

# NOISE IMPACT STUDY

## 273-279 EAST AVENUE NORTH RETROFIT & ADDITION HAMILTON, ON

Prepared for:

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## 1.0 INTRODUCTION

dBA Acoustical Consultants Inc. has been asked to conduct a noise impact study on behalf of Wayside House of Hamilton, for the proposed Retrofit and Addition located at 273-279 East Avenue North, Hamilton, ON.

The purpose of this noise study is for rezoning and will determine the noise impact from vehicular traffic noise from Barton Street East & Victoria Avenue North as well as CN Rail and GO Transit train traffic and area stationary noise.

This study will detail noise impact relative to the site plan and recommend noise control measures necessary (if applicable) to meet Ministry of Environment Conservation and Parks (MECP) Publication NPC-300 entitled “Stationary & Transportation Sources-Approval & Planning guidelines while satisfying the planning requirements of the City of Hamilton. See Figure 1 Site Location.

Vibration is not considered as the CN Railway lines are not within the MECP 75m required setback distances. Aircraft noise was not considered in this report as the proposed development is not within the minimum 25 NEF contour area of influence. There are no area stationary noise sources relative to the site plan and therefore not considered in the noise impact study.

## 2.0 SITE DESCRIPTION

Proposed for the site is a residential care facility on the existing 2-storey buildings and 2-storey addition as well as an amenity space on the roof.

The proposed redevelopment property is located approximately 36m north of Barton Street East which is a two-lane road (with street parking) running east and west with a posted speed limit of 50 km/hr. Victoria Avenue North is approximately 64m west of the proposed redevelopment. It is a 2-lane roadway running north with two marked bicycle lanes on the east side. The posted speed limit is 50 km/hr. Approximately 240m north of the redevelopment are the CN Rail and GO Transit rail tracks. See Figure 1 Site Location.

The proposed redevelopment property is situated in an area of existing 2-3 storey mixed-use buildings.

## 3.0 NOISE IMPACT ASSESSMENT

### 3.1 NOISE CRITERIA

The MECP specifies limits for road and rail noise relative to new residential developments. The MECP Publication NPC-300 entitled “Stationary & Transportation Sources-Approval & Planning, specifies the criteria, summarized as follows:

| TABLE 1- Road Traffic Sound Levels Limits |                            |
|-------------------------------------------|----------------------------|
| Time Period                               | Leq (dBA)                  |
| 07:00 – 23:00 (16 hr.)                    | 55 Outdoor Living area     |
|                                           | 55 Plane of Window         |
| 23:00 – 07:00 (8 hr.)                     | 50 Plane of Bedroom window |

Where noise levels estimated at windows are equal to or less than the values listed in Table 1, no noise control measures are required. The MECP and CP/GO also publish specific requirements for land use development next to their principle main line tracks (See attached in Appendix “A”).

Where noise levels exceed Table 1 values, the following action is required:

| TABLE 2 – Noise Control Requirements |                          |                                               |
|--------------------------------------|--------------------------|-----------------------------------------------|
| Time Period                          | Noise Level<br>Leq (dBA) | Action Required                               |
| 07:00 - 23:00 Daytime (OLA)          | 56 to 60                 | Warning Clause Type “A”                       |
|                                      | > 60                     | Barrier & Warning Clause Type “B”             |
| 07:00 – 23:00 Daytime (POW)          | > 55                     | Provision for A/C, Warning Clause “C”         |
|                                      | > 65                     | Central A/C, Warning Clause “D”               |
|                                      | > 65                     | Building Component Specification              |
| 23:00 to 07:00 Nighttime (POW)       | > 50                     | Provision for A/C and Warning Clause Type “C” |
|                                      | > 60                     | Building Component Specification              |
|                                      | > 60                     | Central Air and Warning Clause Type “D”       |

*Where nighttime noise levels exceed 60 dBA, building components must be designed to meet Table 3 indoor sound level limits.*

| TABLE 3 - Indoor Road & Rail Sound Levels Limits |           |      |
|--------------------------------------------------|-----------|------|
| Indoor Location                                  | Leq (dBA) |      |
|                                                  | Road      | Rail |
| Living/Dining 7:00 – 23:00                       | 45        | 40   |
| Bedroom 23:00 - 07:00                            | 40        | 35   |

*The values in Table 3 consider the low frequency characteristic of train noise, important for designing acoustically superior architectural components.*

### 3.2 ROAD NOISE

Predicted road traffic noise levels were calculated for Barton Street East and Victoria Avenue North, the major road noise source in the site area. Road traffic volumes AADT (2022/2025) were provided via email from Giancarlo Perez Miller, Database Technologist, Roadway Safety, Transportation Division, Public Works Department at the City of Hamilton. The MECP computer program STAMSON version 5.04 was used to carry out prediction calculations (See Appendix “A”). Traffic data is summarized in Table 4. Other area roadway traffic volumes are below MECP requirements and not considered in this report.

The daytime/nighttime volume ratio relative to Barton Street East and Victoria Avenue North are typically calculated using a 90/10 split as required by the MECP. The speed limit is 50 km/hr. The percentage of annual growth for Barton Street East was figured at 2% over 14 years and Victoria Avenue North was figured at 2% over 11 years. The AADT (Annual Average Daily Traffic) volumes were used reflective of the worst-case scenario. Truck volumes were factored at 2% medium and 2% heavy of the total vehicle volumes for both roadways.

| TABLE 4 – Future Road Traffic Volumes (2036) |                     |               |              |
|----------------------------------------------|---------------------|---------------|--------------|
| Barton Street East                           | AADT 15780 Vehicles |               |              |
|                                              | Cars                | Medium Trucks | Heavy Trucks |
| Day                                          | 13634               | 284           | 284          |
| Night                                        | 1515                | 32            | 32           |
| Victoria Avenue North                        | AADT 11259 Vehicles |               |              |
|                                              | Cars                | Medium Trucks | Heavy Trucks |
| Day                                          | 9728                | 203           | 203          |
| Night                                        | 1081                | 23            | 23           |

The following Table 5A summarizes the “free field” Barton Street East traffic noise prediction results, modeled at 9 receptor locations which represent specific façades and floors within the proposed building.

| TABLE 5A- Predicted Traffic Noise Levels-Free Field (Barton Street East) |                       |               |
|--------------------------------------------------------------------------|-----------------------|---------------|
| Location                                                                 | L <sub>eq</sub> (dBA) |               |
|                                                                          | 07:00 - 23:00         | 23:00 - 07:00 |
| R1 – North Façade 1 <sup>st</sup> Floor (1.5m)                           | 34 dBA                | 27 dBA        |
| R2 – North Façade 4 <sup>th</sup> Floor (10.5m)                          | 34 dBA                | 27 dBA        |
| R3 – East Façade 1 <sup>st</sup> Floor (1.5m)                            | 51 dBA                | 45 dBA        |
| R4 – East Façade 4 <sup>th</sup> Floor (10.5m)                           | 51 dBA                | 45 dBA        |
| R5 – South Façade 1 <sup>st</sup> Floor (1.5m)                           | 39 dBA                | 32 dBA        |
| R6 – South Facade 4 <sup>th</sup> Floor (10.5m)                          | 62 dBA                | 55 dBA        |
| R7 – West Façade 1 <sup>st</sup> Floor (1.5m)                            | 50 dBA                | 43 dBA        |
| R8 – West Façade 4 <sup>th</sup> Floor (10.5m)                           | 58 dBA                | 51 dBA        |
| R9 – 4 <sup>th</sup> Floor Rooftop OLA (13.5m)                           | 59 dBA                | N/A           |
| R9A – 4 <sup>th</sup> Floor Rooftop OLA Mitigated 0.91m                  | 44 dBA                | N/A           |

The following Table 5B summarizes the “free field” Victoria Avenue North traffic noise prediction results, modeled at 9 receptor locations which represent specific façades and floors within the proposed building.

| TABLE 5B- Predicted Traffic Noise Levels-Free Field (Victoria Avenue North) |                       |               |
|-----------------------------------------------------------------------------|-----------------------|---------------|
| Location                                                                    | L <sub>eq</sub> (dBA) |               |
|                                                                             | 07:00 - 23:00         | 23:00 - 07:00 |
| R1 – North Façade 1 <sup>st</sup> Floor (1.5m)                              | 51 dBA                | 44 dBA        |
| R2 – North Façade 4 <sup>th</sup> Floor (10.5m)                             | 52 dBA                | 45 dBA        |
| R3 – East Façade 1 <sup>st</sup> Floor (1.5m)                               | 34 dBA                | 27 dBA        |
| R4 – East Façade 4 <sup>th</sup> Floor (10.5m)                              | 34 dBA                | 27 dBA        |
| R5 – South Façade 1 <sup>st</sup> Floor (1.5m)                              | 35 dBA                | 29 dBA        |
| R6 – South Facade 4 <sup>th</sup> Floor (10.5m)                             | 55 dBA                | 48 dBA        |
| R7 – West Façade 1 <sup>st</sup> Floor (1.5m)                               | 47 dBA                | 41 dBA        |
| R8 – West Façade 4 <sup>th</sup> Floor (10.5m)                              | 57 dBA                | 50 dBA        |
| R9 – 4 <sup>th</sup> Floor Rooftop OLA (13.5m)                              | 56 dBA                | N/A           |
| R9A – 4 <sup>th</sup> Floor Rooftop OLA Mitigated 0.91m                     | 46 dBA                | N/A           |

The following Table 5C summarizes the COMBINED “free field” traffic noise prediction results from Barton Street East & Victoria Avenue North modeled at 9 receptor locations which represent specific façades and floors within the proposed building.

| TABLE 5C - Predicted COMBINED Traffic Noise Levels-Free Field |                       |               |
|---------------------------------------------------------------|-----------------------|---------------|
| Barton Street East & Victoria Avenue North                    | L <sub>eq</sub> (dBA) |               |
|                                                               | 07:00 - 23:00         | 23:00 - 07:00 |
| R1 – North Façade 1 <sup>st</sup> Floor (1.5m)                | 51 dBA                | 44 dBA        |
| R2 – North Façade 4 <sup>th</sup> Floor (10.5m)               | 52 dBA                | 45 dBA        |
| R3 – East Façade 1 <sup>st</sup> Floor (1.5m)                 | 51 dBA                | 41 dBA        |
| R4 – East Façade 4 <sup>th</sup> Floor (10.5m)                | 51 dBA                | 45 dBA        |
| R5 – South Façade 1 <sup>st</sup> Floor (1.5m)                | 40 dBA                | 34 dBA        |
| R6 – South Facade 4 <sup>th</sup> Floor (10.5m)               | 62 dBA                | 56 dBA        |
| R7 – West Façade 1 <sup>st</sup> Floor (1.5m)                 | 52 dBA                | 45 dBA        |
| R8 – West Façade 4 <sup>th</sup> Floor (10.5m)                | 60 dBA                | 54 dBA        |
| R9 – 4 <sup>th</sup> Floor Rooftop OLA (13.5m)                | 61 dBA                | N/A           |
| R9A – 4 <sup>th</sup> Floor Rooftop OLA Mitigated 0.91m       | 47 dBA                | N/A           |

### 3.3 RAIL NOISE

Train traffic data dated October 18<sup>th</sup>, 2024, was obtained via email from GO Transit and train traffic data dated October 16<sup>th</sup>, 2024, was obtained via email from CN Rail and this data was used to carry out prediction calculations using the MECP “Stamson, Version 5.04” computer program. CN and GO train traffic were calculated individually then combined to obtain the highest rail traffic noise levels to calculate the exterior wall and window Sound Transmission Class (STC) rating. This will ensure that all windows and walls will have the highest STC rating for indoor noise levels and will not exceed the minimum Indoor Rail Sound Level Limits noted in Table 3.

| TABLE 6 – CN/GO Train Traffic Data |         |             |        |           |
|------------------------------------|---------|-------------|--------|-----------|
| Type                               | Freight | Way Freight | GO     | Passenger |
| Number of Trains 07:00 - 23:00     | 4       | 0           | 39     | 2         |
| 23:00 - 07:00                      | 0       | 2           | 13     | 0         |
| Number of Cars per Train           | 140     | 25          | 12     | 10        |
| Number of Locomotives per Train    | 4       | 4           | 2      | 2         |
| Maximum Train Speed                | 80 km   | 80 km       | 100 km | 80 km     |

CN Rail and GO Transit calculations were performed for both daytime and nighttime. An annual growth factor of 2.5% per annum was projected over 12 years for CN Rail.

The following Table 7A noise levels were calculated and modeled at 9 receptor locations representing specific facades and floors within the proposed building.

| TABLE 7A- Predicted COMBINED Rail Train Traffic Noise Levels-Free Field |                       |               |
|-------------------------------------------------------------------------|-----------------------|---------------|
| CN Rail & GO Transit                                                    | L <sub>eq</sub> (dBA) |               |
|                                                                         | 07:00 - 23:00         | 23:00 - 07:00 |
| R1 – North Façade 1 <sup>st</sup> Floor (1.5m)                          | 46 dBA                | 43 dBA        |
| R2 – North Façade 4 <sup>th</sup> Floor (10.5m)                         | 56 dBA                | 52 dBA        |
| R3 – East Façade 1 <sup>st</sup> Floor (1.5m)                           | 44 dBA                | 41 dBA        |
| R4 – East Façade 4 <sup>th</sup> Floor (10.5m)                          | 54 dBA                | 51 dBA        |
| R5 – South Façade 1 <sup>st</sup> Floor (1.5m)                          | 32 dBA                | 29 dBA        |
| R6 – South Facade 4 <sup>th</sup> Floor (10.5m)                         | 35 dBA                | 32 dBA        |
| R7 – West Façade 1 <sup>st</sup> Floor (1.5m)                           | 46 dBA                | 43 dBA        |
| R8 – West Façade 4 <sup>th</sup> Floor (10.5m)                          | 52 dBA                | 49 dBA        |
| R9 – 4 <sup>th</sup> Floor Rooftop OLA (13.5m)                          | 57 dBA                | N/A           |
| R9A – 4 <sup>th</sup> Floor Rooftop OLA Mitigated 0.91m                 | 47 dBA                | N/A           |

The following Table 7B noise levels were calculated and modeled at 9 receptor locations representing specific facades and floors within the proposed building.

| TABLE 7B- Predicted COMBINED Road & Rail Traffic Noise Levels-Free Field |                       |               |
|--------------------------------------------------------------------------|-----------------------|---------------|
| Location                                                                 | L <sub>eq</sub> (dBA) |               |
|                                                                          | 07:00 - 23:00         | 23:00 - 07:00 |
| R1 – North Façade 1 <sup>st</sup> Floor (1.5m)                           | 52 dBA                | 47 dBA        |
| R2 – North Façade 4 <sup>th</sup> Floor (10.5m)                          | 57 dBA                | 53 dBA        |
| R3 – East Façade 1 <sup>st</sup> Floor (1.5m)                            | 52 dBA                | 46 dBA        |
| R4 – East Façade 4 <sup>th</sup> Floor (10.5m)                           | 56 dBA                | 52 dBA        |
| R5 – South Façade 1 <sup>st</sup> Floor (1.5m)                           | 41 dBA                | 35 dBA        |
| R6 – South Facade 4 <sup>th</sup> Floor (10.5m)                          | 62 dBA                | 56 dBA        |
| R7 – West Façade 1 <sup>st</sup> Floor (1.5m)                            | 53 dBA                | 47 dBA        |
| R8 – West Façade 4 <sup>th</sup> Floor (10.5m)                           | 61 dBA                | 55 dBA        |
| R9 – 4 <sup>th</sup> Floor Rooftop OLA (13.5m)                           | 62 dBA                | N/A           |
| R9A – 4 <sup>th</sup> Floor Rooftop OLA Mitigated 0.91m                  | 50 dBA                | N/A           |

### 3.4 VIBRATION

The City of Hamilton Construction Management Plan 2022 may require pre-condition surveys of area buildings within the area of influence to be completed prior to the start of construction activities and may require one week of baseline vibration monitoring prior to the start of any heavy construction activities, as well as vibration monitoring during any heavy construction activities. Further information will be provided prior to the issuance of a building permit or as The City of Hamilton staff require the documents for approval.

## 4.0 RECOMMENDATIONS - NOISE CONTROL

### 4.1 OUTDOOR LIVING AREAS

Calculated road noise levels exceed 55 dBA daytime criteria as outlined in Table 1. Proposed for the development is a 4<sup>th</sup> floor rooftop amenity area. The 4<sup>th</sup> floor rooftop outdoor amenity area will require a minimum 0.91m (3 feet) safety railing or equivalent.

For reference, the MECF requirements for an acoustical barrier are:

- Minimum surface density (Face Weight) of 20 kg/m<sup>2</sup>.
- Structurally sound.
- Appropriately designed to withstand wind and snow load and constructed without cracks or surface gaps.

### 4.2 INDOOR NOISE LEVELS

Calculated nighttime noise levels at the Plane of Window (POW) Specific building components (walls, windows, doors etc.) are required and confirmed using the STC (Sound Transmission Class) method. Building design specifications were not made available at report time and STC calculations (Sound Transmission Class) method are summarized in Table 11 following.



