BT ENGINEERING

# 1243 Teron Road, Kanata Ontario
# Megha Holdings Inc.

# **Noise Assessment Report**

November 6, 2019

BT Eng Project 19-032

# Table of Contents



## List of Figures



## List of Tables



## Appendices

## 1.0 Introduction

Megha Holdings has retained BT Engineering Inc. (BTE) to undertake a stationary noise assessment of their proposed laboratory/office development for lands at 1243 Teron Road in Kanata, Ontario. The site plan, prepared by KWC Architects, is illustrated in **Figure 1**.

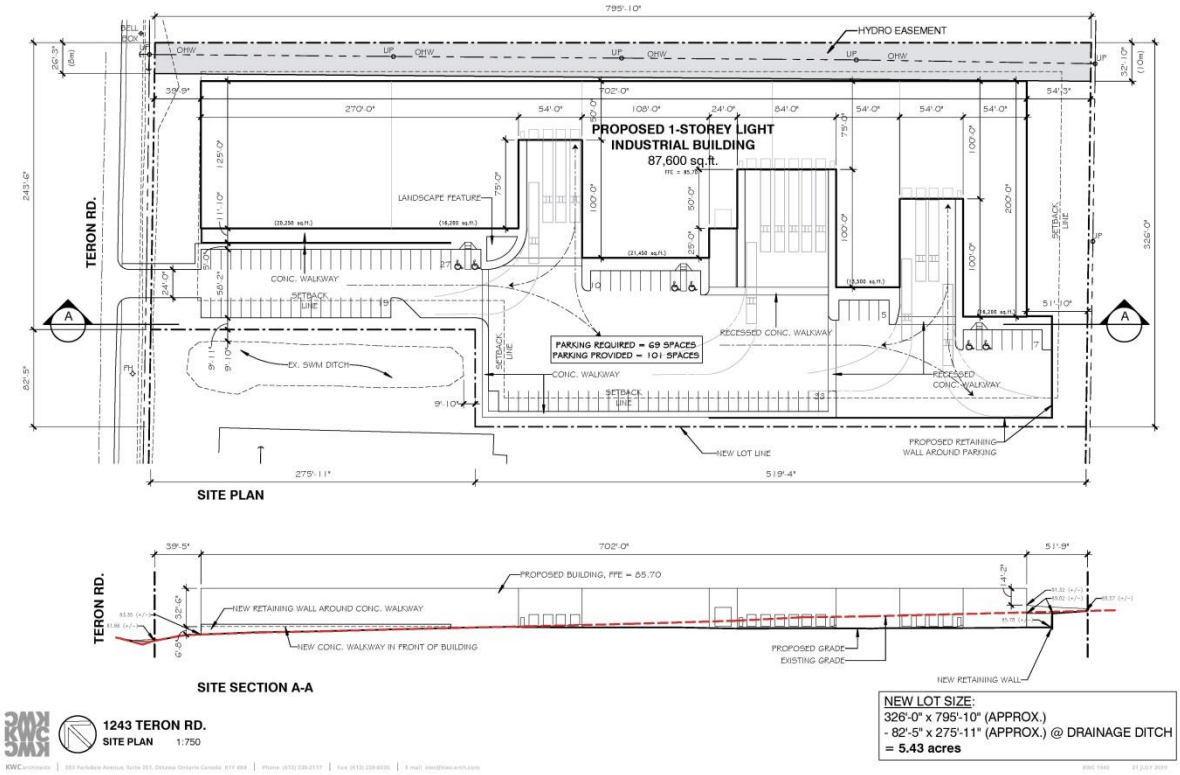



**Figure 1: Development Site Plan**

The proposed development will be built on the east side of Teron Road and north of March Road, within industrial lands. There are existing residential subdivisions to the south of March Road that may be affected by stationary noise from the new development.

The proposed development is in the Urban Employment Area, per the City's Official Plan, and in close proximity to the Highway 417 corridor and is therefore a "Class 1" community area within the City.

## 2.0 Methodology

This evaluation was conducted to determine the impact to noise sensitive areas (NSA's) and what mitigation measures, if any, should be incorporated into the site plan design. A Cirrus Research plc Optimus+ integrating sound meter (model CR:162B) was utilized to measure existing sound levels at the proposed development site, March Road, a representative residential site, and a similar representative development within the City of Ottawa to be used as a baseline of the forecast sound emission of the future site.

