Thornton Tomasetti

Acoustical Feasibility Study

2469 & 2463 Mimosa Row, Mississauga, Ontario

SW22328.00

Prepared For

Beata Lis

FOXMAR DEVELOPMENT LTD.
2533 Burslem Road
Mississauga, ON L5A 2R5
Tel: 647.996.9302
beata_lis@hotmail.com

Prepared By

Jediael Pagtalunan, M.Sc.

Thornton Tomasetti
23-366 Revus Avenue
Mississauga, Ontario L5G 4S5
Tel: +1 905.487.7387
JPagtalunan@ThorntonTomasetti.com
www.ThorntonTomasetti.com

Reviewed By

Robert Fuller
Project Engineer

November 20, 2023

Table of Contents

Appendix A : Figures
Appendix B : Traffic Data
Appendix C : Transportation Noise Predictions
Appendix D : Measured Sound Levels
Appendix E : CadnaA Calculation Output

List of Tables

List of Figures

1.0 Introduction

At the request of Foxmar Development Ltd. (Client), Thornton Tomasetti (TT) presents this Noise Impact Study (NIS) regarding the planned development located at 2469 and 2463 Mimosa Row (the Project) in Mississauga, ON.

The purpose of this study is to assess the noise impact on the Project from surrounding noise sources and the noise impact of the Project on surrounding noise sensitive areas. This report is intended to support the Zoning By-Law Amendment (ZBA) application for the Project as a feasibility study. This report is an update of a report submitted by TT dated March 10, 2023 and adds an update on the transportation mitigation measures associated with the Project. Note that Transportation Noise (Section 5.0) and Stationary Noise (Section 6.0) have been assessed separately and have separate mitigation requirements (i.e., barriers).

Where applicable, this report will provide noise control recommendations to meet the requirements of the relevant Land Use Planning Authority (LUPA), and noise criteria developed by the Ontario Ministry of the Environment, Conservation and Parks (MECP).

Where predicted noise impacts are lower than applicable action thresholds identified, the project should be designed to meet the Ontario Building Code (OBC) as a minimum standard.

2.0 Site and Surrounding Area

2.1 Project Location

The Project is located on the north corner of the intersection of Floradale Drive and Mimosa Row, approximately 90m west of Hurontario Street.

The Project is bordered on the north and east by mixed commercial land uses. The Project is bordered on the west by institutional and low density residential land uses. The Project is bordered on the south by more low density residential and office land uses. The broader neighborhood includes mixed commercial and high density residential uses to the north of the Project, and high density residential uses to the south and east of the Project.

An illustration of the project location and surrounding area is provided in Figure 1.

2.2 Zoning & Official Plan

The Project site is zoned as R3 "Detached Dwelling" under the City of Mississauga Zoning By-Law No. 0225-2007 and is designated as "Residential Low Density I" under the City of Mississauga's Official Plan. Surrounding areas are zoned for low density residential, mixed commercial, and office uses.

A zoning map is presented in Figure 2.

2.3 Planned Development

The Project will consist of redeveloping two existing detached homes into 6 freehold townhomes. The project will have a height of approximately 11m. The Project is expected to include separate heating,

ventilation and air conditioning (HVAC) systems for each unit. TT understands that the project will not have any rooftop mechanical equipment.

The proposed new site plan is provided in Figure 3.

2.4 Site Inspection

TT personnel attended the Project site on September 16, 2022, in order to inspect the acoustical environment in the area of the Project.

Transportation noise at the Project site was observed to be dominated by traffic noise from the nearby Hurontario Street. Transportation noise from nearby roadways is discussed in Section 5.0 of this report.

No individual stationary noise sources on surrounding properties were distinguishable from the Project site but an inspection of publicly accessible areas of the surrounding neighborhood did identify potentially significant stationary noise sources (roof top HVAC units and truck loading docks) located at nearby commercial buildings. Stationary noise sources are discussed in Section 6.0 of this report.

2.1 Topography

Based on the observed and/or reported conditions on and around the Project site, the local topography is expected to be approximately flat. For the purposes of modelling conducted as part of this report, terrain heights on the Project itself were referenced to publicly available topographic data from Google Earth.

3.0 Ministry of the Environment Conservation and Parks

The MECP's *Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning* (NPC-300) provides province wide assessment standards and criteria for evaluating noise impacts from transportation sources such as roads, railways and aircraft, as well as stationary sources such as mechanical equipment, and industrial facilities. In preparing this NIS report, TT has referred to *Part A Background and Part C Land Use Planning* of NPC-300.

This NIS report has been prepared to support land use planning decisions, and is not intended to support an application for an Environmental Compliance Approval (ECA) in accordance with *Part B Stationary Sources* of NPC-300, and Section 9 of the Environmental Protection Act.

4.0 Land Use Planning Authority

In addition to the MECP's standards and criteria, some LUPAs impose additional requirements on applications for development approval. The LUPAs for this Project are the Region of Peel and the City of Mississauga. These LUPAs generally defer to the MECP's guidelines as documented in NPC-300.

5.0 Transportation Noise Assessment

5.1 Critical Transportation Noise Receptors

NPC-300 defines a point of reception for the assessment of transportation noise sources as either the Plane of Window (POW) of a noise sensitive indoor space or an Outdoor Living Area (OLA) representing an area of a noise sensitive land use intended for quiet enjoyment of the outdoor environment.

The POW receptor(s) most likely to be affected by transportation noise are those representing the residential suites of the Project that have maximum exposure to surrounding streets, such as Hurontario Street. Specifically, POW receptors were assessed for the most northeast, southeast, northwest and southwest facades of the planned structure, at the highest elevation with windows.

Based on provided site plans of the Project, TT understands that a total of 12 potential OLAs will be present which corresponds to the front yard and the backyard of each townhouse unit. Two OLAs were chosen to be representative of the all the OLAs for the Project. One OLA is located on the backyard of Unit 3 and the other OLA is on the front/side yard of Unit 6.

The elevation of relevant floor levels of the Project is summarized in Table 1.

Table 1: Construction Elevations – Transportation Receptors

Floor Level	Elevation (m)	Floor Height (m)	Midpoint Height (m)
1	107.0	0.0	1.5
3	113.0	6.0	7.5

The locations of the critical receptors for transportation noise are summarized in Table 2 and shown in Figure 4. POW elevations were taken to be the midpoint height of the highest floor with windows, and OLA elevations were taken to be 1.5m above the applicable level.

Table 2: Points of Reception – Transportation Noise

Receptor ID	Receptor Description	Receptor Location
POW1	Northeast façade, highest window	Unit 3, window centre, 7.5m above ground
POW2	Southeast façade, highest window	Unit 6, window centre, 7.5m above ground
POW3	Southwest façade, highest window	Unit 3, window centre, 7.5m above ground
POW4	Northwest façade, highest window	Unit 1, window centre, 7.5m above ground
OLA1	Unit 3 backyard	3m from façade, 1.5m above ground
OLA2	Unit 6 front/side yard	3m from façade, 1.5m above ground

5.2 Transportation Noise Sources

5.2.1 Road Noise Sources

Hurontario Street (to the east), Floradale Drive (adjacent to the south) and Confederation Parkway (~280m to the west) represent the most significant road noise sources for the Project. King Street West was also considered, although its impact is lower. Traffic data was obtained from the City of

Mississauga's Transportation and Works department (city) which provided ultimate traffic AADT volumes. This data is presented in Appendix B.

The posted speed limits on Hurontario Street, Confederation Parkway, King Street West, and Floradale Drive are all 50km/hr based on data provided by the City of Mississauga. However, the observed posted limits for King Street West and Floradale Drive are 40 km/hr which were used for the model. Road grades were set to be 2% in the area under review. The day/night split were set to be 90%/10% for Hurontario Street, Confederation Parkway, and King Street West.

The city did not have AADT volumes for Floradale Drive. Instead of assuming that there is negligible traffic through Floradale Drive, the road was modelled to have the minimum AADT volume allowable on the STAMSON 5.04 software (discussed in Section 5.2.1), which is 40 vehicles per hour. This was accomplished by setting a day/night split of 66.67%/33.33% and an AADT of 1000.

Because Hurontario Street is six lanes, it was considered to be two separate roads, each of which was assigned half of the AADT. TT understands that Hurontario Street is expected to be converted to four lanes after the Hurontario Main Light Rail Transit (LRT) line's completion. Annual growth of the AADT volumes did not need to be considered because the provided traffic data is an ultimate forecast.

The traffic data used in the sound level calculations is summarized in Table 3.

Table 3: Road Traffic Data Summary

Parameter	Hurontario Street (Southbound)	Hurontario Street (Northbound)	Floradale Drive	Confederation Parkway	King Street West
AADT	19000	19000	1000	14300	7300
% Medium Trucks	2.75%	2.75%	1.10%	1.65%	1.65%
% Heavy Trucks	2.25%	2.25%	0.90%	1.35%	1.35%
% Day (16h) / Night (8h)	90% / 10%	90% / 10%	66.67% / 33.33%	90% / 10%	90% / 10%
Speed Limit	50 km/hr	50 km/hr	40 km/hr	50 km/hr	40 km/hr
Gradient	2%	2%	2%	2%	2%

5.2.2 Rail Noise Sources

Construction for the Hurontario Main LRT line is currently underway at the time of the report. Due to the proximity of the Project to the expected rail line (~90m east of the Project), it is expected that the LRT will be a significant transportation noise source.

Since the LRT line has not yet been constructed and is not yet operational, traffic data was obtained from the "Hurontario – Main LRT Project Environmental Project Report" dated June 2014. The report included a Noise and Vibration Impact Assessment Report in its Appendix B.6. From the study, the LRT is modelled as 30m long light rail vehicle (LRV) which produces a maximum sound level of 76 dBA travelling at 50km/hr. It was assumed that the speed limit of the LRT will follow the posted speed limit of the road it is on. The study assumes a traffic volume of 240 trains during the day and 45 trains during the night based on correspondence with the City. TT expects that this is representative of the conditions impacting the Project.

Table 4: Hurontario Main LRT Traffic Data Summary

Parameter	
Train Type	Passenger LRV
Number of Trains Per Day (2022) Day (07:00 - 23:00) / Night (23:00 - 07:00)	240 / 45
Max Sound Level at 15m (dBA)	76
Source Height (m)	0.5
Maximum Speed (km/hr)	50

5.1 Transportation Sound Level Limits

5.1.1 Outdoor Living Areas

Impacts to OLAs from combined road and rail traffic are assessed against a 16-hour daytime (07:00 – 23:00) equivalent sound pressure level (L_{eq}) reported in dBA. The MECP outdoor sound level limits and the sliding scale of required noise reduction measures for road and rail noise at OLAs are listed in Table 5. Note that whistle noise is not included in the assessment of rail noise at an OLA.

Table 5: MECP Outdoor Sound Level Limit & Mitigation for OLAs – Combined Road & Rail Traffic

Category	Sound Level $L_{eq,16hr}$ (dBA)	Mitigation Measures	NPC-300 Warning Clause Required
Outdoor Limit	55	None	None
OLA Mitigation Threshold	56 - 60	Optional	Type A unless sound level brought below 55 dBA
OLA Mitigation Threshold	>60	Required to achieve sound level below 60 dBA	Type B unless sound level brought below 55 dBA

5.1.2 Indoor Living Areas

Impacts at POWs from combined road and rail traffic are assessed against a 16-hour daytime (07:00 – 23:00) and 8-hour nighttime (23:00 – 07:00) equivalent sound pressure level (L_{eq}) reported in dBA to determine the requirement for ventilation and warning clauses. The applicable POW sound level limits and the sliding scale of required ventilation measures and warning clauses are listed in Table 6.

Table 6: POW Sound Level Limit: Ventilation & Warning Clauses – Road & Rail Traffic

Category	Daytime $L_{eq,16hr}$ (dBA)	Nighttime $L_{eq,8hr}$ (dBA)	Mitigation Measures	NPC-300 Warning Clause Required
POW Limit	55	50	None	None
POW Mitigation Threshold Living & Bedrooms	56 - 65	51 – 60	Include forced air heating and provision for central air conditioning	Type C
POW Mitigation Threshold Living & Bedrooms	>65	>60	Include central air conditioning	Type D

Impacts to indoor noise levels from road and rail traffic are assessed against a 16-hour daytime (07:00 – 23:00) and 8-hour nighttime (23:00 – 07:00) equivalent sound pressure level (L_{eq}) reported in dBA at representative POW receptors to determine the requirement for acoustically designed building components. The requirements for building construction to address transportation noise impacts to indoor sound levels are determined independently for road and rail noise, with the resulting requirements then being combined logarithmically. The applicable indoor sound level limits and required noise reduction measures for road and rail noise in the indoor environment are listed in Table 7.

Table 7: Indoor Sound Level Limit: Construction Requirements – Road & Rail Traffic

Category	Daytime $L_{eq,16hr}$ (dBA)	Nighttime $L_{eq,8hr}$ (dBA)	Total $L_{eq,24hr}$ (dBA)	Mitigation Measures
Road Sound Level Indoor Limit Living Rooms / Bedrooms	45 / 45	45 / 40	-	Not Applicable
Road POW Sound Level Living & Bedrooms	>65	>60	-	Design building components to achieve indoor sound level limit
Rail Sound Level Indoor Limit Living Rooms / Bedrooms	40 / 40	40 / 35	-	Not Applicable
Rail POW Sound Level Living & Bedrooms	>60	>55	-	Design building components to achieve indoor sound level limit
Rail POW Sound Level Bedrooms	-	-	>60	Minimum of brick veneer or masonry equivalent construction from foundation to rafters in 1st row of dwellings if within 100m of tracks

5.2 Transportation Sound Level Predictions

5.2.1 Road & Rail Traffic

Calculations of road & rail traffic sound levels were performed using STAMSON 5.04, the software implementation of the MECP ORNAMENT model, which was developed and published by the MECP for transportation noise prediction. Only daytime sound levels are considered for outdoor amenity areas. The calculated sound levels at the receptors are presented in Table 8.

Table 8: Calculated Sound Levels due to Road & Rail Sources

POR ID	Predicted Transportation Sound Levels (dBA)					
	Daytime (07:00–23:00) $L_{eq,16hr}$			Nighttime (23:00–07:00) $L_{eq,8hr}$		
	Road	Rail	Combined	Road	Rail	Combined
POW1	61	54	61	54	49	55
POW2	59	52	60	55	47	55
POW3	57	-	57	50	-	50
POW4	60	53	61	54	48	55
OLA1	59	50	59	-	-	-
OLA2	59	47	59	-	-	-

The STAMSON calculation outputs for the traffic noise predictions are attached in Appendix C.

5.3 Transportation Noise Control Recommendations

Noise control recommendations for the identified critical receptors and the corresponding noise sensitive land uses that they represent in the proposed redevelopment are summarized in Table 9 and discussed in the subsequent sections.

Table 9: Transportation Noise Control Measures Summary

POR ID	Noise Barrier	Ventilation	Warning Clause	Building Components
POW1	N/A	Forced-Air Heating	Type C	Meet OBC Requirements
POW2	N/A	Forced-Air Heating	Type C	Meet OBC Requirements
POW3	N/A	Forced-Air Heating	Type C	Meet OBC Requirements
POW4	N/A	Forced-Air Heating	Type C	Meet OBC Requirements
OLA1	Optional	N/A	Type A*	N/A
OLA2	Optional	N/A	Type A*	N/A

*Unless mitigation (barrier) is installed to reduce the sound level to 55 dBA or lower.

5.3.1 Outdoor Living Areas – Barriers

Sound levels at the OLAs are expected to be greater than 55 dBA and equal to or lower than 60 dBA, and therefore it may be desirable to implement a noise barrier in order to reduce the sound level to 55 dBA or less at these OLAs. NPC-300 requires either the implementation of such a barrier, or the inclusion of a Type A warning clause in applicable land title and/or development agreement documents. If noise mitigation for the OLAs is implemented such that the sound levels in the OLAs is expected to be 55 dBA or lower, no warning clause is required.

Proposed noise barrier heights for OLAs and the corresponding predicted sound levels are summarized in Table 10 and illustrated in Figure 6.

Table 10: Required Barrier Heights to Achieve Sound Levels at OLAs

Receptor ID	Mitigation Level	Predicted Sound Level $L_{eq\ (16h,\ day)}$ dBA
OLA1	Unmitigated	59
	Property line perimeter, 1.5 m high	58
	Property line perimeter, 2.1 m high	57
	Property line perimeter, 2.5 m high	56
	Property line perimeter, 3.0 m high	55
OLA2	Unmitigated	59
	Property line perimeter, 1.5 m high*	56
	Property line perimeter, 3.0 m high	55

* A 1.5 m high barrier will reduce the predicted sound level from 59 dBA (unmitigated) directly to 56 dBA (i.e., a 1.4 m high barrier or shorter is ineffective because it does not break line of sight).

Noise barriers, if constructed, should have a minimum surface density (face weight) of 20 kg/m^2. Barriers should be structurally sound, appropriately designed to withstand wind and snow load, and constructed without cracks or surface gaps. Any gaps under the barrier that are necessary for drainage purposes should be minimized and localized, so that the acoustical performance of the barrier is maintained. To improve the visual characteristics of the barrier, transparent elements and/or soil berms may be included, if they meet the above conditions. **Note the above recommendations are for the transportation noise assessment only and barrier recommendations for Stationary Noise are included in Section 6.0 of this report.**

5.3.2 Indoor Living Areas - Ventilation

Sensitive receptors at all the façades of the Project are expected to face POW sound levels between 55 dBA and 65 dBA during the 16-hour day (07:00 – 23:00) and 50 dBA and 60 dBA during the 8-hour night (23:00 – 07:00) due to road and rail noise, therefore forced air heating with the provision for central air conditioning is the minimum requirement for these units.

TT understands that the Project plan includes forced air heating for the entirety of the Project, therefore the above noted requirements are expected to be met.

5.3.3 Indoor Living Areas - Building Components

Sensitive receptors at all the façades of the Project are not expected to face POW sound levels above 65/60 dBA during the 16-hour day (07:00 – 23:00) and/or 60/55 dBA during the 8-hour night (23:00 – 07:00) due to road/rail noise, therefore building components on these façades need to be designed to meet the requirements of OBC and achieve the indoor sound level limit.

As the building design is at an early stage, the construction of the building envelope is not yet confirmed.

Table 11 shows TT's estimation of the maximum exterior wall, fixed window, and operable window component areas as a percentage of the floor area of the rooms (as found in the architectural drawings) and the minimum recommended STC requirement of each component If a component with a higher STC rating than the noted requirement is used, then the maximum allowable area of that component may increase, and if a component occupies a smaller area the STC rating required may decrease.

Table 11: Building Envelope Requirements

Component	Maximum Component Area as Percentage of Floor Area	STC Required
Sensitive Spaces Along the Northeast Facades of the Project		
Solid Exterior	29%	OBC (26)
Fixed Glazing	13%	OBC (21)
Operable Glazing	13%	OBC (21)
Sensitive Spaces Along the Southeast Facades of the Project		
Solid Exterior	51%	OBC (26)
Fixed Glazing	13%	OBC (19)
Operable Glazing	13%	OBC (19)
Sensitive Spaces Along the Southwest Facades of the Project		
Solid Exterior	39%	OBC (20)
Fixed Glazing	25%	OBC (17)
Operable Glazing	25%	OBC (17)
Sensitive Spaces Along the Northwest Facades of the Project		
Solid Exterior	56%	OBC (28)
Fixed Glazing	8%	OBC (19)
Operable Glazing	8%	OBC (19)

Note that these building components are required only for exterior walls of sensitive spaces, such as bedrooms and living rooms. The minimum glazing and exterior wall constructions required by the OBC are expected to meet the required STC values above.

TT understands that the Project will utilize windows with STC-34. TT expects that this is sufficient to bring indoor sound levels due to transportation noise to recommended levels.

5.3.4 Warning Clauses

The **Type A** warning clause is required to be included in the development agreements for the Project if one or more representative OLA receptors is predicted to be exposed to transportation sound pressure levels greater than 55 dBA and less than or equal to 60 dBA, and mitigations to reduce the sound level to 55 dBA or less are not provided. The Type A warning clause is as follows:

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

The **Type C** warning clause is required to be included in the development agreements for specific dwelling units if one or more representative POW receptors is predicted to be exposed to transportation sound pressure levels greater than 55 dBA and less than or equal to 65 dBA during the 16-hour day (07:00 – 23:00) or greater than 50 dBA and less than or equal to 60 dBA during the 8-hour night (23:00 –

07:00) (excluding train whistle noise), and the Project includes forced air heating with the provision for installation of central air conditioning in the future. The Type C warning clause is as follows:

> *"This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks."*

6.0 Stationary Noise Assessment

6.1 Critical Stationary Noise Receptors

NPC-300 defines a point of reception for the assessment of stationary noise sources as any location on a noise sensitive land use where noise from a stationary source is received. This typically includes both points of reception on building façades, representing the plane-of-window of noise sensitive spaces (POR) and outdoor points of reception representing areas such as balconies, gardens, patios, and terraces (OPOR). These locations may be the same or different from the POW and OLA receptors identified as part of a transportation noise assessment.

6.1.1 Project Receptors

The project point of reception (PPOR) and project outdoor point of reception (POPOR) receptor(s) on the Project most likely to be affected by stationary noise sources are those representing the units that have maximum exposure to stationary noise sources associated with the surrounding properties in each direction, and the project itself.

Based on provided site plans of the Project, TT understands that a total of 12 potential POPORs will be present – one for the front yard and one for the backyard of each unit. Two of these POPORs were again chosen to be representative of the all the OLAs for the Project. One OLA is located on the backyard of Unit 3 and the other OLA is on the front/side yard of Unit 6.

The locations of the critical receptors on the Project for stationary noise are summarized in Table 12 and shown in Figure 5. PPORs were assessed using a grid of receptors across the full facade, and POPORs were assessed at the most impacted point within 30m of a building façade, 1.5m above ground/floor level.

Table 12: Project Points of Reception – Stationary Noise

Receptor ID	Receptor Description	Receptor Location
PPOR1	Northwest façade	Building evaluation of full façade
PPOR2	Northeast façade	Building evaluation of full façade
PPOR3	Southeast façade	Building evaluation of full façade
PPOR4	Southwest façade	Building evaluation of full façade
POPOR1	Ground Level Backyard	North corner, 1.5m above ground
POPOR2	Ground Level Backyard	East corner, 1.5m above floor

6.2 Stationary Noise Sources

NPC-300 defines a stationary source of noise as one or more sources of sound that are normally operated within a given property. Stationary sources typically include mechanical equipment such as Heating, Ventilation and Air Conditioning (HVAC) equipment, standby power generators with routine testing, and heavy vehicle traffic (truck idling, driving, and loading).

Certain sources of noise, such as residential air conditioners, passenger automobile traffic in parking lots, or temporary noise such as that related to construction are not considered to be stationary sources in NPC-300 and are not assessed in this report.

Note that certain sources of noise in the vicinity of the Project (passenger vehicles, garbage collection and commercial activities associated with the adjacent commercial plaza) may be audible from the Project site, but are not considered to be stationary noise sources in the context of NPC-300. Impacts from these sources are not considered in this report. It should be noted that the project site and surrounding properties are already existing noise sensitive land uses, and the Project is not expected to significantly change the property's sensitivity to these noise sources.

6.2.1 Project Sources

Due to the nature of the project (residential townhomes), no significant stationary noise sources are anticipated to be present.

6.2.2 Surrounding Sources

Based on a review of satellite imagery, and field inspection, exterior HVAC and/or standby power generating equipment has been identified in the area surrounding the project. Table 13 and Figure 5 provide a summary of the assumed surrounding stationary source data. Because TT was unable to inspect equipment installed on surrounding properties, the following assumptions have been made:

- "Small" HVAC equipment (1-2 visible fans) was assumed to have a sound power level of approximately 77 dBA (based on Carrier model 48HCA06)
- "Large" HVAC equipment (3-4 visible fans) was assumed to have a sound power level of approximately 80 dBA (3 dBA more than Carrier model 48HCA06)

Based on a review of satellite imagery, and field inspection, loading docks were identified in the area surrounding the Project Shoppers Drug Mart, FreshCo, and Food Basics. Table 13 and Figure 5 provide a summary of the assumed surrounding stationary source data.

Table 13: Surrounding Stationary Nose Sources

Source ID	Source Description	Source Location	Source Sound Power dBA	Source Type	Notes & Assumptions
HVAC01 – 06, HVAC08 – 010, HVAC12 – 29, HVAC32 – 33,	"Small" HVAC units	Surrounding roof tops	77	Steady	60 min/hr (07:00 – 23:00) 25 min/hr (23:00 – 07:00)

Source ID	Source Description	Source Location	Source Sound Power dBA	Source Type	Notes & Assumptions
HVAC35, HVAC39 – 49					
HVAC07, HVAC11, HVAC30 – 31, HVAC34, HVAC36 – 38	"Large" HVAC units	Surrounding roof tops	80	Steady	60 min/hr (07:00 – 23:00) 25 min/hr (23:00 – 07:00)
TRID01 – TRID03	Truck idling	Surrounding loading docks	101	Steady	5 min/hr
TRDR01 – TRDR03	Truck driving	Surrounding loading docks	104	Steady	1 trucks/hr @ 10 km/hr
TRLD02 – TRLD03	Truck loading	Surrounding loading docks	107	Impulse	>9 impulses/hr

Truck loading for the Shopper's Drug Mart was assumed to be performed manually instead of using forklifts because of the loading dock size. Therefore, impulse noise from this source was considered negligible.

From the site inspection and investigation of the surrounding area, TT did not find any other significant stationary noise sources.

6.3 Project Area Classification

NPC-300 defines the applicable sound pressure level limit at a given receptor as the higher of a set exclusionary sound level limit based on the area classification of that receptor, or the actual background sound level at the location of the receptor, whichever is higher. For the purposes of this report, the defined exclusionary limits were used for the purposes of assessing compliance.

The Project is considered to be located in a Class 1 area as defined in NPC-300, based on the surrounding area features and its distance from major roads.

6.3.1 Class 1 Area Exclusionary Sound Level Limits

NPC-300 defines a Class 1 area as having an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people, usually road traffic, often referred to as "urban hum" during both day and night.

Table 14 provides a summary of the applicable exclusionary sound level limits for steady noise sources impacting receptors in a Class 1 area. Steady stationary noise sources are assessed against a 1 hour equivalent sound pressure level (L_{eq}) expressed in A-weighted decibels (dBA). Routine testing of emergency equipment, if applicable, is assessed separately from other stationary noise sources, and is compared to sound level limits that are 5 dBA higher than would otherwise apply.

Table 14: Class 1 Exclusionary Sound Level Limits – Steady Noise

Time Period	Normal Operations Steady Noise ($L_{eq,1hr}$, dBA)		Emergency Equipment Testing Steady Noise ($L_{eq,1hr}$, dBA)	
	POR	OPOR	POR	OPOR
Daytime (07:00 – 19:00)	50	50	55	55
Evening (19:00 – 23:00)	50	50	55	55
Nighttime (23:00 – 07:00)	45	-	50	-

Table 15 provides a summary of the applicable exclusionary sound level limits for impulse noise sources impacting receptors in a Class 1 area, based on the number of impulses generated by stationary sources in a one-hour period. Impulse noise sources are assessed against a Logarithmic Mean Impulse Sound Level, (L_{LM}) expressed in A-weighted impulsive decibels, dBAI. Impulse noise sources are assessed separately from steady noise sources.

Table 15: Class 1 Exclusionary Sound Level Limits – Impulsive Noise

Actual Number of Impulses in One Hour	Impulsive Sound Level Limits, Class 1 Area (L_{LM}, dBAI)	
	POR (L_{LM}, dBAI) Daytime (07:00 – 23:00) / Nighttime (23:00 – 07:00)	OPOR (L_{LM}, dBAI) Daytime (07:00 – 23:00) Only
9 or more	50 / 45	50
7 to 8	55 / 50	55
5 to 6	60 / 55	60

6.4 Stationary Sound Level Predictions

Sound levels at the PORs due to the nearby stationary sources were calculated using the software CadnaA in accordance with the methods described in ISO 9613-2. The CadnaA calculation outputs are presented in Appendix E.

Impulsive noises have a duration of less than one second, and are therefore unlikely to overlap. As such NPC-300 requires that these sources be assessed in isolation, rather than cumulatively with each other, or with other stationary noise sources. In the modelling conducted for this project, impacts from each individual impulsive noise source has been reported separately.

6.4.1 Stationary Noise Impacts on the Project

TT has evaluated the possible impact of every applicable impulsive noise source to receptors at the Project, of which the maximum possible impact is the relevant value for comparison to the applicable sound level limits. Table 16 provides a summary of the predicted impulse noise levels from each individual impulse source.

Table 16: Individual Impulse Noise Source Impacts to the Project

Source ID	PPOR1	PPOR2	PPOR3	PPOR4	POPOR1	POPOR2
	L_{LM}	L_{LM}	L_{LM}	L_{LM}	L_{LM}	L_{LM}
TRLD01	29	23	22	26	26	27
TRLD02	48	36	37	45	36	46
Maximum	**48**	**36**	**37**	**45**	**36**	**46**

Table 17 provides a summary of the modelling results for stationary noise impacts to the Project, and 0 contains the full modelling output and illustrations.

Table 17: Predicted Stationary Noise Source Impacts to the Project

POR ID	Time Period	Steady Sound Level $L_{eq,1hr}$ (dBA)	Steady Sound Level Limit $L_{eq,1hr}$ (dBA)	Maximum Impulse Sound Level L_{LM} (dBAI)	Impulse Sound Level Limit L_{LM} (dBAI)	Compliance
PPOR1	Daytime	49	50	48	50	Yes
	Evening	49	50	48	50	Yes
	Nighttime	45	45	-	45	Yes
PPOR2	Daytime	48	50	36	50	Yes
	Evening	48	50	36	50	Yes
	Nighttime	44	45	-	45	Yes
PPOR3	Daytime	35	50	37	50	Yes
	Evening	35	50	37	50	Yes
	Nighttime	30	45	-	45	Yes
PPOR4	Daytime	42	50	45	50	Yes
	Evening	42	50	45	50	Yes
	Nighttime	38	45	-	45	Yes
POPOR1	Daytime	40	50	36	50	Yes
	Evening	40	50	36	50	Yes
POPOR2	Daytime	40	50	46	50	Yes
	Evening	40	50	46	50	Yes

Noise due to stationary noise sources is predicted to meet the applicable sound level limits at all modeled receptors in the surrounding area with the implementation of mitigation measures.

6.5 Stationary Noise Mitigation Recommendations

6.5.1 Mitigation for Project Receptors

Predicted noise levels due to stationary sources comply with the noise level limits set out by the MECP. Predicted noise levels due to stationary noise do approach the applicable limits, particularly at PPOR1, in relation to steady noise, with most of the impacts being due to rooftop HVAC units located on the surrounding buildings adjacent to the (north and west) as well truck driving activity for deliveries north of the Project. A 4m high barrier (as shown in Figure 6) is required to reduce the sound level at PPOR1 to 45

dBA during the nighttime. The barrier can be built on top of the existing retaining wall (1.8m retaining wall + 2.2m barrier), or on the property line (4m barrier).

Table 18 provides the total effect of different barrier heights for both transportation noise and stationary noise for OLA1 and PPOR1 at the worst-case scenarios. Note that the Transportation Noise and Stationary Noise sources are assessed against different sound pressure level definitions ($Leq_{,16\ hr,day}$/$L_{eq,8\ hr,night}$ vs. $L_{eq,1\text{-}hr}$).

Table 18: Required Barrier Heights to Achieve Sound Levels at Receptors.

Mitigation Level*	Predicted Sound Level $L_{eq\ (16h,\ day)}$ dBA – Transportation Noise – OLA1*	Predicted Sound Level $L_{eq,1\text{-}hr}$ dBA – Stationary Noise – PPOR1 (nighttime)	Compliance with NPC-300 limits?
Unmitigated	59	46	No
1.5 m high	58	46	No
2.1 m high	57	46	No
2.5 m high	56	46	No
3.0 m high	55	46	No
4.0 m high	54	45	Yes
5.0 m high	53	45	Yes

*Transportation noise assessment includes the effect of both the green and yellow barrier lines while the stationary noise assessment only includes the effect of the green line, as illustrated in Figure 6, due to different assessment methods (STAMSON and CadnaA).

Although not required by the MECP guideline, acoustical glazing is recommended in order to further reduce the interior noise levels due to HVAC and truck driving noise sources. TT understands that an STC 34 glazing assembly is currently planned for the entire northwest façade of the building as shown in Figure 6, which would satisfy this recommendation.

6.5.2 Mitigation for Surrounding Receptors

No predicted exceedances of the applicable stationary sound level limits at the surrounding receptors have been identified; therefore, no specific mitigation is recommended at this time.

7.0 Concluding Comments

Noise impacts associated with the proposed development at 2469 and 2463 Mimosa Row are expected to be able to meet all applicable MECP noise limits with the inclusion of noise control measures and warning clauses as presented in Section 5.3 of this report for transportation noise sources and Section 6.5 of this report for stationary noise sources. The proposed development should therefore be approved.

As the design of the redevelopment proceeds, and mechanical equipment is selected, acoustical modelling of the impacts of this equipment should be confirmed in order to evaluate compliance with applicable MECP limits at surrounding sensitive receptors, and confirm that impacts to the Project itself will be acceptable.

Please do not hesitate to contact us if there are any questions.

