**REPORT**

# NOISE IMPACT STUDY

## ÉCOLE ÉLÉMENTAIRE LEITRIM

Submitted to:
**CONSEIL DES ÉCOLES PUBLIQUES DE L'EST DE L'ONTARIO**

Submitted by:
**WSP Canada Inc.**

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2025-02-26

# SIGNATURES

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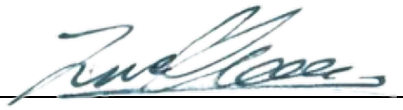

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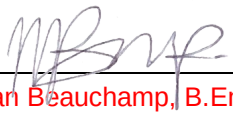

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# Record of Issue

| Version | Title | Date Issued | Notes/Comments |
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| 1.0 | Noise Impact Study - École Élémentaire Leitrim | February 26, 2025 | Final |
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# Executive Summary

WSP Canada Inc. was retained by Conseil des Écoles Publiques de L'est de L'Ontario (CEPEO) to complete a Noise Impact Study in support of a Site Plan Approval application (SPA) for the proposed École Élémentaire Leitrim development to be located at the corner of Kelly Farm Drive and Barett Farm Drive in Ottawa, Ontario (the Site/School). The proposed school consists of a main L-shaped building with a one-storey wing and a two-story wing. In addition, the Site will also include separate portable classrooms, sports field, sports court, outdoor play areas and classroom.

The purpose of the study is to assess the potential noise effects of the environment onto the School and assess the potential noise impact of the proposed stationary noise sources at the Site on surrounding noise-sensitive areas. This report is based on the Site Plan, prepared by Architecture 49 Inc. (A49), dated February 25th, 2025 (“Issued for Site Plan Control Submission”).

The assessment was conducted in accordance with the City of Ottawa guideline, Environmental Noise Control Guidelines (ENCG) and the Ministry of Environment, Parks and Conservation’s (MECP’s) Publication NPC-300, Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning (NPC-300). The acceptable levels of road and air traffic noise impacting noise-sensitive institutional developments are discussed in Section “Part C – Land Use Planning” of NPC-300 as well as Section 2 and 4 of the ENCG.

The source of noise in the vicinity of the proposed development is traffic from Kelly Farm Drive, which is classified as future collector road. The introduced stationary sources of noise by the School are rooftop HVAC equipment and car movements for child pick-up and drop-off.

The evaluated potential noise impact of transportation sources on the Site, and stationary sources associated with the Site on nearby residential uses and onto the School itself. The predicted sound levels were assessed as per the MECP Publication NPC-300 and ENCG requirements to determine that the Site will comply with the applicable noise guidelines without additional noise control measures. Additionally, exterior wall, door, and window construction meeting the minimum requirements of the Ontario Building Code (OBC), will be adequate to meet the indoor sound level limits.

# Study Limitations

WSP Canada Inc. (WSP) prepared this report solely for the use of the intended recipient, Conseil des Écoles Publiques de L'est de L'Ontario, in accordance with the professional services agreement between the parties. In the event a contract has not been executed, the parties agree that the WSP General Terms for Consultant shall govern their business relationship which was provided to you prior to the preparation of this report.

The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment.

The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The content and opinions contained in the present report are based on the observations and/or information available to WSP at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP and other engineering/scientific practitioners working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.

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WSP makes no other representations whatsoever concerning the legal significance of its findings.

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In preparing this report, WSP has relied in good faith on information provided by others, as noted in the report. WSP has reasonably assumed that the information provided is correct and WSP is not responsible for the accuracy or completeness of such information.

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This limitations statement is considered an integral part of this report.

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## APPENDICES

# 1 INTRODUCTION

WSP Canada Inc. (WSP) was retained by Conseil des Écoles Publiques de L'est de L'Ontario (CEPEO), to complete a Noise Impact Study (NIS) for the proposed École Élémentaire Leitrim development. The planned elementary school location is southeast of the corner of Kelly Farm Drive and Barrett Farm Drive in Ottawa, Ontario (the Site/School). This report was prepared in support of the Site Plan Approval application (SPA) submission.

The purpose of the NIS is to assess the potential noise impacts of both the environment onto the School from the nearby transportation sources (i.e., Kelly Farm Drive), and proposed stationary sources introduced by the School onto surrounding noise-sensitive areas, as well as onto the School itself.

The applicable noise guidelines, findings and recommendations are included within this report.

## 1.1 The Site and Surrounding Area

The Site/Site is bounded by:

- To the north, Barrett Farm Drive;
- To the south, residential homes;
- To the east, residential homes; and,
- To the west, Kelly Farm Drive.

The proposed Site is surrounded mostly by residential land uses. The location of the Site is shown in **Figure 1**. A zoning map showing the land use surrounding the proposed development obtained from the City of Ottawa is provided in **Figure 2**. The Site is zoned “I1A / R3Z” Minor Institutional, and zoning of the immediate surrounding area of the proposed development includes residential third density and open space land uses.

## 1.2 The Proposed Development

This report was based on the Site Plan, prepared by Architecture 49 Inc. (A49), dated February 25th, 2025 (“Issued for Site Plan Control Submission”), and included in **Appendix A**. The Site consists of a main L shaped building with a connected one-storey and a two-story wing; it also includes separate portables classroom, sports field, sports court, outdoor play areas and classrooms.

# 2 NOISE IMPACT ASSESSMENT CRITERIA

## 2.1 Transportation Sources and Assessment Criteria

Noise is recognized as a pollutant in the Environmental Protection Act, as uncontrolled noise can affect human activities. Ontario provincial noise control guidelines require that noise concerns are addressed in the planning of any new development.

In land use planning, although elimination or control of the source of pollution is usually a primary objective, there are general limits as to what is practical and technically possible. The City's *Environmental Noise Control Guidelines* (ENCG) follows the MECP's Publication NPC-300, *Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning* for acceptable levels of road and air traffic noise impacting noise-sensitive institutional developments and stationary noise on surrounding noise-sensitive residential areas. These limits are discussed in Section "Part C – Land Use Planning" of NPC-300 as well as Section 2 and 4 of the ENCG.

ENCG stipulates that a noise study shall be prepared when a new development is proposed within distances as follows:

- 100 metres from the right-of-way of an existing or proposed road; arterial, major collector, light rail transit, bus rapid transit or transit priority corridor.
- 250 metres from the right-of-way of an existing or proposed highway;
- 300 metres from the right-of-way of a proposed or existing rail corridor or secondary main railway line;
- 500 metres from the right-of-way of a freeway or 400-series provincial highway or principal main railway line; or
- The Defined area from the Noise Exposure Forecast (NEF) noise contour of airport / aircraft noise

Since the School is located within 100 meters of existing road and within the defined area from the Noise Exposure Forecast (NEF) of Macdonald-Cartier Airport, a noise study is considered required.

### 2.1.1 Aircraft Sources

The Site is within the Airport Vicinity Development Zone (AVDZ) of the Macdonald-Cartier Airport; however, it is outside the 25 Noise Exposure Forecast (NEF) and Noise Exposure Project (NEP) noise contour line, as indicated on Schedule K of the Official Plan.

The guidelines recommend noise-sensitive land use to be away from the NEF/NEP 30 contour line and the Airport Operating Influence Zone. **Figure 3** shows the Site location in relation to the airport's NEF/NEP contour map is outside the NEF 25 contour. Therefore, as per ENCG, no specific noise control measure is required. Warning clauses specific to the AVDZ are typically recommended for residential developments with purchasers and/or tenants entering agreements.

### 2.1.2 Surface Transportation Noise Sources

The majority of road types surrounding the Site were identified as 'collectors' in accordance with the City's "Official Plan – Schedule E Urban Road Network". The only defined proposed or existing arterial or collector road within 100 metres of the site is Kelly Farm Drive. Other road types, light rail transit, bus rapid transit, and transit priority corridor, are over 100 metres away from the Site and are not expected to have a significant impact.

There are no highways located within 250 m of proposed school. Similarly, there are no rail corridor or main railway lines noted within 300 m of the development. Freeway and 400-series or principal railway line are further than 500 m of the development. Therefore, no other transportation noise sources are considered in this assessment.

### 2.1.2.1 Road Sources Assessment Criteria

**Table 2-1** summarizes sound level limits for road traffic applicable for the proposed institutional development.

*Table 2-1 ENCG & NPC-300 Road Traffic Indoor Sound Level Criteria for Schools*

| AREA | TIME PERIOD | $L_{EQ}$ (dBA) [1] -ROAD | REFERENCE |
|---|---|---|---|
| Indoor Areas of Schools, Daycares | Daytime (0700 – 2300) | 45 | NPC-300 Table C-2<br>ENCG Table 2.2b |
| | Nighttime (2300 - 0700) | | |
| Outdoor Living Area (OLA) | Daytime (0700 – 2300) | 55 | NPC-300 Table C-1<br>ENCG Table 2.2a |

**Notes**:[1] Daytime: $L_{EQ\ 16HR}$; Nighttime: $L_{EQ\ 8\text{-}HR}$.

The NPC-300 and ENCG provide sound level limits in terms of energy equivalent (average) sound levels [$L_{EQ}$] in units of A-weighted decibels (dBA) at a specific noise-sensitive location.

The building envelope, such as walls, windows and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits summarized in **Table 2-1** above.

### 2.1.2.2 Building Component Requirements

To comply with the indoor sound level criteria listed in **Table 2-1**, the ENCG and NPC-300 provides guidelines based on predicted sound level at the façade/plane of window. All buildings are required to comply with the Ontario Building Code (OBC) requirements. If the predicted sound level at the plane of window exceeds 65 dBA during the daytime for institutional building, additional considerations such as the type of windows, exterior walls, and doors that can provide noise attenuation must be selected.

**Table 2-2** summarizes requirements for type of building façade construction for institutional purpose buildings.

*Table 2-2 Building Requirements for Indoor Spaces*

| AREA | TIME PERIOD | LEQ (dBA)[2] | BUILDING COMPONENT REQUIREMENTS |
|---|---|---|---|
| Plane of Window [1] | Daytime (0700 – 2300h) | $\leq$ 65 | Building components compliant with Ontario Building Code (OBC) |
| | | > 65 | Building components designed/selected to meet Indoor Requirements |

Notes: [1] Plane of Window of an institutional purpose building leading to a noise sensitive room, such as teacher's lounge, classrooms, etc.
[2] Daytime: $L_{EQ\ 16HR}$.

### 2.1.2.3 Ventilation Requirements

Similarly, ENCG and NPC-300 also provide ventilation requirements so that the widows could be kept closed. **Table 2-3** summarizes the requirements for ventilation and the requirement for warning clauses to inform the future occupants of the exceedances.

*Table 2-3 Noise Control and Warning Clause Requirements*

| AREA | TIME PERIOD | EQUIVALENT SOUND LEVEL (DBA)[2] | VENTILATION REQUIREMENTS | WARNING CLAUSE |
|---|---|---|---|---|
| Plane of Window[1] | Daytime (0700 – 2300h) | ≤ 55 | None | None |
| | | > 55 and ≤ 65 | Forced air heating systems with provisions for the future installation of central air conditioning | Type C required |
| | | > 65 | Central air conditioning | Type D required |
| | Night time (2300 – 0700h) | ≤ 50 | None | None |
| | | > 50 and ≤ 60 | Forced air heating systems with provisions for the future installation of central air conditioning | Type C required |
| | | > 60 | Central air conditioning | Type D required |

Note: [1] Plane of Window of living/dining room and bedroom.
[2] Daytime: LEQ 16HR; Nighttime: LEQ 8-HR.

Since the School is a non-residential proposed development, warning clauses are not discussed further within this report.

## 2.2 Stationary Sources and Assessment Criteria

Stationary source is defined in MECP publication NPC-300 as source of sound or combination of sources of sound that are included and normally operated within the property lines of a facility. The ENCG states new stationary sources of noise (noise generating) are defined by proximity to existing or approved noise-sensitive developments.

There are stationary noise sources introduced by the proposed school building development which is surrounded by existing residential buildings. These stationary sources include rooftop electro-mechanical units and the cars completing student pick-ups and drop-offs. Therefore, stationary noise has been included in the NIS to assess the potential noise impacts of the proposed development on the surrounding noise sensitive land uses and onto itself.

For stationary sources, the MECP NPC-300 and ENCG Section 3 provides criteria based on one-hour equivalent sound level. In order to comply with the noise impact from stationary sources, the predicted sound level must comply with the noise guidelines stipulated in NPC-300 and ENCG. Two locations are typically considered: an outdoor location and the plane of window.

Both guidelines provide sound level limits for noise-sensitive receptors based on the acoustical environment of the area. NPC-300 categorizes the acoustical environment into four classes: Class 1 (urban), Class 2 (semi-urban), Class 3 (rural), or Class 4 (special cases). Based on a review of the area using aerial imagery, the general area is urban residential and can be considered as Class 1. Given that the school only operates during the daytime, **Table 2-4** summarizes the MECP's daytime sound level limit for a Class 1 Area and was used as the applicable sound level limit for the development.

*Table 2-4 MECP's Exclusion Limits in dBA*

| | CLASS 1 | |
|---|---|---|
| PERIOD | PLANE OF WINDOW[1] | OUTDOOR POR[2] |
| Daytime (07:00 – 23:00)[3] | 50 | 50 |
| Nighttime (07:00 – 23:00) | 45 | N/A |

Notes:[1] Plane of window means a point in space corresponding with the location of the centre of a window of a noise sensitive space
[2] POR means point of reception, representing a point in a receptor location.
[3] Includes outdoor classroom criteria

# 3 NOISE IMPACT ASSESSMENT

## 3.1 Transportation Noise

### 3.1.1 Road Traffic Data

Road traffic data were obtained from the ENCG **Appendix B** for Kelly Farm Drive. The data obtained from the ENCG provides future traffic volume, day/night split, commercial vehicle percentages, and posted speed limits for various roadways based on roadway class and number of lanes. The ENCG data represents the future traffic volume and corresponding to a "mature state of development", in the City's Official Plan.

The traffic and road parameters used for sound level predictions are shown in **Table 3-1**. The surrounding topography is generally flat and assessed as such. As per the Site Plan, the school bus drop-off and pickup location is located offsite on Kelly Farm Drive. Therefore, the school buses are considered as part of transportation noise sources impacting onto the development.

*Table 3-1 Summary of Road Traffic Data Used in the Transportation Noise Analysis*

| ROAD | ROAD CLASSIFICATION | TRAFFIC VOLUMES (AADT) | DAY/NIGHT SPLIT (%) | MEDIUM TRUCKS OR BUSSES (%) | HEAVY TRUCKS (%) | POSTED SPEED LIMIT (KPH) |
|---|---|---|---|---|---|---|
| Kelly Farm Drive | 2-Lane Urban Collector | 8,000 | 92/8 | 7% | 5% | 40 |

### 3.1.2 Analysis Method

Road traffic sound levels at the proposed development were predicted using Cadna/A, a commercially available noise propagation modelling software. The following parameters were taken into consideration in the model:

- Road and rail alignments and gradients.
- Traffic volumes and design speeds.
- Commercial vehicle percentages for roads.
- Shielding provided by intervening buildings, barriers and/or topographical features; and
- Special details such as barrier and receptor locations, elevations, and heights.

