



**Sydney Cricket Ground Trust**

**ALLIANZ STADIUM: EVENT NOISE  
MONITORING - SIA, 1 AND 2 DECEMBER  
2017**

**December 2017**



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## **Executive Summary**

Monitoring of noise levels at sensitive receptors in the area surrounding Allianz Stadium was undertaken during sound checks and the SIA concert on the 1<sup>st</sup> and 2<sup>nd</sup> December 2017 to determine compliance with the following noise criteria defined in the site's Noise Management Plan (NMP):

*'During sound test(s), rehearsal(s) and concert(s),  $L_{Amax}$  and the  $L_{Cmax}$  measured at the specified locations described in Section 15.4 will not exceed:*

*ii) For activities conducted at the SFS: 80 dB(A) and 100dB(C).'*

*Throughout the monitoring, noise levels were recorded every two minutes, and observations were made as to the source of noise and potential exceedances at each location. The noise level recorded represents the highest RMS noise level recorded during the two minute period. Hence, even where exceedances are identified it is possible that for the majority of the two minute period, receptor noise levels were compliant with the NMP criteria.*

*During the sound checks on the 1<sup>st</sup> December (intermittently from 7:30 pm until 8:30 pm) monitoring was completed to confirm compliance and to determine if adjustments to the sound system were necessary to achieve compliance. Typically noise levels were well below established criteria throughout the testing, with one exceedance occurring. All amplification ceased ahead of the 9:00 pm curfew provided in a variation to the prevention notice.*

*During the sound checks of 2<sup>nd</sup> December 2017, advice was provided by ENM staff on operating levels likely to result in compliance. Adjustments were made to the system and programmed for the event. 3 measured exceedances occurred during the sound testing.*

*Prior the commencement of the event, from 5:00 pm – 5:30 pm, the cloud height dropped significantly and rain commenced. The changing weather conditions resulted in slightly higher noise levels than measured during sound checks. The sound engineers were informed that a reduction to the programmed operating volumes may be necessary to maintain compliance.*

*During all performances the operating levels were generally within the criteria by 3 dB or more, however on 18 occasions, the  $L_{Cmax}$  levels exceeded the 100 dB(C) criteria as follows:*

- first support act 'Amy Shark' (6:00 pm – 6:30 pm), 2 exceedances.*
- second support act 'MØ' occurring from 6:50 pm – 7:30 pm, 9 exceedances*
  - identified as due to the dynamic nature of the performer, and frequent use of broad bass notes (encompassing frequencies from 40 – 80 Hz).*
- third support act 'Charlie XCX' occurring from 7:50 pm – 8:30 pm, 1 exceedance.*
- headline act 'SIA' (9:12 pm – 10:30 pm), 6 exceedances.*

*In all cases of identified exceedances and measured elevated levels, the operators were very responsive to instruction to reduce levels, and the general programming remained at least 3 dB below the criteria. It was noted that the weather was changeable and influenced both the operating volumes and propagation of noise.*

*During the event no complaints were received by the Trust during the line checks of 1<sup>st</sup> December, or sound checks and performance of 2<sup>nd</sup> December 2017.*

*The main performance finished at 10:30 pm.*

## CONTENTS

<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>1.1</b>	<b>SCOPE OF ASSESSMENT</b>	<b>1</b>
<b>1.2</b>	<b>EVENT DETAILS</b>	<b>1</b>
<b>1.3</b>	<b>EVENT NOISE CRITERIA</b>	<b>1</b>
<b>2</b>	<b>MONITORING METHODOLOGY</b>	<b>3</b>
<b>2.1</b>	<b>MONITORING POSITIONS</b>	<b>3</b>
<b>2.2</b>	<b>OPERATORS</b>	<b>4</b>
<b>2.3</b>	<b>MONITORING EQUIPMENT</b>	<b>4</b>
<b>2.4</b>	<b>WEATHER CONDITIONS DURING THE EVENT</b>	<b>4</b>
<b>3</b>	<b>RESULTS OF MONITORING</b>	<b>6</b>
<b>3.1</b>	<b>MONITORING RESULTS</b>	<b>6</b>
<b>3.2</b>	<b>CONCERT HOTLINE</b>	<b>7</b>
<b>3.3</b>	<b>REVIEW OF EXCEEDANCES</b>	<b>8</b>
	<b>APPENDIX A: ACOUSTIC GLOSSARY</b>	
	<b>APPENDIX B: DETAILED NOISE MONITORING RESULTS (FIXED POSITIONS)</b>	

# 1 INTRODUCTION

## 1.1 SCOPE OF ASSESSMENT

Sydney Cricket Ground Trust commissioned Air Noise Environment Pty Ltd to conduct event noise monitoring during the Cold Play concert as required under the Noise Management Plan (NMP) for the facility<sup>1</sup>.

This report presents a summary of the results of the monitoring and a comparison with the noise criteria for the event as defined in the NMP.

## 1.2 EVENT DETAILS

The concert event and line checks were held at Allianz Stadium (SFS) on on Friday 1<sup>st</sup> December 2017 and Saturday 2<sup>nd</sup> December 2017, respectively. This report presents the noise monitoring methodology and results for the line checks and performance.

The approximate schedule for the amplified line checks, sound checks and event performances were as follows:

Friday:

- Line checks: 7:00 pm - 9:00 pm.

Saturday:

- Line checks: 10:00 pm - 1:00 pm.
- Sound checks: 1:00 pm - 5:00 pm.
- Gates Open, with low level background pre-recorded music: 5:00 pm - 6:00 pm
- Support Act 'Amy Shark': 6:00 pm - 6:30 pm
- Support Act 'MØ': 6:50 pm - 7:30 pm
- Support Act 'Charlie XCX': 7:50 pm - 8:30 pm
- 'SIA': 9:00 pm - 10:15 pm.

## 1.3 EVENT NOISE CRITERIA

Noise limits for concert events held at Allianz Stadium are provided in the site's NMP as follows:

### ***'3.2.2 Concerts, Rehearsals and Sound Tests***

*Both dB(A) and dB(C) limits are specified for concerts as a particular impact on local receptors of amplified music is low-tone bass sounds - measured in dB(C).*

*During sound test(s), rehearsal(s) and concert(s),  $L_{Amax}$  and the  $L_{Cmax}$  measured at the monitoring locations will not exceed:*

- *For activities conducted at the SFS: 80 dB(A) and 100dB(C). '*

Section 6.2.1 of the NMP details the monitoring positions that must be considered as follows:

<sup>1</sup> Sydney Cricket and Sports Ground Trust (SCGT) Noise Management Plan for Sydney Cricket and Sports Ground Trust (January 2017)

### **'Monitoring Locations**

*For both sporting events and concerts attended monitoring locations will be as set out below.*

#### **For activities taking place at Allianz Stadium:**

- *At a point within one (1) metre of the boundary nearest to Allianz Stadium at 234 Moore Park Road, Paddington; and*
- *At a point within one (1) metre of the boundary nearest to Allianz Stadium of 10 Alexander Street, Paddington'*

The NMP also presents the following considerations relevant to concert performance noise:

- An exceedance of the noise level limit by a maximum of 5 dB(A) and/or 5 dB(C) during a single (5) minute period during the first ten (10) minutes of the performance of each new act will not be taken to be a breach of the limits.
- Noise levels measured when wind speed exceeds 5 m/s (at microphone height) should not be used to measure compliance with noise limits in the Notice, as wind generated noise may limit measurement accuracy. During periods of wind greater than 5 m/s the Trust must continue to take all reasonable and feasible actions to minimise noise.
- **Concerts:** A concert must not commence prior to 1000 hours or finish after 2230 hours on any day. Notwithstanding the above, concerts may continue until 2300 hours if an occurrence beyond the control of the Trust delays the concert. The total length of a concert must not be greater than five (5) hours.
- **Rehearsals:** Rehearsals will not commence prior to 1000 hours or finish after 1900 hours. The total duration of rehearsals will be kept to an absolutely minimum; and
- **Sound Tests:** Sound test(s) will not commence prior to 1000 hours or finish after 1900 hours. The total duration of sound tests will be kept to an absolute minimum.