Yours Truly,

Thornton Tomasetti

Jediael Pagtalunan, M.Sc.
Scientist

Reviewed by:

Robert Fuller, P.Eng.
Project Engineer

Disclaimer

Achieving the required noise control requirements relies on correct incorporation of noise control recommendations into Architectural and Mechanical drawings and specifications, as well as correct installation during construction. On Request, TT will conduct drawing reviews and onsite reviews of noise control measures and provide observations as appropriate; however, notwithstanding the foregoing, it is expressly understood and agreed that TT shall not have control or charge of, and shall not be responsible for the acts or omissions, including but not limited to means, methods, techniques, sequences and procedures, of the Design Professionals and/or Contractors performing design and/or construction on the Project. Accordingly, TT shall not be held responsible for the failure of any party to properly incorporate the noise control measures stated in this report.

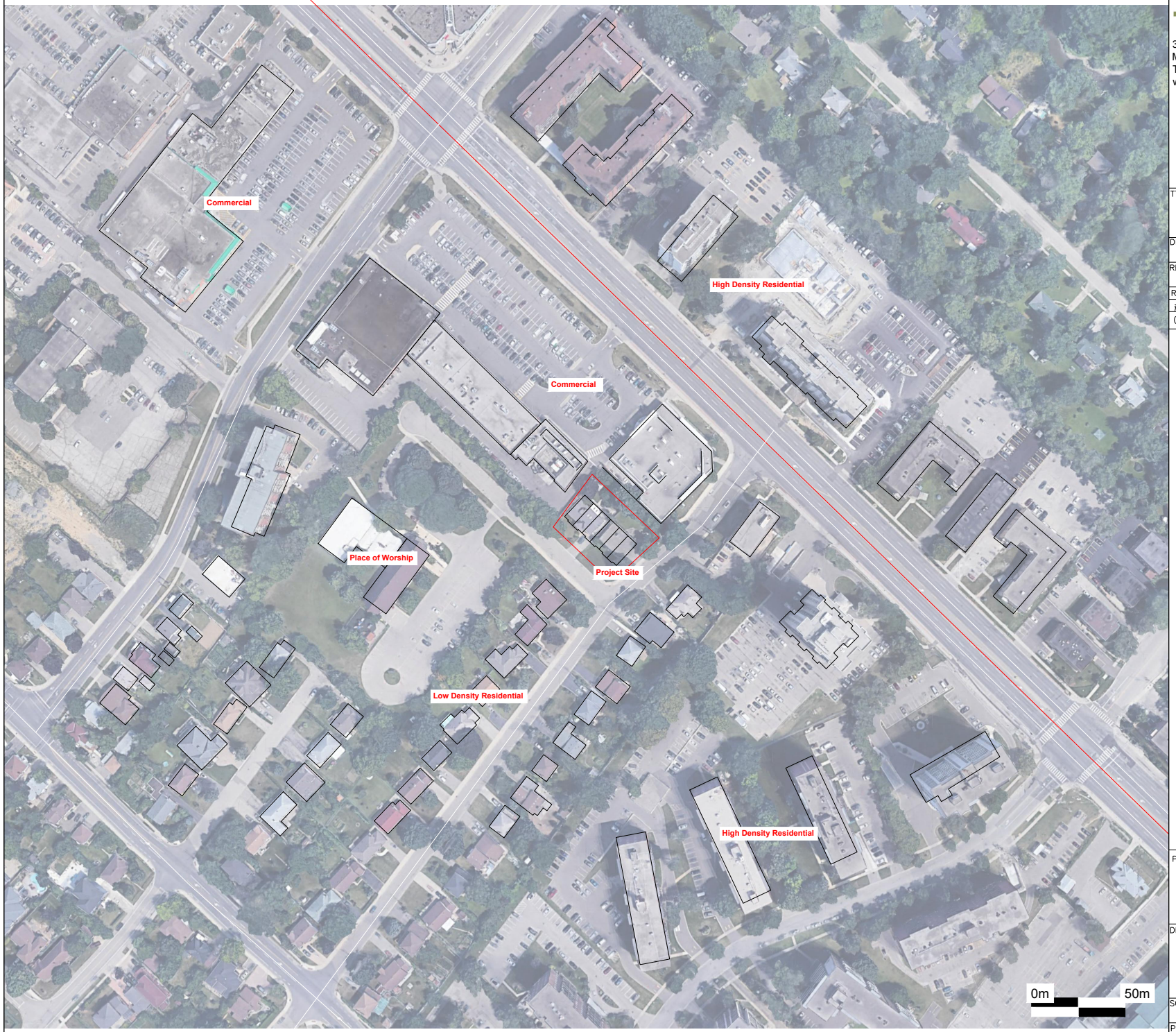
8.0 References

FCM/RAC. 2013. "Guidelines for New Development in Proximity to Railway Operations." May.

Kulendran, Sam N., and John E. Coulter. 2014. "Hurontario-Main LRT Project." Noise and Vibration Impact Assessment Report, Mississauga.

Ontario MECP. 2013. "Environmental Noise Guideline, Stationary and Transportation Sources - Approval and Planning, Publication NPC-300." August.

Appendix A: Figures



Thornton Tomasetti
366 Revus Avenue, Unit 23
Mississauga, ON Canada L5G 4S5
Tel: 905.271.7888 Fax: 905.271.1846
www.thorntontomasetti.com

True North

TT PROJECT CODE
SW22328

DRAWN BY: JP

REVIEWED BY:

REVISION

#	DATE	DESCRIPTION
0	2021/10/24	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

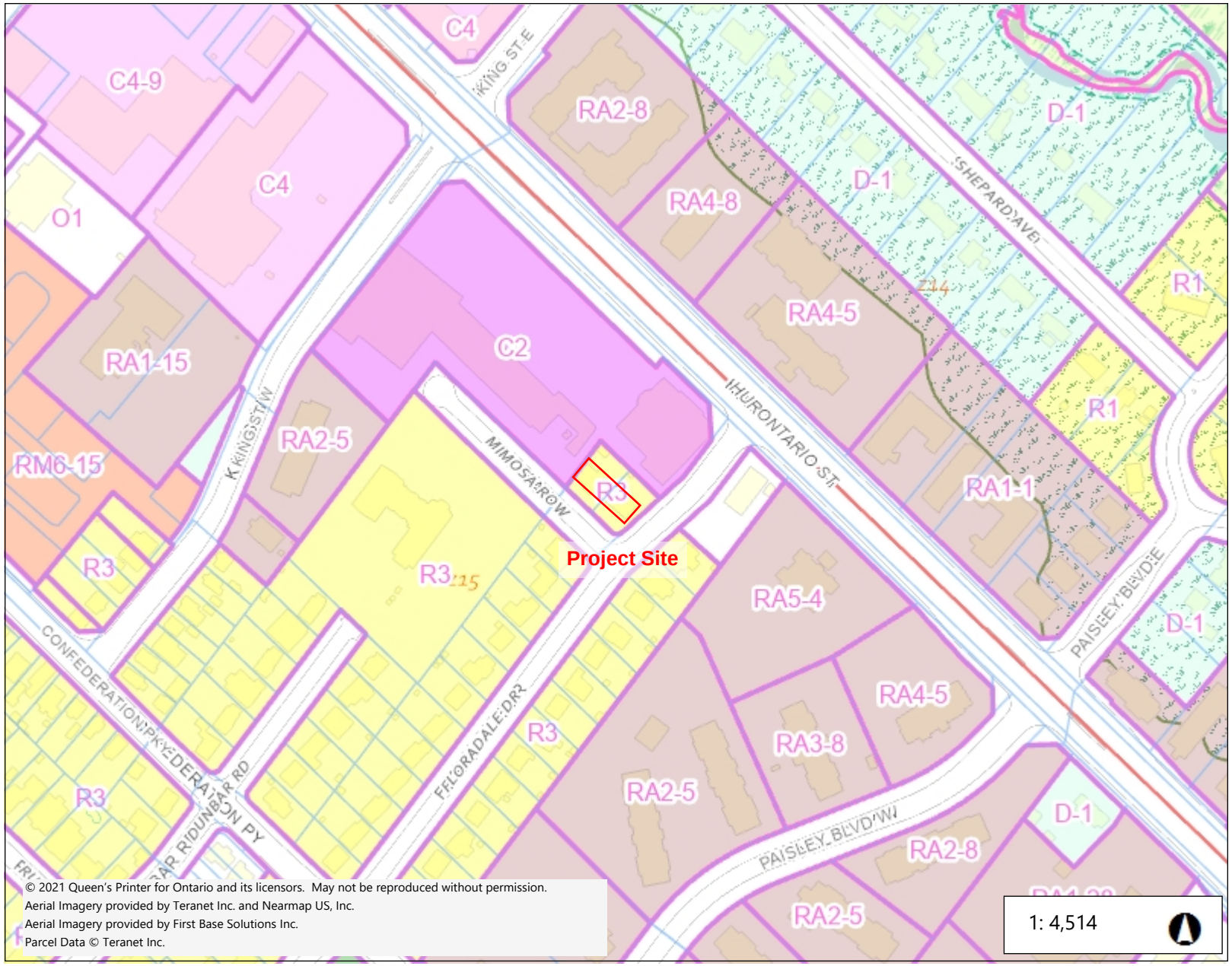
PROJECT NAME
2469 & 2463 MIMOSA ROW, MISSISSAUGA ONTARIO

DRAWING NAME
FIGURE 1: PROJECT LOCATION & SURROUNDINGS

SCALE	DATE
ON DRAWING	2022/10/24
Project SK. No	SHEET 1 OF 1

MISSISSAUGA

Figure 2: Zoning Map



Legend

- Road Names
- Parcel
- Zoning Labels
- Zoning Shapes
  - A Agricultural (By-law 5500)
  - AP Lester B. Pearson International
  - B Buffer, Berm, Fence
  - C1 Convenience Commercial
  - C2 Neighbourhood Commercial
  - C3 General Commercial
  - C4 Mainstreet Commercial
  - C5 Motor Vehicle Commercial
  - CC1 Core Commercial
  - CC2, CC4 Mixed Use
  - CC3 Mixed Use - Transition Area
  - CCO Office
  - CCOS Open Space
  - D Existing Use
  - E1 Employment in Nodes
  - E2 Employment
  - E3 Industrial
  - G1 Natural Hazards
  - G2 Natural Features
  - I Hospital and University / College
  - O Office
  - OS1 Community Park

Notes

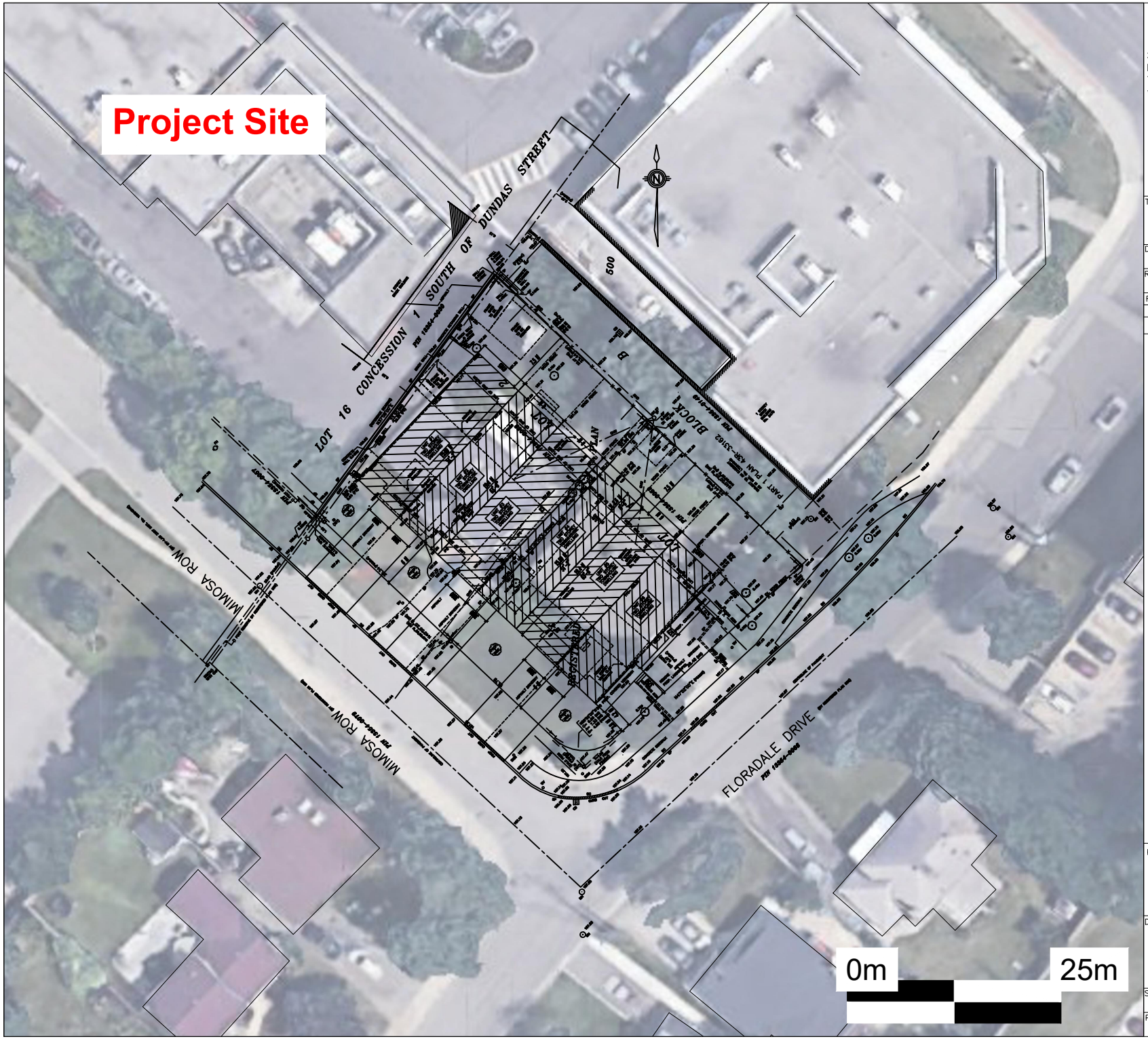
229.3 0 114.66 229.3 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

 10-11-2022

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS IS NOT A PLAN OF SURVEY



Thornton Tomasetti
366 Revus Avenue, Unit 23
Mississauga, ON Canada L5G 4S5
Tel: 905.271.7888 Fax: 905.271.1846
www.thorntontomasetti.com

True North

TT PROJECT CODE
SW22328

DRAWN BY: JP

REVIEWED BY:

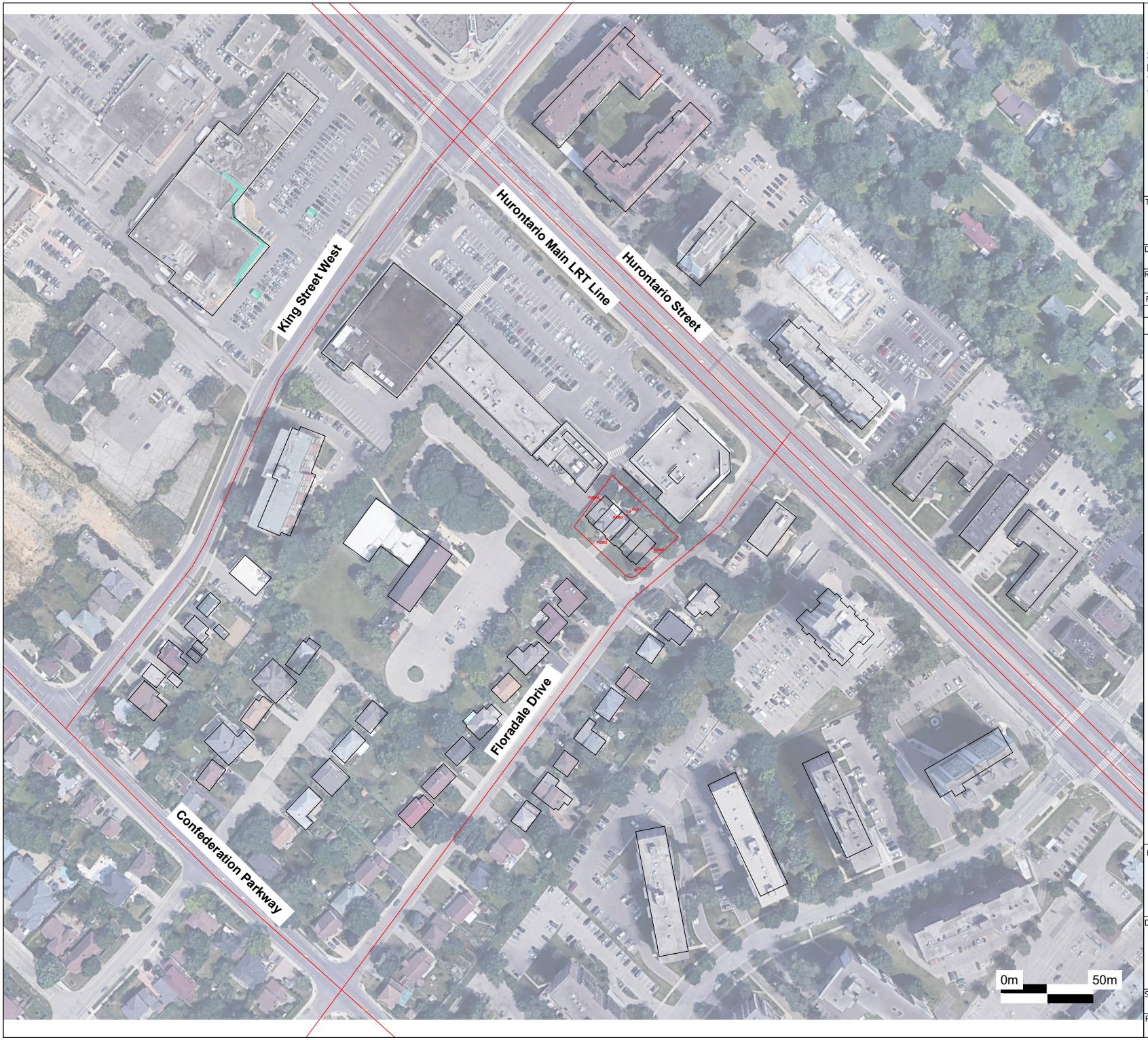
REVISION

#	DATE	DESCRIPTION
0	2022/10/24	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

PROJECT NAME
2469 & 2463 MIMOSA ROW, MISSISSAUGA ONTARIO

DRAWING NAME
FIGURE 3:
PROJECT SITE PLAN

SCALE ON DRAWING
DATE 2022/10/24
Project SK. No
SHEET 1 OF 1



Thornton Tomasetti
366 Revus Avenue, Unit 23
Mississauga, ON Canada L5G 4S5
Tel: 905.271.7888 Fax: 905.271.1846
www.thorntontomasetti.com

True North

TT PROJECT CODE
SW22328

DRAWN BY: JP

REVIEWED BY:

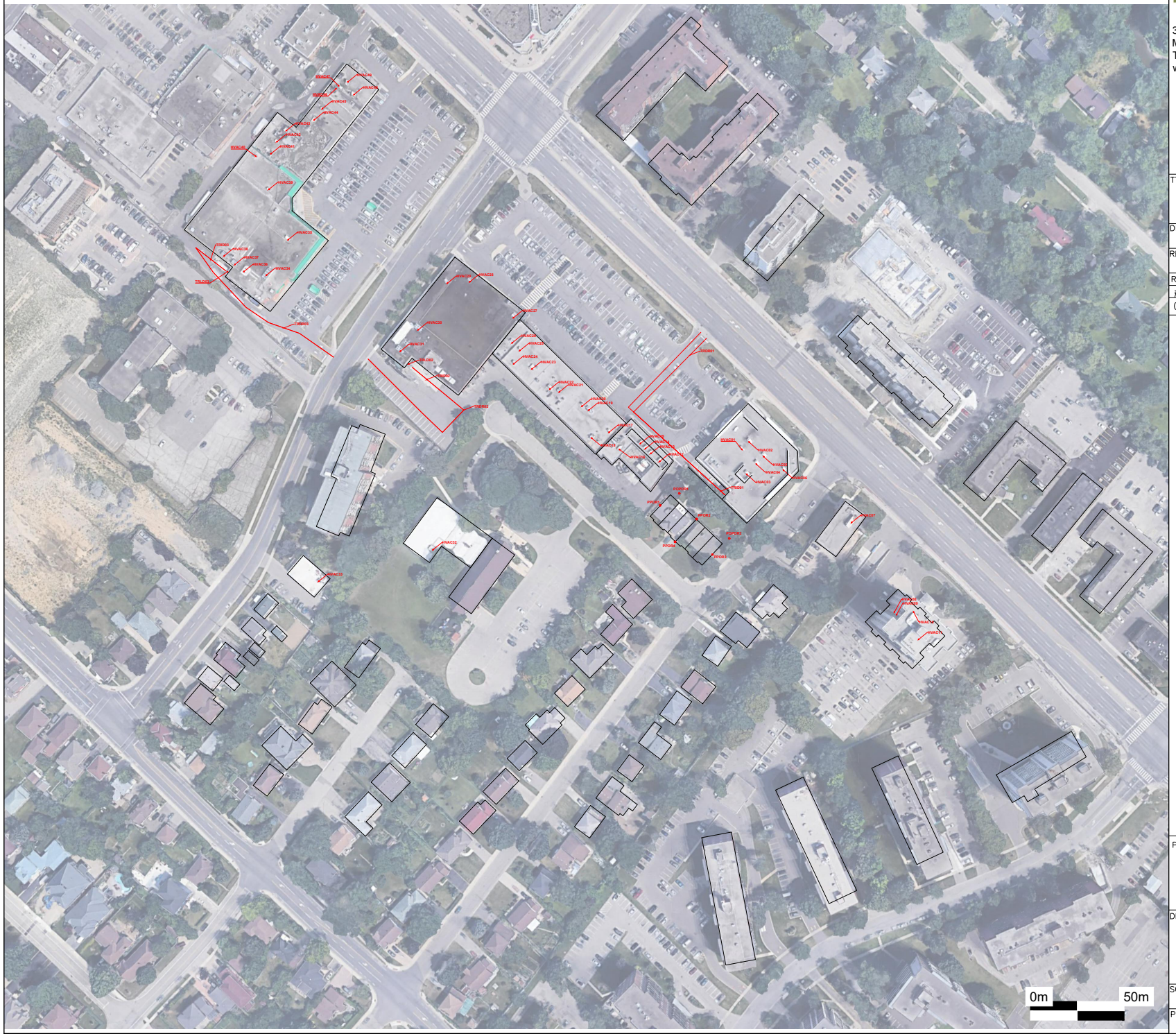
REVISION

#	DATE	DESCRIPTION
0	2022/10/24	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

PROJECT NAME
2469 & 2463 MIMOSA ROW, MISSISSAUGA ONTARIO

DRAWING NAME
FIGURE 4: TRANSPORTATION NOISE PORS & SOURCES

SCALE	DATE
ON DRAWING	2022/10/24
Project SK. No	SHEET 1 OF 1



Thornton Tomasetti

366 Revus Avenue, Unit 23
Mississauga, ON Canada L5G 4S5
Tel: 905.271.7888 Fax: 905.271.1846
www.thorntontomasetti.com

True North

TT PROJECT CODE
SW22328

DRAWN BY: JP

REVIEWED BY:

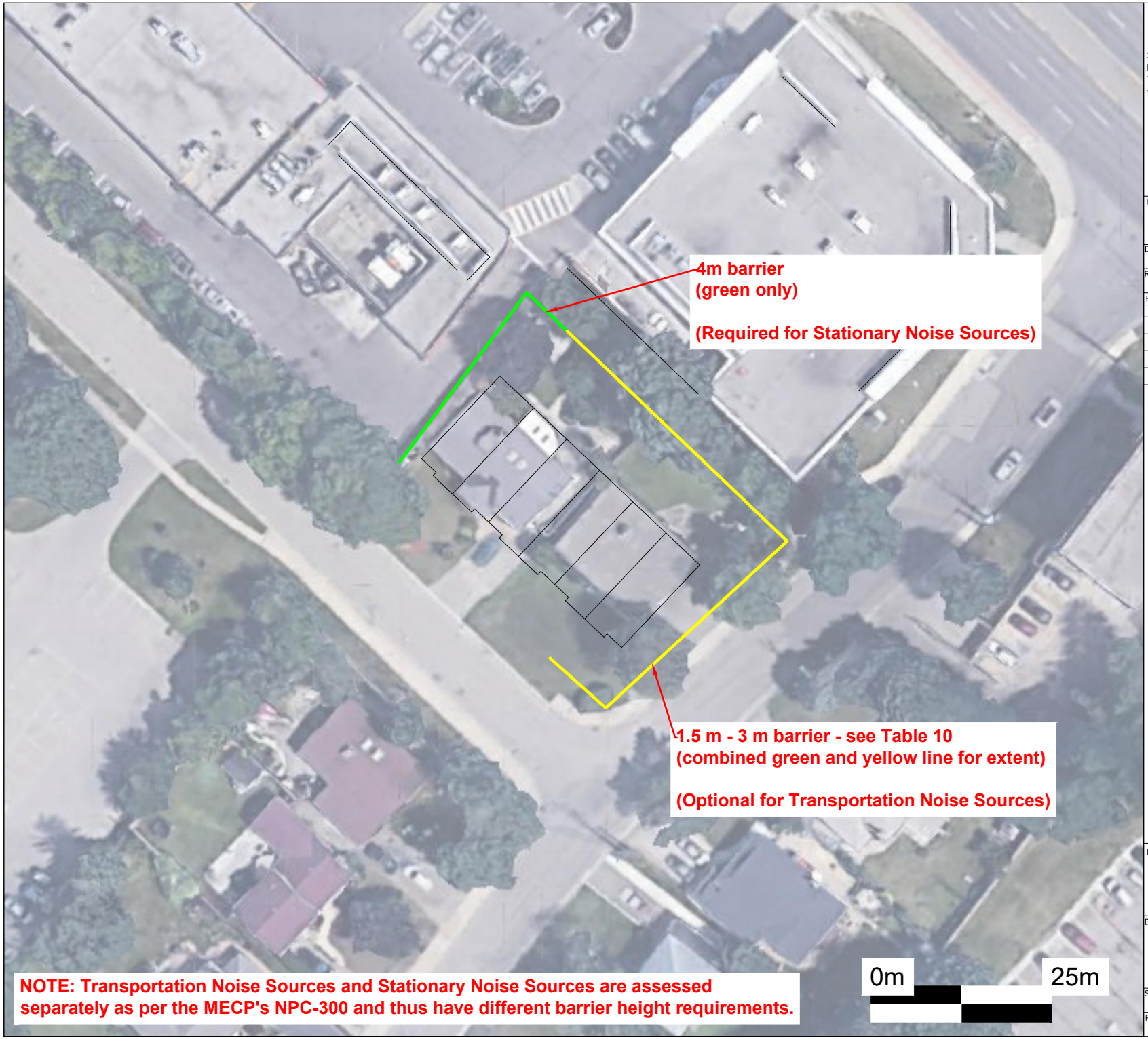
REVISION

#	DATE	DESCRIPTION
0	2022/10/26	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

PROJECT NAME
2469 & 2463 MIMOSA ROW, MISSISSAUGA ONTARIO

DRAWING NAME
FIGURE 5:
STATIONARY NOISE PORS & SOURCES

SCALE	DATE
ON DRAWING	2022/10/26
Project SK. No	SHEET 1 OF 1



NOTE: Transportation Noise Sources and Stationary Noise Sources are assessed separately as per the MECP's NPC-300 and thus have different barrier height requirements.

Thornton Tomasetti
366 Revus Avenue, Unit 23
Mississauga, ON Canada L5G 4S5
Tel: 905.271.7888 Fax: 905.271.1846
www.thorntontomasetti.com

True North

TT PROJECT CODE
SW22328

DRAWN BY: JP

REVIEWED BY:

REVISION

#	DATE	DESCRIPTION
0	2022/10/27	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
1	2023/03/10	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
2	2023/09/21	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION
3	2023/10/26	FOR INFORMATION ONLY, NOT FOR CONSTRUCTION

PROJECT NAME
2469 & 2463 MIMOSA ROW, MISSISSAUGA ONTARIO

DRAWING NAME
FIGURE 6: TRANSPORTATION NOISE MITIGATION

SCALE	DATE
ON DRAWING	2023/10/26
Project SK. No	SHEET 1 OF 1

Appendix B: Traffic Data

NOISE REPORT FOR PROPOSED DEVELOPMENT

Date:	29-Sep-22

REQUESTED BY:

Name:	Jed Pagtalunan
Company:	Thornton Tomasetti

PREPARED BY:

Name	Laura Archilla
Tel#:	905-615-3200 ext. 3156

MISSISSAUGA

Location: Hurontario Street (Between Paisey Blvd W and King St W)
Confederation Parkway (Between Paisey Blvd W and King St W)
King Street West (West of Hurontario St)
Floradale Drive (West of Hurontario St)

ID# 563

ON SITE TRAFFIC DATA

Specific	*Street Names*				
[redacted]	Hurontario Street	Confederation Parkway	King Street West	Floradale Drive	
AADT:	38,000	14,300	7,300	n/a	
# of Lanes:	4 lanes	2 lanes	2 lanes	2 lanes	
% Trucks:	5%	3%	3%	2%	
Medium/Heavy Trucks Ratio:	55/45	55/45	55/45	55/45	
Day/Night Split:	90/10	90/10	90/10	90/10	
Posted Speed Limit:	50km/h	50km/h	50km/h **40 km/h**	50 km/h **40 km/h**	
Gradient Of Road:	<2%	<2%	<2%	<2%	
Ultimate R.O.W:	35m	26m	20m	20m	

Comments:

Ultimate Traffic Data Only.

-There is a proposed LRT line along Hurontario Street. Existing lanes may be converted from 6 lanes to 4 lanes with 2 LRT lines in the middle.

Please contact Farhad Shala @ (905) 615-3200 ext. 3377 or farhad.shala@mississauga.ca for more info regarding LRT.

- There's no available Ultimate AADT for Floradale Drive.