As a cost-efficient consideration for the builder, all windows for all floors and facades of the proposed building require the same window STC value configurations. Prior to the issuance of a Building Permit, a letter from the appropriate window company must be issued to the Acoustical Consultant confirming the acoustically tested windows STC values have been achieved.

| TABLE 8 –Window, Door, & Wall Construction Example Requirements |               |                   |                       |
|-----------------------------------------------------------------|---------------|-------------------|-----------------------|
| LOCATIONS                                                       | Window<br>STC | Patio Door<br>STC | Exterior Walls<br>STC |
| All Units                                                       | Example       | Example           | Example               |
| Bedroom                                                         | STC-30        | STC-30            | STC-32                |
| Living room                                                     | STC-30        | STC-30            | STC-32                |

## 5.0 VENTILATION / WARNING CLAUSES

Ventilation and Warning Clause requirements for all units are presented in Table 9 following. It is recommended that the appropriate Warning Clauses be inserted into all Offers and Agreements of Purchase and Sale or Lease and Registered on Title. Specific building component requirements noted in Table 9 for all apartment units will satisfy the MECF criterion for noise control relative to indoor living space.

| TABLE 9 - Ventilation and Warning Clause Requirements |                                 |                |
|-------------------------------------------------------|---------------------------------|----------------|
| LOCATION                                              | VENTILATION                     | WARNING CLAUSE |
| All Units                                             | Provisions for Air Conditioning | Type “C”       |

### TYPE C:

“This dwelling unit had been fitted with a forced air heating system and the ducting, etc. was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Municipality’s and the MECF’s noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with noise criteria of MOE Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property.)”

## 6.0 NOISE CONTROL REQUIREMENTS CONFIRMATION

The following Table 7 summarizes the highest road and rail noise levels (Table 5) for the daytime/nighttime hours and recommends provisions for air conditioning, warning clauses, and indoor noise level limits criteria. Table 7 shows that with the Warning Clause and STC requirements listed below the redevelopment will meet the MECF minimum required indoor noise level limits.

TABLE 10 - Noise Control Requirements Confirmation

| TABLE 10 - Noise Control Requirements Confirmation |                             |      |    |          |                |                               |      |                   |      |                               |                             |                               |      |                   |      |
|----------------------------------------------------|-----------------------------|------|----|----------|----------------|-------------------------------|------|-------------------|------|-------------------------------|-----------------------------|-------------------------------|------|-------------------|------|
| Time Period                                        | Predicted Impact, Leq (dBA) |      |    | A/C Req. | Warning Clause | Indoor Limits, Leq (dBA)      |      |                   |      | Window / Floor Area Ratio (%) | Wall / Floor Area Ratio (%) | STC Requirements              |      |                   |      |
|                                                    |                             |      |    |          |                | Living, Dining, and Den Areas |      | Sleeping Quarters |      |                               |                             | Living, Dining, and Den Areas |      | Sleeping Quarters |      |
|                                                    | Road                        | Rail | OA |          |                | Road                          | Rail | Road              | Rail |                               |                             | Window                        | Wall | Window            | Wall |
| Day                                                | 62                          | 57   | 62 | P        | C              | 45                            | 40   | 45                | 40   | 80%                           | 100%                        | 30                            | 32   | 30                | 32   |
| Night                                              | 56                          | 52   | 56 | P        | C              | 45                            | 40   | 40                | 35   | 80%                           | 100%                        | 26                            | 28   | 30                | 32   |

P = Provisions for Air Conditioning

## 7.0 STATIONARY SOURCES

### 7.1 REGULATORY CONTEXT

The MECP Publication-300, Stationary & Transportation Sources-Approval & Planning guidelines defines a point of reception/receptor as “*any point on the premises of a person where the sound or vibration originating from other than those premises are received.*” The point of reception may be located on any of the following, or zoned for future use, premises including but not limited to the following: residential homes, hospitals, church’s, noise sensitive areas, etc.

The areas surrounding the proposed residential care facility are indicative of a “Class 1 Area” as defined in MECP Publication 300, Stationary & Transportation Sources-Approval & Planning guidelines. The applicable sound limits are the higher of:

- The existing ambient sound level; or
- The minimum values of Table C-5 & C-6.

*No restrictions apply to stationary sources if the one-hour equivalent sound exposure (Leq) is lower than the levels in the following Table C-5 & C-6.*

The following Table C-5 & C-6 Minimum Sound Level Limits are used to achieve compliance with MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines.

### 7.2 EXCLUSION LIMIT VALUES

Excerpts from the MECP NPC-300 for sound from a stationary source, the sound level limit at a point of reception, expressed in terms of the One-Hour Equivalent Sound Level (Leq) is the higher of the applicable exclusion limit value given in Table C-5 or Table C-6, or the background sound level for that point of reception. The outdoor sound level limits for stationary sources apply only to daytime and evening (07:00 – 23:00 hours). Sound level limits apply during the nighttime period (23:00 – 07:00) for the plane of the window (POW) of a noise sensitive space. In general, the outdoor points of reception will be protected during the nighttime as a consequence of meeting the sound level limits at the adjacent plane of window of noise sensitive spaces.

**Table C-5**  
**Exclusion Limit Values of One-Hour Equivalent Sound Level ( $L_{eq}$ , dBA)**  
**Outdoor Points of Reception**

| Time of Day   | Class 1 Area | Class 2 Area | Class 3 Area | Class 4 Area |
|---------------|--------------|--------------|--------------|--------------|
| 07:00 – 19:00 | 50           | 50           | 45           | 55           |
| 19:00 – 23:00 | 50           | 45           | 40           | 55           |

**Table C-6**  
**Exclusion Limit Values of One-Hour Equivalent Sound Level ( $L_{eq}$ , dBA)**  
**Plane of Window of Noise Sensitive Spaces**

| Time of Day   | Class 1 Area | Class 2 Area | Class 3 Area | Class 4 Area |
|---------------|--------------|--------------|--------------|--------------|
| 07:00 – 19:00 | 50           | 50           | 45           | 60           |
| 19:00 – 23:00 | 50           | 50           | 40           | 60           |
| 23:00 – 07:00 | 45           | 45           | 40           | 55           |

### 7.3 FRAGOSO SPORTS BAR – 293 BARTON STREET EAST

There are two 5-ton rooftop HVAC units located approximately 25m (HVAC #1) & 30m (HVAC #2) from the proposed redevelopment. The combined HVAC unit's calculation is 47 dBA based on full 1-hour of run however, these HVAC units typically cycle on for 30 minutes and then off for 30 minutes during both the daytime and the nighttime hours.

The calculation would be  $30 \text{ minutes} \div 30 \text{ minutes} = (\text{Log } x 20) = -6 \text{ dBA}$ . Therefore, the overall noise level from all the HVAC units combined, taking into consideration the duty cycling time, would be  $47 \text{ dBA} - 6 \text{ dBA} = 41 \text{ dBA}$  at the proposed redevelopment west façade floors. Therefore, there is no acoustical impact on the proposed redevelopment.

### 7.4 BART VIC WALK IN CLINIC – 287 BARTON STREET EAST

There are two 8.5-ton rooftop HVAC units (HVAC #3 & #4) and a small intake unit located approximately 35m from the proposed redevelopment site at the 4<sup>th</sup> floor. These units are equipped with acoustical shrouding, acoustical exterior casing with the duty cycle on and off 30 minutes over an hour, during both the daytime and the nighttime hours there will be no acoustical impact on the proposal redevelopment site. One rooftop unit equals 45.1 dBA. Two rooftop units double the sound level dBA is 48.1.

The duty cycle of 30 minutes over 60 minutes is -6 dBA. Therefore, the overall noise level of the two 8.5-ton rooftop HVAC units equals 42.1 dBA at the fourth floor of the redevelopment site. The overall noise level will have no acoustical impact on the proposed redevelopment site.

## 8.0 SUMMARY OF RECOMMENDATIONS

The following noise control measures are required to satisfy the indoor and outdoors noise level criterion:

- Warning Clauses inserted into all Offers and Agreements of Purchase and Sale or Lease for all units. (Section 5.0)
- Provisions for Air Conditioning (Section 5.0)
- Minimum STC-30 Acoustically tested windows and Patio Doors and Minimum STC-32 for exterior walls. (Table 6)
- A minimum 0.91m safety guard railing for rooftop OLA. (Section 4.1)
- A letter from the Window Supply Company confirming the appropriate STC values have been achieved and an Acoustical Certificate from the Qualified Acoustical Consultant be issued prior to issuance of the building plans.
- Qualified Acoustical Consultant certifies that the required noise control measures have been incorporated into the builder's plans prior to issuance of a building permit.
- Prior to issuance of an occupancy permit or equivalent, it is recommended the Qualified Acoustical Consultant certify that the approved noise control measures have been professionally installed.

## 8.0 CONCLUSIONS

dBA Acoustical Consultants Inc. has conducted a noise impact study on behalf of Wayside House of Hamilton, for the proposed Retrofit and Addition located at 273-279 East Avenue North, Hamilton, ON.

The purpose of this noise study is for rezoning and it determined the noise impact from vehicular traffic noise from Barton Street East & Victoria Avenue North as well as CN Rail and GO Transit train traffic and area stationary noise.

This study detailed noise impact relative to the site plan and recommended noise control measures necessary to meet Ministry of Environment Conservation and Parks (MECP) Publication NPC-300 entitled "Stationary & Transportation Sources-Approval & Planning guidelines while satisfying the planning requirements of the City of Hamilton. See Figure 1 Site Location.

FIGURE 1  
SITE LOCATION

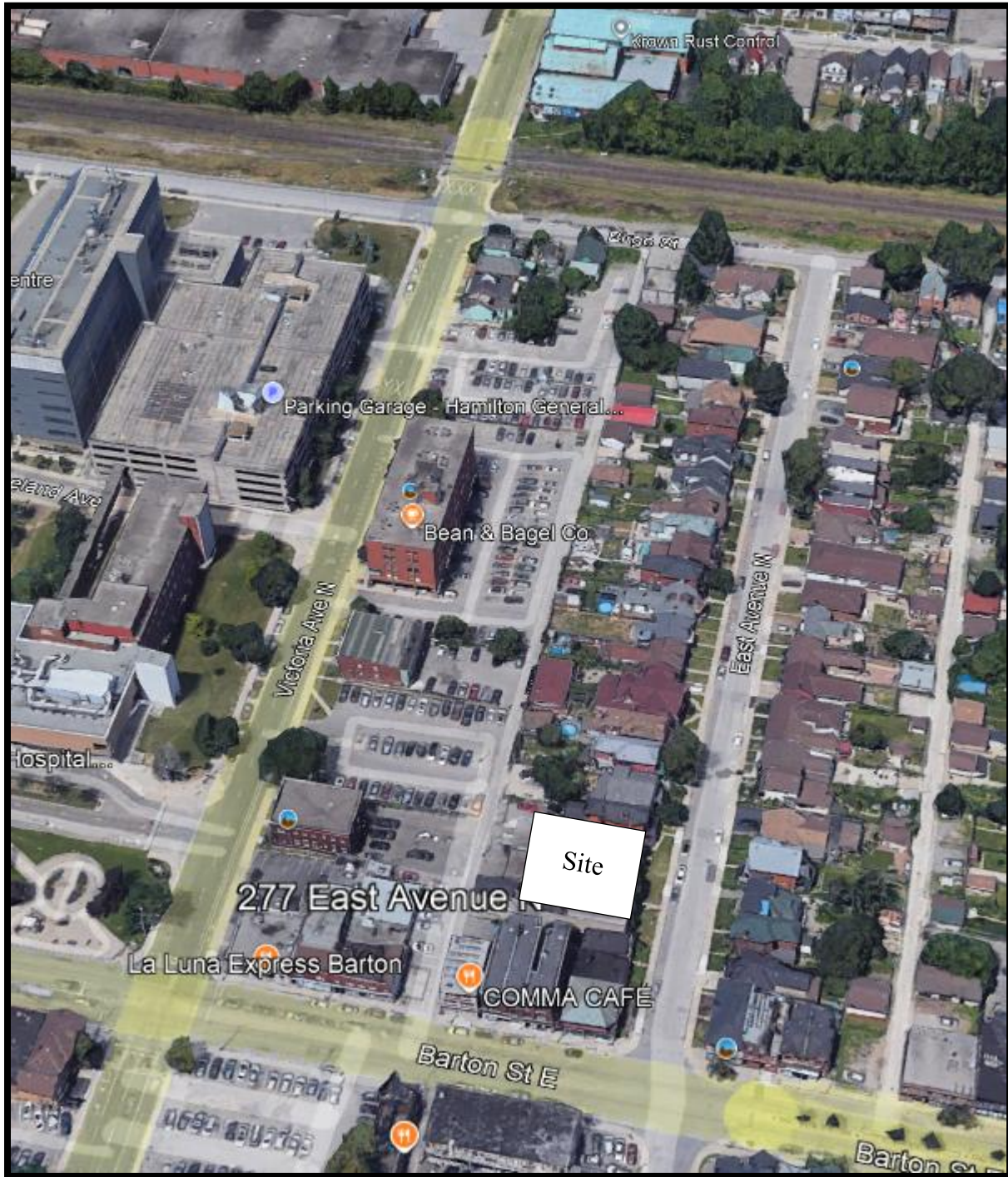




FIGURE 2  
RECEPTOR LOCATIONS

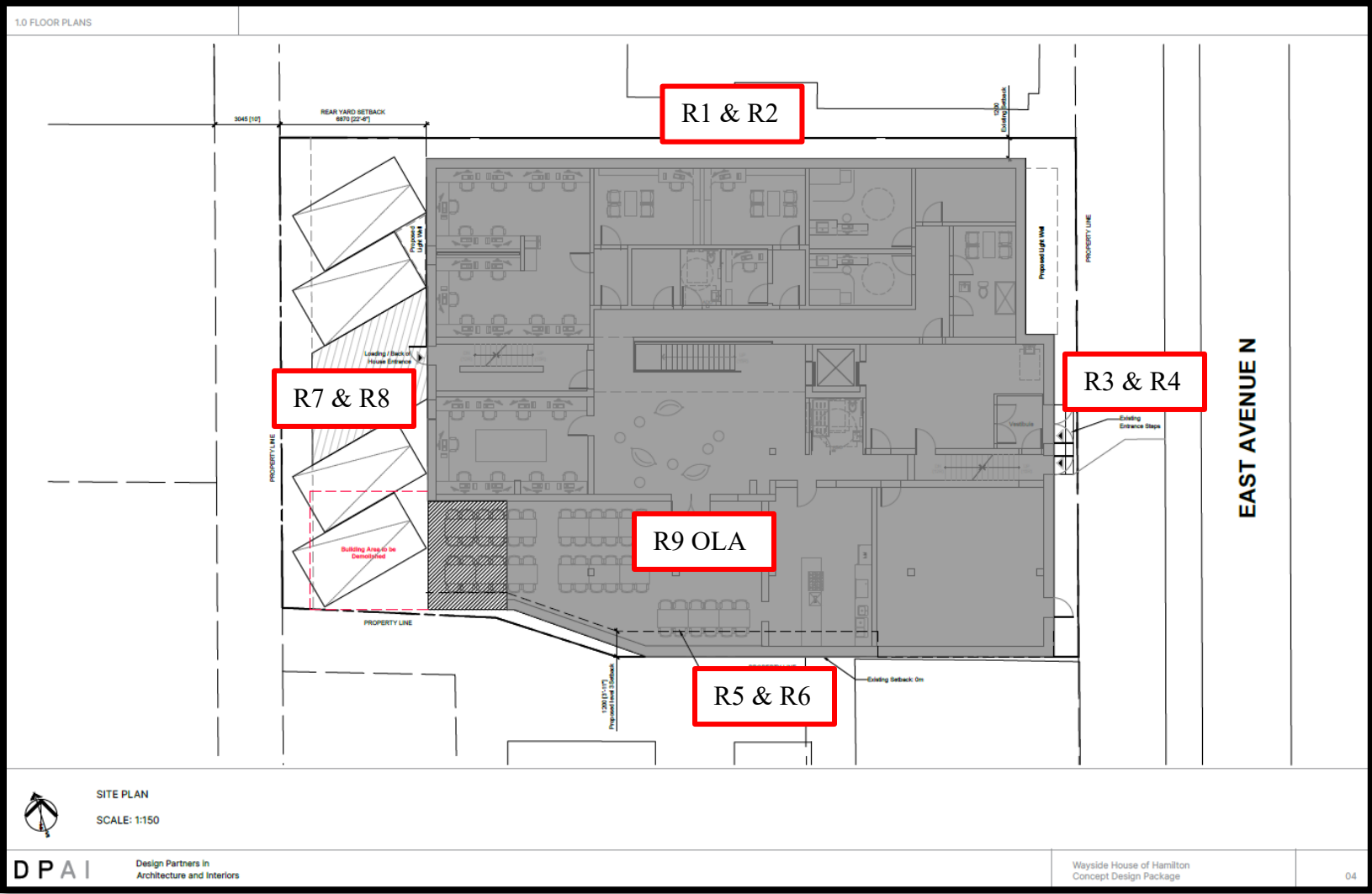
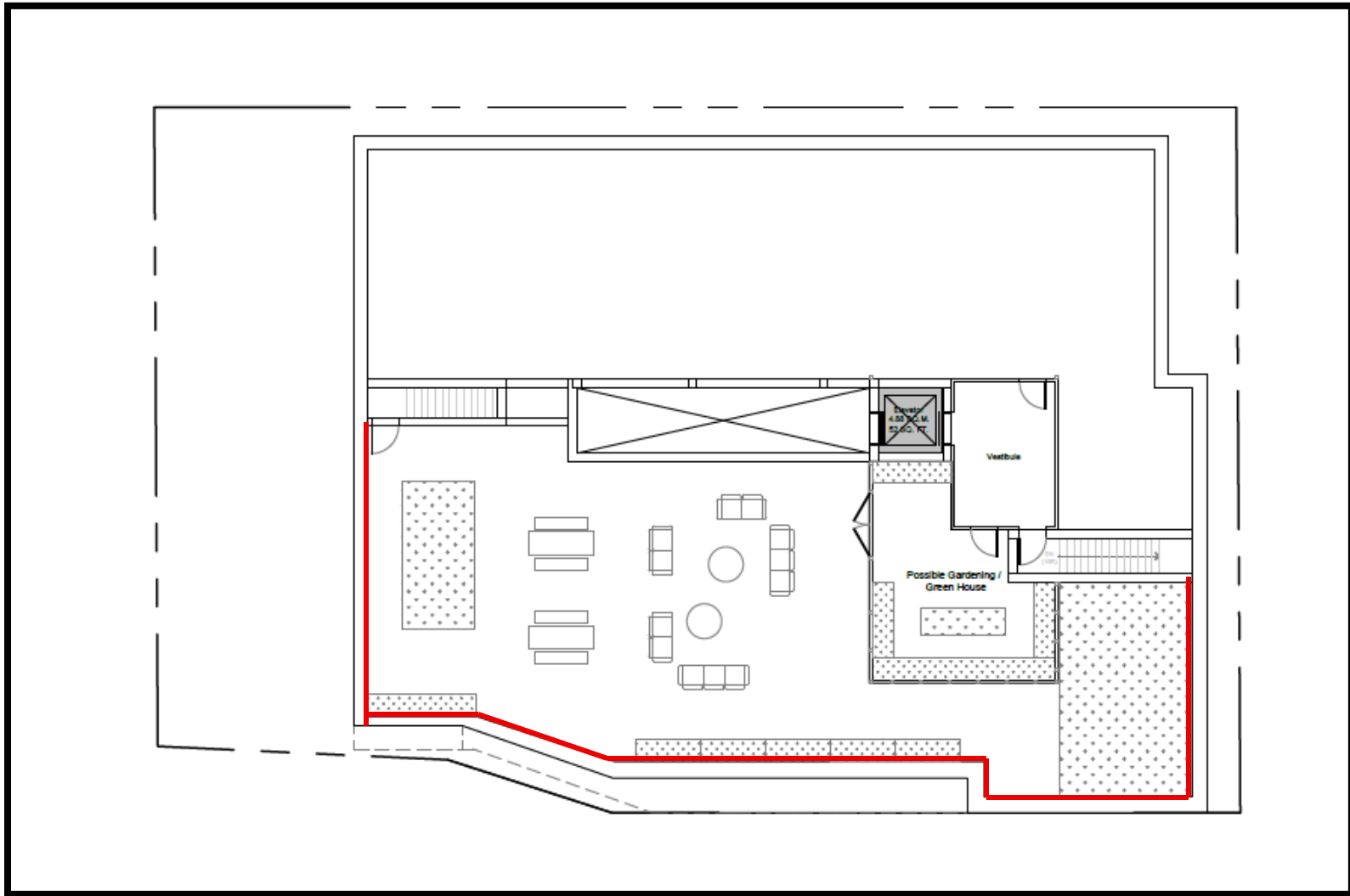