The software's Building Evaluation feature was used to predict the sound levels on every façade of the proposed school and portables. The software generates an array of receivers along each building facade and predicts sound levels at each of these receivers resulting in a comprehensive analysis the potential impact on the building.

Kelly Farm Drive was modelled as road source using the U.S. FHWA Traffic Noise Model (TNM) noise emission and calculation method implemented by Cadna/A. TNM predictions were equivalent to those made using the MECP prediction software STAMSON, which is an implementation of the ORNAMENT calculation methods recommended in the ENCG. The TNM predictions were validated against the STAMSON predictions; the validation files are included in **Appendix C**.

### 3.1.3 Results

Based on the road traffic data, sound levels were predicted at the proposed school. The Site's building and outdoor classroom location with respect to Kelly Farm Drive is shown in **Figure 4.** The predicted sound levels were used to investigate building construction requirements. The highest predicted/estimated sound levels on the façades of proposed development are summarized in **Table 3-2**.

*Table 3-2 Summary of Predicted Sound Levels due to Road Traffic*

| POR | DESCRIPTION | LOCATION | APPROXIMATE HEIGHT (M) | DAYTIME HIGHEST SOUND LEVEL LEQ (DBA) |
|---|---|---|---|---|
| Main School Building | Plane of Window | West façade adjacent to Kelly Farm Drive | 4.5 | 62 |
| Outdoor Classroom | Outdoor Living Area | East of Development in School Yard | 1.5 | 46 |
| Portables | Plane of Window | West façade adjacent to Kelly Farm Drive | 1.5 | 63 |

### 3.1.4 Recommendations

As shown in **Table 3-2**, the sound levels at the OLA during the daytime hours are below 55 dBA and complies with the guidelines. Similarly, the sound levels at plane of window are below 65 dBA and therefore wall, door and window glazing assemblies meeting the minimum requirements of the Ontario Building Code (OBC) will be sufficient to meet the indoor sound level limits discussed in **Table 2-2**.

## 3.2 Stationary Noise

A detailed mechanical design is not available at the time of this report, the noise sources associated with the proposed development rooftop units are based similar building developments. Car drop-off and pickup are considered as indicated in the Site Plan. Insignificant sources or sources with negligible sound level contribution include hot water heaters, small fans associated with washrooms, and indoor equipment. Additionally, there is no emergency generator planned for the Site.

### 3.2.1 Onsite Noise Sources

A total of eight (8) rooftop HVAC units (RTUs) are included in the assessment and are shown in **Figure 5**. All eight RTUs were conservatively assumed to operate continually and simultaneously during a predictable worst-case hour. The cars drop-off and pickup of students was also assumed to occur during the predictable worst-case hour. Typically, the school operates during the daytime between 0700h to 1900h and assessed as such.

The sound level data used in the assessment is summarized in **Table 3-3**. The source locations and on-site and off-site receptors are shown in **Figure 5**.

In order to estimate the sound levels from stationary sources to the surrounding residential areas, a predictive analysis was completed using a commercially available software package CADNA/A, a computer implementation of the ISO Standard 9613-2 “Acoustics – Attenuation of Sound During Propagation Outdoors”, which takes into account the following:

- Source sound power levels;
- Distance attenuation;
- Source-receptor geometry;
- Ground and air (atmospheric) attenuation; and,
- Temperature and humidity effects on noise propagation.

Key parameters used in the model and sample calculations are located in **Appendix D**.

*Table 3-3 Proposed Stationary Source Sound Data*

| SOURCE ID[1] | BUILDING | DESCRIPTION | OVERALL SOUND POWER LEVEL (dBA) |
|---|---|---|---|
| SS_RTUd_1 | Proposed 2-Storey Main School Building | HVAC 8Ton Daycare Unit Discharge | 86.5 |
| SS_RTUd_2 | | HVAC 15Ton Kindergarten Unit Return | 86.5 |
| SS_RTUr_3 | | HVAC 10Ton Library Unit Return | 86.5 |
| SS_RTUd_4 | | HVAC 9Ton Admin Unit Discharge | 86.5 |
| SS_RTUr_5 | | HVAC 16Ton Gym Unit Return | 86.5 |
| SS_RTUd_6 | | HVAC 17Ton Ground East Unit Discharge | 86.5 |
| SS_RTUd_7 | | HVAC 11Ton Admin Unit Discharge | 86.5 |
| SS_RTUr_8 | | HVAC 17Ton Ground Unit Return | 86.5 |
| SS_Car_Move | Drop-off Loop East of the Proposed 2-Storey Main School Building | Car Movement for pickup and drop off | 76.5 |

**Notes:** [1] Refer **Figure 5** for source locations; locations are referred using these IDs.

### 3.2.2 Receptors

**Off-site Receptor**s: There are several residential lots surrounding the site on the north, south and east sides and are considered in this assessment. These buildings were analysed as receptors at the second-floor plane of window (i.e., 4.5 m above ground) and are described in **Table 3-4 (**R01_w to R18_w). Outdoor points of reception were assessed at standing height of 1.5 m above ground representing the backyards and are also described in **Table 3-4** (receptors R01_o to R13_o).

**On-site Receptor**: In addition to off-site receptors, the Site itself is a receptor. **Figure 5** shows the School, inclusive of the proposed building, portables, and outdoor classroom, in relation to onsite stationary noise sources.

### 3.2.3 Results

#### *3.2.3.1 Impacts of the Proposed Development onto Itself*

Based on the source sound data provided in **Table 3-3**, sound levels were predicted at the most impacted onsite receptors. The highest sound levels on the façades of proposed development building, portables, and at the outdoor classroom, are summarized in **Table 3-4**.

*Table 3-4 Summary of Predicted Sound Levels at the Site due to the Proposed Stationary Sources*

| POR | DESCRIPTION | LOCATION | HEIGHT (M) | DAYTIME HIGHEST SOUND LEVEL LEQ (DBA) | DAYTIME SOUND LEVEL LIMIT (DBA) | COMPLY WITH LIMIT? |
|---|---|---|---|---|---|---|
| School Building | Plane of Window | Southeast Corner, West façade | 4.5 | 48 | 50 | Yes |
| Outdoor Classroom | Outdoor Living Area | East of Development in School Yard | 1.5 | 48 | 50 | Yes |
| Portables | Plane of Window | Southwest Corner, West façade | 4.5 | 45 | 50 | Yes |

Predicted sound levels are expected to comply with ENCG and NPC-300 at proposed building development due to the Site stationary noise sources as shown in **Table 3-4**.

### 3.2.3.2 Impacts of the Proposed Development onto the Surrounding Environment

The overall sound levels at receptors of existing and potential surrounding residential homes, generated using assumed predictable worst-case operations of the school, are summarized in **Table 3-5.**

*Table 3-5 Summary of Predicted Sound Levels at the Surrounding Noise Sensitive Land Uses due to the Proposed Stationary Sources*

| POR ID | DESCRIPTION | LOCATION | RECEPTOR HEIGHT (M) | PREDICTED SOUND LEVEL (dBA) | DAYTIME SOUND LEVEL LIMIT (dBA) | COMPLIANCE WITH LIMIT? |
|---|---|---|---|---|---|---|
| R01_o | Outdoor Point of Reception | 2-storey Existing Residential Home to the North | 1.5 | 45 | 50 | Yes |
| R01_w | Plane of Window | | 4.5 | 49 | 50 | Yes |
| R02_o | Outdoor Point of Reception | 2-storey Existing Residential Home to the North | 1.5 | 44 | 50 | Yes |
| R02_w | Plane of Window | | 4.5 | 50 | 50 | Yes |
| R03_w | Plane of Window | 2-storey Existing Residential Home to the North | 4.5 | 48 | 50 | Yes |
| R04_w | Plane of Window | 2-storey Existing Residential Home to the North | 4.5 | 47 | 50 | Yes |
| R05_w | Plane of Window | 2-storey Existing Residential Home to the North | 4.5 | 47 | 50 | Yes |
| R06_w | Plane of Window | 2-storey Existing Residential Home to the North | 1.5 | 46 | 50 | Yes |
| R07_w | Plane of Window | 2-storey Existing Residential Home to the North | 4.5 | 46 | 50 | Yes |
| R08_w | Plane of Window | 2-storey Existing Residential Home to the East | 4.5 | 48 | 50 | Yes |
| R08_o | Outdoor Point of Reception | | 1.5 | 47 | 50 | Yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| R09_w | Plane of Window | 2-storey Existing Residential Home to the East | 4.5 | 48 | 50 | Yes |
| R09_o | Outdoor Point of Reception | | 1.5 | 48 | 50 | Yes |
| R10_w | Plane of Window | 2-storey Existing Residential Home to the North | 4.5 | 48 | 50 | Yes |
| R10_o | Outdoor Point of Reception | | 1.5 | 47 | 50 | Yes |
| R11_w | Plane of Window | 2-storey Existing Residential Home to the East | 4.5 | 46 | 50 | Yes |
| R11_o | Outdoor Point of Reception | | 1.5 | 46 | 50 | Yes |
| R12_w | Plane of Window | 2-storey Existing Residential Home to the East | 4.5 | 45 | 50 | Yes |
| R12_o | Outdoor Point of Reception | | 1.5 | 44 | 50 | Yes |
| R13_w | Plane of Window | 2-storey Existing Residential Home to the East | 4.5 | 44 | 50 | Yes |
| R13_o | Outdoor Point of Reception | | 1.5 | 43 | 50 | Yes |
| R14_w | Plane of Window | 2-storey Existing Residential Home to the South | 4.5 | 41 | 50 | Yes |
| R15_w | Plane of Window | 2-storey Existing Residential Home to the South | 4.5 | 41 | 50 | Yes |
| R16_w | Plane of Window | 2-storey Existing Residential Home to the South | 4.5 | 42 | 50 | Yes |
| R17_w | Plane of Window | 2-storey Existing Residential Home to the South | 4.5 | 43 | 50 | Yes |
| R18_w | Plane of Window | 2-storey Existing Residential Home to the South | 4.5 | 43 | 50 | Yes |

The predicted stationary source sound level of the proposed RTUs and car movement along the drop off loop meets sound level limit at all receptors.

# 4 RECCOMMENDATIONS AND CONCLUSIONS

## 4.1 Conclusions

WSP Canada Inc. (WSP) was retained by Conseil des Écoles Publiques de L'est de L'Ontario (CEPEO), to complete a Noise Impact Study (NIS) for the proposed École Élémentaire Leitrim development. The planned elementary school location is southeast of the corner of Kelly Farm Drive and Barrett Farm Drive in Ottawa, Ontario (the Site/School). This NIS report has been prepared to support the Site Plan Approval application. The assessment evaluated the potential for noise impact of transportation sources on the proposed elementary school, and stationary sources associated with the Site on nearby residential uses and onto the School itself.

The predicted sound levels were assessed as per the MECP Publication NPC-300 and ENCG requirements. The assessment demonstrates that the Site will comply with the applicable noise guidelines without additional noise control measures.

## 4.2 Recommendations

**Table 4-1** summarizes the building recommendations for the School's proposed development.

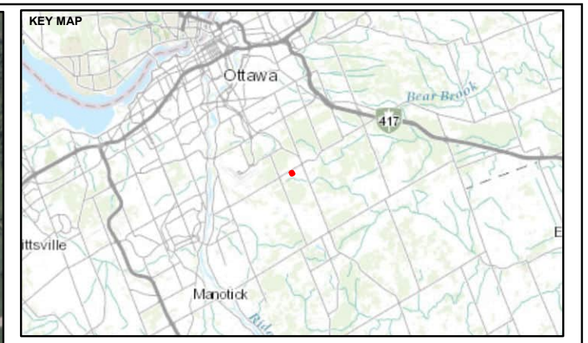
*Table 4-1Summary of Building Requirements*

| BUILDING | BUILDING COMPONENTS (WALLS) STC | BUILDING COMPONENTS (WINDOWS & DOORS) STC | NOISE CONTROL MEASURES |
|---|---|---|---|
| 2-Storey Main School Building | OBC[1] | OBC[1] | NA |
| Portables | OBC[1] | OBC[1] | NPC-216[2] |

Notes: [1] OBC – Meet or exceed the minimum requirement of Ontario Building Code (OBC).
[2] If portables include air conditioning, where possible, select equipment to comply with noise criteria of MECP Publication NPC-216, Residential Air Conditioning Devices.

# FIGURES


KEY MAP




LEGEND

- SITE BOUNDARY
- Site_Boundary_Buffer_1000

0 250 500 750

1:10,000 METRES

**REFERENCE(S)**

1. IMAGERY OBTRAIN FROM THE CITY OF OTTAWA WEBMAPPING SERVICE (2022)
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18N

CLIENT
A49 ARCHITECTS INC

PROJECT
KELLY FARM NOISE IMPACT STUDY

TITLE
**SITE AND SURROUNDING**

CONSULTANT

wsp

| | |
|---|---|
| YYYY-MM-DD | 2024-11-20 |
| DESIGNED | SO |
| PREPARED | AP |
| REVIEWED | |
| APPROVED | |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| CA0040067.4396 | 0001 | 0 | 1 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

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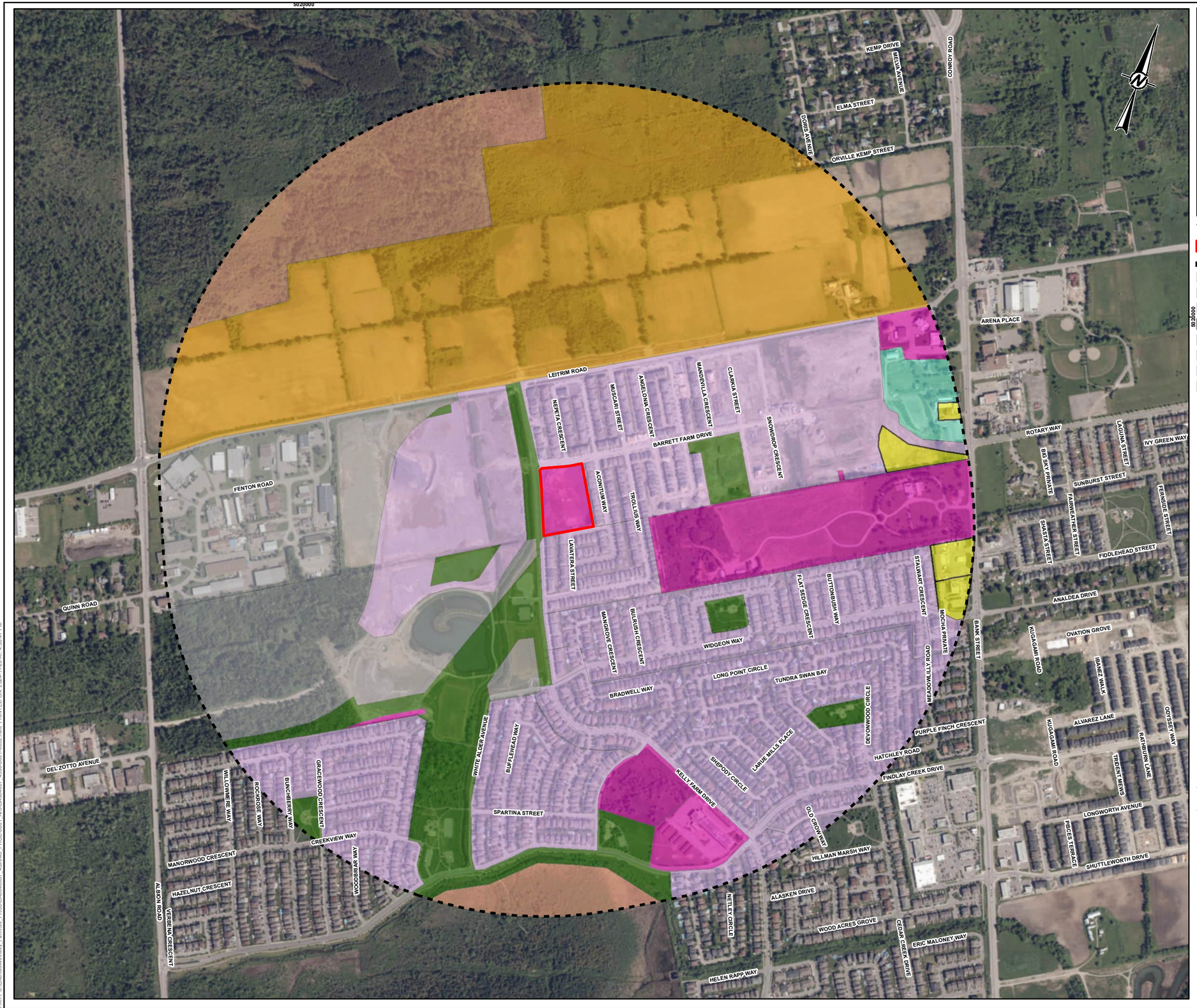


