HGC ENGINEERING

Howe Gastmeier Chapnik Limited
2000 Argentia Road, Plaza One, Suite 203
Mississauga, Ontario, Canada L5N 1P7
t: 905.826.4044

Noise Feasibility Study
Proposed Residential Development
900 Lakeshore Road West
Mississauga, Ontario

Prepared for:

1000570027 Ontario Inc.
17b Cosmo Road
Etobicoke, ON
M8X 1Z3

Prepared by:

Andrew Rogers, BASc

and

Sheeba Paul, MEng, PEng

HGC Project No.: 02300623

October 10, 2024

VERSION CONTROL

Noise Feasibility Study,
900 Lakeshore Road West,
Mississauga, Ontario.

Ver.	Date	Version Description / Changelog	Prepared By
0	October 10, 2024	Noise Feasibility Study in support of the approvals process.	A. Rogers/ S. Paul

Limitations

This document was prepared solely for the addressed party and titled project or named part thereof, and should not be relied upon or used for any other project without obtaining prior written authorization from HGC Engineering. HGC Engineering accepts no responsibility or liability for any consequence of this document being used for a purpose other than for which it was commissioned. Any person or party using or relying on the document for such other purpose agrees, and will by such use or reliance be taken to confirm their agreement to indemnify HGC Engineering for all loss or damage resulting therefrom. HGC Engineering accepts no responsibility or liability for this document to any person or party other than the party by whom it was commissioned.

Any conclusions and/or recommendations herein reflect the judgment of HGC Engineering based on information available at the time of preparation, and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented.

Table of Contents

1 Introduction and Summary 1
2 Site Description and Noise Sources 2
3 Traffic Noise Criteria 2
4 Traffic Noise Assessment 4
4.1 Road Traffic Data 4
4.2 Rail Traffic Data 4
4.3 Traffic Noise Prediction 5
5 Traffic Noise Discussion and Recommendations 5
5.1 Outdoor Living Areas 6
5.2 Indoor Living Areas and Ventilation Requirements 6
5.3 Building Façade Constructions 6
6 Stationary Noise Assessment 8
6.1 Criteria Governing Stationary Noise Sources 8
6.2 Assessment Methods 9
6.3 Assessment of Stationary Noise Sources 10
6.4 Stationary Noise Discussion and Recommendations 10
7 Warning Clauses 11
8 Impact of the Development on Itself 11
9 Summary of Recommendations 13
9.1 Implementation 14

Figure 1: Key Plan
Figure 2: Proposed Site Plan Showing Prediction Locations
Figure 3: Daytime Sound Level Predictions from Proposed Stationary Noise Sources
Figure 4: Nighttime Sound Level Predictions from Proposed Stationary Noise Sources

Appendix A: Supporting Drawings
Appendix B: Road Traffic Data
Appendix C: Rail Traffic Data
Appendix D: Stamson Output

1 Introduction and Summary

HGC Engineering was retained by 1000570027 Ontario Inc. to conduct a Noise Feasibility Study for a proposed residential development located at 900 Lakeshore Road West, in Mississauga, Ontario. The purpose of this study is to determine the impact of environmental noise from the surrounding area in accordance with the Ministry of Environment, Conservation, and Parks (MECP) guidelines. The site proposes a 10-storey residential building with three levels of underground parking. This study has been prepared as part of the approvals process.

The primary noise sources impacting the proposed development site were determined to be road traffic on Lakeshore Road West and rail traffic on the Canadian National (CN) and Metrolinx railway line to the northwest. Relevant traffic data was obtained from the City of Mississauga, Metrolinx personnel, and HGC Engineering project files. The data was used to predict future traffic sound levels at the locations of the proposed building façades and in the outdoor living areas. The predicted sound levels were evaluated with respect to the guidelines of the Ministry of the Environment, Conservation and Parks (MECP) and the railway authorities.

The sound level predictions indicate that with suitable noise control measures integrated into the design of the building, it is feasible to achieve MECP guideline sound levels. Central air conditioning systems and upgraded glazing constructions will be required for the development. Associated acoustical requirements are specified in this report. Noise warning clauses are also required to inform future occupants of the sound level excesses and the proximity to institutional uses.

A computer model of the area was created to predict the potential noise impact from mechanical equipment for the proposed building. The analysis is based on similar equipment from past HGC Engineering projects. The results indicate that the potential noise from the proposed rooftop mechanical equipment can meet the applicable noise guideline limits of the MECP at on and offsite noise sensitive receptors provided the sound levels produced by the proposed mechanical equipment are below the threshold levels included in this report. When design of the mechanical equipment has been undertaken and a roof plan and equipment specifications are available, they shall be reviewed to confirm that the MECP limits can be met at all noise sensitive uses.

In summary, with the implementation of noise control measures, this proposed development is feasible from the perspective of noise impact.

2 Site Description and Noise Sources

A key plan for the site is attached as Figure 1. The site is located on the southeast side of Lakeshore Road West in Mississauga, Ontario. A site plan prepared by KFA Architects and Planners dated October 7, 2024, is provided as Figure 2. The site proposes a 10-storey residential building with three levels of underground parking and a rooftop outdoor amenity area. Appendix A includes preliminary floor plans and building elevations.

HGC Engineering personnel visited the site during the month of December 2023 to observe the acoustical environment, measure background sound levels, and identify significant noise sources within the vicinity. This area is considered Class 1 in terms of its acoustical environment. Road traffic on Lakeshore Road West and rail traffic on the CN Oakville Subdivision rail line were confirmed to be the dominant noise sources.

The site is currently occupied by a single detached dwelling. The surrounding uses are mostly residential dwellings. East of the site is a park. There is a school beyond Lakeshore Road West to the north. The CN Oakville Subdivision rail line is located approximately 400 m northeast of the site. Noise from the surrounding uses were not discernable from traffic noise. Nevertheless, due to the proximity of the site to existing institutional uses, it is recommended that a noise warning clause to identify that such uses may be audible at times be included in the tenancy agreements, as described in Section 7.

3 Traffic Noise Criteria

Guidelines for acceptable levels of road and rail traffic noise impacting residential developments are given in the MECP publication NPC-300, “Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning”, release date October 21, 2013 and are listed in Table I below. The values in Table I are energy equivalent (average) sound levels [L_{EQ}] in units of A-weighted decibels [dBA]. The Railway Association of Canada/Federation of Canadian Municipalities “Report Research Phase 3: Proximity Guidelines and Best Practices” dated November

2006 and Guidelines for New Development in Proximity to Railway Operations dated May 2013 were also reviewed.

Table I: MECP Traffic Noise Criteria (dBA)

Space	Daytime L_{EQ} (16 hour) Road / Rail	Nighttime L_{EQ} (8 hour) Road / Rail
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA / 40 dBA	45 dBA / 40 dBA
Inside Bedrooms	45 dBA / 40 dBA	40 dBA / 35 dBA

Daytime refers to the period between 07:00 and 23:00, while nighttime refers to the period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a backyard, a terrace or other areas where passive recreation is expected to occur. Balconies and terraces that are less than 4 m in depth are not considered to be outdoor living areas under MECP guidelines, and accordingly the noise criteria are not applicable there. Large private terraces require consideration only if they are the only OLA for the occupant; in general. Common outdoor amenity terraces associated with high-rise buildings are the only OLA that require consideration.

The guidelines in the MECP publication allow the daytime sound levels in an Outdoor Living Area to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements to the property. Where OLA sound levels exceed 60 dBA, physical mitigation is required to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically, and administratively practical.

Indoor guidelines are 5 dBA more stringent for rail noise than for road noise, to account for the low frequency (rumbling) character of locomotive sound, and its greater potential to transmit through exterior wall/window assemblies.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom or living/dining room windows exceed 60 dBA or daytime sound levels outside bedroom or living/dining room windows exceed 65 dBA. Forced air ventilation with ducts sized to accommodate the future installation of air conditioning is required when nighttime sound levels at bedroom or living/dining room windows are in the range of

51 to 60 dBA or when daytime sound levels at bedroom or living/dining room windows are in the range of 56 to 65 dBA.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of window nighttime sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise.

Warning clauses are required to notify future residents of possible excesses when nighttime sound levels exceed 50 dBA at the plane of the bedroom/living/dining room window and daytime sound levels exceed 55 dBA in the outdoor living area and at the plane of the bedroom/living/dining room window due to road traffic.

4 Traffic Noise Assessment

4.1 Road Traffic Data

Road traffic data for Lakeshore Road West was obtained from the City of Mississauga (see Appendix B). The data was provided as an ultimate traffic volume. A day/night split of 90/10 was used. A posted speed limit of 50 km/h was applied. A commercial vehicle percentage of 4.0%, split into 2.2% medium trucks and 1.8% heavy trucks was applied. Table II below summarizes the road traffic volume data used in this study.

Table II: Ultimate Road Traffic Data

Street	Time	Cars	Medium Trucks	Heavy Trucks	Total
Lakeshore Road West	Daytime	32 573	746	611	**33 930**
	Nighttime	3 619	83	68	**3 770**
	Total	**36 192**	**829**	**679**	**37 700**

4.2 Rail Traffic Data

Rail traffic data for the CN Oakville Subdivision rail line located to the northwest was obtained from CN and Metrolinx personnel, and is attached in Appendix C. The Metrolinx data was projected to the year 2032 (note that Metrolinx has indicated that they do not anticipate further growth beyond the year 2032). The CN rail traffic volumes were grown at a conservative rate of 2.5% per year, and average future volumes that will exist in ten years (2034) were then calculated, as required by MECP

guidelines. In conformance with CN assessment requirements, the maximum speeds, maximum number of cars, and locomotives per train were used in the traffic noise analysis to yield a worst-case estimate of train noise. The rail volumes and other inputs used in the analysis are summarized in Table III.

Table III: Projected Rail Traffic Data

Type of Train	Number of Trains Day/Night	Number of Locomotives	Number of Cars	Max Speed (KPH)
CN Oakville, Passenger	17.9 / 0	2	10	153
CN Oakville, Way Freight	0 / 6.4	4	25	97
Lakeshore West GO	354 / 54	1	5	153

4.3 Traffic Noise Prediction

To assess the levels of traffic noise which will impact the site in the future, predictions were made using STAMSON version 5.04, a computer algorithm developed by the MECP. This modeling software was used to predict the future road traffic sound levels (L_{EQ}) at various locations. All STAMSON outputs are provided in Appendix D. The results of these predictions, without mitigation, are summarized in Table III. Figure 2 shows the prediction locations.

Table IV: Road / Rail / Total Maximum Sound Level Predictions [dBA]

Prediction Location	Location	Daytime – $L_{EQ\text{-}16\ hr}$ Road/Rail/Total	Nighttime – $L_{EQ\text{-}8\ hr}$ Road/Rail/Total
[A]	North Façade	68 / 68 / 71	62 / 64 / 66
[B]	Southeast Façade	61 / 62 / 64	54 / 58 / 59
[C]	South Façade	53 / <45 / 53	46 / <40 / 46
[D]	West Interior Façade	55 / <45 / 55	49 / <40 / 49
[E]	South Interior Façade	<50 / <45 / <50	<45 / <40 / <45
[F]	Southwest Façade	59 / <45 / 59	53 / <45 / 53
[G]	Rooftop OLA*	<55	

5 Traffic Noise Discussion and Recommendations

The sound level predictions indicate that the future traffic sound levels will exceed the MECP guidelines at the façades of the proposed building. Recommendations are provided in the following sections.

5.1 Outdoor Living Areas

The dwelling units in the proposed development may have balconies that are less than 4 m in depth. These areas are not considered to be outdoor amenity areas under MECP guidelines, and therefore are exempt from traffic noise assessment. Since there are common outdoor amenity spaces provided for the building, private outdoor patios and terraces are not required to be assessed.

There is an outdoor amenity area on the roof of the proposed building. The predicted daytime sound level in this area is less than the MECP limit of 55 dBA. No additional noise abatement is required for this space to comply with the MECP criteria outlined in Section 3.

5.2 Indoor Living Areas and Ventilation Requirements

The predicted future sound levels at the façades of the proposed building will be greater than 65 dBA during the daytime and/or 60 dBA during the nighttime hours. To address these excesses, the MECP guidelines recommend that the building be equipped with a central air conditioning system, so that the windows can be closed.

Window or through-the-wall air conditioning units are not recommended because of the noise they produce and because the units penetrate through the exterior wall which degrades the overall sound insulating properties of the envelope. Acceptable units are those housed in their own insulated closet with an access door for maintenance. The location, installation and sound ratings of the outdoor air conditioning devices should minimize noise impacts and comply with criteria of MECP publication NPC-300. Associated warning clauses are also recommended.

5.3 Building Façade Constructions

Predicted sound levels at the building facades were used to determine sound insulation requirements of the building envelope. The required acoustic insulation of the wall and window components was determined using methods developed by the National Research Council (NRC).

Detailed glazing requirements for different facades and spaces could be considered in value engineering, if required, when detailed floor plans and building elevations are available.

Exterior Wall Constructions

The exterior walls of the proposed building may include precast/masonry panel portions, as well as spandrel glass panels within an aluminum window system. In this analysis, it has been assumed that sound transmitted through elements other than the glazing elements is negligible in comparison. For this assumption to be true, spandrel or metal panel sections must have an insulated drywall partition on separate framing behind.

Exterior Doors

There may be swing doors and some glazed sliding patio doors for entry onto the balconies from living/dining/bedrooms. The glazing areas on the doors are to be counted as part of the total window glazing area. If exterior swing doors are to be used, they shall be insulated metal doors equipped with head, jamb and threshold weather seals.

Acoustical Requirements for Glazing

At the time of this report, detailed floor plans and elevations are under development. Assuming a typical window to floor area of 50% (30% fixed and 20% operable) for the living/dining rooms and 40% (30% fixed and 10% operable) for the bedrooms in the building, the minimum acoustical requirement for the basic window glazing, including glass in fixed sections, swing or sliding doors, and operable windows, is provided in Table V.

Table V: Required Minimum Glazing STC for Specific Building Façades

Façade	Space	Minimum Glazing STC[1, 2]
North Façade	Living/Dining	STC-36
	Bedroom	STC-35
Southeast Façade	Living/Dining	STC-30
	Bedroom	STC-29
All Other Façades	Living/Dining	OBC
	Bedroom	

Note:
[1] Based on 50% window to floor area ratio for living/dining rooms and 40% for the bedrooms.
[2] STC requirement refers to fixed glazing. Small leaks through operable doors and windows are assumed, however, tight weather seals should be provided to reduce such leakage to the extent feasible.
OBC – Ontario Building Code

The results indicate that the north façade of the proposed building will have significant glazing requirements. It is recommended that bedrooms not include sliding patio doors and window areas relative to the floor areas are kept small.

Operable sections, including doors and operable windows, must be well-fitted and weather-stripped in order to achieve the upper range of target STC values. Acoustical criteria for different façades can be optimized as part of the detail design of the development when floor plans and elevations for the buildings are available.

Note that acoustic performance varies with manufacturer's construction details, and these are only guidelines to provide some indication of the type of glazing likely to be required. Acoustical test data for the selected assemblies should be requested from the suppliers, to ensure that the stated acoustic performance levels will be achieved by their assemblies.

Further Analysis

When detailed floor plans and building elevations are available, the glazing requirements should be refined based on actual window to floor area ratios. Larger windows in small rooms will result in large window to floor area ratios and higher STC ratings.

6 Stationary Noise Assessment

6.1 Criteria Governing Stationary Noise Sources

In Ontario, the guidelines of the Ontario Ministry of the Environment, Conservation and Parks (MECP) form the basis of environmental noise assessment. MECP publication NPC-300, "*Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning",* release date October 21, 2013 provides criteria for assessing the noise impact of the rooftop equipment associated with the proposed development. The term Stationary Source is used to describe all noise sources at the site including mechanical equipment. The MECP guidelines assess the noise impact of fluctuating sounds on an hourly energy equivalent (average) sound level basis, rather than on short-duration maximum sound levels. Hourly equivalent sound levels are denoted as the $L_{EQ\text{-}1hr}$.