Appendix C: Transportation Noise Predictions

STAMSON 5.0 NORMAL REPORT Date: 10-02-2023 13:22:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow1.te Time Period: Day/Night 16/8 hours
Description: POW Northeast of Project

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HSS (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 : 80.42 / 80.42 m
Receiver height : 7.50 / 7.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -41.00 deg Angle2 : 47.00 deg
Barrier height : 8.00 m
Barrier receiver distance : 22.47 / 22.47 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑
Road data, segment # 2: HSN (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSN (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  :  94.63 / 94.63  m
Receiver height           :   7.50 / 4.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -41.00 deg   Angle2 : 47.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :  22.47 / 22.47  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: FD (day/night)
--------------------------------------
Car traffic volume  :   653/327   veh/TimePeriod  *
Medium truck volume :     7/4     veh/TimePeriod  *
Heavy truck volume  :     6/3     veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   1000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.10
    Heavy Truck  % of Total Volume     :   0.90
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 3: FD (day/night)
------------------------------------
Angle1   Angle2           : -90.00 deg   6.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  37.06 / 37.06  m
Receiver height           :   7.50 / 4.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : -49.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :  23.62 / 23.62  m
Source elevation          :  -1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: KSW (day/night)
---------------------------------------
Car traffic volume  :  6373/708   veh/TimePeriod  *
Medium truck volume :   108/12    veh/TimePeriod  *
Heavy truck volume  :    89/10    veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7300
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 4: KSW (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  : 198.05 / 198.05 m
Receiver height           :   7.50 / 4.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 13.00 deg
Barrier height            :   7.00 m
Barrier receiver distance : 184.86 / 184.86 m
Source elevation          :   1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟
Results segment # 1: HSS (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	7.50	5.75	5.75

ROAD (54.38 + 47.13 + 53.81) = 57.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-41	0.00	67.32	0.00	-7.29	-5.65	0.00	0.00	0.00	54.38
-41	47	0.00	67.32	0.00	-7.29	-3.11	0.00	0.00	-9.79	47.13
47	90	0.00	67.32	0.00	-7.29	-6.22	0.00	0.00	0.00	53.81

Segment Leq : 57.53 dBA

↟
Results segment # 2: HSN (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	7.50	6.01	6.01

ROAD (53.67 + 47.33 + 53.11) = 56.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-41	0.00	67.32	0.00	-8.00	-5.65	0.00	0.00	0.00	53.67
-41	47	0.00	67.32	0.00	-8.00	-3.11	0.00	0.00	-8.88	47.33
47	90	0.00	67.32	0.00	-8.00	-6.22	0.00	0.00	0.00	53.11

Segment Leq : 56.92 dBA

↟
Results segment # 3: FD (day)

Source height = 0.97 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.97	7.50	2.70	2.70

ROAD (0.00 + 25.95 + 39.72) = 39.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-49	0.00	48.80	0.00	-3.93	-6.42	0.00	0.00	-12.49	25.95
-49	6	0.00	48.80	0.00	-3.93	-5.15	0.00	0.00	0.00	39.72

Segment Leq : 39.90 dBA

↟
Results segment # 4: KSW (day)

Source height = 1.08 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.08	7.50	2.44	2.44

ROAD (0.00 + 20.45 + 44.88) = 44.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	13	0.00	59.77	0.00	-11.21	-11.41	0.00	0.00	-16.71	20.45
13	90	0.00	59.77	0.00	-11.21	-3.69	0.00	0.00	0.00	44.88

Segment Leq : 44.89 dBA

Total Leq All Segments: 60.41 dBA

↟
Results segment # 1: HSS (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	7.50	5.75	5.75

ROAD (47.86 + 40.61 + 47.29) = 51.01 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-41	0.00	60.80	0.00	-7.29	-5.65	0.00	0.00	0.00	47.86
-41	47	0.00	60.80	0.00	-7.29	-3.11	0.00	0.00	-9.79	40.61
47	90	0.00	60.80	0.00	-7.29	-6.22	0.00	0.00	0.00	47.29

Segment Leq : 51.01 dBA

Results segment # 2: HSN (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	4.50	3.72	3.72

ROAD (47.15 + 35.25 + 46.59) = 50.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-41	0.00	60.80	0.00	-8.00	-5.65	0.00	0.00	0.00	47.15
-41	47	0.00	60.80	0.00	-8.00	-3.11	0.00	0.00	-14.45	35.25
47	90	0.00	60.80	0.00	-8.00	-6.22	0.00	0.00	0.00	46.59

Segment Leq : 50.03 dBA

Results segment # 3: FD (night)

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

Source height = 0.97 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        4.50 !        1.62 !         1.62

ROAD (0.00 + 24.73 + 39.77) = 39.91 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -49   0.00  48.85   0.00  -3.93  -6.42   0.00   0.00 -13.77  24.73
-------------------------------------------------------------------------------
   -49      6   0.00  48.85   0.00  -3.93  -5.15   0.00   0.00   0.00  39.77
-------------------------------------------------------------------------------

Segment Leq : 39.91 dBA

↟
Results segment # 4: KSW (night)
-------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        4.50 !        2.24 !         2.24

ROAD (0.00 + 13.56 + 38.37) = 38.39 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     13   0.00  53.27   0.00 -11.21 -11.41   0.00   0.00 -17.09  13.56
-------------------------------------------------------------------------------
    13     90   0.00  53.27   0.00 -11.21  -3.69   0.00   0.00   0.00  38.37
-------------------------------------------------------------------------------

Segment Leq : 38.39 dBA

Total Leq All Segments: 53.87 dBA

↟
RT/Custom data, segment # 1: LRT (day/night)
-------------------------------------------
1 - Custom (81.0 dBA):
```

```
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 1: LRT (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  :  87.08 / 87.08  m
Receiver height           :   7.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -41.00 deg   Angle2 : 47.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :  22.47 / 22.47  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

↟
Results segment # 1: LRT (day)
------------------------------

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !        7.50 !        5.69 !         5.69

RT/Custom (49.24 + 41.94 + 48.68) = 52.39 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----------------------------------------------------------------------
   -90    -41   0.00  62.53  -7.64  -5.65   0.00   0.00   0.00  49.24
-----------------------------------------------------------------------
   -41     47   0.00  62.53  -7.64  -3.11   0.00   0.00  -9.85  41.94
-----------------------------------------------------------------------
    47     90   0.00  62.53  -7.64  -6.22   0.00   0.00   0.00  48.68
-----------------------------------------------------------------------

Segment Leq : 52.39 dBA

Total Leq All Segments: 52.39 dBA

↟
Results segment # 1: LRT (night)
--------------------------------
```

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	7.50	5.69	5.69

RT/Custom (44.98 + 37.68 + 44.42) = 48.13 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-41	0.00	58.27	-7.64	-5.65	0.00	0.00	0.00	44.98
-41	47	0.00	58.27	-7.64	-3.11	0.00	0.00	-9.85	37.68
47	90	0.00	58.27	-7.64	-6.22	0.00	0.00	0.00	44.42

Segment Leq : 48.13 dBA

Total Leq All Segments: 48.13 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 61.05
(NIGHT): 54.89

STAMSON 5.0 NORMAL REPORT Date: 10-02-2023 13:24:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow2.te Time Period: Day/Night 16/8 hours
Description: POW Southeast of Project

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HSS (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 : 83.75 / 83.75 m
Receiver height : 7.50 / 7.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 25.00 deg Angle2 : 48.00 deg
Barrier height : 14.00 m
Barrier receiver distance : 64.53 / 64.53 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑
Road data, segment # 2: HSN (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSN (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  :  97.96 / 97.96  m
Receiver height           :   7.50 / 4.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  25.00 deg   Angle2 : 48.00 deg
Barrier height            :  14.00 m
Barrier receiver distance :  64.53 / 64.53  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: FD (day/night)
--------------------------------------
Car traffic volume  :   653/327   veh/TimePeriod  *
Medium truck volume :     7/4     veh/TimePeriod  *
Heavy truck volume  :     6/3     veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   1000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.10
    Heavy Truck  % of Total Volume     :   0.90
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 3: FD (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  :  14.38 / 14.38  m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 4: CP (day/night)
--------------------------------------
Car traffic volume  : 12484/1387  veh/TimePeriod  *
Medium truck volume :   212/24    veh/TimePeriod  *
Heavy truck volume  :   174/19    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  14300
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 4: CP (day/night)
------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 291.69 / 291.69 m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

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

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        7.50 !        2.67 !         2.67
```

ROAD (51.28 + 30.92 + 53.54) = 55.58 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	25	0.00	67.32	0.00	-7.47	-8.57	0.00	0.00	0.00	51.28
25	48	0.00	67.32	0.00	-7.47	-8.94	0.00	0.00	-20.00	30.92
48	90	0.00	67.32	0.00	-7.47	-6.32	0.00	0.00	0.00	53.54

Segment Leq : 55.58 dBA

↟

Results segment # 2: HSN (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	7.50	3.37	3.37

ROAD (50.60 + 30.25 + 52.85) = 54.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	25	0.00	67.32	0.00	-8.15	-8.57	0.00	0.00	0.00	50.60
25	48	0.00	67.32	0.00	-8.15	-8.94	0.00	0.00	-19.99	30.25
48	90	0.00	67.32	0.00	-8.15	-6.32	0.00	0.00	0.00	52.85

Segment Leq : 54.90 dBA

↟

Results segment # 3: FD (day)

Source height = 0.97 m

ROAD (0.00 + 48.98 + 0.00) = 48.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	48.80	0.00	0.18	0.00	0.00	0.00	0.00	48.98

Segment Leq : 48.98 dBA

↟
Results segment # 4: CP (day)

Source height = 1.08 m

ROAD (0.00 + 48.82 + 0.00) = 48.82 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	64.72	0.00	-12.89	-3.01	0.00	0.00	0.00	48.82

Segment Leq : 48.82 dBA

Total Leq All Segments: 59.17 dBA

↟
Results segment # 1: HSS (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	7.50	2.67	2.67

ROAD (44.76 + 24.40 + 47.01) = 49.06 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	25	0.00	60.80	0.00	-7.47	-8.57	0.00	0.00	0.00	44.76
25	48	0.00	60.80	0.00	-7.47	-8.94	0.00	0.00	-20.00	24.40
48	90	0.00	60.80	0.00	-7.47	-6.32	0.00	0.00	0.00	47.01

Segment Leq : 49.06 dBA

↟
Results segment # 2: HSN (night)

Source height = 1.23 m

Barrier height for grazing incidence

```
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.23 !        4.50 !        2.34 !         2.34

ROAD (44.08 + 23.72 + 46.33) = 48.38 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     25   0.00  60.80   0.00  -8.15  -8.57   0.00   0.00   0.00  44.08
-------------------------------------------------------------------------------
    25     48   0.00  60.80   0.00  -8.15  -8.94   0.00   0.00 -20.00  23.72
-------------------------------------------------------------------------------
    48     90   0.00  60.80   0.00  -8.15  -6.32   0.00   0.00   0.00  46.33
-------------------------------------------------------------------------------

Segment Leq : 48.38 dBA

↟
Results segment # 3: FD (night)
-------------------------------

Source height = 0.97 m

ROAD (0.00 + 49.04 + 0.00) = 49.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  48.85   0.00   0.18   0.00   0.00   0.00   0.00  49.04
-------------------------------------------------------------------------------

Segment Leq : 49.04 dBA

↟
Results segment # 4: CP (night)
-------------------------------

Source height = 1.07 m

ROAD (0.00 + 42.26 + 0.00) = 42.26 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  58.16   0.00 -12.89  -3.01   0.00   0.00   0.00  42.26
-------------------------------------------------------------------------------

Segment Leq : 42.26 dBA

Total Leq All Segments: 53.92 dBA

↟
RT/Custom data, segment # 1: LRT (day/night)
```

```
-----------------------------------------
1 - Custom (81.0 dBA):
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 1: LRT (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  :  90.41 / 90.41  m
Receiver height           :   7.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  25.00 deg   Angle2 : 48.00 deg
Barrier height            :  14.00 m
Barrier receiver distance :  64.53 / 64.53  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

🡅
Results segment # 1: LRT (day)
------------------------------

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !        7.50 !        2.50 !         2.50

RT/Custom (46.16 + 25.80 + 48.41) = 50.45 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------
     0     25   0.00  62.53  -7.80  -8.57   0.00   0.00   0.00  46.16
-------------------------------------------------------------------
    25     48   0.00  62.53  -7.80  -8.94   0.00   0.00 -20.00  25.80
-------------------------------------------------------------------
    48     90   0.00  62.53  -7.80  -6.32   0.00   0.00   0.00  48.41
-------------------------------------------------------------------

Segment Leq : 50.45 dBA

Total Leq All Segments: 50.45 dBA

🡅
```

Results segment # 1: LRT (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	7.50	2.50	2.50

RT/Custom (41.90 + 21.54 + 44.15) = 46.19 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	25	0.00	58.27	-7.80	-8.57	0.00	0.00	0.00	41.90
25	48	0.00	58.27	-7.80	-8.94	0.00	0.00	-20.00	21.54
48	90	0.00	58.27	-7.80	-6.32	0.00	0.00	0.00	44.15

Segment Leq : 46.19 dBA

Total Leq All Segments: 46.19 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.72
(NIGHT): 54.59

STAMSON 5.0 NORMAL REPORT Date: 10-02-2023 13:26:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow3.te Time Period: Day/Night 16/8 hours
Description: POW Southwest of Project

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

Car traffic volume : 6439/715 veh/TimePeriod
Medium truck volume : 72/8 veh/TimePeriod
Heavy truck volume : 59/7 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: FD (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 : 33.87 / 33.87 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Road data, segment # 2: CP (day/night)

Car traffic volume : 12484/1387 veh/TimePeriod *
Medium truck volume : 212/24 veh/TimePeriod *
Heavy truck volume : 174/19 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 14300
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 1.65
Heavy Truck % of Total Volume : 1.35
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: CP (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  : 279.11 / 279.11 m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 3: KSW (day/night)
---------------------------------------
Car traffic volume  :  6373/708   veh/TimePeriod  *
Medium truck volume :   108/12    veh/TimePeriod  *
Heavy truck volume  :    89/10    veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7300
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 3: KSW (day/night)
-------------------------------------
Angle1   Angle2           : -44.00 deg   18.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 198.41 / 198.41 m
Receiver height           :   7.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -24.00 deg   Angle2 : -4.00 deg
Barrier height            :  24.00 m
Barrier receiver distance : 171.53 / 171.53 m
Source elevation          :   1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟

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

Source height = 0.97 m

ROAD (0.00 + 52.20 + 0.00) = 52.20 dBA
```

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  58.75   0.00  -3.54  -3.01   0.00   0.00   0.00  52.20
-------------------------------------------------------------------------------

Segment Leq : 52.20 dBA

↟
Results segment # 2: CP (day)
------------------------------

Source height = 1.08 m

ROAD (0.00 + 52.02 + 0.00) = 52.02 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  64.72   0.00 -12.70   0.00   0.00   0.00   0.00  52.02
-------------------------------------------------------------------------------

Segment Leq : 52.02 dBA

↟
Results segment # 3: KSW (day)
------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        7.50 !        2.81 !         2.81

ROAD (39.02 + 19.02 + 39.43) = 42.26 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -44    -24   0.00  59.77   0.00 -11.21  -9.54   0.00   0.00   0.00  39.02
-------------------------------------------------------------------------------
   -24     -4   0.00  59.77   0.00 -11.21  -9.54   0.00   0.00 -20.00  19.02
-------------------------------------------------------------------------------
    -4     18   0.00  59.77   0.00 -11.21  -9.13   0.00   0.00   0.00  39.43
-------------------------------------------------------------------------------

Segment Leq : 42.26 dBA

Total Leq All Segments: 55.34 dBA

↟
Results segment # 1: FD (night)
```

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

Source height = 0.99 m

ROAD (0.00 + 45.80 + 0.00) = 45.80 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  52.35   0.00  -3.54  -3.01   0.00   0.00   0.00  45.80
-------------------------------------------------------------------------------

Segment Leq : 45.80 dBA

↟
Results segment # 2: CP (night)
------------------------------

Source height = 1.07 m

ROAD (0.00 + 45.46 + 0.00) = 45.46 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  58.16   0.00 -12.70   0.00   0.00   0.00   0.00  45.46
-------------------------------------------------------------------------------

Segment Leq : 45.46 dBA

↟
Results segment # 3: KSW (night)
--------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        7.50 !        2.82 !         2.82

ROAD (32.51 + 12.51 + 32.92) = 35.75 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -44    -24   0.00  53.27   0.00 -11.21  -9.54   0.00   0.00   0.00  32.51
-------------------------------------------------------------------------------
   -24     -4   0.00  53.27   0.00 -11.21  -9.54   0.00   0.00 -20.00  12.51
-------------------------------------------------------------------------------
    -4     18   0.00  53.27   0.00 -11.21  -9.13   0.00   0.00   0.00  32.92
-------------------------------------------------------------------------------

Segment Leq : 35.75 dBA
```

Total Leq All Segments: 48.86 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.34
(NIGHT): 48.86

STAMSON 5.0 NORMAL REPORT Date: 10-02-2023 13:21:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow4.te Time Period: Day/Night 16/8 hours
Description: POW Northwest of Project

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

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

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 84.48 / 84.48 m
Receiver height : 7.50 / 7.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -90.00 deg Angle2 : -20.00 deg
Barrier height : 4.50 m
Barrier receiver distance : 15.39 / 15.39 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑
Road data, segment # 2: HSN (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSN (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  98.69 / 98.69  m
Receiver height           :   7.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : -20.00 deg
Barrier height            :   4.50 m
Barrier receiver distance :  15.39 / 15.39  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: CP (day/night)
--------------------------------------
Car traffic volume  : 12484/1387  veh/TimePeriod  *
Medium truck volume :   212/24    veh/TimePeriod  *
Heavy truck volume  :   174/19    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  14300
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 3: CP (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  : 292.96 / 292.96 m
Receiver height           :   7.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 90.00 deg
Barrier height            :   4.50 m
Barrier receiver distance :  15.39 / 15.39  m
Source elevation          :  -3.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: KSW (day/night)
---------------------------------------
Car traffic volume  :  6373/708   veh/TimePeriod  *
Medium truck volume :   108/12    veh/TimePeriod  *
Heavy truck volume  :    89/10    veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7300
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 4: KSW (day/night)
-------------------------------------
Angle1   Angle2           : -56.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 181.64 / 181.64 m
Receiver height           :   7.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -56.00 deg   Angle2 : 81.00 deg
Barrier height            :   4.50 m
Barrier receiver distance :   3.37 / 3.37   m
Source elevation          :   1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟
Results segment # 1: HSS (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	7.50	6.36	6.36

ROAD (0.00 + 55.72 + 50.28) = 56.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-20	0.00	67.32	0.00	-7.51	-4.10	0.00	0.00	-0.88	54.83*
-90	-20	0.00	67.32	0.00	-7.51	-4.10	0.00	0.00	0.00	55.72
-20	0	0.00	67.32	0.00	-7.51	-9.54	0.00	0.00	0.00	50.28

* Bright Zone !

Segment Leq : 56.81 dBA

↟
Results segment # 2: HSN (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	7.50	6.52	6.52

ROAD (0.00 + 55.04 + 49.60) = 56.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-20	0.00	67.32	0.00	-8.18	-4.10	0.00	0.00	-0.75	54.29*
-90	-20	0.00	67.32	0.00	-8.18	-4.10	0.00	0.00	0.00	55.04
-20	0	0.00	67.32	0.00	-8.18	-9.54	0.00	0.00	0.00	49.60

* Bright Zone !

Segment Leq : 56.13 dBA

↟
Results segment # 3: CP (day)

Source height = 1.08 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.08	7.50	7.01	7.01

ROAD (0.00 + 48.80 + 0.00) = 48.80 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	64.72	0.00	-12.91	-3.01	0.00	0.00	-0.40	48.39*
0	90	0.00	64.72	0.00	-12.91	-3.01	0.00	0.00	0.00	48.80

* Bright Zone !

Segment Leq : 48.80 dBA

↟
Results segment # 4: KSW (day)

Source height = 1.08 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.08	7.50	7.40	7.40

ROAD (0.00 + 47.76 + 35.93) = 48.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-56	81	0.00	59.77	0.00	-10.83	-1.19	0.00	0.00	0.00	47.76*
-56	81	0.00	59.77	0.00	-10.83	-1.19	0.00	0.00	0.00	47.76
81	90	0.00	59.77	0.00	-10.83	-13.01	0.00	0.00	0.00	35.93

* Bright Zone !

Segment Leq : 48.03 dBA

Total Leq All Segments: 60.13 dBA

↟
Results segment # 1: HSS (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	7.50	6.36	6.36

ROAD (0.00 + 49.19 + 43.75) = 50.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-20	0.00	60.80	0.00	-7.51	-4.10	0.00	0.00	-0.88	48.31*
-90	-20	0.00	60.80	0.00	-7.51	-4.10	0.00	0.00	0.00	49.19
-20	0	0.00	60.80	0.00	-7.51	-9.54	0.00	0.00	0.00	43.75

* Bright Zone !

Segment Leq : 50.29 dBA

↟
Results segment # 2: HSN (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	7.50	6.52	6.52

ROAD (0.00 + 48.52 + 43.08) = 49.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-20	0.00	60.80	0.00	-8.18	-4.10	0.00	0.00	-0.75	47.77*
-90	-20	0.00	60.80	0.00	-8.18	-4.10	0.00	0.00	0.00	48.52
-20	0	0.00	60.80	0.00	-8.18	-9.54	0.00	0.00	0.00	43.08

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

 * Bright Zone !

Segment Leq : 49.61 dBA

↟
Results segment # 3: CP (night)
-------------------------------

Source height = 1.07 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.07 !        7.50 !        7.00 !         7.00

ROAD (0.00 + 42.24 + 0.00) = 42.24 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  58.16   0.00 -12.91  -3.01   0.00   0.00  -0.40  41.83*
     0     90   0.00  58.16   0.00 -12.91  -3.01   0.00   0.00   0.00  42.24
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 42.24 dBA

↟
Results segment # 4: KSW (night)
--------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        7.50 !        7.40 !         7.40

ROAD (0.00 + 41.25 + 29.43) = 41.53 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -56     81   0.00  53.27   0.00 -10.83  -1.19   0.00   0.00   0.00  41.25*
   -56     81   0.00  53.27   0.00 -10.83  -1.19   0.00   0.00   0.00  41.25
-------------------------------------------------------------------------------
    81     90   0.00  53.27   0.00 -10.83 -13.01   0.00   0.00   0.00  29.43
```

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

 * Bright Zone !

Segment Leq : 41.53 dBA

Total Leq All Segments: 53.60 dBA

↟
RT/Custom data, segment # 1: LRT (day/night)
-----------------------------------------
1 - Custom (81.0 dBA):
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 1: LRT (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  91.14 / 91.14  m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

↟
Results segment # 1: LRT (day)
------------------------------

Source height = 0.50 m

RT/Custom (0.00 + 51.69 + 0.00) = 51.69 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------
   -90      0   0.00  62.53  -7.84  -3.01   0.00   0.00   0.00  51.69
--------------------------------------------------------------------

Segment Leq : 51.69 dBA

Total Leq All Segments: 51.69 dBA

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

Source height = 0.50 m

RT/Custom (0.00 + 47.43 + 0.00) = 47.43 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
```

```
-------------------------------------------------------------------------
   -90      0   0.00  58.27  -7.84  -3.01   0.00   0.00   0.00  47.43
-------------------------------------------------------------------------

Segment Leq : 47.43 dBA

Total Leq All Segments: 47.43 dBA

↑



TOTAL Leq FROM ALL SOURCES (DAY): 60.71
                           (NIGHT): 54.54
↑
↑
```

STAMSON 5.0 NORMAL REPORT Date: 10-02-2023 13:42:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1.te Time Period: Day/Night 16/8 hours
Description: OLA on Unit 3 Backyard

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HSS (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 : 77.69 / 77.69 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -54.00 deg Angle2 : 59.00 deg
Barrier height : 8.00 m
Barrier receiver distance : 13.85 / 13.85 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↟
Road data, segment # 2: HSN (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSN (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  :  91.89 / 91.89  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -53.00 deg   Angle2 : 59.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :  13.85 / 13.85  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: FD (day/night)
--------------------------------------
Car traffic volume  :   653/327   veh/TimePeriod  *
Medium truck volume :     7/4     veh/TimePeriod  *
Heavy truck volume  :     6/3     veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   1000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.10
    Heavy Truck  % of Total Volume     :   0.90
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 3: FD (day/night)
------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  37.45 / 37.45  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : -36.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :  19.74 / 19.74  m
Source elevation          :  -1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: KSW (day/night)
---------------------------------------
Car traffic volume  :  6373/708   veh/TimePeriod
Medium truck volume :   108/12    veh/TimePeriod
Heavy truck volume  :    89/10    veh/TimePeriod
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 4: KSW (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  : 198.40 / 198.40 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 30.00 deg
Barrier height            :   4.50 m
Barrier receiver distance :  20.00 / 20.00  m
Source elevation          :   1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```



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

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
```

```
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.45 !         1.45

ROAD (53.19 + 38.86 + 52.54) = 55.97 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -54   0.00  67.32   0.00  -7.14  -6.99   0.00   0.00   0.00  53.19
-------------------------------------------------------------------------------
   -54     59   0.00  67.32   0.00  -7.14  -2.02   0.00   0.00 -19.30  38.86
-------------------------------------------------------------------------------
    59     90   0.00  67.32   0.00  -7.14  -7.64   0.00   0.00   0.00  52.54
-------------------------------------------------------------------------------

Segment Leq : 55.97 dBA

↟
Results segment # 2: HSN (day)
------------------------------

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.46 !         1.46

ROAD (52.58 + 38.20 + 51.81) = 55.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -53   0.00  67.32   0.00  -7.87  -6.87   0.00   0.00   0.00  52.58
-------------------------------------------------------------------------------
   -53     59   0.00  67.32   0.00  -7.87  -2.06   0.00   0.00 -19.19  38.20
-------------------------------------------------------------------------------
    59     90   0.00  67.32   0.00  -7.87  -7.64   0.00   0.00   0.00  51.81
-------------------------------------------------------------------------------

Segment Leq : 55.31 dBA

↟
Results segment # 3: FD (day)
-----------------------------

Source height = 0.97 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
```

```
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        1.50 !        0.70 !         0.70

ROAD (0.00 + 24.28 + 37.84) = 38.02 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -36   0.00  48.80   0.00  -3.97  -5.23   0.00   0.00 -15.32  24.28
-------------------------------------------------------------------------------
   -36      0   0.00  48.80   0.00  -3.97  -6.99   0.00   0.00   0.00  37.84
-------------------------------------------------------------------------------

Segment Leq : 38.02 dBA

↟
Results segment # 4: KSW (day)
------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.56 !         1.56

ROAD (0.00 + 29.27 + 43.79) = 43.94 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     30   0.00  59.77   0.00 -11.21  -7.78   0.00   0.00 -11.50  29.27
-------------------------------------------------------------------------------
    30     90   0.00  59.77   0.00 -11.21  -4.77   0.00   0.00   0.00  43.79
-------------------------------------------------------------------------------

Segment Leq : 43.94 dBA

Total Leq All Segments: 58.84 dBA

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

Source height = 1.23 m

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

```
       1.23 !        1.50 !        1.45 !         1.45

ROAD (46.67 + 32.34 + 46.02) = 49.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -54   0.00  60.80   0.00  -7.14  -6.99   0.00   0.00   0.00  46.67
-------------------------------------------------------------------------------
   -54     59   0.00  60.80   0.00  -7.14  -2.02   0.00   0.00 -19.30  32.34
-------------------------------------------------------------------------------
    59     90   0.00  60.80   0.00  -7.14  -7.64   0.00   0.00   0.00  46.02
-------------------------------------------------------------------------------

Segment Leq : 49.45 dBA

↟
Results segment # 2: HSN (night)
--------------------------------

Source height = 1.23 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.23 !        1.50 !        1.46 !         1.46

ROAD (46.06 + 31.68 + 45.29) = 48.79 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -53   0.00  60.80   0.00  -7.87  -6.87   0.00   0.00   0.00  46.06
-------------------------------------------------------------------------------
   -53     59   0.00  60.80   0.00  -7.87  -2.06   0.00   0.00 -19.19  31.68
-------------------------------------------------------------------------------
    59     90   0.00  60.80   0.00  -7.87  -7.64   0.00   0.00   0.00  45.29
-------------------------------------------------------------------------------

Segment Leq : 48.79 dBA

↟
Results segment # 3: FD (night)
-------------------------------

Source height = 0.97 m

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

```
       0.97 !        1.50 !        0.70 !         0.70

ROAD (0.00 + 24.33 + 37.89) = 38.08 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90    -36   0.00  48.85   0.00  -3.97  -5.23   0.00   0.00 -15.32  24.33
-------------------------------------------------------------------------------
   -36      0   0.00  48.85   0.00  -3.97  -6.99   0.00   0.00   0.00  37.89
-------------------------------------------------------------------------------

Segment Leq : 38.08 dBA

↟
Results segment # 4: KSW (night)
--------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.56 !         1.56

ROAD (0.00 + 22.77 + 37.28) = 37.43 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     30   0.00  53.27   0.00 -11.21  -7.78   0.00   0.00 -11.50  22.77
-------------------------------------------------------------------------------
    30     90   0.00  53.27   0.00 -11.21  -4.77   0.00   0.00   0.00  37.28
-------------------------------------------------------------------------------

Segment Leq : 37.43 dBA

Total Leq All Segments: 52.45 dBA

↟
RT/Custom data, segment # 1: LRT (day/night)
--------------------------------------------
1 - Custom (76.0 dBA):
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 1: LRT (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  :  84.35 / 84.35  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -54.00 deg   Angle2 : 59.00 deg
Barrier height            :   8.00 m
Barrier receiver distance :  13.85 / 13.85  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟

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

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !        1.50 !        1.34 !         1.34

RT/Custom (43.04 + 28.65 + 42.39) = 45.82 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-----------------------------------------------------------------------
   -90    -54   0.00  57.53  -7.50  -6.99   0.00   0.00   0.00  43.04
-----------------------------------------------------------------------
   -54     59   0.00  57.53  -7.50  -2.02   0.00   0.00 -19.36  28.65
-----------------------------------------------------------------------
    59     90   0.00  57.53  -7.50  -7.64   0.00   0.00   0.00  42.39
-----------------------------------------------------------------------

Segment Leq : 45.82 dBA

Total Leq All Segments: 45.82 dBA
```

↟

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

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !        1.50 !        1.34 !         1.34
```

RT/Custom (38.78 + 24.39 + 38.13) = 41.56 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-54	0.00	53.27	-7.50	-6.99	0.00	0.00	0.00	38.78
-54	59	0.00	53.27	-7.50	-2.02	0.00	0.00	-19.36	24.39
59	90	0.00	53.27	-7.50	-7.64	0.00	0.00	0.00	38.13

Segment Leq : 41.56 dBA

Total Leq All Segments: 41.56 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.05
(NIGHT): 52.79

STAMSON 5.0 NORMAL REPORT Date: 10-02-2023 13:43:06
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola2.te Time Period: Day/Night 16/8 hours
Description: OLA on Unit 6 Front / Side Yard

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HSS-1 (day/night)

Angle1 Angle2 : 0.00 deg 51.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 98.44 / 98.44 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 20.00 deg Angle2 : 39.00 deg
Barrier height : 14.00 m
Barrier receiver distance : 76.33 / 76.33 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑
Road data, segment # 2: HSS-2 (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSS-2 (day/night)
---------------------------------------
Angle1   Angle2           :  51.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  98.44 / 98.44  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  51.00 deg   Angle2 : 71.00 deg
Barrier height            :  58.00 m
Barrier receiver distance :  61.49 / 61.49  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: HSN-1 (day/night)
-----------------------------------------
Car traffic volume  : 16245/1805  veh/TimePeriod  *
Medium truck volume :   470/52    veh/TimePeriod  *
Heavy truck volume  :   385/43    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 3: HSN-1 (day/night)
---------------------------------------
Angle1   Angle2           :   0.00 deg   51.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 112.64 / 112.64 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  20.00 deg   Angle2 : 39.00 deg
Barrier height            :  14.00 m
Barrier receiver distance :  76.33 / 76.33  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: HSN-2 (day/night)
-----------------------------------------
Car traffic volume  : 16245/1805  veh/TimePeriod  *
Medium truck volume :   470/52    veh/TimePeriod  *
Heavy truck volume  :   385/43    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 4: HSN-2 (day/night)
---------------------------------------
Angle1   Angle2           :  51.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 112.64 / 112.64 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  51.00 deg   Angle2 : 71.00 deg
Barrier height            :  58.00 m
Barrier receiver distance :  61.49 / 61.49  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟
Road data, segment # 5: FD (day/night)

Car traffic volume : 653/327 veh/TimePeriod *
Medium truck volume : 7/4 veh/TimePeriod *
Heavy truck volume : 6/3 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 1000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 1.10
Heavy Truck % of Total Volume : 0.90
Day (16 hrs) % of Total Volume : 66.67

Data for Segment # 5: FD (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 : 11.11 / 11.11 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Road data, segment # 6: CP (day/night)

Car traffic volume : 12484/1387 veh/TimePeriod *
Medium truck volume : 212/24 veh/TimePeriod *
Heavy truck volume : 174/19 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 14300
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 1.65
Heavy Truck % of Total Volume : 1.35
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 6: CP (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  : 276.94 / 276.94 m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

↟

```
Road data, segment # 7: KSW (day/night)
---------------------------------------
Car traffic volume  :  6373/708   veh/TimePeriod  *
Medium truck volume :   108/12    veh/TimePeriod  *
Heavy truck volume  :    89/10    veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   7300
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 7: KSW (day/night)
-------------------------------------
Angle1   Angle2           : -50.00 deg   12.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 218.85 / 218.85 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -28.00 deg   Angle2 : -11.00 deg
Barrier height            :  24.00 m
Barrier receiver distance : 183.42 / 183.42 m
Source elevation          :   1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟

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

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	1.50	1.29	1.29

ROAD (49.61 + 29.39 + 47.39) = 51.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	20	0.00	67.32	0.00	-8.17	-9.54	0.00	0.00	0.00	49.61
20	39	0.00	67.32	0.00	-8.17	-9.77	0.00	0.00	-20.00	29.39
39	51	0.00	67.32	0.00	-8.17	-11.76	0.00	0.00	0.00	47.39

Segment Leq : 51.68 dBA

↟

Results segment # 2: HSS-2 (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	1.50	1.33	1.33

ROAD (0.00 + 29.61 + 49.39) = 49.43 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
51	71	0.00	67.32	0.00	-8.17	-9.54	0.00	0.00	-20.00	29.61
71	90	0.00	67.32	0.00	-8.17	-9.77	0.00	0.00	0.00	49.39

Segment Leq : 49.43 dBA

↟

Results segment # 3: HSN-1 (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	1.50	1.31	1.31

ROAD (49.03 + 28.80 + 46.81) = 51.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	20	0.00	67.32	0.00	-8.76	-9.54	0.00	0.00	0.00	49.03
20	39	0.00	67.32	0.00	-8.76	-9.77	0.00	0.00	-20.00	28.80
39	51	0.00	67.32	0.00	-8.76	-11.76	0.00	0.00	0.00	46.81

Segment Leq : 51.09 dBA

Results segment # 4: HSN-2 (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	1.50	1.35	1.35

ROAD (0.00 + 29.03 + 48.80) = 48.85 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
51	71	0.00	67.32	0.00	-8.76	-9.54	0.00	0.00	-20.00	29.03
71	90	0.00	67.32	0.00	-8.76	-9.77	0.00	0.00	0.00	48.80

Segment Leq : 48.85 dBA

Results segment # 5: FD (day)

Source height = 0.97 m

ROAD (0.00 + 50.10 + 0.00) = 50.10 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq

```
-------------------------------------------------------------------------------
   -90     90   0.00  48.80   0.00   1.30   0.00   0.00   0.00   0.00  50.10
-------------------------------------------------------------------------------

Segment Leq : 50.10 dBA

↑
Results segment # 6: CP (day)
------------------------------

Source height = 1.08 m

ROAD (0.00 + 52.05 + 0.00) = 52.05 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  64.72   0.00 -12.66   0.00   0.00   0.00   0.00  52.05
-------------------------------------------------------------------------------

Segment Leq : 52.05 dBA

↑
Results segment # 7: KSW (day)
------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.99 !         1.99

ROAD (39.00 + 17.88 + 39.20) = 42.13 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50    -28   0.00  59.77   0.00 -11.64  -9.13   0.00   0.00   0.00  39.00
-------------------------------------------------------------------------------
   -28    -11   0.00  59.77   0.00 -11.64 -10.25   0.00   0.00 -20.00  17.88
-------------------------------------------------------------------------------
   -11     12   0.00  59.77   0.00 -11.64  -8.94   0.00   0.00   0.00  39.20
-------------------------------------------------------------------------------

Segment Leq : 42.13 dBA

Total Leq All Segments: 58.57 dBA

↑
Results segment # 1: HSS-1 (night)
----------------------------------
```