The assessment was completed in accordance with the City of Ottawa's Environmental Noise Control Guidelines which are used for a new stationary source of noise (noise generating) in proximity to existing or approved noise-sensitive developments. These guidelines define the equivalent sound level criterion for outdoor amenity areas.

Three stationary noise readings were recorded to predict what the sound level will be for the future development. The first measurement was taken at a baseline site for a similar land use (to establish the reasonable sound level emissions of the proposed project). The second and third field measurements were recorded at and in close proximity to the future site, to assess the ambient sound levels (existing pre-development) to allow a comparison of pre- to post-development sound levels.

One hour sound level measurements were recorded at the following locations:

- 5977 Hazeldean Road (baseline similar use building), see **Figure 2**
- The proposed development location, see **Figure 3**
- March Road (roadside to determine the existing roadway noise source), see **Figure 3**
- Bethune Way/Selye Crescent residence (closest residential receiver site), see **Figure 4**


**Figure 2: 5977 Hazeldean Road Noise Meter Recording Location (Representative Land Use)**

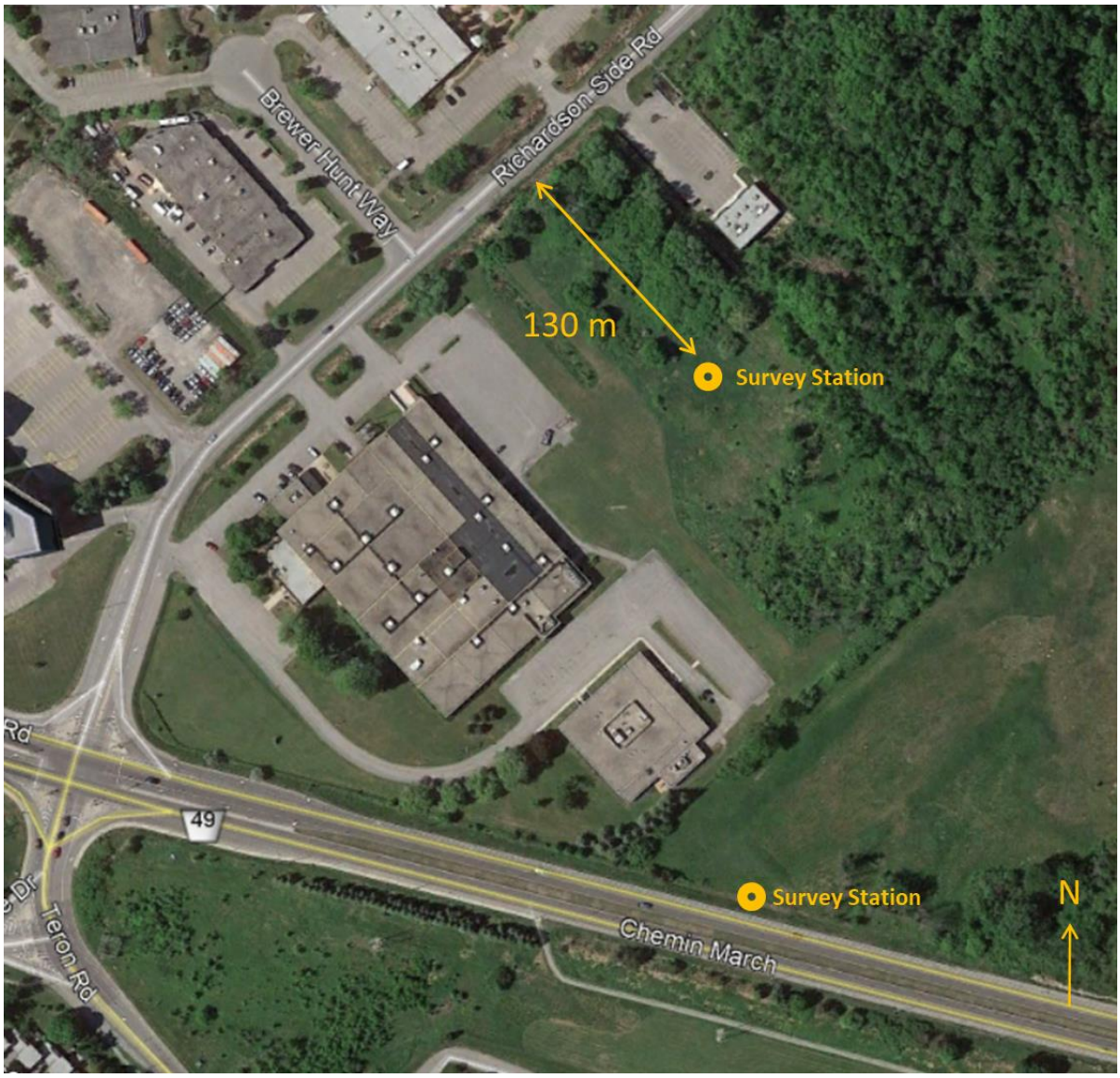



**Figure 3: Teron Road and March Road Noise Meter Recording Locations**

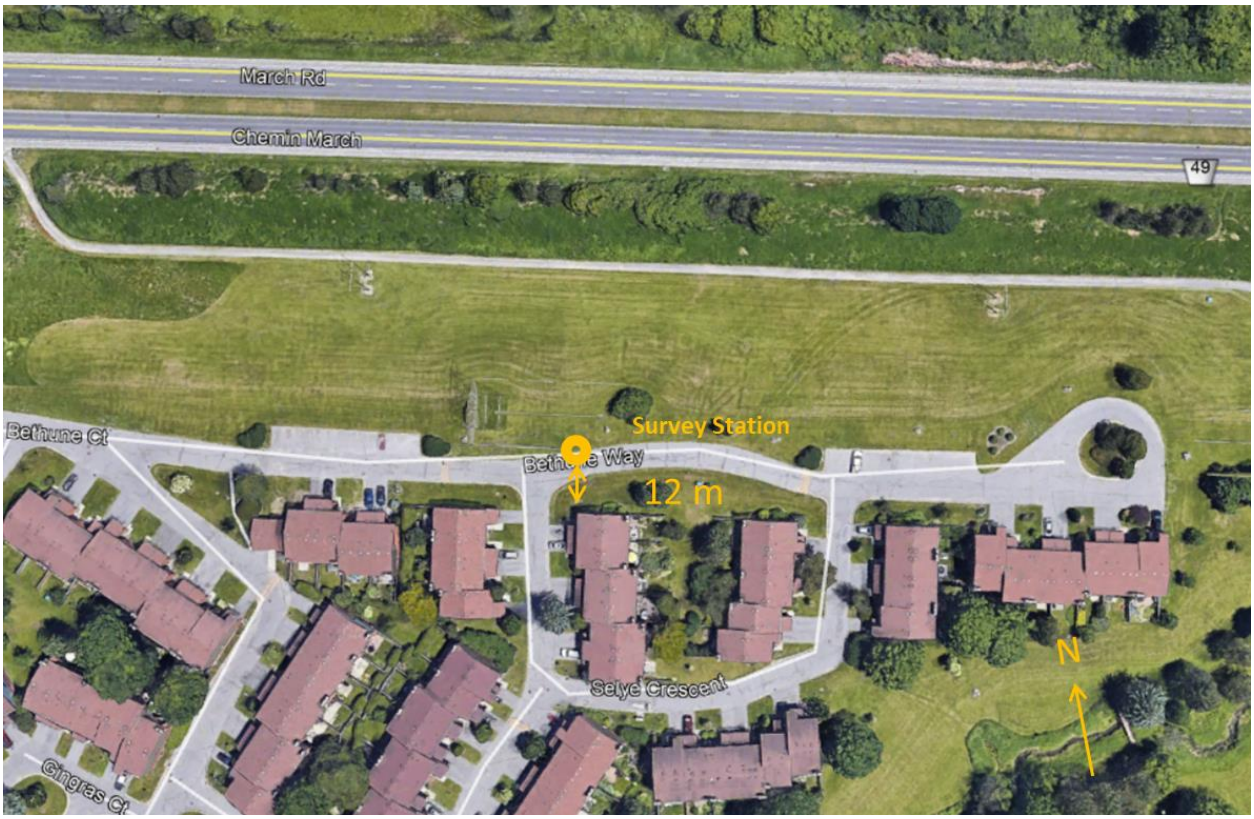



**Figure 4: Bethune Way/Selye Crescent Noise Meter Recording Location**

## 3.0 Conclusions and Recommendations

The recorded sound level measurements at the receiver sites were as follow:

