOM CALCULATIONS - CORNER UNIT

Kitchen / Living Area

Floor Area (sq.m) 28

	Width	Height	Area	
Window 1 (Front/Patio door)	3.5	3.0	10.5	
			10.50	Total Window Area
			37.50%	% of Floor Area

	Width	Height	Area	
Exterior Door	0	0	0	
			0	Total Door Area
			0.00%	% of Floor Area

	Width	Height	Area	Area minus windows/doors	
Exterior Wall (front)	4.6	3.0	13.80	3.3	
				3.30	Total Exterior Wall Area
				11.79%	% of Floor Area

Master Bedroom

Floor Area (sq.m) 14.1

	Width	Height	Area	
Window 1 (front)	1.8	2.0	3.60	
Window 2 (side)	2.6	2.0	5.20	
			8.80	Total Window Area
			62.41%	% of Floor Area

	Width	Height	Area	
Exterior Door	0	0	0	
			0	Total Door Area
			0.00%	% of Floor Area

	Width	Height	Area	Area minus windows/doors	
Exterior Wall (front)	3.2	3.0	9.60	6.00	
Exterior Wall (side)	4.7	3.0	14.10	8.90	
				14.90	Total Exterior Wall Area
				105.67%	% of Floor Area

TABLE 11: BUILDING COMPONENT TEMPLATE

Architect:
Location: 99 Parkdale Condominium Tower
Façade West
Unit Location: Interior Unit 2nd Floor
West Façade Noise Level (dBA) 68

JLR No: 25205-100
Prepared by: Thomas Blais
Checked by: Lee Jablonski

ROOM	# OF COMPONENTS	ROOM FLOOR AREA (M^2)	WINDOW AREA (M^2)	W/RFA %	DOOR AREA (M^2)	D/RFA %	EXT. WALL AREA (M^2)	EW/RFA %	REQUIRED AIF*	WINDOW			EXT. DOOR			EXT. WALL			CEILING/ROOF	
										Type	AIF**	STC	Type	AIF***	STC	Type	AIF****	STC	Type	AIF*****
Master Bedroom	1	11.6	10.9	94%	-	-	0.0	0%	30	3(6)3(40)3	30	36	-	-	-	-	-	-	-	-
Kitchen / Living Room	1	34.6	14.9	43%	-	-	0.0	0%	25	2(13)2	25	28	-	-	-	-	-	-	-	-

** Taken from Table 10.5: AIF required for Road and Rail Traffic Noise Cases*
*** Taken from Table 10.6: Acoustic Insulation Factor for various types of windows (example: 2(100)2 denotes 2 mm glass (100 mm space) 2 mm glass).*
**** Taken from Table 10.9: Acoustic Insulation Factor for various types of exterior doors*
***** Taken from Table 10.7: Acoustic Insulation Factor for various types of exterior walls*
****** Taken from Table 10.8: Acoustic Insulation Factor for various ceiling-roof combinations (only for aircraft noise)*

Exterior Door Details
All prime doors should be fully weatherstripped. Except as noted specifically below, doors shall not have inset glazing:
D1 denotes 44 mm hollow-core wood door (up to 20% of area glazed).
D2 denotes 44 mm glass-fibre reinforced plastic door with foam or glass-fibre insulated core (up to 20% area glazed).
D3 denotes 35 mm in solid slab wood door.
D4 denotes 44 mm steel door with foam or glass-fibre insulated core.
D5 denotes 44 mm solid slab door.
sd denotes storm door of wood or aluminum with openable glazed sections.