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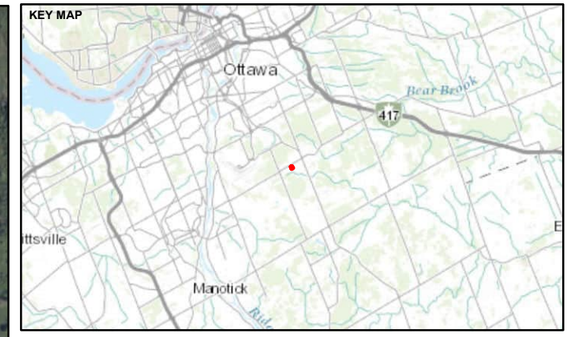


**LEGEND**

- SITE BOUNDARY
- 1000M SITE BOUNDARY
- ENVIRONMENTAL
- INDUSTRIAL
- INSTITUTIONAL
- MIXED USE/COMMERCIAL
- OPEN SPACE
- OTHER
- RESIDENTIAL
- RURAL

0 200 400 600 800

1:10,000 METRES

**REFERENCE(S)**

1. IMAGERY OBTRAIN FROM THE CITY OF OTTAWA WEBMAPPING SERVICE (2022)
2. ZONING DATA OBTAINED FROM CITY OF OTTAWA WEB MAPPING SERVICES
3. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18N

CLIENT
A49 ARCHITECTS INC

PROJECT
KELLY FARM NOISE IMPACT STUDY

TITLE
**ZONING MAP**

CONSULTANT

wsp

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|---|---|
| YYYY-MM-DD | 2024-11-20 |
| DESIGNED | SO |
| PREPARED | AP |
| REVIEWED | |
| APPROVED | |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| CA0040067.4396 | 0001 | 0 | 2 |

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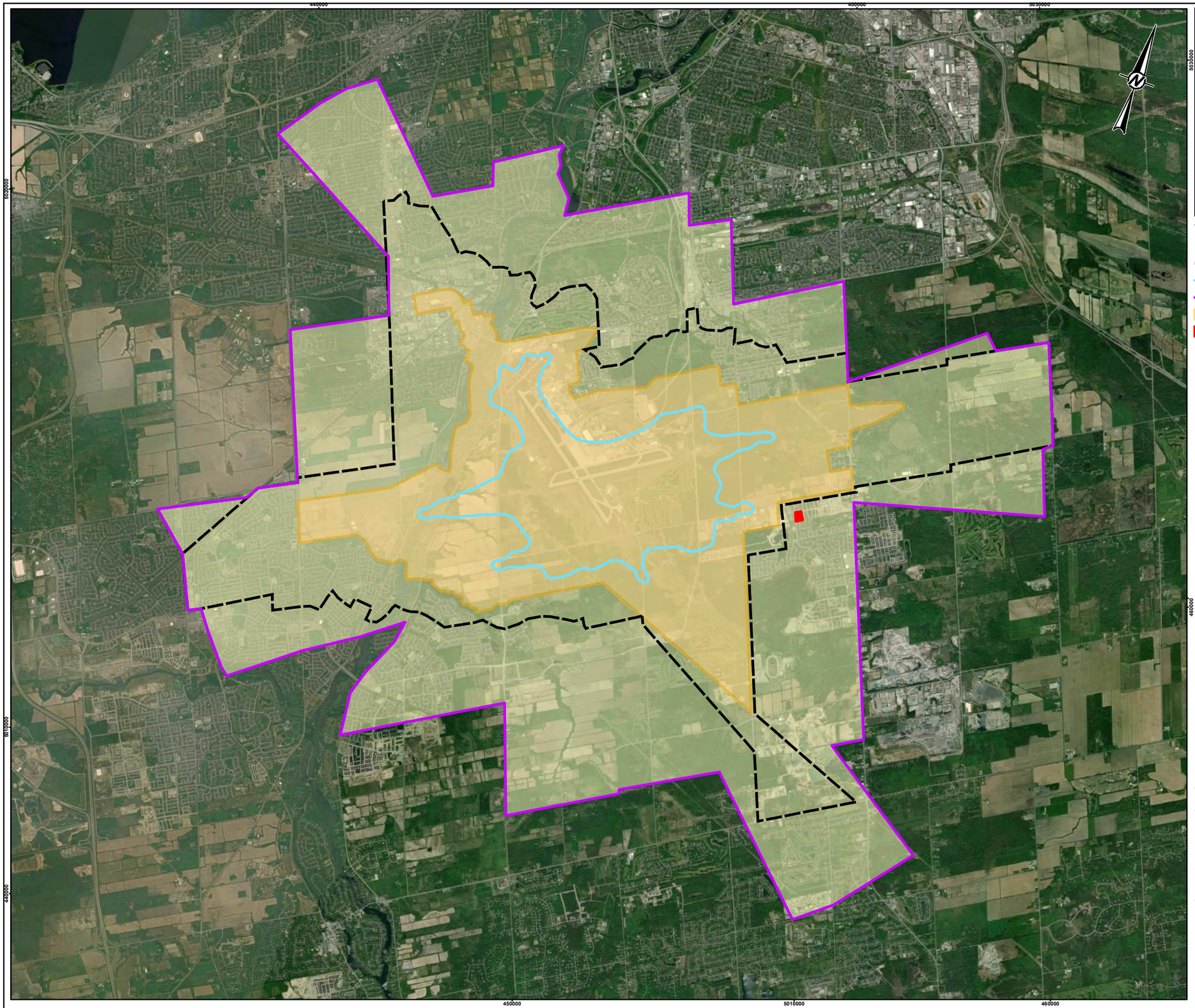


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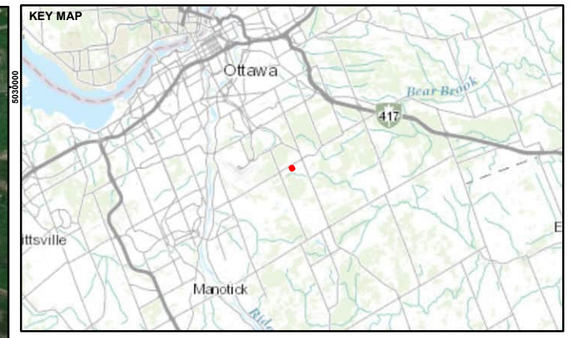


LEGEND

- AIRPORT VICINITY DEVELOPMENT ZONE
- 25 LINE (COMPOSITE OF 25 NEF/NEP)
- 35 LINE NOISE EXPOSURE PROTECTION (NEP 2023)
- AIRPORT ZONING REGULATIONS
- AIRPORT OPERATING INFLUENCING ZONE
- SITE BOUNDARY

0 1,000 2,000 3,000 4,000 5,000

1:75,000 METRES

**REFERENCE(S)**

1. IMAGERY OBTRAIN FROM ESRI WORLD IMAGERY
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18N

CLIENT

A49 ARCHITECTS INC

PROJECT

KELLY FARM NOISE IMPACT STUDY

TITLE

**SITE LOCATION IN RELATION TO THE AIRPORTS NEF/NEP CONTOUR MAP**

CONSULTANT

wsp

| | |
|---|---|
| YYYY-MM-DD | 2024-11-20 |
| DESIGNED | SO |
| PREPARED | AP |
| REVIEWED | |
| APPROVED | |

| PROJECT NO. | CONTROL | REV. | FIGURE |
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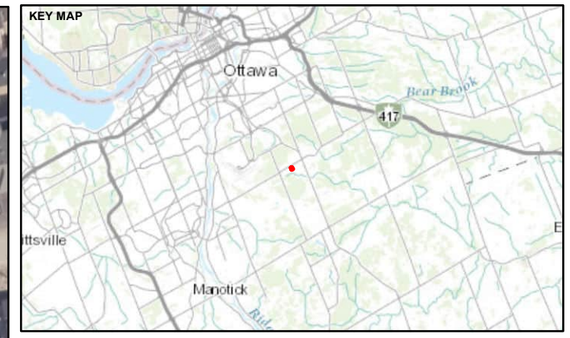
25mm

0


KEY MAP




LEGEND

- OUTDOOR CLASSROOM
- SITE BOUNDARY
- PORTABLES
- PROPOSED BUILDING

0 50 100

1:1,500 METRES

**REFERENCE(S)**

1. IMAGERY OBTRAIN FROM THE CITY OF OTTAWA WEBMAPPING SERVICE (2022)
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18N

CLIENT
A49 ARCHITECTS INC

PROJECT
KELLY FARM NOISE IMPACT STUDY

TITLE
**SITE PLAN SHOWING PREDICTION LOCATIONS & ROAD SOURCES (TRANSPORTATION NOISE IMPACTS)**

CONSULTANT

wsp

| | |
|---|---|
| YYYY-MM-DD | 2024-11-25 |
| DESIGNED | SO |
| PREPARED | AP |
| REVIEWED | |
| APPROVED | |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

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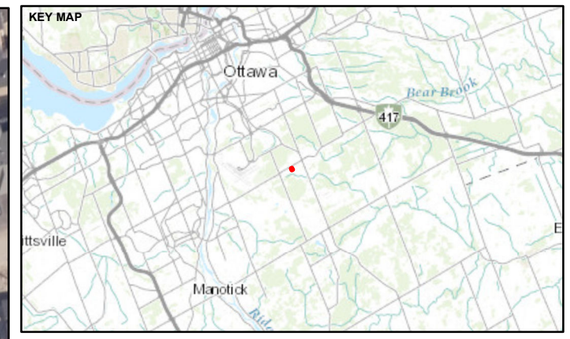


**LEGEND**

- OUTDOOR CLASSROOM
- SOURCE LOCATION
- RECEPTOR
- SOURCE LINE
- SITE BOUNDARY
- PROPOSED BUILDING
- BUILDINGS
- PORTABLES

0 50 100

1:1,500 METRES

**REFERENCE(S)**

1. 1. IMAGERY OBTRAIN FROM THE CITY OF OTTAWA WEBMAPPING SERVICE (2022)
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18N

CLIENT
A49 ARCHITECTS INC

PROJECT
KELLY FARM NOISE IMPACT STUDY

TITLE
**SITE PLAN SHOWING ONSITE STATIONARY SOURCES & RECEPTOR LOCATIONS (STATIONARY NOISE IMPACTS OFFSITE)**

CONSULTANT

| | |
|---|---|
| YYYY-MM-DD | 2024-12-20 |
| DESIGNED | SO |
| PREPARED | AP |
| REVIEWED | |
| APPROVED | |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| CA0040067.4396 | 0001 | 0 | 5 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

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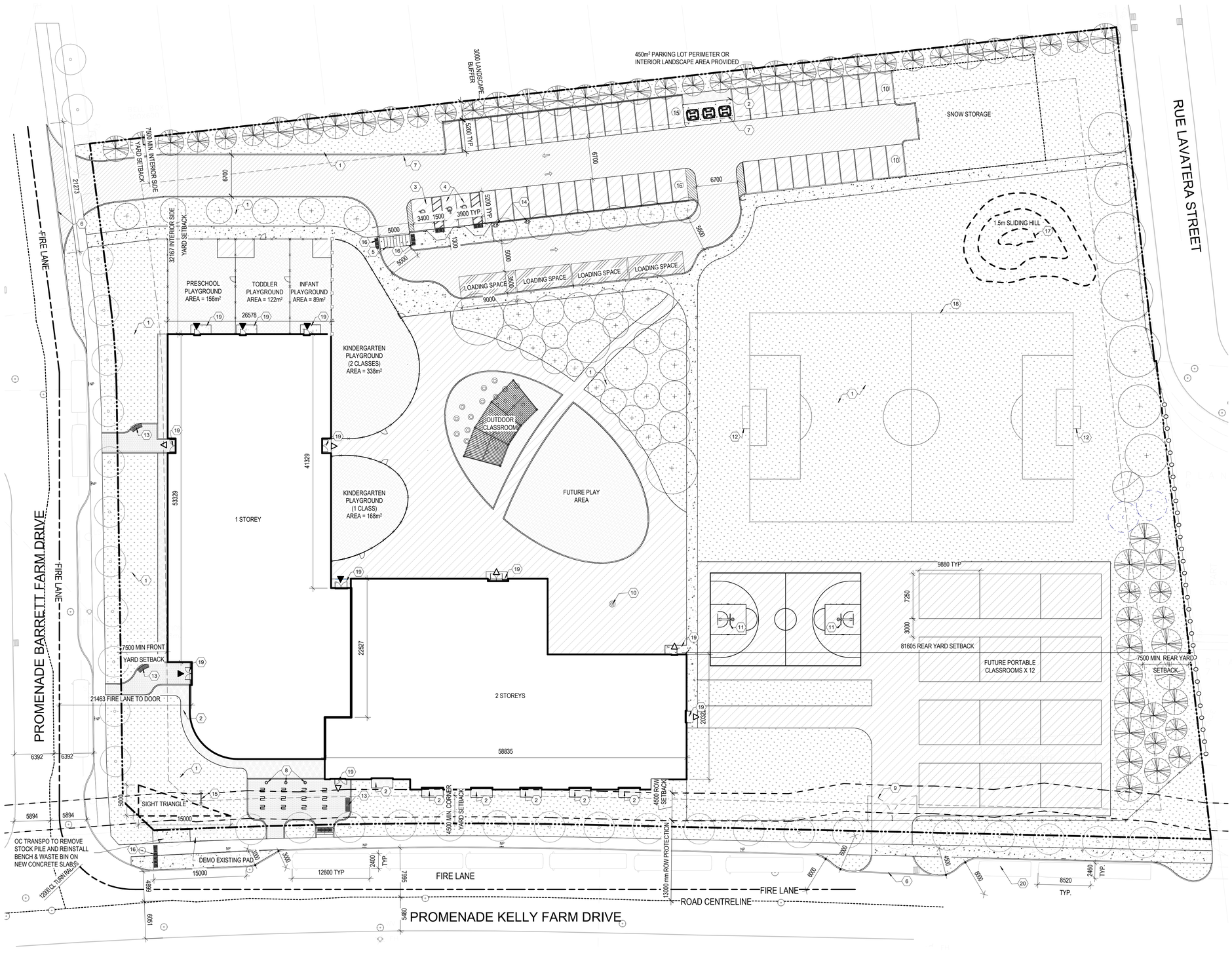
# APPENDIX