**Table 1: Recorded 1-hour Sound Levels**

| Location | 1-hour Sound Level (Leq (A weighted scale)) |
|---|---|
| 5977 Hazeldean (Sample similar land use) | 56.5 dBA |
| 1243 Teron Road (Existing, no project) | 48.1 dBA |
| March Road (Existing, no project) | 72.8 dBA |
| Bethune Way/Selye Crescent (existing, no project) | 56.5 dBA |

The measurement summary reports are included in **Appendix A**.

Based on the noise assessment criteria outlined in the City's Environmental Control Guidelines, the acceptable equivalent sound-level (Leq) for an outdoor point of reception is 50 dBA from 7:00-23:00 (day-time) and 45 dBA at the plane of window from 23:00-7:00 (night-time).

The adjacent residential noise sensitive area is located at 2 Selye Crescent as illustrated on **Figure 4**. These residential units are the closest noise sensitive area to the development and are separated from the site by March Road. March Road is the closer noise source to these receivers.

Based on the reading obtained at the 5977 Hazeldean Road site, it is reasonable to assume that the new development at 1243 Teron Road will produce a sound level of 56.5 dBA following construction. This would equate to approximately a 0.1 dBA increase at the residential site (based on the distance from the development). Sound level changes of less than 3 dBA are imperceptible to the human ear and therefore no change is expected at the residential site.

The recorded sound levels identified that March Road produces a high level of transportation noise. There is an existing berm at March Road to shield residents from transportation noise that would further reduce sound levels from the proposed development to the noise sensitive land uses.

From an acoustical perspective, noise abatement is not required as part of this project. The offset from the development to the noise sensitive land uses, in combination with the high level of transportation noise produced at March Road and the existing berm at March Road, provides sufficient distance to mitigate the sound levels. At this location, the sound levels are dominated by the background urban hum.

Any outdoor air conditioning units associated with the new building will require shielding on the sides facing the noise sensitive land uses, to the southeast.

| Prepared by: | Reviewed and Approved by: |
| --- | --- |
| Darcie Dillon, P.Eng. |  <br>Steven Taylor, P.Eng |

# Appendix A
# Noise Reader Measurement Reports

Cirrus Research plc

# Measurement Summary Report

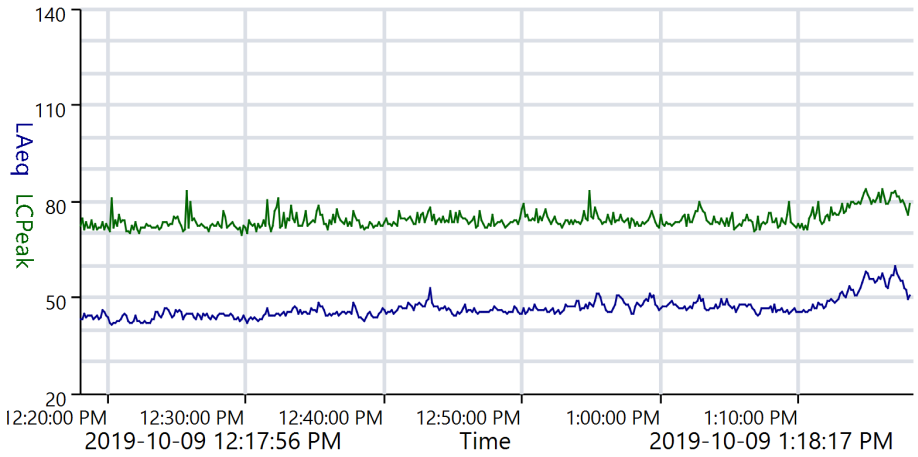
| | | | | | |
|---|---|---|---|---|---|
| **Name** | 5 | | | | |
| **Time** | 2019-10-09 12:17:56 PM | **Person** | | **Place** | **Project** |
| **Duration** | 01:00:21 | | | | |
| **Instrument** | G300933, CR:162B | | | | |