The MECP guidelines stipulate that the sound level impact during a "predicable worst case hour" be considered. This is defined to be an hour when a typically busy "planned and predictable mode of operation" occurs at the subject site coincident with a period of minimal background sound.

The criteria is based on the background sound level at sensitive points of reception (which are typically residences) in the quietest hour that the source can be in operation. Background sound includes sound from road traffic and natural sounds, but excludes the sources under assessment. For relatively quiet areas where background sound may fall to low levels during some hours, NPC-300 stipulates various minimum limits. In Class 1 areas, these exclusionary limits are 50 dBA for daytime and evening (07:00 to 23:00) and 45 dBA at night (23:00 to 7:00).

In areas where traffic sound is dominant, typical ambient sound levels can be determined through prediction of road traffic volumes. Where it can be demonstrated that the hourly ambient sound levels are greater than the exclusionary minimum limits listed above, the criterion becomes the lowest predicted one-hour L_{EQ} sound level during each respective period. To ensure a conservative analysis, the exclusionary minimum limits listed will be adopted for the existing sensitive receptors.Compliance with MECP criteria generally results in acceptable levels of sound at sensitive receptors although there may be residual audibility during periods of low background sound.

6.2 Assessment Methods

The final selection of mechanical equipment for the proposed building has not been completed at this time. To consider a potential worst case scenario, a cooling tower from past similar HGC Engineering project files was used in the analysis.

Predictive noise modelling was used to assess the sound impact of this rooftop mechanical equipment at existing noise sensitive receptors in accordance with MECP guidelines. The noise prediction model was based on a review of the proposed site plan, aerial photos, source sound levels for typical rooftop mechanical units, assumed operational profiles and established engineering methods for the prediction of outdoor sound propagation. These methods include the effects of distance, air absorption and acoustical screening by barrier obstacles such as buildings.

Source sound levels for typical rooftop mechanical units and assumed operational information (outlined below) were used as input to a predictive computer model. The software used for this purpose (*Cadna/A version 2023 MR2: build 201.5366*) is a computer implementation of ISO Standard 9613-2.2 “Acoustics – Attenuation of Sound During Propagation Outdoors.”
The sound power levels used in the analysis are listed in the table below.

Table VI: Sound Power Level Specifications for Equipment [dB re 10-12 W]

Item	Octave Band Centre Frequency [Hz]							
	63	125	250	500	1k	2k	4k	8K
Cooling Tower	92	90	95	94	94	93	85	85

This information was used to determine the one-hour equivalent sound level, L_{EQ}, for a predictable worst-case daytime and nighttime hour at the façades of the noise sensitive receptors.

The following information and assumptions were used in the analysis.

- The cooling tower was located as shown by the green cross in Figures 3 and 4.
- The operating duty cycle of the cooling towers was assumed to be 100% during the daytime and evening, and 50% during the nighttime.

6.3 Assessment of Stationary Noise Sources

The predicted sound levels at the plane of windows of the existing noise sensitive receptors are provided in the table below and shown graphically in Figures 3 and 4.

Table VII – Maximum Predicted Steady Source Sound Levels at the Residential Receptors during a Worst-Case Operating Scenario hour [dBA]

Receiver	Daytime & Evening 07:00 – 23:00	Nighttime 23:00 – 07:00	Criteria Day/Evening/Night
1015 Serdica Ct.	<50	46	50 / 50 / 45
1019 Serdica Ct.	<50	46	50 / 50 / 45
All Other Existing Residences	<50	<45	50 / 50 / 45

The results of the calculations indicate that the predicted sound levels due to the operation of the cooling tower exceed the MECP limits at the existing noise sensitive receptors during an assumed worst-case operational scenario.

6.4 Stationary Noise Discussion and Recommendations

Feasible means exist to reduce sound levels from the proposed cooling tower at the existing noise sensitive receptors to meet MECP criteria. In order to meet the applicable sound level limits, the cooling towers should be selected for a maximum sound power level of 97 dBA. When the

mechanical systems associated with the building have been designed and the type of systems and locations of equipment are known (including make, model, sound data, etc.), a revised analysis should be performed to verify sound levels at all noise sensitive receptors.

7 Warning Clauses

The MECP guidelines recommend that warning clauses be included in the property and tenancy agreements for all units with anticipated traffic sound level excesses. Examples are provided below.

Suggested wording for future dwellings with sound level excesses.

Type A:

> Purchasers/tenants are advised that sound levels due to increasing road and rail traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.

Suitable wording for future dwellings requiring central air conditioning systems is given below.

Type D:

> This dwelling unit has been supplied with a central air conditioning system 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 Municipality and the Ministry of the Environment, Conservation and Parks. (Note: the location and installation of the outdoor air conditioning device should be done so as to minimize the noise impacts and comply with criteria of MECP publication NPC-300.)

Suitable wording to inform future residents of the nearby institutional facilities and that sounds from these facilities may at times be audible.

Type E:

> Purchasers/tenants are advised that due to the proximity of the nearby institutional facilities, noise from the facilities may at times be audible.

These sample clauses are provided by the MECP as examples and can be modified by the Municipality as required.

8 Impact of the Development on Itself

Section 5.8.1.1 of the Ontario Building Code (OBC), released on January 1, 2020, specifies the minimum required sound insulation characteristics for demising partitions, in terms of Sound

Transmission Class (STC) or Apparent Sound Transmission Class (ASTC) values. In order to maintain adequate acoustical privacy between separate suites in a multi-tenant building, inter-suite walls must meet or exceed STC-50 or ASTC-47. Suite separation from a refuse chute or elevator shaft must meet or exceed STC-55. In addition, it is recommended that the floor/ceiling constructions separating suites from any amenity or commercial spaces also meet or exceed STC-55. Tables 1 and 2 in Section SB-3 of the Supplementary Guideline to the OBC provide a comprehensive list of constructions that will meet the above requirements.

Tarion's Builder Bulletin B19R requires the internal design of condominium projects to integrate suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC and limit the potential intrusions of mechanical and electrical services of the buildings on its residents. If B19R certification is needed, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising construction and mechanical/electrical equipment, when available, to help ensure that the noise impact of the development on itself is maintained within acceptable levels. These details were not available at the time of writing.

9 Summary of Recommendations

The following list and Table IX summarize the recommendations made in this report.

For transportation noise sources

1. Central air conditioning systems are required for all proposed dwelling units. The location, installation and sound ratings of the air conditioning devices should comply with NPC-300.

2. Upgraded exterior glazing constructions are required for the façades of the proposed building. Minimum STC requirements for glazing are included in Section 5.3. When detailed floor plans and building elevations are available, glazing construction will be verified and refined based on actual window to floor area ratios.

3. Warning clauses are required in the property and tenancy agreements and offers of purchase and sale in order to inform future owners/tenants of the sound level excesses and the proximity to institutional uses.

4. Tarion Builders Bulletin B19R requires that the internal design of condominium projects integrates suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC, and limit the potential intrusions of mechanical and electrical services of the buildings on its residents. If B19R certification is to be sought, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising constructions and mechanical/electrical equipment, when available, to help ensure that the noise impact of the development on itself are maintained within acceptable levels.

For stationary noise sources

5. The cooling tower should be selected for a maximum sound power level of 97 dBA.

6. When mechanical systems associated with the building have been designed and the type of systems and locations of equipment are known (including make, model, sound data, etc.) that information should be reviewed by a Professional Engineer qualified to perform Acoustical Engineering Services in the Province of Ontario and conduct analysis to verify that sound

levels meet MECP limits at all noise sensitive receptors and provide any additional recommendations which may be required in that regard.

The reader is referred to the previous sections of the report where these recommendations are discussed in more detail. The following table summarizes the noise control recommendations and noise warning clauses for the dwellings in the proposed building.

Table VIII: Summary of Noise Control Requirements and Noise Warning Clauses

Description	Acoustic Barrier	Ventilation Requirements[1]	Type of Warning Clause	Required STC[2]
North Façade	--	Central A/C	A, D, E	LRDR: STC-36 BR: STC-35
Southeast Façade	--			LRDR: STC-30 BR: STC-29
All Other Façades	--			OBC
Rooftop OLA	--	--	--	--

Notes:
-- no specific requirement
LRDR – Living Room/Dining Room
BR - Bedroom
[1] The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300, as applicable.
[2] With assumed window to floor area ratios of 50% for living rooms/dining rooms and 40% for bedrooms. When detailed floor plans and building elevations are available, an acoustical consultant should review the drawings to refine the window glazing constructions based on actual window to floor area ratios, and to verify exterior wall construction.

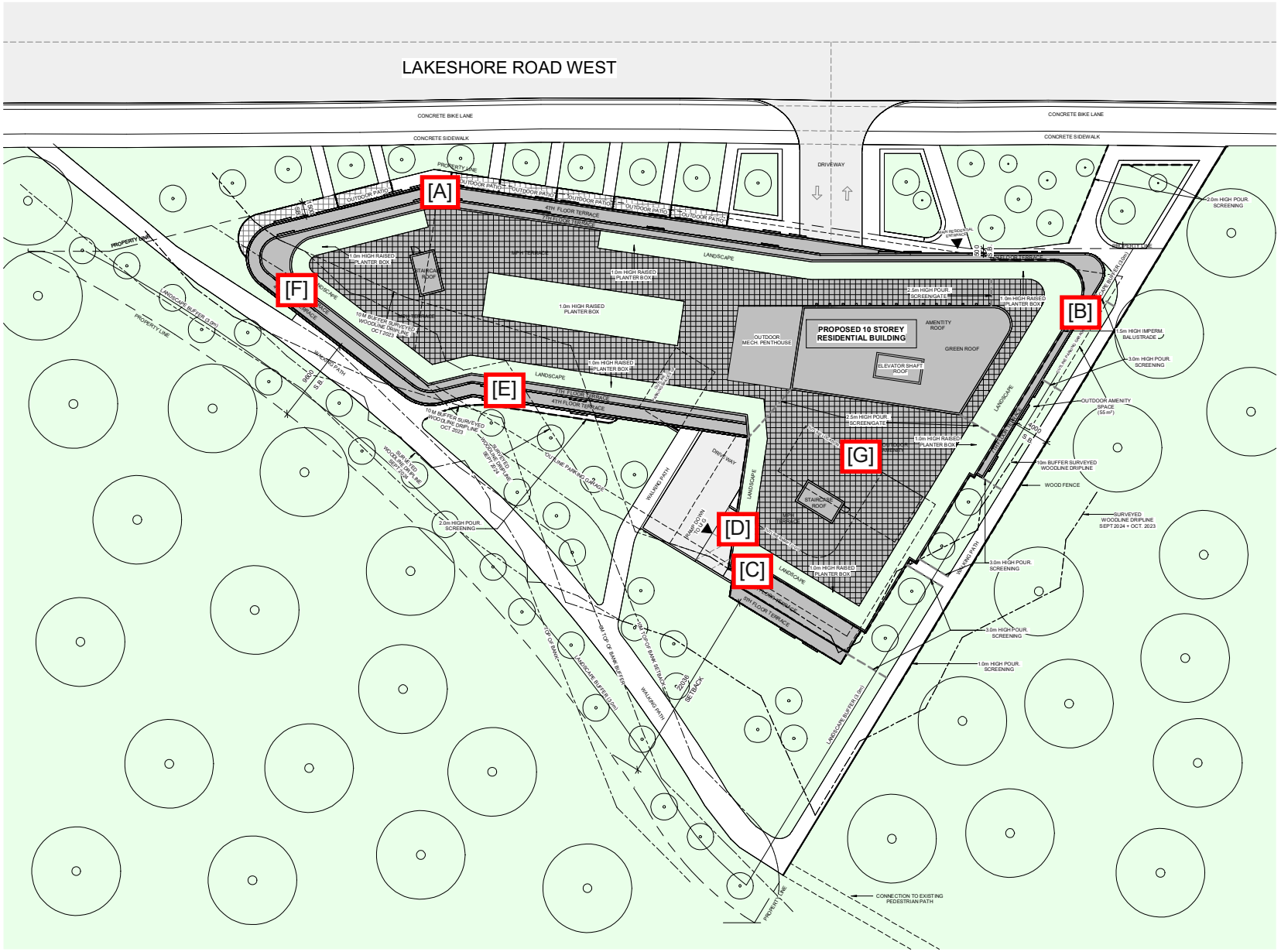
9.1 Implementation

To ensure that the noise recommendations outlined above are fully implemented, it is recommended that:

1. When detailed floor plans and building elevations are available, the glazing construction should be verified and refined based on actual window to floor area ratios.

2. Prior to the issuance of occupancy permits for this development, the City's building inspector or a Professional Engineer qualified to perform acoustical engineer services in the province of Ontario should certify that the noise control measures have been properly incorporated, installed, and constructed.

Figure 1: Key Plan



1 Site Plan
1 : 200

Figure 2: Proposed Site Plan Showing Prediction Locations

900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 200
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SITE PLAN

DRAWING NO.