# A SITE PLAN




1 AS101 ARCHITECTURAL SITE PLAN.

1 : 300

## LEGEND

- LIGHT DUTY ASPHALT
- HEAVY DUTY ASPHALT
- CONCRETE SIDEWALKS
- UNIT PAVER
- SODDED AREA
- ENGINEERED WOOD FIBER
- PLANTING BED
- PAINTED ISLAND
- ENTRANCE
- EXIT
- EXISTING MANHOLE, REFER TO CIVIL
- EXISTING CATCH BASIN, REFER TO CIVIL
- EXISTING LS, LIGHT STANDARD, REFER TO ELECTRICAL AND STRUCTURAL
- ROAD CENTER LINE
- ROW SETBACK
- FIRE ROUTE
- PROPERTY LINE
- SETBACK LINE
- NEW 1200mm HT CHAIN LINK FENCE
- NEW 1200mm HT WOOD SCREEN FENCE
- EXISTING WOOD SCREEN FENCE
- 150mm CURB
- FIRE HYDRANT
- BASKETBALL NET
- NO PARKING - FIRE ROUTE SIGN
- BIKE RACKS

## KEYNOTES

1. TOPSOIL AND SOD. REFER TO DETAIL 4/L-202
2. PLANTING BED
3. TYPE A ACCESSIBLE STALL
4. TYPE B ACCESSIBLE STALL
5. PEDESTRIAN CROSSING
6. DEPRESSED CURB. REFER TO CITY OF OTTAWA STANDARD SC7.1
7. IN-GROUND WASTE COLLECTION BIN
8. FLAGPOLE
9. VEHICULAR BARRIER GATE. REFER TO DETAIL 8/L-200
10. TRIPLE POST AND HOOP
11. BASKETBALL HOOP AND POST. REFER TO DETAIL 7/L-200
12. NEW MINI-SOCCER GOALS
13. BENCH. REFER TO DETAIL 1/L-201
14. DUAL PORT EV CHARGING UNIT C/W TWO (2) BOLLARDS.
15. SCHOOL SIGN. REFER TO DETAIL 3/L-201
16. TACTILE WARNING SURFACE INDICATOR
17. SODDED BERM. REFER TO CIVIL GRADING PLAN
18. SOCCER FIELD. LINES FOR SPACIAL LAYOUT PURPOSES ONLY, NOT TO BE PAINTED
19. CONCRETE PAD. REFER TO STRUCTURAL
20. MINIVAN DROPOFF AREA

## GENERAL SITE PLAN NOTES

1. OBC 3.2.5.5.(1) LOCATION OF ACCESS ROUTES:
   ACCESS ROUTES REQUIRED BY ARTICLE 3.2.5.4 SHALL BE LOCATED SO THAT THE PRINCIPLE ENTRANCE AND EVERY ACCESS OPENING REQUIRED BY ARTICLE 3.2.5.1 AND 3.2.5.2. ARE LOCATED NOT LESS THAN 3M AND NOT MORE THAN 15M FROM THE CLOSEST PORTION OF THE ACCESS ROUTE REQUIRED FOR FIRE DEPARTMENT USE, MEASURED HORIZONTALLY FROM THE FACE OF THE BUILDING.
2. OBC 3.2.5.6.(1) ACCESS ROUTE DESIGN:
   A PORTION OF A ROADWAY OR YARD PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL, (a) HAVE A CLEAR WIDTH OF NOT LESS THAN 6M, UNLESS IT CAN BE SHOWN THAT LESSER WIDTHS ARE SATISFACTORY, (b) HAVE A CENTERLINE RADIUS NOT LESS THEN 12M, (c) HAVE AN OVERHEAD CLEARANCE OF NOT LESS THAN 5M, (d) HAVE A CHANGE OF GRADIENT NOT MORE THAN 1 IN 12.5 OVER A MINIMUM DISTANCE OF 15M, (e) BE DESIGNED TO SUPPORT THE EXPECTED LOADS IMPOSED BY FIRE FIGHTING EQUIPMENT AND BE SURFACED WITH CONCRETE ASPHALT OR OTHER MATERIAL DESIGNED TO PERMIT ACCESSIBILITY UNDER ALL CLIMATIC CONDITIONS.
3. PROVIDE 75mm THK HI-40 UNDER ALL EXTERIOR CONCRETE SIDEWALK AT ALL ENTRANCES/EXITS. EXTEND RIGID INSULATION MIN 1220 PAST THE EDGE OF CONCRETE SIDEWALKS.
4. FOR CONCRETE SIDEWALK EXPANSION AND CONTRACTION JOINTS, REFER TO CIVIL DETAIL AND SPECIFICATIONS.
5. REFER TO LANDSCAPE DRAWINGS FOR LOCATIONS OF FIRE ROUTE SIGNAGE.
6. REFER TO LANDSCAPE DRAWINGS TACTILE INDICATORS
7. THIS DRAWING IS TO BE USED IN CONJUNCTION WITH CIVIL REMOVALS PLAN FOR LOCATION OF BUTTERNUT TREES.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SEAL:

THIS BAR IS 25mm LONG WHEN PLOTTED AT CORRECT SCALE. DO NOT SCALE DRAWINGS. 25mm

NORTH ARROW:

DIGITAL REFERNECE:

PROJECT NO.: CA0039818.5981 CONTRACT NO.

DRAWN BY: SB CHECKED BY: SG/AH APPROVED BY: NT

KEYPLAN:

| NO. | DATE | ISSUED |
|---|---|---|
| 6 | 25 FEB 2025 | ISSUED FOR SITE PLAN CONTROL SUBMISSION |
| 5 | 14 FEB 2025 | ISSUED FOR COSTING |
| 4 | 10 JAN 2025 | ISSUED FOR 60% REVIEW |
| 3 | 20 DEC 2024 | ISSUED FOR COORDINATION |
| 2 | 24 SEPT 2024 | ISSUED FOR CLIENT REVIEW AND COORDINATION |
| 1 | 17 SEPT 2024 | ISSUED FOR SCHEMATIC DESIGN APPROVAL |

PROJECT

# ÉCOLE ÉLÉMENTAIRE LEITRIM

DRAWING TITLE

# ARCHITECTURAL SITE PLAN.

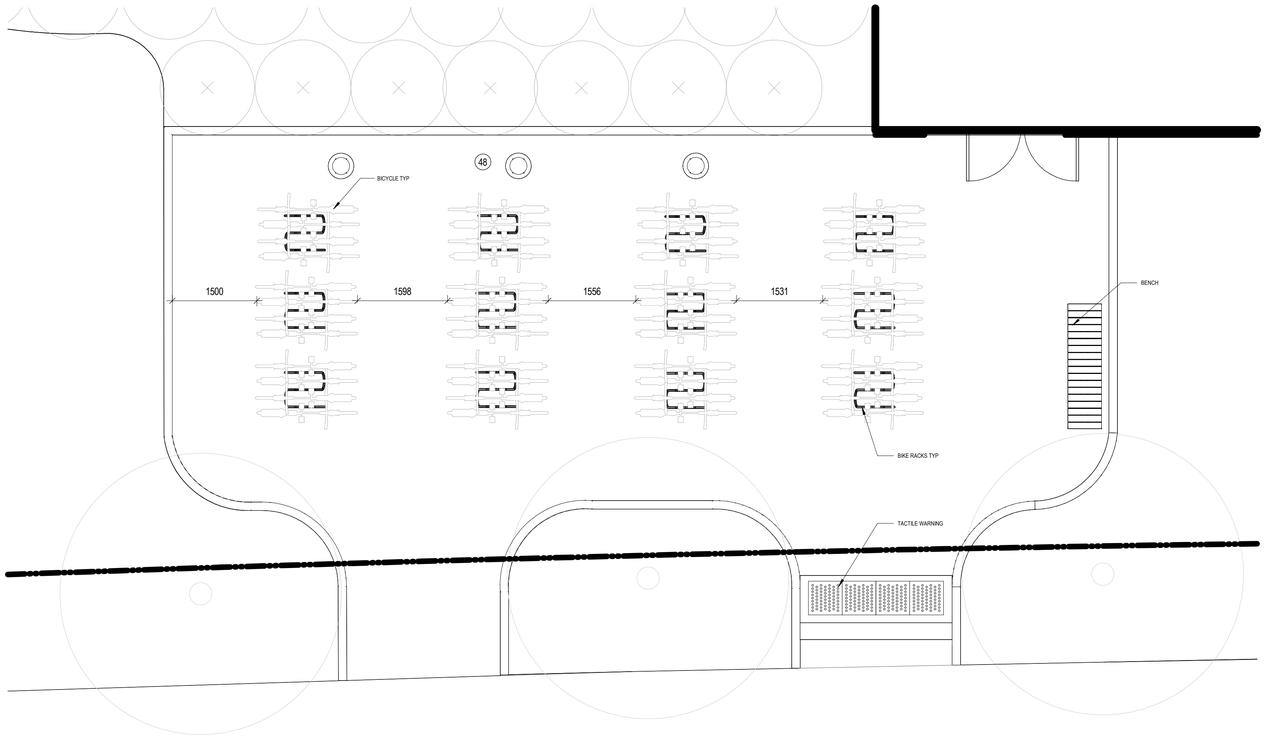
DRAWING NO. **AS101**

PRINT DATE: 2025-02-26 11:17:22 AM

ARCH D (24" x 36" | 610mm x 914mm)

# SITE AND PARKING INFORMATION

| SITE DESCRIPTION | BUILDING AREA | | FIRE ACCESS REQUIREMENTS | CHILD OCCUPANCY REQUIREMENTS |
|---|---|---|---|---|
| TYPE OF BUILDING OR USE: SCHOOL (GROUP A-2 OCCUPANCY)<br>LEGAL DESCRIPTION: BLOCK, REGISTERED PLAN 4M-1640<br>MUNICIPAL ADDRESS: 3955 KELLY FARM DRIVE<br>PARCEL IDENTIFICATION NUMBER: 04328-4888(LT)<br>EASEMENTS: SUBJECT TO EASEMENT IN GROSS AS IN OC2168913 | FIRST FLOOR = 3,002.3 m² (EXCLUDING DAYCARE)<br>DAYCARE = 413.2 m²<br>TOTAL BUILDING FOOTPRINT = 3,415.5m²<br>+ SECOND FLOOR = 1,121.6 m²<br>**TOTAL AREA** = 4,537.1 m² | | FIRE TRUCK ACCESS ROUTE IS FROM MUNICIPAL COPE DRIVE AND SHALL CONFORM TO OBC 2012 - 3.2.5.4, 3.2.5.5 AND 3.2.5.6 | PER ONT CHILD CARE LICENSING MANUAL<br>REQ. OUTDOOR PLAY AREA / CHILD = 5.6m²<br>PROVIDED OUTDOOR PLAY AREA / CHILD:<br>- PRESCHOOL = 24 X 5.6 = 134.4m² / 156m² PROVIDED<br>- TODDLERS = 15 X 5.6 = 84m² / 122m² PROVIDED<br>- INFANTS = 15 X 5.6 = 84m² / 86m² PROVIDED<br>- KINDERGARTEN = 90 X 5.6 = 504m² / 506m² PROVIDED |
| **ZONING** | **REQUIREMENT (I1A)** | **PROPOSED** | **PARKING PROVISIONS** | |
| ZONING = I1A/R3Z - MINOR INSTITUTIONAL ZONE, SUBZONE A / RESIDENTIAL THIRD DENSITY, SUBZONE Z | | | MINIMUM REQUIRED PARKING FOR NEW ELEMENTARY SCHOOL: SEC. 101, TABLE 101, N81 | 15 CLASSROOMS X 1.5 = 23<br>2 PER 100m² OF DAYCARE GROSS FLOOR AREA (413m²) = 8<br>12 PORTABLES X 1.5 = 18<br>**PARKING REQ. = 49 / PARKING PROVIDED = 50** |
| MINIMUM LOT AREA: SEC. 170, TABLE 170A (b) | 400m² | 20, 729m² | MINIMUM NUMBER OF BARRIER-FREE PARKING SPACES: BY-LAW NO. 2017-301, SECTION 111 | BARRIER-FREE PARKING SPACES **REQ.** = 2 (1 TYPE 1 & 1 TYPE 2)<br>BARRIER-FREE PARKING SPACES **PROVIDED** = 3 (1 TYPE 1 AND 2 TYPE 2)<br>**TOTAL SITE PARKING PROVIDED = 53** |
| MINIMUM LOT WIDTH: SEC. 170, TABLE 170A (a) | 15.0m | ± 113.94m | | |
| MINIMUM FRONT YARD: SEC. 170, TABLE 170A (c) | 7.5m | 7.5m | | |
| MINIMUM REAR YARD: SEC. 170, TABLE 170A (d) | 7.5m | ± 81.605m | MINIMUM REQ. WIDTH OF A LANDSCAPED BUFFER FOR PARKING LOT: SEC. 110, TABLE 110(a) | REQ.= 3m<br>**PROVIDED= 3m** |
| MINIMUM INTERIOR SIDE YARD: SEC. 170, TABLE 170A (e) | 7.5m | ± 32.167m | | |
| MINIMUM CORNER SIDE YARD: SEC. 170, TABLE 170A (f) | 4.5m | 4.5m | MINIMUM REQUIRED PERIMETER OR INTERIOR LANDSCAPE AREA WITHIN PARKING LOT (SEC. 110) | PARKING AREA = 1248m²<br>**REQ. =** 15% AREA OF PARKING = 187.2m²<br>**PROVIDED = 450m²** |
| MINIMUM LANDSCAPED OPEN SPACE | NO REQUIREMENT | 5.3% WITH PARKING LOT | | |
| MAXIMUM LOT COVERAGE | NO REQUIREMENT | 12.8% LOT COVERAGE | | |
| PERCENTAGE OF TOTAL SITE OCCUPIED BY VEGETATION AND LANDSCAPING | NO REQUIREMENT | 77% SITE OCCUPIED | MINIMUM NUMBER OF BICYCLE PARKING SPACES: SEC. 111, TABLE 111A (d) | SCHOOL: 1 PER 100m² OF GFA<br>OFFICE: 4537 /100 = 45.4 ROUNDED TO 46<br>DAY CARE: 1 PER 250m² OF GFA = 360 /250 = 1.44 ROUNDED TO 2<br>**TOTAL: 48** |
| MAXIMUM BUILDING HEIGHT: SEC. 170, TABLE 170A (g) | 15.0m | 8.7m | BICYCLE PARKING DIMENSIONS: SEC. 111, TABLE 11B | HORIZONTAL: 0.6m by 1.8m |




1 / AS102 BIKE PARKING AISLE SPACING.