Exterior Wall Details
The common structure of walls EW1 to EW5 is composed of 12.7 mm gypsum board, vapour barrier, and 38x89 mm studs with 50 mm (or thicker) mineral wool or glass fibre batts in the inter-stud cavities.
EW1 denotes the above plus sheathing, plus wood siding or metal siding and fibre backer board.
EW2 denotes the above plus rigid insulation (25-50mm), and wood siding or metal siding and fibre backer board.
EW2 also denotes exterior wall described in EW1 with the addition of rigid insulation (25-50mm) between the sheathing and the external finish.
EW3 denotes simulated mansard with structure as the above plus sheathing, 38 x 89 mm framing, sheathing and asphalt roofing material.
EW4 denotes the above plus sheathing and 20 mm stucco.
EW5 denotes the above plus sheathing, 25 mm air space, 100 mm brick veneer.
EW6 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25-50mm), 100 mm back-up block, 100 mm face brick.
EW6 also denotes an exterior wall conforming to rainscreen design principles and composed of same gypsum board and rigid insulation with 100 mm concrete block, 25 mm air space, and 100 mm brick veneer.
EW7 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25-50mm), 140 mm back-up block, 100 mm face brick.
EW8 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25-50mm), 200 mm concrete.
R denotes the mounting of the interior gypsum board on resilient clips

TABLE 12: BUILDING COMPONENT TEMPLATE

Architect:
Location: 99 Parkdale Condominium Tower
Façade West
Unit Location: Corner Unit 14th Floor
West Façade Noise Level (dBA) 68

JLR No: 25205-100
Prepared by: Thomas Blais
Checked by: Lee Jablonski

ROOM	# OF COMPONENTS	ROOM FLOOR AREA (M^2)	WINDOW AREA (M^2)	W/RFA %	DOOR AREA (M^2)	D/RFA %	EXT. WALL AREA (M^2)	EW/RFA %	REQUIRED AIF*	WINDOW			EXT. DOOR			EXT. WALL			CEILING/ROOF	
										Type	AIF**	STC	Type	AIF***	STC	Type	AIF****	STC	Type	AIF*****
Master Bedroom	4	14.1	8.8	62%	-	-	14.9	106%	36	3(6)3(80)6	36	40	-	-	-	EW3	36	43	-	-
Kitchen / Living Area	2	28.0	10.5	38%	-	-	3.3	12%	28	4(6)4	28	30	-	-	-	EW1	39	37	-	-

** Taken from Table 10.5: AIF required for Road and Rail Traffic Noise Cases*
*** Taken from Table 10.6: Acoustic Insulation Factor for various types of windows (example: 2(100)2 denotes 2 mm glass (100 mm space) 2 mm glass).*
**** Taken from Table 10.9: Acoustic Insulation Factor for various types of exterior doors*
***** Taken from Table 10.7: Acoustic Insulation Factor for various types of exterior walls*
****** Taken from Table 10.8: Acoustic Insulation Factor for various ceiling-roof combinations (only for aircraft noise)*

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All prime doors should be fully weatherstripped. Except as noted specifically below, doors shall not have inset glazing:
D1 denotes 44 mm hollow-core wood door (up to 20% of area glazed).
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D3 denotes 35 mm in solid slab wood door.
D4 denotes 44 mm steel door with foam or glass-fibre insulated core.
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sd denotes storm door of wood or aluminum with openable glazed sections.

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The common structure of walls EW1 to EW5 is composed of 12.7 mm gypsum board, vapour barrier, and 38x89 mm studs with 50 mm (or thicker) mineral wool or glass fibre batts in the inter-stud cavities.
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EW2 also denotes exterior wall described in EW1 with the addition of rigid insulation (25-50mm) between the sheathing and the external finish.
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EW6 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25-50mm), 100 mm back-up block, 100 mm face brick.
EW6 also denotes an exterior wall conforming to rainscreen design principles and composed of same gypsum board and rigid insulation with 100 mm concrete block, 25 mm air space, and 100 mm brick veneer.
EW7 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25-50mm), 140 mm back-up block, 100 mm face brick.
EW8 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25-50mm), 200 mm concrete.
R denotes the mounting of the interior gypsum board on resilient clips

Appendix E

Canada Mortgage and Housing (CMHC) Table A2 and A3

- Approximate Conversion from STC to AIF for Windows and Doors
- Approximate Conversion from STC to AIF for Exterior Walls and Ceiling-Roof System