The exemption for exceedances at the start of new performances is intended to give the mixing desk operators time to respond to changes in conditions (e.g. meteorology), or unfamiliarity with the system (new operator). Subsequent exceedances will be considered as normal.

It is noted that the EPA granted a variation to the NMP with an extension to the Friday sound tests until 9:00 pm, due to the late time in which the initial 'bump in' was occurring (based on overnight transportation from Melbourne).



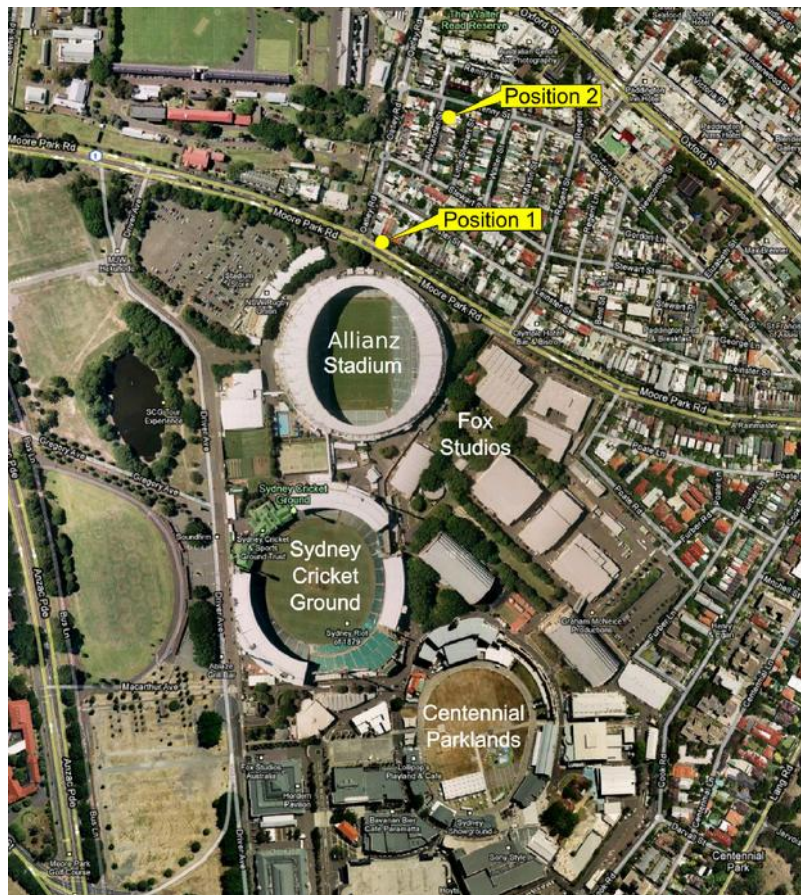
## 2 MONITORING METHODOLOGY

### 2.1 MONITORING POSITIONS

Monitoring during the sound checks and rehearsal were undertaken at two fixed monitoring positions as required by the NMP. Table 2.1 presents a summary of the monitoring locations assessed during the event, with the monitoring positions identified on Figure 1.

**TABLE 2.1: SUMMARY OF MONITORING POSITIONS**

Position	Description
1	Fixed monitoring position located within 1 m of the front boundary of 234 Moore Park Road
2	Fixed monitoring position located within 1 m of the front boundary of 10 Alexander Street



**Figure 1: Noise Monitoring Positions (External Fixed Locations)**

In addition to the external compliance monitoring, Event Noise Management staff were present at the front of house (FOH) position to advise the compliance status of noise levels to the production team throughout the event. It was noted that a dedicated sound engineer was in control of the overall volumes throughout the show, and ENM personnel were positioned in close proximity allowing swift advice when changes were required to operating volumes to maintain

compliance.

## 2.2 OPERATORS

During the monitoring undertaken on 1<sup>st</sup> and 2<sup>nd</sup> December 2017, Air Noise Environment personnel were located at each position identified in Figure 1. The monitoring exercise was undertaken by the following personnel:

- Mixing Desk (FOH): Beau Weyers, BEng(Mech), RPEQ, MAAS;
- Position 1: James Daramola: BEng(Mech); and
- Position 2: Roger Treagus: BA, MA Env. Stud, MAAS.

## 2.3 MONITORING EQUIPMENT

Table 2.2 presents a summary of the equipment used the monitoring. The sound level meters used for the monitoring conform to Australian Standard 1259 "Acoustics - Sound Level Meters", (1990) Type 1 (precision sound level meter), and have an accuracy suitable for both field and laboratory use.

The sound level meters and calibrator have been checked, adjusted and aligned to conform to the Type 1 specifications by a third party NATA accredited laboratory within the last 24 months and issued with a conformance certificate.

**TABLE 2.2: SUMMARY OF MONITORING EQUIPMENT**

Position	Instrument Model	Instrument Serial	Instrument Calibration Due Date	Field Pre-Calibration	Field Post-Calibration
1	Bruel & Kjaer 2250L	2741105	23/01/19	93.9 94.0	93.9 94.3
2	Norsonic 140	1404663	29/06/19	93.9 94.0	94.0 93.9
Front of House	Bruel & Kjaer 2250L	2741104	21/11/19	94.0 94.0	93.9 94.0
Calibrator	Rion NC74	34483804	22/17/19	-	-

Field calibrations of each of the instruments were also undertaken prior to and immediately after the monitoring was completed. Less than 0.5 dB drift occurred over the measurement periods. All instruments were fitted with a windshield and monitoring was completed at a height of 1.5 m above ground level.

## 2.4 WEATHER CONDITIONS DURING THE EVENT

For the duration of amplified activities moderate north-easterly winds dominated, with a brief period (3:30 – 4:30 pm) with strong gusts and westerly winds. During the evening of Friday 1<sup>st</sup> December 2017 clouds began to form above the venue, and remained throughout the sound



checks and performances of Saturday 2<sup>nd</sup> December 2017. Rain was prevalent throughout the afternoon of Saturday 2<sup>nd</sup> December, with low lying clouds forming during the evening, which has a potential to elevate noise levels outside the venue (via reflections).

Table 2.3 presents a summary of the meteorological data from Sydney Airport for the rehearsal afternoon and performance evening. In addition, observations regarding rain and wind intensity were made during the event.