FIGURE 3  
0.91M SAFETY GUARD RAILING LOCATIONS



## APPENDIX “A”



## CITY OF HAMILTON 2022 & 2025 AADT TRAFFIC BARTON STREET EAST & VICTORIA AVENUE NORTH

Hi Nicole,

Below is the information we have that we can provide.

- East Avenue North near Barton Street East
  - Closets: EAST AV N btwn CANNON & ROBERT -AADT (2024) – **327**
- Barton Street East near East Avenue North
  - BARTON ST E btwn VICTORIA & EAST - AADT (2022): **11,959**
- Victoria Avenue North near Barton Street East
  - Closets: VICTORIA AV N btwn ROBERT & BARTON - ADDT (2025): **9055**
- Emerald Street North near Barton Street East
  - EMERALD ST N btwn BARTON & BIRGE - AADT (2022): **228**

Regards,

**Giancarlo Perez Miller**  
Database Technologist  
Roadway Safety  
Transportation Division  
Public Works



## CN RAIL EMAIL

**Date:** 2024/10/15

**Project Number:** GRM -40.49- Kenilworth Avenue N , Hamilton, ON

Dear Nicole:

**Re: Train Traffic Data – CN Grimsby Subdivision near Kenilworth Avenue N in Hamilton, ON**

The following is provided in response to Nicole's 2024/10/15 request for information regarding rail traffic in the vicinity of grade separation at Kenilworth Avenue N in Hamilton, ON at approximately Mile 40.49 on CN's Grimsby 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       | 4         | 140         | 30         | 4          |
| Way Freight   | 0         | 25          | 30         | 4          |
| Passenger     | 2         | 10          | 30         | 2          |

|               | 2300-0700 |             |            |            |
|---------------|-----------|-------------|------------|------------|
| Type of Train | Volumes   | Max.Consist | Max. Speed | Max. Power |
| Freight       | 0         | 140         | 30         | 4          |
| Way Freight   | 2         | 25          | 30         | 4          |
| Passenger     | 0         | 10          | 30         | 2          |

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

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There are 3(Three) at-grade crossing in the immediate vicinity of the study area at Mile 39.50 Parkdale Avenue, Mile 41.02 Ottawa Street and Mile 41.54 Gage Avenue. Anti-whistling bylaws are in effect at these crossings. 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 double mainline track is considered continuously welded rail throughout the study area. This location is near CN's Hamilton yard. Be advised, that any development within 1000m of a yard should take extra measures to understand and assess noise impacts and the creation of noise due to CN operations within the yard as this is not reflected in the data provided.

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](mailto: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  
[Permits.gld@cn.ca](mailto:Permits.gld@cn.ca)

## GO TRAIN EMAIL

Hi Nicole,

Further to your request dated October 16, 2024, the subject lands (110 McAnulty Blvd, Hamilton) are located within 300 metres of the Canadian National (CN) Grimsby Subdivision (which carries Lakeshore West GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel trains only. The GO rail fleet combination on this Subdivision will consist of up to 1 locomotive and 10 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 52 trains. The planned detailed trip breakdown is listed below:

|                 |                     |                   |                     |
|-----------------|---------------------|-------------------|---------------------|
|                 | 1 Diesel Locomotive |                   | 1 Diesel Locomotive |
| Day (0700-2300) | 39                  | Night (2300-0700) | 13                  |

The current track design speed near the subject lands is 30 mph (48 km/h).

There are *anti-whistling by-laws* in affect near the subject lands at Parkdale Ave, Ottawa St, Gage Ave, and Lottridge St at railway crossing.

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.

Best Regards,

**Jenna Auger (She/Her)**

Third Party Projects Review (TPPR)

Development & Real Estate Management

T: (416)-881-0579

10 Bay Street | Toronto | Ontario | M5J 2N8



## STAMSON CALCULATIONS

STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 10:45:20  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: Rleast.te Time Period: Day/Night 16/8 hours

**Description: R1 North Facade 1st Floor**

**TOTAL Leq FROM ALL SOURCES**

**(DAY) : 52.03**

**(NIGHT) : 46.74**

Rail data, segment # 1: CN Rail (day/night)

| Train Type   | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|--------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. CN Rail | 5.4/0.0  | 80.0           | 4.0           | 140.0          | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name    | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|---------|-----------------|---------------------|-------------------|
| 1.       | CN Rail | 4.0/0.0         | 2.50                | 12.00             |

Data for Segment # 1: CN Rail (day/night)

Angle1 Angle2 : -0.00 deg 25.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 240.00 / 240.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 2: VIA Rail (day/night)

| Train Type    | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|---------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. VIA Rail | 2.7/0.0  | 80.0           | 2.0           | 10.0           | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name     | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|----------|-----------------|---------------------|-------------------|
| 1.       | VIA Rail | 2.0/0.0         | 2.50                | 12.00             |

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2 : -0.00 deg 25.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 240.00 / 240.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 3: Way freight (day/night)

| Train Type       | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont !weld |
|------------------|----------|----------------|---------------|----------------|------------|-------------|
| * 1. Way Freight | 0.0/2.7  | 80.0           | 4.0           | 25.0           | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. Way Freight      | 0.0/2.0           | 2.50                | 12.00               |

Data for Segment # 3: Way freight (day/night)

Angle1 Angle2 : -0.00 deg 25.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 240.00 / 240.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Rail data, segment # 4: GO Rail (day/night)

| Train Type   | ! Trains  | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont !weld |
|--------------|-----------|----------------|---------------|----------------|------------|-------------|
| * 1. GO Rail | 39.0/13.0 | 100.0          | 1.0           | 10.0           | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. GO Rail          | 39.0/13.0         | 2.50                | 0.00                |

Data for Segment # 4: GO Rail (day/night)

Angle1 Angle2 : -0.00 deg 25.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 240.00 / 240.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Result summary (day)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 42.51 | ! | 34.99 | ! | --       | ! | --        | ! | 43.22 *   |
| 2.VIA Rail    | ! | 31.99 | ! | 21.19 | ! | --       | ! | --        | ! | 32.34 *   |
| 3.Way freight | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 4.GO Rail     | ! | 42.63 | ! | 33.93 | ! | --       | ! | --        | ! | 43.18 *   |
| Total         |   |       |   |       |   |          |   |           |   | 46.38 dBA |

Result summary (night)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 2.VIA Rail    | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 3.Way freight | ! | 38.19 | ! | 28.03 | ! | --       | ! | --        | ! | 38.59 *   |
| 4.GO Rail     | ! | 40.87 | ! | 32.17 | ! | --       | ! | --        | ! | 41.42 *   |
| Total         |   |       |   |       |   |          |   |           |   | 43.24 dBA |

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

Car traffic volume : 9728/1081 veh/TimePeriod \*

Medium truck volume : 203/23 veh/TimePeriod \*

Heavy truck volume : 203/23 veh/TimePeriod \*

Posted speed limit : 50 km/h

Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9055

Percentage of Annual Growth : 2.00

Number of Years of Growth : 11.00

Medium Truck % of Total Volume : 2.00

Heavy Truck % of Total Volume : 2.00

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Victoria st (day/night)

Angle1 Angle2 : -0.00 deg 35.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 66.00 / 66.00 m

Receiver height : 1.50 / 1.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00



Road data, segment # 2: Barton St (day/night)

-----  
Car traffic volume : 13634/1515 veh/TimePeriod \*  
Medium truck volume : 284/32 veh/TimePeriod \*  
Heavy truck volume : 284/32 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 11959  
Percentage of Annual Growth : 2.00  
Number of Years of Growth : 14.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Barton St (day/night)

-----  
Angle1 Angle2 : -0.50 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 63.00 / 63.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Result summary (day)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.19 ! 50.56 ! 50.56  
2.Barton St ! 1.19 ! 33.78 ! 33.78  
-----+-----+-----+-----  
Total 50.65 dBA

Result summary (night)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.20 ! 44.08 ! 44.08  
2.Barton St ! 1.19 ! 27.28 ! 27.28  
-----+-----+-----+-----  
Total 44.17 dBA

STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 11:09:02  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R2east.te Time Period: Day/Night 16/8 hours

**Description: R2 North Facade 4th Floor**

**TOTAL Leq FROM ALL SOURCES**

**(DAY) : 57.13**

**(NIGHT) : 53.27**

Rail data, segment # 1: CN Rail (day/night)

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld |
|---------------|---------------|---------------------|--------------------|---------------------|-----------------|----------------|
| * 1. CN Rail  | ! 5.4/0.0     | ! 80.0              | ! 4.0              | !140.0              | !Diesel         | ! Yes          |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type:<br>No Name | ! Unadj.<br>! Trains | ! Annual %<br>! Increase | ! Years of<br>! Growth |
|------------------------|----------------------|--------------------------|------------------------|
| 1. CN Rail             | ! 4.0/0.0            | ! 2.50                   | ! 12.00                |

Data for Segment # 1: CN Rail (day/night)

Angle1 Angle2 : -25.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 240.00 / 240.00 m  
Receiver height : 10.50 / 10.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 2: VIA Rail (day/night)

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld |
|---------------|---------------|---------------------|--------------------|---------------------|-----------------|----------------|
| * 1. VIA Rail | ! 2.7/0.0     | ! 80.0              | ! 2.0              | ! 10.0              | !Diesel         | ! Yes          |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type:<br>No Name | ! Unadj.<br>! Trains | ! Annual %<br>! Increase | ! Years of<br>! Growth |
|------------------------|----------------------|--------------------------|------------------------|
| 1. VIA Rail            | ! 2.0/0.0            | ! 2.50                   | ! 12.00                |

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2 : -25.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 240.00 / 240.00 m  
Receiver height : 10.50 / 10.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 3: Way freight (day/night)

| Train Type       | ! Trains | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|------------------|----------|----------------|--------|---------|------------|-------------|
| * 1. Way Freight | 0.0/2.7  | 80.0           | 4.0    | 25.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. Way Freight      | 0.0/2.0           | 2.50                | 12.00               |

Data for Segment # 3: Way freight (day/night)

Angle1 Angle2 : -25.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 240.00 / 240.00 m  
 Receiver height : 10.50 / 10.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Rail data, segment # 4: GO Rail (day/night)

| Train Type   | ! Trains  | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|--------------|-----------|----------------|--------|---------|------------|-------------|
| * 1. GO Rail | 39.0/13.0 | 100.0          | 1.0    | 10.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. GO Rail          | 39.0/13.0         | 2.50                | 0.00                |

Data for Segment # 4: GO Rail (day/night)

Angle1 Angle2 : -25.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 240.00 / 240.00 m  
 Receiver height : 10.50 / 10.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Result summary (day)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 51.84 | ! | 43.81 | ! | --       | ! | --        | ! | 52.47 *   |
| 2.VIA Rail    | ! | 41.32 | ! | 30.01 | ! | --       | ! | --        | ! | 41.63 *   |
| 3.Way freight | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 4.GO Rail     | ! | 51.97 | ! | 42.75 | ! | --       | ! | --        | ! | 52.46 *   |
| Total         |   |       |   |       |   |          |   |           |   | 55.65 dBA |

Result summary (night)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 2.VIA Rail    | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 3.Way freight | ! | 47.53 | ! | 36.85 | ! | --       | ! | --        | ! | 47.89 *   |
| 4.GO Rail     | ! | 50.20 | ! | 40.99 | ! | --       | ! | --        | ! | 50.69 *   |
| Total         |   |       |   |       |   |          |   |           |   | 52.52 dBA |

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

Car traffic volume : 9728/1081 veh/TimePeriod \*

Medium truck volume : 203/23 veh/TimePeriod \*

Heavy truck volume : 203/23 veh/TimePeriod \*

Posted speed limit : 50 km/h

Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9055

Percentage of Annual Growth : 2.00

Number of Years of Growth : 11.00

Medium Truck % of Total Volume : 2.00

Heavy Truck % of Total Volume : 2.00

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Victoria st (day/night)

Angle1 Angle2 : -0.00 deg 45.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 66.00 / 66.00 m

Receiver height : 10.50 / 10.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00

Road data, segment # 2: Barton St (day/night)

-----  
Car traffic volume : 13634/1515 veh/TimePeriod \*  
Medium truck volume : 284/32 veh/TimePeriod \*  
Heavy truck volume : 284/32 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 11959  
Percentage of Annual Growth : 2.00  
Number of Years of Growth : 14.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Barton St (day/night)

-----  
Angle1 Angle2 : -0.50 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 63.00 / 63.00 m  
Receiver height : 10.50 / 10.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Result summary (day)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.19 ! 51.66 ! 51.66  
2.Barton St ! 1.19 ! 33.78 ! 33.78  
-----+-----+-----+-----  
Total 51.73 dBA

Result summary (night)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.20 ! 45.18 ! 45.18  
2.Barton St ! 1.19 ! 27.28 ! 27.28  
-----+-----+-----+-----  
Total 45.25 dBA

STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 11:33:59  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3east.te Time Period: Day/Night 16/8 hours

**Description: R3 East Facade 1st Floor**

**TOTAL Leq FROM ALL SOURCES**

**(DAY) : 52.00**

**(NIGHT) : 46.26**

Rail data, segment # 1: CN Rail (day/night)

| Train Type   | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|--------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. CN Rail | 5.4/0.0  | 80.0           | 4.0           | 140.0          | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name    | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|---------|-----------------|---------------------|-------------------|
| 1.       | CN Rail | 4.0/0.0         | 2.50                | 12.00             |

Data for Segment # 1: CN Rail (day/night)

Angle1 Angle2 : -0.00 deg 15.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 244.00 / 244.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 2: VIA Rail (day/night)

| Train Type    | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|---------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. VIA Rail | 2.7/0.0  | 80.0           | 2.0           | 10.0           | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name     | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|----------|-----------------|---------------------|-------------------|
| 1.       | VIA Rail | 2.0/0.0         | 2.50                | 12.00             |