1 : 50

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NORTH ARROW:

DIGITAL REFERNECE:

PROJECT NO.: CA0039818.5981 CONTRACT NO.

DRAWN BY: SB CHECKED BY: SG/AH APPROVED BY: NT

KEYPLAN:

| NO. | DATE | ISSUED |
|---|---|---|
| 6 | 25 FEB 2025 | ISSUED FOR SITE PLAN CONTROL SUBMISSION |
| 5 | 14 FEB 2025 | ISSUED FOR COSTING |
| 4 | 10 JAN 2025 | ISSUED FOR 60% REVIEW |
| 3 | 20 DEC 2024 | ISSUED FOR COORDINATION |
| 2 | 24 SEPT 2024 | ISSUED FOR CLIENT REVIEW AND COORDINATION |
| 1 | 17 SEPT 2024 | ISSUED FOR SCHEMATIC DESIGN APPROVAL |

PROJECT

## ÉCOLE ÉLÉMENTAIRE LEITRIM

DRAWING TITLE

## ARCHITECTURAL SITE PLAN TABLE

DRAWING NO. **AS102**

PRINT DATE: 2025-02-26 11:20:06 AM

ARCH D (24" x 36" | 610mm x 914mm)

# APPENDIX

# B TRAFFIC DATA (ENCG)

## Appendix B: Table of Traffic and Road Parameters To Be Used For Sound Level Predictions

*Table B1 Traffic And Road Parameters To Be Used For Sound Level Predictions*

| Row Width (m) | Implied Roadway Class | AADT Vehicles/Day | Posted Speed Km/Hr | Day/Night Split % | Medium Trucks % | Heavy Trucks % [1] |
|---|---|---|---|---|---|---|
| NA [2] | Freeway, Queensway, Highway | 18,333 per lane | 100 | 92/8 | 7 | 5 |
| 37.5-44.5 | 6-Lane Urban Arterial-Divided (6 UAD) | 50,000 | 50-80 | 92/8 | 7 | 5 |
| 34-37.5 | 4-Lane Urban Arterial-Divided (4-UAD) | 35,000 | 50-80 | 92/8 | 7 | 5 |
| 23-34 | 4-Lane Urban Arterial-Undivided (4-UAU) | 30,000 | 50-80 | 92/8 | 7 | 5 |
| 23-34 | 4-Lane Major Collector (4-UMCU) | 24,000 | 40-60 | 92/8 | 7 | 5 |
| 30-35.5 | 2-Lane Rural Arterial (2-RAU) | 15,000 | 50-80 | 92/8 | 7 | 5 |
| 20-30 | 2-Lane Urban Arterial (2-UAU) | 15,000 | 50-80 | 92/8 | 7 | 5 |
| 20-30 | 2-Lane Major Collector (2-UMCU) | 12,000 | 40-60 | 92/8 | 7 | 5 |
| 30-35.5 | 2-Lane Outer Rural Arterial (near the extremities of the City) (2-RAU) | 10,000 | 50-80 | 92/8 | 7 | 5 |
| 20-30 | 2-Lane Urban Collector (2-UCU) | 8,000 | 40-50 | 92/8 | 7 | 5 |

[1] The MOE Vehicle Classification definitions should be used to estimate automobiles, medium trucks and heavy trucks.

[2] The number of lanes is determined by the future mature state of the roadway.

# APPENDIX

# C STAMSON VALIDATION

STAMSON 5.0 NORMAL REPORT Date: 17-12-2024 14:16:00
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: kf.te Time Period: Day/Night 16/8 hours
Description: Stamson Validation - Kelly Farm

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

| | | |
|---|---|---|
| Car traffic volume | 6477/563 | veh/TimePeriod * |
| Medium truck volume | 515/45 | veh/TimePeriod * |
| Heavy truck volume | 368/32 | veh/TimePeriod * |
| Posted speed limit | 40 km/h | |
| Road gradient | 0 % | |
| Road pavement | 1 (Typical asphalt or concrete) | |

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

| | |
|---|---|
| 24 hr Traffic Volume (AADT or SADT) | 8000 |
| Percentage of Annual Growth | 0.00 |
| Number of Years of Growth | 0.00 |
| Medium Truck % of Total Volume | 7.00 |
| Heavy Truck % of Total Volume | 5.00 |
| Day (16 hrs) % of Total Volume | 92.00 |

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

| | | |
|---|---|---|
| Angle1 Angle2 | -90.00 deg | 90.00 deg |
| Wood depth | 0 | (No woods.) |
| No of house rows | 0 / 0 | |
| Surface | 1 | (Absorptive ground surface) |
| Receiver source distance | 15.00 / 15.00 | m |
| Receiver height | 1.50 / 1.50 | m |
| Topography | 1 | (Flat/gentle slope; no barrier) |
| Reference angle | 0.00 | |

Results segment # 1: Kelly Far (day)
---

Source height = 1.50 m

ROAD (0.00 + 62.50 + 0.00) = 62.50 dBA

| Angle1 | Angle2 | Alpha | RefLeq | P.Adj | D.Adj | F.Adj | W.Adj | H.Adj | B.Adj | SubLeq |
|---|---|---|---|---|---|---|---|---|---|---|
| -90 | 90 | 0.66 | 63.96 | 0.00 | 0.00 | -1.46 | 0.00 | 0.00 | 0.00 | 62.50 |

Segment Leq : 62.50 dBA

Total Leq All Segments: 62.50 dBA

↑
Results segment # 1: Kelly Far (night)
---

Source height = 1.50 m

ROAD (0.00 + 54.91 + 0.00) = 54.91 dBA

| Angle1 | Angle2 | Alpha | RefLeq | P.Adj | D.Adj | F.Adj | W.Adj | H.Adj | B.Adj | SubLeq |
|---|---|---|---|---|---|---|---|---|---|---|
| -90 | 90 | 0.66 | 56.36 | 0.00 | 0.00 | -1.46 | 0.00 | 0.00 | 0.00 | 54.91 |

Segment Leq : 54.91 dBA

Total Leq All Segments: 54.91 dBA

↑

TOTAL Leq FROM ALL SOURCES (DAY): 62.50
(NIGHT): 54.91

↑
↑

# APPENDIX

# D CADNA/A OUTPUTS

Leitrim NIS Sample Calculations -
Inputs

## Receivers

| Name | Sel. | M. | ID | Level Lr | | | Limit. Value | | | Land Use | | | Height | | Coordinates | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Day | Le | Night | Day | Le | Night | Type | Auto | Noise Type | | | X | Y | Z |
| | | | | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | (dBA) | | | | (m) | | (m) | (m) | (m) |
| Outdoor Point of Reception 01 | | | SSOFF_R01_o | 44.8 | -80.2 | -80.2 | 50.0 | 55.0 | 0.0 | | | | 1.50 | r | 452122.19 | 5019102.36 | 95.50 |
| Outdoor Point of Reception 01 | | | SSOFF_R02_o | 44.1 | -80.2 | -80.2 | 50.0 | 55.0 | 0.0 | | | | 1.50 | r | 452130.44 | 5019105.67 | 95.50 |
| Outdoor Point of Reception 08 | | | SSOFF_R08_o | 47.2 | -80.2 | -80.2 | 50.0 | 55.0 | 0.0 | | | | 1.50 | r | 452221.77 | 5019109.48 | 95.50 |
| Outdoor Point of Reception 09 | | | SSOFF_R09_o | 48.0 | -80.2 | -80.2 | 50.0 | 55.0 | 0.0 | | | | 1.50 | r | 452234.98 | 5019089.02 | 95.50 |
| Outdoor Point of Reception 10 | | | SSOFF_R10_o | 47.3 | -80.2 | -80.2 | 50.0 | 55.0 | 0.0 | | | | 1.50 | r | 452247.37 | 5019062.47 | 95.50 |
| Outdoor Point of Reception 11 | | | SSOFF_R11_o | 45.7 | -80.2 | -80.2 | 50.0 | 55.0 | 0.0 | | | | 1.50 | r | 452260.91 | 5019036.80 | 95.50 |
| Outdoor Point of Reception 12 | | | SSOFF_R12_o | 44.3 | -80.2 | -80.2 | 50.0 | 55.0 | 0.0 | | | | 1.50 | r | 452278.92 | 5019011.30 | 95.50 |
| Outdoor Point of Reception 13 | | | SSOFF_R13_o | 43.3 | -80.2 | -80.2 | 50.0 | 55.0 | 0.0 | | | | 1.50 | r | 452289.11 | 5018987.64 | 95.50 |
| Plane of Window 01 | | | SSOFF_R01_w | 49.0 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452110.96 | 5019093.26 | 98.50 |
| Plane of Window 02 | | | SSOFF_R02_w | 50.2 | -80.2 | -80.2 | 50.5 | 50.0 | 50.0 | | | | 4.50 | r | 452145.22 | 5019108.24 | 98.50 |
| Plane of Window 02 | | | SSOFF_R12_w | 44.9 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452278.94 | 5019017.67 | 98.50 |
| Plane of Window 03 | | | SSOFF_R03_w | 48.4 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452174.05 | 5019125.03 | 98.50 |
| Plane of Window 04 | | | SSOFF_R04_w | 47.4 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452184.59 | 5019130.84 | 98.50 |
| Plane of Window 05 | | | SSOFF_R05_w | 46.9 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452193.67 | 5019135.83 | 98.50 |
| Plane of Window 06 | | | SSOFF_R06_w | 46.1 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452202.03 | 5019141.45 | 98.50 |
| Plane of Window 07 | | | SSOFF_R07_w | 45.5 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452209.02 | 5019145.30 | 98.50 |
| Plane of Window 08 | | | SSOFF_R08_w | 48.4 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452226.45 | 5019107.49 | 98.50 |
| Plane of Window 09 | | | SSOFF_R09_w | 48.2 | -80.2 | -80.2 | 50.5 | 50.0 | 50.0 | | | | 4.50 | r | 452235.28 | 5019095.30 | 98.50 |
| Plane of Window 10 | | | SSOFF_R10_w | 47.7 | -80.2 | -80.2 | 50.5 | 50.0 | 50.0 | | | | 4.50 | r | 452248.12 | 5019066.67 | 98.50 |
| Plane of Window 11 | | | SSOFF_R11_w | 45.8 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452267.83 | 5019033.19 | 98.50 |
| Plane of Window 13 | | | SSOFF_R13_w | 43.5 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452294.96 | 5018985.49 | 98.50 |
| Plane of Window 14 | | | SSOFF_R14_w | 41.3 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452304.30 | 5018949.10 | 98.50 |
| Plane of Window 15 | | | SSOFF_R15_w | 41.3 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452283.45 | 5018936.97 | 98.50 |
| Plane of Window 16 | | | SSOFF_R16_w | 41.8 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452270.16 | 5018930.11 | 98.50 |
| Plane of Window 17 | | | SSOFF_R17_w | 42.9 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452232.53 | 5018923.75 | 98.50 |
| Plane of Window 18 | | | SSOFF_R18_w | 42.7 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452202.21 | 5018904.43 | 98.50 |
| Plane of Window Outdoor Classroom | | + | SSON_OCR01_o | 47.8 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452196.20 | 5019032.28 | 95.50 |
| Plane of Window Portable 01 | | ~ | RS_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452166.62 | 5018938.88 | 95.50 |
| Plane of Window Portable 01 | | ~ | RS_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452170.40 | 5018929.59 | 95.50 |
| Plane of Window Portable 01 | | ~ | RS_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452174.36 | 5018919.99 | 95.50 |
| Plane of Window Portable 01 | | ~ | SSON_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452196.98 | 5018957.11 | 95.50 |
| Plane of Window Portable 01 | | ~ | SSON_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452187.37 | 5018952.26 | 95.50 |
| Plane of Window Portable 01 | | ~ | SSON_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452168.42 | 5018944.52 | 95.50 |
| Plane of Window Portable 01 | | ~ | SSON_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452178.38 | 5018948.68 | 95.50 |
| Plane of Window Portable 01 | | - | SSON_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452163.95 | 5019011.44 | 98.50 |
| Plane of Window Portable 01 | | ~ | SSON_PR01_w | -88.0 | -88.0 | -88.0 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452148.36 | 5019040.28 | 98.50 |
| School Receptor - 1.5 | | + | SSON_SCHL1 | 38.2 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452150.71 | 5018988.68 | 95.50 |
| School Receptor - 1.5 | | + | SSON_SCHLNE | 46.6 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 1.50 | r | 452198.81 | 5019067.19 | 95.50 |
| School Receptor - 4.5 | | + | SSON_SCHL4 | 48.1 | -80.2 | -80.2 | 50.0 | 50.0 | 50.0 | | | | 4.50 | r | 452172.66 | 5019022.91 | 98.50 |

## 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) |
| RTU1d_8T Casing Outdoor Air | | | SS_RTUd_1 | 86.5 | 86.5 | 86.5 | Lw | RTU_Casing | | 0.0 | 0.0 | 0.0 | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 1.12 | g | 452192.37 | 5019070.97 | 99.12 |
| RTU2r_15T Casing Outdoor Air | | | SS_RTUd_2 | 86.5 | 86.5 | 86.5 | Lw | RTU_Casing | | 0.0 | 0.0 | 0.0 | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 1.50 | g | 452183.69 | 5019072.00 | 99.50 |
| RTU3r_10T Casing Outdoor Air | | | SS_RTUr_3 | 86.5 | 86.5 | 86.5 | Lw | RTU_Casing | | 0.0 | 0.0 | 0.0 | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 1.27 | g | 452151.67 | 5019057.62 | 99.27 |
| RTU4r_9T Casing Outdoor Air | | | SS_RTUd_4 | 86.5 | 86.5 | 86.5 | Lw | RTU_Casing | | 0.0 | 0.0 | 0.0 | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 1.27 | g | 452146.10 | 5019057.51 | 99.27 |
| RTU5r_16T Casing Outdoor Air | | | SS_RTUr_5 | 86.5 | 86.5 | 86.5 | Lw | RTU_Casing | | 0.0 | 0.0 | 0.0 | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 1.50 | g | 452162.19 | 5019029.61 | 103.50 |
| RTU6d_17T Casing Outdoor Air | | | SS_RTUd_6 | 86.5 | 86.5 | 86.5 | Lw | RTU_Casing | | 0.0 | 0.0 | 0.0 | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 1.50 | g | 452150.83 | 5019023.04 | 103.50 |
| RTU7d_11T Casing Outdoor Air | | | SS_RTUd_7 | 86.5 | 86.5 | 86.5 | Lw | RTU_Casing | | 0.0 | 0.0 | 0.0 | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 1.27 | g | 452152.99 | 5019010.06 | 103.27 |
| RTU8r_17T Casing Outdoor Air | | | SS_RTUr_8 | 86.5 | 86.5 | 86.5 | Lw | RTU_Casing | | 0.0 | 0.0 | 0.0 | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 1.50 | g | 452160.58 | 5018991.97 | 103.50 |