**TABLE 2.3: SUMMARY OF METEOROLOGICAL DATA**

Date / Time	Temperature	Cloud	Cloud Base (m)	Cloud Type	Pressure Tendency	Rain (mm)	Weather	Wind Direction	Wind Speed (km/hr)	Gust (km/hr)	Relative Humidity (%)
<b>FRIDAY</b>											
01/05:00pm	25.3	-	-	-	-	0	-	NE	54	67	67
01/05:23pm	26.1	Mostly clear	540	Stratus	-	0	-	NE	50	69	67
01/05:30pm	25.1	-	-	-	-	0	-	NE	52	69	70
01/06:00pm	25.8	Mostly cloudy	1500	-	Falling	0	Haze	NE	48	59	70
01/06:30pm	23.8	-	-	-	-	0	-	NE	48	63	75
01/07:00pm	23.8	Mostly clear	510	Stratus	-	0	-	NE	44	59	77
01/07:05pm	23.7	Mostly clear	510	Stratus	-	0	-	NE	44	63	78
01/07:30pm	23.7	Mostly clear	510	Stratus	-	0	-	NE	48	63	78
01/07:47pm	22.8	-	-	-	-	0	-	NE	48	67	80
01/08:00pm	22.6	-	-	-	-	0	-	NE	43	57	82
01/08:30pm	22.6	Mostly clear	510	Stratus	-	0	-	NE	46	63	82
01/08:33pm	22.7	Mostly clear	510	Stratus	-	0	-	NE	46	70	82
01/09:00pm	22.2	Mostly cloudy	300	-	Falling	0	Haze	NE	46	69	83
01/09:30pm	22.6	Mostly clear	540	Stratus	-	0	-	NNE	43	56	83
01/10:00pm	22.6	Mostly clear	540	Stratus	-	0	-	NNE	39	54	83
01/10:30pm	22.8	Mostly clear	540	Stratus	-	0	-	NNE	41	52	83
<b>SATURDAY</b>											
02/09:30am	24.9	-	-	-	-	0	-	NE	30	35	69
02/10:00am	24.9	-	-	-	-	0	-	NE	33	43	68
02/10:30am	24.6	Partly cloudy	3300	-	-	0	-	NE	30	37	68
02/11:00am	25	Partly cloudy	3750	-	-	0	-	NE	32	37	68
02/11:30am	26.3	-	-	-	-	0	-	NE	32	39	61
02/12:00pm	25.6	Cloudy	1500	-	Falling	0	Haze	NE	35	44	64
02/12:30pm	25.7	Partly cloudy	1680	-	-	0	-	NNE	33	41	63
02/01:00pm	28.3	Partly cloudy	1680	-	-	0	-	NE	28	35	54
02/01:30pm	26.7	Partly cloudy	1740	-	-	0	-	NE	33	41	56
02/02:00pm	26.7	Partly cloudy	1860	-	-	0	-	NE	39	50	57
02/02:30pm	26	Partly cloudy	1800	-	-	0	Showers	NE	32	43	62
02/03:00pm	23.4	Cloudy	600	-	Falling	0	Rain	NE	24	32	80
02/03:17pm	24.9	Mostly clear	540	Stratus	-	0.4	Showers	NNE	17	24	74
02/03:20pm	20.8	Mostly clear	450	Stratus	-	0.8	Showers	N	20	59	81
02/03:30pm	19.6	Partly cloudy	450	Stratus	-	2.6	Showers	W	46	67	93
02/03:45pm	19.3	Mostly clear	450	Stratus	-	3.6	Showers	WSW	30	44	92
02/04:00pm	18.9	Partly cloudy	900	Cumulus	-	4	-	WSW	17	24	91
02/04:30pm	19.5	Mostly clear	540	Cumulus	-	4.6	Rain	NW	7	9	88
02/05:00pm	19.7	Mostly clear	750	Cumulus	-	4.8	-	ENE	7	11	88
02/05:30pm	19.4	Mostly clear	240	Stratus	-	5.4	Rain	NE	15	20	93
02/06:00pm	18.5	Mostly cloudy	200	-	Rising	6	Rain	ENE	24	30	97
02/06:27pm	18.2	Mostly clear	180	Stratus	-	7	Rain	ENE	28	32	99
02/06:30pm	18.3	Mostly clear	180	Stratus	-	7	Rain	ENE	28	35	99
02/06:54pm	18.5	Mostly clear	210	Stratus	-	7.2	Drizzle	NE	30	39	99
02/07:00pm	18.4	Partly cloudy	150	Stratus	-	7.2	-	NE	32	37	99
02/07:30pm	18.3	Partly cloudy	150	Stratus	-	7.6	Rain	NE	32	39	97
02/08:00pm	18.7	Mostly clear	180	Stratus	-	8.2	-	NE	24	32	98
02/08:27pm	18.6	Partly cloudy	180	Stratus	-	8.8	Rain	NE	22	30	98
02/08:30pm	18.9	Partly cloudy	180	Stratus	-	8.8	Rain	NE	24	30	98
02/09:00pm	18.8	Cloudy	100	-	Falling	9.2	Rain	NNE	28	33	97
02/09:30pm	18.8	Partly cloudy	240	Stratus	-	9.4	Rain	NNE	24	32	97
02/10:00pm	19	Partly cloudy	270	Stratus	-	9.6	-	N	15	20	96
02/10:30pm	19.1	Mostly clear	270	Stratus	-	9.6	-	N	13	17	96
02/11:00pm	19.4	Mostly clear	270	Stratus	-	9.6	-	N	13	17	96

## 3 RESULTS OF MONITORING

### 3.1 MONITORING RESULTS

Noise monitoring results were recorded at each location every<sup>2</sup> two minutes of amplification throughout the monitoring periods:

- Friday – 7:30 pm to 10:00 pm
- Saturday – 10:00 am to 10:30 pm

During each two minute period notes were also made regarding the sources of noise in the area and the source of any potential exceedances of the noise criteria. It is noted that the noise level recorded represents the highest RMS noise level recorded during the two minute period. Hence, even where exceedances are identified it is possible that for the majority of the two minute period, receptor noise levels were compliant with the NMP criteria.

During the line checks/sound checks and event of the 1<sup>st</sup> and 2<sup>nd</sup> of December Event Noise Management (ENM) staff completed tests to determine adjustments and acceptable volumes for the sound system to maintain compliance for external noise levels. These changes included reduction of the volume of specific frequencies and identification of speaker arrays with potential to influence noise external to the venue. The sound engineer made adjustments to maintain achieve compliance, and programmed them into the system.

During the sound checks on the 1<sup>st</sup> December (intermittently from 7:30 pm until 8:30 pm) Event Noise Management (ENM) staff monitored externally to confirm compliance and to determine if adjustments to the sound system were necessary to reduce external noise levels to achieve compliance. Typically noise levels were well below established criteria throughout the testing, with one exceedance occurring. Following the measured exceedances, adjustments were immediately made to the system volumes and programmed for subsequent testing and performances.

It was noted that north-easterly winds were prevalent during the checks, and were expected to continue through the event day.

All amplification on the 1<sup>st</sup> December 2017 ceased at 8:30 pm, ahead of the 9:00 pm curfew provided in a variation to the prevention notice.

During the sound checks of 2<sup>nd</sup> December 2017, each of the four acts performed sound checks for approximately 15 – 30 minutes to balance their performance levels. During this time advice was provided by ENM staff on operating levels likely to result in compliance. Adjustments were made to the system and programmed for the event. 3 measured exceedances occurred during the sound testing.