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	1.50	1.29	1.29

ROAD (43.09 + 22.87 + 40.87) = 45.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	20	0.00	60.80	0.00	-8.17	-9.54	0.00	0.00	0.00	43.09
20	39	0.00	60.80	0.00	-8.17	-9.77	0.00	0.00	-20.00	22.87
39	51	0.00	60.80	0.00	-8.17	-11.76	0.00	0.00	0.00	40.87

Segment Leq : 45.16 dBA

↟
Results segment # 2: HSS-2 (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	1.50	1.33	1.33

ROAD (0.00 + 23.09 + 42.87) = 42.91 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
51	71	0.00	60.80	0.00	-8.17	-9.54	0.00	0.00	-20.00	23.09
71	90	0.00	60.80	0.00	-8.17	-9.77	0.00	0.00	0.00	42.87

Segment Leq : 42.91 dBA

↟
Results segment # 3: HSN-1 (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	1.50	1.31	1.31

ROAD (42.50 + 22.28 + 40.29) = 44.57 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	20	0.00	60.80	0.00	-8.76	-9.54	0.00	0.00	0.00	42.50
20	39	0.00	60.80	0.00	-8.76	-9.77	0.00	0.00	-20.00	22.28
39	51	0.00	60.80	0.00	-8.76	-11.76	0.00	0.00	0.00	40.29

Segment Leq : 44.57 dBA

↑
Results segment # 4: HSN-2 (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	1.50	1.35	1.35

ROAD (0.00 + 22.50 + 42.28) = 42.33 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
51	71	0.00	60.80	0.00	-8.76	-9.54	0.00	0.00	-20.00	22.50
71	90	0.00	60.80	0.00	-8.76	-9.77	0.00	0.00	0.00	42.28

Segment Leq : 42.33 dBA

↑
Results segment # 5: FD (night)

Source height = 0.97 m

ROAD (0.00 + 50.16 + 0.00) = 50.16 dBA

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  48.85   0.00   1.30   0.00   0.00   0.00   0.00  50.16
-------------------------------------------------------------------------------

Segment Leq : 50.16 dBA

↟
Results segment # 6: CP (night)
--------------------------------

Source height = 1.07 m

ROAD (0.00 + 45.49 + 0.00) = 45.49 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  58.16   0.00 -12.66   0.00   0.00   0.00   0.00  45.49
-------------------------------------------------------------------------------

Segment Leq : 45.49 dBA

↟
Results segment # 7: KSW (night)
--------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
-------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.99 !         1.99

ROAD (32.50 + 11.38 + 32.69) = 35.62 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50    -28   0.00  53.27   0.00 -11.64  -9.13   0.00   0.00   0.00  32.50
-------------------------------------------------------------------------------
   -28    -11   0.00  53.27   0.00 -11.64 -10.25   0.00   0.00 -20.00  11.38
-------------------------------------------------------------------------------
   -11     12   0.00  53.27   0.00 -11.64  -8.94   0.00   0.00   0.00  32.69
-------------------------------------------------------------------------------

Segment Leq : 35.62 dBA

Total Leq All Segments: 53.82 dBA

↟
RT/Custom data, segment # 1: LRT-1 (day/night)
```

```
---------------------------------------------
1 - Custom (76.0 dBA):
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 1: LRT-1 (day/night)
---------------------------------------
Angle1   Angle2           :   0.00 deg   51.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 105.10 / 105.10 m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  20.00 deg   Angle2 : 39.00 deg
Barrier height            :  14.00 m
Barrier receiver distance :  76.33 / 76.33  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

↑
RT/Custom data, segment # 2: LRT-2 (day/night)
---------------------------------------------
1 - Custom (76.0 dBA):
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 2: LRT-2 (day/night)
---------------------------------------
Angle1   Angle2           :  51.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 105.10 / 105.10 m
Receiver height           :   1.50 / 7.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  51.00 deg   Angle2 : 71.00 deg
Barrier height            :  58.00 m
Barrier receiver distance :  61.49 / 61.49  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

↑
Results segment # 1: LRT-1 (day)
--------------------------------
```

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	0.77	0.77

RT/Custom (39.53 + 19.31 + 37.32) = 41.60 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	20	0.00	57.53	-8.46	-9.54	0.00	0.00	0.00	39.53
20	39	0.00	57.53	-8.46	-9.77	0.00	0.00	-20.00	19.31
39	51	0.00	57.53	-8.46	-11.76	0.00	0.00	0.00	37.32

Segment Leq : 41.60 dBA

Results segment # 2: LRT-2 (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	0.91	0.91

RT/Custom (0.00 + 19.53 + 39.31) = 39.36 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
51	71	0.00	57.53	-8.46	-9.54	0.00	0.00	-20.00	19.53
71	90	0.00	57.53	-8.46	-9.77	0.00	0.00	0.00	39.31

Segment Leq : 39.36 dBA

Total Leq All Segments: 43.63 dBA

Results segment # 1: LRT-1 (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	7.50	2.42	2.42

RT/Custom (35.27 + 15.05 + 33.06) = 37.34 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	20	0.00	53.27	-8.46	-9.54	0.00	0.00	0.00	35.27
20	39	0.00	53.27	-8.46	-9.77	0.00	0.00	-20.00	15.05
39	51	0.00	53.27	-8.46	-11.76	0.00	0.00	0.00	33.06

Segment Leq : 37.34 dBA

↟

Results segment # 2: LRT-2 (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	7.50	3.40	3.40

RT/Custom (0.00 + 15.27 + 35.05) = 35.10 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
51	71	0.00	53.27	-8.46	-9.54	0.00	0.00	-20.00	15.27
71	90	0.00	53.27	-8.46	-9.77	0.00	0.00	0.00	35.05

Segment Leq : 35.10 dBA

Total Leq All Segments: 39.37 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 58.71
(NIGHT): 53.97

STAMSON 5.0 NORMAL REPORT Date: 10-02-2023 13:44:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1_bar.te Time Period: Day/Night 16/8 hours
Description: OLA on Unit 3 Backyard with Barrier

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HSS (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 : 77.69 / 77.69 m
Receiver height : 1.50 / 1.50 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 : 7.85 / 7.85 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑
Road data, segment # 2: HSN (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSN (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  :  91.89 / 91.89  m
Receiver height           :   1.50 / 1.50   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 :   7.85 / 7.85   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

↟
Road data, segment # 3: FD (day/night)
--------------------------------------
Car traffic volume  :   653/327   veh/TimePeriod  *
Medium truck volume :     7/4     veh/TimePeriod  *
Heavy truck volume  :     6/3     veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   1000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.10
    Heavy Truck  % of Total Volume     :   0.90
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 3: FD (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  37.45 / 37.45  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 0.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :  28.24 / 28.24  m
Source elevation          :  -1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↑

```
Road data, segment # 4: KSW (day/night)
---------------------------------------
Car traffic volume  :  6373/708   veh/TimePeriod
Medium truck volume :   108/12    veh/TimePeriod
Heavy truck volume  :    89/10    veh/TimePeriod
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 4: KSW (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  : 198.40 / 198.40 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 90.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :  19.71 / 19.71  m
Source elevation          :   1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↑

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

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
```

```
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.47 !         1.47

ROAD (0.00 + 51.76 + 0.00) = 51.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  67.32   0.00  -7.14   0.00   0.00   0.00  -8.43  51.76
-------------------------------------------------------------------------------

Segment Leq : 51.76 dBA

↟
Results segment # 2: HSN (day)
------------------------------

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.48 !         1.48

ROAD (0.00 + 51.08 + 0.00) = 51.08 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  67.32   0.00  -7.87   0.00   0.00   0.00  -8.37  51.08
-------------------------------------------------------------------------------

Segment Leq : 51.08 dBA

↟
Results segment # 3: FD (day)
-----------------------------

Source height = 0.97 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        1.50 !        0.35 !         0.35

ROAD (0.00 + 30.48 + 0.00) = 30.48 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  48.80   0.00  -3.97  -3.01   0.00   0.00 -11.34  30.48
```

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

Segment Leq : 30.48 dBA

↟
Results segment # 4: KSW (day)
------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.56 !         1.56

ROAD (0.00 + 38.95 + 0.00) = 38.95 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     90   0.00  59.77   0.00 -11.21  -3.01   0.00   0.00  -6.60  38.95
--------------------------------------------------------------------------------

Segment Leq : 38.95 dBA

Total Leq All Segments: 54.58 dBA

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

Source height = 1.23 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.23 !        1.50 !        1.47 !         1.47

ROAD (0.00 + 45.23 + 0.00) = 45.23 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
   -90     90   0.00  60.80   0.00  -7.14   0.00   0.00   0.00  -8.43  45.23
--------------------------------------------------------------------------------

Segment Leq : 45.23 dBA

↟
Results segment # 2: HSN (night)
```

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

Source height = 1.23 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.23 !        1.50 !        1.48 !         1.48

ROAD (0.00 + 44.56 + 0.00) = 44.56 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  60.80   0.00  -7.87   0.00   0.00   0.00  -8.37  44.56
-------------------------------------------------------------------------------

Segment Leq : 44.56 dBA

🠉
Results segment # 3: FD (night)
--------------------------------

Source height = 0.97 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        1.50 !        0.35 !         0.35

ROAD (0.00 + 30.53 + 0.00) = 30.53 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  48.85   0.00  -3.97  -3.01   0.00   0.00 -11.34  30.53
-------------------------------------------------------------------------------

Segment Leq : 30.53 dBA

🠉
Results segment # 4: KSW (night)
--------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
```

```
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.56 !         1.56

ROAD (0.00 + 32.44 + 0.00) = 32.44 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  53.27   0.00 -11.21  -3.01   0.00   0.00  -6.60  32.44
-------------------------------------------------------------------------------

Segment Leq : 32.44 dBA

Total Leq All Segments: 48.12 dBA

↟
RT/Custom data, segment # 1: LRT (day/night)
-----------------------------------------
1 - Custom (76.0 dBA):
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 1: LRT (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  :  84.35 / 84.35  m
Receiver height           :   1.50 / 1.50   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 :   7.85 / 7.85   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

↟
Results segment # 1: LRT (day)
------------------------------

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !        1.50 !        1.41 !         1.41
```

RT/Custom (0.00 + 41.44 + 0.00) = 41.44 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	57.53	-7.50	0.00	0.00	0.00	-8.60	41.44

Segment Leq : 41.44 dBA

Total Leq All Segments: 41.44 dBA

↟

Results segment # 1: LRT (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	1.41	1.41

RT/Custom (0.00 + 37.18 + 0.00) = 37.18 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	53.27	-7.50	0.00	0.00	0.00	-8.60	37.18

Segment Leq : 37.18 dBA

Total Leq All Segments: 37.18 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 54.79
(NIGHT): 48.45

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 10-02-2023 13:47:01
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola2_bar.te Time Period: Day/Night 16/8 hours
Description: OLA on Unit 6 Front / Side Yard with Barrier

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HSS (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 : 98.44 / 98.44 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 0.00 deg Angle2 : 90.00 deg
Barrier height : 3.00 m
Barrier receiver distance : 12.29 / 12.29 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑
Road data, segment # 2: HSN (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSN (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  : 112.64 / 112.64 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 90.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :  12.29 / 12.29  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: FD (day/night)
--------------------------------------
Car traffic volume  :   653/327   veh/TimePeriod  *
Medium truck volume :     7/4     veh/TimePeriod  *
Heavy truck volume  :     6/3     veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   1000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.10
    Heavy Truck  % of Total Volume     :   0.90
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 3: FD (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  :  11.11 / 11.11  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 60.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :   2.67 / 2.67   m
Source elevation          :  -1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↑

```
Road data, segment # 4: CP (day/night)
-------------------------------------
Car traffic volume  : 12484/1387  veh/TimePeriod  *
Medium truck volume :   212/24    veh/TimePeriod  *
Heavy truck volume  :   174/19    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  14300
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 4: CP (day/night)
------------------------------------
Angle1   Angle2           : -60.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 276.94 / 276.94 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -60.00 deg   Angle2 : 50.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :   5.31 / 5.31   m
Source elevation          :  -3.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟
Road data, segment # 5: KSW (day/night)

Car traffic volume : 6373/708 veh/TimePeriod *
Medium truck volume : 108/12 veh/TimePeriod *
Heavy truck volume : 89/10 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 7300
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 1.65
Heavy Truck % of Total Volume : 1.35
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 5: KSW (day/night)

Angle1 Angle2 : -50.00 deg 12.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 218.85 / 218.85 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -28.00 deg Angle2 : -11.00 deg
Barrier height : 24.00 m
Barrier receiver distance : 183.42 / 183.42 m
Source elevation : 1.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↟
Results segment # 1: HSS (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	1.50	1.47	1.47

ROAD (0.00 + 48.56 + 0.00) = 48.56 dBA

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
     0     90   0.00  67.32   0.00  -8.17  -3.01   0.00   0.00  -7.59  48.56
-------------------------------------------------------------------------

Segment Leq : 48.56 dBA

↟
Results segment # 2: HSN (day)
------------------------------

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.47 !         1.47

ROAD (0.00 + 48.02 + 0.00) = 48.02 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
     0     90   0.00  67.32   0.00  -8.76  -3.01   0.00   0.00  -7.54  48.02
-------------------------------------------------------------------------

Segment Leq : 48.02 dBA

↟
Results segment # 3: FD (day)
-----------------------------

Source height = 0.97 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        1.50 !        1.13 !         1.13

ROAD (0.00 + 35.48 + 42.32) = 43.14 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90     60   0.00  48.80   0.00   1.30  -0.79   0.00   0.00 -13.83  35.48
-------------------------------------------------------------------------
    60     90   0.00  48.80   0.00   1.30  -7.78   0.00   0.00   0.00  42.32
-------------------------------------------------------------------------

Segment Leq : 43.14 dBA
```

↟
Results segment # 4: CP (day)

Source height = 1.08 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.08	1.50	1.43	1.43

ROAD (0.00 + 39.04 + 45.52) = 46.40 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	50	0.00	64.72	0.00	-12.66	-2.14	0.00	0.00	-10.88	39.04
50	90	0.00	64.72	0.00	-12.66	-6.53	0.00	0.00	0.00	45.52

Segment Leq : 46.40 dBA

↟
Results segment # 5: KSW (day)

Source height = 1.08 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.08	1.50	1.99	1.99

ROAD (39.00 + 17.88 + 39.20) = 42.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-50	-28	0.00	59.77	0.00	-11.64	-9.13	0.00	0.00	0.00	39.00
-28	-11	0.00	59.77	0.00	-11.64	-10.25	0.00	0.00	-20.00	17.88
-11	12	0.00	59.77	0.00	-11.64	-8.94	0.00	0.00	0.00	39.20

Segment Leq : 42.13 dBA

Total Leq All Segments: 53.34 dBA

↟
Results segment # 1: HSS (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	1.50	1.47	1.47

ROAD (0.00 + 42.04 + 0.00) = 42.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	60.80	0.00	-8.17	-3.01	0.00	0.00	-7.59	42.04

Segment Leq : 42.04 dBA

↟
Results segment # 2: HSN (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	1.50	1.47	1.47

ROAD (0.00 + 41.49 + 0.00) = 41.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	60.80	0.00	-8.76	-3.01	0.00	0.00	-7.54	41.49

Segment Leq : 41.49 dBA

↟
Results segment # 3: FD (night)

Source height = 0.97 m

Barrier height for grazing incidence

```
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        1.50 !        1.13 !         1.13

ROAD (0.00 + 35.53 + 42.37) = 43.19 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     60   0.00  48.85   0.00   1.30  -0.79   0.00   0.00 -13.83  35.53
-------------------------------------------------------------------------------
    60     90   0.00  48.85   0.00   1.30  -7.78   0.00   0.00   0.00  42.37
-------------------------------------------------------------------------------

Segment Leq : 43.19 dBA

↟
Results segment # 4: CP (night)
--------------------------------

Source height = 1.07 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.07 !        1.50 !        1.43 !         1.43

ROAD (0.00 + 32.48 + 38.96) = 39.84 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -60     50   0.00  58.16   0.00 -12.66  -2.14   0.00   0.00 -10.88  32.48
-------------------------------------------------------------------------------
    50     90   0.00  58.16   0.00 -12.66  -6.53   0.00   0.00   0.00  38.96
-------------------------------------------------------------------------------

Segment Leq : 39.84 dBA

↟
Results segment # 5: KSW (night)
--------------------------------

Source height = 1.08 m

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

```
       1.08 !        1.50 !        1.99 !         1.99

ROAD (32.50 + 11.38 + 32.69) = 35.62 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50    -28   0.00  53.27   0.00 -11.64  -9.13   0.00   0.00   0.00  32.50
-------------------------------------------------------------------------------
   -28    -11   0.00  53.27   0.00 -11.64 -10.25   0.00   0.00 -20.00  11.38
-------------------------------------------------------------------------------
   -11     12   0.00  53.27   0.00 -11.64  -8.94   0.00   0.00   0.00  32.69
-------------------------------------------------------------------------------

Segment Leq : 35.62 dBA

Total Leq All Segments: 48.08 dBA

↟
RT/Custom data, segment # 1: LRT (day/night)
-------------------------------------------
1 - Custom (76.0 dBA):
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 1: LRT (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  : 105.10 / 105.10 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 90.00 deg
Barrier height            :   3.00 m
Barrier receiver distance :  12.29 / 12.29  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

↟
Results segment # 1: LRT (day)
------------------------------

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
```

```
------------+-------------+-------------+--------------
       0.50 !        1.50 !        1.38 !         1.38

RT/Custom (46.07 + 38.30 + 0.00) = 46.74 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90      0   0.00  57.53  -8.46  -3.01   0.00   0.00   0.00  46.07
-------------------------------------------------------------------------
     0     90   0.00  57.53  -8.46  -3.01   0.00   0.00  -7.77  38.30
-------------------------------------------------------------------------

Segment Leq : 46.74 dBA

Total Leq All Segments: 46.74 dBA

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

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !        1.50 !        1.38 !         1.38

RT/Custom (41.81 + 34.04 + 0.00) = 42.48 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90      0   0.00  53.27  -8.46  -3.01   0.00   0.00   0.00  41.81
-------------------------------------------------------------------------
     0     90   0.00  53.27  -8.46  -3.01   0.00   0.00  -7.77  34.04
-------------------------------------------------------------------------

Segment Leq : 42.48 dBA

Total Leq All Segments: 42.48 dBA

↟



TOTAL Leq FROM ALL SOURCES (DAY): 54.20
                           (NIGHT): 49.13
↟
↟
```

STAMSON 5.0 NORMAL REPORT Date: 05-09-2023 13:41:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1barT.te Time Period: Day/Night 16/8 hours
Description: OLA 1 Barrier

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HSS (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 : 77.69 / 77.69 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -90.00 deg Angle2 : 90.00 deg
Barrier height : 0.50 m
Barrier receiver distance : 7.85 / 7.85 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑
Road data, segment # 2: HSN (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSN (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  :  91.89 / 91.89  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.50 m
Barrier receiver distance :   7.85 / 7.85   m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: FD (day/night)
--------------------------------------
Car traffic volume  :   653/327   veh/TimePeriod  *
Medium truck volume :     7/4     veh/TimePeriod  *
Heavy truck volume  :     6/3     veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   1000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.10
    Heavy Truck  % of Total Volume     :   0.90
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 3: FD (day/night)
------------------------------------
Angle1   Angle2           : -90.00 deg   0.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  37.45 / 37.45  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 0.00 deg
Barrier height            :   0.50 m
Barrier receiver distance :  28.24 / 28.24  m
Source elevation          :  -1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: KSW (day/night)
---------------------------------------
Car traffic volume  :  6373/708   veh/TimePeriod
Medium truck volume :   108/12    veh/TimePeriod
Heavy truck volume  :    89/10    veh/TimePeriod
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 4: KSW (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  : 198.40 / 198.40 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.50 m
Barrier receiver distance :  19.71 / 19.71  m
Source elevation          :   1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```



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

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
```

```
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.47 !         1.47

ROAD (0.00 + 60.18 + 0.00) = 60.18 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  67.32   0.00  -7.14   0.00   0.00   0.00  -1.74  58.44*
   -90     90   0.00  67.32   0.00  -7.14   0.00   0.00   0.00   0.00  60.18
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 60.18 dBA

🠉
Results segment # 2: HSN (day)
------------------------------

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.48 !         1.48

ROAD (0.00 + 59.45 + 0.00) = 59.45 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  67.32   0.00  -7.87   0.00   0.00   0.00  -1.77  57.68*
   -90     90   0.00  67.32   0.00  -7.87   0.00   0.00   0.00   0.00  59.45
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 59.45 dBA

🠉
Results segment # 3: FD (day)
-----------------------------

Source height = 0.97 m

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

```
       0.97 !        1.50 !        0.35 !         0.35

ROAD (0.00 + 36.76 + 0.00) = 36.76 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  48.80   0.00  -3.97  -3.01   0.00   0.00  -5.05  36.76
-------------------------------------------------------------------------------

Segment Leq : 36.76 dBA

↟
Results segment # 4: KSW (day)
------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.56 !         1.56

ROAD (0.00 + 45.55 + 0.00) = 45.55 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  59.77   0.00 -11.21  -3.01   0.00   0.00  -3.76  41.78*
     0     90   0.00  59.77   0.00 -11.21  -3.01   0.00   0.00   0.00  45.55
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 45.55 dBA

Total Leq All Segments: 62.93 dBA

↟
Barrier table for segment # 1: HSS (day)
----------------------------------------

Barrier ! Elev of !  Road   ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
   0.50 !    0.50 !   60.18 !   60.18 !
   0.60 !    0.60 !   60.18 !   60.18 !
   0.70 !    0.70 !   60.18 !   60.18 !
   0.80 !    0.80 !   60.18 !   60.18 !
   0.90 !    0.90 !   60.18 !   60.18 !
   1.00 !    1.00 !   60.18 !   60.18 !
   1.10 !    1.10 !   60.18 !   60.18 !
```

1.20	1.20	60.18	60.18
1.30	1.30	60.18	60.18
1.40	1.40	60.18	60.18
1.50	1.50	55.18	55.18
1.60	1.60	55.14	55.14
1.70	1.70	55.06	55.06
1.80	1.80	54.93	54.93
1.90	1.90	54.77	54.77
2.00	2.00	54.57	54.57
2.10	2.10	54.34	54.34
2.20	2.20	54.09	54.09
2.30	2.30	53.82	53.82
2.40	2.40	53.53	53.53
2.50	2.50	53.24	53.24
2.60	2.60	52.94	52.94
2.70	2.70	52.64	52.64
2.80	2.80	52.35	52.35
2.90	2.90	52.05	52.05
3.00	3.00	51.76	51.76

Barrier table for segment # 2: HSN (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	59.45	59.45
0.60	0.60	59.45	59.45
0.70	0.70	59.45	59.45
0.80	0.80	59.45	59.45
0.90	0.90	59.45	59.45
1.00	1.00	59.45	59.45
1.10	1.10	59.45	59.45
1.20	1.20	59.45	59.45
1.30	1.30	59.45	59.45
1.40	1.40	59.45	59.45
1.50	1.50	54.45	54.45
1.60	1.60	54.42	54.42
1.70	1.70	54.34	54.34
1.80	1.80	54.21	54.21
1.90	1.90	54.05	54.05
2.00	2.00	53.86	53.86
2.10	2.10	53.63	53.63
2.20	2.20	53.38	53.38
2.30	2.30	53.12	53.12
2.40	2.40	52.84	52.84
2.50	2.50	52.55	52.55
2.60	2.60	52.26	52.26
2.70	2.70	51.96	51.96
2.80	2.80	51.66	51.66

2.90	2.90	51.37	51.37
3.00	3.00	51.08	51.08

Barrier table for segment # 3: FD (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	36.76	36.76
0.60	0.60	36.67	36.67
0.70	0.70	36.53	36.53
0.80	0.80	36.35	36.35
0.90	0.90	36.14	36.14
1.00	1.00	35.91	35.91
1.10	1.10	35.65	35.65
1.20	1.20	35.37	35.37
1.30	1.30	35.08	35.08
1.40	1.40	34.79	34.79
1.50	1.50	34.49	34.49
1.60	1.60	34.19	34.19
1.70	1.70	33.89	33.89
1.80	1.80	33.59	33.59
1.90	1.90	33.30	33.30
2.00	2.00	33.01	33.01
2.10	2.10	32.73	32.73
2.20	2.20	32.45	32.45
2.30	2.30	32.18	32.18
2.40	2.40	31.92	31.92
2.50	2.50	31.66	31.66
2.60	2.60	31.41	31.41
2.70	2.70	31.17	31.17
2.80	2.80	30.93	30.93
2.90	2.90	30.70	30.70
3.00	3.00	30.48	30.48

Barrier table for segment # 4: KSW (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	45.55	45.55
0.60	0.60	45.55	45.55
0.70	0.70	45.55	45.55
0.80	0.80	45.55	45.55
0.90	0.90	45.55	45.55
1.00	1.00	45.55	45.55
1.10	1.10	45.55	45.55
1.20	1.20	45.55	45.55

1.30	1.30	45.55	45.55
1.40	1.40	45.55	45.55
1.50	1.50	45.55	45.55
1.60	1.60	40.55	40.55
1.70	1.70	40.53	40.53
1.80	1.80	40.49	40.49
1.90	1.90	40.44	40.44
2.00	2.00	40.37	40.37
2.10	2.10	40.28	40.28
2.20	2.20	40.17	40.17
2.30	2.30	40.06	40.06
2.40	2.40	39.93	39.93
2.50	2.50	39.78	39.78
2.60	2.60	39.63	39.63
2.70	2.70	39.47	39.47
2.80	2.80	39.30	39.30
2.90	2.90	39.13	39.13
3.00	3.00	38.95	38.95

Results segment # 1: HSS (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	1.50	1.47	1.47

ROAD (0.00 + 53.66 + 0.00) = 53.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.80	0.00	-7.14	0.00	0.00	0.00	-1.74	51.92*
-90	90	0.00	60.80	0.00	-7.14	0.00	0.00	0.00	0.00	53.66

* Bright Zone !

Segment Leq : 53.66 dBA

Results segment # 2: HSN (night)

Source height = 1.23 m

Barrier height for grazing incidence

```
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.23 !        1.50 !        1.48 !         1.48

ROAD (0.00 + 52.93 + 0.00) = 52.93 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  60.80   0.00  -7.87   0.00   0.00   0.00  -1.77  51.16*
   -90     90   0.00  60.80   0.00  -7.87   0.00   0.00   0.00   0.00  52.93
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 52.93 dBA

↟
Results segment # 3: FD (night)
-------------------------------

Source height = 0.97 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        1.50 !        0.35 !         0.35

ROAD (0.00 + 36.81 + 0.00) = 36.81 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.00  48.85   0.00  -3.97  -3.01   0.00   0.00  -5.05  36.81
-------------------------------------------------------------------------------

Segment Leq : 36.81 dBA

↟
Results segment # 4: KSW (night)
--------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.56 !         1.56
```

ROAD (0.00 + 39.04 + 0.00) = 39.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	53.27	0.00	-11.21	-3.01	0.00	0.00	-3.76	35.28*
0	90	0.00	53.27	0.00	-11.21	-3.01	0.00	0.00	0.00	39.04

* Bright Zone !

Segment Leq : 39.04 dBA

Total Leq All Segments: 56.45 dBA

↟

Barrier table for segment # 1: HSS (night)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	53.66	53.66
0.60	0.60	53.66	53.66
0.70	0.70	53.66	53.66
0.80	0.80	53.66	53.66
0.90	0.90	53.66	53.66
1.00	1.00	53.66	53.66
1.10	1.10	53.66	53.66
1.20	1.20	53.66	53.66
1.30	1.30	53.66	53.66
1.40	1.40	53.66	53.66
1.50	1.50	48.66	48.66
1.60	1.60	48.62	48.62
1.70	1.70	48.54	48.54
1.80	1.80	48.41	48.41
1.90	1.90	48.24	48.24
2.00	2.00	48.05	48.05
2.10	2.10	47.82	47.82
2.20	2.20	47.56	47.56
2.30	2.30	47.29	47.29
2.40	2.40	47.01	47.01
2.50	2.50	46.72	46.72
2.60	2.60	46.42	46.42
2.70	2.70	46.12	46.12
2.80	2.80	45.82	45.82
2.90	2.90	45.53	45.53
3.00	3.00	45.23	45.23

Barrier table for segment # 2: HSN (night)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	52.93	52.93
0.60	0.60	52.93	52.93
0.70	0.70	52.93	52.93
0.80	0.80	52.93	52.93
0.90	0.90	52.93	52.93
1.00	1.00	52.93	52.93
1.10	1.10	52.93	52.93
1.20	1.20	52.93	52.93
1.30	1.30	52.93	52.93
1.40	1.40	52.93	52.93
1.50	1.50	47.93	47.93
1.60	1.60	47.89	47.89
1.70	1.70	47.81	47.81
1.80	1.80	47.69	47.69
1.90	1.90	47.53	47.53
2.00	2.00	47.33	47.33
2.10	2.10	47.11	47.11
2.20	2.20	46.86	46.86
2.30	2.30	46.60	46.60
2.40	2.40	46.32	46.32
2.50	2.50	46.03	46.03
2.60	2.60	45.74	45.74
2.70	2.70	45.44	45.44
2.80	2.80	45.14	45.14
2.90	2.90	44.85	44.85
3.00	3.00	44.56	44.56

Barrier table for segment # 3: FD (night)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	36.81	36.81
0.60	0.60	36.72	36.72
0.70	0.70	36.58	36.58
0.80	0.80	36.40	36.40
0.90	0.90	36.19	36.19
1.00	1.00	35.96	35.96
1.10	1.10	35.70	35.70
1.20	1.20	35.42	35.42
1.30	1.30	35.14	35.14
1.40	1.40	34.84	34.84
1.50	1.50	34.54	34.54
1.60	1.60	34.24	34.24
1.70	1.70	33.94	33.94

1.80	1.80	33.64	33.64
1.90	1.90	33.35	33.35
2.00	2.00	33.06	33.06
2.10	2.10	32.78	32.78
2.20	2.20	32.50	32.50
2.30	2.30	32.23	32.23
2.40	2.40	31.97	31.97
2.50	2.50	31.71	31.71
2.60	2.60	31.46	31.46
2.70	2.70	31.22	31.22
2.80	2.80	30.98	30.98
2.90	2.90	30.75	30.75
3.00	3.00	30.53	30.53

Barrier table for segment # 4: KSW (night)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	39.04	39.04
0.60	0.60	39.04	39.04
0.70	0.70	39.04	39.04
0.80	0.80	39.04	39.04
0.90	0.90	39.04	39.04
1.00	1.00	39.04	39.04
1.10	1.10	39.04	39.04
1.20	1.20	39.04	39.04
1.30	1.30	39.04	39.04
1.40	1.40	39.04	39.04
1.50	1.50	39.04	39.04
1.60	1.60	34.04	34.04
1.70	1.70	34.02	34.02
1.80	1.80	33.99	33.99
1.90	1.90	33.93	33.93
2.00	2.00	33.86	33.86
2.10	2.10	33.77	33.77
2.20	2.20	33.67	33.67
2.30	2.30	33.55	33.55
2.40	2.40	33.42	33.42
2.50	2.50	33.28	33.28
2.60	2.60	33.13	33.13
2.70	2.70	32.97	32.97
2.80	2.80	32.80	32.80
2.90	2.90	32.62	32.62
3.00	3.00	32.44	32.44

RT/Custom data, segment # 1: LRT (day/night)

1 - Custom (76.0 dBA):
Traffic volume   :   240/45   veh/TimePeriod
Speed   :   50 km/h

Data for Segment # 1: LRT (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 : 84.35 / 84.35 m
Receiver height   :   1.50 / 1.50   m
Topography   :   2   (Flat/gentle slope; with barrier)
Barrier angle1   : -90.00 deg   Angle2 : 90.00 deg
Barrier height   :   0.50 m
Barrier receiver distance :   7.85 / 7.85   m
Source elevation   :   0.00 m
Receiver elevation   :   0.00 m
Barrier elevation   :   0.00 m
Reference angle   :   0.00

Results segment # 1: LRT (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source   ! Receiver   ! Barrier   ! Elevation of
Height (m) ! Height (m) ! Height (m) ! Barrier Top (m)

       0.50 !   1.50 !   1.41 !   1.41

RT/Custom (0.00 + 50.03 + 0.00) = 50.03 dBA
Angle1 Angle2 Alpha RefLeq D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq
---
   -90   90   0.00 57.53 -7.50   0.00   0.00   0.00 -2.36 47.67*
   -90   90   0.00 57.53 -7.50   0.00   0.00   0.00   0.00 50.03
---

 * Bright Zone !