**Calibration**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Before** | 2019-10-09 12:17 PM | Offset | -0.19 dB | **After** | 2019-10-09 1:50 PM | Offset | -0.29 dB |

| Basic Values | |
|---|---|
| LAeq | 48.1 dB |
| LCPeak | 83.8 dB |
| C-A | 14.7 dB |
| LEX8 | 39.1 dB |
| LAFMax | 63.1 dB |

| Projected Exposure | |
|---|---|
| 30 Minutes | 36.1 dB |
| 1 Hour | 39.1 dB |
| 2 Hours | 42.1 dB |
| 4 Hours | 45.1 dB |
| 6 Hours | 46.9 dB |
| 8 Hours | 48.1 dB |
| 10 Hours | 49.1 dB |
| 12 Hours | 49.9 dB |




**ReportId**

Cirrus Research plc

# Measurement Summary Report

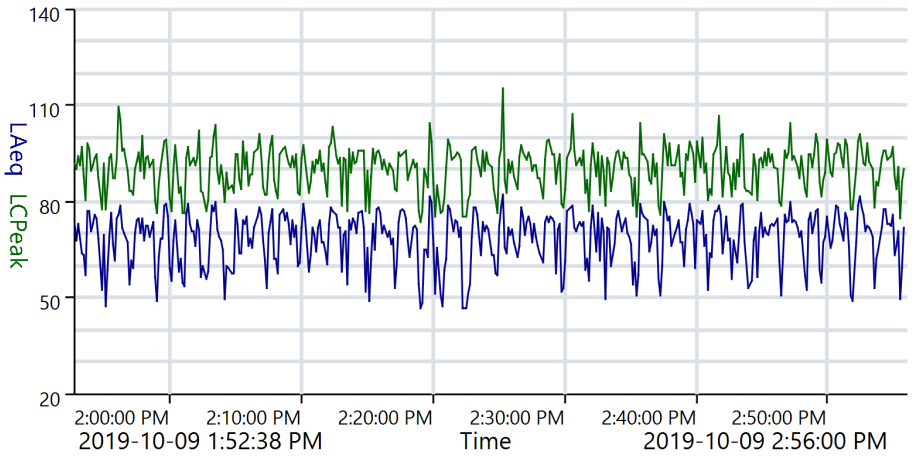
| | | | | | |
|---|---|---|---|---|---|
| **Name** | 6 | | | | |
| **Time** | 2019-10-09 1:52:38 PM | **Person** | | **Place** | **Project** |
| **Duration** | 01:03:22 | | | | |
| **Instrument** | G300933, CR:162B | | | | |

**Calibration**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Before** | 2019-10-09 1:50 PM | Offset | -0.29 dB | **After** | 2019-10-09 2:57 PM | Offset | -0.06 dB |

| Basic Values | |
|---|---|
| LAeq | 72.8 dB |
| LCPeak | 115.0 dB |
| C-A | 4.2 dB |
| LEX8 | 64.0 dB |
| LAFMax | 93.0 dB |

| Projected Exposure | |
|---|---|
| 30 Minutes | 60.8 dB |
| 1 Hour | 63.8 dB |
| 2 Hours | 66.8 dB |
| 4 Hours | 69.8 dB |
| 6 Hours | 71.6 dB |
| 8 Hours | 72.8 dB |
| 10 Hours | 73.8 dB |
| 12 Hours | 74.6 dB |




**ReportId**

Cirrus Research plc

# Measurement Summary Report

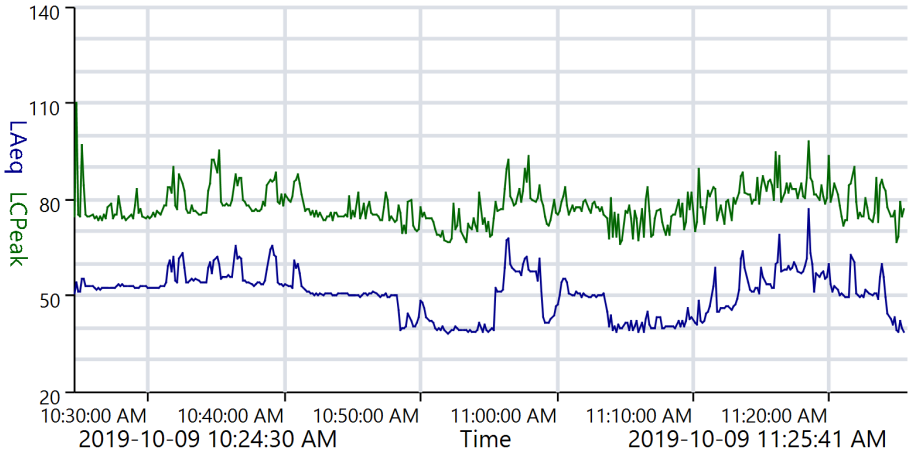
| | | | | | |
|---|---|---|---|---|---|
| **Name** | 4 | | | | |
| **Time** | 2019-10-09 10:24:30 AM | **Person** | | **Place** | **Project** |
| **Duration** | 01:01:11 | | | | |
| **Instrument** | G300933, CR:162B | | | | |