Prior to the commencement of the event, from 5:00 pm – 5:30 pm, the cloud height dropped significantly and rain commenced. The changing weather conditions resulted in slightly higher noise levels than measured during sound checks. The sound engineers were informed that a reduction to the programmed operating volumes may be necessary to maintain compliance.

During the first support act 'Amy Shark' occurring from 6:00 pm – 6:30 pm, the measured levels were generally within the criteria by 3 dB or more, with 2 exceedances of the  $L_{Cmax}$  criteria

<sup>2</sup> *Short periods of rain impedance and battery changes resulted in brief periods of pause. Observations were continued throughout.*

occurring.

During the second support act 'MØ' occurring from 6:50 pm – 7:30 pm, the measured levels were generally within the criteria by 3 dB or more. However, due to the dynamic nature of the performer, and frequent use of broad bass notes (encompassing frequencies from 40 – 80 Hz), 9 exceedances of  $L_{Cmax}$  criteria occurred.

During the third support act 'Charlie XCX' occurring from 7:50 pm – 8:30 pm, the measured levels were generally within the criteria by 3 dB or more, with 1 exceedance of the  $L_{Cmax}$  criteria occurring.

The main act 'SIA' was scheduled for a 9:00 pm start, however the performance commenced at approximately 9:12 pm.

During the main act the maximum noise levels measured external to the venue never raised above 80 dB(A), and generally operated below 97 dB(C). However, on 6 occasions an elevated bass note resulted in an exceedance of the 100 dB(C) criteria.

In all cases of identified exceedances and measured elevated levels, the operators were very responsive to instruction from ENM staff to reduce levels, and the general programming remained at least 3 dB below the criteria.

With regards to weather conditions, rain occurred during the majority of performances, with low cloud levels. Winds were predominately north-easterly. Naturally, these winds would direct noise away from the nearest off-site sensitive receivers, however, due to localised buildings, the nearest receptors are shielded from these winds. Hence, north-easterlies provide minor benefit in terms of a reduction to noise levels at the nearest residents and the monitoring location at 234 Moore Park Road.

During the show, SCGT staff and Event Noise Management staff continually informed the sound engineers whenever levels were approaching the criteria (within 3 dB) in order to maintain compliant operating volumes. It was acknowledged that the low cloud and wet surface resulted in greater propagation of noise, and despite brief exceedances of the criteria, the operators were found to be highly responsive to requests, and keen to remain below the criteria with a buffer for 'big notes'.

The event personnel were informed that the NMP requires the event to conclude at 10:30 pm. The stage performance conclude at 10:28 pm, with a short lower volume video (with no bass content) up until 10:30 pm. For the following 3 minutes a short duration music track was played at a significantly reduced volume to aid in crowd control and a 'soft close'. The levels were identified as inaudible at the external monitoring positions.

Appendix B presents a summary of the recorded noise levels and observations during the sound check and rehearsal.

## **3.2 CONCERT HOTLINE**

No complaints were received by the Trust during the line checks of 1<sup>st</sup> December, or sound checks and performance of 2<sup>nd</sup> December 2017.

### 3.3 REVIEW OF EXCEEDANCES

Table 3.1 presents a summary of the 2-minute monitoring periods, where amplified music from the venue resulted in an  $L_{Cmax}$  exceeding the criteria. It should be noted that in all instances (22) the average bass was compliant and at least 3 dB below the criteria, and the exceedance was a result of a particular note, typically one with a broad range of frequency content (e.g. 40Hz – 80Hz inclusive), resulting in 1 – 2 seconds of exceedance. As far as practicable the event music including all bass content was targeted to remain at least 3 dB below the criteria, to allow for these spikes.

The mixing desk operators were informed of the specific dB level beyond which the criteria exceeded externally, and worked to maintain levels below throughout the performance. In all instances where a note elevated above the criteria, it was identified that it was a unique situation, and the system did not account for the cumulative effect of the combined broad range of frequencies.

It was noted on all occasions that the mixing desk operators were responsive to requests to reduce and adjust the operating volumes. Some amendment to the system was required as a result of the rain (elevated humidity, low cloud, and wet surfaces can result in greater propagation of low frequency noise). It is also noted that the majority of monitoring was also completed in the rain, which may have influenced the measurements.

The Noise Management Plan identifies that:

- Exemption for exceedances at the start of new performances: An exceedance of the noise level limit in condition 15(a) by a maximum of 5dB(A) and/or 5dB(C) during a single five (5) minute period during the first ten (10) minutes of the performance of each new act will not be taken to be a breach of condition 15.
- Noise levels measured when wind speed exceeds 5m/s (at microphone height) should not be used to measure compliance with noise limits in the Notice, as wind generated noise may limit measurement accuracy. During periods of wind greater than 5 m/s the Trust must continue to take all reasonable and feasible actions to minimise noise

Some elevated periods (within the first 5 minutes of a new performer) were utilised to adjust the operating volume where changes in weather or to the system may have resulted in elevated levels beyond those anticipated based on sound-checks. However, as noted by the NMP, these exceedances are not considered a breach of condition 15. Additionally, the meteorological data for the event was typically in excess of 5 m/s, and may have influenced the monitoring results.

Overall the volume of the event was well managed, with mixing desk operators working actively to minimise their impact on surrounding neighbourhood, and rehearsals were kept to a minimum.

**TABLE 3.1: SUMMARY OF EXCEEDANCES**

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
<b>Friday – Sound Checks</b>			
08:28 PM	77.7	102.6	Exceedance. Bass maximum above criteria, messaged FOH to reduce 3 dB to upper system limit.
<b>Saturday – Sound Checks</b>			
02:38 PM	82.2	100.2	Car dB(A) max. Broadband bass from venue audible, identified as 40 - 80Hz. Requested immediate 2 dB reduction to music 'Mo' sound check.
02:54 PM	75.6	100.3	Music above dB(C) criteria. Exceedance. Messaged FOH to reduce below previous levels, due to rain and cloud influence.
03:00 PM	77.1	101.7	Traffic noise influencing measurements. Live SPL identified 100.6 dB(C) maximum from music. Exceedance. Requested further adjustments, focusing on 40 Hz frequency.
<b>Saturday – Event</b>			
06:12 PM	87.2	103.8	<b>'Amy Shark' performance</b> Car dB(A) max. Music dB(C) max. One instance of bass note caused dB(C) max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
06:14 PM	80.5	102.2	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
06:56 PM	77.8	103.1	<b>'MO' performance</b> Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
06:58 PM	76.5	102.0	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:06 PM	77.5	100.5	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:08 PM	77.6	100.2	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:12 PM	77.5	100.9	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:14 PM	79.7	105.5	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:16 PM	78.3	104.9	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:24 PM	81.2	104.7	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
07:26 PM	82.7	101.9	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
08:12 PM	84.5	103.2	<b>'Charlie XCX' performance.</b> Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
09:24 PM	88.3	100.7	<b>'SIA' performance.</b> Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
09:26 PM	89.0	102.1	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
09:28 PM	79.5	100.4	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
09:34 PM	75.9	101.1	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
10:06 PM	77.4	104.0	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
10:16 PM	78.4	100.9	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance



# **APPENDIX A**

## **ACOUSTIC GLOSSARY**

## APPENDIX A: GLOSSARY OF ACOUSTIC TERMINOLOGY

<b>A-Weighting</b>	A response provided by an electronic circuit which modifies sound in such a way that the resulting level is similar to that perceived by the human ear.
<b>dB (decibel)</b>	This is the scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and the reference pressure (0.00002 N/m <sup>2</sup> ).
<b>dB(A)</b>	This is a measure of the overall noise level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
<b>dB(C)</b>	This is a standard weighting of the audible frequencies, commonly used for the measurement of Peak Sound Pressure level.
<b>Facade Noise Level</b>	Refers to a sound pressure level determined at a point close to an acoustically reflective surface (in addition to the ground). Typically a distance of 1 metre is used.
<b>Free Field</b>	Refers to a sound pressure level determined at a point away from reflective surfaces other than the ground with no significant contribution due to sound from other reflective surfaces; generally as measured outside and away from buildings.
<b>Hertz (Hz)</b>	A measure of the frequency of sound. It measures the number of pressure peaks per second passing a point when a pure tone is present.
<b>L<sub>Aeq</sub> Equivalent Continuous Sound Level</b>	This is the equivalent steady sound level in dB(A) containing the same acoustic energy as the actual fluctuating sound level over the given period. For a steady sound with small fluctuations, its value is close to the average sound pressure level.
<b>L<sub>A90,T</sub></b>	This is the dB(A) level exceeded 90% of the time, T.
<b>L<sub>A10,T</sub></b>	This is the dB(A) level exceeded 10% of the time, T.
<b>L<sub>Amax</sub></b>	is the maximum A-weighted sound pressure level recorded over the period stated.
<b>L<sub>Cmax</sub></b>	is the maximum C-weighted sound pressure level recorded over the period stated.

# **APPENDIX B**

## **DETAILED MONITORING DATA (FIXED POSITIONS)**



## EVENT NOISE MANAGEMENT

<b>Project Number:</b>	5177	<b>Date:</b>	FRI 1/12/2017
<b>Project Description:</b>	SIA 2017		
<b>Monitoring Location:</b>	1 - SFS at 234 Moore Park Road, Paddington		
<b>Operator:</b>	James Daramola		
<b>Instrument:</b>	Bruel & Kjaer	<b>Calibrator Model:</b>	Rion NC74
<b>Instrument Serial:</b>	27441105	<b>Calibrator Serial:</b>	34483804
<b>Instrument NATA Calibration Date:</b>	23/01/19	<b>Calibrator NATA Calibration Date:</b>	22/17/19
<b>Pre-calibration:</b>	93.9	<b>Post calibration:</b>	93.9

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
07:30 PM	76.6	88.5	Traffic noise, occasional aircraft, talking near monitoring position. Weather: gusty NE'ly winds, blue sky with cloud developing, dry, cooling as sun setting.
07:32 PM	81.5	99.5	Traffic, venue event generators audible during breaks in traffic (125 Hz tone). Just audible 'Pink' noise from venue. Traffic dominating.
07:34 PM	75.1	87.6	Motorbike max
07:36 PM	80	87.8	Motorbike max
07:38 PM	92.5	96.4	Motorbike max
07:40 PM	74.2	84.4	Motorbike max
07:42 PM	77.2	87.6	Car max
07:44 PM	83.6	92.5	Motorbike max
07:46 PM	73.4	84.2	Motorbike max
07:48 PM	76.2	87	Motorbike max
07:50 PM	75.6	92.6	PA just audible for short period, well below ambient traffic noise. Motorbike max.
07:52 PM	80.4	92.1	Bus max
07:54 PM	79	91.2	Truck max
07:56 PM	86.1	92.9	Motorbike max
07:58 PM	78.2	85.4	Motorbike max
08:00 PM	76.8	92.8	Motorbike max

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
08:02 PM	80.1	98.7	Music from stage audible. Bass audible. Messaged FOH operators to identify within 3 dB of criteria.
08:04 PM	82.7	96.7	Bass clearly audible. dB(A) max from traffic.
08:06 PM	77.1	92.5	Motorbike max
08:08 PM	75.7	95.3	Bass music defining maximum.
08:10 PM	81	95.7	Bass music defining maximum. dB(A) from traffic.
08:12 PM	76.9	95.3	Resident talking near microphone. Bass defining dB(C) max.
08:14 PM	74.5	95	Bass defining dB(C) max.
08:16 PM	85.5	92.9	Truck max
08:18 PM	82.5	97.3	Car max
08:20 PM	74.8	87.7	Car max
08:22 PM	80.5	97.9	Car dB(A) max. Music elevated with dB(C) max for last few seconds of measure.
08:24 PM	77.4	98.3	Bass maximum, informed FOH approaching criteria.
08:26 PM	74.9	95.8	Bass max
08:28 PM	77.7	<b>102.6</b>	<b>Exceedance.</b> Bass maximum above criteria, messaged FOH to reduce 3 dB to upper system limit.
08:30 PM	78.6	96.1	Bass maximum, noted adjustment achieved, levels compliant. Mixing operator informed levels will be programmed into the system for the show.
08:32 PM	84.7	100.6	Bus maximum, no audible amplification
08:34 PM	90.9	100.9	Motorbike max
08:36 PM	75.6	89.8	Car max
08:38 PM	75	84.9	Truck max
08:40 PM	79.7	95.2	Motorbike max
08:42 PM	75.5	84.7	Truck max
08:44 PM	76.9	90.8	Truck max
08:46 PM	79.1	99.2	Car max
08:48 PM	75.5	89.9	Car max
08:50 PM	80.4	93.2	Motorbike max

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
08:52 PM	79.3	90.4	Car max
08:54 PM	74.6	86.7	General traffic, motorbikes, cars, trucks defining maximums.
08:56 PM	77.5	90.3	
08:58 PM	93	93	
09:00 PM	75.4	83.4	
09:02 PM	73.5	85.2	
09:04 PM	80.8	93	
09:06 PM	86.7	93.2	
09:08 PM	77	86.4	
09:10 PM	75.3	86.5	
09:12 PM	77.2	83.6	
09:14 PM	76.4	88.4	
09:16 PM	74.7	88	
09:18 PM	76.8	84.9	
09:20 PM	73	86.3	
09:22 PM	87.5	98.7	
09:24 PM	77.9	89.1	
09:26 PM	83.1	89.8	
09:28 PM	75.2	87	
09:30 PM	77.4	85	
09:32 PM	79.2	84.9	
09:34 PM	88.5	97.1	
09:36 PM	81.8	87.9	
09:38 PM	73.2	84	
09:40 PM	78.8	82.2	
09:42 PM	75.1	82.3	
09:44 PM	73.9	81.8	





**EVENT NOISE MANAGEMENT**

<b>Project Number:</b>	5177	<b>Date:</b>	FRI 1/12/2017
<b>Project Description:</b>	SIA 2017		
<b>Monitoring Location:</b>	2 – SFS at 10 Alexander Street, Paddington		
<b>Operator:</b>	Roger Treagus		
<b>Instrument:</b>	Norsonic 140	<b>Calibrator Model:</b>	Rion NC74
<b>Instrument Serial:</b>	1404663	<b>Calibrator Serial:</b>	34483804
<b>Instrument NATA Calibration Date:</b>	21/11/19	<b>Calibrator NATA Calibration Date:</b>	22/17/19
<b>Pre-calibration:</b>	93.9	<b>Post calibration:</b>	94.0