A002

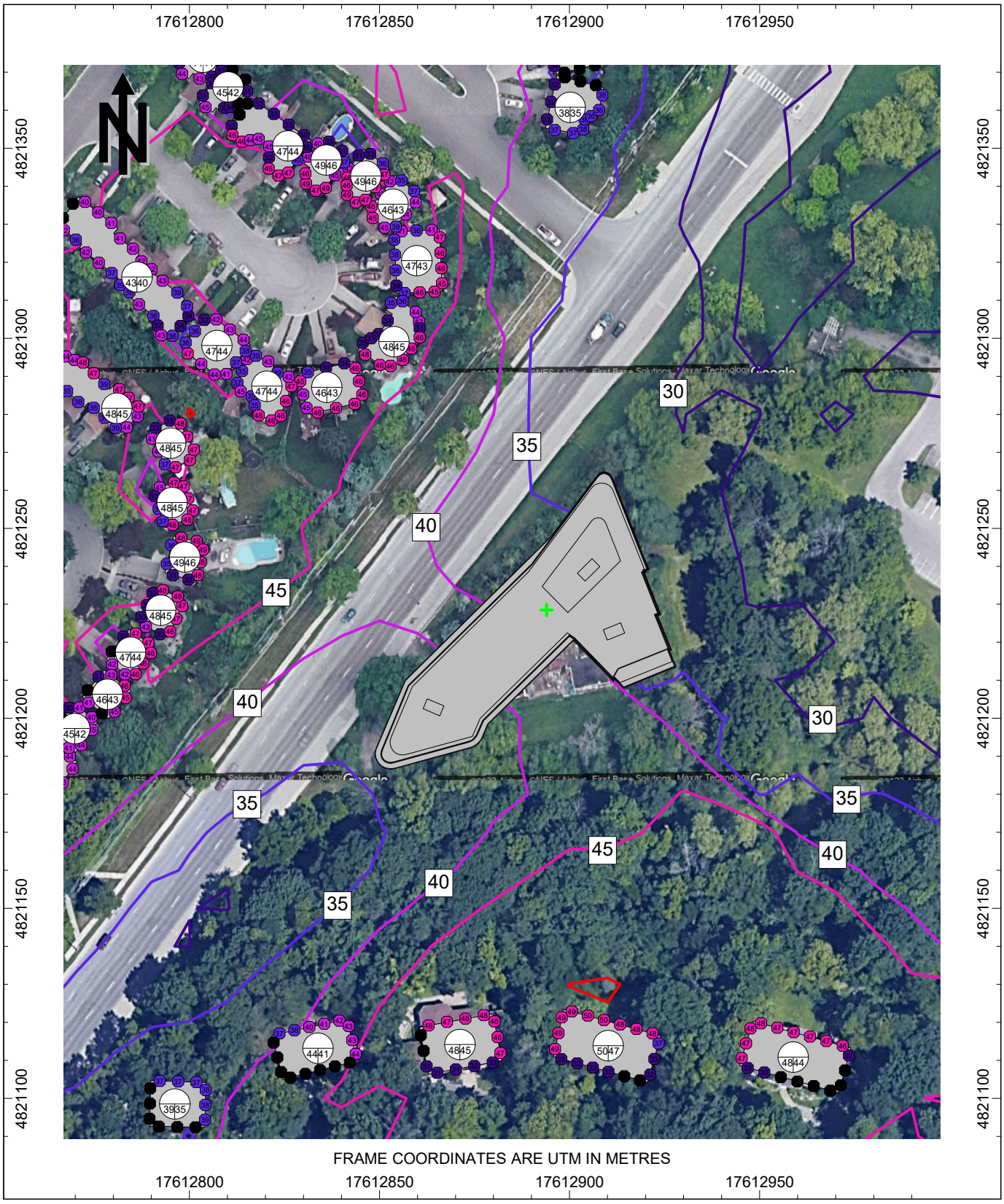


Figure 3: Daytime Sound Level Predictions from Proposed Stationary Noise Sources

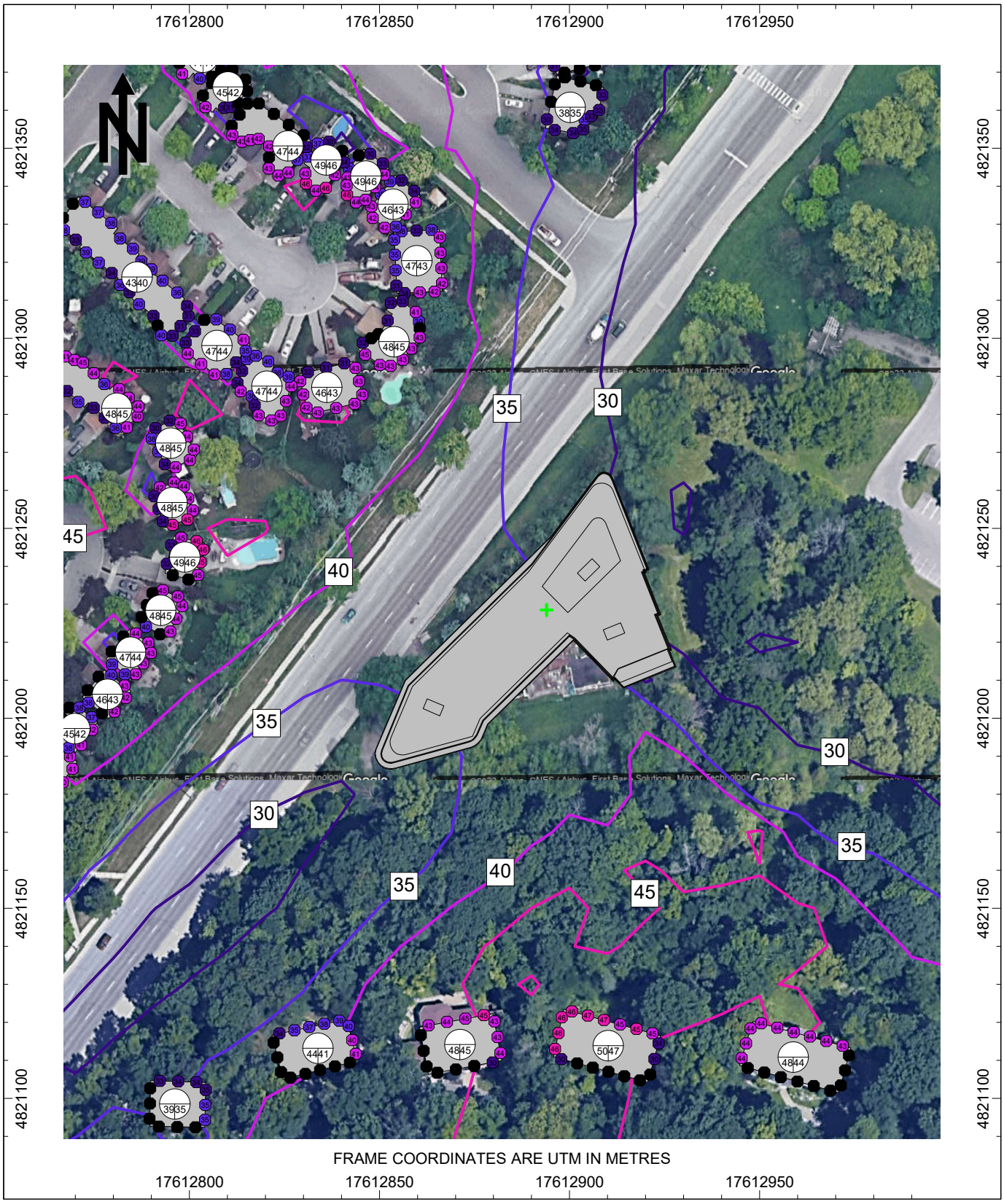


Figure 4: Nighttime Sound Level Predictions from Proposed Stationary Noise Sources

Appendix A

Supporting Drawings

10 STOREY RESIDENTIAL BUILDING DEVELOPMENT

900 Lake Shore Road West, Mississauga, ON

DRAWING LIST:

Sheet List	
Sheet Number	Sheet Name
A000	COVER PAGE
A001	SITE STATISTICS & CONTEXT
A002	SITE PLAN
A003	SITE PLAN (GF)
A004	3D VIEWS
A005	WASTE MANAGEMENT PLAN
A102	P3 PLAN
A103	P2 PLAN
A104	P1 PLAN
A105	GROUND FLOOR PLAN
A106	2ND FLOOR PLAN
A107	3RD FLOOR PLAN
A108	4TH FLOOR PLAN
A109	5TH FLOOR PLAN
A110	6TH FLOOR PLAN
A111	7TH FLOOR PLAN
A112	8TH TO 10TH FLOOR PLAN
A113	MECHANICAL PENTHOUSE PLAN
A114	ROOF PLAN
A201	NORTH ELEVATION
A202	SOUTH ELEVATION
A203	EAST ELEVATION
A204	WEST ELEVATION
A301	SECTION AA
A302	SECTION BB
A303	SITE & ROAD SECTION
A901	SUN/SHADOW STUDY JUNE 21ST
A901.2	SUN/SHADOW STUDY JUNE 21ST
A902	SUN/SHADOW STUDY SEPTEMBER 21ST
A902.2	SUN/SHADOW STUDY SEPTEMBER 21ST
A903	SUN/SHADOW STUDY DECEMBER 21ST

Issued for DARC-2

ISSUED DATE: 03.10.2024

CONSULTANTS:

ARCHITECT:
COMPANY: KFA ARCHITECTS AND PLANNERS
ADDRESS:197 SPADINA AVENUE
POSTAL CODE: M5T 2C8
CONTACT NAME: KREGG FORDYCE
PHONE #: 647-261-4444
EMAIL: KFORDYCE@KFARCHITECTURE.COM

MECHANICAL ENGINEER
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

ENVIROMENTAL ENGINEER
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

STRUCTURAL ENGINEER
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

PLANNER
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

CIVIL ENGINEER
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

ELECTRICAL ENGINEER
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

TRAFFIC CONSULTANT
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

NOISE ENGINEER
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

CONSULTANT
COMPANY:
ADDRESS:
POSTAL CODE:
CONTACT NAME:
PHONE #:
EMAIL:

900
LAKESHORE
900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO: 23016

SCALE:

DATE: 09.01.2024

DRAWN BY: FC

DRAWING TITLE

COVER PAGE

DRAWING NO

A000

900 Lakeshore Statistics

Address: 900 Lakeshore Road West, Mississauga, ON
Project No: 23016
Legal Description: Lot 1, Plan C89 and Part Lot 22, Concession 3 SDS
Review: October 7, 2024

1.0 Official Plan & Zoning

Land Use:	Residential Low Density
City of Mississauga Zoning By-Law:	RZ-5
By-Law No:	0225-2007

2.0 Site Statistics

	m	ft	m²	ft²	Hectares	Acres	%
Gross Site Area			4,702.9	50,623	0.47	1.16	
Net Site Area			4,702.9	50,623	0.47	1.16	
Lot Frontage	123.0	404					
Lot Depth	94.8	219					
Existing GFA			349.66	2,753			

3.0 Building proposal

Building Footprint		2,393.0 m²
Building Height*		92.2 m
Storey		10
Gross Floor Area	*(Based on GFA - Apartment Zone)*	17,098.0 m²
Lot Coverage (%)	*(Based on Gross Site Area)*	51%
Lot Coverage (%)	*(Based on Net Site Area)*	51%
FSI	*(GFA / Gross Site Area)*	**3.64**
FSI	*(GFA / Net Site Area)*	**3.64**

*Mech. Pent. Excluded

3.1 Setbacks

		Required (0225-2007)	Proposed	
Front Yard (m)	(North)	9.0m	0.5m	(0.93m on GF)
Rear Yard (m)	(South)	n/a	n/a	
Side Yard (m)	(East)	7.5m	4m	
Side Yard (m)	(West)	7.5m	5.6m	

4.0 Proposed Areas

	Floor	GCA** * (m²)	GCA *** (ft²)	GFA* (m²)	GFA * (ft²)	GFA * exclusions
	P3 Level	2,396.0	25,790			
	P2 Level	2,396.0	25,790			
	P1 Level	2,396.0	25,790			
	Ground Floor	1,402.0	15,091	512.0	5,511	890
	2nd Floor	2,383.0	25,650	2,157.0	23,218	226
	3rd Floor	2,356.0	25,467	2,220.0	23,896	146
	4th Floor	2,163.0	23,282	2,028.0	21,829	135
	5th Floor	2,141.0	23,046	2,006.0	21,592	135
	6th Floor	2,094.0	22,540	1,959.0	21,086	135
	7th Floor	1,659.0	17,857	1,554.0	16,727	105
	8th Floor	1,659.0	17,857	1,554.0	16,727	105
	9th Floor	1,659.0	17,857	1,554.0	16,727	105
	10th Floor	1,659.0	17,857	1,554.0	16,727	105
	Mech. P.H	474.0	5,102			
Total Proposed GFA*		**19,659.0**	**211,607.2**	**17,098.0**	**184,041**	

Total GCA excluded parking garage levels

***Gross Floor Area (GFA)** - Apartment Zone means the sum of the areas of each storey of a building above or below established grade, measured from the exterior of outside walls of the building including floor area occupied by interior walls but excluding any part of the building used for mechanical floor area, stairwells, elevators, motor vehicle parking, bicycle parking, storage lockers, below-grade storage, any enclosed area used for the collection or storage of disposable or recyclable waste generated within the building, common facilities for the use of the residents of the building, a day care and amenity area.

****Gross Construction Area (GCA)** - The total enclosed area of a floor or building measured to the outside surface of the permanent exterior walls of the building or structure or to a predetermined surface, or plane as in the case of overhangs and projections to the outside surface of the building.

5.0 Unit Count

	Units	Townhouse	1 Bed	2 Bed	3 Bed
Ground Floor	7	7	0	0	0
2nd Floor	18		15	0	3
3rd Floor	25		19	2	4
4th Floor	25		20	1	4
5th Floor	25		21	2	2
6th Floor	24		20	2	2
7th Floor	16		8	7	1
8th Floor	16		8	7	1
9th Floor	16		8	7	1
10th Floor	16		8	7	1
Total Units	**188**	**7**	**127**	**35**	**19**
		3.7%	67.6%	18.6%	10.1%

6.0 Vehicular Parking

6.1 Parking Required

	Units	Parking	Ratio
Residential	169	251	*1.10*
Visitors	188	39	*0.20*
Total Parking Required		**244**	

6.2 Parking Provided

	At Grade	P1 Level	P2 Level	P3 Level	Sub Total	Ratio
Residential (20% EVSE)	0	29	67	69	165	*0.88*
- Barrier Free Parking	0	2	0	0	2	*0.01*
Visitors (20% EVSE)	3	35	0	0	38	*0.20*
Total Parking Provided	**3**	**66**	**67**	**69**	**205**	*1.09*

7.0 Bicycle Parking

7.1 Bicycle Parking Required

	Ratio			
Short Term Residential	*0.05*	*x unit*	9	
Long Term Residential	*0.6*	*x unit*	113	
			Total:	**122**

7.2 Bicycle Parking Provided

	At Grade	P1	P2	P3	TOTAL
Short Term Residential	10	0	0	0	10
Long Term Residential (20% EVSE)	100	12	0	0	112
Total Bicycle Parking Provided	**110**	**12**	**0**	**0**	**122**

8.0 Proposed Landscaped Areas

	Total (m²)	Total (ft²)
Soft Landscaping	1,600	16,764
Hard Landscaping	1,747	18,805
Green Roof	600	6,458
Total Landscape	**3,347**	**36,027**

9.0 Amenity Area

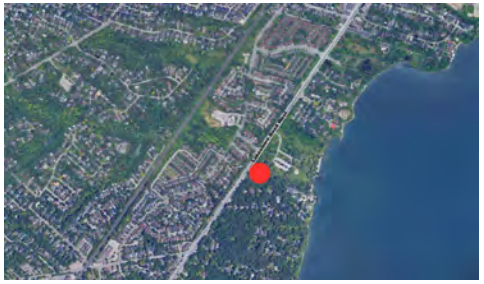
9.1 Amenity Area Required

5.6 m² per unit	(Based on Apartment Zone)	1052.8 m²
Total		**1052.8 m²**

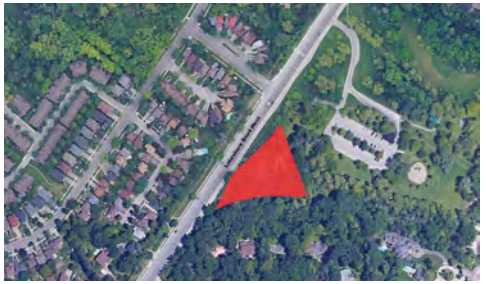
9.2 Amenity Area Provided

Proposed Amenity Rate 6.79 m² per unit

	Indoor (m²)	Outdoor (m²)	Total (m²)	Total (ft²)
Ground Floor	429	55	483.0	5,199
Mech PH Floor	216	578	794.0	8,547
Total	**644**	**633**	**1277.0**	**13,746**



1. Aerial View Context



2. Aerial View Context

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO: 23016

SCALE:

DATE: 09.01.2024

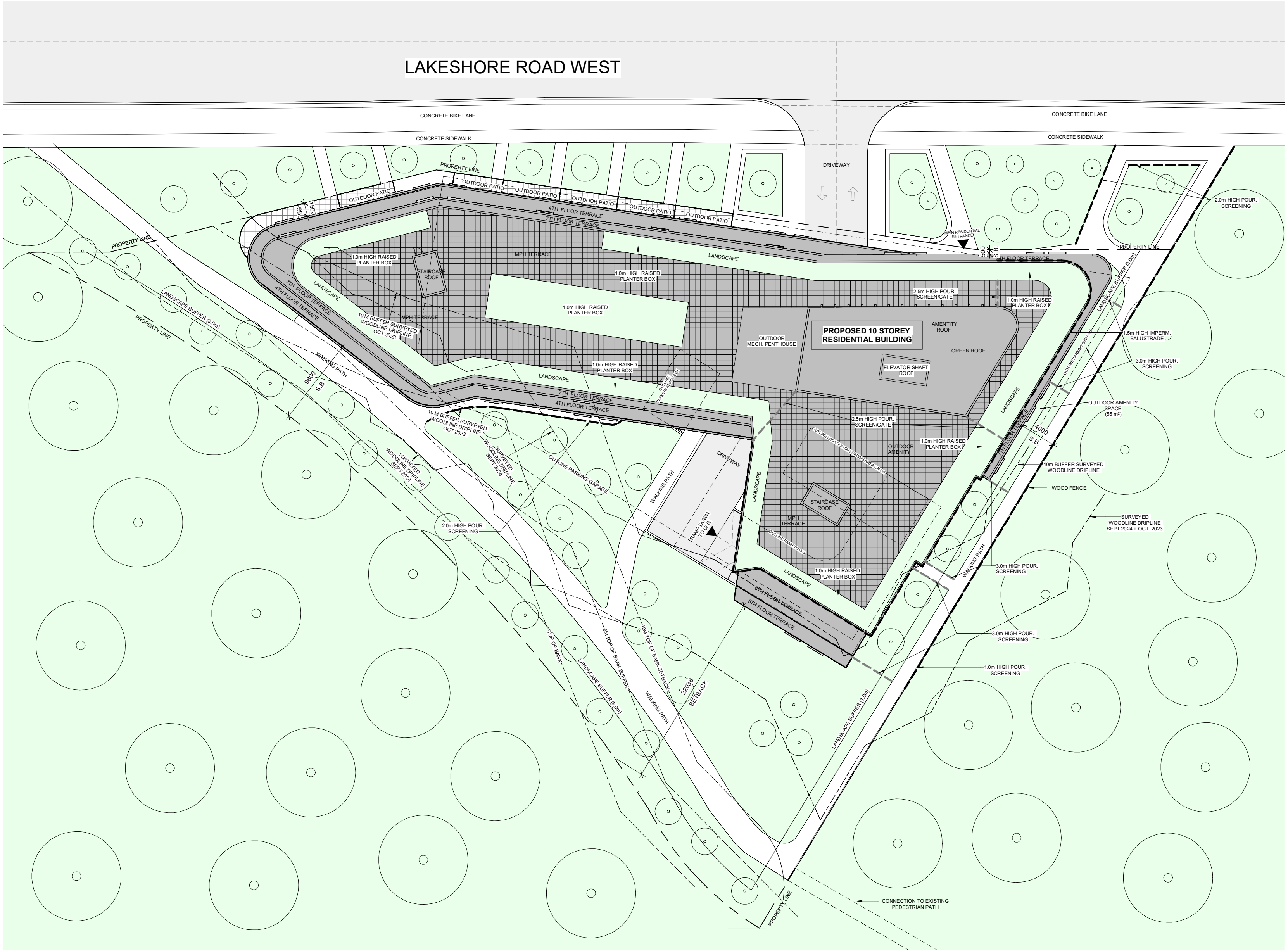
DRAWN BY: FC

DRAWING TITLE

SITE STATISTICS & CONTEXT

DRAWING NO

A001



1 Site Plan
1 : 200

900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

N

STAMP

CLIENT

KFA architects + planners inc.