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2 : -0.00 deg 15.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 244.00 / 244.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 3: Way freight (day/night)

| Train Type       | ! Trains | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|------------------|----------|----------------|--------|---------|------------|-------------|
| * 1. Way Freight | 0.0/2.7  | 80.0           | 4.0    | 25.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. Way Freight      | 0.0/2.0           | 2.50                | 12.00               |

Data for Segment # 3: Way freight (day/night)

Angle1 Angle2 : -0.00 deg 15.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 / 244.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Rail data, segment # 4: GO Rail (day/night)

| Train Type   | ! Trains  | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|--------------|-----------|----------------|--------|---------|------------|-------------|
| * 1. GO Rail | 39.0/13.0 | 100.0          | 1.0    | 10.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. GO Rail          | 39.0/13.0         | 2.50                | 0.00                |

Data for Segment # 4: GO Rail (day/night)

Angle1 Angle2 : -0.00 deg 15.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 / 244.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Result summary (day)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 40.23 | ! | 32.71 | ! | --       | ! | --        | ! | 40.94 *   |
| 2.VIA Rail    | ! | 29.71 | ! | 18.91 | ! | --       | ! | --        | ! | 30.06 *   |
| 3.Way freight | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 4.GO Rail     | ! | 40.35 | ! | 31.65 | ! | --       | ! | --        | ! | 40.90 *   |
| Total         |   |       |   |       |   |          |   |           |   | 44.10 dBA |

Result summary (night)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 2.VIA Rail    | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 3.Way freight | ! | 35.91 | ! | 25.76 | ! | --       | ! | --        | ! | 36.31 *   |
| 4.GO Rail     | ! | 38.59 | ! | 29.89 | ! | --       | ! | --        | ! | 39.14 *   |
| Total         |   |       |   |       |   |          |   |           |   | 40.96 dBA |

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

Car traffic volume : 9728/1081 veh/TimePeriod \*

Medium truck volume : 203/23 veh/TimePeriod \*

Heavy truck volume : 203/23 veh/TimePeriod \*

Posted speed limit : 50 km/h

Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9055

Percentage of Annual Growth : 2.00

Number of Years of Growth : 11.00

Medium Truck % of Total Volume : 2.00

Heavy Truck % of Total Volume : 2.00

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Victoria st (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 95.00 / 95.00 m

Receiver height : 1.50 / 1.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00



Road data, segment # 2: Barton St (day/night)

-----  
Car traffic volume : 13634/1515 veh/TimePeriod \*  
Medium truck volume : 284/32 veh/TimePeriod \*  
Heavy truck volume : 284/32 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 11959  
Percentage of Annual Growth : 2.00  
Number of Years of Growth : 14.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Barton St (day/night)

-----  
Angle1 Angle2 : -0.00 deg 20.00 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 : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Result summary (day)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.19 ! 33.54 ! 33.54  
2.Barton St ! 1.19 ! 51.16 ! 51.16  
-----+-----+-----+-----  
Total 51.23 dBA

Result summary (night)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.20 ! 27.06 ! 27.06  
2.Barton St ! 1.19 ! 44.67 ! 44.67  
-----+-----+-----+-----  
Total 44.74 dBA

STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 11:53:47  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4east.te Time Period: Day/Night 16/8 hours

**Description: R4 East Facade 4th Floor**

**TOTAL Leq FROM ALL SOURCES**

**(DAY) : 56.05**

**(NIGHT) : 52.07**

Rail data, segment # 1: CN Rail (day/night)

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld |
|---------------|---------------|---------------------|--------------------|---------------------|-----------------|----------------|
| * 1. CN Rail  | ! 5.4/0.0     | ! 80.0              | ! 4.0              | !140.0              | !Diesel         | ! Yes          |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type:<br>No Name | ! Unadj.<br>! Trains | ! Annual %<br>! Increase | ! Years of<br>! Growth |
|------------------------|----------------------|--------------------------|------------------------|
| 1. CN Rail             | ! 4.0/0.0            | ! 2.50                   | ! 12.00                |

Data for Segment # 1: CN Rail (day/night)

|                          |        |                     |                                 |
|--------------------------|--------|---------------------|---------------------------------|
| Angle1                   | Angle2 | : -0.00 deg         | 90.00 deg                       |
| Wood depth               |        | : 0                 | (No woods.)                     |
| No of house rows         |        | : 0 / 0             |                                 |
| Surface                  |        | : 1                 | (Absorptive ground surface)     |
| Receiver source distance |        | : 244.00 / 244.00 m |                                 |
| Receiver height          |        | : 10.50 / 10.50 m   |                                 |
| Topography               |        | : 1                 | (Flat/gentle slope; no barrier) |
| No Whistle               |        |                     |                                 |

Rail data, segment # 2: VIA Rail (day/night)

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld |
|---------------|---------------|---------------------|--------------------|---------------------|-----------------|----------------|
| * 1. VIA Rail | ! 2.7/0.0     | ! 80.0              | ! 2.0              | ! 10.0              | !Diesel         | ! Yes          |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type:<br>No Name | ! Unadj.<br>! Trains | ! Annual %<br>! Increase | ! Years of<br>! Growth |
|------------------------|----------------------|--------------------------|------------------------|
| 1. VIA Rail            | ! 2.0/0.0            | ! 2.50                   | ! 12.00                |

Data for Segment # 2: VIA Rail (day/night)

|                          |        |                     |                                 |
|--------------------------|--------|---------------------|---------------------------------|
| Angle1                   | Angle2 | : -0.00 deg         | 90.00 deg                       |
| Wood depth               |        | : 0                 | (No woods.)                     |
| No of house rows         |        | : 0 / 0             |                                 |
| Surface                  |        | : 1                 | (Absorptive ground surface)     |
| Receiver source distance |        | : 244.00 / 244.00 m |                                 |
| Receiver height          |        | : 10.50 / 10.50 m   |                                 |
| Topography               |        | : 1                 | (Flat/gentle slope; no barrier) |
| No Whistle               |        |                     |                                 |

Rail data, segment # 3: Way freight (day/night)

| Train Type       | ! Trains | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|------------------|----------|----------------|--------|---------|------------|-------------|
| * 1. Way Freight | 0.0/2.7  | 80.0           | 4.0    | 25.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % ! Increase | ! Years of ! Growth |
|---------------------|-------------------|-----------------------|---------------------|
| 1. Way Freight      | 0.0/2.0           | 2.50                  | 12.00               |

Data for Segment # 3: Way freight (day/night)

Angle1 Angle2 : -0.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 / 244.00 m  
 Receiver height : 10.50 / 10.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Rail data, segment # 4: GO Rail (day/night)

| Train Type   | ! Trains  | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|--------------|-----------|----------------|--------|---------|------------|-------------|
| * 1. GO Rail | 39.0/13.0 | 100.0          | 1.0    | 10.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % ! Increase | ! Years of ! Growth |
|---------------------|-------------------|-----------------------|---------------------|
| 1. GO Rail          | 39.0/13.0         | 2.50                  | 0.00                |

Data for Segment # 4: GO Rail (day/night)

Angle1 Angle2 : -0.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 / 244.00 m  
 Receiver height : 10.50 / 10.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle  
 Reference angle : 0.00

Result summary (day)

|               | ! Loc   | ! Wheel | ! Whistle  | ! Whistle   | ! Total   |
|---------------|---------|---------|------------|-------------|-----------|
|               | ! Leq   | ! Leq   | ! Left Leq | ! Right Leq | ! Leq     |
|               | ! (dBA) | ! (dBA) | ! (dBA)    | ! (dBA)     | ! (dBA)   |
| 1.CN Rail     | ! 50.51 | ! 42.41 | ! --       | ! --        | ! 51.14 * |
| 2.VIA Rail    | ! 39.98 | ! 28.61 | ! --       | ! --        | ! 40.29 * |
| 3.Way freight | ! 0.00  | ! 0.00  | ! --       | ! --        | ! 0.00 *  |
| 4.GO Rail     | ! 50.63 | ! 41.35 | ! --       | ! --        | ! 51.11 * |
| Total         |         |         |            |             | 54.31 dBA |

Result summary (night)

|               | ! Loc   | ! Wheel | ! Whistle  | ! Whistle   | ! Total   |
|---------------|---------|---------|------------|-------------|-----------|
|               | ! Leq   | ! Leq   | ! Left Leq | ! Right Leq | ! Leq     |
|               | ! (dBA) | ! (dBA) | ! (dBA)    | ! (dBA)     | ! (dBA)   |
| 1.CN Rail     | ! 0.00  | ! 0.00  | ! --       | ! --        | ! 0.00 *  |
| 2.VIA Rail    | ! 0.00  | ! 0.00  | ! --       | ! --        | ! 0.00 *  |
| 3.Way freight | ! 46.19 | ! 35.46 | ! --       | ! --        | ! 46.54 * |
| 4.GO Rail     | ! 48.87 | ! 39.59 | ! --       | ! --        | ! 49.35 * |
| Total         |         |         |            |             | 51.18 dBA |

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

Car traffic volume : 9728/1081 veh/TimePeriod \*

Medium truck volume : 203/23 veh/TimePeriod \*

Heavy truck volume : 203/23 veh/TimePeriod \*

Posted speed limit : 50 km/h

Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9055

Percentage of Annual Growth : 2.00

Number of Years of Growth : 11.00

Medium Truck % of Total Volume : 2.00

Heavy Truck % of Total Volume : 2.00

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Victoria st (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 95.00 / 95.00 m

Receiver height : 10.50 / 10.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00

Road data, segment # 2: Barton St (day/night)

-----  
Car traffic volume : 13634/1515 veh/TimePeriod \*  
Medium truck volume : 284/32 veh/TimePeriod \*  
Heavy truck volume : 284/32 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 11959  
Percentage of Annual Growth : 2.00  
Number of Years of Growth : 14.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Barton St (day/night)

-----  
Angle1 Angle2 : -0.00 deg 20.00 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 : 10.50 / 10.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Result summary (day)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.19 ! 33.54 ! 33.54  
2.Barton St ! 1.19 ! 51.16 ! 51.16  
-----+-----+-----+-----  
Total 51.23 dBA

Result summary (night)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.20 ! 27.06 ! 27.06  
2.Barton St ! 1.19 ! 44.67 ! 44.67  
-----+-----+-----+-----  
Total 44.74 dBA

STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 12:29:06  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r5east.te Time Period: Day/Night 16/8 hours

**Description: R5 South Facade 1st Floor**

**TOTAL Leq FROM ALL SOURCES**

**(DAY): 41.05**

**(NIGHT): 35.16**

Rail data, segment # 1: CN Rail (day/night)

| Train Type   | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|--------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. CN Rail | 5.4/0.0  | 80.0           | 4.0           | 140.0          | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name    | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|---------|-----------------|---------------------|-------------------|
| 1.       | CN Rail | 4.0/0.0         | 2.50                | 12.00             |

Data for Segment # 1: CN Rail (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 255.00 / 255.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 2: VIA Rail (day/night)

| Train Type    | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|---------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. VIA Rail | 2.7/0.0  | 80.0           | 2.0           | 10.0           | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name     | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|----------|-----------------|---------------------|-------------------|
| 1.       | VIA Rail | 2.0/0.0         | 2.50                | 12.00             |

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 255.00 / 255.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 3: Way freight (day/night)

| Train Type       | ! Trains | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|------------------|----------|----------------|--------|---------|------------|-------------|
| * 1. Way Freight | 0.0/2.7  | 80.0           | 4.0    | 25.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % ! Increase | ! Years of ! Growth |
|---------------------|-------------------|-----------------------|---------------------|
| 1. Way Freight      | 0.0/2.0           | 2.50                  | 12.00               |

Data for Segment # 3: Way freight (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 255.00 / 255.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Rail data, segment # 4: GO Rail (day/night)

| Train Type   | ! Trains  | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|--------------|-----------|----------------|--------|---------|------------|-------------|
| * 1. GO Rail | 39.0/13.0 | 100.0          | 1.0    | 10.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % ! Increase | ! Years of ! Growth |
|---------------------|-------------------|-----------------------|---------------------|
| 1. GO Rail          | 39.0/13.0         | 2.50                  | 0.00                |

Data for Segment # 4: GO Rail (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 255.00 / 255.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Result summary (day)

|               | ! Loc   | ! Wheel | ! Whistle  | ! Whistle   | ! Total   |
|---------------|---------|---------|------------|-------------|-----------|
|               | ! Leq   | ! Leq   | ! Left Leq | ! Right Leq | ! Leq     |
|               | ! (dBA) | ! (dBA) | ! (dBA)    | ! (dBA)     | ! (dBA)   |
| 1.CN Rail     | 28.19   | 20.67   | --         | --          | 28.90 *   |
| 2.VIA Rail    | 17.67   | 6.87    | --         | --          | 18.02 *   |
| 3.Way freight | 0.00    | 0.00    | --         | --          | 0.00 *    |
| 4.GO Rail     | 28.32   | 19.61   | --         | --          | 28.87 *   |
| Total         |         |         |            |             | 32.07 dBA |

Result summary (night)

|               | ! Loc   | ! Wheel | ! Whistle  | ! Whistle   | ! Total   |
|---------------|---------|---------|------------|-------------|-----------|
|               | ! Leq   | ! Leq   | ! Left Leq | ! Right Leq | ! Leq     |
|               | ! (dBA) | ! (dBA) | ! (dBA)    | ! (dBA)     | ! (dBA)   |
| 1.CN Rail     | 0.00    | 0.00    | --         | --          | 0.00 *    |
| 2.VIA Rail    | 0.00    | 0.00    | --         | --          | 0.00 *    |
| 3.Way freight | 23.88   | 13.71   | --         | --          | 24.28 *   |
| 4.GO Rail     | 26.56   | 17.85   | --         | --          | 27.11 *   |
| Total         |         |         |            |             | 28.93 dBA |

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

Car traffic volume : 9728/1081 veh/TimePeriod \*

Medium truck volume : 203/23 veh/TimePeriod \*

Heavy truck volume : 203/23 veh/TimePeriod \*

Posted speed limit : 50 km/h

Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9055

Percentage of Annual Growth : 2.00

Number of Years of Growth : 11.00

Medium Truck % of Total Volume : 2.00

Heavy Truck % of Total Volume : 2.00

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Victoria st (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 67.00 / 67.00 m

Receiver height : 1.50 / 1.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00



Road data, segment # 2: Barton St (day/night)

-----  
Car traffic volume : 13634/1515 veh/TimePeriod \*  
Medium truck volume : 284/32 veh/TimePeriod \*  
Heavy truck volume : 284/32 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 11959  
Percentage of Annual Growth : 2.00  
Number of Years of Growth : 14.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Barton St (day/night)

-----  
Angle1 Angle2 : -0.00 deg 1.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 38.00 / 38.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Result summary (day)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.19 ! 35.06 ! 35.06  
2.Barton St ! 1.19 ! 38.98 ! 38.98  
-----+-----+-----+-----  
Total 40.46 dBA

Result summary (night)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.20 ! 28.58 ! 28.58  
2.Barton St ! 1.19 ! 32.49 ! 32.49  
-----+-----+-----+-----  
Total 33.97 dBA

STAMSON 5.04                      SUMMARY REPORT                      Date: 15-12-2025 12:23:30  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r6east.te                      Time Period: Day/Night 16/8 hours

**Description: R6 South Facade 4th Floor**

**TOTAL Leq FROM ALL SOURCES**

**(DAY) : 62.34**

**(NIGHT) : 55.86**

Rail data, segment # 1: CN Rail (day/night)

```
-----
Train          ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type           !              ! (km/h) !/Train!/Train! type !weld
-----+-----+-----+-----+-----+-----+-----
* 1. CN Rail   !   5.4/0.0   !   80.0 !   4.0 !140.0 !Diesel! Yes
```

\* The identified number of trains have been adjusted for  
future growth using the following parameters:

```
Train type:      ! Unadj. ! Annual % ! Years of !
No  Name         ! Trains ! Increase ! Growth  !
-----+-----+-----+-----+
  1. CN Rail     !   4.0/0.0   !   2.50 !   12.00  !
```

Data for Segment # 1: CN Rail (day/night)

```
-----
Angle1  Angle2      :  -0.00 deg   1.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      1      (Absorptive ground surface)
Receiver source distance : 255.00 / 255.00 m
Receiver height  :  10.50 / 10.50 m
Topography      :      1      (Flat/gentle slope; no barrier)
No Whistle
```

Rail data, segment # 2: VIA Rail (day/night)

```
-----
Train          ! Trains      ! Speed !# loc !# Cars! Eng  !Cont
Type           !              ! (km/h) !/Train!/Train! type !weld
-----+-----+-----+-----+-----+-----
* 1. VIA Rail   !   2.7/0.0   !   80.0 !   2.0 ! 10.0 !Diesel! Yes
```

\* The identified number of trains have been adjusted for  
future growth using the following parameters:

```
Train type:      ! Unadj. ! Annual % ! Years of !
No  Name         ! Trains ! Increase ! Growth  !
-----+-----+-----+-----+
  1. VIA Rail     !   2.0/0.0   !   2.50 !   12.00  !
```

Data for Segment # 2: VIA Rail (day/night)

```
-----
Angle1  Angle2      :  -0.00 deg   1.00 deg
Wood depth      :      0      (No woods.)
No of house rows :      0 / 0
Surface         :      1      (Absorptive ground surface)
Receiver source distance : 255.00 / 255.00 m
Receiver height  :  10.50 / 10.50 m
Topography      :      1      (Flat/gentle slope; no barrier)
No Whistle
```

