



Appendix A
Meeting Agenda



Billy Bishop Toronto City Airport Noise Sub Committee Meeting 8

Thursday October 17th, 2019

5:30 pm to 9:00 pm

Billy Bishop Airport Boardroom

Mainland Passenger Transfer Facility, 2nd Floor (above Aroma Café)

AGENDA

- 5:30 Ground Noise Study Site Walk (meet at Billy Bishop Airport Boardroom)
- 7:00 Welcome, Action Items from Previous Meeting and Agenda Review
- 7:15 Overview of Ground Noise Study (R.J. Burnside & Associates Limited)
- 8:15 Update on Installation of Noise Management Terminals (Gary Colwell)
- 8:45 Status Update of City's requirements for Noise Studies (Bryan Bowen)
- 9:00 Adjourn



Appendix B

PortsToronto Background Noise Monitoring Plan



BURNSIDE

PortsToronto Background Noise Monitoring Plan

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**October 17, 2019
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1.0 Project Understanding

PortsToronto retained R.J. Burnside & Associates Limited in collaboration with Akoustik Engineering Limited (Burnside/Akoustik) to prepare an acoustic assessment for the ground noise emissions from the Billy Bishop Airport (Airport) and their corresponding impact on the residential neighbourhoods generally north of the Airport.

While the airport is under federal jurisdiction, the federal government has not provided guidance on acceptable noise levels in the surrounding community and so PortsToronto has chosen to use the Ontario Provincial Noise Pollution Control (NPC) guidance documents as the basis of their assessment. Reasons for this choice include: many people are already familiar with these guidance documents and how to approach a problem of ground-based noise using that guidance; the levels and definitions provided in these documents are already in use for other sound levels in the area and the levels in these documents are based on annoyance so they are appropriate in this context.

While not completely appropriate in all contexts, NPC-300 provides a good starting point from which to assess the impact from stationary sources. Under NPC-300, all the ground-based sources at the airport are considered stationary sources. This list of sources includes airplanes on the ground. Once they leave the ground, they are no longer considered stationary sources. NPC-300 also provides many definitions so that terminology can be standardized among the reports and stakeholders.

One of the fundamental tenants of whether a noise is considered annoying is how the impact of that noise compares with the impact of other noises experienced by people at that same location. As a result, NPC-300 indicates that the noise level from a stationary source (airport) should not exceed the level of sound that would be experienced by that receptor if the stationary source were not there.

This Background Noise Monitoring Plan is designed to collect noise measurements at a variety of sensitive receptors. Those measurements will be adjusted to remove noises that are obviously sourced at the airport with the expectation that the remaining sound level can be considered the Background noise level. The impact of the airport source noise will be compared to the Background noise level with the ideal being that the airport source noises be less than or equal to the background noise levels.

2.0 Measurement Methodology

Type 1 Sound Level Meters (SLMs) will be installed at the locations listed in Table 1: List of POR Locations to Measure and shown in Figure 1: Figure 1 Proposed Measurement Locations.

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Each meter will be sited so that the majority of the noise received by the meter will be from a southerly direction so that the traffic noise from the major roads to the north (Gardner) will have less impact on the measurements. Meters will also be located to minimize exposure to extremely local sources like HVAC units, pedestrian traffic, and vehicle traffic.

Table 1: List of POR Locations to Measure

Address	Highest Floor ¹	Distance to Island (m) ²
Hotel X Toronto, 111 Princes' Blvd. ³	27	760
Residence, 28 Stadium Road	4	200
Residence, 650 Queens Quay W. The Atrium on Queens Quay Condos	16	360
Residence, 560 Queens Quay W	12	380
Residence, 498 Queens Quay W	12	400
Residence, 401 Queens Quay W	8	500

¹ The highest floor is provided for reference, not to indicate where the meter will be installed.

² The distance measured is approximate from the closest point on the POR building to the closest point on the island airport property (terminal excluded).

³ Hotel X Toronto at 111 Princes' Blvd. is north of Lakeshore Road which may not be the ideal location. Another location or another height at one (1) of the locations listed in Table 1 may be more appropriate.

Note that PortsToronto existing Noise Monitoring Terminals (NMTs) will be used to contribute to the understanding of the background levels.

The meter locations were chosen as a balance of the following parameters:

- Distance from airport (closer preferred).
- Portion of airport visible by receptor (some with clear view of east end, others west end, some in the middle).
- Unobstructed view of airport (normally no buildings shielding the measurement location from a section of the ground sources at the airport).
- A variety of possible heights for the measurement locations.

All meters will have been calibrated less than 12 months prior to being used to measure the sound level at a Point of Reception (POR). All meters will be field calibrated at the time of installation and again at the end of the measurement period. The meters will be considered to have maintained adequate calibration throughout the measurement if the pre and post field calibration are within 0.5 dB of each other, as required in NPC-300.

All measurements will be recorded in 1/3 octave band "A-weighted" and "Z-weighted" (unweighted) values. These two weightings are expected to be sufficient for this project since they are the weightings typically used in this type of assessment. The reason that A-weighting has become so prevalent is that at normal levels, it is very good at predicting how intrusive noises are to people, which is the goal of this project.

The meters will also record a variety of percentile, maximum, and minimum values should further processing be required.

The meters will be in place and recording for seven (7) consecutive days at each of the locations simultaneously. If weather during the measurements is expected to invalidate a significant portion of the measurements, then the measurement period may be extended at PortToronto's exclusive discretion.

3.0 Data Processing Methodology

The measured data will be uploaded to a spreadsheet for analysis.

The records corresponding to precipitation events (and the following 30 minutes), wind in excess of 20 km/h, relative humidity over 90 %, or relative humidity below 10 % will be removed from calculations.

A 1-h Leq will be generated for each valid hour of measurement data.

The nighttime 1-h Leq for each measurement location will be selected as the lowest 1-h Leq recorded between 23:00 and 07:00. Since the airport does not operate during a significant portion of this time period, the lowest hour should provide the lowest background level. The airport noise monitoring system will be queried to confirm that a helicopter did not arrive or leave during this hour.

The daytime 1-h Leq for each measurement location will be selected as the lowest few 1-h Leq recordings between 07:00 and 23:00. Since the airport does operate during this time period, the lowest hour should provide the lowest background level, but each reading is likely to also contain sounds from the airport so each of the selected hours will be audited and compared to information in the airport noise monitoring system to identify records to remove. These records will most often contain contributions to the total that are higher than the average so removing them will reduce the overall background level. The lowest valid 1-h Leq will be selected for each measurement location. The events to be removed (as Airport based events) will be removed from all simultaneous measurement sets.

Since the exclusionary limit for a Class 1 area is the same during the daytime and evening, one value background value will be developed for the entire time period.

The 1/3 octave band, percentile, maximum and minimum statistics can be used to better understand the specifics of background noise characteristics.

4.0 Results of NMP

The results of the NMP will be a daytime and nighttime background 1-h Leq for each measurement location. This value will be compared to the modelled impact from the stationary sources at those same locations as an indication of the annoyance of the stationary source impacts at those locations.

Figure 1: Proposed Measurement Locations



Legend

-  Airport
-  POR



700 m

Google Earth