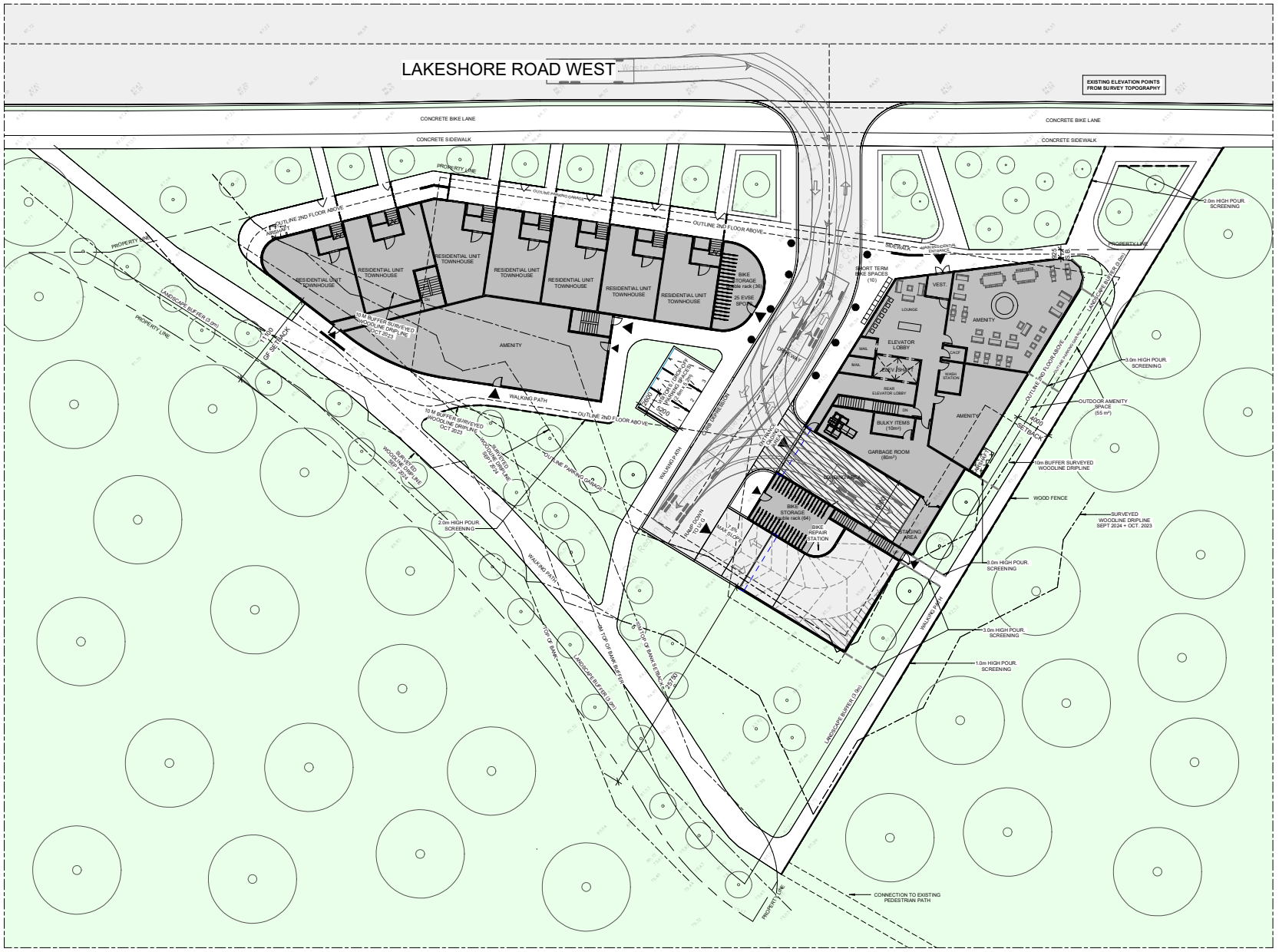
PROJECT NO:	23016
SCALE:	1 : 200
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SITE PLAN

DRAWING NO

A002



1 Site Plan GF
1 : 200

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

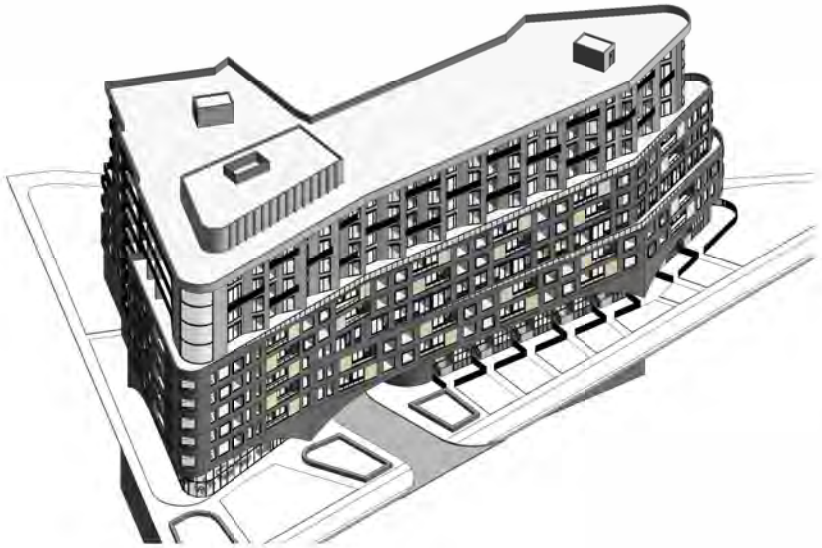
PROJECT NO:	23016
SCALE:	1 : 200
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SITE PLAN (GF)

DRAWING NO

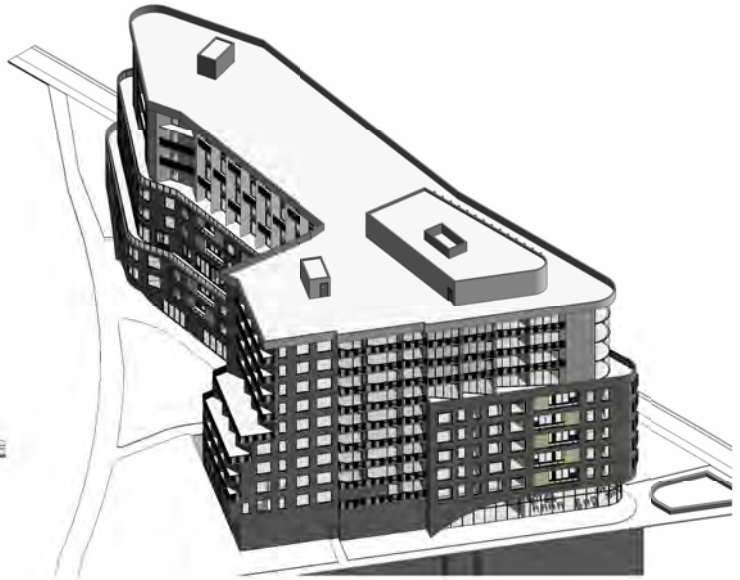
A003



1 NORTH EAST

2 SOUTH WEST

3 NORTH WEST



4 SOUTH EAST

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

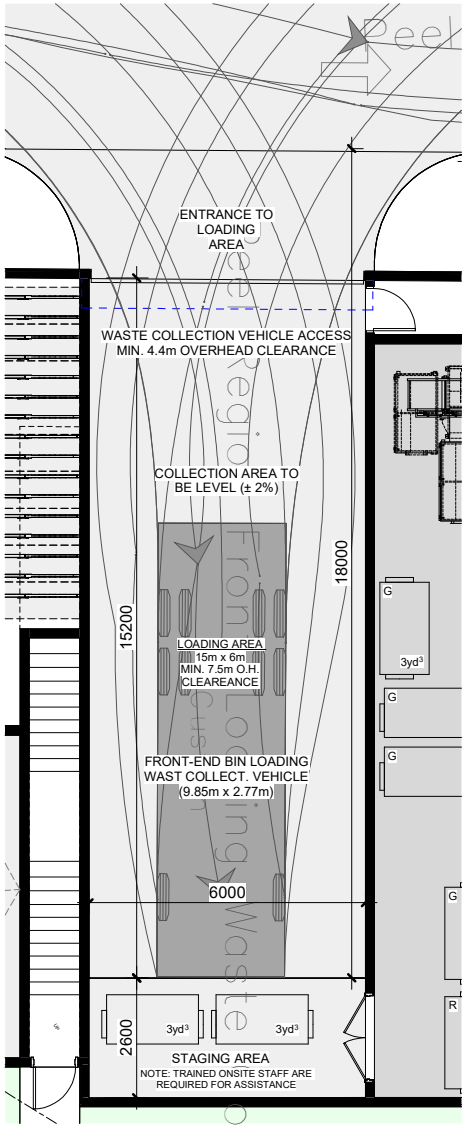
PROJECT NO:	23016
SCALE:	
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

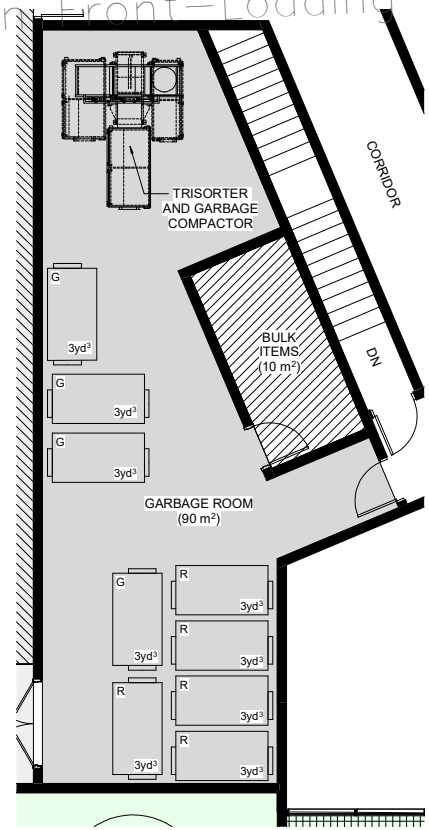
3D VIEWS

DRAWING NO

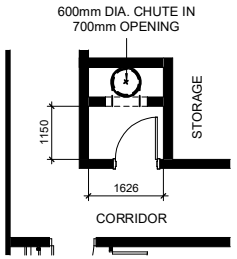
A004



1 LOADING AREA PLAN
1 : 50



2 GARBAGE ROOM PLAN
1 : 50



3 TYP. GARBAGE CHUTE PLAN
1 : 50

WASTE COLLECTION NOTES:

1. INTERNAL ROADWAYS MUST BE CONSTRUCTED OF A HARD SURFACE MATERIAL SUCH AS ASPHALT, CONCRETE, OR LOCKSTONE AND DESIGNED TO SUPPORT A MINIMUM OF 35 TONNES, THE WEIGHT OF A FULLY LOADED WASTE COLLECTION VEHICLE. A LETTER CERTIFIED BY A PROFESSIONAL ENGINEER THAT THE STRUCTURE CAN SAFELY SUPPORT FULLY LOADED WASTE COLLECTION VEHICLE WEIGHING 35 TONNES WILL BE PROVIDED.

2. THE MAXIMUM GRADE PERMITTED ALONG THE WASTE COLLECTION VEHICLE ACCESS ROUTE IS 8 PERCENT.

3. AN UNOBSTRUCTED DISTANCE OF 18 METRES IS PROVIDED TO ENABLE THE WASTE COLLECTION VEHICLE TO WHOLLY ENTER THE COLLECTION POINT. THE APPROACH AND COLLECTION POINT IS TO BE LEVEL (+/-2%) AND THE SAME WIDTH AS THE COLLECTION AREA. THE OVERHEAD CLEARANCE OF THE COLLECTION AREA IS 7.5 METRES AND OUTSIDE OF THE COLLECTION AREA IS 4.4 METRES, FREE FROM OBSTRUCTIONS SUCH AS SPRINKLER SYSTEMS, DUCTS, BALCONIES, WIRES, AND TREES.