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
19:30	63.2	67.7	Ambient neighbourhood noise, distant traffic, some resident music
19:32	62	72	Neighbourhood noise
19:34	65.1	68.7	
19:36	59.5	73.6	
19:38	76.5	81.7	
19:40	65.7	73.1	
19:42	76.1	78.9	Local traffic, barking dogs, aircraft overhead
19:44	68.9	74.3	Neighbourhood noise
19:46	63.3	66	
19:48	66.1	76.9	
19:50	65.3	66.6	
19:52	65.5	68.2	
19:54	65.3	67.8	
19:56	64.3	74.2	
19:58	65.3	66.7	
20:00	68.9	70	Local music, dogs, traffic
20:02	67.5	74.8	Event noise just audible, < 60 dB(A) maximum. Not affecting dB(C).
20:04	71	75.2	Neighbourhood noise
20:06	77.4	81.4	Neighbourhood noise

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
20:08	60.3	69.4	Neighbourhood noise
20:10	67.1	79.7	
20:12	73.4	79.8	
20:14	71.5	80	
20:16	63.8	79.6	Faint event music for a few seconds
20:18	61.7	69.3	Neighbourhood noise
20:20	65	72.7	Cicadas and neighbourhood noise
20:22	61.5	72.8	Neighbourhood noise
20:24	61.3	74.1	
20:26	58.2	73	
20:28	67	76.2	Event music just audible, significantly below ambient noise. Some wind in the trees.
20:30	61.5	74.2	
20:32	54	71.2	
20:34	56.3	66	
20:36	58.1	71.4	
20:38	59.1	77	
20:40	58.7	68.2	
20:42	76.2	81.2	
20:44	58	69.5	Neighbourhood noise
20:46	59.1	75.2	
20:48	73.6	78.1	
20:50	59.1	75.5	
20:52	63	69.5	Very faint music, not sure if from venue. Motorbikes in the area.
20:54	75.5	81.2	Aircraft defining maximum
20:56	60.1	69.4	Local traffic maximum. Music just audible against very quiet ambient levels.
20:58	65.5	74.3	Neighbourhood noise
21:00	75.2	81.1	Neighbourhood noise

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
21:02	73.5	76.6	Neighbourhood noise
21:04	60.2	80.1	
21:06	63.7	78	
21:08	57.1	69.7	
21:10	75.5	78.4	Aircraft defining maximum
21:12	63.8	71.8	Motorbikes and traffic
21:14	64.5	74.2	North easterly wind getting stronger
21:16	61.9	66.1	Neighbourhood noise
21:18	63	68.5	
21:20	62.3	74	
21:22	64.4	69.3	Traffic, dog, wind in trees
21:24	59.8	76.2	Neighbourhood noise
21:26	69	71	
21:28	61.4	63.4	
21:30	76.1	80.6	
21:32	60.4	66.5	
21:34	48	63	
21:36	73.6	79.5	Local traffic max
21:38	57.8	63.8	Neighbourhood noise
21:40	56.3	68.4	Neighbourhood noise
21:42	61.2	74.1	Wind in trees, local traffic
21:44	60.4	61.1	Neighbourhood noise



## EVENT NOISE MANAGEMENT

<b>Project Number:</b>	5177	<b>Date:</b>	SAT 2/12/2017
<b>Project Description:</b>	SIA 2017		
<b>Monitoring Location:</b>	1 - SFS at 234 Moore Park Road, Paddington		
<b>Operator:</b>	James Daramola		
<b>Instrument:</b>	Bruel & Kjaer	<b>Calibrator Model:</b>	Rion NC74
<b>Instrument Serial:</b>	27441105	<b>Calibrator Serial:</b>	34483804
<b>Instrument NATA Calibration Date:</b>	23/01/19	<b>Calibrator NATA Calibration Date:</b>	22/17/19
<b>Pre-calibration:</b>	94.0	<b>Post calibration:</b>	94.3

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
10:12 AM	72.7	84.5	Traffic dominant, no music audible, some bird noise. During breaks in traffic, event generators just audible.
10:14 AM	83.7	86.5	Car max
10:16 AM	78.8	87.2	Ambulance max
10:18 AM	98.7	98.9	Car max. People talking nearby.
10:20 AM	85.3	93.7	Car max
10:22 AM	83.1	87.8	Car max
10:24 AM	76.4	87.4	Traffic max
10:26 AM	81.3	94.5	Motorbike max
10:28 AM	-	-	battery change
10:30 AM	76.4	88.8	Motorbike max
10:32 AM	73.2	83.6	Car max
10:34 AM	88.1	91.8	Car max
10:36 AM	77.3	83.4	Truck max
10:38 AM	71.3	80.3	Car max
10:40 AM	88	93.9	Sport car max
10:42 AM	75.1	85.8	Bus max
10:44 AM	74.4	85	Motorbike max
10:46 AM	82.3	85.4	Talking near microphone
10:48 AM	74.2	89.1	Car max. Venue music just audible.

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
10:50 AM	-	-	changing settings on instrument
10:52 AM	80.3	90.1	Car max
10:54 AM	75.3	90.7	Motorbike max
10:56 AM	79.9	87.3	Motorbike max
10:58 AM	74.9	84.3	Motorbike max
11:00 AM	81.5	91.5	Motorbike max
11:02 AM	73.1	84.9	Car max
11:04 AM	75.9	88.5	Truck max
11:06 AM	74.5	87.3	Car max
11:08 AM	90.2	88.8	Talking near microphone
11:10 AM	79.7	86.6	Car max
11:12 AM	72.2	82.9	Car max
11:14 AM	84.1	93.3	Truck max
11:16 AM	86.6	92.6	Car max
11:18 AM	73.2	80.2	Motorbike max
11:20 AM	78.7	94	Motorbike max
11:22 AM	74.3	86.3	Car max, aircraft contributing
11:24 AM	72.3	82.8	Motorbike max
11:26 AM	80.6	87.7	Motorbike max
11:28 AM	88.5	94.7	Sport car max
11:30 AM	73.1	88.8	Car max
11:32 AM	78.2	83.1	Car max, aircraft contributing
11:34 AM	74.9	86	Car max
11:36 AM	75.1	85.8	Car max
11:38 AM	73	84.5	Car max, aircraft contributing
11:40 AM	71.8	85.7	Car max
11:42 AM	76.1	88.2	Car max
11:44 AM	72.3	82.4	Car max
11:46 AM	71.8	85.5	Car max
11:48 AM	73.8	87.4	Motorbike max