Rail data, segment # 3: Way freight (day/night)

| Train Type       | ! Trains | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|------------------|----------|----------------|--------|---------|------------|-------------|
| * 1. Way Freight | 0.0/2.7  | 80.0           | 4.0    | 25.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. Way Freight      | 0.0/2.0           | 2.50                | 12.00               |

Data for Segment # 3: Way freight (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 255.00 / 255.00 m  
 Receiver height : 10.50 / 10.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Rail data, segment # 4: GO Rail (day/night)

| Train Type   | ! Trains  | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont !weld |
|--------------|-----------|----------------|--------|---------|------------|-------------|
| * 1. GO Rail | 39.0/13.0 | 100.0          | 1.0    | 10.0    | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. GO Rail          | 39.0/13.0         | 2.50                | 0.00                |

Data for Segment # 4: GO Rail (day/night)

Angle1 Angle2 : -0.00 deg 1.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 255.00 / 255.00 m  
 Receiver height : 10.50 / 10.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Result summary (day)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 31.51 | ! | 23.62 | ! | --       | ! | --        | ! | 32.16 *   |
| 2.VIA Rail    | ! | 20.99 | ! | 9.82  | ! | --       | ! | --        | ! | 21.31 *   |
| 3.Way freight | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 4.GO Rail     | ! | 31.64 | ! | 22.56 | ! | --       | ! | --        | ! | 32.15 *   |
| Total         |   |       |   |       |   |          |   |           |   | 35.34 dBA |

Result summary (night)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 2.VIA Rail    | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 3.Way freight | ! | 27.20 | ! | 16.66 | ! | --       | ! | --        | ! | 27.57 *   |
| 4.GO Rail     | ! | 29.88 | ! | 20.80 | ! | --       | ! | --        | ! | 30.39 *   |
| Total         |   |       |   |       |   |          |   |           |   | 32.22 dBA |

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

Car traffic volume : 9728/1081 veh/TimePeriod \*

Medium truck volume : 203/23 veh/TimePeriod \*

Heavy truck volume : 203/23 veh/TimePeriod \*

Posted speed limit : 50 km/h

Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9055

Percentage of Annual Growth : 2.00

Number of Years of Growth : 11.00

Medium Truck % of Total Volume : 2.00

Heavy Truck % of Total Volume : 2.00

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Victoria st (day/night)

Angle1 Angle2 : -0.00 deg 90.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 67.00 / 67.00 m

Receiver height : 10.50 / 10.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00

Road data, segment # 2: Barton St (day/night)

-----  
Car traffic volume : 13634/1515 veh/TimePeriod \*  
Medium truck volume : 284/32 veh/TimePeriod \*  
Heavy truck volume : 284/32 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 11959  
Percentage of Annual Growth : 2.00  
Number of Years of Growth : 14.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Barton St (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 : 38.00 / 38.00 m  
Receiver height : 10.50 / 10.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Result summary (day)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.19 ! 54.60 ! 54.60  
2.Barton St ! 1.19 ! 61.53 ! 61.53  
-----+-----+-----+-----  
Total 62.33 dBA

Result summary (night)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.20 ! 48.12 ! 48.12  
2.Barton St ! 1.19 ! 55.04 ! 55.04  
-----+-----+-----+-----  
Total 55.84 dBA

STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 12:38:30  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7east.te Time Period: Day/Night 16/8 hours

**Description: R7 West Facade 1st Floor**

**TOTAL Leq FROM ALL SOURCES**

**(DAY) : 52.80**

**(NIGHT) : 47.31**

Rail data, segment # 1: CN Rail (day/night)

| Train Type   | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|--------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. CN Rail | 5.4/0.0  | 80.0           | 4.0           | 140.0          | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name    | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|---------|-----------------|---------------------|-------------------|
| 1.       | CN Rail | 4.0/0.0         | 2.50                | 12.00             |

Data for Segment # 1: CN Rail (day/night)

Angle1 Angle2 : -25.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 244.00 / 244.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 2: VIA Rail (day/night)

| Train Type    | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|---------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. VIA Rail | 2.7/0.0  | 80.0           | 2.0           | 10.0           | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name     | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|----------|-----------------|---------------------|-------------------|
| 1.       | VIA Rail | 2.0/0.0         | 2.50                | 12.00             |

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2 : -25.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 244.00 / 244.00 m  
Receiver height : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 3: Way freight (day/night)

| Train Type       | ! Trains | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont weld |
|------------------|----------|----------------|--------|---------|------------|------------|
| * 1. Way Freight | 0.0/2.7  | 80.0           | 4.0    | 25.0    | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|---------------------|-----------------|---------------------|-------------------|
| 1. Way Freight      | 0.0/2.0         | 2.50                | 12.00             |

Data for Segment # 3: Way freight (day/night)

Angle1 Angle2 : -25.00 deg 0.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 / 244.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle  
 Reference angle : 0.00

Rail data, segment # 4: GO Rail (day/night)

| Train Type   | ! Trains  | ! Speed (km/h) | !# loc | !# Cars | ! Eng type | !Cont weld |
|--------------|-----------|----------------|--------|---------|------------|------------|
| * 1. GO Rail | 39.0/13.0 | 100.0          | 1.0    | 10.0    | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|---------------------|-----------------|---------------------|-------------------|
| 1. GO Rail          | 39.0/13.0       | 2.50                | 0.00              |

Data for Segment # 4: GO Rail (day/night)

Angle1 Angle2 : -25.00 deg 0.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 / 244.00 m  
 Receiver height : 1.50 / 1.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle  
 Reference angle : 0.00

Result summary (day)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 42.39 | ! | 34.87 | ! | --       | ! | --        | ! | 43.10 *   |
| 2.VIA Rail    | ! | 31.87 | ! | 21.07 | ! | --       | ! | --        | ! | 32.22 *   |
| 3.Way freight | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 4.GO Rail     | ! | 42.52 | ! | 33.81 | ! | --       | ! | --        | ! | 43.07 *   |
| Total         |   |       |   |       |   |          |   |           |   | 46.27 dBA |

Result summary (night)

|               | ! | Loc   | ! | Wheel | ! | Whistle  | ! | Whistle   | ! | Total     |
|---------------|---|-------|---|-------|---|----------|---|-----------|---|-----------|
|               | ! | Leq   | ! | Leq   | ! | Left Leq | ! | Right Leq | ! | Leq       |
|               | ! | (dBA) | ! | (dBA) | ! | (dBA)    | ! | (dBA)     | ! | (dBA)     |
| 1.CN Rail     | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 2.VIA Rail    | ! | 0.00  | ! | 0.00  | ! | --       | ! | --        | ! | 0.00 *    |
| 3.Way freight | ! | 38.08 | ! | 27.91 | ! | --       | ! | --        | ! | 38.48 *   |
| 4.GO Rail     | ! | 40.76 | ! | 32.05 | ! | --       | ! | --        | ! | 41.31 *   |
| Total         |   |       |   |       |   |          |   |           |   | 43.13 dBA |

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

Car traffic volume : 9728/1081 veh/TimePeriod \*

Medium truck volume : 203/23 veh/TimePeriod \*

Heavy truck volume : 203/23 veh/TimePeriod \*

Posted speed limit : 50 km/h

Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9055

Percentage of Annual Growth : 2.00

Number of Years of Growth : 11.00

Medium Truck % of Total Volume : 2.00

Heavy Truck % of Total Volume : 2.00

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Victoria st (day/night)

Angle1 Angle2 : -0.00 deg 15.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 64.00 / 64.00 m

Receiver height : 1.50 / 1.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00



Road data, segment # 2: Barton St (day/night)

-----  
Car traffic volume : 13634/1515 veh/TimePeriod \*  
Medium truck volume : 284/32 veh/TimePeriod \*  
Heavy truck volume : 284/32 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 11959  
Percentage of Annual Growth : 2.00  
Number of Years of Growth : 14.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Barton St (day/night)

-----  
Angle1 Angle2 : -0.00 deg 15.00 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 : 1.50 / 1.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Result summary (day)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.19 ! 47.02 ! 47.02  
2.Barton St ! 1.19 ! 49.91 ! 49.91  
-----+-----+-----+-----  
Total 51.71 dBA

Result summary (night)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.20 ! 40.54 ! 40.54  
2.Barton St ! 1.19 ! 43.42 ! 43.42  
-----+-----+-----+-----  
Total 45.22 dBA

STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 12:46:24  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r8east.te Time Period: Day/Night 16/8 hours

**Description: R8 West Facade 4th Floor**

**TOTAL Leq FROM ALL SOURCES**

**(DAY) : 60.78**

**(NIGHT) : 54.92**

Rail data, segment # 1: CN Rail (day/night)

| Train Type   | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|--------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. CN Rail | 5.4/0.0  | 80.0           | 4.0           | 140.0          | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name    | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|---------|-----------------|---------------------|-------------------|
| 1.       | CN Rail | 4.0/0.0         | 2.50                | 12.00             |

Data for Segment # 1: CN Rail (day/night)

Angle1 Angle2 : -45.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 244.00 / 244.00 m  
Receiver height : 10.50 / 10.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 2: VIA Rail (day/night)

| Train Type    | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont weld |
|---------------|----------|----------------|---------------|----------------|------------|------------|
| * 1. VIA Rail | 2.7/0.0  | 80.0           | 2.0           | 10.0           | Diesel     | Yes        |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train No | Name     | ! Unadj. Trains | ! Annual % Increase | ! Years of Growth |
|----------|----------|-----------------|---------------------|-------------------|
| 1.       | VIA Rail | 2.0/0.0         | 2.50                | 12.00             |

Data for Segment # 2: VIA Rail (day/night)

Angle1 Angle2 : -45.00 deg 0.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0  
Surface : 1 (Absorptive ground surface)  
Receiver source distance : 244.00 / 244.00 m  
Receiver height : 10.50 / 10.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
No Whistle

Rail data, segment # 3: Way freight (day/night)

| Train Type       | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont !weld |
|------------------|----------|----------------|---------------|----------------|------------|-------------|
| * 1. Way Freight | 0.0/2.7  | 80.0           | 4.0           | 25.0           | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. Way Freight      | 0.0/2.0           | 2.50                | 12.00               |

Data for Segment # 3: Way freight (day/night)

Angle1 Angle2 : -45.00 deg 0.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 / 244.00 m  
 Receiver height : 10.50 / 10.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle  
 Reference angle : 0.00

Rail data, segment # 4: GO Rail (day/night)

| Train Type   | ! Trains  | ! Speed (km/h) | !# loc /Train | !# Cars /Train | ! Eng type | !Cont !weld |
|--------------|-----------|----------------|---------------|----------------|------------|-------------|
| * 1. GO Rail | 39.0/13.0 | 100.0          | 1.0           | 10.0           | Diesel     | Yes         |

\* The identified number of trains have been adjusted for future growth using the following parameters:

| Train type: No Name | ! Unadj. ! Trains | ! Annual % Increase | ! Years of ! Growth |
|---------------------|-------------------|---------------------|---------------------|
| 1. GO Rail          | 39.0/13.0         | 2.50                | 0.00                |

Data for Segment # 4: GO Rail (day/night)

Angle1 Angle2 : -45.00 deg 0.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 / 244.00 m  
 Receiver height : 10.50 / 10.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle  
 Reference angle : 0.00

Result summary (day)

|               | ! Loc   | ! Wheel | ! Whistle  | ! Whistle   | ! Total   |
|---------------|---------|---------|------------|-------------|-----------|
|               | ! Leq   | ! Leq   | ! Left Leq | ! Right Leq | ! Leq     |
|               | ! (dBA) | ! (dBA) | ! (dBA)    | ! (dBA)     | ! (dBA)   |
| 1.CN Rail     | ! 48.15 | ! 40.23 | ! --       | ! --        | ! 48.80 * |
| 2.VIA Rail    | ! 37.63 | ! 26.43 | ! --       | ! --        | ! 37.95 * |
| 3.Way freight | ! 0.00  | ! 0.00  | ! --       | ! --        | ! 0.00 *  |
| 4.GO Rail     | ! 48.27 | ! 39.17 | ! --       | ! --        | ! 48.77 * |
| Total         |         |         |            |             | 51.97 dBA |

Result summary (night)

|               | ! Loc   | ! Wheel | ! Whistle  | ! Whistle   | ! Total   |
|---------------|---------|---------|------------|-------------|-----------|
|               | ! Leq   | ! Leq   | ! Left Leq | ! Right Leq | ! Leq     |
|               | ! (dBA) | ! (dBA) | ! (dBA)    | ! (dBA)     | ! (dBA)   |
| 1.CN Rail     | ! 0.00  | ! 0.00  | ! --       | ! --        | ! 0.00 *  |
| 2.VIA Rail    | ! 0.00  | ! 0.00  | ! --       | ! --        | ! 0.00 *  |
| 3.Way freight | ! 43.84 | ! 33.27 | ! --       | ! --        | ! 44.21 * |
| 4.GO Rail     | ! 46.51 | ! 37.41 | ! --       | ! --        | ! 47.01 * |
| Total         |         |         |            |             | 48.84 dBA |

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

Car traffic volume : 9728/1081 veh/TimePeriod \*

Medium truck volume : 203/23 veh/TimePeriod \*

Heavy truck volume : 203/23 veh/TimePeriod \*

Posted speed limit : 50 km/h

Road gradient : 0 %

Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 9055

Percentage of Annual Growth : 2.00

Number of Years of Growth : 11.00

Medium Truck % of Total Volume : 2.00

Heavy Truck % of Total Volume : 2.00

Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Victoria st (day/night)

Angle1 Angle2 : -90.00 deg 45.00 deg

Wood depth : 0 (No woods.)

No of house rows : 0 / 0

Surface : 2 (Reflective ground surface)

Receiver source distance : 64.00 / 64.00 m

Receiver height : 10.50 / 10.50 m

Topography : 1 (Flat/gentle slope; no barrier)

Reference angle : 0.00

Road data, segment # 2: Barton St (day/night)

-----  
Car traffic volume : 13634/1515 veh/TimePeriod \*  
Medium truck volume : 284/32 veh/TimePeriod \*  
Heavy truck volume : 284/32 veh/TimePeriod \*  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 11959  
Percentage of Annual Growth : 2.00  
Number of Years of Growth : 14.00  
Medium Truck % of Total Volume : 2.00  
Heavy Truck % of Total Volume : 2.00  
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Barton St (day/night)

-----  
Angle1 Angle2 : -0.00 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 : 10.50 / 10.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Result summary (day)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.19 ! 56.56 ! 56.56  
2.Barton St ! 1.19 ! 57.69 ! 57.69  
-----+-----+-----+-----  
Total 60.17 dBA

Result summary (night)

-----  
! source ! Road ! Total  
! height ! Leq ! Leq  
! (m) ! (dBA) ! (dBA)  
-----+-----+-----+-----  
1.Victoria st ! 1.20 ! 50.08 ! 50.08  
2.Barton St ! 1.19 ! 51.20 ! 51.20  
-----+-----+-----+-----  
Total 53.69 dBA

STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 12:54:28  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r9east.te Time Period: 16 hours

**Description: R9 4th Floor Rooftop OLA**

**TOTAL Leq FROM ALL SOURCES:**

**62.49**

Rail data, segment # 1: CN Rail

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld          |
|---------------|---------------|---------------------|--------------------|---------------------|-----------------|-------------------------|
| 1. CN Rail    | !             | 3.6/0.0             | !                  | 80.0                | !               | 4.0 !140.0 !Diesel! Yes |

Data for Segment # 1: CN Rail

|                          |        |              |                                 |
|--------------------------|--------|--------------|---------------------------------|
| Angle1                   | Angle2 | : -90.00 deg | 45.00 deg                       |
| Wood depth               | :      | 0            | (No woods.)                     |
| No of house rows         | :      | 0            |                                 |
| Surface                  | :      | 1            | (Absorptive ground surface)     |
| Receiver source distance | :      | 244.00 m     |                                 |
| Receiver height          | :      | 13.50 m      |                                 |
| Topography               | :      | 1            | (Flat/gentle slope; no barrier) |
| No Whistle               |        |              |                                 |

Rail data, segment # 2: VIA Rail

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld          |
|---------------|---------------|---------------------|--------------------|---------------------|-----------------|-------------------------|
| 1. VIA Rail   | !             | 1.8/0.0             | !                  | 80.0                | !               | 2.0 ! 10.0 !Diesel! Yes |

Data for Segment # 2: VIA Rail

|                          |        |              |                                 |
|--------------------------|--------|--------------|---------------------------------|
| Angle1                   | Angle2 | : -90.00 deg | 45.00 deg                       |
| Wood depth               | :      | 0            | (No woods.)                     |
| No of house rows         | :      | 0            |                                 |
| Surface                  | :      | 1            | (Absorptive ground surface)     |
| Receiver source distance | :      | 244.00 m     |                                 |
| Receiver height          | :      | 13.50 m      |                                 |
| Topography               | :      | 1            | (Flat/gentle slope; no barrier) |
| No Whistle               |        |              |                                 |

Rail data, segment # 3: Way freight

| Train<br>Type  | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld          |
|----------------|---------------|---------------------|--------------------|---------------------|-----------------|-------------------------|
| 1. Way Freight | !             | 1.8/0.0             | !                  | 80.0                | !               | 4.0 ! 25.0 !Diesel! Yes |