4. MAXIMUM WALKING DISTANCE FOR OWNERS OF RESIDENTIAL UNITS TO WASTE CHUTES IS LESS THAN 100 METERS

GARBAGE BINS REQUIREMENTS:

NUMBERS OF UNITS: 188

3 CU/YD BINS FOR COMPACTED GARBAGE 1 BIN / 54 UNITS
TOTAL BINS REQUIRED: 4

3 CU/YD BINS FOR RECYCLING 1 BIN / 45 UNITS
TOTAL BINS REQUIRED: 5

900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	As indicated
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

WASTE MANAGEMENT PLAN

DRAWING NO

A005

1 P3 Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	As indicated
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

P3 PLAN

DRAWING NO

A102

1 P2 Level
1 : 150

900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	As indicated
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

P2 PLAN

DRAWING NO

A103

1 P1 Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

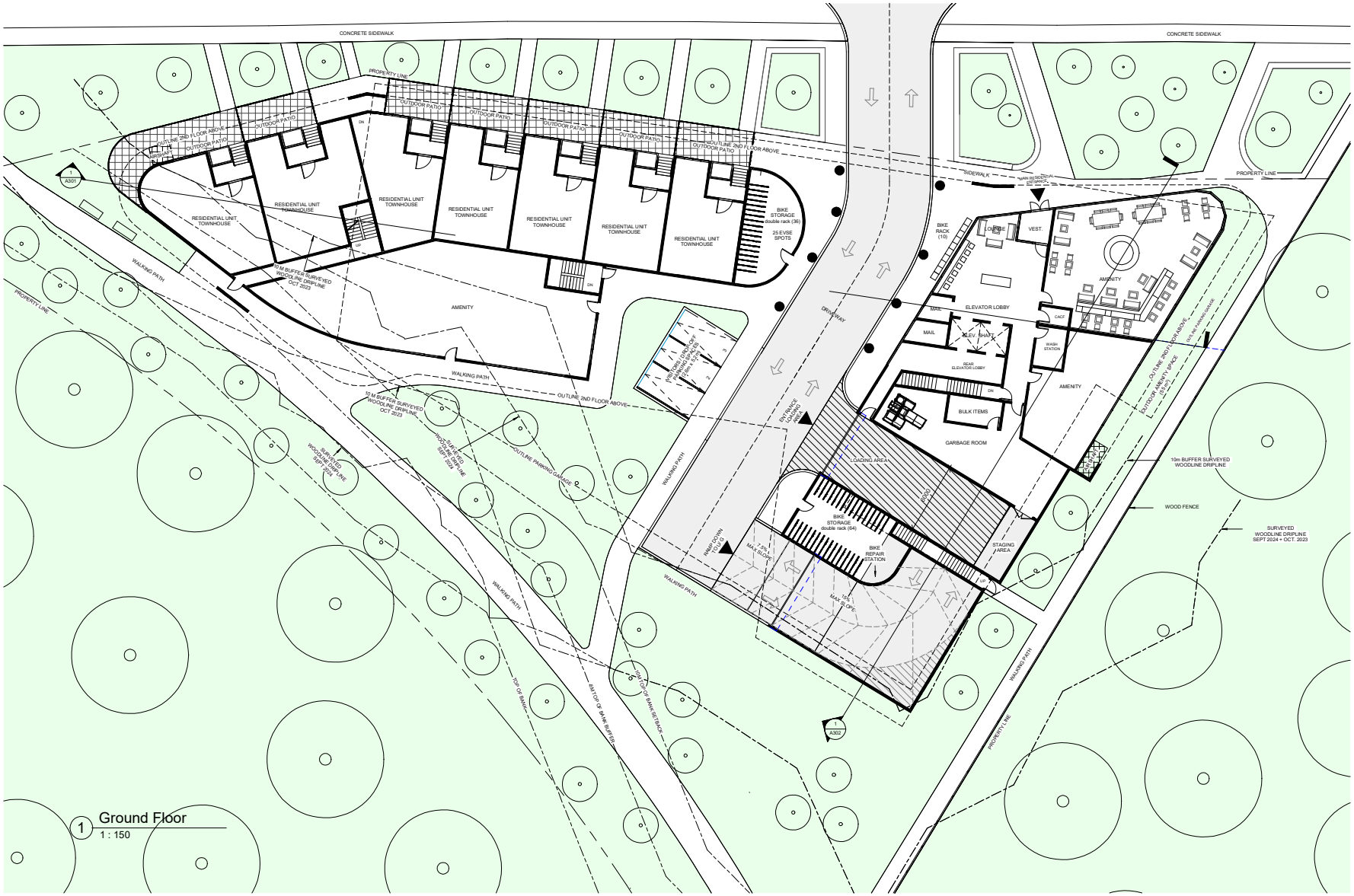
PROJECT NO:	23016
SCALE:	As indicated
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

P1 PLAN

DRAWING NO

A104



1 Ground Floor
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

NO.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

GROUND FLOOR PLAN

DRAWING NO

A105

1 2nd Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

2ND FLOOR PLAN

DRAWING NO

A106

1 3rd Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

3RD FLOOR PLAN

DRAWING NO

A107

1 4th Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

4TH FLOOR PLAN

DRAWING NO

A108

1 5th Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

5TH FLOOR PLAN

DRAWING NO

A109

1 6th Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

6TH FLOOR PLAN

DRAWING NO

A110

1 7th Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

7TH FLOOR PLAN

DRAWING NO

A111

1 8th Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

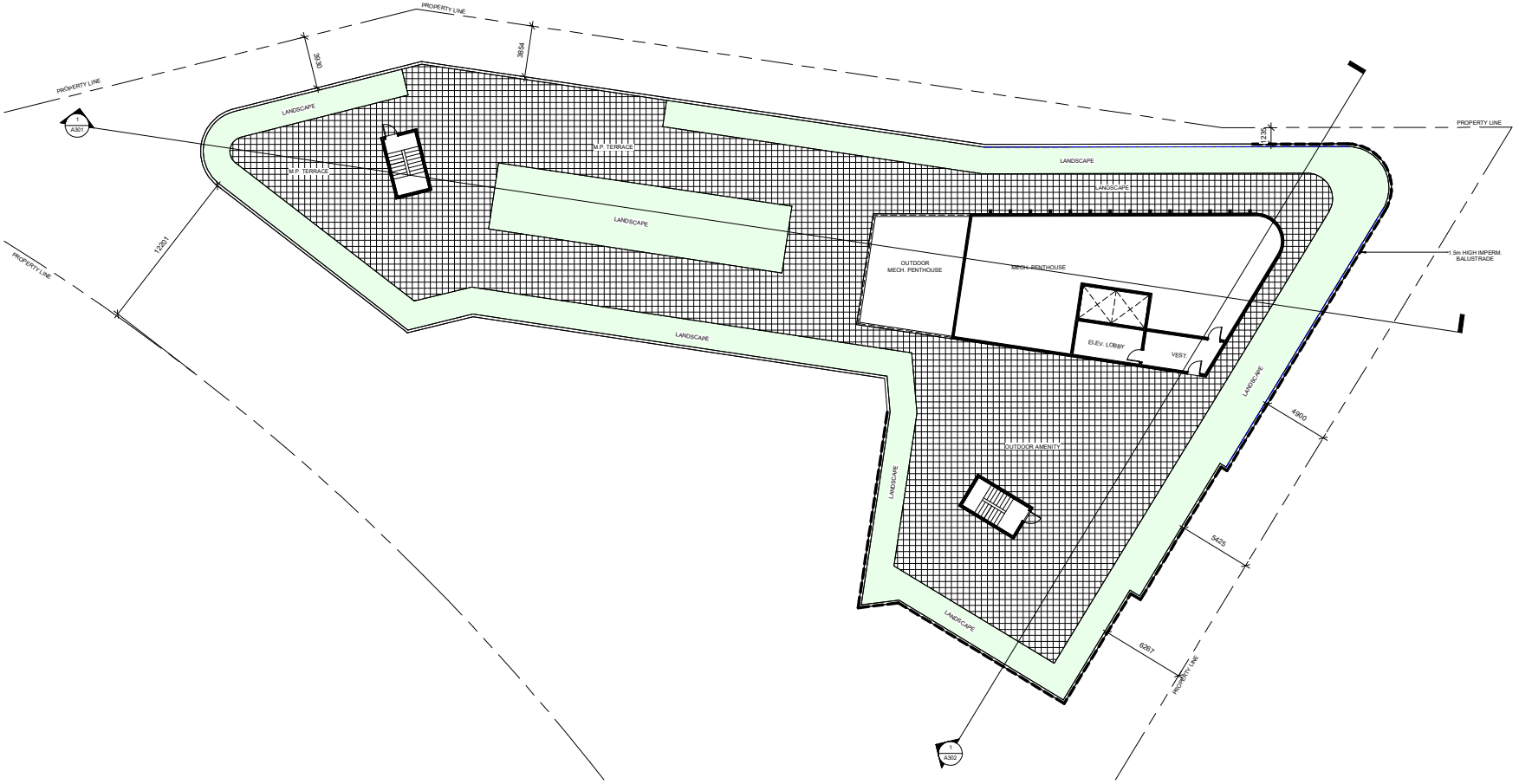
PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

8TH TO 10TH
FLOOR PLAN

DRAWING NO

A112



1 M.P Level
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

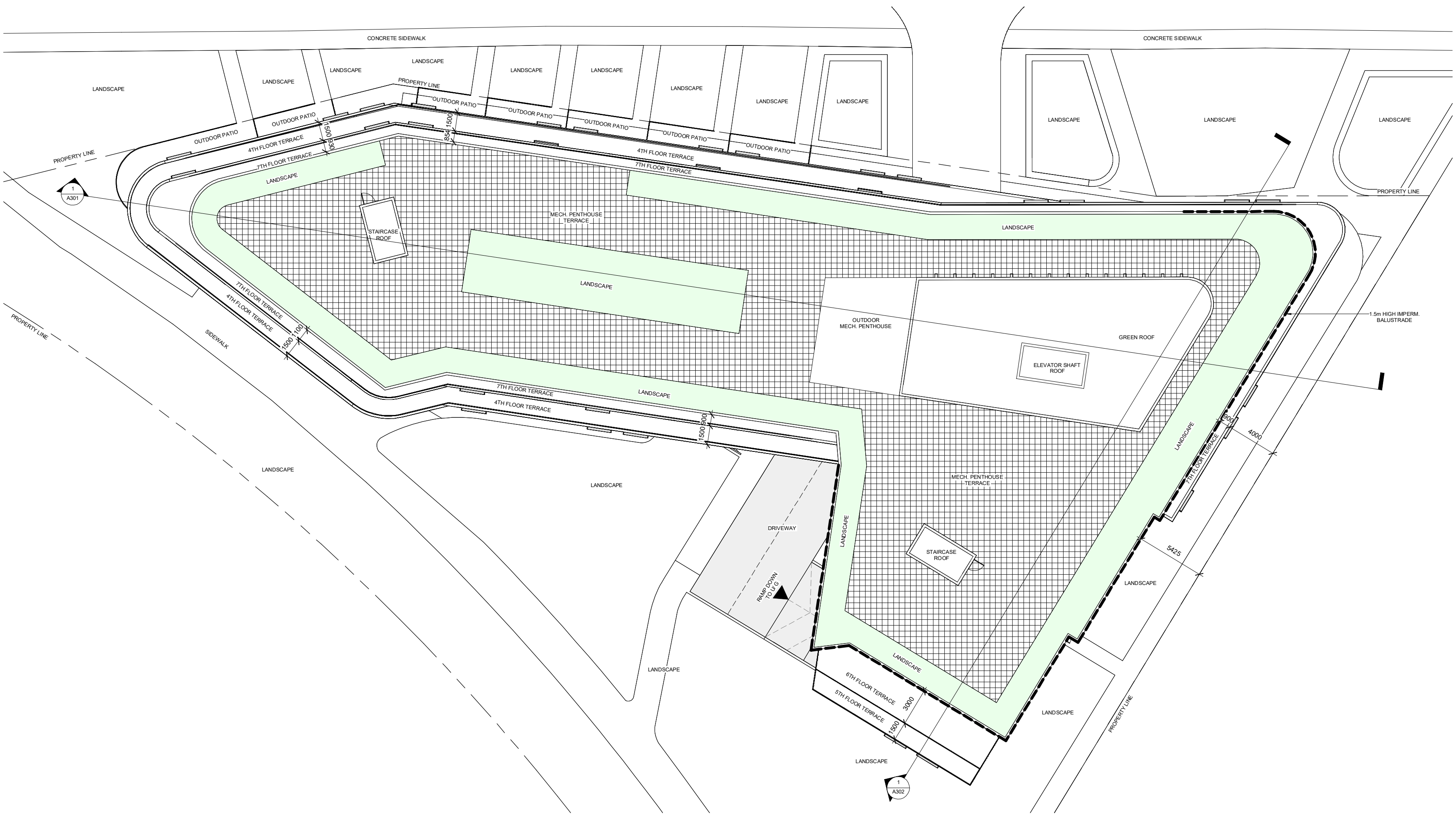
PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

MECHANICAL
PENTHOUSE PLAN

DRAWING NO

A113



1 M.P Roof
1 : 150

900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

ROOF PLAN

DRAWING NO

A114

1 North Elevation
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

NORTH ELEVATION

DRAWING NO

A201

1 South Elevation
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SOUTH ELEVATION

DRAWING NO

A202

1 East Elevation
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

EAST ELEVATION

DRAWING NO

A203

1 West Elevation
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

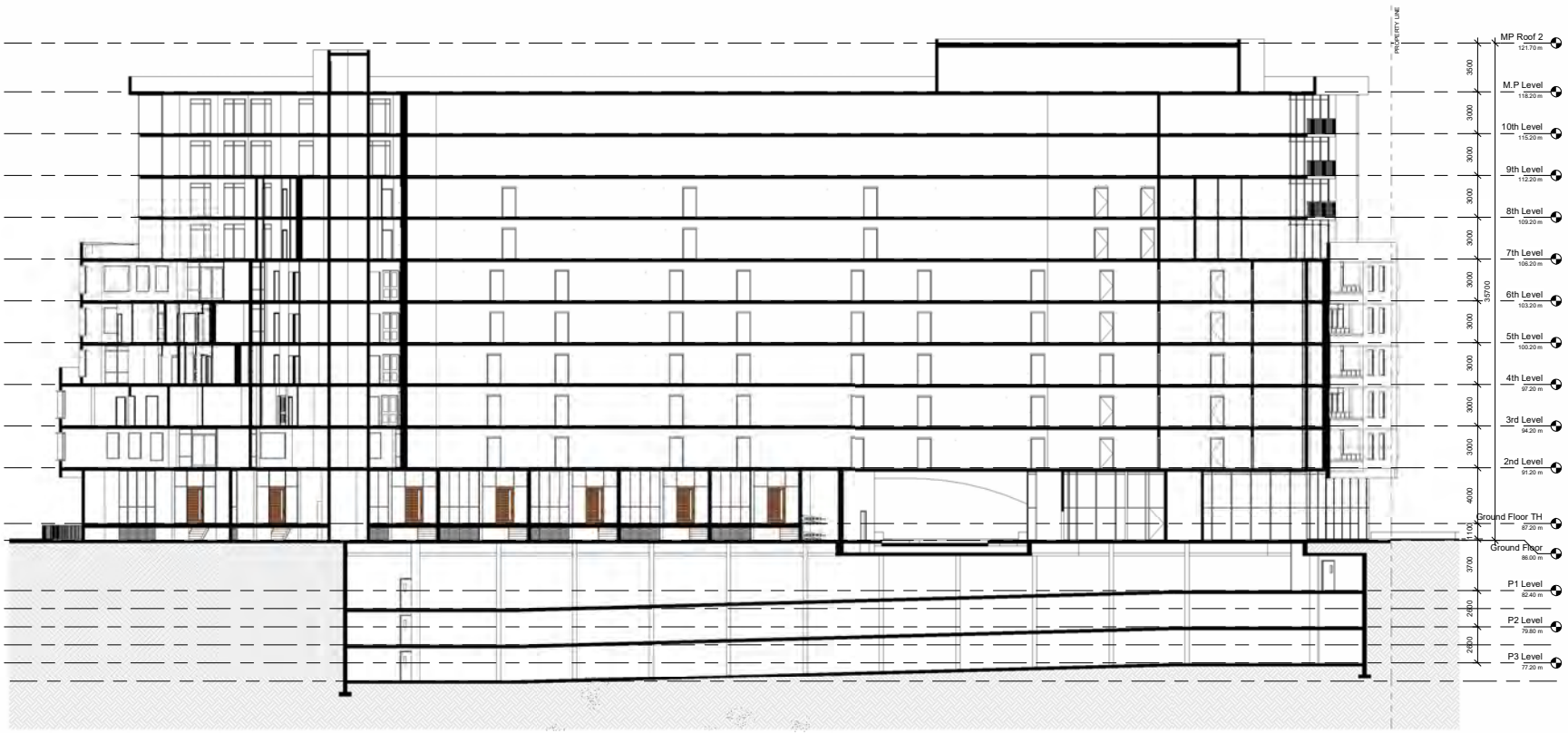
PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