## 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) |
| Car Movement | | | SS_Car_Move | 76.5 | -36.5 | -36.5 | 53.0 | -60.1 | -60.1 | PWL-Pt | ssCar_MVMT | | 0.0 | 0.0 | 0.0 | | | | | 60.00 | 0.00 | 0.00 | 0.0 | | (none) | 20.0 | 0.0 | 0.0 | 10.0 |

## Sound Level Library

| Name | ID | Type | 1/3 Octave Spectrum (dB) | | | | | | | | | | | | | Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weight. | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | 10000 | A | lin | |
| RTU1_Daycare_8T_Discharge_CabinetSPL | ssRTU1_Dis | Lw | | 0.0 | 90.0 | 88.0 | 92.0 | 94.0 | 91.0 | 89.0 | 83.0 | 77.0 | | 96.1 | 99.0 | manufacture data |
| RTU1_Daycare_8T_Return_CabinetSPL | ssRTU1_Ret | Lw | | 0.0 | 90.0 | 88.0 | 86.0 | 78.0 | 77.0 | 75.0 | 70.0 | 62.0 | | 83.2 | 93.4 | |
| RTU2_Kindergarten_15T_Discharge_CabinetSPL | ssRTU2_Dis | Lw | | 0.0 | 90.0 | 88.0 | 86.0 | 78.0 | 77.0 | 75.0 | 70.0 | 62.0 | | 83.2 | 93.4 | manufacturer data |
| RTU2_Kindergarten_15T_Return_CabinetSPL | ssRTU2_Ret | Lw | | 0.0 | 90.0 | 88.0 | 86.0 | 78.0 | 77.0 | 75.0 | 70.0 | 62.0 | | 83.2 | 93.4 | |
| RTU3_Library_10T_Discharge_CabinetSPL | ssRTU3_Dis | Lw | | 0.0 | 89.0 | 88.0 | 91.0 | 88.0 | 81.0 | 77.0 | 75.0 | 70.0 | | 88.6 | 95.5 | manufacturer data |
| RTU3_Library_10T_Return_CabinetSPL | ssRTU3_Ret | Lw | | 0.0 | 86.0 | 84.0 | 82.0 | 77.0 | 74.0 | 71.0 | 67.0 | 62.0 | | 80.1 | 89.6 | |
| RTU_Casing | RTU_Casing | Lw | | 0.0 | 87.0 | 86.0 | 89.0 | 86.0 | 78.0 | 75.0 | 72.0 | 67.0 | | 86.4 | 93.4 | WSP Database |
| RTU4_Admin_9T_Return_CabinetSPL | ssRTU4_Ret | Lw | | 0.0 | 84.0 | 82.0 | 80.0 | 73.0 | 71.0 | 68.0 | 63.0 | 57.0 | | 77.1 | 87.4 | |
| RTU5_Gym_16T_Discharge_CabinetSPL | ssRTU5_Dis | Lw | | 0.0 | 93.0 | 91.0 | 93.0 | 92.0 | 88.0 | 88.0 | 87.0 | 83.0 | | 95.2 | 99.4 | |
| RTU5_Gym_16T_Return_CabinetSPL | ssRTU5_Ret | Lw | | 0.0 | 92.0 | 89.0 | 87.0 | 81.0 | 77.0 | 78.0 | 72.0 | 64.0 | | 84.9 | 95.0 | |
| RTU6_GroundEast_17T_Discharge_CabinetSPL | ssRTU6_Dis | Lw | | 0.0 | 93.0 | 91.0 | 93.0 | 92.0 | 88.0 | 88.0 | 87.0 | 83.0 | | 95.2 | 99.4 | manufacturer data |
| RTU6_GroundEast_17T_Return_CabinetSPL | ssRTU6_Ret | Lw | | 0.0 | 92.0 | 89.0 | 87.0 | 81.0 | 77.0 | 78.0 | 72.0 | 64.0 | | 84.9 | 95.0 | |
| RTU7_SecondFlZ1_11T_Discharge_CabinetSPL | ssRTU7_Dis | Lw | | 0.0 | 90.0 | 88.0 | 92.0 | 83.0 | 77.0 | 74.0 | 70.0 | 64.0 | | 86.3 | 95.4 | manufacturer data |
| RTU7_SecondFlZ1_11T_Return_CabinetSPL | ssRTU7_Ret | Lw | | 0.0 | 87.0 | 85.0 | 84.0 | 75.0 | 73.0 | 71.0 | 67.0 | 62.0 | | 80.1 | 90.6 | |
| RTU8_SecFlZ2_17T_Discharge_CabinetSPL | ssRTU_Dis | Lw | | 0.0 | 90.0 | 89.0 | 92.0 | 94.0 | 92.0 | 88.0 | 83.0 | 78.0 | | 96.2 | 99.2 | Manufacturer data |
| RTU8_SecFlZ2_17T_Return_CabinetSPL | ssRTU8_Ret | Lw | | 0.0 | 92.0 | 89.0 | 87.0 | 81.0 | 77.0 | 77.0 | 72.0 | 64.0 | | 84.6 | 94.9 | manufacturer data |
| Bus_Movement | ssBus_MVMT | Lw | | 109.8 | 111.7 | 100.7 | 93.9 | 98.5 | 99.9 | 97.4 | 92.4 | 92.0 | | 103.9 | 114.5 | WSP Measurement Database |
| Car_Movement | ssCar_MVMT | Lw | | 93.0 | 85.0 | 78.0 | 76.0 | 78.0 | 74.0 | 72.0 | 69.0 | 67.0 | | 79.9 | 94.0 | WSP Database |
| Bus_Idling | ssBus_IDL1 | Lw | | 94.7 | 98.2 | 93.9 | 88.5 | 88.2 | 95.2 | 92.8 | 84.7 | 78.4 | | 98.3 | 102.8 | WSP Measurement Database |

Cadnaa Sample Calculations Leitrim NIS -
Transportation Noise

Receiver
Name: Plane of Window Portable 01
ID: SSON_PR01_w
X: 452196.98 m
Y: 5018957.11 m
Z: 95.50 m

| Point Source, ISO 9613, Name: "RTU8r_17T Casing Outdoor Air", ID: "SS_RTUr_8" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 7 | 452160.58 | 5018991.97 | 103.50 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 45.2 | 0.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 41.6 |

| Point Source, ISO 9613, Name: "RTU7d_11T Casing Outdoor Air", ID: "SS_RTUd_7" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 14 | 452152.99 | 5019010.06 | 103.27 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 47.8 | 0.3 | -0.5 | 0.0 | 0.0 | 6.9 | 0.0 | 0.0 | 32.0 |
| 35 | 452152.99 | 5019010.06 | 103.27 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 59.1 | 0.9 | 0.2 | 0.0 | 0.0 | 7.1 | 0.0 | 5.3 | 14.0 |

| Point Source, ISO 9613, Name: "RTU5r_16T Casing Outdoor Air", ID: "SS_RTUr_5" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 39 | 452162.19 | 5019029.61 | 103.50 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.1 | 0.3 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 37.1 |
| 54 | 452162.19 | 5019029.61 | 103.50 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.3 | 0.3 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 4.8 | 32.3 |

| Point Source, ISO 9613, Name: "RTU6d_17T Casing Outdoor Air", ID: "SS_RTUd_6" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 66 | 452150.83 | 5019023.04 | 103.50 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.2 | 0.3 | -0.5 | 0.0 | 0.0 | 6.6 | 0.0 | 0.0 | 30.9 |
| 71 | 452150.83 | 5019023.04 | 103.50 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 58.7 | 0.8 | 0.2 | 0.0 | 0.0 | 6.5 | 0.0 | 5.1 | 15.2 |

| Point Source, ISO 9613, Name: "RTU3r_10T Casing Outdoor Air", ID: "SS_RTUr_3" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 79 | 452151.67 | 5019057.62 | 99.27 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 51.9 | 0.4 | -0.0 | 0.0 | 0.0 | 13.4 | 0.0 | 0.0 | 20.9 |
| 85 | 452151.67 | 5019057.62 | 99.27 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 51.9 | 0.4 | -0.0 | 0.0 | 0.0 | 14.7 | 0.0 | 14.7 | 4.8 |

| Point Source, ISO 9613, Name: "RTU4r_9T Casing Outdoor Air", ID: "SS_RTUd_4" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 98 | 452146.10 | 5019057.51 | 99.27 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 52.0 | 0.4 | -0.0 | 0.0 | 0.0 | 13.8 | 0.0 | 0.0 | 20.2 |

| Point Source, ISO 9613, Name: "RTU1d_8T Casing Outdoor Air", ID: "SS_RTUd_1" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 104 | 452192.37 | 5019070.97 | 99.12 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 52.1 | 0.4 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 33.6 |
| 115 | 452192.37 | 5019070.97 | 99.12 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 57.0 | 0.7 | -0.5 | 0.0 | 0.0 | 15.7 | 0.0 | 3.7 | 9.9 |
| 120 | 452192.37 | 5019070.97 | 99.12 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 57.8 | 0.8 | 0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 3.5 | 20.0 |
| 129 | 452192.37 | 5019070.97 | 99.12 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 56.0 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 3.1 | 26.2 |

| Point Source, ISO 9613, Name: "RTU2r_15T Casing Outdoor Air", ID: "SS_RTUd_2" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 144 | 452183.69 | 5019072.00 | 99.50 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 52.3 | 0.5 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 33.5 |
| 149 | 452183.69 | 5019072.00 | 99.50 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 57.1 | 0.7 | -0.9 | 0.0 | 0.0 | 15.8 | 0.0 | 3.7 | 10.1 |
| 169 | 452183.69 | 5019072.00 | 99.50 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 57.6 | 0.7 | 0.4 | 0.0 | 0.0 | 4.0 | 0.0 | 3.6 | 20.3 |
| 179 | 452183.69 | 5019072.00 | 99.50 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 56.4 | 0.7 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2 | 25.8 |

| Line Source, ISO 9613, Name: "Car Movement", ID: "SS_Car_Move" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | I/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 185 | 452243.30 | 5019032.50 | 95.50 | 0 | D | A | 53.0 | 15.0 | 0.0 | 0.0 | 0.0 | 49.9 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 17.2 |
| 189 | 452249.90 | 5019019.40 | 95.50 | 1 | D | A | 53.0 | 2.8 | 0.0 | 0.0 | 0.0 | 55.9 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 8.3 | -9.2 |
| 202 | 452247.77 | 5019023.62 | 95.50 | 1 | D | A | 53.0 | 10.6 | 0.0 | 0.0 | 0.0 | 51.7 | 0.9 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 9.6 | 1.5 |
| 214 | 452243.67 | 5019031.76 | 95.50 | 1 | D | A | 53.0 | 8.4 | 0.0 | 0.0 | 0.0 | 51.9 | 0.9 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 9.6 | -0.9 |