Table A1: Standard source spectrum for calculating Acoustic Insulation Factor (AIF)

Frequency (Hz)	Source Sound Pressure Level	A-weighted Source Sound Pressure Level
100	66.1	47
125	69.1	53
160	71.4	58
200	71.9	61
250	71.6	63
315	71.6	65
400	71.8	67
500	71.2	68
630	70.9	69
800	70.8	70
1000	70.0	70
1250	69.4	70
1600	69.0	70
2000	68.8	70
2500	68.7	70
3150	67.8	69
4000	67.0	68
5000	65.5	66

Note: Values in the second and third columns of this table are $\frac{1}{3}$-octave band sound pressure levels expressed in dB.

Table A2: Approximate conversion from STC to AIF for windows and doors

Window (or door) Area Expressed as Percentage of Room Floor Area	Acoustic Insulation Factor (AIF)
80.0	STC-5
63.0	STC-4
50.0	STC-3
40.0	STC-2
32.0	STC-1
25.0	STC
20.0	STC+1
16.0	STC+2
12.5	STC+3
10.0	STC+4
8.0	STC+5
6.3	STC+6
5.0	STC+7
4.0	STC+8

Note: For area percentages not listed in the table, use the nearest listed value.

Examples: For a window whose area = 20% of the room floor area and STC = 32, the AIF is 32 + 1 = 33.
For a window whose area = 60% of the room floor area and STC = 29, the AIF is 29 - 4 = 25.

Table A3: Approximate conversion from STC to AIF for exterior walls and ceiling-roof systems.

Exterior Wall Area Expressed as Percentage of Room Floor Area	Acoustic Insulation Factor (AIF)
200.0	STC-10
160.0	STC-9
125.0	STC-8
100.0	STC-7
80.0	STC-6
63.0	STC-5
50.0	STC-4
40.0	STC-3
32.0	STC-2
25.0	STC-1
20.0	STC
16.0	STC+1
12.5	STC+2
10.0	STC+3
8.0	STC+4

Note: For area percentages not listed in the table, use the nearest listed value.

Example: For a wall whose area = 120% of room floor area and STC = 48, the AIF is 48 - 8 = 40.

Note: For ceiling-roof systems, AIF = STC - 7.

Figure A1: Worksheet for Calculating AIF from Transmission Loss Data

Frequency (Hz)	A-weighted Source Sound Pressure Level (dB)	Sound Transmission Loss (dB)	A-weighted Indoor Sound Pressure Level (dB)	Energy Equivalent of Indoor SPL
	(A)	(B)	(C = A-B)	(D = $10^{C/10}$)
100	47	24	23	200
125	53	26	27	501
160	58	19	39	7 943
200	61	21	40	10 000
250	63	20	43	19 953
315	65	20	45	31 623
400	67	25	42	15 849
500	68	30	38	6 310
630	69	33	36	3 981
800	70	37	33	1 995
1000	70	39	31	1 259
1250	70	41	29	794
1600	70	43	27	501
2000	70	44	26	398
2500	70	45	25	316
3150	69	43	26	398
4000	68	37	31	1 259
5000	66	35	31	1 259
			Sum of values in column D:	104 539=E

Calculated indoor A-weighted sound level: $10 \log_{10}$ (E) = 50.2 = F

AIF (component area = 80% of floor area): (77 - F) = 26.8 = G

Component Area as a Percentage of Room Floor Area	Acoustic Insulation Factor (AIF)
6.3	(G + 11) = 38
8.0	(G + 10) = 37
10.0	(G + 9) = 36
12.5	(G + 8) = 35
16.0	(G + 7) = 34
20.0	(G + 6) = 33
25.0	(G + 5) = 32
32.0	(G + 4) = 31
40.0	(G + 3) = 30
50.0	(G + 2) = 29
63.0	(G + 1) = 28
80.0	(G) = 27
100.0	(G - 1) = 26
125.0	(G - 2) = 25
160.0	(G - 3) = 24

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