WEST ELEVATION

DRAWING NO

A204



1 SECTION AA
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

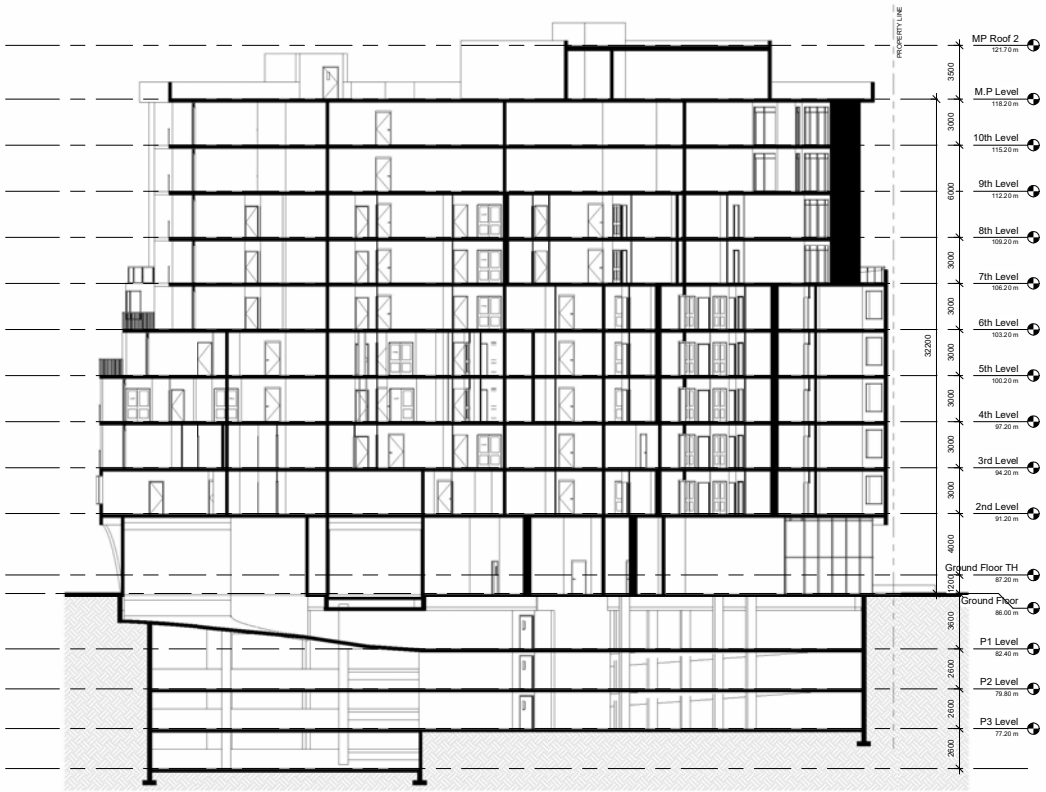
PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SECTION AA

DRAWING NO

A301



1 SECTION BB
1 : 150

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

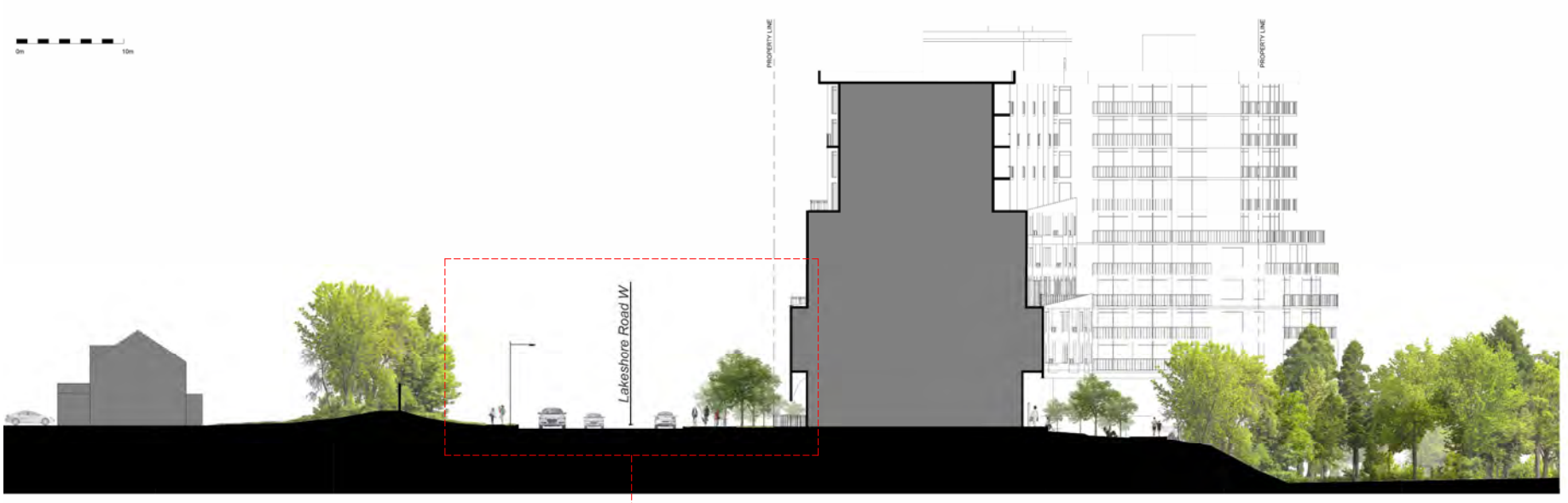
PROJECT NO:	23016
SCALE:	1 : 150
DATE:	09.01.2024
DRAWN BY:	FC

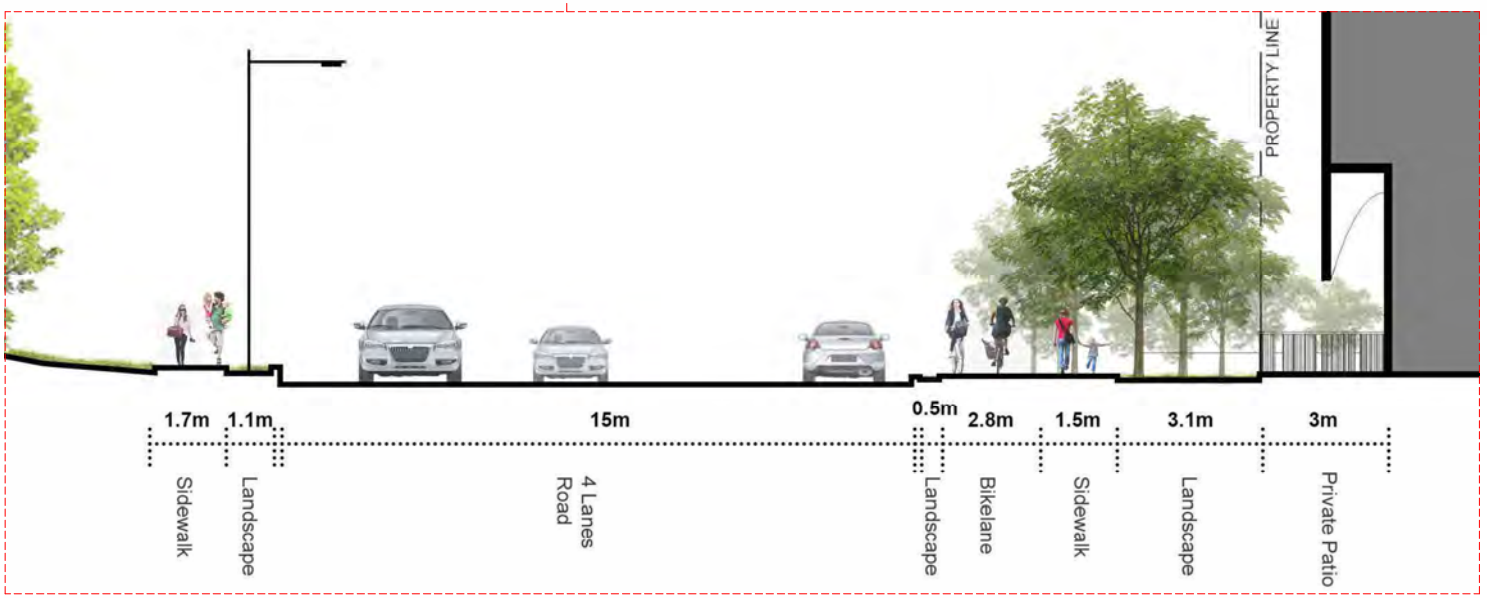
DRAWING TITLE

SECTION BB

DRAWING NO

A302





900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

KFA architects + planners inc.

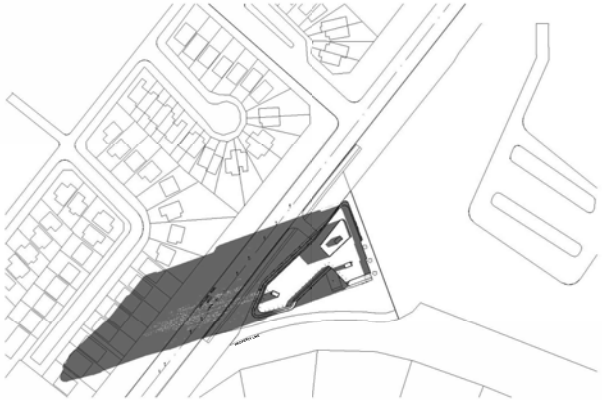
PROJECT NO:	23016
SCALE:	
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

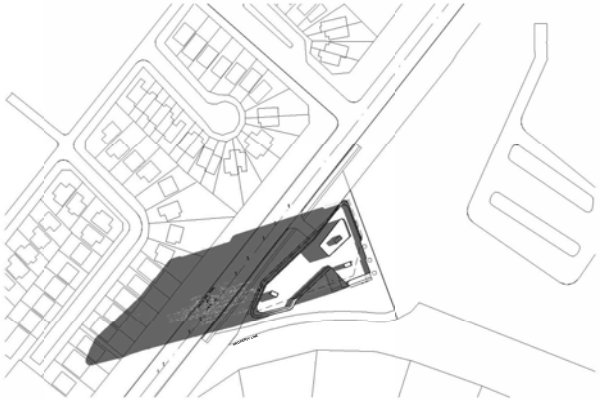
SITE & ROAD SECTION

DRAWING NO

A303



1 June 21st 7.07 am
1 : 1500



2 June 21st 7.20 am
1 : 1500

3 June 21st 8.20 am
1 : 1500

4 June 21st 9.20 am
1 : 1500

5 June 21st 10.20 am
1 : 1500

6 June 21st 11.20 am
1 : 1500

7 June 21st 12.20 pm
1 : 1500

8 June 21st 1.20 pm
1 : 1500

9 June 21st 2.20 pm
1 : 1500

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

NO.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

TRUE NORTH

STAMP

SCALE BAR

KFA architects + planners inc.

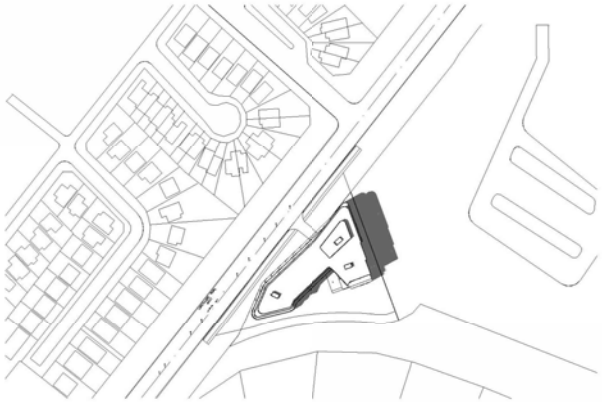
PROJECT NO:	23016
SCALE:	1 : 1500
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SUN/SHADOW
STUDY JUNE 21ST

DRAWING NO

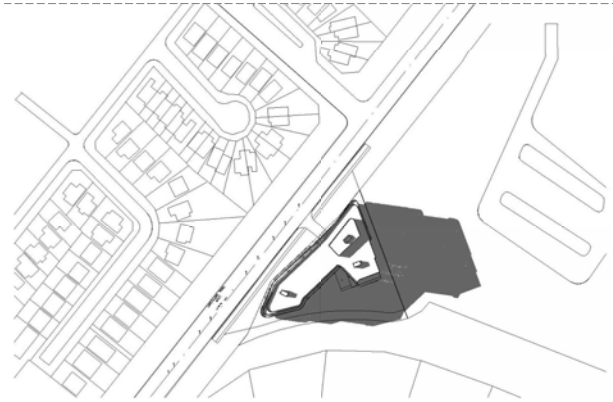
A901



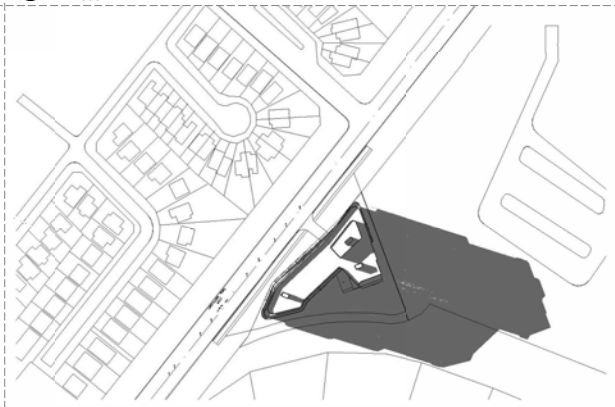
1 June 21st 3.20 pm
1 : 1500

2 June 21st 4.20 pm
1 : 1500

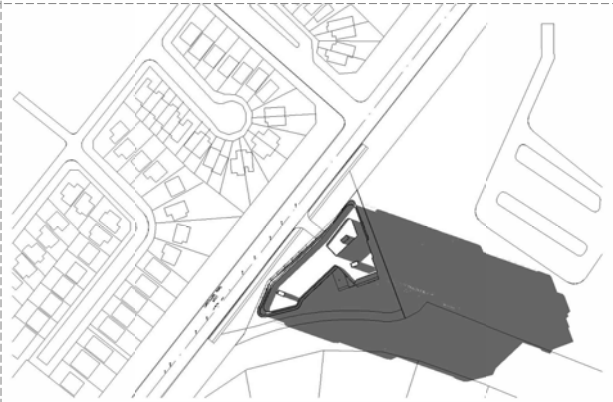
3 June 21st 5.20 pm
1 : 1500



4 June 21st 6.20 pm
1 : 1500



5 June 21st 7.20 pm
1 : 1500



6 June 21st 7.33 pm
1 : 1500

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

SCALE BAR

0m 15m 45m 75m

KFA architects + planners inc.

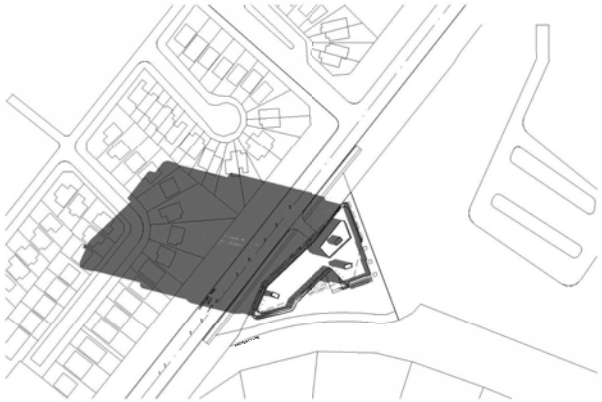
PROJECT NO:	23016
SCALE:	1 : 1500
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SUN/SHADOW
STUDY JUNE 21ST

DRAWING NO

A901.2



1 September 21st 8.35 am
1 : 1500

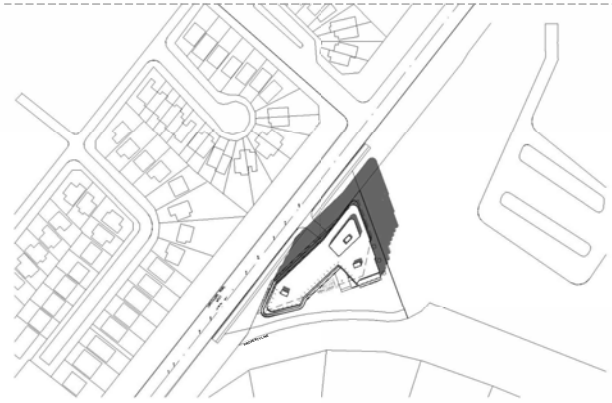
2 September 21st 9.12 am
1 : 1500

3 September 21st 10.12 am
1 : 1500

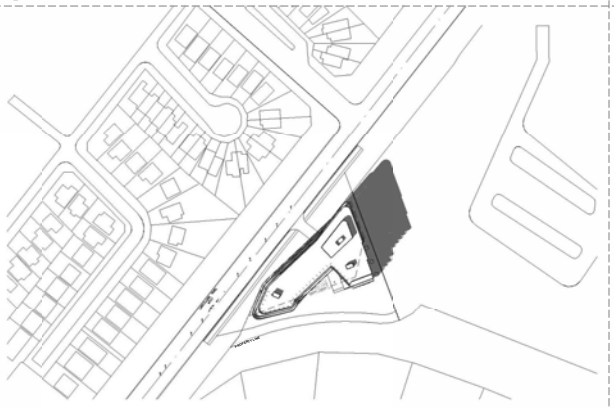
4 September 21st 11.12 am
1 : 1500

5 September 21st 12.12 pm
1 : 1500

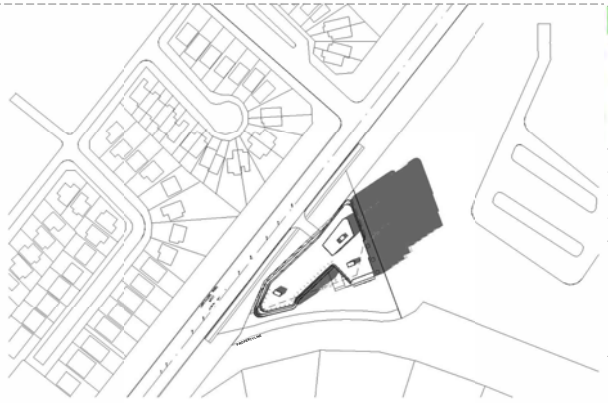
6 September 21st 1.12 pm
1 : 1500



7 September 21st 2.12 pm
1 : 1500



8 September 21st 3.12 pm
1 : 1500



9 September 21st 4.12 pm
1 : 1500

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

TRUE NORTH

STAMP

SCALE BAR

KFA architects + planners inc.