Segment Leq : 50.03 dBA

Total Leq All Segments: 50.03 dBA

Barrier table for segment # 1: LRT (day)

Barrier Height	Elev of Barr Top	RT/CUST dBA	Tot Leq dBA
0.50	0.50	50.03	50.03
0.60	0.60	50.03	50.03
0.70	0.70	50.03	50.03
0.80	0.80	50.03	50.03
0.90	0.90	50.03	50.03
1.00	1.00	50.03	50.03
1.10	1.10	50.03	50.03
1.20	1.20	50.03	50.03
1.30	1.30	50.03	50.03
1.40	1.40	50.03	50.03
1.50	1.50	45.01	45.01
1.60	1.60	44.94	44.94
1.70	1.70	44.83	44.83
1.80	1.80	44.68	44.68
1.90	1.90	44.49	44.49
2.00	2.00	44.28	44.28
2.10	2.10	44.03	44.03
2.20	2.20	43.77	43.77
2.30	2.30	43.49	43.49
2.40	2.40	43.21	43.21
2.50	2.50	42.91	42.91
2.60	2.60	42.61	42.61
2.70	2.70	42.32	42.32
2.80	2.80	42.02	42.02
2.90	2.90	41.72	41.72
3.00	3.00	41.44	41.44

↟

Results segment # 1: LRT (night)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	1.41	1.41

RT/Custom (0.00 + 45.77 + 0.00) = 45.77 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	53.27	-7.50	0.00	0.00	0.00	-2.36	43.41*
-90	90	0.00	53.27	-7.50	0.00	0.00	0.00	0.00	45.77

 * Bright Zone !

Segment Leq : 45.77 dBA

Total Leq All Segments: 45.77 dBA

↟
Barrier table for segment # 1: LRT (night)

Barrier Height	Elev of Barr Top	RT/CUST dBA	Tot Leq dBA
0.50	0.50	45.77	45.77
0.60	0.60	45.77	45.77
0.70	0.70	45.77	45.77
0.80	0.80	45.77	45.77
0.90	0.90	45.77	45.77
1.00	1.00	45.77	45.77
1.10	1.10	45.77	45.77
1.20	1.20	45.77	45.77
1.30	1.30	45.77	45.77
1.40	1.40	45.77	45.77
1.50	1.50	40.75	40.75
1.60	1.60	40.68	40.68
1.70	1.70	40.57	40.57
1.80	1.80	40.42	40.42
1.90	1.90	40.23	40.23
2.00	2.00	40.02	40.02
2.10	2.10	39.77	39.77
2.20	2.20	39.51	39.51
2.30	2.30	39.23	39.23
2.40	2.40	38.95	38.95
2.50	2.50	38.65	38.65
2.60	2.60	38.35	38.35
2.70	2.70	38.06	38.06
2.80	2.80	37.76	37.76
2.90	2.90	37.47	37.47
3.00	3.00	37.18	37.18

↟

TOTAL Leq FROM ALL SOURCES (DAY): 63.15
(NIGHT): 56.80

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 05-09-2023 15:29:32
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola2barT.te Time Period: Day/Night 16/8 hours
Description: OLA 2 Barrier

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

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 19000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 2.75
Heavy Truck % of Total Volume : 2.25
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: HSS (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 : 98.44 / 98.44 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 0.00 deg Angle2 : 90.00 deg
Barrier height : 0.50 m
Barrier receiver distance : 12.29 / 12.29 m
Source elevation : 0.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↑
Road data, segment # 2: HSN (day/night)

Car traffic volume : 16245/1805 veh/TimePeriod *
Medium truck volume : 470/52 veh/TimePeriod *
Heavy truck volume : 385/43 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 2 %

```
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  19000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   2.75
    Heavy Truck  % of Total Volume     :   2.25
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: HSN (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  : 112.64 / 112.64 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.50 m
Barrier receiver distance :  12.29 / 12.29  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00

♠
Road data, segment # 3: FD (day/night)
--------------------------------------
Car traffic volume  :   653/327   veh/TimePeriod  *
Medium truck volume :     7/4     veh/TimePeriod  *
Heavy truck volume  :     6/3     veh/TimePeriod  *
Posted speed limit  :    40 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   1000
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.10
    Heavy Truck  % of Total Volume     :   0.90
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 3: FD (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  :  11.11 / 11.11  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -90.00 deg   Angle2 : 60.00 deg
Barrier height            :   0.50 m
Barrier receiver distance :   2.67 / 2.67   m
Source elevation          :  -1.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```



```
Road data, segment # 4: CP (day/night)
-------------------------------------
Car traffic volume  : 12484/1387  veh/TimePeriod  *
Medium truck volume :   212/24    veh/TimePeriod  *
Heavy truck volume  :   174/19    veh/TimePeriod  *
Posted speed limit  :    50 km/h
Road gradient       :     2 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):  14300
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   1.65
    Heavy Truck  % of Total Volume     :   1.35
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 4: CP (day/night)
-----------------------------------
Angle1   Angle2           : -60.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  : 276.94 / 276.94 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -60.00 deg   Angle2 : 50.00 deg
Barrier height            :   0.50 m
Barrier receiver distance :   5.31 / 5.31   m
Source elevation          :  -3.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
Reference angle           :   0.00
```

↟
Road data, segment # 5: KSW (day/night)

Car traffic volume : 6373/708 veh/TimePeriod *
Medium truck volume : 108/12 veh/TimePeriod *
Heavy truck volume : 89/10 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 7300
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 1.65
Heavy Truck % of Total Volume : 1.35
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 5: KSW (day/night)

Angle1 Angle2 : -50.00 deg 12.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 218.85 / 218.85 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -28.00 deg Angle2 : -11.00 deg
Barrier height : 0.50 m
Barrier receiver distance : 183.42 / 183.42 m
Source elevation : 1.00 m
Receiver elevation : 0.00 m
Barrier elevation : 0.00 m
Reference angle : 0.00

↟
Results segment # 1: HSS (day)

Source height = 1.22 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.22	1.50	1.47	1.47

ROAD (0.00 + 56.14 + 0.00) = 56.14 dBA

```
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
     0     90   0.00  67.32   0.00  -8.17  -3.01   0.00   0.00  -3.19  52.96*
     0     90   0.00  67.32   0.00  -8.17  -3.01   0.00   0.00   0.00  56.14
-------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 56.14 dBA

↟
Results segment # 2: HSN (day)
------------------------------

Source height = 1.22 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.22 !        1.50 !        1.47 !         1.47

ROAD (0.00 + 55.56 + 0.00) = 55.56 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
     0     90   0.00  67.32   0.00  -8.76  -3.01   0.00   0.00  -3.21  52.35*
     0     90   0.00  67.32   0.00  -8.76  -3.01   0.00   0.00   0.00  55.56
-------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 55.56 dBA

↟
Results segment # 3: FD (day)
-----------------------------

Source height = 0.97 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        1.50 !        1.13 !         1.13

ROAD (0.00 + 49.31 + 42.32) = 50.10 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
```

```
   -90     60   0.00  48.80   0.00   1.30  -0.79   0.00   0.00  -0.69  48.62*
   -90     60   0.00  48.80   0.00   1.30  -0.79   0.00   0.00   0.00  49.31
--------------------------------------------------------------------------------
    60     90   0.00  48.80   0.00   1.30  -7.78   0.00   0.00   0.00  42.32
--------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 50.10 dBA

↟
Results segment # 4: CP (day)
------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.43 !         1.43

ROAD (0.00 + 49.91 + 45.52) = 51.26 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
   -60     50   0.00  64.72   0.00 -12.66  -2.14   0.00   0.00  -0.27  49.64*
   -60     50   0.00  64.72   0.00 -12.66  -2.14   0.00   0.00   0.00  49.91
--------------------------------------------------------------------------------
    50     90   0.00  64.72   0.00 -12.66  -6.53   0.00   0.00   0.00  45.52
--------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 51.26 dBA

↟
Results segment # 5: KSW (day)
------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
-----------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.99 !         1.99

ROAD (39.00 + 37.88 + 39.20) = 43.50 dBA
```

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-50	-28	0.00	59.77	0.00	-11.64	-9.13	0.00	0.00	0.00	39.00
-28	-11	0.00	59.77	0.00	-11.64	-10.25	0.00	0.00	-2.81	35.07*
-28	-11	0.00	59.77	0.00	-11.64	-10.25	0.00	0.00	0.00	37.88
-11	12	0.00	59.77	0.00	-11.64	-8.94	0.00	0.00	0.00	39.20

* Bright Zone !

Segment Leq : 43.50 dBA

Total Leq All Segments: 60.13 dBA

↟

Barrier table for segment # 1: HSS (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	56.14	56.14
0.60	0.60	56.14	56.14
0.70	0.70	56.14	56.14
0.80	0.80	56.14	56.14
0.90	0.90	56.14	56.14
1.00	1.00	56.14	56.14
1.10	1.10	56.14	56.14
1.20	1.20	56.14	56.14
1.30	1.30	56.14	56.14
1.40	1.40	56.14	56.14
1.50	1.50	51.14	51.14
1.60	1.60	51.11	51.11
1.70	1.70	51.06	51.06
1.80	1.80	50.97	50.97
1.90	1.90	50.86	50.86
2.00	2.00	50.72	50.72
2.10	2.10	50.56	50.56
2.20	2.20	50.38	50.38
2.30	2.30	50.18	50.18
2.40	2.40	49.97	49.97
2.50	2.50	49.75	49.75
2.60	2.60	49.52	49.52
2.70	2.70	49.28	49.28
2.80	2.80	49.04	49.04
2.90	2.90	48.80	48.80
3.00	3.00	48.56	48.56

Barrier table for segment # 2: HSN (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	55.56	55.56
0.60	0.60	55.56	55.56
0.70	0.70	55.56	55.56
0.80	0.80	55.56	55.56
0.90	0.90	55.56	55.56
1.00	1.00	55.56	55.56
1.10	1.10	55.56	55.56
1.20	1.20	55.56	55.56
1.30	1.30	55.56	55.56
1.40	1.40	55.56	55.56
1.50	1.50	50.56	50.56
1.60	1.60	50.53	50.53
1.70	1.70	50.48	50.48
1.80	1.80	50.39	50.39
1.90	1.90	50.28	50.28
2.00	2.00	50.15	50.15
2.10	2.10	49.99	49.99
2.20	2.20	49.81	49.81
2.30	2.30	49.62	49.62
2.40	2.40	49.41	49.41
2.50	2.50	49.19	49.19
2.60	2.60	48.97	48.97
2.70	2.70	48.73	48.73
2.80	2.80	48.50	48.50
2.90	2.90	48.26	48.26
3.00	3.00	48.02	48.02

Barrier table for segment # 3: FD (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	50.10	50.10
0.60	0.60	50.10	50.10
0.70	0.70	50.10	50.10
0.80	0.80	50.10	50.10
0.90	0.90	50.10	50.10
1.00	1.00	50.10	50.10
1.10	1.10	50.10	50.10
1.20	1.20	46.41	46.41
1.30	1.30	46.29	46.29
1.40	1.40	46.08	46.08
1.50	1.50	45.81	45.81

1.60	1.60	45.50	45.50
1.70	1.70	45.20	45.20
1.80	1.80	44.91	44.91
1.90	1.90	44.64	44.64
2.00	2.00	44.39	44.39
2.10	2.10	44.18	44.18
2.20	2.20	43.99	43.99
2.30	2.30	43.83	43.83
2.40	2.40	43.68	43.68
2.50	2.50	43.56	43.56
2.60	2.60	43.45	43.45
2.70	2.70	43.36	43.36
2.80	2.80	43.28	43.28
2.90	2.90	43.20	43.20
3.00	3.00	43.14	43.14

Barrier table for segment # 4: CP (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	51.26	51.26
0.60	0.60	51.26	51.26
0.70	0.70	51.26	51.26
0.80	0.80	51.26	51.26
0.90	0.90	51.26	51.26
1.00	1.00	51.26	51.26
1.10	1.10	51.26	51.26
1.20	1.20	51.26	51.26
1.30	1.30	51.26	51.26
1.40	1.40	51.26	51.26
1.50	1.50	48.23	48.23
1.60	1.60	48.18	48.18
1.70	1.70	48.10	48.10
1.80	1.80	47.99	47.99
1.90	1.90	47.86	47.86
2.00	2.00	47.70	47.70
2.10	2.10	47.55	47.55
2.20	2.20	47.39	47.39
2.30	2.30	47.23	47.23
2.40	2.40	47.08	47.08
2.50	2.50	46.94	46.94
2.60	2.60	46.81	46.81
2.70	2.70	46.69	46.69
2.80	2.80	46.58	46.58
2.90	2.90	46.49	46.49
3.00	3.00	46.40	46.40

Barrier table for segment # 5: KSW (day)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	43.50	43.50
0.60	0.60	43.50	43.50
0.70	0.70	43.50	43.50
0.80	0.80	43.50	43.50
0.90	0.90	43.50	43.50
1.00	1.00	43.50	43.50
1.10	1.10	43.50	43.50
1.20	1.20	43.50	43.50
1.30	1.30	43.50	43.50
1.40	1.40	43.50	43.50
1.50	1.50	43.50	43.50
1.60	1.60	43.50	43.50
1.70	1.70	43.50	43.50
1.80	1.80	43.50	43.50
1.90	1.90	43.50	43.50
2.00	2.00	42.60	42.60
2.10	2.10	42.60	42.60
2.20	2.20	42.60	42.60
2.30	2.30	42.59	42.59
2.40	2.40	42.59	42.59
2.50	2.50	42.58	42.58
2.60	2.60	42.57	42.57
2.70	2.70	42.56	42.56
2.80	2.80	42.55	42.55
2.90	2.90	42.54	42.54
3.00	3.00	42.52	42.52

↟

Results segment # 1: HSS (night)

Source height = 1.23 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
1.23	1.50	1.47	1.47

ROAD (0.00 + 49.62 + 0.00) = 49.62 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	60.80	0.00	-8.17	-3.01	0.00	0.00	-3.18	46.44*
0	90	0.00	60.80	0.00	-8.17	-3.01	0.00	0.00	0.00	49.62

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

 * Bright Zone !

Segment Leq : 49.62 dBA

↟
Results segment # 2: HSN (night)
--------------------------------

Source height = 1.23 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.23 !        1.50 !        1.47 !         1.47

ROAD (0.00 + 49.04 + 0.00) = 49.04 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
     0     90   0.00  60.80   0.00  -8.76  -3.01   0.00   0.00  -3.20  45.83*
     0     90   0.00  60.80   0.00  -8.76  -3.01   0.00   0.00   0.00  49.04
--------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 49.04 dBA

↟
Results segment # 3: FD (night)
-------------------------------

Source height = 0.97 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.97 !        1.50 !        1.13 !         1.13

ROAD (0.00 + 49.36 + 42.37) = 50.16 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
--------------------------------------------------------------------------------
   -90     60   0.00  48.85   0.00   1.30  -0.79   0.00   0.00  -0.69  48.67*
   -90     60   0.00  48.85   0.00   1.30  -0.79   0.00   0.00   0.00  49.36
--------------------------------------------------------------------------------
    60     90   0.00  48.85   0.00   1.30  -7.78   0.00   0.00   0.00  42.37
```

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

 * Bright Zone !

Segment Leq : 50.16 dBA

↟
Results segment # 4: CP (night)
-------------------------------

Source height = 1.07 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.07 !        1.50 !        1.43 !         1.43

ROAD (0.00 + 43.35 + 38.96) = 44.70 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -60     50   0.00  58.16   0.00 -12.66  -2.14   0.00   0.00  -0.27  43.08*
   -60     50   0.00  58.16   0.00 -12.66  -2.14   0.00   0.00   0.00  43.35
-------------------------------------------------------------------------------
    50     90   0.00  58.16   0.00 -12.66  -6.53   0.00   0.00   0.00  38.96
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 44.70 dBA

↟
Results segment # 5: KSW (night)
--------------------------------

Source height = 1.08 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       1.08 !        1.50 !        1.99 !         1.99

ROAD (32.50 + 31.38 + 32.69) = 37.00 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -50    -28   0.00  53.27   0.00 -11.64  -9.13   0.00   0.00   0.00  32.50
-------------------------------------------------------------------------------
```

```
   -28    -11   0.00  53.27   0.00 -11.64 -10.25   0.00   0.00  -2.80  28.57*
   -28    -11   0.00  53.27   0.00 -11.64 -10.25   0.00   0.00   0.00  31.38
-------------------------------------------------------------------------------
   -11     12   0.00  53.27   0.00 -11.64  -8.94   0.00   0.00   0.00  32.69
-------------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 37.00 dBA

Total Leq All Segments: 54.91 dBA

↟
Barrier table for segment # 1: HSS (night)
-----------------------------------------

Barrier ! Elev of !  Road   ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
   0.50 !    0.50 !   49.62 !   49.62 !
   0.60 !    0.60 !   49.62 !   49.62 !
   0.70 !    0.70 !   49.62 !   49.62 !
   0.80 !    0.80 !   49.62 !   49.62 !
   0.90 !    0.90 !   49.62 !   49.62 !
   1.00 !    1.00 !   49.62 !   49.62 !
   1.10 !    1.10 !   49.62 !   49.62 !
   1.20 !    1.20 !   49.62 !   49.62 !
   1.30 !    1.30 !   49.62 !   49.62 !
   1.40 !    1.40 !   49.62 !   49.62 !
   1.50 !    1.50 !   44.62 !   44.62 !
   1.60 !    1.60 !   44.59 !   44.59 !
   1.70 !    1.70 !   44.54 !   44.54 !
   1.80 !    1.80 !   44.45 !   44.45 !
   1.90 !    1.90 !   44.34 !   44.34 !
   2.00 !    2.00 !   44.20 !   44.20 !
   2.10 !    2.10 !   44.04 !   44.04 !
   2.20 !    2.20 !   43.86 !   43.86 !
   2.30 !    2.30 !   43.66 !   43.66 !
   2.40 !    2.40 !   43.45 !   43.45 !
   2.50 !    2.50 !   43.23 !   43.23 !
   2.60 !    2.60 !   43.00 !   43.00 !
   2.70 !    2.70 !   42.76 !   42.76 !
   2.80 !    2.80 !   42.52 !   42.52 !
   2.90 !    2.90 !   42.28 !   42.28 !
   3.00 !    3.00 !   42.04 !   42.04 !

Barrier table for segment # 2: HSN (night)
-----------------------------------------

Barrier ! Elev of !  Road   ! Tot Leq !
```

Height	Barr Top	dBA	dBA
0.50	0.50	49.04	49.04
0.60	0.60	49.04	49.04
0.70	0.70	49.04	49.04
0.80	0.80	49.04	49.04
0.90	0.90	49.04	49.04
1.00	1.00	49.04	49.04
1.10	1.10	49.04	49.04
1.20	1.20	49.04	49.04
1.30	1.30	49.04	49.04
1.40	1.40	49.04	49.04
1.50	1.50	44.03	44.03
1.60	1.60	44.01	44.01
1.70	1.70	43.96	43.96
1.80	1.80	43.87	43.87
1.90	1.90	43.76	43.76
2.00	2.00	43.63	43.63
2.10	2.10	43.47	43.47
2.20	2.20	43.29	43.29
2.30	2.30	43.10	43.10
2.40	2.40	42.89	42.89
2.50	2.50	42.67	42.67
2.60	2.60	42.45	42.45
2.70	2.70	42.21	42.21
2.80	2.80	41.98	41.98
2.90	2.90	41.74	41.74
3.00	3.00	41.49	41.49

Barrier table for segment # 3: FD (night)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	50.16	50.16
0.60	0.60	50.16	50.16
0.70	0.70	50.16	50.16
0.80	0.80	50.16	50.16
0.90	0.90	50.16	50.16
1.00	1.00	50.16	50.16
1.10	1.10	50.16	50.16
1.20	1.20	46.47	46.47
1.30	1.30	46.34	46.34
1.40	1.40	46.13	46.13
1.50	1.50	45.86	45.86
1.60	1.60	45.56	45.56
1.70	1.70	45.25	45.25
1.80	1.80	44.96	44.96
1.90	1.90	44.69	44.69

2.00	2.00	44.44	44.44
2.10	2.10	44.23	44.23
2.20	2.20	44.04	44.04
2.30	2.30	43.88	43.88
2.40	2.40	43.74	43.74
2.50	2.50	43.61	43.61
2.60	2.60	43.51	43.51
2.70	2.70	43.41	43.41
2.80	2.80	43.33	43.33
2.90	2.90	43.26	43.26
3.00	3.00	43.19	43.19

Barrier table for segment # 4: CP (night)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA
0.50	0.50	44.70	44.70
0.60	0.60	44.70	44.70
0.70	0.70	44.70	44.70
0.80	0.80	44.70	44.70
0.90	0.90	44.70	44.70
1.00	1.00	44.70	44.70
1.10	1.10	44.70	44.70
1.20	1.20	44.70	44.70
1.30	1.30	44.70	44.70
1.40	1.40	44.70	44.70
1.50	1.50	41.67	41.67
1.60	1.60	41.63	41.63
1.70	1.70	41.54	41.54
1.80	1.80	41.43	41.43
1.90	1.90	41.30	41.30
2.00	2.00	41.15	41.15
2.10	2.10	40.99	40.99
2.20	2.20	40.83	40.83
2.30	2.30	40.67	40.67
2.40	2.40	40.52	40.52
2.50	2.50	40.38	40.38
2.60	2.60	40.25	40.25
2.70	2.70	40.13	40.13
2.80	2.80	40.03	40.03
2.90	2.90	39.93	39.93
3.00	3.00	39.84	39.84

Barrier table for segment # 5: KSW (night)

Barrier Height	Elev of Barr Top	Road dBA	Tot Leq dBA

```
--------+---------+---------+---------+
   0.50 !    0.50 !   37.00 !   37.00 !
   0.60 !    0.60 !   37.00 !   37.00 !
   0.70 !    0.70 !   37.00 !   37.00 !
   0.80 !    0.80 !   37.00 !   37.00 !
   0.90 !    0.90 !   37.00 !   37.00 !
   1.00 !    1.00 !   37.00 !   37.00 !
   1.10 !    1.10 !   37.00 !   37.00 !
   1.20 !    1.20 !   37.00 !   37.00 !
   1.30 !    1.30 !   37.00 !   37.00 !
   1.40 !    1.40 !   37.00 !   37.00 !
   1.50 !    1.50 !   37.00 !   37.00 !
   1.60 !    1.60 !   37.00 !   37.00 !
   1.70 !    1.70 !   37.00 !   37.00 !
   1.80 !    1.80 !   37.00 !   37.00 !
   1.90 !    1.90 !   37.00 !   37.00 !
   2.00 !    2.00 !   36.10 !   36.10 !
   2.10 !    2.10 !   36.09 !   36.09 !
   2.20 !    2.20 !   36.09 !   36.09 !
   2.30 !    2.30 !   36.09 !   36.09 !
   2.40 !    2.40 !   36.08 !   36.08 !
   2.50 !    2.50 !   36.07 !   36.07 !
   2.60 !    2.60 !   36.06 !   36.06 !
   2.70 !    2.70 !   36.05 !   36.05 !
   2.80 !    2.80 !   36.04 !   36.04 !
   2.90 !    2.90 !   36.03 !   36.03 !
   3.00 !    3.00 !   36.02 !   36.02 !

♠
RT/Custom data, segment # 1: LRT (day/night)
-------------------------------------------
1 - Custom (76.0 dBA):
Traffic volume    :   240/45    veh/TimePeriod
Speed             :    50 km/h

Data for Segment # 1: LRT (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  : 105.10 / 105.10 m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :   0.00 deg   Angle2 : 90.00 deg
Barrier height            :   0.50 m
Barrier receiver distance :  12.29 / 12.29  m
Source elevation          :   0.00 m
Receiver elevation        :   0.00 m
Barrier elevation         :   0.00 m
```

Reference angle : 0.00

↟
Results segment # 1: LRT (day)

Source height = 0.50 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
0.50	1.50	1.38	1.38

RT/Custom (46.07 + 46.07 + 0.00) = 49.08 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	57.53	-8.46	-3.01	0.00	0.00	0.00	46.07
0	90	0.00	57.53	-8.46	-3.01	0.00	0.00	-3.56	42.51*
0	90	0.00	57.53	-8.46	-3.01	0.00	0.00	0.00	46.07

* Bright Zone !

Segment Leq : 49.08 dBA

Total Leq All Segments: 49.08 dBA

↟
Barrier table for segment # 1: LRT (day)

Barrier Height	Elev of Barr Top	RT/CUST dBA	Tot Leq dBA
0.50	0.50	49.08	49.08
0.60	0.60	49.08	49.08
0.70	0.70	49.08	49.08
0.80	0.80	49.08	49.08
0.90	0.90	49.08	49.08
1.00	1.00	49.08	49.08
1.10	1.10	49.08	49.08
1.20	1.20	49.08	49.08
1.30	1.30	49.08	49.08
1.40	1.40	47.26	47.26
1.50	1.50	47.25	47.25
1.60	1.60	47.24	47.24
1.70	1.70	47.22	47.22

```
   1.80 !    1.80 !   47.20 !   47.20 !
   1.90 !    1.90 !   47.17 !   47.17 !
   2.00 !    2.00 !   47.13 !   47.13 !
   2.10 !    2.10 !   47.10 !   47.10 !
   2.20 !    2.20 !   47.06 !   47.06 !
   2.30 !    2.30 !   47.01 !   47.01 !
   2.40 !    2.40 !   46.97 !   46.97 !
   2.50 !    2.50 !   46.93 !   46.93 !
   2.60 !    2.60 !   46.89 !   46.89 !
   2.70 !    2.70 !   46.85 !   46.85 !
   2.80 !    2.80 !   46.81 !   46.81 !
   2.90 !    2.90 !   46.77 !   46.77 !
   3.00 !    3.00 !   46.74 !   46.74 !
```

↟

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

Source height = 0.50 m

Barrier height for grazing incidence
------------------------------------
Source      ! Receiver    ! Barrier     ! Elevation of
Height  (m) ! Height  (m) ! Height  (m) ! Barrier Top  (m)
------------+-------------+-------------+--------------
       0.50 !        1.50 !        1.38 !         1.38

RT/Custom (41.81 + 41.81 + 0.00) = 44.82 dBA
Angle1 Angle2  Alpha RefLeq  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------
   -90      0   0.00  53.27  -8.46  -3.01   0.00   0.00   0.00  41.81
-------------------------------------------------------------------------
     0     90   0.00  53.27  -8.46  -3.01   0.00   0.00  -3.56  38.25*
     0     90   0.00  53.27  -8.46  -3.01   0.00   0.00   0.00  41.81
-------------------------------------------------------------------------

 * Bright Zone !

Segment Leq : 44.82 dBA

Total Leq All Segments: 44.82 dBA
```

↟

```
Barrier table for segment # 1: LRT (night)
------------------------------------------

Barrier ! Elev of ! RT/CUST ! Tot Leq !
Height  ! Barr Top!  dBA    !   dBA   !
--------+---------+---------+---------+
   0.50 !    0.50 !   44.82 !   44.82 !
```

0.60	0.60	44.82	44.82
0.70	0.70	44.82	44.82
0.80	0.80	44.82	44.82
0.90	0.90	44.82	44.82
1.00	1.00	44.82	44.82
1.10	1.10	44.82	44.82
1.20	1.20	44.82	44.82
1.30	1.30	44.82	44.82
1.40	1.40	43.00	43.00
1.50	1.50	43.00	43.00
1.60	1.60	42.98	42.98
1.70	1.70	42.96	42.96
1.80	1.80	42.94	42.94
1.90	1.90	42.91	42.91
2.00	2.00	42.87	42.87
2.10	2.10	42.84	42.84
2.20	2.20	42.80	42.80
2.30	2.30	42.75	42.75
2.40	2.40	42.71	42.71
2.50	2.50	42.67	42.67
2.60	2.60	42.63	42.63
2.70	2.70	42.59	42.59
2.80	2.80	42.55	42.55
2.90	2.90	42.51	42.51
3.00	3.00	42.48	42.48

TOTAL Leq FROM ALL SOURCES (DAY): 60.45
(NIGHT): 55.32

Appendix D: Measured Sound Levels

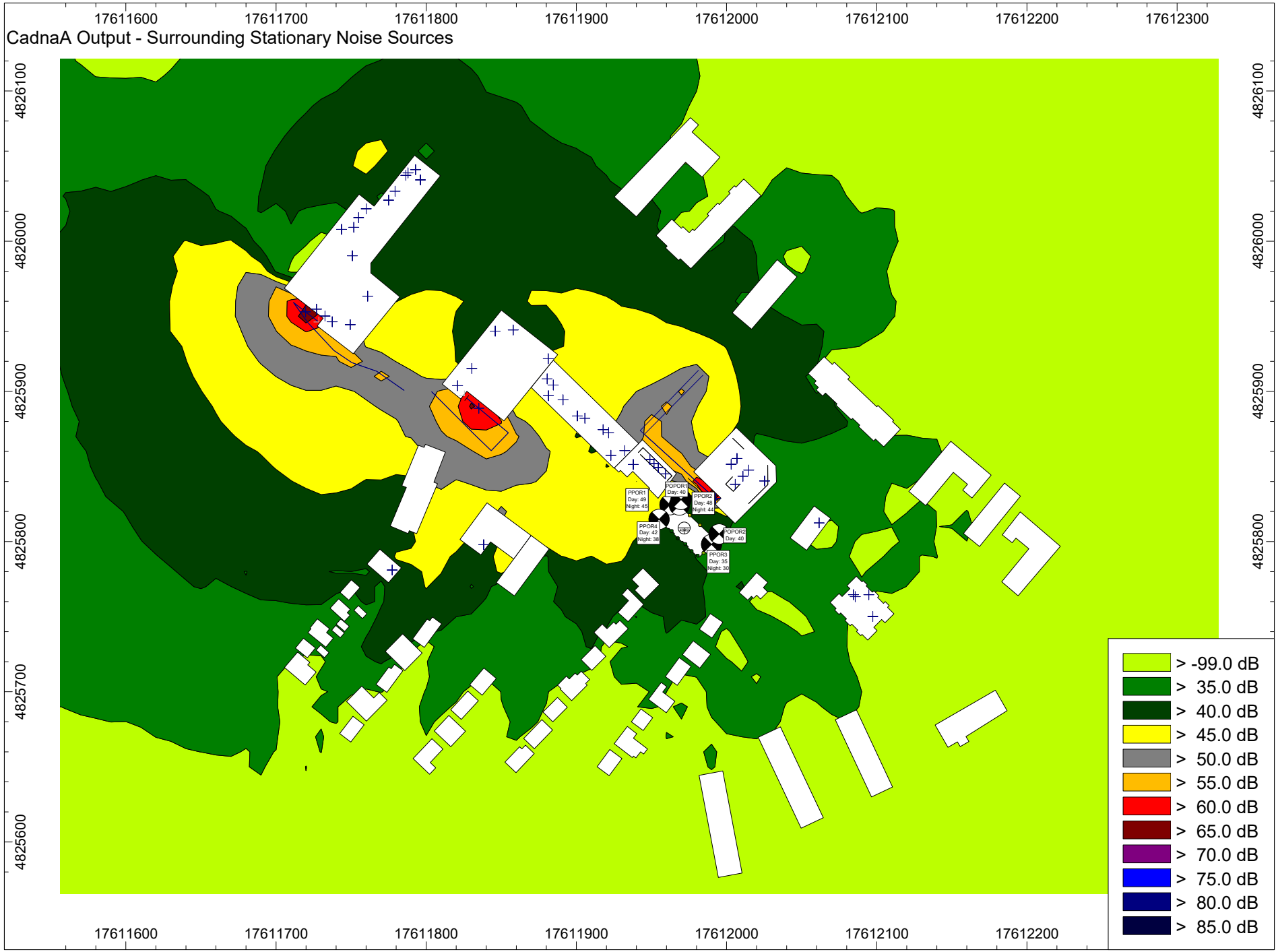
No significant stationary noise sources were observed or measured during TT's inspection of the Project Site. Sound levels for HVAC equipment on the surrounding buildings were estimated based on specifications for a Carrier model 48HCA06, roof top unit (small HVAC Unit), or a source twice as loud (large HVAC Unit).