Data for Segment # 3: Way freight

|                          |        |              |                                 |
|--------------------------|--------|--------------|---------------------------------|
| Angle1                   | Angle2 | : -90.00 deg | 45.00 deg                       |
| Wood depth               | :      | 0            | (No woods.)                     |
| No of house rows         | :      | 0            |                                 |
| Surface                  | :      | 1            | (Absorptive ground surface)     |
| Receiver source distance | :      | 244.00 m     |                                 |
| Receiver height          | :      | 13.50 m      |                                 |
| Topography               | :      | 1            | (Flat/gentle slope; no barrier) |
| No Whistle               |        |              |                                 |

Rail data, segment # 4: GO Rail

| Train Type | ! Trains | ! Speed (km/h) | !# loc /Train | !# Cars /Train | Eng type | !Cont weld |
|------------|----------|----------------|---------------|----------------|----------|------------|
| 1. GO Rail | 34.7/0.0 | 100.0          | 1.0           | 10.0           | Diesel   | Yes        |

Data for Segment # 4: GO Rail

Angle1 Angle2 : -90.00 deg 45.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0  
 Surface : 1 (Absorptive ground surface)  
 Receiver source distance : 244.00 m  
 Receiver height : 13.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 No Whistle

Result summary

|               | ! Loc Leq (dBA) | ! Wheel Leq (dBA) | ! Whistle Left (dBA) | ! Whistle Right (dBA) | ! Total Leq (dBA) |
|---------------|-----------------|-------------------|----------------------|-----------------------|-------------------|
| 1.CN Rail     | 51.97           | 43.93             | --                   | --                    | 52.60 *           |
| 2.VIA Rail    | 41.45           | 30.13             | --                   | --                    | 41.76 *           |
| 3.Way freight | 44.65           | 33.96             | --                   | --                    | 45.01 *           |
| 4.GO Rail     | 53.35           | 44.12             | --                   | --                    | 53.84 *           |
| Total         |                 |                   |                      |                       | 56.73 dBA         |

Road data, segment # 1: Victoria st

Car traffic volume : 7206 veh/TimePeriod  
 Medium truck volume : 151 veh/TimePeriod  
 Heavy truck volume : 151 veh/TimePeriod  
 Posted speed limit : 50 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Victoria st

Angle1 Angle2 : -90.00 deg 90.00 deg  
 Wood depth : 0 (No woods.)  
 No of house rows : 0  
 Surface : 2 (Reflective ground surface)  
 Receiver source distance : 67.00 m  
 Receiver height : 13.50 m  
 Topography : 1 (Flat/gentle slope; no barrier)  
 Reference angle : 0.00

Road data, segment # 2: Barton St

Car traffic volume : 10099 veh/TimePeriod  
 Medium truck volume : 211 veh/TimePeriod  
 Heavy truck volume : 211 veh/TimePeriod  
 Posted speed limit : 50 km/h  
 Road gradient : 0 %  
 Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Barton St

```

-----
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth           :      0      (No woods.)
No of house rows     :      0
Surface              :      2      (Reflective ground surface)
Receiver source distance : 46.00 m
Receiver height      : 13.50 m
Topography           :      1      (Flat/gentle slope; no barrier)
Reference angle      :      0.00
  
```

Result summary

```

-----
! source ! Road ! Total
! height ! Leq ! Leq
! (m) ! (dBA) ! (dBA)
-----+-----+-----+-----
1.Victoria st ! 1.19 ! 56.32 ! 56.32
2.Barton St ! 1.19 ! 59.41 ! 59.41
-----+-----+-----+-----
Total 61.14 dBA
  
```



STAMSON 5.04 SUMMARY REPORT Date: 15-12-2025 14:21:24  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r9Aeast.te Time Period: 16 hours

**Description: R9A 4th Floor Rooftop OLA Mitigated**

**TOTAL Leq FROM ALL SOURCES:**

**50.29**

Rail data, segment # 1: CN Rail

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld          |
|---------------|---------------|---------------------|--------------------|---------------------|-----------------|-------------------------|
| 1. CN Rail    | !             | 3.6/0.0             | !                  | 80.0                | !               | 4.0 !140.0 !Diesel! Yes |

Data for Segment # 1: CN Rail

|                           |        |              |                                   |
|---------------------------|--------|--------------|-----------------------------------|
| Angle1                    | Angle2 | : -90.00 deg | 45.00 deg                         |
| Wood depth                | :      | 0            | (No woods.)                       |
| No of house rows          | :      | 0            |                                   |
| Surface                   | :      | 1            | (Absorptive ground surface)       |
| Receiver source distance  | :      | 244.00 m     |                                   |
| Receiver height           | :      | 13.50 m      |                                   |
| Topography                | :      | 2            | (Flat/gentle slope; with barrier) |
| No Whistle                |        |              |                                   |
| Barrier angle1            | :      | -90.00 deg   | Angle2 : 45.00 deg                |
| Barrier height            | :      | 3.00 m       |                                   |
| Barrier receiver distance | :      | 10.00 m      |                                   |
| Source elevation          | :      | 0.00 m       |                                   |
| Receiver elevation        | :      | 0.00 m       |                                   |
| Barrier elevation         | :      | 13.50 m      |                                   |
| Reference angle           | :      | 0.00         |                                   |

Rail data, segment # 2: VIA Rail

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | ! Eng<br>! type | !Cont<br>!weld          |
|---------------|---------------|---------------------|--------------------|---------------------|-----------------|-------------------------|
| 1. VIA Rail   | !             | 1.8/0.0             | !                  | 80.0                | !               | 2.0 ! 10.0 !Diesel! Yes |

Data for Segment # 2: VIA Rail

|                           |        |              |                                   |
|---------------------------|--------|--------------|-----------------------------------|
| Angle1                    | Angle2 | : -90.00 deg | 45.00 deg                         |
| Wood depth                | :      | 0            | (No woods.)                       |
| No of house rows          | :      | 0            |                                   |
| Surface                   | :      | 1            | (Absorptive ground surface)       |
| Receiver source distance  | :      | 244.00 m     |                                   |
| Receiver height           | :      | 13.50 m      |                                   |
| Topography                | :      | 2            | (Flat/gentle slope; with barrier) |
| No Whistle                |        |              |                                   |
| Barrier angle1            | :      | -90.00 deg   | Angle2 : 45.00 deg                |
| Barrier height            | :      | 3.00 m       |                                   |
| Barrier receiver distance | :      | 10.00 m      |                                   |
| Source elevation          | :      | 0.00 m       |                                   |
| Receiver elevation        | :      | 0.00 m       |                                   |
| Barrier elevation         | :      | 13.50 m      |                                   |
| Reference angle           | :      | 0.00         |                                   |

Rail data, segment # 3: Way freight

| Train<br>Type  | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | Eng<br>type | !Cont<br>!weld |
|----------------|---------------|---------------------|--------------------|---------------------|-------------|----------------|
| 1. Way Freight | 1.8/0.0       | 80.0                | 4.0                | 25.0                | Diesel      | Yes            |

Data for Segment # 3: Way freight

|                           |        |              |                                   |
|---------------------------|--------|--------------|-----------------------------------|
| Angle1                    | Angle2 | : -90.00 deg | 45.00 deg                         |
| Wood depth                | :      | 0            | (No woods.)                       |
| No of house rows          | :      | 0            |                                   |
| Surface                   | :      | 1            | (Absorptive ground surface)       |
| Receiver source distance  | :      | 244.00 m     |                                   |
| Receiver height           | :      | 13.50 m      |                                   |
| Topography                | :      | 2            | (Flat/gentle slope; with barrier) |
| No Whistle                |        |              |                                   |
| Barrier angle1            | :      | -90.00 deg   | Angle2 : 45.00 deg                |
| Barrier height            | :      | 3.00 m       |                                   |
| Barrier receiver distance | :      | 10.00 m      |                                   |
| Source elevation          | :      | 0.00 m       |                                   |
| Receiver elevation        | :      | 0.00 m       |                                   |
| Barrier elevation         | :      | 13.50 m      |                                   |
| Reference angle           | :      | 0.00         |                                   |

Rail data, segment # 4: GO Rail

| Train<br>Type | ! Trains<br>! | ! Speed<br>! (km/h) | !# loc<br>!/Train! | !# Cars<br>!/Train! | Eng<br>type | !Cont<br>!weld |
|---------------|---------------|---------------------|--------------------|---------------------|-------------|----------------|
| 1. GO Rail    | 34.7/0.0      | 100.0               | 1.0                | 10.0                | Diesel      | Yes            |

Data for Segment # 4: GO Rail

|                           |        |              |                                   |
|---------------------------|--------|--------------|-----------------------------------|
| Angle1                    | Angle2 | : -90.00 deg | 45.00 deg                         |
| Wood depth                | :      | 0            | (No woods.)                       |
| No of house rows          | :      | 0            |                                   |
| Surface                   | :      | 1            | (Absorptive ground surface)       |
| Receiver source distance  | :      | 244.00 m     |                                   |
| Receiver height           | :      | 13.50 m      |                                   |
| Topography                | :      | 2            | (Flat/gentle slope; with barrier) |
| No Whistle                |        |              |                                   |
| Barrier angle1            | :      | -90.00 deg   | Angle2 : 45.00 deg                |
| Barrier height            | :      | 3.00 m       |                                   |
| Barrier receiver distance | :      | 10.00 m      |                                   |
| Source elevation          | :      | 0.00 m       |                                   |
| Receiver elevation        | :      | 0.00 m       |                                   |
| Barrier elevation         | :      | 13.50 m      |                                   |
| Reference angle           | :      | 0.00         |                                   |

Result summary

|               | ! Loc   | ! Wheel | ! Whistle  | ! Whistle   | ! Total   |
|---------------|---------|---------|------------|-------------|-----------|
|               | ! Leq   | ! Leq   | ! Left Leq | ! Right Leq | ! Leq     |
|               | ! (dBA) | ! (dBA) | ! (dBA)    | ! (dBA)     | ! (dBA)   |
| 1.CN Rail     | ! 41.82 | ! 33.47 | ! --       | ! --        | ! 42.41 * |
| 2.VIA Rail    | ! 31.30 | ! 19.66 | ! --       | ! --        | ! 31.59 * |
| 3.Way freight | ! 34.50 | ! 23.50 | ! --       | ! --        | ! 34.83 * |
| 4.GO Rail     | ! 43.20 | ! 33.66 | ! --       | ! --        | ! 43.66 * |
| Total         |         |         |            |             | 46.54 dBA |

Road data, segment # 1: Victoria st

Car traffic volume : 7206 veh/TimePeriod  
Medium truck volume : 151 veh/TimePeriod  
Heavy truck volume : 151 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Victoria st

Angle1 Angle2 : -90.00 deg 90.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0  
Surface : 2 (Reflective ground surface)  
Receiver source distance : 67.00 m  
Receiver height : 13.50 m  
Topography : 2 (Flat/gentle slope; with barrier)  
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg  
Barrier height : 0.91 m  
Barrier receiver distance : 3.00 m  
Source elevation : 0.00 m  
Receiver elevation : 0.00 m  
Barrier elevation : 13.50 m  
Reference angle : 0.00

Road data, segment # 2: Barton St

Car traffic volume : 10099 veh/TimePeriod  
Medium truck volume : 211 veh/TimePeriod  
Heavy truck volume : 211 veh/TimePeriod  
Posted speed limit : 50 km/h  
Road gradient : 0 %  
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Barton St

```

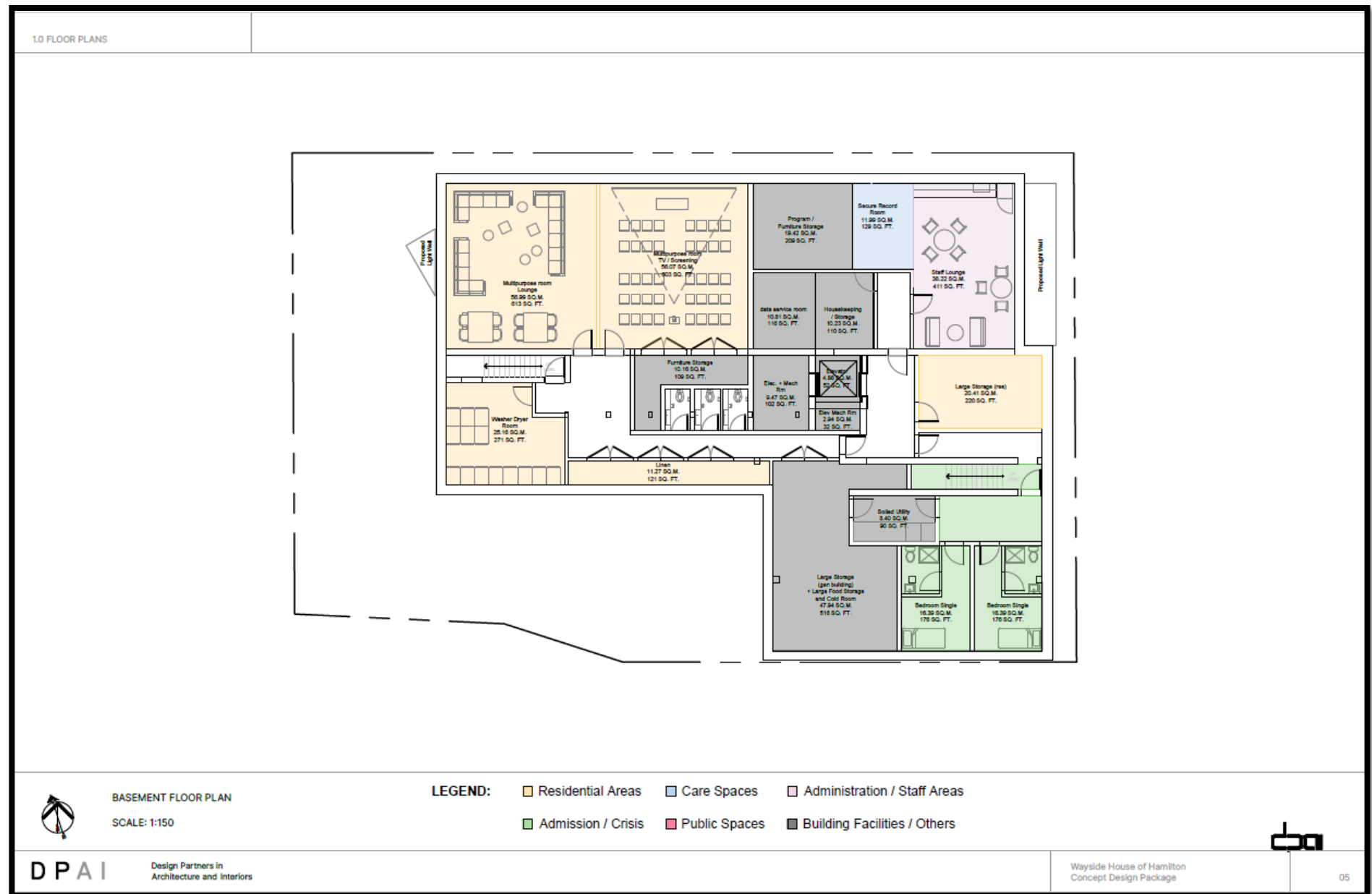
-----
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth           :           0       (No woods.)
No of house rows     :           0
Surface              :           2       (Reflective ground surface)
Receiver source distance : 46.00 m
Receiver height       : 13.50 m
Topography           :           2       (Flat/gentle slope; with barrier)
Barrier angle1        : -90.00 deg   Angle2 : 90.00 deg
Barrier height        : 3.00 m
Barrier receiver distance : 10.00 m
Source elevation      : 0.00 m
Receiver elevation    : 0.00 m
Barrier elevation     : 13.50 m
Reference angle       : 0.00
  