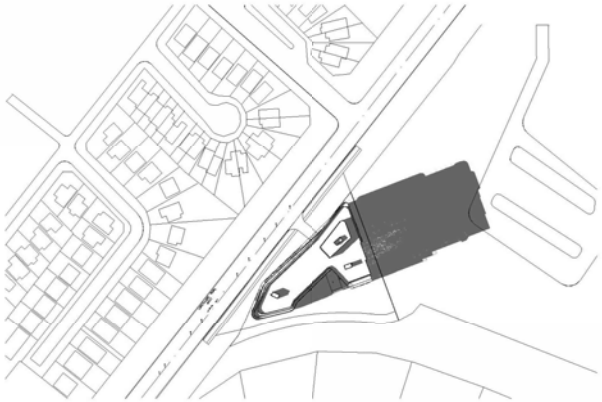
PROJECT NO:	23016
SCALE:	1 : 1500
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

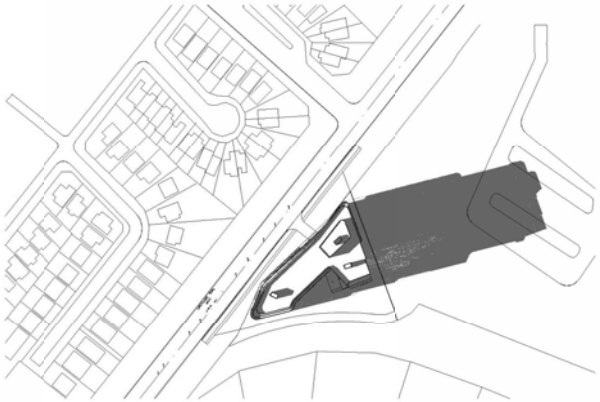
SUN/SHADOW STUDY SEPTEMBER 21ST

DRAWING NO

A902



1 September 21st 5.12 pm
1 : 1500



2 September 21st 5.48 pm
1 : 1500

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

SCALE BAR

0m 15m 45m 75m

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 1500
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SUN/SHADOW STUDY SEPTEMBER 21ST

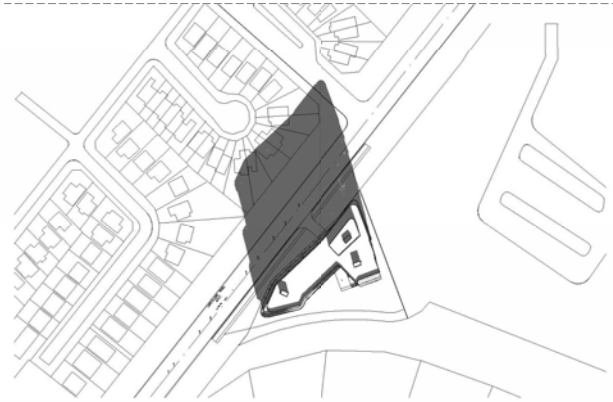
DRAWING NO

A902.2

1 December 21st 9.19 am
1 : 1500

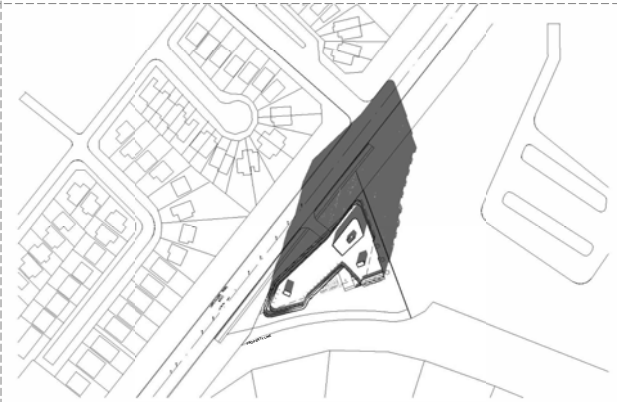
2 December 21st 10.17 am
1 : 1500

3 December 21st 11.17 am
1 : 1500

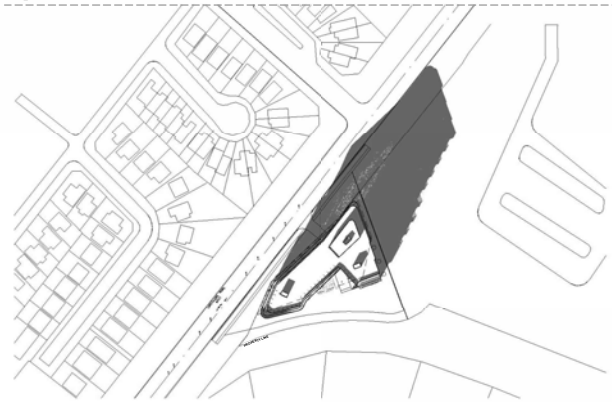


4 December 21st 12.17 pm
1 : 1500

5 December 21st 1.17 pm
1 : 1500



6 December 21st 2.17 pm
1 : 1500



7 December 21st 3.15 pm
1 : 1500

900
LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON

No.	Description	Date
1	Issued for MUDAP	29.01.2024
8	Issued for DARC-2	03.10.2024

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

SCALE BAR

KFA architects + planners inc.

PROJECT NO:	23016
SCALE:	1 : 1500
DATE:	09.01.2024
DRAWN BY:	FC

DRAWING TITLE

SUN/SHADOW STUDY DECEMBER 21ST

DRAWING NO

A903

Appendix B

Road Traffic Data

NOISE REPORT FOR PROPOSED DEVELOPMENT

Date:	06-Dec-23

REQUESTED BY:

Name:	Andrew Rogers
Company:	HGC Engineering

PREPARED BY:

Nam	Naveda Dukhan
Tel#:	905-615-3200 ext.8948

MISSISSAUGA

Location:	Lakeshore Rd W from Lorne Park Rd to Shawnmarr Rd
ID	608

ON SITE TRAFFIC DATA

Specific	Street Names				
[redacted]	Lakeshore Rd W				
AADT:	37700				
# of Lanes:	4				
% Trucks:	4				
Medium/Heavy Trucks Ratio:	55/45				
Day/Night Split:	90/10				
Posted Speed Limit:	50km/hr				
Gradient Of Road:	2%				
Ultimate R.O.W:	35m				

Comments:	Ultimate Traffic Only (2041)

Appendix C

Rail Traffic Data

System Engineering
Engineering Services

1 Administration Road
Concord, ON, L4K 1B9
T: 905.669.3264
F: 905.760.3406

Train Count Data

TRANSMITTAL

To: *Destinataire :*	HGC Engineering 2000 Argentia Road, Plaza One, Suite 203, Mississauga, Ontario, Canada L5N 1P7	*Project :*	OAK-13.36- 900 Lakeshore West, Oakville Sub ON
Att'n:	Andrew Rogers	*Routing:*	arogers@hgcengineering.com
From: *Expéditeur :*	Sarangan Srikanth	*Date:*	2024/04/24
Cc:	Adjacent Development CN via e-mail		

☐ Urgent ☐ For Your Use ☐ For Review ☒ For Your Information ☐ Confidential

Re: Train Traffic Data – CN Oakville Subdivision near 900 Lakeshore West, Mississauga ON

Please find attached the requested Train Traffic Data; this data does not reflect GO Metrolinx Traffic. The application fee in the amount of **$500.00** +HST will be invoiced.

Should you have any questions, please do not hesitate to contact the undersigned at permits.gld@cn.ca.

Sincerely,

Sarangan Srikanth

Sarangan Srikanth
Officer Public Works - Eastern Canada
sarangan.srikanth@cn.ca

Date: 2024/04/24 Project Number: OAK-13.36- 900 Lakeshore West, Oakville Sub ON

Dear Andrew:

Re: Train Traffic Data – CN Oakville Subdivision near 900 Lakeshore West, Mississauga ON

The following is provided in response to Andrew's 2024/04/15 request for information regarding rail traffic in the vicinity of 900 Lakeshore Road West in Mississauga, ON at approximately Mile 13.36 on CN's Oakville Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

***Maximum train speed is given in Miles per Hour**

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	60	4
Way Freight	0	25	60	4
Passenger	14	10	95	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	60	4
Way Freight	5	25	60	4
Passenger	0	10	95	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Oakville Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There is one (1) at-grade crossing in the immediate vicinity of the study area at Mile 13.11 Stavebank Road. Anti-whistling bylaws are in effect at Mile 13.11 Stavebank Rd. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The triple mainline track is considered to be continuously welded rail throughout the study area.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Adjacent Development, Canadian National Railway Properties at Proximity@cn.ca should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,

Sarangan Srikanth

Sarangan Srikanth
Officer Public Works - Eastern Canada
sarangan.srikanth@cn.ca

Andrew Rogers

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: December 18, 2023 2:01 PM
To: Andrew Rogers
Subject: RE: Rail Traffic Data Request - 900 Lakeshore Road West, Mississauga

Good afternoon Andrew,

Apologies for the delay, we recently updated/formalized some of the language in our rail data responses which is the cause for delay to your original request.

Further to your request dated December 4th, 2023 the subject lands (900 Lakeshore Road West, Mississauga) are located outside of 300 metres of the Metrolinx Oakville Subdivision (which carries Lakeshore West GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel and electric trains. The GO rail fleet combination on this Subdivision will consist of up to 1 locomotive and 5 passenger cars. The typical GO rail weekday train volume forecast near the subject lands, including both revenue and equipment trips is in the order of 408 trains. * The following Rail-Data is forecast to 2032. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive	1 Electric Locomotive		1 Diesel Locomotive	1 Electric Locomotive
Day (0700-2300)	132	222	Night (2300-0700)	20	34

The current track design speed near the subject lands is 95 mph (153 km/h).

There are *anti-whistling by-laws* in affect at Lorne Park Rd at-grade crossing.

With respect to future electrified rail service, Metrolinx is committed to finding the most sustainable solution for electrifying the GO rail network and we are currently working towards the next phase.

Options have been studied as part of the Transit Project Assessment Process (TPAP) for the GO Expansion program, currently in the Development Phase. ONxpress will be responsible for selecting and delivering the right trains and infrastructure to unlock the benefits of GO Expansion. Construction to support GO Expansion is currently underway.

However, we can advise that train noise is dominated by the powertrain at lower speeds and by the wheel- track interaction at higher speeds. Hence, the noise level and spectrum of electric trains is expected to be very similar at higher speeds, if not identical, to those of equivalent diesel trains.

Given the above considerations, it would be prudent at this time, for the purposes of acoustical analyses for development in proximity to Metrolinx corridors, to assume that the acoustical characteristics of electrified and diesel trains are equivalent. In light of the aforementioned information, acoustical models should employ diesel train parameters as the basis for analyses. We anticipate that additional information regarding specific operational parameters for electrified trains will become available in the future once the proponent team is selected.

Operational information is subject to change and may be influenced by, among other factors, service planning priorities, operational considerations, funding availability and passenger demand.

It should be noted that this information only pertains to Metrolinx rail service. It would be prudent to contact other rail operators in the area directly for rail traffic information pertaining to non-Metrolinx rail service.

I trust this information is useful. Should you have any questions or concerns, please do not hesitate to contact me.

*At this time we do not expect the frequency of trains to increase beyond 2032. It is expected that the number of passenger cars may increase during peak periods to increase capacity as required. Exact numbers are unknown at this time.

Best Regards,
Farah Faroque (she/her)
Project Analyst, Third Party Projects Review
Real Estate & Development
Metrolinx
10 Bay Street | Toronto | Ontario | M5J 2N8
T: 437.900.2291

METROLINX

From: Andrew Rogers <arogers@hgcengineering.com>
Sent: December 18, 2023 1:00 PM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Subject: RE: Rail Traffic Data Request - 900 Lakeshore Road West, Mississauga

Hello,

I am checking on the status of this traffic data request. Please let me know when the data will be available.

Thank you,
Andrew Rogers
Project Consultant

HGC Engineering **NOISE | VIBRATION | ACOUSTICS**
Howe Gastmeier Chapnik Limited
2000 Argentia Road, Plaza One, Suite 203, Mississauga, Ontario, Canada L5N 1P7
t: 905.826.4044 x277 **e**: arogers@hgcengineering.com
Visit our website: www.hgcengineering.com **Follow Us** – LinkedIn | Twitter | YouTube

---

From: Andrew Rogers
Sent: Monday, December 4, 2023 3:01 PM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Subject: Rail Traffic Data Request - 900 Lakeshore Road West, Mississauga

Hello,

HGC Engineering is conducting a noise study for a proposed development located at 900 Lakeshore Road West in Mississauga located here:

https://maps.app.goo.gl/Lhgm8aKLhJwYcF9h6

Can you please provide the most current traffic volume forecast for this location?

Thank you,
Andrew Rogers
Project Consultant

HGC Engineering **NOISE | VIBRATION | ACOUSTICS**
Howe Gastmeier Chapnik Limited
2000 Argentia Road, Plaza One, Suite 203, Mississauga, Ontario, Canada L5N 1P7
t: 905.826.4044 x277 **e**: arogers@hgcengineering.com
Visit our website: www.hgcengineering.com **Follow Us** – LinkedIn | Twitter | YouTube