Reading ID	Start Time	Description	Octave Band (Hz)	Radiated Sound Power Level (dB)
N/A	N/A	Small HVAC Unit (Carrier 48HCA06)	31.5	-
			63	88
			125	83
			250	76
			500	74
			1000	71
			2000	67
			4000	64
			8000	60
			Total (L_{eq}, dBA)	77
N/A	N/A	Large HVAC Unit (Carrier 48HCA06 +3dB)	31.5	-
			63	91
			125	86
			250	79
			500	77
			1000	74
			2000	70
			4000	67
			8000	62
			Total (L_{eq}, dBA)	80
N/A	N/A	Truck Idling	31.5	94
			63	101
			125	92
			250	88
			500	96
			1000	95
			2000	81
			4000	88
			8000	82
			Total (L_{eq}, dBA)	99
N/A	N/A	Truck Driving	31.5	94
			63	98
			125	102
			250	96
			500	91
			1000	97
			2000	96
			4000	92
			8000	90
			Total	101

			(L_{eq}, dBA)	
N/A	N/A	Truck Loading	31.5	112
			63	107
			125	106
			250	106
			500	106
			1000	102
			2000	96
			4000	94
			8000	88
			Total (L_{eq}, dBA)	107

Appendix E: CadnaA Calculation Output

CadnaA Output - Surrounding Stationary Noise Sources



Report (20231026 CadnaA Dwg Mimosa updated.cna)

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	0.00
Night-time Penalty (dB)	0.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.20
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Result Table

Receiver		Land Use	Limiting Value		rel. Axis			Lr w/o Noise Control		dL req.		Lr w/ Noise Control		Exceeding		passive NC
Name	ID		Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night	Day	Night	
			dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
PPOR1	!02!PPOR1		0	0	147	23.37	6.50	48.6	48.6	48.6	48.6	47.3	47.3	47.3	47.3	47.3
PPOR2	!02!PPOR2		0	0	108	19.29	6.50	47.8	47.8	47.8	47.8	33.4	33.4	33.4	33.4	33.4
PPOR3	!02!PPOR3		0	0	125	29.39	7.50	34.5	34.5	34.5	34.5	37.4	37.4	37.4	37.4	37.4
PPOR4	!02!PPOR4		0	0	105	35.39	6.50	42.3	42.3	42.3	42.3	43.5	43.5	43.5	43.5	43.5
POPOR1	!02!POPOR1		0	0	107	15.79	0.00	40.2	40.2	40.2	40.2	47.1	47.1	47.1	47.1	47.1
POPOR2	!02!POPOR2		0	0	125	22.28	0.00	40.4	40.4	40.4	40.4	33.8	33.8	33.8	33.8	33.8

Group Day and Night

Name	Expression	Partial Sum Level Steady_Sources																	
		PPOR1			PPOR2			PPOR3			PPOR4			POPOR1			POPOR2		
		Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Root	!*	48.6	48.6	45.4	47.8	47.8	44.9	34.5	34.5	30.4	42.3	42.3	37.8	40.2	40.2	35.0	40.4	40.4	38.2
Surrounding Receivers	!00*																		
Surrounding Sources	!01*	48.6	48.6	45.4	47.8	47.8	44.9	34.5	34.5	30.4	42.3	42.3	37.8	40.2	40.2	35.0	40.4	40.4	38.2
Steady Sources	!0100*	48.6	48.6	45.4	47.8	47.8	44.9	34.5	34.5	30.4	42.3	42.3	37.8	40.2	40.2	35.0	40.4	40.4	38.2
Impulse Sources	!0101*																		
Project Receivers	!02*																		
Project Sources	!03*																		

Partial Day/Night

Source			Partial Level Steady_Sources																	
Name	M.	ID	PPOR1			PPOR2			PPOR3			PPOR4			POPOR1			POPOR2		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
HVAC01		!0100!HVAC01	26.4	26.4	22.6	36.3	36.3	32.5	13.5	13.5	9.7	15.1	15.1	11.3	25.4	25.4	21.6	21.7	21.7	17.9
HVAC02		!0100!HVAC02	25.9	25.9	22.1	34.7	34.7	30.9	14.2	14.2	10.4	14.3	14.3	10.5	23.6	23.6	19.8	20.3	20.3	16.5
HVAC03		!0100!HVAC03	14.2	14.2	10.4	26.6	26.6	22.8	15.8	15.8	12.0	10.6	10.6	6.8	24.2	24.2	20.4	21.4	21.4	17.6
HVAC04		!0100!HVAC04	17.9	17.9	14.1	27.5	27.5	23.7	22.0	22.0	18.2	12.0	12.0	8.2	22.6	22.6	18.8	21.8	21.8	18.0
HVAC05		!0100!HVAC05	22.2	22.2	18.4	29.3	29.3	25.5	24.3	24.3	20.5	12.5	12.5	8.7	22.6	22.6	18.8	22.7	22.7	18.9
HVAC06		!0100!HVAC06	14.6	14.6	10.7	32.9	32.9	29.1	29.2	29.2	25.4	12.5	12.5	8.7	23.9	23.9	20.1	23.2	23.2	19.4
HVAC07		!0100!HVAC07	16.4	16.4	12.6	31.8	31.8	28.0	29.0	29.0	25.2	12.3	12.3	8.5	27.8	27.8	24.0	29.3	29.3	25.5
HVAC08		!0100!HVAC08	2.8	2.8	-1.0	15.4	15.4	11.6	15.2	15.2	11.4	3.0	3.0	-0.8	17.5	17.5	13.7	14.4	14.4	10.6
HVAC09		!0100!HVAC09	2.5	2.5	-1.3	13.6	13.6	9.8	13.9	13.9	10.1	2.8	2.8	-1.0	15.7	15.7	11.9	12.9	12.9	9.1
HVAC10		!0100!HVAC10	2.4	2.4	-1.4	10.4	10.4	6.6	11.1	11.1	7.3	1.6	1.6	-2.2	11.6	11.6	7.8	9.7	9.7	5.9
HVAC11		!0100!HVAC11	3.3	3.3	-0.5	10.4	10.4	6.6	10.7	10.7	6.9	3.6	3.6	-0.2	11.6	11.6	7.8	10.0	10.0	6.2
HVAC12		!0100!HVAC12	42.0	42.0	38.2	36.1	36.1	32.3	10.8	10.8	7.0	17.7	17.7	13.9	26.2	26.2	22.4	26.4	26.4	22.6
HVAC13		!0100!HVAC13	39.1	39.1	35.3	35.8	35.8	32.0	12.1	12.1	8.3	17.4	17.4	13.6	26.1	26.1	22.3	27.1	27.1	23.3
HVAC14		!0100!HVAC14	37.1	37.1	33.3	34.7	34.7	30.9	11.8	11.8	8.0	16.9	16.9	13.1	27.5	27.5	23.7	25.2	25.2	21.4
HVAC15		!0100!HVAC15	33.0	33.0	29.2	34.0	34.0	30.2	14.5	14.5	10.7	16.6	16.6	12.8	25.0	25.0	21.2	24.7	24.7	20.9
HVAC16		!0100!HVAC16	38.7	38.7	34.9	35.5	35.5	31.7	11.1	11.1	7.3	28.9	28.9	25.1	22.5	22.5	18.7	23.1	23.1	19.3
HVAC17		!0100!HVAC17	36.5	36.5	32.7	35.5	35.5	31.7	11.8	11.8	8.0	27.0	27.0	23.2	19.8	19.8	16.0	22.0	22.0	18.2
HVAC18		!0100!HVAC18	35.5	35.5	31.7	27.3	27.3	23.5	9.3	9.3	5.5	28.4	28.4	24.6	19.3	19.3	15.5	14.7	14.7	10.9
HVAC19		!0100!HVAC19	31.7	31.7	27.9	32.5	32.5	28.7	10.3	10.3	6.5	25.4	25.4	21.6	17.3	17.3	13.5	19.2	19.2	15.4
HVAC20		!0100!HVAC20	31.2	31.2	27.4	32.0	32.0	28.2	9.9	9.9	6.1	25.2	25.2	21.4	16.7	16.7	12.9	18.8	18.8	15.0
HVAC21		!0100!HVAC21	29.5	29.5	25.6	30.3	30.3	26.5	7.0	7.0	3.2	24.3	24.3	20.5	15.2	15.2	11.4	17.8	17.8	14.0
HVAC22		!0100!HVAC22	28.9	28.9	25.1	29.8	29.8	26.0	6.6	6.6	2.8	24.0	24.0	20.2	15.7	15.7	11.9	17.5	17.5	13.7
HVAC23		!0100!HVAC23	27.5	27.5	23.7	28.0	28.0	24.2	5.7	5.7	1.9	22.7	22.7	18.9	14.6	14.6	10.8	16.6	16.6	12.8
HVAC24		!0100!HVAC24	27.5	27.5	23.6	25.1	25.1	21.3	5.1	5.1	1.3	26.6	26.6	22.8	14.5	14.5	10.7	16.6	16.6	12.8
HVAC25		!0100!HVAC25	27.2	27.2	23.4	26.2	26.2	22.4	6.8	6.8	3.0	21.6	21.6	17.8	14.2	14.2	10.4	16.5	16.5	12.7
HVAC26		!0100!HVAC26	26.8	26.8	23.0	25.8	25.8	22.0	6.5	6.5	2.7	21.2	21.2	17.4	14.0	14.0	10.2	16.7	16.7	12.9
HVAC27		!0100!HVAC27	26.1	26.1	22.3	25.0	25.0	21.2	6.2	6.2	2.4	20.1	20.1	16.3	12.0	12.0	8.2	12.8	12.8	9.0
HVAC28		!0100!HVAC28	23.4	23.4	19.6	23.1	23.1	19.3	4.6	4.6	0.8	21.1	21.1	17.3	9.2	9.2	5.3	13.1	13.1	9.3
HVAC29		!0100!HVAC29	23.0	23.0	19.1	22.7	22.7	18.9	4.2	4.2	0.4	22.8	22.8	19.0	8.6	8.6	4.8	12.6	12.6	8.8
HVAC30		!0100!HVAC30	26.2	26.2	22.4	20.3	20.3	16.5	6.0	6.0	2.2	26.3	26.3	22.5	13.6	13.6	9.8	11.7	11.7	7.9
HVAC31		!0100!HVAC31	26.1	26.1	22.3	18.7	18.7	14.9	5.8	5.8	2.0	26.2	26.2	22.4	15.1	15.1	11.3	11.0	11.0	7.2
HVAC32		!0100!HVAC32	27.2	27.2	23.4	10.2	10.2	6.4	3.3	3.3	-0.5	24.6	24.6	20.8	12.9	12.9	9.1	7.7	7.7	3.9
HVAC33		!0100!HVAC33	18.2	18.2	14.4	2.5	2.5	-1.3	-1.5	-1.5	-5.3	16.2	16.2	12.4	1.9	1.9	-1.9	2.1	2.1	-1.7
HVAC34		!0100!HVAC34	22.2	22.2	18.4	15.6	15.6	11.8	2.9	2.9	-0.9	22.3	22.3	18.5	10.7	10.7	6.9	8.3	8.3	4.5
HVAC35		!0100!HVAC35	19.2	19.2	15.4	13.9	13.9	10.1	-0.1	-0.1	-3.9	19.3	19.3	15.5	6.2	6.2	2.4	0.3	0.3	-3.5
HVAC36		!0100!HVAC36	21.8	21.8	18.0	15.0	15.0	11.2	2.5	2.5	-1.3	21.9	21.9	18.1	10.3	10.3	6.5	7.9	7.9	4.1
HVAC37		!0100!HVAC37	21.6	21.6	17.8	14.8	14.8	11.0	2.3	2.3	-1.5	21.6	21.6	17.8	10.1	10.1	6.3	7.8	7.8	4.0
HVAC38		!0100!HVAC38	21.3	21.3	17.5	14.6	14.6	10.8	2.1	2.1	-1.7	21.4	21.4	17.6	9.9	9.9	6.1	7.7	7.7	3.9
HVAC39		!0100!HVAC39	18.3	18.3	14.5	13.3	13.3	9.5	-0.8	-0.8	-4.6	18.3	18.3	14.5	5.8	5.8	2.0	8.8	8.8	5.0
HVAC40		!0100!HVAC40	17.7	17.7	13.9	13.2	13.2	9.4	-1.2	-1.2	-5.0	17.7	17.7	13.9	4.8	4.8	1.0	8.4	8.4	4.6
HVAC41		!0100!HVAC41	17.9	17.9	14.1	17.7	17.7	13.9	-1.6	-1.6	-5.4	17.9	17.9	14.1	5.0	5.0	1.2	8.6	8.6	4.8
HVAC42		!0100!HVAC42	17.8	17.8	14.0	17.7	17.7	13.9	-1.6	-1.6	-5.4	17.8	17.8	14.0	4.2	4.2	0.4	8.6	8.6	4.8
HVAC43		!0100!HVAC43	17.8	17.8	14.0	17.7	17.7	13.9	0.1	0.1	-3.7	17.8	17.8	14.0	4.2	4.2	0.4	8.7	8.7	4.9
HVAC44		!0100!HVAC44	18.0	18.0	14.2	17.9	17.9	14.1	0.4	0.4	-3.4	13.4	13.4	9.6	4.4	4.4	0.6	6.9	6.9	3.1
HVAC45		!0100!HVAC45	18.0	18.0	14.2	17.8	17.8	14.0	0.4	0.4	-3.4	13.3	13.3	9.5	4.6	4.6	0.8	8.6	8.6	4.8
HVAC46		!0100!HVAC46	17.9	17.9	14.1	17.7	17.7	13.9	0.5	0.5	-3.3	13.0	13.0	9.2	2.0	2.0	-1.8	10.2	10.2	6.4
HVAC47		!0100!HVAC47	17.9	17.9	14.1	17.7	17.7	13.9	0.5	0.5	-3.3	12.9	12.9	9.1	2.0	2.0	-1.8	10.3	10.3	6.5
HVAC48		!0100!HVAC48	18.2	18.2	14.4	18.0	18.0	14.2	0.8	0.8	-3.0	13.1	13.1	9.3	2.4	2.4	-1.4	10.8	10.8	7.0
HVAC49		!0100!HVAC49	17.9	17.9	14.1	17.8	17.8	14.0	0.6	0.6	-3.2	12.8	12.8	9.0	2.2	2.2	-1.6	10.7	10.7	6.9
TRID02		!0100!TRID02	35.8	35.8		13.3	13.3		11.8	11.8		38.0	38.0		21.2	21.2		13.8	13.8	
TRID03		!0100!TRID03	11.0	11.0		3.9	3.9		2.3	2.3		11.5	11.5		7.0	7.0		4.1	4.1	
TRLD02	~	!0101!TRLD02																		
TRLD03	~	!0101!TRLD03																		

Source			Partial Level Steady_Sources																	
Name	M.	ID	PPOR1			PPOR2			PPOR3			PPOR4			POPOR1			POPOR2		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
TRID01		!0100!TRID01	27.9	27.9		36.7	36.7		24.9	24.9		24.1	24.1		36.6	36.6		32.0	32.0	
TRDR02		!0100!TRDR02	30.6	30.6	30.6	16.8	16.8	16.8	5.7	5.7	5.7	30.9	30.9	30.9	14.4	14.4	14.4	17.1	17.1	17.1
TRDR03		!0100!TRDR03	22.9	22.9	22.9	10.8	10.8	10.8	0.3	0.3	0.3	23.6	23.6	23.6	6.0	6.0	6.0	4.4	4.4	4.4
TRDR02		!0100!TRDR02	30.6	30.6	30.6	16.8	16.8	16.8	5.7	5.7	5.7	30.9	30.9	30.9	14.4	14.4	14.4	17.1	17.1	17.1
TRDR03		!0100!TRDR03	22.9	22.9	22.9	10.8	10.8	10.8	0.3	0.3	0.3	23.6	23.6	23.6	6.0	6.0	6.0	4.4	4.4	4.4
TRDR01		!0100!TRDR01	39.1	39.1	39.1	41.1	41.1	41.1	19.4	19.4	19.4	20.5	20.5	20.5	30.5	30.5	30.5	36.7	36.7	36.7

Sound Sources

Point Sources

Name	Sel.	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
				Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
HVAC01			!0100!HVAC01	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612003.06	4825851.47	9.00
HVAC02			!0100!HVAC02	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612006.94	4825855.35	9.00
HVAC03			!0100!HVAC03	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612005.77	4825838.14	9.00
HVAC04			!0100!HVAC04	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612010.89	4825843.53	9.00
HVAC05			!0100!HVAC05	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612014.77	4825847.58	9.00
HVAC06			!0100!HVAC06	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612025.34	4825840.36	9.00
HVAC07			!0100!HVAC07	79.7	79.7	79.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612061.64	4825812.43	15.00
HVAC08			!0100!HVAC08	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612084.46	4825764.63	59.00
HVAC09			!0100!HVAC09	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612085.69	4825763.36	59.00
HVAC10			!0100!HVAC10	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612094.75	4825764.64	59.00
HVAC11			!0100!HVAC11	79.7	79.7	79.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17612097.41	4825750.09	59.00
HVAC12			!0100!HVAC12	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611959.26	4825845.06	7.00
HVAC13			!0100!HVAC13	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611954.53	4825849.31	7.00
HVAC14			!0100!HVAC14	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611951.69	4825851.86	7.00
HVAC15			!0100!HVAC15	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611948.95	4825854.61	7.00
HVAC16			!0100!HVAC16	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611937.87	4825851.35	7.00
HVAC17			!0100!HVAC17	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611932.24	4825860.61	7.00
HVAC18			!0100!HVAC18	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611922.99	4825857.43	7.00
HVAC19			!0100!HVAC19	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611921.47	4825872.44	7.00
HVAC20			!0100!HVAC20	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611917.82	4825874.51	7.00
HVAC21			!0100!HVAC21	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611905.67	4825882.09	7.00
HVAC22			!0100!HVAC22	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611900.67	4825883.61	7.00
HVAC23			!0100!HVAC23	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611891.11	4825894.37	7.00
HVAC24			!0100!HVAC24	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611881.39	4825897.13	7.00
HVAC25			!0100!HVAC25	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611884.64	4825904.20	7.00
HVAC26			!0100!HVAC26	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611880.53	4825908.30	7.00
HVAC27			!0100!HVAC27	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611881.23	4825921.71	8.00
HVAC28			!0100!HVAC28	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611857.90	4825940.88	8.00
HVAC29			!0100!HVAC29	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611845.94	4825940.11	8.00
HVAC30			!0100!HVAC30	79.7	79.7	79.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611830.37	4825915.26	8.00
HVAC31			!0100!HVAC31	79.7	79.7	79.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611820.87	4825903.83	8.00
HVAC32			!0100!HVAC32	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611838.29	4825797.91	9.00
HVAC33			!0100!HVAC33	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611777.33	4825781.09	9.00
HVAC34			!0100!HVAC34	79.7	79.7	79.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611749.42	4825944.42	9.00
HVAC35			!0100!HVAC35	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611761.03	4825963.34	9.00
HVAC36			!0100!HVAC36	79.7	79.7	79.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611737.45	4825946.38	9.00
HVAC37			!0100!HVAC37	79.7	79.7	79.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611732.63	4825950.13	9.00
HVAC38			!0100!HVAC38	79.7	79.7	79.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611726.92	4825954.77	9.00
HVAC39			!0100!HVAC39	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611750.82	4825990.27	9.00
HVAC40			!0100!HVAC40	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611743.64	4826007.90	9.00
HVAC41			!0100!HVAC41	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611751.81	4826009.20	9.00
HVAC42			!0100!HVAC42	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611755.04	4826015.66	9.00
HVAC43			!0100!HVAC43	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611760.06	4826021.58	9.00
HVAC44			!0100!HVAC44	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611774.97	4826027.33	9.00
HVAC45			!0100!HVAC45	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611779.29	4826033.27	9.00
HVAC46			!0100!HVAC46	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611786.47	4826043.85	9.00
HVAC47			!0100!HVAC47	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611787.91	4826045.46	9.00
HVAC48			!0100!HVAC48	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611796.16	4826040.80	9.00
HVAC49			!0100!HVAC49	76.7	76.7	76.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	25.00	0.0		(none)	1.00	g	17611792.93	4826047.62	9.00
TRID02			!0100!TRID02	98.9	98.9	98.9	Lw	Truck_Idle		0.0	0.0	0.0				5.00	5.00	0.00	0.0		(none)	1.50	a	17611835.06	4825888.76	1.50
TRID03			!0100!TRID03	98.9	98.9	98.9	Lw	Truck_Idle		0.0	0.0	0.0				5.00	5.00	0.00	0.0		(none)	1.50	a	17611719.72	4825952.93	1.50
TRLD02		~	!0101!TRLD02	107.0	107.0	107.0	Lw	Truck_Load		0.0	0.0	0.0							0.0		(none)	1.50	a	17611728.55	4825946.21	1.50

Name	Sel.	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
				Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
TRLD03		~	!0101!TRLD03	107.0	107.0	107.0	Lw	Truck_Load		0.0	0.0	0.0							0.0		(none)	1.50	a	17611825.45	4825897.07	1.50
TRID01			!0100!TRID01	98.9	98.9	98.9	Lw	Truck_Idle		0.0	0.0	0.0				5.00	5.00	0.00	0.0		(none)	1.00	a	17611992.56	4825828.68	1.00

Line Sources

Name	Sel.	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src			
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Speed
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h)
TRDR02			!0100!TRDR02	81.7	81.7	81.7	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0
TRDR03			!0100!TRDR03	82.0	82.0	82.0	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0
TRDR02			!0100!TRDR02	81.7	81.7	81.7	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0
TRDR03			!0100!TRDR03	82.0	82.0	82.0	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0
TRDR01			!0100!TRDR01	85.2	85.2	85.2	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0

Geometry Line Sources

Name	ID	Height			Coordinates			
		Begin		End	x	y	z	Ground
		(m)		(m)	(m)	(m)	(m)	(m)
TRDR02	!0100!TRDR02	1.50	a		17611803.69	4825899.69	1.50	0.00
					17611816.04	4825887.34	1.50	0.00
					17611832.13	4825871.26	1.50	0.00
					17611843.32	4825860.54	1.50	0.00
					17611854.73	4825872.46	1.50	0.00
					17611827.23	4825895.26	1.50	0.00
TRDR03	!0100!TRDR03	1.50	a		17611785.24	4825900.70	1.50	0.00
					17611767.03	4825913.40	1.50	0.00
					17611750.50	4825919.14	1.50	0.00
					17611738.52	4825927.28	1.50	0.00
					17611721.03	4825945.96	1.50	0.00
					17611711.68	4825959.13	1.50	0.00
					17611727.76	4825946.72	1.50	0.00
TRDR02	!0100!TRDR02	1.50	a		17611803.69	4825899.69	1.50	0.00
					17611816.04	4825887.34	1.50	0.00
					17611832.13	4825871.26	1.50	0.00
					17611843.32	4825860.54	1.50	0.00
					17611854.73	4825872.46	1.50	0.00
					17611827.23	4825895.26	1.50	0.00
TRDR03	!0100!TRDR03	1.50	a		17611785.24	4825900.70	1.50	0.00
					17611767.03	4825913.40	1.50	0.00
					17611750.50	4825919.14	1.50	0.00
					17611738.52	4825927.28	1.50	0.00
					17611721.03	4825945.96	1.50	0.00
					17611711.68	4825959.13	1.50	0.00
					17611727.76	4825946.72	1.50	0.00
TRDR01	!0100!TRDR01	1.50	a		17611981.23	4825913.97	1.50	0.00
					17611942.52	4825873.97	1.50	0.00
					17611994.03	4825827.25	1.50	0.00
					17611945.31	4825871.43	1.50	0.00
					17611984.30	4825910.81	1.50	0.00

Area Sources

Name	Sel.	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number		
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night

Geometry Area Sources

Name	ID	Height			Coordinates			
		Begin		End	x	y	z	Ground
		(m)		(m)	(m)	(m)	(m)	(m)

Vertical Area Sources

Name	Sel.	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night			
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)	

Geometry Vertical Area Sources

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(m)		(m)		(m)	(m)	(m)	(m)

Road

Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
				Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%)	(dB)	(m)	(m)

Geometry Road

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(m)	(%)
	(m)		(m)		(m)	(m)	(m)	(m)		

Receptors

Name	Sel.	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
				Day	Evening	Night	Day	Evening	Night	Type	Auto	Noise Type			X	Y	Z
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
PPOR1			!02!PPOR1	48.6	48.6	45.4	0.0	0.0	0.0		x	Total	8.00	a	17611962.27	4825824.51	8.00
PPOR2			!02!PPOR2	47.8	47.8	44.9	0.0	0.0	0.0		x	Total	8.00	a	17611968.64	4825824.24	8.00
PPOR3			!02!PPOR3	34.5	34.5	30.4	0.0	0.0	0.0		x	Total	9.00	a	17611990.02	4825798.14	9.00
PPOR4			!02!PPOR4	42.3	42.3	37.8	0.0	0.0	0.0		x	Total	8.00	a	17611955.07	4825814.80	8.00
POPOR1			!02!POPOR1	40.2	40.2	35.0	0.0	0.0	0.0		x	Total	1.50	a	17611969.68	4825828.02	1.50
POPOR2			!02!POPOR2	40.4	40.4	38.2	0.0	0.0	0.0		x	Total	1.50	a	17611995.13	4825805.00	1.50

Obstacles

Barriers

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height			
				left	right		horz.	vert.	Begin		End	
						(m)	(m)	(m)	(m)		(m)	
			Notes_Existing_Build_Barrier	0.2	0.2				10.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				10.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				10.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				8.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				8.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2				7.00	a		
			Notes_Existing_Build_Barrier	0.2	0.2	2.50			3.00	a		
			Notes_Project_Barrier	0.2	0.2				4.00	a		

Geometry Barriers

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height				Coordinates			
				left	right		horz.	vert.	Begin		End		x	y	z	Ground
						(m)	(m)	(m)	(m)		(m)		(m)	(m)	(m)	(m)
			Notes_Existing_Build_Barrier	0.2	0.2				10.00	a			17612003.92	4825843.05	10.00	0.00
													17611999.42	4825838.21	10.00	0.00
													17612004.51	4825833.47	10.00	0.00
													17612008.44	4825837.71	10.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				10.00	a			17612004.04	4825868.77	10.00	0.00
													17612011.44	4825861.74	10.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				10.00	a			17612027.36	4825850.82	10.00	0.00
													17612027.44	4825837.92	10.00	0.00
													17612014.70	4825825.24	10.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				8.00	a			17611942.60	4825857.92	8.00	0.00
													17611959.12	4825841.93	8.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				8.00	a			17611941.29	4825859.31	8.00	0.00
													17611944.35	4825862.51	8.00	0.00
													17611963.63	4825843.74	8.00	0.00
													17611960.53	4825840.56	8.00	0.00

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
				left	right		horz.	vert.	Begin		End	x	y	z	Ground
						(m)	(m)	(m)	(m)		(m)	(m)	(m)	(m)	(m)
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17612004.04	4825868.77	0.00	0.00
												17612011.44	4825861.74	0.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17611942.60	4825857.92	0.00	0.00
												17611959.12	4825841.93	0.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17611941.29	4825859.31	0.00	0.00
												17611944.35	4825862.51	0.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17611944.35	4825862.51	0.00	0.00
												17611963.63	4825843.74	0.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17611963.63	4825843.74	0.00	0.00
												17611960.53	4825840.56	0.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17612003.92	4825843.05	0.00	0.00
												17611999.42	4825838.21	0.00	0.00
												17612004.51	4825833.47	0.00	0.00
												17612008.44	4825837.71	0.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17612027.36	4825850.82	0.00	0.00
												17612027.44	4825837.92	0.00	0.00
												17612014.70	4825825.24	0.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2				7.00	a		17611992.44	4825824.81	7.00	0.00
												17611974.37	4825842.20	7.00	0.00
			Notes_Existing_Build_Barrier	0.2	0.2	2.50			3.00	a		17611825.70	4825893.93	3.00	0.00
												17611828.29	4825897.18	3.00	0.00
			Notes_Project_Barrier	0.2	0.2				4.00	a		17611974.35	4825833.49	4.00	0.00
												17611968.75	4825838.84	4.00	0.00
												17611951.17	4825815.39	4.00	0.00

Building

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	
							Begin	
							(m)	
			Notes_Existing_Buildings	x	0	0.2	8.00	a
			Notes_Existing_Buildings	x	0	0.2	6.00	a
			Notes_Existing_Buildings	x	0	0.2	6.00	a
			Notes_Existing_Buildings	x	0	0.2	7.00	a
			Notes_Existing_Buildings	x	0	0.2	24.00	a
			Notes_Existing_Buildings	x	0	0.2	14.00	a
			Notes_Existing_Buildings	x	0	0.2	58.00	a
			Notes_Existing_Buildings	x	0	0.2	4.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	37.00	a
			Notes_Existing_Buildings	x	0	0.2	7.00	a
			Notes_Existing_Buildings	x	0	0.2	4.00	a
			Notes_Existing_Buildings	x	0	0.2	7.00	a
			Notes_Existing_Buildings	x	0	0.2	8.00	a
			Notes_Existing_Buildings	x	0	0.2	10.00	a
			Notes_Existing_Buildings	x	0	0.2	34.00	a
			Notes_Existing_Buildings	x	0	0.2	34.00	a
			Notes_Existing_Buildings	x	0	0.2	21.00	a
			Notes_Existing_Buildings	x	0	0.2	21.00	a
			Notes_Existing_Buildings	x	0	0.2	7.00	a
			Notes_Existing_Buildings	x	0	0.2	7.00	a
			Notes_Existing_Buildings	x	0	0.2	7.00	a
			Notes_Existing_Buildings	x	0	0.2	28.00	a
			Notes_Existing_Buildings	x	0	0.2	20.00	a
			Notes_Existing_Buildings	x	0	0.2	20.00	a
			Notes_Existing_Buildings	x	0	0.2	6.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	6.00	a
			Notes_Existing_Buildings	x	0	0.2	6.00	a
			Notes_Existing_Buildings	x	0	0.2	10.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	
							Begin	
							(m)	
			Notes_Existing_Buildings	x	0	0.2	10.00	a
			Notes_Existing_Buildings	x	0	0.2	6.00	a
			Notes_Existing_Buildings	x	0	0.2	8.00	a
			Notes_Existing_Buildings	x	0	0.2	8.00	a
			Notes_Existing_Buildings	x	0	0.2	8.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	8.00	a
			Notes_Existing_Buildings	x	0	0.2	8.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	7.00	a
			Notes_Existing_Buildings	x	0	0.2	8.00	a
			Notes_Existing_Buildings	x	0	0.2	4.00	a
			Notes_Existing_Buildings	x	0	0.2	6.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	6.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Existing_Buildings	x	0	0.2	5.00	a
			Notes_Project_Buildings	x	0	0.2	10.70	a