**Calibration**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Before** | 2019-10-09 10:23 AM | Offset | -0.12 dB | **After** | 2019-10-09 12:17 PM | Offset | -0.19 dB |

| Basic Values | |
|---|---|
| LAeq | 56.5 dB |
| LCPeak | 98.1 dB |
| C-A | 10.4 dB |
| LEX8 | 47.6 dB |
| LAFMax | 83.6 dB |

| Projected Exposure | |
|---|---|
| 30 Minutes | 44.5 dB |
| 1 Hour | 47.5 dB |
| 2 Hours | 50.5 dB |
| 4 Hours | 53.5 dB |
| 6 Hours | 55.3 dB |
| 8 Hours | 56.5 dB |
| 10 Hours | 57.5 dB |
| 12 Hours | 58.3 dB |




**ReportId**

Cirrus Research plc

# Measurement Summary Report

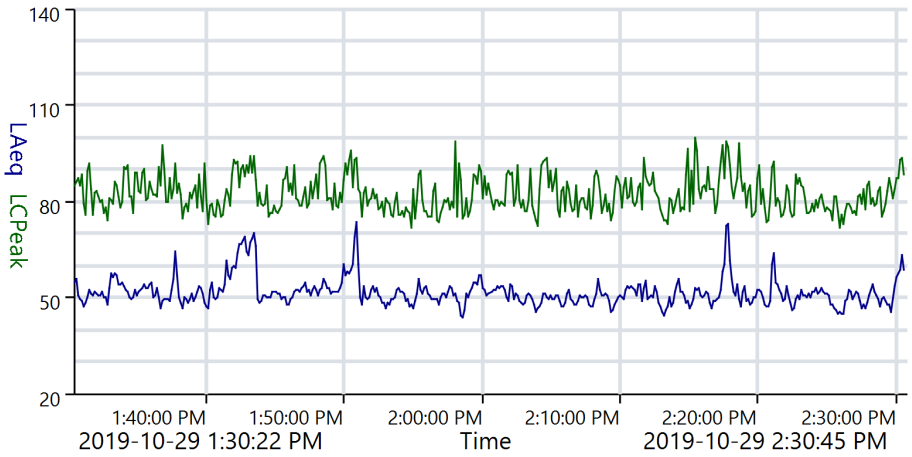
| | | | | | |
|---|---|---|---|---|---|
| **Name** | 8 | | | | |
| **Time** | 2019-10-29 1:30:22 PM | **Person** | | **Place** | **Project** |
| **Duration** | 01:00:23 | | | | |
| **Instrument** | G300933, CR:162B | | | | |

**Calibration**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Before** | 2019-10-29 1:29 PM | Offset | 0.11 dB | **After** | 2019-10-29 2:31 PM | Offset | -0.29 dB |

| Basic Values | |
|---|---|
| LAeq | 56.5 dB |
| LCPeak | 99.7 dB |
| C-A | 14.7 dB |
| LEX8 | 47.5 dB |
| LAFMax | 81.9 dB |

| Projected Exposure | |
|---|---|
| 30 Minutes | 44.5 dB |
| 1 Hour | 47.5 dB |
| 2 Hours | 50.5 dB |
| 4 Hours | 53.5 dB |
| 6 Hours | 55.3 dB |
| 8 Hours | 56.5 dB |
| 10 Hours | 57.5 dB |
| 12 Hours | 58.3 dB |




**ReportId**