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
11:50 AM	79.9	94.3	Bus max
11:52 AM	72.8	86.2	Car max
11:54 AM	71.7	82.4	Car max
11:56 AM	74.9	91.6	Car max, aircraft contributing
11:58 AM	80.7	88.6	Motorbike max, aircraft contributing
12:00 PM	73.1	83.9	Car max
12:02 PM	72	84.8	Car max
12:04 PM	77.4	88.8	Motorbike max
12:06 PM	74.4	86	Car max
12:08 PM	72.8	85.3	Car max
12:10 PM	75.8	90.2	Car max. Amplified bass / drum kicks sporadically audible
12:12 PM	72.5	90.2	Car max. Amplified bass / drum kicks sporadically audible
12:14 PM	76.5	87.6	Motorbike max
12:16 PM	82	93.2	Car max. Bass audible and continuous, below criteria.
12:18 PM	91.5	97	Car max. Bass and synthesizer music audible, below criteria.
12:20 PM	69.3	90.7	Traffic max
12:22 PM	80.2	99.2	Music elevating. Car maximum.
12:24 PM	87.2	98.9	Car and music combined to 97 dB(C). Messaged FOH approaching criteria. Identified 'SIA' full show volume sound check
12:26 PM	79.6	95.2	Car max
12:28 PM	77.0	89.3	Car and birds max
12:30 PM	75.9	98.8	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria again.
12:32 PM	83.9	99.0	Car dB(A) max. Music dB(C) max. Messaged FOH no change to bass levels.
12:34 PM	79.8	99.0	Car dB(A) max. Music dB(C) max. FOH informed sound check almost over, and happy with these levels. Identified that average levels were lower than the maximum, and programming seems very consistent. Will re-check if weather conditions change.
12:36 PM	83.7	99.1	Car dB(A) max. Music dB(C) max.



Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
12:38 PM	84.4	98.6	Car dB(A) max. Music dB(C) max. Music stopped halfway through measure.
12:40 PM	81.0	91.0	Car max
12:42 PM	86.4	95.9	Bus max
12:44 PM	77.7	90.2	Car max
12:46 PM	75.0	91.0	Car max
12:48 PM	77.2	90.5	Car max
12:50 PM	72.9	90.3	Car max
12:52 PM	73.3	87.0	Car max
12:54 PM	74.2	87.5	Car max
12:56 PM	75.7	97.9	Car max. Some music commenced in last few second 'Charlie XCX' sound checks.
12:58 PM	90.5	98.6	Motorbike maximum. Music bass clearly audible and also close to criteria.
01:00 PM	77.3	99.3	Car dB(A) max. Music dB(C) max. Close to criteria, FOH informed within 1 dB(C).
01:02 PM	76.8	94.2	Car max. Music levels significantly reduced.
01:04 PM	78.1	88.0	Car max
01:06 PM	80.8	90.0	Car max
01:08 PM	74.9	92.0	Car max. Music audible briefly.
01:10 PM	81.6	95.4	Car max
01:12 PM	82.0	96.5	Bus max
01:14 PM	78.0	87.6	Traffic max
-			Break in sound checks
02:26 PM	78.4	91.7	Traffic max
02:28 PM	86.9	94.8	Traffic max
02:30 PM	84.1	95.3	Motorbike max
02:32 PM	77.8	88.5	Car max
02:34 PM	84.3	95.7	Traffic and aircraft max
02:36 PM	83.7	98.0	Car max

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
02:38 PM	82.2	100.2	Car dB(A) max. Broadband bass from venue audible, identified as 40 - 80Hz. Requested immediate 2 dB reduction to music 'Mo' sound check.
02:40 PM	88.3	100.9	Heavy rain influencing measurements. Live SPL identified 99.4 dB(C) from music. Cross referenced FOH operating volume and frequency limits to maintain levels during rain.
02:42 PM	88.2	101.8	Rain defining measured levels
02:44 PM	86.7	100.6	Rain defining measured levels
02:46 PM	81.1	101.0	Rain defining measured levels
02:48 PM	78.8	88.2	Rain reducing, no music. Traffic max
02:50 PM	78.7	99.8	Traffic max
02:52 PM	81.5	99.5	Traffic dB(A) max. Bass defining dB(C). Messaged FOH levels are near criteria. Rain has wet road and all surfaces elevating reflections.
02:54 PM	75.6	100.3	Music above dB(C) criteria. Messaged FOH to reduce below previous levels, due to rain and cloud influence.
02:56 PM	87.0	103.2	Motorbike maximum coincident with bass.
02:58 PM	84.7	102.3	Car max
03:00 PM	77.1	101.7	Traffic noise influencing measurements. Live SPL identified 100.6 dB(C) from music. Requested further adjustments, focusing on 40 Hz frequency.
03:02 PM	78.0	85.6	Music ceased, traffic maximums.
03:04 PM	79.0	89.6	Traffic max, measurements covered from rain
03:06 PM	85.0	89.1	Traffic max, measurements covered from rain
03:08 PM	81.0	86.7	Traffic max, measurements covered from rain
-			Measurements stopped due to rain, FOH primary source of compliance
-			Levels at FOH maintained below 115 dB(C) for remainder of testing, which was the point at which levels exceed 99 dB(C) externally.

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
05:58 PM			Pre-recorded music elevating prior to 'Amy Shark' commencing
06:00 PM			FOH levels up to 117 dB(C), averages well below. Noted new location for monitoring due to rain, some reverberation within the tented area. Requested 234 Moore Park reference level despite rain. Requested to reduce internal levels to below 115 dB(C) in the interim.
06:02 PM			FOH levels reduced to 114 dB(C), with one note reaching 117 briefly. Still awaiting a measure from 234 Moore Park Road.
06:04 PM			Live SPL on meter identifying levels of 98.4 dB(C), cross referenced with short spike to 117 dB(C) internally. Assume previous periods were below 100 dB(C).
06:06 PM			Closer inspection of FOH levels identified bass centred on 50Hz, where 40Hz generated exceedances during testing (40Hz at 115 dB(C) FOH, resulted in 100 dB(C) externally). Levels are compliant
06:08 PM	80.6	97.2	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
06:10 PM	90.4	99.0	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
06:12 PM	87.2	103.8	Car dB(A) max. Music dB(C) max. One instance of bass note caused dB(C) max exceedance. Avg bass notes < 97dB(C). Messaged FOH of exceedance
06:14 PM	80.5	102.2	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
06:16 PM	80.9	95.1	Traffic max, no amplified music audible
06:18 PM	81.7	96.6	Traffic max
06:20 PM	82.1	97.4	Traffic max
06:22 PM	92.0	99.5	Traffic max
06:24 PM	76.4	99.2	Traffic max
06:26 PM	82.9	98.9	Traffic max
06:28 PM	83.3	85.9	Traffic max