```

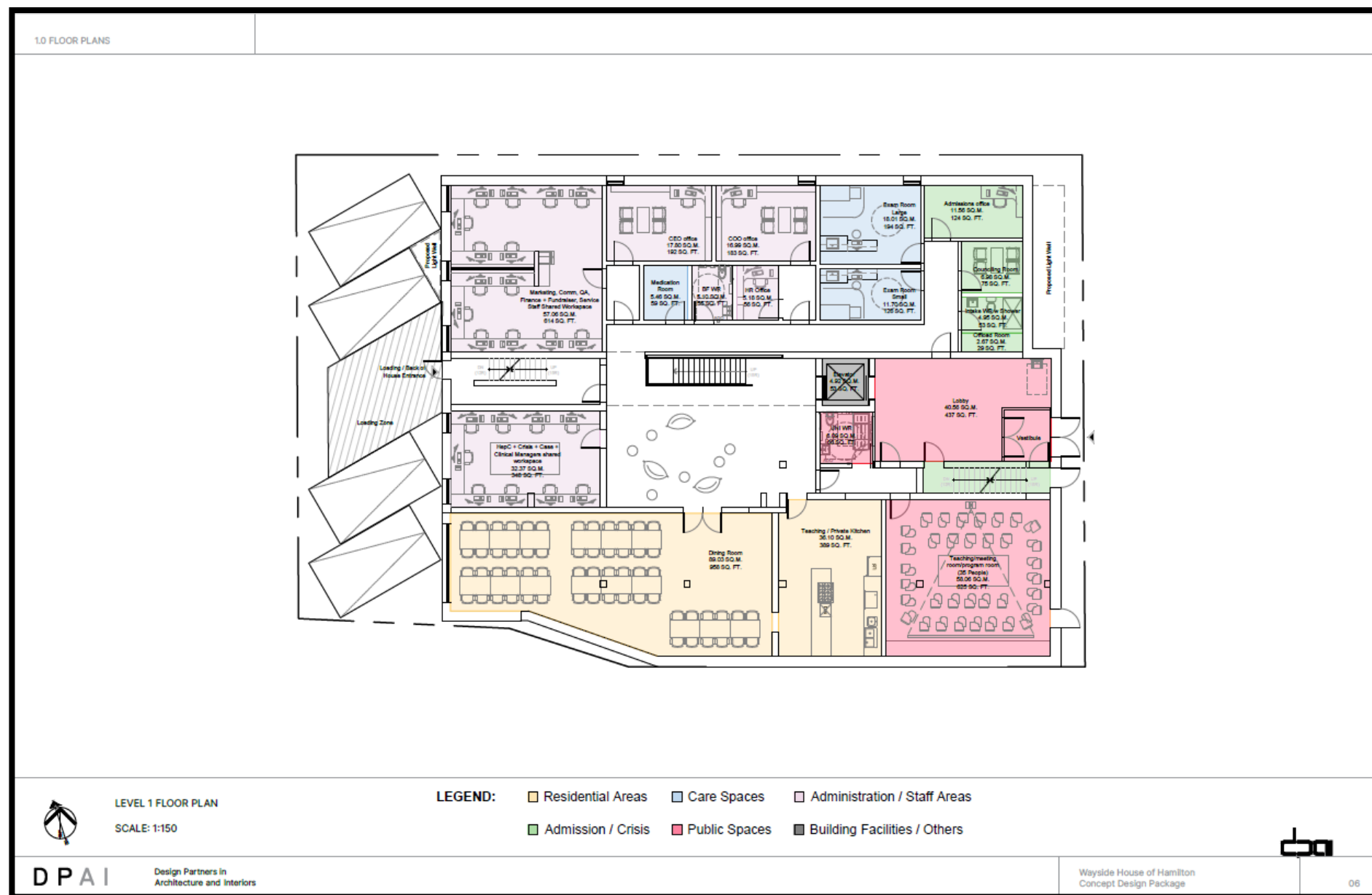
Result summary

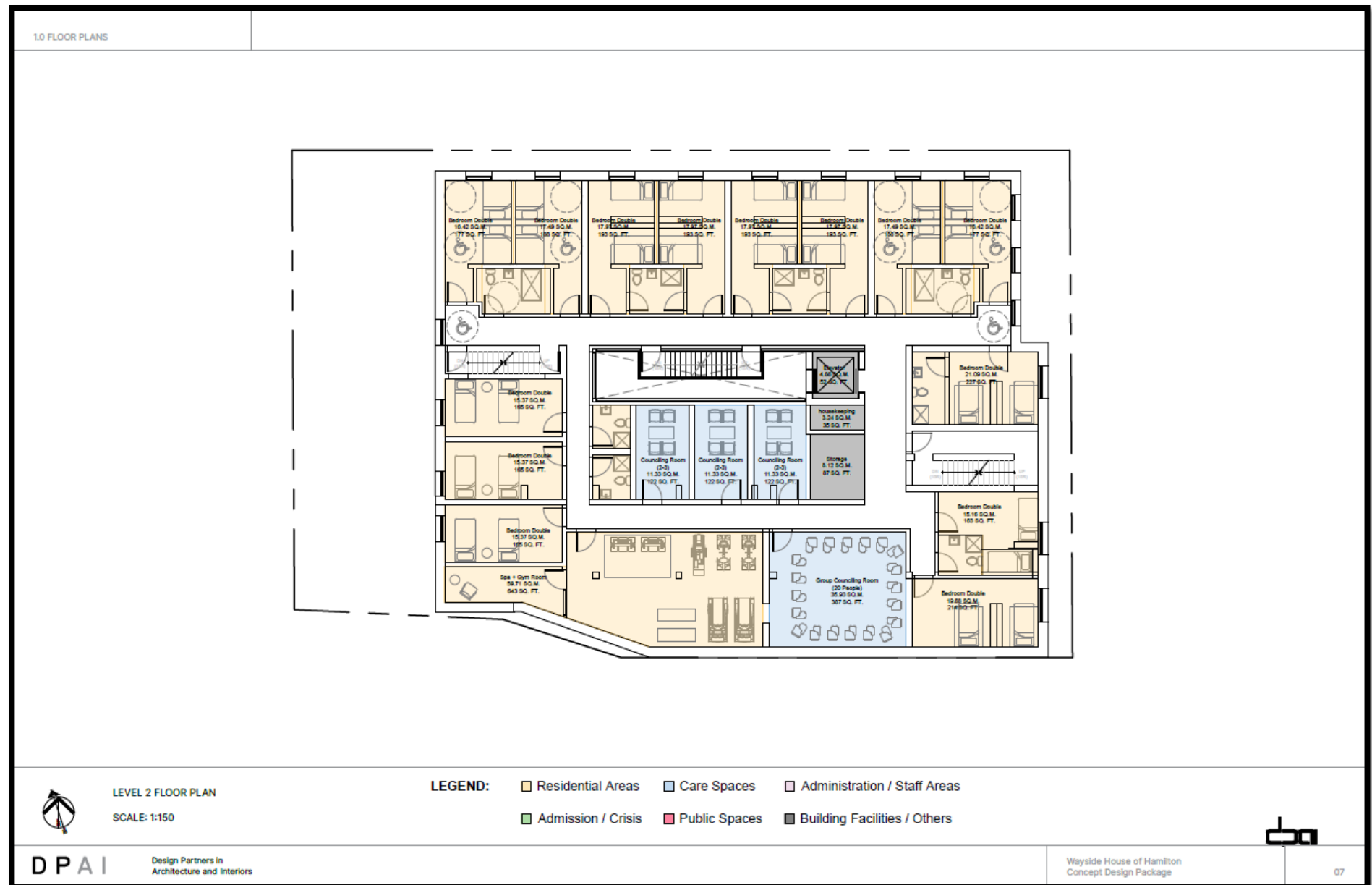
```

-----
! source ! Road ! Total
! height ! Leq  ! Leq
! (m)    ! (dBA) ! (dBA)
-----+-----+-----+-----
1.Victoria st ! 1.19 ! 45.86 ! 45.86
2.Barton St   ! 1.19 ! 43.67 ! 43.67
-----+-----+-----+-----
                                Total 47.91 Dba
  
```

## FLOOR PLANS

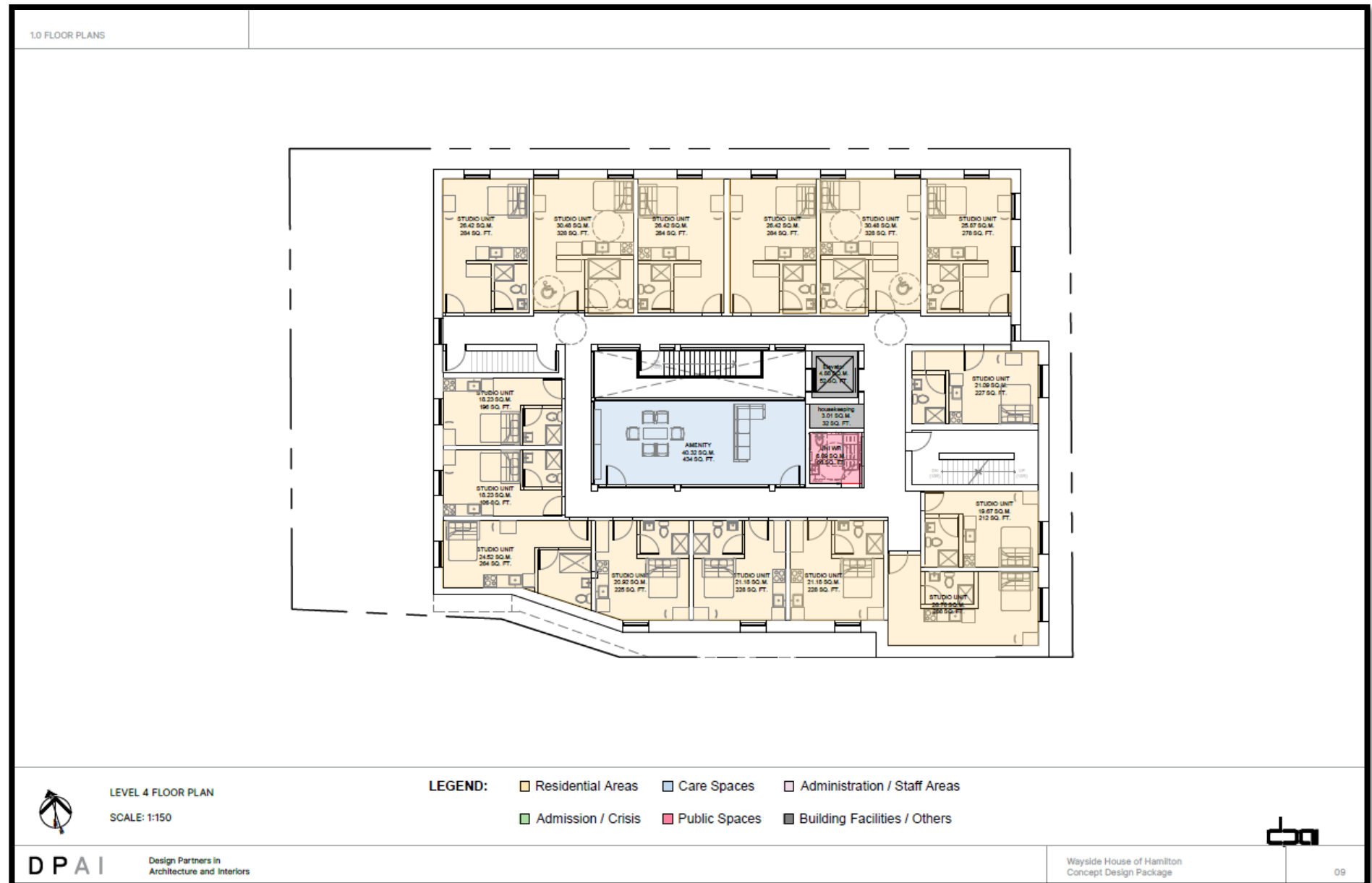


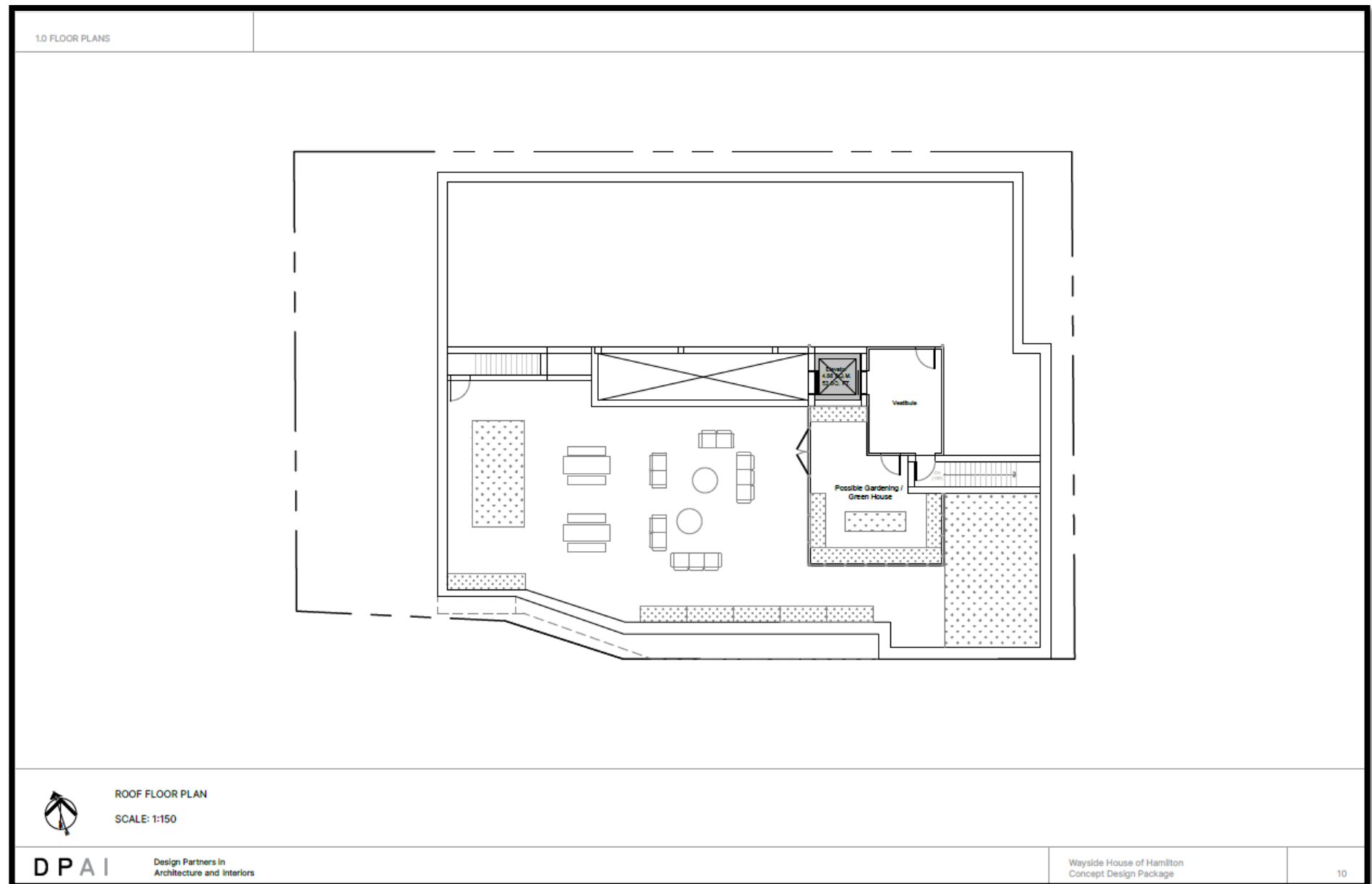






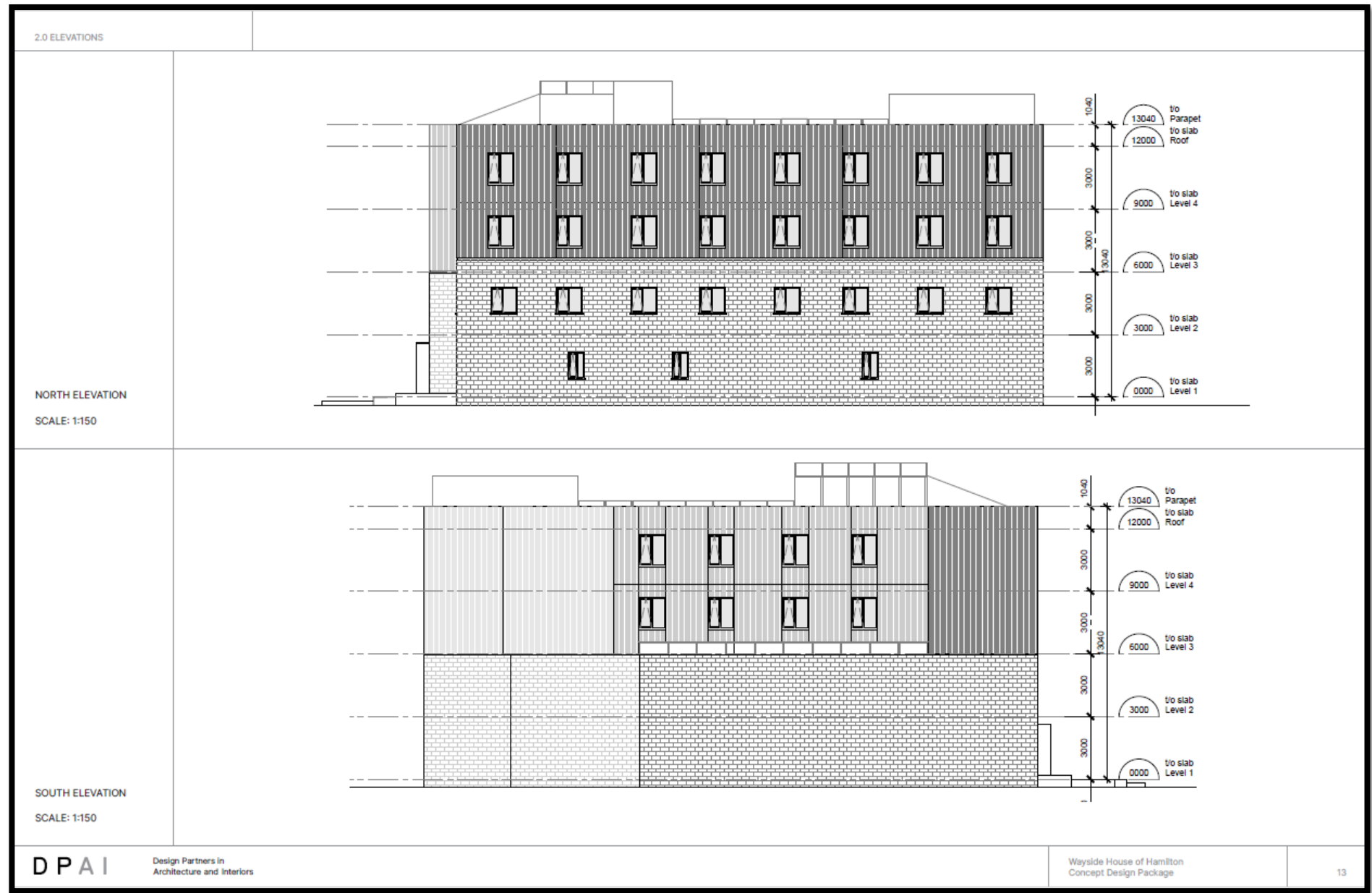






# ELEVATIONS





## EXTERIOR WALL STC RATINGS

### EXTERIOR WALL STC RATINGS

| Wall Configuration | EW1       | EW2       | EW3       | EW4       | EW1R      | EW2R      | EW3R      | EW5       | EW4R      | EW6       | EW7<br>EW5R | EW8       |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|-----------|
| <b>STC Rating</b>  | <b>38</b> | <b>40</b> | <b>43</b> | <b>46</b> | <b>47</b> | <b>48</b> | <b>49</b> | <b>54</b> | <b>55</b> | <b>57</b> | <b>58</b>   | <b>62</b> |