Geometry Building

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
			Notes_Existing_Buildings	x	0	0.2	8.00	a	17612006.41	4825875.95	8.00	0.00
									17611978.06	4825846.48	8.00	0.00
									17611996.35	4825828.88	8.00	0.00
									17611992.44	4825824.81	8.00	0.00
									17612005.66	4825812.10	8.00	0.00
									17612033.21	4825839.64	8.00	0.00
									17612032.87	4825850.49	8.00	0.00
			Notes_Existing_Buildings	x	0	0.2	6.00	a	17611925.27	4825849.11	6.00	0.00
									17611944.03	4825867.87	6.00	0.00
									17611966.59	4825845.31	6.00	0.00
									17611954.39	4825828.81	6.00	0.00
									17611948.34	4825834.86	6.00	0.00
									17611948.91	4825835.42	6.00	0.00
									17611937.56	4825846.77	6.00	0.00
									17611933.79	4825842.99	6.00	0.00
									17611929.37	4825847.40	6.00	0.00
									17611928.17	4825846.20	6.00	0.00
			Notes_Existing_Buildings	x	0	0.2	6.00	a	17611869.89	4825902.56	6.00	0.00
									17611884.64	4825920.82	6.00	0.00
									17611941.46	4825865.30	6.00	0.00
									17611925.03	4825848.87	6.00	0.00
			Notes_Existing_Buildings	x	0	0.2	7.00	a	17611850.01	4825954.03	7.00	0.00
									17611810.61	4825904.90	7.00	0.00
									17611822.99	4825894.96	7.00	0.00
									17611827.10	4825900.09	7.00	0.00
									17611851.77	4825880.30	7.00	0.00
									17611887.60	4825924.49	7.00	0.00
			Notes_Existing_Buildings	x	0	0.2	24.00	a	17611794.88	4825864.12	24.00	0.00
									17611798.60	4825862.69	24.00	0.00
									17611799.41	4825864.77	24.00	0.00
									17611812.83	4825859.61	24.00	0.00
									17611805.08	4825839.48	24.00	0.00
									17611807.56	4825838.53	24.00	0.00
									17611793.60	4825805.23	24.00	0.00
									17611788.78	4825807.24	24.00	0.00
									17611787.98	4825805.34	24.00	0.00
									17611776.03	4825810.35	24.00	0.00
									17611786.79	4825836.01	24.00	0.00
									17611783.78	4825837.28	24.00	0.00
			Notes_Existing_Buildings	x	0	0.2	14.00	a	17612042.34	4825802.44	14.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
									17612058.33	4825823.73	14.00	0.00
									17612069.27	4825815.51	14.00	0.00
									17612053.28	4825794.22	14.00	0.00
			Notes_Existing_Buildings	x	0	0.2	58.00	a	17612068.97	4825759.47	58.00	0.00
									17612074.94	4825765.43	58.00	0.00
									17612076.94	4825763.43	58.00	0.00
									17612082.14	4825768.63	58.00	0.00
									17612080.14	4825770.63	58.00	0.00
									17612086.43	4825776.92	58.00	0.00
									17612090.22	4825773.13	58.00	0.00
									17612091.02	4825773.94	58.00	0.00
									17612093.75	4825771.22	58.00	0.00
									17612092.94	4825770.41	58.00	0.00
									17612097.07	4825766.28	58.00	0.00
									17612098.06	4825767.27	58.00	0.00
									17612101.54	4825763.79	58.00	0.00
									17612100.55	4825762.80	58.00	0.00
									17612104.51	4825758.84	58.00	0.00
									17612105.67	4825759.99	58.00	0.00
									17612108.31	4825757.35	58.00	0.00
									17612107.16	4825756.20	58.00	0.00
									17612111.45	4825751.90	58.00	0.00
									17612105.49	4825745.93	58.00	0.00
									17612103.28	4825748.14	58.00	0.00
									17612098.05	4825742.90	58.00	0.00
									17612100.25	4825740.70	58.00	0.00
									17612093.99	4825734.44	58.00	0.00
									17612090.22	4825738.21	58.00	0.00
									17612089.32	4825737.31	58.00	0.00
									17612086.49	4825740.14	58.00	0.00
									17612087.39	4825741.04	58.00	0.00
									17612083.39	4825745.04	58.00	0.00
									17612082.32	4825743.97	58.00	0.00
									17612078.79	4825747.50	58.00	0.00
									17612079.86	4825748.57	58.00	0.00
									17612075.96	4825752.48	58.00	0.00
									17612074.92	4825751.44	58.00	0.00
									17612071.96	4825754.40	58.00	0.00
									17612073.00	4825755.43	58.00	0.00
			Notes_Existing_Buildings	x	0	0.2	4.00	a	17611944.35	4825782.34	4.00	0.00
									17611936.82	4825774.81	4.00	0.00
									17611941.42	4825770.20	4.00	0.00
									17611938.85	4825767.63	4.00	0.00
									17611945.23	4825761.25	4.00	0.00
									17611955.33	4825771.35	4.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611930.33	4825764.69	5.00	0.00
									17611934.10	4825768.85	5.00	0.00
									17611944.79	4825758.16	5.00	0.00
									17611934.42	4825746.67	5.00	0.00
									17611927.63	4825752.80	5.00	0.00
									17611934.75	4825760.69	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611911.70	4825739.51	5.00	0.00
									17611917.24	4825745.05	5.00	0.00
									17611920.36	4825741.92	5.00	0.00
									17611924.87	4825746.43	5.00	0.00
									17611926.37	4825744.94	5.00	0.00
									17611928.96	4825747.53	5.00	0.00
									17611934.50	4825741.99	5.00	0.00
									17611921.86	4825729.35	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611912.42	4825730.74	5.00	0.00
									17611919.59	4825723.57	5.00	0.00
									17611910.24	4825714.23	5.00	0.00
									17611903.07	4825721.40	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611889.78	4825702.08	5.00	0.00
									17611887.42	4825704.44	5.00	0.00
									17611893.40	4825710.42	5.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
									17611895.30	4825708.52	5.00	0.00
									17611899.21	4825712.43	5.00	0.00
									17611900.59	4825711.05	5.00	0.00
									17611903.23	4825713.69	5.00	0.00
									17611908.81	4825708.12	5.00	0.00
									17611906.16	4825705.47	5.00	0.00
									17611907.20	4825704.44	5.00	0.00
									17611896.85	4825694.09	5.00	0.00
									17611889.32	4825701.62	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611877.78	4825686.56	5.00	0.00
									17611887.43	4825696.21	5.00	0.00
									17611893.97	4825689.68	5.00	0.00
									17611884.31	4825680.02	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17612008.34	4825766.09	5.00	0.00
									17612019.99	4825779.36	5.00	0.00
									17612027.49	4825772.78	5.00	0.00
									17612024.51	4825769.39	5.00	0.00
									17612027.39	4825766.51	5.00	0.00
									17612022.61	4825761.73	5.00	0.00
									17612020.04	4825764.30	5.00	0.00
									17612017.94	4825762.20	5.00	0.00
									17612016.59	4825763.56	5.00	0.00
									17612014.09	4825761.05	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	37.00	a	17612138.84	4825677.83	37.00	0.00
									17612178.97	4825701.00	37.00	0.00
									17612186.82	4825687.40	37.00	0.00
									17612159.36	4825670.18	37.00	0.00
									17612161.43	4825666.87	37.00	0.00
									17612155.58	4825663.49	37.00	0.00
									17612153.75	4825666.67	37.00	0.00
									17612147.40	4825663.00	37.00	0.00
			Notes_Existing_Buildings	x	0	0.2	7.00	a	17611981.87	4825741.57	7.00	0.00
									17611989.17	4825752.10	7.00	0.00
									17611997.55	4825746.29	7.00	0.00
									17611990.26	4825735.76	7.00	0.00
			Notes_Existing_Buildings	x	0	0.2	4.00	a	17611970.62	4825724.72	4.00	0.00
									17611977.79	4825733.92	4.00	0.00
									17611989.33	4825724.92	4.00	0.00
									17611982.15	4825715.72	4.00	0.00
			Notes_Existing_Buildings	x	0	0.2	7.00	a	17611968.44	4825722.67	7.00	0.00
									17611959.23	4825710.09	7.00	0.00
									17611967.16	4825704.29	7.00	0.00
									17611976.37	4825716.87	7.00	0.00
			Notes_Existing_Buildings	x	0	0.2	8.00	a	17611822.48	4825801.41	8.00	0.00
									17611840.50	4825825.77	8.00	0.00
									17611869.87	4825804.06	8.00	0.00
									17611858.26	4825788.36	8.00	0.00
									17611842.85	4825799.76	8.00	0.00
									17611836.43	4825791.09	8.00	0.00
			Notes_Existing_Buildings	x	0	0.2	10.00	a	17611858.26	4825788.36	10.00	0.00
									17611846.68	4825772.70	10.00	0.00
									17611858.72	4825763.80	10.00	0.00
									17611881.91	4825795.15	10.00	0.00
									17611869.87	4825804.06	10.00	0.00
			Notes_Existing_Buildings	x	0	0.2	34.00	a	17612054.32	4825911.90	34.00	0.00
									17612064.94	4825923.08	34.00	0.00
									17612070.38	4825917.90	34.00	0.00
									17612071.77	4825919.36	34.00	0.00
									17612082.10	4825909.55	34.00	0.00
									17612080.71	4825908.09	34.00	0.00
									17612100.03	4825889.75	34.00	0.00
									17612100.82	4825890.59	34.00	0.00
									17612111.30	4825880.64	34.00	0.00
									17612110.50	4825879.80	34.00	0.00
									17612115.77	4825874.79	34.00	0.00
									17612104.64	4825863.08	34.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
									17612099.16	4825868.28	34.00	0.00
									17612097.93	4825866.99	34.00	0.00
									17612087.83	4825876.59	34.00	0.00
									17612088.70	4825877.50	34.00	0.00
									17612083.90	4825882.05	34.00	0.00
									17612083.04	4825881.14	34.00	0.00
									17612072.81	4825890.86	34.00	0.00
									17612073.55	4825891.64	34.00	0.00
									17612065.89	4825898.91	34.00	0.00
									17612064.00	4825896.93	34.00	0.00
									17612059.65	4825901.06	34.00	0.00
									17612061.14	4825902.63	34.00	0.00
									17612058.20	4825905.43	34.00	0.00
									17612059.59	4825906.89	34.00	0.00
			Notes_Existing_Buildings	x	0	0.2	34.00	a	17612003.81	4825952.30	34.00	0.00
									17612016.65	4825941.43	34.00	0.00
									17612046.93	4825976.18	34.00	0.00
									17612033.74	4825987.68	34.00	0.00
			Notes_Existing_Buildings	x	0	0.2	21.00	a	17612011.43	4826041.38	21.00	0.00
									17612022.89	4826030.42	21.00	0.00
									17611976.20	4825981.64	21.00	0.00
									17611969.20	4825988.33	21.00	0.00
									17611968.09	4825987.17	21.00	0.00
									17611959.34	4825995.54	21.00	0.00
									17611960.45	4825996.70	21.00	0.00
									17611953.10	4826003.74	21.00	0.00
									17611953.78	4826004.46	21.00	0.00
									17611963.55	4826014.67	21.00	0.00
									17611969.91	4826008.59	21.00	0.00
									17611970.93	4826009.66	21.00	0.00
									17611975.12	4826005.65	21.00	0.00
									17611977.41	4826008.05	21.00	0.00
									17611978.52	4826006.99	21.00	0.00
									17611988.14	4826017.04	21.00	0.00
									17611987.07	4826018.06	21.00	0.00
									17611994.10	4826025.40	21.00	0.00
									17611995.16	4826024.38	21.00	0.00
									17612002.39	4826031.94	21.00	0.00
									17612001.35	4826032.93	21.00	0.00
									17612005.20	4826036.96	21.00	0.00
									17612006.24	4826035.96	21.00	0.00
									17612011.43	4826041.38	21.00	0.00
			Notes_Existing_Buildings	x	0	0.2	21.00	a	17611975.94	4826082.25	21.00	0.00
									17611981.29	4826077.42	21.00	0.00
									17611976.99	4826072.66	21.00	0.00
									17611995.59	4826055.86	21.00	0.00
									17611983.66	4826042.65	21.00	0.00
									17611972.69	4826052.57	21.00	0.00
									17611939.89	4826016.25	21.00	0.00
									17611925.17	4826029.55	21.00	0.00
			Notes_Existing_Buildings	x	0	0.2	7.00	a	17612121.31	4825833.40	7.00	0.00
									17612149.31	4825866.76	7.00	0.00
									17612176.18	4825844.21	7.00	0.00
									17612163.44	4825829.02	7.00	0.00
									17612157.21	4825834.26	7.00	0.00
									17612160.47	4825838.14	7.00	0.00
									17612151.03	4825846.06	7.00	0.00
									17612132.51	4825824.00	7.00	0.00
			Notes_Existing_Buildings	x	0	0.2	7.00	a	17612157.73	4825805.40	7.00	0.00
									17612185.05	4825838.92	7.00	0.00
									17612195.73	4825830.22	7.00	0.00
									17612168.41	4825796.69	7.00	0.00
			Notes_Existing_Buildings	x	0	0.2	7.00	a	17612183.58	4825804.46	7.00	0.00
									17612195.57	4825819.71	7.00	0.00
									17612222.28	4825796.83	7.00	0.00
									17612194.09	4825763.93	7.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
									17612183.21	4825773.25	7.00	0.00
									17612201.29	4825795.20	7.00	0.00
									17612192.70	4825802.28	7.00	0.00
									17612190.20	4825799.25	7.00	0.00
			Notes_Existing_Buildings	x	0	0.2	28.00	a	17612072.39	4825681.38	28.00	0.00
									17612086.45	4825687.96	28.00	0.00
									17612110.53	4825636.55	28.00	0.00
									17612096.48	4825629.96	28.00	0.00
			Notes_Existing_Buildings	x	0	0.2	20.00	a	17612021.09	4825669.69	20.00	0.00
									17612035.86	4825676.65	20.00	0.00
									17612064.40	4825616.11	20.00	0.00
									17612049.63	4825609.14	20.00	0.00
			Notes_Existing_Buildings	x	0	0.2	20.00	a	17611981.69	4825644.32	20.00	0.00
									17611997.49	4825647.30	20.00	0.00
									17612010.32	4825579.31	20.00	0.00
									17611994.53	4825576.33	20.00	0.00
			Notes_Existing_Buildings	x	0	0.2	6.00	a	17611829.03	4825704.68	6.00	0.00
									17611838.43	4825715.84	6.00	0.00
									17611846.69	4825708.89	6.00	0.00
									17611837.30	4825697.73	6.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611816.33	4825688.01	5.00	0.00
									17611827.73	4825700.48	5.00	0.00
									17611834.78	4825694.03	5.00	0.00
									17611823.38	4825681.57	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	6.00	a	17611805.30	4825673.92	6.00	0.00
									17611815.10	4825684.24	6.00	0.00
									17611826.15	4825673.75	6.00	0.00
									17611816.35	4825663.42	6.00	0.00
			Notes_Existing_Buildings	x	0	0.2	6.00	a	17611804.16	4825749.75	6.00	0.00
									17611810.29	4825745.24	6.00	0.00
									17611798.72	4825729.50	6.00	0.00
									17611790.97	4825735.19	6.00	0.00
									17611800.70	4825748.42	6.00	0.00
									17611802.31	4825747.23	6.00	0.00
			Notes_Existing_Buildings	x	0	0.2	10.00	a	17611772.78	4825726.86	10.00	0.00
									17611784.32	4825738.57	10.00	0.00
									17611797.31	4825725.78	10.00	0.00
									17611785.76	4825714.06	10.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611766.56	4825704.90	5.00	0.00
									17611775.08	4825716.49	5.00	0.00
									17611776.69	4825715.31	5.00	0.00
									17611778.85	4825718.24	5.00	0.00
									17611784.50	4825714.09	5.00	0.00
									17611773.83	4825699.56	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	10.00	a	17611757.10	4825703.78	10.00	0.00
									17611746.94	4825693.51	10.00	0.00
									17611760.20	4825680.40	10.00	0.00
									17611773.98	4825694.33	10.00	0.00
									17611768.72	4825699.54	10.00	0.00
									17611765.10	4825695.87	10.00	0.00
			Notes_Existing_Buildings	x	0	0.2	6.00	a	17611803.91	4825668.68	6.00	0.00
									17611811.16	4825661.81	6.00	0.00
									17611802.65	4825652.84	6.00	0.00
									17611806.30	4825649.38	6.00	0.00
									17611802.22	4825645.08	6.00	0.00
									17611791.24	4825655.49	6.00	0.00
									17611803.82	4825668.76	6.00	0.00
			Notes_Existing_Buildings	x	0	0.2	8.00	a	17611760.58	4825784.98	8.00	0.00
									17611769.12	4825794.88	8.00	0.00
									17611783.46	4825782.50	8.00	0.00
									17611774.91	4825772.60	8.00	0.00
			Notes_Existing_Buildings	x	0	0.2	8.00	a	17611750.14	4825774.55	8.00	0.00
									17611742.66	4825766.10	8.00	0.00
									17611748.46	4825760.97	8.00	0.00
									17611755.94	4825769.43	8.00	0.00
			Notes_Existing_Buildings	x	0	0.2	8.00	a	17611741.70	4825761.93	8.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
									17611735.99	4825755.68	8.00	0.00
									17611745.56	4825746.93	8.00	0.00
									17611749.25	4825750.97	8.00	0.00
									17611747.40	4825752.66	8.00	0.00
									17611749.42	4825754.87	8.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611740.08	4825745.04	5.00	0.00
									17611743.07	4825748.50	5.00	0.00
									17611748.75	4825743.60	5.00	0.00
									17611745.76	4825740.14	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611754.87	4825757.36	5.00	0.00
									17611751.86	4825754.23	5.00	0.00
									17611757.56	4825748.76	5.00	0.00
									17611760.56	4825751.89	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611737.07	4825741.03	5.00	0.00
									17611739.82	4825744.17	5.00	0.00
									17611745.55	4825739.15	5.00	0.00
									17611742.80	4825736.01	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	8.00	a	17611727.51	4825748.57	8.00	0.00
									17611722.61	4825742.54	8.00	0.00
									17611723.31	4825741.97	8.00	0.00
									17611721.21	4825739.39	8.00	0.00
									17611733.20	4825729.64	8.00	0.00
									17611738.15	4825735.73	8.00	0.00
									17611733.59	4825739.43	8.00	0.00
									17611735.65	4825741.96	8.00	0.00
			Notes_Existing_Buildings	x	0	0.2	8.00	a	17611718.27	4825735.66	8.00	0.00
									17611726.21	4825729.14	8.00	0.00
									17611720.82	4825722.58	8.00	0.00
									17611712.88	4825729.09	8.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611726.73	4825727.72	5.00	0.00
									17611729.77	4825731.07	5.00	0.00
									17611735.31	4825726.06	5.00	0.00
									17611732.27	4825722.70	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611742.37	4825672.18	5.00	0.00
									17611751.22	4825683.69	5.00	0.00
									17611758.65	4825677.98	5.00	0.00
									17611749.81	4825666.47	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	7.00	a	17611714.40	4825726.45	7.00	0.00
									17611722.52	4825719.56	7.00	0.00
									17611721.10	4825717.88	7.00	0.00
									17611726.75	4825713.08	7.00	0.00
									17611719.42	4825704.46	7.00	0.00
									17611705.65	4825716.16	7.00	0.00
			Notes_Existing_Buildings	x	0	0.2	8.00	a	17611763.10	4825978.77	8.00	0.00
									17611782.47	4825962.90	8.00	0.00
									17611751.44	4825925.03	8.00	0.00
									17611727.41	4825943.58	8.00	0.00
									17611731.38	4825948.72	8.00	0.00
									17611705.52	4825968.67	8.00	0.00
									17611755.31	4826031.24	8.00	0.00
									17611765.29	4826023.29	8.00	0.00
									17611792.25	4826057.17	8.00	0.00
									17611809.39	4826043.53	8.00	0.00
									17611763.10	4825985.36	8.00	0.00
			Notes_Existing_Buildings	x	0	0.2	4.00	a	17611947.98	4825694.96	4.00	0.00
									17611956.48	4825706.19	4.00	0.00
									17611960.22	4825703.36	4.00	0.00
									17611957.52	4825699.80	4.00	0.00
									17611965.62	4825693.67	4.00	0.00
									17611959.82	4825686.00	4.00	0.00
			Notes_Existing_Buildings	x	0	0.2	6.00	a	17611936.62	4825680.01	6.00	0.00
									17611942.98	4825688.56	6.00	0.00
									17611950.82	4825682.72	6.00	0.00
									17611944.46	4825674.18	6.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611933.92	4825676.88	5.00	0.00
									17611925.17	4825665.46	5.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
									17611937.28	4825656.18	5.00	0.00
									17611938.03	4825657.17	5.00	0.00
									17611939.62	4825655.95	5.00	0.00
									17611942.78	4825660.08	5.00	0.00
									17611944.76	4825658.55	5.00	0.00
									17611947.35	4825661.93	5.00	0.00
									17611937.96	4825669.12	5.00	0.00
									17611940.21	4825672.06	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	6.00	a	17611922.28	4825661.53	6.00	0.00
									17611913.77	4825650.10	6.00	0.00
									17611921.82	4825644.10	6.00	0.00
									17611930.33	4825655.53	6.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611864.90	4825668.89	5.00	0.00
									17611877.01	4825681.42	5.00	0.00
									17611884.10	4825674.57	5.00	0.00
									17611871.99	4825662.04	5.00	0.00
			Notes_Existing_Buildings	x	0	0.2	5.00	a	17611852.41	4825653.14	5.00	0.00
									17611862.17	4825663.35	5.00	0.00
									17611863.68	4825661.91	5.00	0.00
									17611866.09	4825664.42	5.00	0.00
									17611871.94	4825658.83	5.00	0.00
									17611859.77	4825646.10	5.00	0.00
			Notes_Project_Buildings	x	0	0.2	10.70	a	17611954.20	4825815.82	10.70	0.00
									17611956.21	4825813.93	10.70	0.00
									17611955.78	4825813.47	10.70	0.00
									17611961.11	4825808.42	10.70	0.00
									17611961.55	4825808.88	10.70	0.00
									17611965.36	4825805.27	10.70	0.00
									17611964.93	4825804.82	10.70	0.00
									17611970.27	4825799.77	10.70	0.00
									17611970.71	4825800.22	10.70	0.00
									17611974.52	4825796.62	10.70	0.00
									17611974.09	4825796.16	10.70	0.00
									17611979.43	4825791.11	10.70	0.00
									17611979.87	4825791.57	10.70	0.00
									17611981.87	4825789.67	10.70	0.00
									17611992.69	4825801.12	10.70	0.00
									17611965.02	4825827.27	10.70	0.00

3D Reflector

Name	Sel.	M.	ID	Type	Attenuation	B	m	Height
					dB/100m	%	1/m	(m)

Geometry Absorption

Name	Sel.	M.	ID	Type	Attenuation	B	m	Height	Coordinates			
					dB/100m	%	1/m	(m)	x	y	z	Ground
									(m)	(m)	(m)	(m)

Ground Absorption

Name	Sel.	M.	ID	G

Geometry Absorption

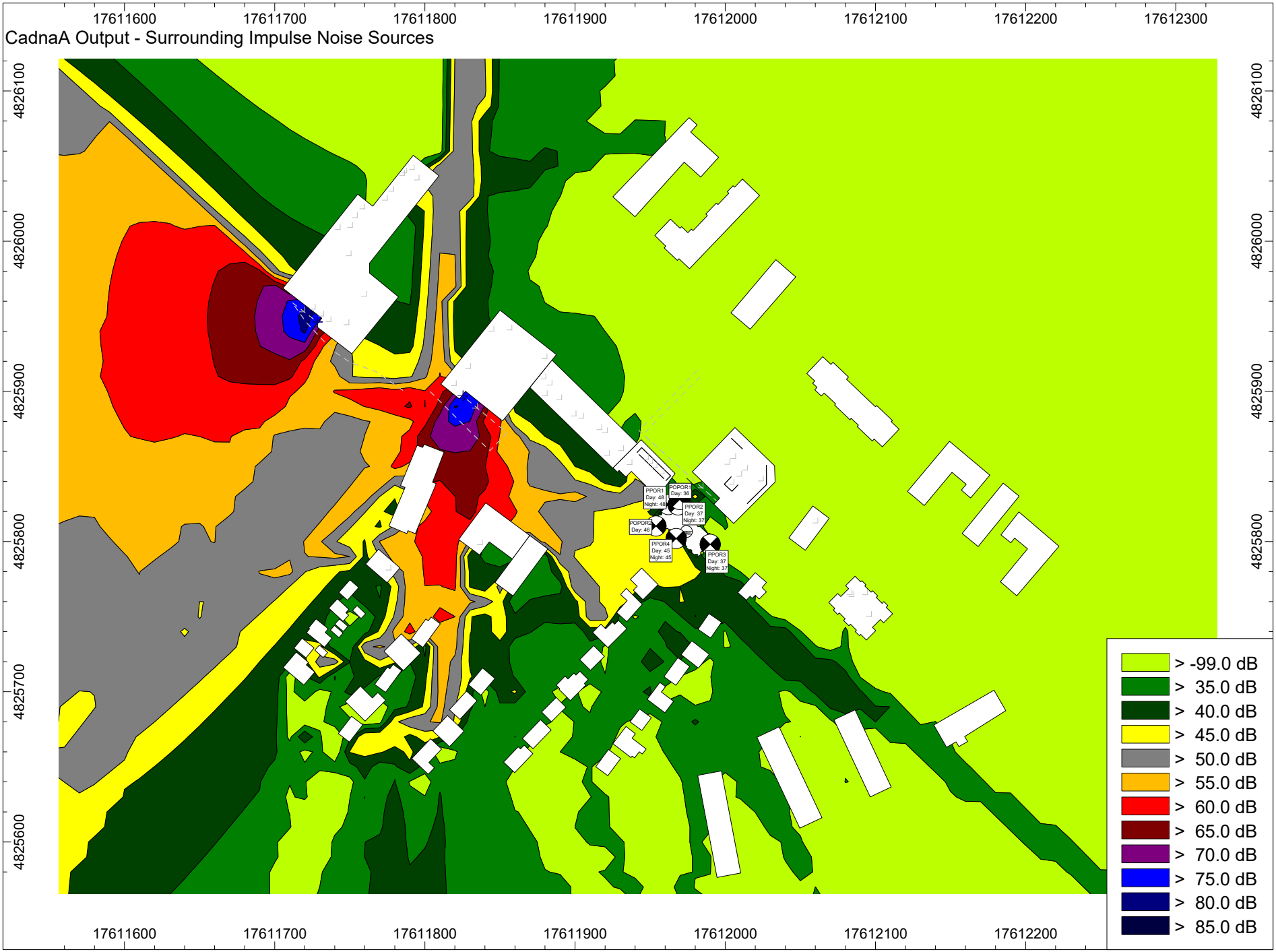
Name	Sel.	M.	ID	G	Coordinates	
					x	y
					(m)	(m)

Contour Lines

Geometry Contour Line

Name	Sel.	M.	ID	OnlyPts	Height		Coordinates		
					Begin	End	x	y	z
					(m)	(m)	(m)	(m)	(m)

CadnaA Output - Surrounding Impulse Noise Sources



Report (CadnaA Dwg Mimosa impulse.cna)

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	0.00
Night-time Penalty (dB)	0.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.20
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Result Table

Receiver		Land Use	Limiting Value		rel. Axis			Lr w/o Noise Control		dL req.		Lr w/ Noise Control		Exceeding		passive NC
Name	ID		Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night	Day	Night	
			dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
PPOR1	!02!PPOR1		0	0				53.1	53.1	53.1	53.1	47.6	47.6	47.6	47.6	47.6
PPOR2	!02!PPOR2		0	0				53.2	53.2	53.2	53.2	36.6	36.6	36.6	36.6	36.6
PPOR3	!02!PPOR3		0	0				43.8	43.8	43.8	43.8	37.4	37.4	37.4	37.4	37.4
PPOR4	!02!PPOR4		0	0				42.5	42.5	42.5	42.5	45.5	45.5	45.5	45.5	45.5
POPOR1	!02!POPOR1		0	0				45.1	45.1	45.1	45.1	36.4	36.4	36.4	36.4	36.4
POPOR2	!02!POPOR2		0	0				43.9	43.9	43.9	43.9	46.4	46.4	46.4	46.4	46.4

Group Day and Night

Name	Expression	Partial Sum Level Impulse_Sources																	
		PPOR1			PPOR2			PPOR3			PPOR4			POPOR1			POPOR2		
		Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Root	!*	47.6	47.6	47.6	36.6	36.6	36.6	37.4	37.4	37.4	45.5	45.5	45.5	36.4	36.4	36.4	46.4	46.4	46.4
Surrounding Receivers	!00*																		
Surrounding Sources	!01*	47.6	47.6	47.6	36.6	36.6	36.6	37.4	37.4	37.4	45.5	45.5	45.5	36.4	36.4	36.4	46.4	46.4	46.4
Steady Sources	!0100*																		
Impulse Sources	!0101*	47.6	47.6	47.6	36.6	36.6	36.6	37.4	37.4	37.4	45.5	45.5	45.5	36.4	36.4	36.4	46.4	46.4	46.4
Project Receivers	!02*																		
Project Sources	!03*																		

Partial Day/Night

Source			Partial Level Impulse_Sources																	
Name	M.	ID	PPOR1			PPOR2			PPOR3			PPOR4			POPOR1			POPOR2		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
HVAC01	~	!0100!HVAC01																		
HVAC02	~	!0100!HVAC02																		
HVAC03	~	!0100!HVAC03																		
HVAC04	~	!0100!HVAC04																		
HVAC05	~	!0100!HVAC05																		
HVAC06	~	!0100!HVAC06																		
HVAC07	~	!0100!HVAC07																		
HVAC08	~	!0100!HVAC08																		
HVAC09	~	!0100!HVAC09																		
HVAC10	~	!0100!HVAC10																		
HVAC11	~	!0100!HVAC11																		
HVAC12	~	!0100!HVAC12																		
HVAC13	~	!0100!HVAC13																		
HVAC14	~	!0100!HVAC14																		
HVAC15	~	!0100!HVAC15																		
HVAC16	~	!0100!HVAC16																		
HVAC17	~	!0100!HVAC17																		
HVAC18	~	!0100!HVAC18																		
HVAC19	~	!0100!HVAC19																		
HVAC20	~	!0100!HVAC20																		
HVAC21	~	!0100!HVAC21																		
HVAC22	~	!0100!HVAC22																		
HVAC23	~	!0100!HVAC23																		
HVAC24	~	!0100!HVAC24																		
HVAC25	~	!0100!HVAC25																		
HVAC26	~	!0100!HVAC26																		
HVAC27	~	!0100!HVAC27																		
HVAC28	~	!0100!HVAC28																		
HVAC29	~	!0100!HVAC29																		
HVAC30	~	!0100!HVAC30																		
HVAC31	~	!0100!HVAC31																		
HVAC32	~	!0100!HVAC32																		
HVAC33	~	!0100!HVAC33																		
HVAC34	~	!0100!HVAC34																		
HVAC35	~	!0100!HVAC35																		
HVAC36	~	!0100!HVAC36																		
HVAC37	~	!0100!HVAC37																		
HVAC38	~	!0100!HVAC38																		
HVAC39	~	!0100!HVAC39																		
HVAC40	~	!0100!HVAC40																		
HVAC41	~	!0100!HVAC41																		
HVAC42	~	!0100!HVAC42																		
HVAC43	~	!0100!HVAC43																		
HVAC44	~	!0100!HVAC44																		
HVAC45	~	!0100!HVAC45																		
HVAC46	~	!0100!HVAC46																		
HVAC47	~	!0100!HVAC47																		
HVAC48	~	!0100!HVAC48																		
HVAC49	~	!0100!HVAC49																		
TRID02	~	!0100!TRID02																		
TRID03	~	!0100!TRID03																		
TRLD01		!0101!TRLD01	28.6	28.6	28.6	23.0	23.0	23.0	22.1	22.1	22.1	26.1	26.1	26.1	25.7	25.7	25.7	27.1	27.1	27.1
TRLD02		!0101!TRLD02	47.5	47.5	47.5	36.4	36.4	36.4	37.3	37.3	37.3	45.4	45.4	45.4	36.0	36.0	36.0	46.3	46.3	46.3

Source			Partial Level Impulse_Sources																	
Name	M.	ID	PPOR1			PPOR2			PPOR3			PPOR4			POPOR1			POPOR2		
			Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
TRID01	~	!0100!TRID01																		
TRDR02	~	!0100!TRDR02																		
TRDR03	~	!0100!TRDR03																		
TRDR02	~	!0100!TRDR02																		
TRDR03	~	!0100!TRDR03																		
TRDR01	~	!0100!TRDR01																		

Sound Sources

Point Sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
HVAC01	~	!0100!HVAC01	84.7	84.7	84.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612003.06	4825851.47	9.00
HVAC02	~	!0100!HVAC02	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612006.94	4825855.35	9.00
HVAC03	~	!0100!HVAC03	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612005.77	4825838.14	9.00
HVAC04	~	!0100!HVAC04	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612010.89	4825843.53	9.00
HVAC05	~	!0100!HVAC05	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612014.77	4825847.58	9.00
HVAC06	~	!0100!HVAC06	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612025.34	4825840.36	9.00
HVAC07	~	!0100!HVAC07	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612061.64	4825812.43	15.00
HVAC08	~	!0100!HVAC08	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612084.46	4825764.63	59.00
HVAC09	~	!0100!HVAC09	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612085.69	4825763.36	59.00
HVAC10	~	!0100!HVAC10	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612094.75	4825764.64	59.00
HVAC11	~	!0100!HVAC11	84.7	84.7	84.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17612097.41	4825750.09	59.00
HVAC12	~	!0100!HVAC12	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611959.26	4825845.06	7.00
HVAC13	~	!0100!HVAC13	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611954.53	4825849.31	7.00
HVAC14	~	!0100!HVAC14	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611951.69	4825851.86	7.00
HVAC15	~	!0100!HVAC15	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611948.95	4825854.61	7.00
HVAC16	~	!0100!HVAC16	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611937.87	4825851.35	7.00
HVAC17	~	!0100!HVAC17	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611932.24	4825860.61	7.00
HVAC18	~	!0100!HVAC18	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611922.99	4825857.43	7.00
HVAC19	~	!0100!HVAC19	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611921.47	4825872.44	7.00
HVAC20	~	!0100!HVAC20	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611917.82	4825874.51	7.00
HVAC21	~	!0100!HVAC21	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611905.67	4825882.09	7.00
HVAC22	~	!0100!HVAC22	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611900.67	4825883.61	7.00
HVAC23	~	!0100!HVAC23	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611891.11	4825894.37	7.00
HVAC24	~	!0100!HVAC24	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611881.39	4825897.13	7.00
HVAC25	~	!0100!HVAC25	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611884.64	4825904.20	7.00
HVAC26	~	!0100!HVAC26	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611880.53	4825908.30	7.00
HVAC27	~	!0100!HVAC27	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611881.23	4825921.71	8.00
HVAC28	~	!0100!HVAC28	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611857.90	4825940.88	8.00
HVAC29	~	!0100!HVAC29	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611845.94	4825940.11	8.00
HVAC30	~	!0100!HVAC30	84.7	84.7	84.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611830.37	4825915.26	8.00
HVAC31	~	!0100!HVAC31	84.7	84.7	84.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611820.87	4825903.83	8.00
HVAC32	~	!0100!HVAC32	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611838.29	4825797.91	9.00
HVAC33	~	!0100!HVAC33	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611777.33	4825781.09	9.00
HVAC34	~	!0100!HVAC34	84.7	84.7	84.7	Lw	Large_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611749.42	4825944.42	9.00
HVAC35	~	!0100!HVAC35	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611761.03	4825963.34	9.00
HVAC36	~	!0100!HVAC36	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611737.45	4825946.38	9.00
HVAC37	~	!0100!HVAC37	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611732.63	4825950.13	9.00
HVAC38	~	!0100!HVAC38	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611726.92	4825954.77	9.00
HVAC39	~	!0100!HVAC39	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611750.82	4825990.27	9.00
HVAC40	~	!0100!HVAC40	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611743.64	4826007.90	9.00
HVAC41	~	!0100!HVAC41	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611751.81	4826009.20	9.00
HVAC42	~	!0100!HVAC42	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611755.04	4826015.66	9.00
HVAC43	~	!0100!HVAC43	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611760.06	4826021.58	9.00
HVAC44	~	!0100!HVAC44	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611774.97	4826027.33	9.00
HVAC45	~	!0100!HVAC45	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611779.29	4826033.27	9.00
HVAC46	~	!0100!HVAC46	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611786.47	4826043.85	9.00
HVAC47	~	!0100!HVAC47	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611787.91	4826045.46	9.00
HVAC48	~	!0100!HVAC48	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611796.16	4826040.80	9.00
HVAC49	~	!0100!HVAC49	81.7	81.7	81.7	Lw	Small_HVAC		0.0	0.0	0.0				60.00	60.00	30.00	0.0		(none)	1.00	g	17611792.93	4826047.62	9.00
TRID02	~	!0100!TRID02	98.9	98.9	98.9	Lw	Truck_Idle		0.0	0.0	0.0				5.00	5.00	0.00	0.0		(none)	1.50	a	17611835.06	4825888.76	1.50
TRID03	~	!0100!TRID03	98.9	98.9	98.9	Lw	Truck_Idle		0.0	0.0	0.0				5.00	5.00	0.00	0.0		(none)	1.50	a	17611719.72	4825952.93	1.50
TRLD01		!0101!TRLD01	107.0	107.0	107.0	Lw	Truck_Load		0.0	0.0	0.0							0.0		(none)	1.50	a	17611728.55	4825946.21	1.50