| Line Source, ISO 9613, Name: "Car Movement", ID: "SS_Car_Move" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 218 | 452239.20 | 5019040.65 | 95.50 | 1 | D | A | 53.0 | 11.2 | 0.0 | 0.0 | 0.0 | 52.2 | 0.9 | -0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 9.7 | 1.5 |
| 231 | 452245.03 | 5019029.07 | 95.50 | 1 | D | A | 53.0 | 6.2 | 0.0 | 0.0 | 0.0 | 53.1 | 1.0 | -0.2 | 0.0 | 0.0 | 4.1 | 0.0 | 2.2 | -0.9 |
| 235 | 452241.46 | 5019036.16 | 95.50 | 1 | D | A | 53.0 | 10.7 | 0.0 | 0.0 | 0.0 | 53.2 | 1.0 | -0.2 | 0.0 | 0.0 | 4.1 | 0.0 | 2.2 | 3.4 |
| 250 | 452249.09 | 5019020.99 | 95.50 | 1 | D | A | 53.0 | 7.4 | 0.0 | 0.0 | 0.0 | 53.2 | 1.0 | -0.2 | 0.0 | 0.0 | 4.1 | 0.0 | 2.3 | 0.1 |
| 261 | 452247.53 | 5019024.10 | 95.50 | 1 | D | A | 53.0 | 1.6 | 0.0 | 0.0 | 0.0 | 53.3 | 1.0 | -0.2 | 0.0 | 0.0 | 4.1 | 0.0 | 2.3 | -5.8 |
| 270 | 452236.89 | 5019045.22 | 95.50 | 1 | D | A | 53.0 | 4.5 | 0.0 | 0.0 | 0.0 | 53.7 | 1.0 | -0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 2.3 | -3.3 |
| 283 | 452218.69 | 5019086.39 | 95.50 | 0 | D | A | 53.0 | 17.2 | 0.0 | 0.0 | 0.0 | 53.4 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.1 |
| 341 | 452226.96 | 5019069.23 | 95.50 | 1 | D | A | 53.0 | 11.6 | 0.0 | 0.0 | 0.0 | 53.2 | 1.0 | -0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 9.9 | 0.7 |
| 344 | 452219.26 | 5019085.20 | 95.50 | 1 | D | A | 53.0 | 13.2 | 0.0 | 0.0 | 0.0 | 53.9 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 10.1 | 1.5 |
| 356 | 452211.96 | 5019100.37 | 95.50 | 1 | D | A | 53.0 | 10.0 | 0.0 | 0.0 | 0.0 | 54.6 | 1.1 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 10.2 | -2.7 |
| 363 | 452208.55 | 5019107.44 | 95.50 | 1 | D | A | 53.0 | 7.6 | 0.0 | 0.0 | 0.0 | 55.0 | 1.1 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 8.1 | -3.3 |
| 370 | 452228.52 | 5019066.00 | 95.50 | 1 | D | A | 53.0 | 8.6 | 0.0 | 0.0 | 0.0 | 53.9 | 1.0 | -0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 2.2 | 0.5 |
| 375 | 452226.48 | 5019070.23 | 95.50 | 1 | D | A | 53.0 | 3.3 | 0.0 | 0.0 | 0.0 | 54.1 | 1.0 | -0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 2.2 | -4.9 |
| 381 | 452221.68 | 5019080.20 | 95.50 | 1 | D | A | 53.0 | 11.7 | 0.0 | 0.0 | 0.0 | 54.5 | 1.1 | -0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 2.2 | 3.0 |
| 385 | 452214.49 | 5019095.11 | 95.50 | 1 | D | A | 53.0 | 10.1 | 0.0 | 0.0 | 0.0 | 55.3 | 1.2 | -0.4 | 0.0 | 0.0 | 4.2 | 0.0 | 2.3 | 0.5 |
| 399 | 452211.91 | 5019100.47 | 95.50 | 1 | D | A | 53.0 | 2.3 | 0.0 | 0.0 | 0.0 | 55.5 | 1.2 | -0.4 | 0.0 | 0.0 | 4.2 | 0.0 | 2.3 | -7.5 |
| 407 | 452210.18 | 5019104.06 | 95.50 | 1 | D | A | 53.0 | 6.7 | 0.0 | 0.0 | 0.0 | 55.4 | 1.2 | -0.4 | 0.0 | 0.0 | 4.2 | 0.0 | 2.4 | -3.1 |
| 430 | 452208.23 | 5019108.10 | 95.50 | 1 | D | A | 53.0 | 6.3 | 0.0 | 0.0 | 0.0 | 55.6 | 1.2 | -0.4 | 0.0 | 0.0 | 4.2 | 0.0 | 2.4 | -3.6 |
| 442 | 452215.58 | 5019092.85 | 95.50 | 1 | D | A | 53.0 | 12.4 | 0.0 | 0.0 | 0.0 | 57.9 | 1.4 | -0.6 | 0.0 | 0.0 | 7.0 | 0.0 | 6.6 | -6.9 |
| 454 | 452209.49 | 5019105.48 | 95.50 | 1 | D | A | 53.0 | 10.1 | 0.0 | 0.0 | 0.0 | 57.4 | 1.4 | -0.6 | 0.0 | 0.0 | 7.6 | 0.0 | 5.7 | -8.4 |
| 458 | 452215.26 | 5019087.86 | 95.50 | 0 | D | A | 53.0 | 16.8 | 0.0 | 0.0 | 0.0 | 53.4 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.6 |
| 482 | 452207.39 | 5019107.79 | 95.50 | 1 | D | A | 53.0 | 7.0 | 0.0 | 0.0 | 0.0 | 55.0 | 1.1 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 10.3 | -6.2 |
| 494 | 452210.03 | 5019101.11 | 95.50 | 1 | D | A | 53.0 | 9.7 | 0.0 | 0.0 | 0.0 | 54.7 | 1.1 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 10.2 | -3.1 |
| 509 | 452215.84 | 5019086.41 | 95.50 | 1 | D | A | 53.0 | 12.9 | 0.0 | 0.0 | 0.0 | 54.1 | 1.1 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 13.6 | -2.6 |
| 514 | 452221.76 | 5019071.42 | 95.50 | 1 | D | A | 53.0 | 11.0 | 0.0 | 0.0 | 0.0 | 53.6 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 13.4 | -3.8 |
| 523 | 452207.17 | 5019108.35 | 95.50 | 1 | D | A | 53.0 | 5.8 | 0.0 | 0.0 | 0.0 | 55.6 | 1.2 | -0.4 | 0.0 | 0.0 | 4.1 | 0.0 | 2.4 | -4.2 |
| 527 | 452208.68 | 5019104.53 | 95.50 | 1 | D | A | 53.0 | 6.5 | 0.0 | 0.0 | 0.0 | 55.5 | 1.2 | -0.4 | 0.0 | 0.0 | 4.1 | 0.0 | 2.4 | -3.4 |
| 534 | 452209.92 | 5019101.38 | 95.50 | 1 | D | A | 53.0 | 4.0 | 0.0 | 0.0 | 0.0 | 55.6 | 1.2 | -0.4 | 0.0 | 0.0 | 4.1 | 0.0 | 2.3 | -5.8 |
| 547 | 452212.19 | 5019095.65 | 95.50 | 1 | D | A | 53.0 | 9.9 | 0.0 | 0.0 | 0.0 | 55.4 | 1.2 | -0.4 | 0.0 | 0.0 | 4.1 | 0.0 | 2.3 | 0.3 |
| 553 | 452218.06 | 5019080.80 | 95.50 | 1 | D | A | 53.0 | 11.6 | 0.0 | 0.0 | 0.0 | 54.7 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | 2.7 |
| 574 | 452222.03 | 5019070.73 | 95.50 | 1 | D | A | 53.0 | 3.2 | 0.0 | 0.0 | 0.0 | 54.4 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | -5.2 |
| 579 | 452223.24 | 5019067.67 | 95.50 | 1 | D | A | 53.0 | 6.5 | 0.0 | 0.0 | 0.0 | 54.3 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | -1.9 |
| 610 | 452212.17 | 5019095.70 | 95.50 | 1 | D | A | 53.0 | 11.7 | 0.0 | 0.0 | 0.0 | 57.8 | 1.4 | -0.6 | 0.0 | 0.0 | 7.2 | 0.0 | 5.6 | -6.6 |
| 616 | 452207.92 | 5019106.44 | 95.50 | 1 | D | A | 53.0 | 9.0 | 0.0 | 0.0 | 0.0 | 57.3 | 1.4 | -0.6 | 0.0 | 0.0 | 7.7 | 0.0 | 5.7 | -9.6 |
| 625 | 452229.67 | 5019028.01 | 95.50 | 0 | D | A | 53.0 | 12.5 | 0.0 | 0.0 | 0.0 | 48.8 | 0.7 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.0 |
| 636 | 452229.67 | 5019028.01 | 95.50 | 1 | D | A | 53.0 | 12.5 | 0.0 | 0.0 | 0.0 | 54.8 | 1.1 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 6.6 | 3.3 |
| 684 | 452229.67 | 5019028.01 | 95.50 | 1 | D | A | 53.0 | 12.5 | 0.0 | 0.0 | 0.0 | 54.8 | 1.1 | -0.4 | 0.0 | 0.0 | 6.4 | 0.0 | 8.0 | -4.6 |
| 687 | 452227.60 | 5019032.02 | 95.50 | 1 | D | A | 53.0 | 9.4 | 0.0 | 0.0 | 0.0 | 54.2 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | 1.1 |
| 689 | 452230.66 | 5019026.09 | 95.50 | 1 | D | A | 53.0 | 6.7 | 0.0 | 0.0 | 0.0 | 54.0 | 1.0 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | -1.4 |
| 693 | 452233.47 | 5019020.66 | 95.50 | 1 | D | A | 53.0 | 0.6 | 0.0 | 0.0 | 0.0 | 54.2 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | -7.6 |
| 697 | 452236.99 | 5019015.65 | 95.50 | 0 | D | A | 53.0 | 10.5 | 0.0 | 0.0 | 0.0 | 48.0 | 0.6 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.9 |
| 701 | 452236.99 | 5019015.65 | 95.50 | 1 | D | A | 53.0 | 10.5 | 0.0 | 0.0 | 0.0 | 55.5 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 8.2 | -1.1 |
| 734 | 452236.99 | 5019015.65 | 95.50 | 1 | D | A | 53.0 | 10.5 | 0.0 | 0.0 | 0.0 | 52.6 | 0.9 | -0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 19.4 | -9.3 |
| 742 | 452236.99 | 5019015.65 | 95.50 | 1 | D | A | 53.0 | 10.5 | 0.0 | 0.0 | 0.0 | 55.6 | 1.2 | -0.4 | 0.0 | 0.0 | 5.7 | 0.0 | 9.6 | -8.3 |
| 748 | 452236.99 | 5019015.65 | 95.50 | 1 | D | A | 53.0 | 10.5 | 0.0 | 0.0 | 0.0 | 54.1 | 1.0 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | 2.3 |
| 759 | 452222.42 | 5019041.62 | 95.50 | 0 | D | A | 53.0 | 11.2 | 0.0 | 0.0 | 0.0 | 49.9 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 13.5 |
| 767 | 452219.92 | 5019046.15 | 95.50 | 1 | D | A | 53.0 | 4.1 | 0.0 | 0.0 | 0.0 | 53.6 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 4.1 | -1.4 |
| 772 | 452220.91 | 5019044.36 | 95.50 | 1 | D | A | 53.0 | 1.9 | 0.0 | 0.0 | 0.0 | 53.7 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 4.1 | -3.7 |
| 789 | 452223.45 | 5019039.77 | 95.50 | 1 | D | A | 53.0 | 9.5 | 0.0 | 0.0 | 0.0 | 54.0 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 5.1 | 2.6 |
| 813 | 452222.42 | 5019041.62 | 95.50 | 1 | D | A | 53.0 | 11.2 | 0.0 | 0.0 | 0.0 | 53.3 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 19.9 | -9.9 |
| 815 | 452223.01 | 5019040.57 | 95.50 | 1 | D | A | 53.0 | 10.3 | 0.0 | 0.0 | 0.0 | 54.0 | 1.0 | -0.3 | 0.0 | 0.0 | 7.4 | 0.0 | 7.0 | -6.0 |
| 817 | 452224.52 | 5019037.83 | 95.50 | 1 | D | A | 53.0 | 6.5 | 0.0 | 0.0 | 0.0 | 54.3 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | -1.8 |
| 820 | 452220.58 | 5019044.95 | 95.50 | 1 | D | A | 53.0 | 7.4 | 0.0 | 0.0 | 0.0 | 54.7 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.4 | -1.4 |
| 849 | 452233.18 | 5019054.61 | 95.50 | 0 | D | A | 53.0 | 12.4 | 0.0 | 0.0 | 0.0 | 51.3 | 0.8 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 13.3 |
| 874 | 452234.53 | 5019051.05 | 95.50 | 1 | D | A | 53.0 | 9.9 | 0.0 | 0.0 | 0.0 | 52.5 | 0.9 | -0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 9.8 | -0.1 |
| 877 | 452232.00 | 5019057.70 | 95.50 | 1 | D | A | 53.0 | 6.5 | 0.0 | 0.0 | 0.0 | 52.7 | 0.9 | -0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 9.8 | -3.8 |
| 881 | 452230.65 | 5019061.26 | 95.50 | 1 | D | A | 53.0 | 5.0 | 0.0 | 0.0 | 0.0 | 52.9 | 0.9 | -0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 9.8 | -5.4 |
| 886 | 452235.63 | 5019048.15 | 95.50 | 1 | D | A | 53.0 | 5.6 | 0.0 | 0.0 | 0.0 | 53.8 | 1.0 | -0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 2.3 | -2.3 |
| 890 | 452233.74 | 5019053.14 | 95.50 | 1 | D | A | 53.0 | 8.5 | 0.0 | 0.0 | 0.0 | 53.9 | 1.0 | -0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 2.3 | 0.5 |
| 895 | 452231.06 | 5019060.19 | 95.50 | 1 | D | A | 53.0 | 7.4 | 0.0 | 0.0 | 0.0 | 53.8 | 1.0 | -0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 2.2 | -0.5 |
| 901 | 452244.37 | 5019012.21 | 95.50 | 0 | D | A | 53.0 | 9.3 | 0.0 | 0.0 | 0.0 | 48.2 | 0.6 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 13.5 |
| 905 | 452243.05 | 5019011.87 | 95.50 | 1 | D | A | 53.0 | 7.6 | 0.0 | 0.0 | 0.0 | 55.9 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 8.3 | -4.4 |
| 908 | 452247.17 | 5019012.93 | 95.50 | 1 | D | A | 53.0 | 4.4 | 0.0 | 0.0 | 0.0 | 56.0 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 8.3 | -7.8 |

| Line Source, ISO 9613, Name: "Car Movement", ID: "SS_Car_Move" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 918 | 452244.37 | 5019012.21 | 95.50 | 1 | D | A | 53.0 | 9.3 | 0.0 | 0.0 | 0.0 | 52.1 | 0.9 | -0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 15.4 | -6.0 |
| 940 | 452244.37 | 5019012.21 | 95.50 | 1 | D | A | 53.0 | 9.3 | 0.0 | 0.0 | 0.0 | 53.7 | 1.0 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | 1.5 |
| 946 | 452217.79 | 5019052.27 | 95.50 | 0 | D | A | 53.0 | 10.1 | 0.0 | 0.0 | 0.0 | 50.8 | 0.8 | -0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.5 |
| 968 | 452217.64 | 5019052.74 | 95.50 | 1 | D | A | 53.0 | 8.9 | 0.0 | 0.0 | 0.0 | 54.8 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.4 | -0.1 |
| 998 | 452218.99 | 5019048.22 | 95.50 | 1 | D | A | 53.0 | 2.4 | 0.0 | 0.0 | 0.0 | 54.7 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.4 | -6.5 |
| 1012 | 452220.19 | 5019061.38 | 95.50 | 0 | D | A | 53.0 | 10.6 | 0.0 | 0.0 | 0.0 | 51.6 | 0.8 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.2 |
| 1043 | 452222.01 | 5019063.36 | 95.50 | 1 | D | A | 53.0 | 7.8 | 0.0 | 0.0 | 0.0 | 53.5 | 1.0 | -0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 16.1 | -9.5 |
| 1057 | 452220.59 | 5019061.81 | 95.50 | 1 | D | A | 53.0 | 10.1 | 0.0 | 0.0 | 0.0 | 54.4 | 1.1 | -0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 2.3 | 1.6 |
| 1068 | 452249.41 | 5019015.90 | 95.50 | 0 | D | A | 53.0 | 7.5 | 0.0 | 0.0 | 0.0 | 48.9 | 0.7 | -0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.9 |
| 1074 | 452249.23 | 5019015.38 | 95.50 | 1 | D | A | 53.0 | 6.5 | 0.0 | 0.0 | 0.0 | 56.0 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 8.3 | -5.7 |
| 1087 | 452249.41 | 5019015.90 | 95.50 | 1 | D | A | 53.0 | 7.5 | 0.0 | 0.0 | 0.0 | 51.7 | 0.9 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 12.8 | -4.7 |
| 1103 | 452249.41 | 5019015.90 | 95.50 | 1 | D | A | 53.0 | 7.5 | 0.0 | 0.0 | 0.0 | 53.3 | 1.0 | -0.3 | 0.0 | 0.0 | 4.1 | 0.0 | 2.2 | 0.1 |