Appendix D

Stamson Output

```
STAMSON 5.0        NORMAL REPORT        Date: 30-07-2024 17:19:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: n.te                 Time Period: Day/Night 16/8 hours
Description: North facade, Prediction Location [A].


Rail data, segment # 1: CN Oakville (day/night)
-----------------------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
  1. Passenger   !  17.9/0.0   ! 150.0 !  2.0 ! 10.0 !Diesel! Yes
  2. GO          ! 354.0/54.0  ! 150.0 !  1.0 !  5.0 !Diesel! Yes
  3. Way Freight !   0.0/6.4   !  97.0 !  4.0 ! 25.0 !Diesel! Yes

Data for Segment # 1: CN Oakville (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  : 413.00 / 413.00 m
Receiver height           :  30.70 / 30.70  m
Topography                :      1       (Flat/gentle slope; no barrier)
No Whistle
Reference angle           :   0.00

Results segment # 1: CN Oakville (day)
--------------------------------------

LOCOMOTIVE (0.00 + 67.60 + 0.00) = 67.60 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90     90   0.00  82.00 -14.40   0.00   0.00   0.00   0.00  67.60
-------------------------------------------------------------------------

WHEEL (0.00 + 58.32 + 0.00) = 58.32 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90     90   0.00  72.72 -14.40   0.00   0.00   0.00   0.00  58.32
-------------------------------------------------------------------------

Segment Leq : 68.08 dBA

Total Leq All Segments: 68.08 dBA

Results segment # 1: CN Oakville (night)
----------------------------------------

LOCOMOTIVE (0.00 + 63.08 + 0.00) = 63.08 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90     90   0.00  77.48 -14.40   0.00   0.00   0.00   0.00  63.08
-------------------------------------------------------------------------

WHEEL (0.00 + 53.85 + 0.00) = 53.85 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90     90   0.00  68.24 -14.40   0.00   0.00   0.00   0.00  53.85
-------------------------------------------------------------------------

Segment Leq : 63.57 dBA

Total Leq All Segments: 63.57 dBA

Road data, segment # 1: Lakeshore (day/night)
---------------------------------------------
Car traffic volume  : 32573/3619  veh/TimePeriod
Medium truck volume :   746/83    veh/TimePeriod
Heavy truck volume  :   611/68    veh/TimePeriod
```

```
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore (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  :  20.00 / 20.00  m
Receiver height           :  30.70 / 30.70  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.16 m

ROAD (0.00 + 68.42 + 0.00) = 68.42 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  69.67   0.00  -1.25   0.00   0.00   0.00   0.00  68.42
-------------------------------------------------------------------------------

Segment Leq : 68.42 dBA

Total Leq All Segments: 68.42 dBA

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

Source height = 1.16 m

ROAD (0.00 + 61.89 + 0.00) = 61.89 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  63.14   0.00  -1.25   0.00   0.00   0.00   0.00  61.89
-------------------------------------------------------------------------------

Segment Leq : 61.89 dBA

Total Leq All Segments: 61.89 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 71.26
                           (NIGHT): 65.82
```

```
STAMSON 5.0        NORMAL REPORT        Date: 30-07-2024 17:24:26
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: se.te                Time Period: Day/Night 16/8 hours
Description: Southeast facade, Prediction Location [B].


Rail data, segment # 1: CN Oakville (day/night)
-----------------------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
  1. Passenger   !  17.9/0.0   ! 150.0 !  2.0 ! 10.0 !Diesel! Yes
  2. GO 1        ! 354.0/54.0  ! 150.0 !  1.0 !  5.0 !Diesel! Yes
  3. Way Freight !   0.0/6.4   !  97.0 !  4.0 ! 25.0 !Diesel! Yes

Data for Segment # 1: CN Oakville (day/night)
---------------------------------------------
Angle1   Angle2           : -90.00 deg   -35.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 497.00 / 497.00 m
Receiver height           :  30.70 / 30.70  m
Topography                :      1       (Flat/gentle slope; no barrier)
No Whistle
Reference angle           :   0.00

Results segment # 1: CN Oakville (day)
--------------------------------------

LOCOMOTIVE (0.00 + 61.64 + 0.00) = 61.64 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90    -35   0.00  82.00 -15.20  -5.15   0.00   0.00   0.00  61.64
-------------------------------------------------------------------------

WHEEL (0.00 + 52.36 + 0.00) = 52.36 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90    -35   0.00  72.72 -15.20  -5.15   0.00   0.00   0.00  52.36
-------------------------------------------------------------------------

Segment Leq : 62.12 dBA

Total Leq All Segments: 62.12 dBA

Results segment # 1: CN Oakville (night)
----------------------------------------

LOCOMOTIVE (0.00 + 57.13 + 0.00) = 57.13 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90    -35   0.00  77.48 -15.20  -5.15   0.00   0.00   0.00  57.13
-------------------------------------------------------------------------

WHEEL (0.00 + 47.89 + 0.00) = 47.89 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90    -35   0.00  68.24 -15.20  -5.15   0.00   0.00   0.00  47.89
-------------------------------------------------------------------------

Segment Leq : 57.62 dBA

Total Leq All Segments: 57.62 dBA

Road data, segment # 1: Lakeshore (day/night)
---------------------------------------------
Car traffic volume  : 32573/3619  veh/TimePeriod
Medium truck volume :   746/83    veh/TimePeriod
Heavy truck volume  :   611/68    veh/TimePeriod
```

```
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore (day/night)
------------------------------------------
Angle1   Angle2           : -90.00 deg   -35.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  36.00 / 36.00  m
Receiver height           :  30.70 / 30.70  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.16 m

ROAD (0.00 + 60.71 + 0.00) = 60.71 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -35   0.00  69.67   0.00  -3.80  -5.15   0.00   0.00   0.00  60.71
-------------------------------------------------------------------------------

Segment Leq : 60.71 dBA

Total Leq All Segments: 60.71 dBA

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

Source height = 1.16 m

ROAD (0.00 + 54.19 + 0.00) = 54.19 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -35   0.00  63.14   0.00  -3.80  -5.15   0.00   0.00   0.00  54.19
-------------------------------------------------------------------------------

Segment Leq : 54.19 dBA

Total Leq All Segments: 54.19 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 64.48
                           (NIGHT): 59.25
```

```
STAMSON 5.0        NORMAL REPORT        Date: 30-07-2024 17:24:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: s.te                 Time Period: Day/Night 16/8 hours
Description: South facade, Prediction Location [C].


Road data, segment # 1: Lakeshore (day/night)
----------------------------------------------
Car traffic volume  : 32573/3619  veh/TimePeriod
Medium truck volume :   746/83    veh/TimePeriod
Heavy truck volume  :   611/68    veh/TimePeriod
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore (day/night)
----------------------------------------------
Angle1   Angle2           :  60.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 122.00 / 122.00 m
Receiver height           :  30.70 / 30.70  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.16 m

ROAD (0.00 + 52.78 + 0.00) = 52.78 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    60     90   0.00  69.67   0.00  -9.10  -7.78   0.00   0.00   0.00  52.78
-------------------------------------------------------------------------------

Segment Leq : 52.78 dBA

Total Leq All Segments: 52.78 dBA

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

Source height = 1.16 m

ROAD (0.00 + 46.25 + 0.00) = 46.25 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    60     90   0.00  63.14   0.00  -9.10  -7.78   0.00   0.00   0.00  46.25
-------------------------------------------------------------------------------

Segment Leq : 46.25 dBA

Total Leq All Segments: 46.25 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 52.78
                           (NIGHT): 46.25
```

```
STAMSON 5.0        NORMAL REPORT        Date: 30-07-2024 17:26:18
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: wi.te               Time Period: Day/Night 16/8 hours
Description: West Interior facade, Prediction Location [D].


Road data, segment # 1: Lakeshore (day/night)
----------------------------------------------
Car traffic volume  : 32573/3619  veh/TimePeriod
Medium truck volume :   746/83    veh/TimePeriod
Heavy truck volume  :   611/68    veh/TimePeriod
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore (day/night)
----------------------------------------------
Angle1   Angle2           : -35.00 deg   20.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 122.00 / 122.00 m
Receiver height           :  30.70 / 30.70  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.16 m

ROAD (0.00 + 55.41 + 0.00) = 55.41 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35     20   0.00  69.67   0.00  -9.10  -5.15   0.00   0.00   0.00  55.41
-------------------------------------------------------------------------------

Segment Leq : 55.41 dBA

Total Leq All Segments: 55.41 dBA

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

Source height = 1.16 m

ROAD (0.00 + 48.89 + 0.00) = 48.89 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -35     20   0.00  63.14   0.00  -9.10  -5.15   0.00   0.00   0.00  48.89
-------------------------------------------------------------------------------

Segment Leq : 48.89 dBA

Total Leq All Segments: 48.89 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 55.41
                           (NIGHT): 48.89
```

```
STAMSON 5.0        NORMAL REPORT        Date: 30-07-2024 17:27:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: sw.te                Time Period: Day/Night 16/8 hours
Description: Southwest facade, Prediction Location [F].


Road data, segment # 1: Lakeshore (day/night)
----------------------------------------------
Car traffic volume  : 32573/3619  veh/TimePeriod
Medium truck volume :   746/83    veh/TimePeriod
Heavy truck volume  :   611/68    veh/TimePeriod
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore (day/night)
----------------------------------------------
Angle1   Angle2           :  40.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  46.00 / 46.00  m
Receiver height           :  30.70 / 30.70  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

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

Source height = 1.16 m

ROAD (0.00 + 59.24 + 0.00) = 59.24 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    40     90   0.00  69.67   0.00  -4.87  -5.56   0.00   0.00   0.00  59.24
-------------------------------------------------------------------------------

Segment Leq : 59.24 dBA

Total Leq All Segments: 59.24 dBA

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

Source height = 1.16 m

ROAD (0.00 + 52.71 + 0.00) = 52.71 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    40     90   0.00  63.14   0.00  -4.87  -5.56   0.00   0.00   0.00  52.71
-------------------------------------------------------------------------------

Segment Leq : 52.71 dBA

Total Leq All Segments: 52.71 dBA



TOTAL Leq FROM ALL SOURCES (DAY): 59.24
                           (NIGHT): 52.71
```

```
STAMSON 5.0        NORMAL REPORT        Date: 30-07-2024 17:27:55
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola.te               Time Period: 16 hours
Description: Rooftop outdoor amenity area, Prediction Location


Rail data, segment # 1: CN Oak_W
--------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
  1. Passenger   !  17.9/10.4  ! 150.0 !  2.0 ! 10.0 !Diesel! Yes
  2. GO 1        ! 354.0/54.0  ! 150.0 !  1.0 !  5.0 !Diesel! Yes
  3. Way Freight !   0.0/1.0   !  97.0 !  4.0 ! 25.0 !Diesel! Yes

Data for Segment # 1: CN Oak_W
------------------------------
Angle1   Angle2           : -90.00 deg   -40.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 442.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
No Whistle
Barrier angle1            : -90.00 deg   Angle2 : -40.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :  24.00 m
Source elevation          :  90.00 m
Receiver elevation        : 118.20 m
Barrier elevation         : 118.20 m
Reference angle           :   0.00

Rail data, segment # 2: CN Oak_Bar
----------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
  1. Passenger   !  17.9/1.0   ! 150.0 !  2.0 ! 10.0 !Diesel! Yes
  2. GO 1        ! 354.0/1.0   ! 150.0 !  1.0 !  5.0 !Diesel! Yes
  3. Way Freight !   0.0/1.0   !  97.0 !  4.0 ! 25.0 !Diesel! Yes

Data for Segment # 2: CN Oak_Bar
--------------------------------
Angle1   Angle2           : -40.00 deg   60.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 442.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
No Whistle
Barrier angle1            : -40.00 deg   Angle2 : 60.00 deg
Barrier height            :   4.00 m
Barrier receiver distance :   7.30 m
Source elevation          :  90.00 m
Receiver elevation        : 118.20 m
Barrier elevation         : 118.20 m
Reference angle           :   0.00

Rail data, segment # 3: CN Oak_E
--------------------------------
Train            ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type             !             !(km/h) !/Train!/Train! type !weld
-----------------+-------------+-------+------+------+------+----
  1. Passenger   !  17.9/1.0   ! 150.0 !  2.0 ! 10.0 !Diesel! Yes
  2. GO 1        ! 354.0/1.0   ! 150.0 !  1.0 !  5.0 !Diesel! Yes
  3. Way Freight !   0.0/1.0   !  97.0 !  4.0 ! 25.0 !Diesel! Yes

Data for Segment # 3: CN Oak_E
```

```
------------------------------
Angle1   Angle2           :  60.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 442.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
No Whistle
Barrier angle1            :  60.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :  15.00 m
Source elevation          :  90.00 m
Receiver elevation        : 118.20 m
Barrier elevation         : 118.20 m
Reference angle           :   0.00

Results segment # 1: CN Oak_W
------------------------------

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       4.00 !        1.50 !        0.10 !       118.30
       0.50 !        1.50 !       -0.09 !       118.11

LOCOMOTIVE (0.00 + 50.65 + 0.00) = 50.65 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
   -90    -40   0.58  82.00 -23.29  -8.05   0.00   0.00  -4.99  45.66*
   -90    -40   0.58  82.00 -23.29  -8.05   0.00   0.00   0.00  50.65
-------------------------------------------------------------------

 * Bright Zone !

WHEEL (0.00 + 35.00 + 0.00) = 35.00 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
   -90    -40   0.66  72.72 -24.39  -8.32   0.00   0.00  -5.00  35.00
-------------------------------------------------------------------

Segment Leq : 50.77 dBA

Results segment # 2: CN Oak_Bar
-------------------------------

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       4.00 !        1.50 !        1.08 !       119.28
       0.50 !        1.50 !        1.02 !       119.22

LOCOMOTIVE (0.00 + 44.87 + 0.00) = 44.87 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
   -40     60   0.34  82.00 -19.76  -2.78   0.00   0.00 -14.58  44.87
-------------------------------------------------------------------

WHEEL (0.00 + 33.81 + 0.00) = 33.81 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
   -40     60   0.45  72.72 -21.31  -2.85   0.00   0.00 -14.75  33.81
-------------------------------------------------------------------

Segment Leq : 45.20 dBA

Results segment # 3: CN Oak_E
```

```
------------------------------

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       4.00 !        1.50 !        0.63 !       118.83
       0.50 !        1.50 !        0.51 !       118.71

LOCOMOTIVE (0.00 + 47.23 + 0.00) = 47.23 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
    60     90   0.58  82.00 -23.29 -11.48   0.00   0.00  -4.81  42.42*
    60     90   0.58  82.00 -23.29 -11.48   0.00   0.00   0.00  47.23
-------------------------------------------------------------------------

 * Bright Zone !

WHEEL (0.00 + 36.43 + 0.00) = 36.43 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
    60     90   0.66  72.72 -24.39 -11.90   0.00   0.00  -4.88  31.55*
    60     90   0.66  72.72 -24.39 -11.90   0.00   0.00   0.00  36.43
-------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 47.58 dBA

Total Leq All Segments: 53.22 dBA

Road data, segment # 1: Lakeshore_W
-----------------------------------
Car traffic volume  : 32573 veh/TimePeriod
Medium truck volume :   746 veh/TimePeriod
Heavy truck volume  :   611 veh/TimePeriod
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1: Lakeshore_W
---------------------------------
Angle1   Angle2           : -90.00 deg   -40.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  49.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : -40.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :  24.00 m
Source elevation          :  87.00 m
Receiver elevation        : 118.20 m
Barrier elevation         : 118.20 m
Reference angle           :   0.00

Road data, segment # 2: Lakeshore_B
-----------------------------------
Car traffic volume  : 32573 veh/TimePeriod
Medium truck volume :   746 veh/TimePeriod
Heavy truck volume  :   611 veh/TimePeriod
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 2: Lakeshore_B
---------------------------------
Angle1   Angle2           : -40.00 deg   60.00 deg
Wood depth                :      0       (No woods.)
```

```
No of house rows          :      0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  49.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -40.00 deg   Angle2 : 60.00 deg
Barrier height            :   4.00 m
Barrier receiver distance :   7.30 m
Source elevation          :  86.00 m
Receiver elevation        : 118.20 m
Barrier elevation         : 118.20 m
Reference angle           :   0.00

Road data, segment # 3: Lakeshore_E
----------------------------------
Car traffic volume  : 32573 veh/TimePeriod
Medium truck volume :   746 veh/TimePeriod
Heavy truck volume  :   611 veh/TimePeriod
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 3: Lakeshore_E
---------------------------------
Angle1   Angle2           :  60.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  49.00 m
Receiver height           :   1.50 m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  60.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.00 m
Barrier receiver distance :  15.00 m
Source elevation          :  82.00 m
Receiver elevation        : 118.20 m
Barrier elevation         : 118.20 m
Reference angle           :   0.00

Results segment # 1: Lakeshore_W
--------------------------------

Source height = 1.16 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.16 !        1.50 !      -13.95 !       104.25

ROAD (0.00 + 36.18 + 0.00) = 36.18 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -40   0.66  69.67   0.00  -8.53  -8.32   0.00   0.00 -16.63  36.18
-------------------------------------------------------------------------------

Segment Leq : 36.18 dBA

Results segment # 2: Lakeshore_B
--------------------------------

Source height = 1.16 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.16 !        1.50 !       -3.35 !       114.85
```

```
ROAD (0.00 + 41.97 + 0.00) = 41.97 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -40     60   0.00  69.67   0.00  -5.14  -2.55   0.00   0.00 -20.00  41.97
-------------------------------------------------------------------------------

Segment Leq : 41.97 dBA

Results segment # 3: Lakeshore_E
---------------------------------

Source height = 1.16 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.16 !        1.50 !       -9.69 !       108.51

ROAD (0.00 + 35.69 + 0.00) = 35.69 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    60     90   0.66  69.67   0.00  -8.53 -11.90   0.00   0.00 -13.54  35.69
-------------------------------------------------------------------------------

Segment Leq : 35.69 dBA

Total Leq All Segments: 43.73 dBA



TOTAL Leq FROM ALL SOURCES:       53.68
```