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
TRLD02		!0101!TRLD02	107.0	107.0	107.0	Lw	Truck_Load		0.0	0.0	0.0							0.0		(none)	1.50	a	17611825.45	4825897.07	1.50
TRID01	~	!0100!TRID01	98.9	98.9	98.9	Lw	Truck_Idle		0.0	0.0	0.0				5.00	5.00	0.00	0.0		(none)	1.00	a	17611985.17	4825835.81	1.00

Line Sources

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src			
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Speed
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h)
TRDR02	~	!0100!TRDR02	81.7	81.7	81.7	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0
TRDR03	~	!0100!TRDR03	82.0	82.0	82.0	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0
TRDR02	~	!0100!TRDR02	81.7	81.7	81.7	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0
TRDR03	~	!0100!TRDR03	82.0	82.0	82.0	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0
TRDR01	~	!0100!TRDR01	85.2	85.2	85.2	61.3	61.3	61.3	PWL-Pt	Truck_Drive		0.0	0.0	0.0							0.0		(none)	1.0	1.0	1.0	10.0

Geometry Line Sources

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)
TRDR02	1.50	a			17611803.69	4825899.69	1.50	0.00
					17611816.04	4825887.34	1.50	0.00
					17611832.13	4825871.26	1.50	0.00
					17611843.32	4825860.54	1.50	0.00
					17611854.73	4825872.46	1.50	0.00
					17611827.23	4825895.26	1.50	0.00
TRDR03	1.50	a			17611785.24	4825900.70	1.50	0.00
					17611767.03	4825913.40	1.50	0.00
					17611750.50	4825919.14	1.50	0.00
					17611738.52	4825927.28	1.50	0.00
					17611721.03	4825945.96	1.50	0.00
					17611711.68	4825959.13	1.50	0.00
					17611727.76	4825946.72	1.50	0.00
TRDR02	1.50	a			17611803.69	4825899.69	1.50	0.00
					17611816.04	4825887.34	1.50	0.00
					17611832.13	4825871.26	1.50	0.00
					17611843.32	4825860.54	1.50	0.00
					17611854.73	4825872.46	1.50	0.00
					17611827.23	4825895.26	1.50	0.00
TRDR03	1.50	a			17611785.24	4825900.70	1.50	0.00
					17611767.03	4825913.40	1.50	0.00
					17611750.50	4825919.14	1.50	0.00
					17611738.52	4825927.28	1.50	0.00
					17611721.03	4825945.96	1.50	0.00
					17611711.68	4825959.13	1.50	0.00
					17611727.76	4825946.72	1.50	0.00
TRDR01	1.50	a			17611981.23	4825913.97	1.50	0.00
					17611942.52	4825873.97	1.50	0.00
					17611994.03	4825827.25	1.50	0.00
					17611945.31	4825871.43	1.50	0.00
					17611984.30	4825910.81	1.50	0.00

Area Sources

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night

Geometry Area Sources

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)

Vertical Area Sources

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night			
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)	

Geometry Vertical Area Sources

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)

Road

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%)	(dB)	(m)	(m)

Geometry Road

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(m)	(%)
	(m)		(m)		(m)	(m)	(m)	(m)		

Receptors

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Evening	Night	Day	Evening	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
PPOR1		!02!PPOR1	47.6	47.6	47.6	0.0	0.0	0.0		x	Total	8.00	a	17611962.19	4825824.63	8.00
PPOR2		!02!PPOR2	36.6	36.6	36.6	0.0	0.0	0.0		x	Total	10.00	a	17611968.64	4825824.37	10.00
PPOR3		!02!PPOR3	37.4	37.4	37.4	0.0	0.0	0.0		x	Total	10.70	a	17611990.02	4825798.14	10.70
PPOR4		!02!PPOR4	45.5	45.5	45.5	0.0	0.0	0.0		x	Total	7.00	a	17611967.33	4825802.04	7.00
POPOR1		!02!POPOR1	36.4	36.4	36.4	0.0	0.0	0.0		x	Total	1.50	a	17611969.68	4825828.02	1.50
POPOR2		!02!POPOR2	46.4	46.4	46.4	0.0	0.0	0.0		x	Total	1.50	a	17611953.88	4825810.32	1.50

Obstacles

Barriers

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			
			left	right		horz.	vert.	Begin		End	
					(m)	(m)	(m)	(m)		(m)	
		Notes_Existing_Build_Barrier	0.2	0.2				10.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				10.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				10.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				8.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				8.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2				7.00	a		
		Notes_Existing_Build_Barrier	0.2	0.2	2.50			3.00	a		
		Notes_Project_Barrier	0.2	0.2				4.50	a		

Geometry Barriers

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height				Coordinates			
			left	right		horz.	vert.	Begin		End		x	y	z	Ground
					(m)	(m)	(m)	(m)		(m)		(m)	(m)	(m)	(m)
		Notes_Existing_Build_Barrier	0.2	0.2				10.00	a			17612003.92	4825843.05	10.00	0.00
												17611999.42	4825838.21	10.00	0.00
												17612004.51	4825833.47	10.00	0.00
												17612008.44	4825837.71	10.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				10.00	a			17612004.04	4825868.77	10.00	0.00
												17612011.44	4825861.74	10.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				10.00	a			17612027.36	4825850.82	10.00	0.00
												17612027.44	4825837.92	10.00	0.00
												17612014.70	4825825.24	10.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				8.00	a			17611942.60	4825857.92	8.00	0.00
												17611959.12	4825841.93	8.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				8.00	a			17611941.29	4825859.31	8.00	0.00
												17611944.35	4825862.51	8.00	0.00
												17611963.63	4825843.74	8.00	0.00
												17611960.53	4825840.56	8.00	0.00

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(m)	(m)	(m)	(m)		(m)	(m)	(m)	(m)	(m)
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17612004.04	4825868.77	0.00	0.00
											17612011.44	4825861.74	0.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17611942.60	4825857.92	0.00	0.00
											17611959.12	4825841.93	0.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17611941.29	4825859.31	0.00	0.00
											17611944.35	4825862.51	0.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17611944.35	4825862.51	0.00	0.00
											17611963.63	4825843.74	0.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17611963.63	4825843.74	0.00	0.00
											17611960.53	4825840.56	0.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17612003.92	4825843.05	0.00	0.00
											17611999.42	4825838.21	0.00	0.00
											17612004.51	4825833.47	0.00	0.00
											17612008.44	4825837.71	0.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				0.00	a		17612027.36	4825850.82	0.00	0.00
											17612027.44	4825837.92	0.00	0.00
											17612014.70	4825825.24	0.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2				7.00	a		17611992.44	4825824.81	7.00	0.00
											17611974.37	4825842.20	7.00	0.00
		Notes_Existing_Build_Barrier	0.2	0.2	2.50			3.00	a		17611825.70	4825893.93	3.00	0.00
											17611828.29	4825897.18	3.00	0.00
		Notes_Project_Barrier	0.2	0.2				4.50	a		17611968.75	4825838.84	4.50	0.00
											17611951.17	4825815.39	4.50	0.00

Building

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(m)	
		Notes_Existing_Buildings	x	0	0.2	8.00	a
		Notes_Existing_Buildings	x	0	0.2	6.00	a
		Notes_Existing_Buildings	x	0	0.2	6.00	a
		Notes_Existing_Buildings	x	0	0.2	7.00	a
		Notes_Existing_Buildings	x	0	0.2	24.00	a
		Notes_Existing_Buildings	x	0	0.2	14.00	a
		Notes_Existing_Buildings	x	0	0.2	58.00	a
		Notes_Existing_Buildings	x	0	0.2	4.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	37.00	a
		Notes_Existing_Buildings	x	0	0.2	7.00	a
		Notes_Existing_Buildings	x	0	0.2	4.00	a
		Notes_Existing_Buildings	x	0	0.2	7.00	a
		Notes_Existing_Buildings	x	0	0.2	8.00	a
		Notes_Existing_Buildings	x	0	0.2	10.00	a
		Notes_Existing_Buildings	x	0	0.2	34.00	a
		Notes_Existing_Buildings	x	0	0.2	34.00	a
		Notes_Existing_Buildings	x	0	0.2	21.00	a
		Notes_Existing_Buildings	x	0	0.2	21.00	a
		Notes_Existing_Buildings	x	0	0.2	7.00	a
		Notes_Existing_Buildings	x	0	0.2	7.00	a
		Notes_Existing_Buildings	x	0	0.2	7.00	a
		Notes_Existing_Buildings	x	0	0.2	28.00	a
		Notes_Existing_Buildings	x	0	0.2	20.00	a
		Notes_Existing_Buildings	x	0	0.2	20.00	a
		Notes_Existing_Buildings	x	0	0.2	6.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	6.00	a
		Notes_Existing_Buildings	x	0	0.2	6.00	a
		Notes_Existing_Buildings	x	0	0.2	10.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	10.00	a

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(m)	
		Notes_Existing_Buildings	x	0	0.2	6.00	a
		Notes_Existing_Buildings	x	0	0.2	8.00	a
		Notes_Existing_Buildings	x	0	0.2	8.00	a
		Notes_Existing_Buildings	x	0	0.2	8.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	8.00	a
		Notes_Existing_Buildings	x	0	0.2	8.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	7.00	a
		Notes_Existing_Buildings	x	0	0.2	8.00	a
		Notes_Existing_Buildings	x	0	0.2	4.00	a
		Notes_Existing_Buildings	x	0	0.2	6.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	6.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Existing_Buildings	x	0	0.2	5.00	a
		Notes_Project_Buildings	x	0	0.2	10.70	a

Geometry Building

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
		Notes_Existing_Buildings	x	0	0.2	8.00	a	17612006.41	4825875.95	8.00	0.00
								17611978.06	4825846.48	8.00	0.00
								17611996.35	4825828.88	8.00	0.00
								17611992.44	4825824.81	8.00	0.00
								17612005.66	4825812.10	8.00	0.00
								17612033.21	4825839.64	8.00	0.00
								17612032.87	4825850.49	8.00	0.00
		Notes_Existing_Buildings	x	0	0.2	6.00	a	17611925.27	4825849.11	6.00	0.00
								17611944.03	4825867.87	6.00	0.00
								17611966.59	4825845.31	6.00	0.00
								17611954.39	4825828.81	6.00	0.00
								17611948.34	4825834.86	6.00	0.00
								17611948.91	4825835.42	6.00	0.00
								17611937.56	4825846.77	6.00	0.00
								17611933.79	4825842.99	6.00	0.00
								17611929.37	4825847.40	6.00	0.00
								17611928.17	4825846.20	6.00	0.00
		Notes_Existing_Buildings	x	0	0.2	6.00	a	17611869.89	4825902.56	6.00	0.00
								17611884.64	4825920.82	6.00	0.00
								17611941.46	4825865.30	6.00	0.00
								17611925.03	4825848.87	6.00	0.00
		Notes_Existing_Buildings	x	0	0.2	7.00	a	17611850.01	4825954.03	7.00	0.00
								17611810.61	4825904.90	7.00	0.00
								17611822.99	4825894.96	7.00	0.00
								17611827.10	4825900.09	7.00	0.00
								17611851.77	4825880.30	7.00	0.00
								17611887.60	4825924.49	7.00	0.00
		Notes_Existing_Buildings	x	0	0.2	24.00	a	17611794.88	4825864.12	24.00	0.00
								17611798.60	4825862.69	24.00	0.00
								17611799.41	4825864.77	24.00	0.00
								17611812.83	4825859.61	24.00	0.00
								17611805.08	4825839.48	24.00	0.00
								17611807.56	4825838.53	24.00	0.00
								17611793.60	4825805.23	24.00	0.00
								17611788.78	4825807.24	24.00	0.00
								17611787.98	4825805.34	24.00	0.00
								17611776.03	4825810.35	24.00	0.00
								17611786.79	4825836.01	24.00	0.00
								17611783.78	4825837.28	24.00	0.00
		Notes_Existing_Buildings	x	0	0.2	14.00	a	17612042.34	4825802.44	14.00	0.00
								17612058.33	4825823.73	14.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
								17612069.27	4825815.51	14.00	0.00
								17612053.28	4825794.22	14.00	0.00
		Notes_Existing_Buildings	x	0	0.2	58.00	a	17612068.97	4825759.47	58.00	0.00
								17612074.94	4825765.43	58.00	0.00
								17612076.94	4825763.43	58.00	0.00
								17612082.14	4825768.63	58.00	0.00
								17612080.14	4825770.63	58.00	0.00
								17612086.43	4825776.92	58.00	0.00
								17612090.22	4825773.13	58.00	0.00
								17612091.02	4825773.94	58.00	0.00
								17612093.75	4825771.22	58.00	0.00
								17612092.94	4825770.41	58.00	0.00
								17612097.07	4825766.28	58.00	0.00
								17612098.06	4825767.27	58.00	0.00
								17612101.54	4825763.79	58.00	0.00
								17612100.55	4825762.80	58.00	0.00
								17612104.51	4825758.84	58.00	0.00
								17612105.67	4825759.99	58.00	0.00
								17612108.31	4825757.35	58.00	0.00
								17612107.16	4825756.20	58.00	0.00
								17612111.45	4825751.90	58.00	0.00
								17612105.49	4825745.93	58.00	0.00
								17612103.28	4825748.14	58.00	0.00
								17612098.05	4825742.90	58.00	0.00
								17612100.25	4825740.70	58.00	0.00
								17612093.99	4825734.44	58.00	0.00
								17612090.22	4825738.21	58.00	0.00
								17612089.32	4825737.31	58.00	0.00
								17612086.49	4825740.14	58.00	0.00
								17612087.39	4825741.04	58.00	0.00
								17612083.39	4825745.04	58.00	0.00
								17612082.32	4825743.97	58.00	0.00
								17612078.79	4825747.50	58.00	0.00
								17612079.86	4825748.57	58.00	0.00
								17612075.96	4825752.48	58.00	0.00
								17612074.92	4825751.44	58.00	0.00
								17612071.96	4825754.40	58.00	0.00
								17612073.00	4825755.43	58.00	0.00
		Notes_Existing_Buildings	x	0	0.2	4.00	a	17611944.35	4825782.34	4.00	0.00
								17611936.82	4825774.81	4.00	0.00
								17611941.42	4825770.20	4.00	0.00
								17611938.85	4825767.63	4.00	0.00
								17611945.23	4825761.25	4.00	0.00
								17611955.33	4825771.35	4.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611930.33	4825764.69	5.00	0.00
								17611934.10	4825768.85	5.00	0.00
								17611944.79	4825758.16	5.00	0.00
								17611934.42	4825746.67	5.00	0.00
								17611927.63	4825752.80	5.00	0.00
								17611934.75	4825760.69	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611911.70	4825739.51	5.00	0.00
								17611917.24	4825745.05	5.00	0.00
								17611920.36	4825741.92	5.00	0.00
								17611924.87	4825746.43	5.00	0.00
								17611926.37	4825744.94	5.00	0.00
								17611928.96	4825747.53	5.00	0.00
								17611934.50	4825741.99	5.00	0.00
								17611921.86	4825729.35	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611912.42	4825730.74	5.00	0.00
								17611919.59	4825723.57	5.00	0.00
								17611910.24	4825714.23	5.00	0.00
								17611903.07	4825721.40	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611889.78	4825702.08	5.00	0.00
								17611887.42	4825704.44	5.00	0.00
								17611893.40	4825710.42	5.00	0.00
								17611895.30	4825708.52	5.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
								17611899.21	4825712.43	5.00	0.00
								17611900.59	4825711.05	5.00	0.00
								17611903.23	4825713.69	5.00	0.00
								17611908.81	4825708.12	5.00	0.00
								17611906.16	4825705.47	5.00	0.00
								17611907.20	4825704.44	5.00	0.00
								17611896.85	4825694.09	5.00	0.00
								17611889.32	4825701.62	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611877.78	4825686.56	5.00	0.00
								17611887.43	4825696.21	5.00	0.00
								17611893.97	4825689.68	5.00	0.00
								17611884.31	4825680.02	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17612008.34	4825766.09	5.00	0.00
								17612019.99	4825779.36	5.00	0.00
								17612027.49	4825772.78	5.00	0.00
								17612024.51	4825769.39	5.00	0.00
								17612027.39	4825766.51	5.00	0.00
								17612022.61	4825761.73	5.00	0.00
								17612020.04	4825764.30	5.00	0.00
								17612017.94	4825762.20	5.00	0.00
								17612016.59	4825763.56	5.00	0.00
								17612014.09	4825761.05	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	37.00	a	17612138.84	4825677.83	37.00	0.00
								17612178.97	4825701.00	37.00	0.00
								17612186.82	4825687.40	37.00	0.00
								17612159.36	4825670.18	37.00	0.00
								17612161.43	4825666.87	37.00	0.00
								17612155.58	4825663.49	37.00	0.00
								17612153.75	4825666.67	37.00	0.00
								17612147.40	4825663.00	37.00	0.00
		Notes_Existing_Buildings	x	0	0.2	7.00	a	17611981.87	4825741.57	7.00	0.00
								17611989.17	4825752.10	7.00	0.00
								17611997.55	4825746.29	7.00	0.00
								17611990.26	4825735.76	7.00	0.00
		Notes_Existing_Buildings	x	0	0.2	4.00	a	17611970.62	4825724.72	4.00	0.00
								17611977.79	4825733.92	4.00	0.00
								17611989.33	4825724.92	4.00	0.00
								17611982.15	4825715.72	4.00	0.00
		Notes_Existing_Buildings	x	0	0.2	7.00	a	17611968.44	4825722.67	7.00	0.00
								17611959.23	4825710.09	7.00	0.00
								17611967.16	4825704.29	7.00	0.00
								17611976.37	4825716.87	7.00	0.00
		Notes_Existing_Buildings	x	0	0.2	8.00	a	17611822.48	4825801.41	8.00	0.00
								17611840.50	4825825.77	8.00	0.00
								17611869.87	4825804.06	8.00	0.00
								17611858.26	4825788.36	8.00	0.00
								17611842.85	4825799.76	8.00	0.00
								17611836.43	4825791.09	8.00	0.00
		Notes_Existing_Buildings	x	0	0.2	10.00	a	17611858.26	4825788.36	10.00	0.00
								17611846.68	4825772.70	10.00	0.00
								17611858.72	4825763.80	10.00	0.00
								17611881.91	4825795.15	10.00	0.00
								17611869.87	4825804.06	10.00	0.00
		Notes_Existing_Buildings	x	0	0.2	34.00	a	17612054.32	4825911.90	34.00	0.00
								17612064.94	4825923.08	34.00	0.00
								17612070.38	4825917.90	34.00	0.00
								17612071.77	4825919.36	34.00	0.00
								17612082.10	4825909.55	34.00	0.00
								17612080.71	4825908.09	34.00	0.00
								17612100.03	4825889.75	34.00	0.00
								17612100.82	4825890.59	34.00	0.00
								17612111.30	4825880.64	34.00	0.00
								17612110.50	4825879.80	34.00	0.00
								17612115.77	4825874.79	34.00	0.00
								17612104.64	4825863.08	34.00	0.00
								17612099.16	4825868.28	34.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
								17612097.93	4825866.99	34.00	0.00
								17612087.83	4825876.59	34.00	0.00
								17612088.70	4825877.50	34.00	0.00
								17612083.90	4825882.05	34.00	0.00
								17612083.04	4825881.14	34.00	0.00
								17612072.81	4825890.86	34.00	0.00
								17612073.55	4825891.64	34.00	0.00
								17612065.89	4825898.91	34.00	0.00
								17612064.00	4825896.93	34.00	0.00
								17612059.65	4825901.06	34.00	0.00
								17612061.14	4825902.63	34.00	0.00
								17612058.20	4825905.43	34.00	0.00
								17612059.59	4825906.89	34.00	0.00
		Notes_Existing_Buildings	x	0	0.2	34.00	a	17612003.81	4825952.30	34.00	0.00
								17612016.65	4825941.43	34.00	0.00
								17612046.93	4825976.18	34.00	0.00
								17612033.74	4825987.68	34.00	0.00
		Notes_Existing_Buildings	x	0	0.2	21.00	a	17612011.43	4826041.38	21.00	0.00
								17612022.89	4826030.42	21.00	0.00
								17611976.20	4825981.64	21.00	0.00
								17611969.20	4825988.33	21.00	0.00
								17611968.09	4825987.17	21.00	0.00
								17611959.34	4825995.54	21.00	0.00
								17611960.45	4825996.70	21.00	0.00
								17611953.10	4826003.74	21.00	0.00
								17611953.78	4826004.46	21.00	0.00
								17611963.55	4826014.67	21.00	0.00
								17611969.91	4826008.59	21.00	0.00
								17611970.93	4826009.66	21.00	0.00
								17611975.12	4826005.65	21.00	0.00
								17611977.41	4826008.05	21.00	0.00
								17611978.52	4826006.99	21.00	0.00
								17611988.14	4826017.04	21.00	0.00
								17611987.07	4826018.06	21.00	0.00
								17611994.10	4826025.40	21.00	0.00
								17611995.16	4826024.38	21.00	0.00
								17612002.39	4826031.94	21.00	0.00
								17612001.35	4826032.93	21.00	0.00
								17612005.20	4826036.96	21.00	0.00
								17612006.24	4826035.96	21.00	0.00
								17612011.43	4826041.38	21.00	0.00
		Notes_Existing_Buildings	x	0	0.2	21.00	a	17611975.94	4826082.25	21.00	0.00
								17611981.29	4826077.42	21.00	0.00
								17611976.99	4826072.66	21.00	0.00
								17611995.59	4826055.86	21.00	0.00
								17611983.66	4826042.65	21.00	0.00
								17611972.69	4826052.57	21.00	0.00
								17611939.89	4826016.25	21.00	0.00
								17611925.17	4826029.55	21.00	0.00
		Notes_Existing_Buildings	x	0	0.2	7.00	a	17612121.31	4825833.40	7.00	0.00
								17612149.31	4825866.76	7.00	0.00
								17612176.18	4825844.21	7.00	0.00
								17612163.44	4825829.02	7.00	0.00
								17612157.21	4825834.26	7.00	0.00
								17612160.47	4825838.14	7.00	0.00
								17612151.03	4825846.06	7.00	0.00
								17612132.51	4825824.00	7.00	0.00
		Notes_Existing_Buildings	x	0	0.2	7.00	a	17612157.73	4825805.40	7.00	0.00
								17612185.05	4825838.92	7.00	0.00
								17612195.73	4825830.22	7.00	0.00
								17612168.41	4825796.69	7.00	0.00
		Notes_Existing_Buildings	x	0	0.2	7.00	a	17612183.58	4825804.46	7.00	0.00
								17612195.57	4825819.71	7.00	0.00
								17612222.28	4825796.83	7.00	0.00
								17612194.09	4825763.93	7.00	0.00
								17612183.21	4825773.25	7.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
								17612201.29	4825795.20	7.00	0.00
								17612192.70	4825802.28	7.00	0.00
								17612190.20	4825799.25	7.00	0.00
		Notes_Existing_Buildings	x	0	0.2	28.00	a	17612072.39	4825681.38	28.00	0.00
								17612086.45	4825687.96	28.00	0.00
								17612110.53	4825636.55	28.00	0.00
								17612096.48	4825629.96	28.00	0.00
		Notes_Existing_Buildings	x	0	0.2	20.00	a	17612021.09	4825669.69	20.00	0.00
								17612035.86	4825676.65	20.00	0.00
								17612064.40	4825616.11	20.00	0.00
								17612049.63	4825609.14	20.00	0.00
		Notes_Existing_Buildings	x	0	0.2	20.00	a	17611981.69	4825644.32	20.00	0.00
								17611997.49	4825647.30	20.00	0.00
								17612010.32	4825579.31	20.00	0.00
								17611994.53	4825576.33	20.00	0.00
		Notes_Existing_Buildings	x	0	0.2	6.00	a	17611829.03	4825704.68	6.00	0.00
								17611838.43	4825715.84	6.00	0.00
								17611846.69	4825708.89	6.00	0.00
								17611837.30	4825697.73	6.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611816.33	4825688.01	5.00	0.00
								17611827.73	4825700.48	5.00	0.00
								17611834.78	4825694.03	5.00	0.00
								17611823.38	4825681.57	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	6.00	a	17611805.30	4825673.92	6.00	0.00
								17611815.10	4825684.24	6.00	0.00
								17611826.15	4825673.75	6.00	0.00
								17611816.35	4825663.42	6.00	0.00
		Notes_Existing_Buildings	x	0	0.2	6.00	a	17611804.16	4825749.75	6.00	0.00
								17611810.29	4825745.24	6.00	0.00
								17611798.72	4825729.50	6.00	0.00
								17611790.97	4825735.19	6.00	0.00
								17611800.70	4825748.42	6.00	0.00
								17611802.31	4825747.23	6.00	0.00
		Notes_Existing_Buildings	x	0	0.2	10.00	a	17611772.78	4825726.86	10.00	0.00
								17611784.32	4825738.57	10.00	0.00
								17611797.31	4825725.78	10.00	0.00
								17611785.76	4825714.06	10.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611766.56	4825704.90	5.00	0.00
								17611775.08	4825716.49	5.00	0.00
								17611776.69	4825715.31	5.00	0.00
								17611778.85	4825718.24	5.00	0.00
								17611784.50	4825714.09	5.00	0.00
								17611773.83	4825699.56	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	10.00	a	17611757.10	4825703.78	10.00	0.00
								17611746.94	4825693.51	10.00	0.00
								17611760.20	4825680.40	10.00	0.00
								17611773.98	4825694.33	10.00	0.00
								17611768.72	4825699.54	10.00	0.00
								17611765.10	4825695.87	10.00	0.00
		Notes_Existing_Buildings	x	0	0.2	6.00	a	17611803.91	4825668.68	6.00	0.00
								17611811.16	4825661.81	6.00	0.00
								17611802.65	4825652.84	6.00	0.00
								17611806.30	4825649.38	6.00	0.00
								17611802.22	4825645.08	6.00	0.00
								17611791.24	4825655.49	6.00	0.00
								17611803.82	4825668.76	6.00	0.00
		Notes_Existing_Buildings	x	0	0.2	8.00	a	17611760.58	4825784.98	8.00	0.00
								17611769.12	4825794.88	8.00	0.00
								17611783.46	4825782.50	8.00	0.00
								17611774.91	4825772.60	8.00	0.00
		Notes_Existing_Buildings	x	0	0.2	8.00	a	17611750.14	4825774.55	8.00	0.00
								17611742.66	4825766.10	8.00	0.00
								17611748.46	4825760.97	8.00	0.00
								17611755.94	4825769.43	8.00	0.00
		Notes_Existing_Buildings	x	0	0.2	8.00	a	17611741.70	4825761.93	8.00	0.00
								17611735.99	4825755.68	8.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
								17611745.56	4825746.93	8.00	0.00
								17611749.25	4825750.97	8.00	0.00
								17611747.40	4825752.66	8.00	0.00
								17611749.42	4825754.87	8.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611740.08	4825745.04	5.00	0.00
								17611743.07	4825748.50	5.00	0.00
								17611748.75	4825743.60	5.00	0.00
								17611745.76	4825740.14	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611754.87	4825757.36	5.00	0.00
								17611751.86	4825754.23	5.00	0.00
								17611757.56	4825748.76	5.00	0.00
								17611760.56	4825751.89	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611737.07	4825741.03	5.00	0.00
								17611739.82	4825744.17	5.00	0.00
								17611745.55	4825739.15	5.00	0.00
								17611742.80	4825736.01	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	8.00	a	17611727.51	4825748.57	8.00	0.00
								17611722.61	4825742.54	8.00	0.00
								17611723.31	4825741.97	8.00	0.00
								17611721.21	4825739.39	8.00	0.00
								17611733.20	4825729.64	8.00	0.00
								17611738.15	4825735.73	8.00	0.00
								17611733.59	4825739.43	8.00	0.00
								17611735.65	4825741.96	8.00	0.00
		Notes_Existing_Buildings	x	0	0.2	8.00	a	17611718.27	4825735.66	8.00	0.00
								17611726.21	4825729.14	8.00	0.00
								17611720.82	4825722.58	8.00	0.00
								17611712.88	4825729.09	8.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611726.73	4825727.72	5.00	0.00
								17611729.77	4825731.07	5.00	0.00
								17611735.31	4825726.06	5.00	0.00
								17611732.27	4825722.70	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611742.37	4825672.18	5.00	0.00
								17611751.22	4825683.69	5.00	0.00
								17611758.65	4825677.98	5.00	0.00
								17611749.81	4825666.47	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	7.00	a	17611714.40	4825726.45	7.00	0.00
								17611722.52	4825719.56	7.00	0.00
								17611721.10	4825717.88	7.00	0.00
								17611726.75	4825713.08	7.00	0.00
								17611719.42	4825704.46	7.00	0.00
								17611705.65	4825716.16	7.00	0.00
		Notes_Existing_Buildings	x	0	0.2	8.00	a	17611763.10	4825978.77	8.00	0.00
								17611782.47	4825962.90	8.00	0.00
								17611751.44	4825925.03	8.00	0.00
								17611727.41	4825943.58	8.00	0.00
								17611731.38	4825948.72	8.00	0.00
								17611705.52	4825968.67	8.00	0.00
								17611755.31	4826031.24	8.00	0.00
								17611765.29	4826023.29	8.00	0.00
								17611792.25	4826057.17	8.00	0.00
								17611809.39	4826043.53	8.00	0.00
								17611763.10	4825985.36	8.00	0.00
		Notes_Existing_Buildings	x	0	0.2	4.00	a	17611947.98	4825694.96	4.00	0.00
								17611956.48	4825706.19	4.00	0.00
								17611960.22	4825703.36	4.00	0.00
								17611957.52	4825699.80	4.00	0.00
								17611965.62	4825693.67	4.00	0.00
								17611959.82	4825686.00	4.00	0.00
		Notes_Existing_Buildings	x	0	0.2	6.00	a	17611936.62	4825680.01	6.00	0.00
								17611942.98	4825688.56	6.00	0.00
								17611950.82	4825682.72	6.00	0.00
								17611944.46	4825674.18	6.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611933.92	4825676.88	5.00	0.00
								17611925.17	4825665.46	5.00	0.00
								17611937.28	4825656.18	5.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
								17611938.03	4825657.17	5.00	0.00
								17611939.62	4825655.95	5.00	0.00
								17611942.78	4825660.08	5.00	0.00
								17611944.76	4825658.55	5.00	0.00
								17611947.35	4825661.93	5.00	0.00
								17611937.96	4825669.12	5.00	0.00
								17611940.21	4825672.06	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	6.00	a	17611922.28	4825661.53	6.00	0.00
								17611913.77	4825650.10	6.00	0.00
								17611921.82	4825644.10	6.00	0.00
								17611930.33	4825655.53	6.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611864.90	4825668.89	5.00	0.00
								17611877.01	4825681.42	5.00	0.00
								17611884.10	4825674.57	5.00	0.00
								17611871.99	4825662.04	5.00	0.00
		Notes_Existing_Buildings	x	0	0.2	5.00	a	17611852.41	4825653.14	5.00	0.00
								17611862.17	4825663.35	5.00	0.00
								17611863.68	4825661.91	5.00	0.00
								17611866.09	4825664.42	5.00	0.00
								17611871.94	4825658.83	5.00	0.00
								17611859.77	4825646.10	5.00	0.00
		Notes_Project_Buildings	x	0	0.2	10.70	a	17611954.20	4825815.82	10.70	0.00
								17611956.21	4825813.93	10.70	0.00
								17611955.78	4825813.47	10.70	0.00
								17611961.11	4825808.42	10.70	0.00
								17611961.55	4825808.88	10.70	0.00
								17611965.36	4825805.27	10.70	0.00
								17611964.93	4825804.82	10.70	0.00
								17611970.27	4825799.77	10.70	0.00
								17611970.71	4825800.22	10.70	0.00
								17611974.52	4825796.62	10.70	0.00
								17611974.09	4825796.16	10.70	0.00
								17611979.43	4825791.11	10.70	0.00
								17611979.87	4825791.57	10.70	0.00
								17611981.87	4825789.67	10.70	0.00
								17611992.69	4825801.12	10.70	0.00
								17611965.02	4825827.27	10.70	0.00

3D Reflector

Name	M.	ID	Type	Attenuation	B	m	Height
				dB/100m	%	1/m	(m)

Geometry Absorption

Name	M.	ID	Type	Attenuation	B	m	Height	Coordinates			
				dB/100m	%	1/m	(m)	x	y	z	Ground
								(m)	(m)	(m)	(m)

Ground Absorption

Name	M.	ID	G

Geometry Absorption

Name	M.	ID	G	Coordinates	
				x	y
				(m)	(m)

Contour Lines

Geometry Contour Line

Name	M.	ID	OnlyPts	Height		Coordinates		
				Begin	End	x	y	z
				(m)	(m)	(m)	(m)	(m)