Source: National Research Council, Division of Building Research

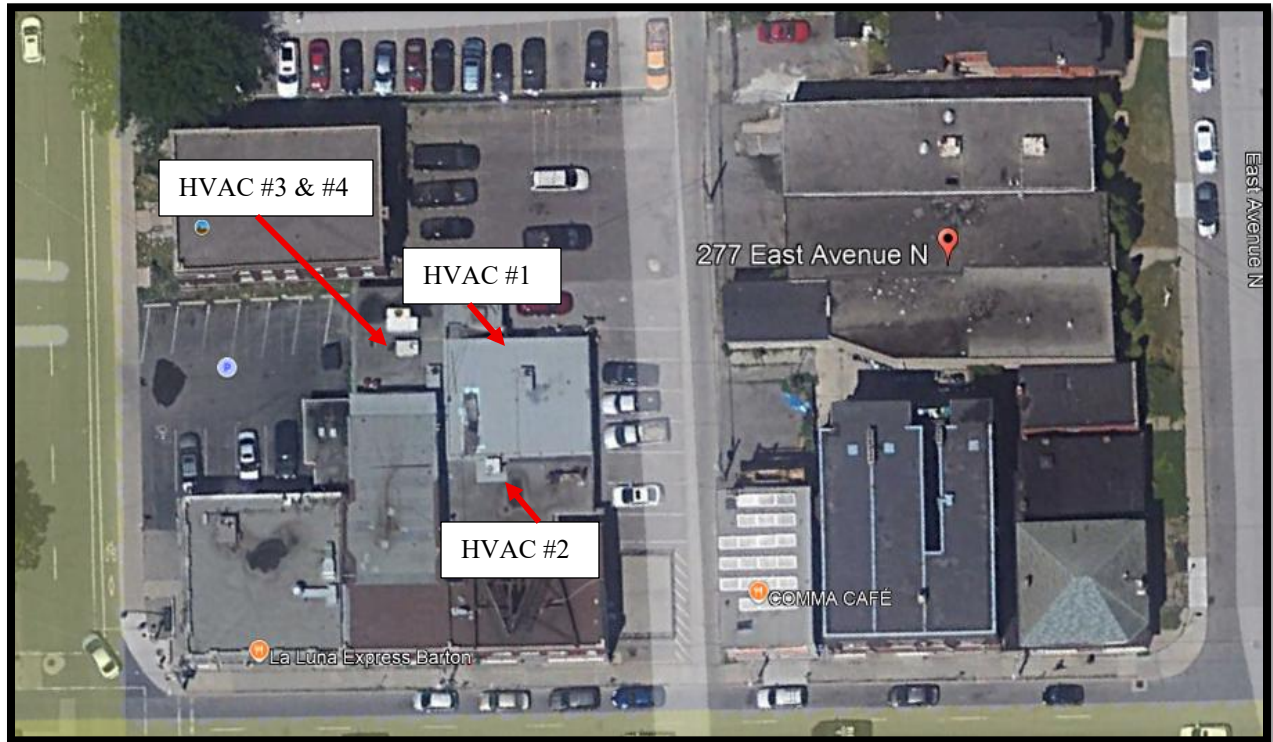
#### NOTES:

- 1 The common structure of walls EW1 to EW5 is composed of 12.7mm gypsum board, vapour barrier and 38x89 mm studs with 50 mm (or thicker) mineral wool or glass fibre batts in inter-stud cavities.
  - EW1 denotes the common structure, plus sheathing, plus wood siding or metal siding and fibre backer board
  - EW2 denotes the common structure, plus rigid insulation (25 to 30 mm), and wood siding or metal siding and fibre backer board.
  - EW3 denotes simulated mansard with the common structure, plus sheathing, 28 X89 mm framing, sheathing and asphalt roofing material
  - EW4 denotes the common structure, plus sheathing and 20 mm stucco.
  - EW5 denotes the common structure, plus sheathing, 25 mm air space, 100mm brick veneer.
  - EW6 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 100 mm back-up block 100 mm face brick.
  - EW7 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 140mm back-up block, 100 mm face brick.
  - EW8 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 200 mm concrete.
- 2 R signifies the mounting of the interior gypsum board on resilient clips.
- 3 An exterior wall conforming to rainscreen design principles and composed of 12.7 mm gypsum board, 100 mm concrete block, rigid insulation (25 to 50 mm), 25 mm air space, and 100 mm brick veneer has the same STC as EW6.
- 4 An exterior wall described in EW1 with the addition of rigid insulation (25 to 50 mm) between the sheathing and the external finish has the same STC as EW2.

## APPENDIX “B”



## HVAC LOCATION ROOFTOP OVERVIEW



## HVACSOUND POWER LEVELS (dBA LIBRARY) LENNOX ROOFTOP HVAC UNITS

### LGM060U – 5-ton

| ROOFTOP UNITS                |             |                                   |     |                                                                |     |     |     |      |      | 2 TO 6 TONS |      |                                        |
|------------------------------|-------------|-----------------------------------|-----|----------------------------------------------------------------|-----|-----|-----|------|------|-------------|------|----------------------------------------|
| <sup>2</sup> Test Conditions |             | External Static Pressure in. w.c. | CFM | Octave Band Sound Power Levels dBA, re 10 <sup>-12</sup> Watts |     |     |     |      |      |             |      | <sup>1</sup> Sound Rating Number (dBA) |
|                              |             |                                   |     | Center Frequency - Hz                                          |     |     |     |      |      |             |      |                                        |
|                              |             |                                   |     | <sup>3</sup> 63                                                | 125 | 250 | 500 | 1000 | 2000 | 4000        | 8000 |                                        |
| LCM/LGM                      |             |                                   |     |                                                                |     |     |     |      |      |             |      |                                        |
| Outdoor Sound Levels         | LCM/LGM036U | ---                               | --- | 60                                                             | 65  | 69  | 68  | 63   | 58   | 51          | 73   | 73                                     |
|                              | LCM/LGM048U | ---                               | --- | 64                                                             | 67  | 73  | 71  | 66   | 59   | 52          | 76   | 76                                     |
|                              | LCM/LGM060U | ---                               | --- | 66                                                             | 69  | 74  | 74  | 68   | 62   | 55          | 78   | 78                                     |
|                              | LCM/LGM074U | ---                               | --- | 67                                                             | 72  | 76  | 76  | 70   | 64   | 58          | 80   | 80                                     |

## SOUND POWER LEVELS (dBA LIBRARY) LENNOX ROOFTOP HVAC UNITS 8.5-ton HVAC UNITS

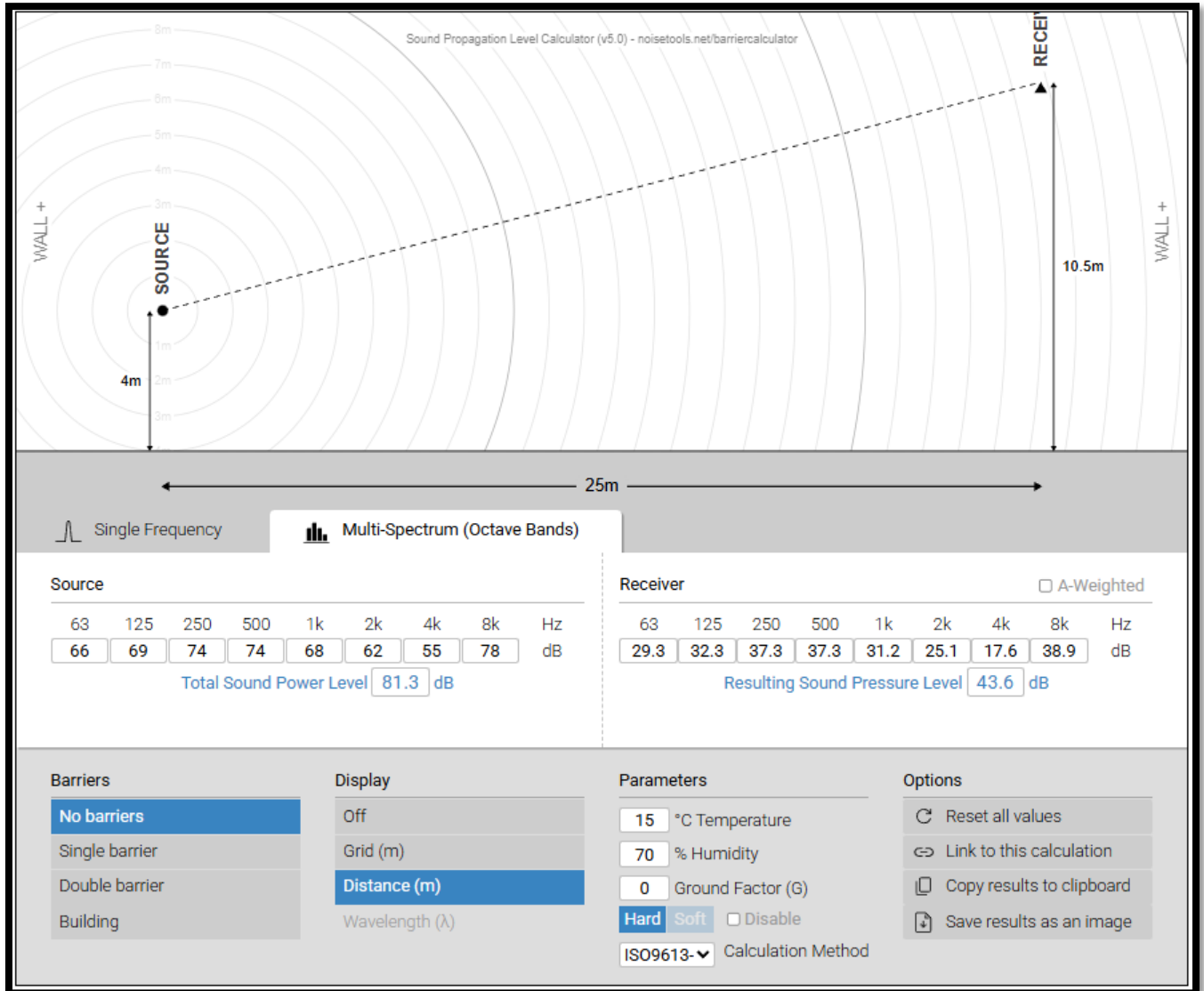
| ROOFTOP UNITS        |                      |                                      |     |                                                                |     |     |     |      |      | 6.5 TO 12.5 TONS |      |                             |  |
|----------------------|----------------------|--------------------------------------|-----|----------------------------------------------------------------|-----|-----|-----|------|------|------------------|------|-----------------------------|--|
| ² Test Conditions    |                      | External Static Pressure<br>in. w.c. | CFM | Octave Band Sound Power Levels dBA, re 10 <sup>-12</sup> Watts |     |     |     |      |      |                  |      | ¹ Sound Rating Number (dBA) |  |
|                      |                      |                                      |     | Center Frequency - Hz                                          |     |     |     |      |      |                  |      |                             |  |
|                      |                      |                                      |     | ³ 63                                                           | 125 | 250 | 500 | 1000 | 2000 | 4000             | 8000 |                             |  |
| LCT/LGT/LDT/LHT      |                      |                                      |     |                                                                |     |     |     |      |      |                  |      |                             |  |
| Outdoor Sound Levels | LCT/LGT092, 102      | ---                                  | --- | ---                                                            | 76  | 79  | 84  | 83   | 79   | 73               | 66   | 88                          |  |
|                      | LCT/LGT120,150       | ---                                  | --- | ---                                                            | 70  | 77  | 85  | 84   | 80   | 78               | 76   | 89                          |  |
|                      | LDT/LHT078, 092, 102 | ---                                  | --- | ---                                                            | 70  | 79  | 84  | 83   | 77   | 72               | 66   | 88                          |  |
|                      | LDT/LHT122, 150      | ---                                  | --- | ---                                                            | 73  | 74  | 75  | 72   | 66   | 60               | 50   | 85                          |  |

# SOUND PROPAGATION CALCULATOR

## 293 BARTON STREET EAST

### FRAGOSO SPORTS BAR

### 5 TON ROOFTOP HVAC #1

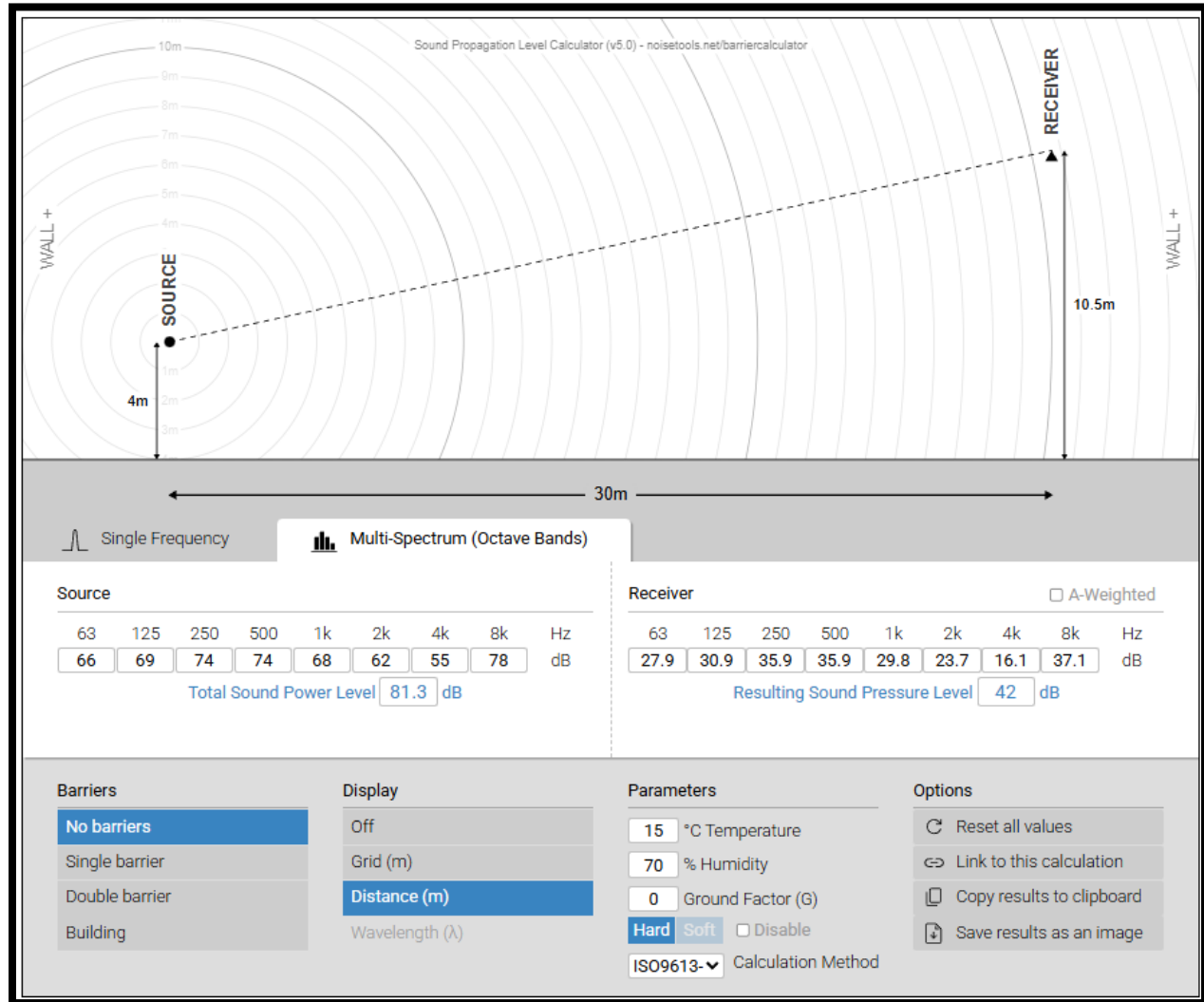


# SOUND PROPAGATION CALCULATOR

## 293 BARTON STREET EAST

### FRAGOSO SPORTS BAR

### 5 TON ROOFTOP HVAC #2



# SOUND PROPAGATION CALCULATOR

## BARTVIC WALK IN CLINIC

### 291 BARTON STREET EAST

### 8.5 TON ROOFTOP HVAC UNIT