Cadnaa Sample Calculations Leitrim -
Stationary Noise

Receiver
Name: Plane of Window 01
ID: SSOFF_R01_w
X: 452110.96 m
Y: 5019093.26 m
Z: 98.50 m

| Point Source, ISO 9613, Name: "RTU4r_9T Casing Outdoor Air", ID: "SS_RTUd_4" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 2 | 452146.10 | 5019057.51 | 99.27 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 45.0 | 0.2 | -1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 42.9 |
| 7 | 452146.10 | 5019057.51 | 99.27 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.5 | 0.3 | -2.2 | 0.0 | 0.0 | 10.9 | 0.0 | 2.2 | 25.8 |

| Point Source, ISO 9613, Name: "RTU3r_10T Casing Outdoor Air", ID: "SS_RTUr_3" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 27 | 452151.67 | 5019057.62 | 99.27 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 45.7 | 0.2 | -1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 42.4 |
| 31 | 452151.67 | 5019057.62 | 99.27 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.4 | 0.3 | -2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1 | 36.8 |

| Point Source, ISO 9613, Name: "RTU2r_15T Casing Outdoor Air", ID: "SS_RTUd_2" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 37 | 452183.69 | 5019072.00 | 99.50 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 48.6 | 0.3 | -1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 39.3 |
| 68 | 452183.69 | 5019072.00 | 99.50 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 55.7 | 0.6 | -1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 3.4 | 28.1 |

| Point Source, ISO 9613, Name: "RTU6d_17T Casing Outdoor Air", ID: "SS_RTUd_6" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 75 | 452150.83 | 5019023.04 | 103.50 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.2 | 0.3 | -2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 39.2 |

| Point Source, ISO 9613, Name: "RTU5r_16T Casing Outdoor Air", ID: "SS_RTUr_5" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 91 | 452162.19 | 5019029.61 | 103.50 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.3 | 0.3 | -2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 39.1 |

| Point Source, ISO 9613, Name: "RTU1d_8T Casing Outdoor Air", ID: "SS_RTUd_1" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 125 | 452192.37 | 5019070.97 | 99.12 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.5 | 0.3 | -1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 38.5 |
| 136 | 452192.37 | 5019070.97 | 99.12 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 55.4 | 0.6 | -1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7 | 29.0 |

| Point Source, ISO 9613, Name: "RTU7d_11T Casing Outdoor Air", ID: "SS_RTUd_7" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 149 | 452152.99 | 5019010.06 | 103.27 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 50.4 | 0.4 | -2.3 | 0.0 | 0.0 | 4.8 | 0.0 | 0.0 | 33.2 |

| Point Source, ISO 9613, Name: "RTU8r_17T Casing Outdoor Air", ID: "SS_RTUr_8" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 158 | 452160.58 | 5018991.97 | 103.50 | 0 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 52.1 | 0.4 | -2.4 | 0.0 | 0.0 | 4.9 | 0.0 | 0.0 | 31.5 |
| 164 | 452160.58 | 5018991.97 | 103.50 | 1 | D | A | 86.5 | 0.0 | 0.0 | 0.0 | 0.0 | 60.7 | 1.0 | -2.1 | 0.0 | 0.0 | 4.9 | 0.0 | 6.0 | 16.0 |

| Line Source, ISO 9613, Name: "Car Movement", ID: "SS_Car_Move" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 183 | 452224.33 | 5019074.70 | 95.50 | 0 | D | A | 53.0 | 14.2 | 0.0 | 0.0 | 0.0 | 52.2 | 0.9 | -1.1 | 0.0 | 0.0 | 9.8 | 0.0 | 0.0 | 5.4 |
| 187 | 452212.93 | 5019098.35 | 95.50 | 0 | D | A | 53.0 | 14.1 | 0.0 | 0.0 | 0.0 | 51.2 | 0.8 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.6 |
| 207 | 452207.34 | 5019109.94 | 95.50 | 1 | D | A | 53.0 | -6.8 | 0.0 | 0.0 | 0.0 | 51.5 | 0.8 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6 | -10.2 |
| 232 | 452220.14 | 5019083.38 | 95.50 | 1 | D | A | 53.0 | 11.2 | 0.0 | 0.0 | 0.0 | 52.8 | 0.9 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 8.5 | 2.4 |
| 236 | 452214.37 | 5019095.36 | 95.50 | 1 | D | A | 53.0 | 11.3 | 0.0 | 0.0 | 0.0 | 52.3 | 0.9 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 7.0 | 4.6 |
| 238 | 452209.47 | 5019105.52 | 95.50 | 1 | D | A | 53.0 | 9.6 | 0.0 | 0.0 | 0.0 | 51.9 | 0.9 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 7.0 | 3.3 |
| 241 | 452228.73 | 5019065.57 | 95.50 | 1 | D | A | 53.0 | 6.3 | 0.0 | 0.0 | 0.0 | 54.7 | 1.1 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -2.8 |
| 244 | 452226.88 | 5019069.40 | 95.50 | 1 | D | A | 53.0 | 6.3 | 0.0 | 0.0 | 0.0 | 54.6 | 1.1 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -2.6 |
| 248 | 452224.70 | 5019073.92 | 95.50 | 1 | D | A | 53.0 | 7.6 | 0.0 | 0.0 | 0.0 | 54.4 | 1.1 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -1.1 |

| Line Source, ISO 9613, Name: "Car Movement", ID: "SS_Car_Move" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nr. | X | Y | Z | Refl. | DEN | Freq. | Lw | l/a | Optime | K0 | Di | Adiv | Aatm | Agr | Afol | Ahous | Abar | Cmet | RL | Lr |
| | (m) | (m) | (m) | | | (Hz) | dB(A) | dB | dB | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | (dB) | dB(A) |
| 262 | 452221.46 | 5019080.65 | 95.50 | 1 | D | A | 53.0 | 2.3 | 0.0 | 0.0 | 0.0 | 53.9 | 1.0 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -5.8 |
| 285 | 452218.93 | 5019085.91 | 95.50 | 1 | D | A | 53.0 | 10.0 | 0.0 | 0.0 | 0.0 | 53.7 | 1.0 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | 2.1 |
| 287 | 452214.75 | 5019094.56 | 95.50 | 1 | D | A | 53.0 | 7.8 | 0.0 | 0.0 | 0.0 | 53.5 | 1.0 | -0.5 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | 0.1 |
| 291 | 452212.21 | 5019099.85 | 95.50 | 1 | D | A | 53.0 | 7.6 | 0.0 | 0.0 | 0.0 | 53.4 | 1.0 | -0.5 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | 0.1 |
| 352 | 452210.96 | 5019098.76 | 95.50 | 0 | D | A | 53.0 | 13.9 | 0.0 | 0.0 | 0.0 | 51.0 | 0.8 | -0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.6 |
| 362 | 452219.75 | 5019076.50 | 95.50 | 0 | D | A | 53.0 | 13.7 | 0.0 | 0.0 | 0.0 | 51.8 | 0.9 | -1.2 | 0.0 | 0.0 | 10.3 | 0.0 | 0.0 | 4.9 |
| 366 | 452206.65 | 5019109.66 | 95.50 | 1 | D | A | 53.0 | -0.0 | 0.0 | 0.0 | 0.0 | 51.5 | 0.8 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6 | -3.4 |
| 427 | 452217.10 | 5019083.22 | 95.50 | 1 | D | A | 53.0 | 10.3 | 0.0 | 0.0 | 0.0 | 53.9 | 1.0 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | 2.2 |
| 431 | 452219.40 | 5019077.40 | 95.50 | 1 | D | A | 53.0 | 2.6 | 0.0 | 0.0 | 0.0 | 54.1 | 1.0 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -5.7 |
| 446 | 452210.49 | 5019099.94 | 95.50 | 1 | D | A | 53.0 | 4.7 | 0.0 | 0.0 | 0.0 | 53.4 | 1.0 | -0.5 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -2.9 |
| 450 | 452211.60 | 5019097.13 | 95.50 | 1 | D | A | 53.0 | 4.9 | 0.0 | 0.0 | 0.0 | 53.5 | 1.0 | -0.5 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -2.8 |
| 455 | 452213.33 | 5019092.77 | 95.50 | 1 | D | A | 53.0 | 8.0 | 0.0 | 0.0 | 0.0 | 53.7 | 1.0 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | 0.2 |
| 477 | 452208.67 | 5019104.56 | 95.50 | 1 | D | A | 53.0 | 9.8 | 0.0 | 0.0 | 0.0 | 52.0 | 0.9 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 7.0 | 3.4 |
| 480 | 452213.05 | 5019093.47 | 95.50 | 1 | D | A | 53.0 | 11.6 | 0.0 | 0.0 | 0.0 | 52.4 | 0.9 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 8.4 | 3.3 |
| 484 | 452216.90 | 5019083.72 | 95.50 | 1 | D | A | 53.0 | 8.2 | 0.0 | 0.0 | 0.0 | 52.9 | 0.9 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 10.5 | -2.7 |
| 496 | 452222.33 | 5019069.97 | 95.50 | 1 | D | A | 53.0 | 8.0 | 0.0 | 0.0 | 0.0 | 54.7 | 1.1 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -1.1 |
| 505 | 452223.77 | 5019066.33 | 95.50 | 1 | D | A | 53.0 | 2.0 | 0.0 | 0.0 | 0.0 | 54.8 | 1.1 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.2 | -7.2 |
| 560 | 452243.30 | 5019032.50 | 95.50 | 0 | D | A | 53.0 | 15.0 | 0.0 | 0.0 | 0.0 | 54.3 | 1.1 | -0.6 | 0.0 | 0.0 | 7.1 | 0.0 | 0.0 | 6.1 |
| 578 | 452246.69 | 5019025.75 | 95.50 | 1 | D | A | 53.0 | 12.1 | 0.0 | 0.0 | 0.0 | 61.3 | 1.9 | -1.2 | 0.0 | 0.0 | 7.7 | 0.0 | 5.7 | -10.3 |
| 582 | 452248.80 | 5019021.57 | 95.50 | 1 | D | A | 53.0 | 8.3 | 0.0 | 0.0 | 0.0 | 56.4 | 1.3 | -0.6 | 0.0 | 0.0 | 5.2 | 0.0 | 2.4 | -3.3 |
| 591 | 452241.34 | 5019036.39 | 95.50 | 1 | D | A | 53.0 | 12.2 | 0.0 | 0.0 | 0.0 | 55.6 | 1.2 | -1.5 | 0.0 | 0.0 | 5.9 | 0.0 | 2.3 | 1.7 |
| 615 | 452233.18 | 5019054.61 | 95.50 | 0 | D | A | 53.0 | 12.4 | 0.0 | 0.0 | 0.0 | 53.2 | 1.0 | -1.1 | 0.0 | 0.0 | 10.2 | 0.0 | 0.0 | 2.0 |
| 625 | 452233.81 | 5019052.94 | 95.50 | 1 | D | A | 53.0 | 11.4 | 0.0 | 0.0 | 0.0 | 55.0 | 1.1 | -0.5 | 0.0 | 0.0 | 5.7 | 0.0 | 2.3 | 0.7 |
| 642 | 452230.79 | 5019060.88 | 95.50 | 1 | D | A | 53.0 | 5.0 | 0.0 | 0.0 | 0.0 | 54.7 | 1.1 | -0.5 | 0.0 | 0.0 | 5.7 | 0.0 | 2.3 | -5.4 |
| 652 | 452229.67 | 5019028.01 | 95.50 | 0 | D | A | 53.0 | 12.5 | 0.0 | 0.0 | 0.0 | 53.6 | 1.0 | -0.6 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 | 3.8 |
| 661 | 452232.26 | 5019023.00 | 95.50 | 1 | D | A | 53.0 | 8.1 | 0.0 | 0.0 | 0.0 | 56.4 | 1.3 | -0.5 | 0.0 | 0.0 | 4.9 | 0.0 | 2.4 | -3.4 |
| 665 | 452227.40 | 5019032.40 | 95.50 | 1 | D | A | 53.0 | 8.9 | 0.0 | 0.0 | 0.0 | 56.1 | 1.2 | -0.5 | 0.0 | 0.0 | 4.9 | 0.0 | 2.4 | -2.3 |
| 701 | 452222.42 | 5019041.62 | 95.50 | 0 | D | A | 53.0 | 11.2 | 0.0 | 0.0 | 0.0 | 52.8 | 0.9 | -0.9 | 0.0 | 0.0 | 9.6 | 0.0 | 0.0 | 1.7 |
| 707 | 452221.96 | 5019042.47 | 95.50 | 1 | D | A | 53.0 | 5.0 | 0.0 | 0.0 | 0.0 | 55.8 | 1.2 | -0.4 | 0.0 | 0.0 | 4.9 | 0.0 | 2.4 | -5.9 |
| 710 | 452224.17 | 5019038.47 | 95.50 | 1 | D | A | 53.0 | 7.8 | 0.0 | 0.0 | 0.0 | 55.9 | 1.2 | -0.4 | 0.0 | 0.0 | 5.0 | 0.0 | 2.4 | -3.3 |
| 723 | 452219.49 | 5019046.93 | 95.50 | 1 | D | A | 53.0 | 0.1 | 0.0 | 0.0 | 0.0 | 55.8 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | -5.9 |
| 725 | 452219.99 | 5019046.03 | 95.50 | 1 | D | A | 53.0 | 0.2 | 0.0 | 0.0 | 0.0 | 55.8 | 1.2 | -0.4 | 0.0 | 0.0 | 4.4 | 0.0 | 2.4 | -10.3 |
| 733 | 452220.19 | 5019061.38 | 95.50 | 0 | D | A | 53.0 | 10.6 | 0.0 | 0.0 | 0.0 | 52.1 | 0.9 | -1.6 | 0.0 | 0.0 | 12.1 | 0.0 | 0.0 | -0.0 |
| 745 | 452222.11 | 5019063.47 | 95.50 | 1 | D | A | 53.0 | 7.6 | 0.0 | 0.0 | 0.0 | 55.0 | 1.1 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 2.6 |
| 764 | 452218.24 | 5019059.25 | 95.50 | 1 | D | A | 53.0 | 7.5 | 0.0 | 0.0 | 0.0 | 55.3 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 2.2 |
| 770 | 452217.79 | 5019052.27 | 95.50 | 0 | D | A | 53.0 | 10.1 | 0.0 | 0.0 | 0.0 | 52.2 | 0.9 | -1.4 | 0.0 | 0.0 | 11.8 | 0.0 | 0.0 | -0.4 |
| 775 | 452216.57 | 5019056.36 | 95.50 | 1 | D | A | 53.0 | 2.2 | 0.0 | 0.0 | 0.0 | 55.5 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | -3.4 |
| 788 | 452217.59 | 5019052.94 | 95.50 | 1 | D | A | 53.0 | 7.4 | 0.0 | 0.0 | 0.0 | 55.6 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 1.6 |
| 800 | 452218.80 | 5019048.85 | 95.50 | 1 | D | A | 53.0 | 4.9 | 0.0 | 0.0 | 0.0 | 55.8 | 1.2 | -0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | -1.1 |
| 806 | 452236.99 | 5019015.65 | 95.50 | 0 | D | A | 53.0 | 10.5 | 0.0 | 0.0 | 0.0 | 54.4 | 1.1 | -0.6 | 0.0 | 0.0 | 6.4 | 0.0 | 0.0 | 2.1 |
| 814 | 452236.81 | 5019015.90 | 95.50 | 1 | D | A | 53.0 | 10.2 | 0.0 | 0.0 | 0.0 | 56.6 | 1.3 | -0.6 | 0.0 | 0.0 | 4.9 | 0.0 | 2.4 | -1.5 |
| 841 | 452244.37 | 5019012.21 | 95.50 | 0 | D | A | 53.0 | 9.3 | 0.0 | 0.0 | 0.0 | 54.9 | 1.1 | -0.6 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.9 |
| 870 | 452245.67 | 5019012.54 | 95.50 | 1 | D | A | 53.0 | 7.0 | 0.0 | 0.0 | 0.0 | 56.8 | 1.3 | -0.7 | 0.0 | 0.0 | 4.9 | 0.0 | 2.6 | -5.0 |
| 895 | 452249.41 | 5019015.90 | 95.50 | 0 | D | A | 53.0 | 7.5 | 0.0 | 0.0 | 0.0 | 55.0 | 1.1 | -0.6 | 0.0 | 0.0 | 5.9 | 0.0 | 0.0 | -1.1 |
| 918 | 452249.38 | 5019015.83 | 95.50 | 1 | D | A | 53.0 | 7.3 | 0.0 | 0.0 | 0.0 | 56.6 | 1.3 | -0.6 | 0.0 | 0.0 | 5.1 | 0.0 | 2.4 | -4.5 |