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
06:30 PM	76.7	86.3	Measurements stopped due to rain. Subsequent notes maintained via text, due to heavy rain. Monitoring was continued below an umbrella as far as practicable to maintain compliant levels.
06:48 PM	74.6	93.0	Traffic max
06:50 PM	77.2	98.4	Traffic max
06:52 PM	79.4	103.6	'MO' performance. Car dB(A) max. Music dB(C) max. One instance of bass note caused dB(C) max. Avg bass notes < 97dB(C). Messaged FOH of elevated level
06:54 PM	80.0	104.8	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of elevated level
06:56 PM	77.8	103.1	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
06:58 PM	76.5	102.0	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:00 PM	77.7	99.7	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
07:02 PM	81.8	98.6	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
07:04 PM	75.6	98.9	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
07:06 PM	77.5	100.5	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:08 PM	77.6	100.2	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:10 PM	81.1	100.0	Car dB(A) max. Music dB(C) max. Messaged FOH that currently reaching criteria.
07:12 PM	77.5	100.9	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
07:14 PM	79.7	105.5	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:16 PM	78.3	104.9	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:18 PM	75.6	90.3	Traffic dB(A) max. Bass defining dB(C).
07:20 PM	75.8	98.9	Traffic dB(A) max. Bass defining dB(C).
07:22 PM	78.5	99.8	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
07:24 PM	81.2	104.7	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:26 PM	82.7	101.9	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
07:28 PM	75.9	89.7	Traffic dB(A) max. Bass defining dB(C). No audible amplified music, ceased recording due to rain
07:56 PM	79.1	93.9	'Charlie XCX' Traffic dB(A) max. Bass defining dB(C).
07:58 PM	78.1	96.5	Traffic dB(A) max. Bass defining dB(C).
08:00 PM	78.1	98.7	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
08:02 PM	77.4	96.4	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
08:04 PM	79.4	95.6	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
08:06 PM	88.1	99.1	Car dB(A) max. Music dB(C) max. However bass notes < 97dB(C). Messaged FOH of exceedance
08:08 PM	80.7	92.8	Traffic dB(A) max. Bass defining dB(C).
08:10 PM	78.0	95.9	Traffic dB(A) max. Bass defining dB(C).

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
08:12 PM	84.5	103.2	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
08:14 PM	77.9	97.5	Traffic dB(A) max. Bass defining dB(C).
08:16 PM	79.2	96.5	Traffic dB(A) max. Bass defining dB(C).
08:18 PM	76.4	98.6	Traffic dB(A) max. Bass defining dB(C).
08:20 PM	81.5	97.9	Traffic Max
08:22 PM	99.8	100.5	Ambulance max
08:24 PM	80.8	100.7	Traffic dB(A) max. Bass defining dB(C).
08:26 PM	76.2	99.0	Traffic dB(A) max. Bass defining dB(C).
08:28 PM	78.2	84.4	Traffic dB(A) max. Bass defining dB(C).
-			No audible amplified music, ceased recording due to rain
08:52 PM	77.1	85.4	Traffic Max
08:54 PM	81.1	91.7	Traffic Max
08:56 PM	82.8	90.3	Traffic Max
08:58 PM	76.2	85.1	Traffic Max
09:00 PM	84.5	88.7	Traffic Max. People talking nearby
09:02 PM	87.8	95.7	Traffic Max
09:04 PM	81.2	98.5	Traffic Max
09:06 PM	76.0	85.3	Traffic Max
09:08 PM	75.9	83.4	Traffic Max
09:10 PM	78.6	87.8	Crowd dB(A) max. Bass defining dB(C).
09:12 PM	79.2	101.6	'SIA' Car dB(A) max. Music dB(C) max. However bass notes < 97dB(C). Messaged FOH of elevated level
09:14 PM	80.3	96.4	Traffic dB(A) max. Bass defining dB(C).
09:16 PM	77.4	96.3	Traffic dB(A) max. Bass defining dB(C).
09:18 PM	77.7	94.9	Traffic dB(A) max. Bass defining dB(C).
09:20 PM	83.6	97.7	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria



Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
09:22 PM	85.9	98.9	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
09:24 PM	88.3	100.7	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
09:26 PM	89.0	102.1	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
09:28 PM	79.5	100.4	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
09:30 PM	78.2	99.6	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
09:32 PM	79.3	99.6	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
09:34 PM	75.9	101.1	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
09:36 PM	78.2	99.7	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
09:38 PM	81.3	98.9	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
09:40 PM	74.8	93.6	Car dB(A) max. Music dB(C) max.
09:42 PM	77.4	92.3	Car dB(A) max. Music dB(C) max.
09:44 PM	75.3	95.9	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
09:46 PM	74.8	94.1	Car dB(A) max. Music dB(C) max.
09:48 PM	76.8	95.4	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
09:50 PM	77.1	97.2	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
09:52 PM	77.0	98.5	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
09:54 PM	76.6	100.9	Car dB(A) max. Music dB(C) max. However bass notes < 97dB(C). Messaged FOH of exceedance
09:56 PM	85.4	101.5	Car dB(A) max. Music dB(C) max. However bass notes < 97dB(C). Messaged FOH of exceedance
09:58 PM	80.5	98.2	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria.
10:00 PM	79.3	99.8	Car dB(A) max. Music dB(C) max. However bass notes < 97dB(C). Messaged FOH of exceedance
10:02 PM	86.0	92.5	Car dB(A) max. Music dB(C) max.
10:04 PM	95.3	97.7	People talking nearby
10:06 PM	77.4	104.0	"Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance"
10:08 PM	78.7	99.2	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
10:10 PM	77.2	99.7	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
10:12 PM	78.5	88.2	Traffic Max
10:14 PM	74.9	88.7	Traffic Max
10:16 PM	78.4	100.9	Car dB(A) max. Music dB(C) max. One instance of bass note caused C max. Avg bass notes < 97dB(C). Messaged FOH of exceedance
10:18 PM	76.8	99.1	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
10:20 PM	78.9	98.0	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
10:22 PM	84.4	85.6	Traffic Max
10:24 PM	77.1	98.7	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
10:26 PM	76.3	98.9	Car dB(A) max. Music dB(C) max. Messaged FOH approaching criteria
10:28 PM	88.0	89.9	People talking nearby
10:30 PM	93.9	93.6	People talking nearby
10:32 PM	86.8	88.3	People talking nearby
10:34 PM	87.4	90.0	People talking nearby
10:36 PM	78.6	85.6	Background
10:38 PM	69.5	82.5	Background



**EVENT NOISE MANAGEMENT**

<b>Project Number:</b>	5177	<b>Date:</b>	FRI 1/12/2017
<b>Project Description:</b>	SIA 2017		
<b>Monitoring Location:</b>	2 – SFS at 10 Alexander Street, Paddington		
<b>Operator:</b>	Roger Treagus		
<b>Instrument:</b>	Norsonic 140	<b>Calibrator Model:</b>	Rion NC74
<b>Instrument Serial:</b>	1404663	<b>Calibrator Serial:</b>	34483804
<b>Instrument NATA Calibration Date:</b>	21/11/19	<b>Calibrator NATA Calibration Date:</b>	22/17/19
<b>Pre-calibration:</b>	93.9	<b>Post calibration:</b>	94.0

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
10:12 AM	72.8	82.9	Neighbourhood noise, including birds and traffic.
10:14 AM	71.8	79.7	
10:16 AM	75.8	80.7	Aircraft overhead
10:18 AM	73.7	77.3	Neighbourhood noise
10:20 AM	75.8	81.8	
10:22 AM	75.1	80.9	
10:24 AM	68.5	75.8	
10:26 AM	65.9	78.1	Aircraft overhead, music from nearby house
10:28 AM	67.8	83.2	Neighbourhood noise
10:30 AM	70	84.4	
10:32 AM	66.6	83.1	
10:34 AM	59.3	70.3	
10:36 AM	62.6	69.5	
10:38 AM	68.8	75.4	
10:40 AM	73.7	79.6	
10:42 AM	63.1	80.7	
10:44 AM	68.7	76.2	
10:46 AM	72.9	90.1	Local vehicle defining maximum
10:48 AM	81.1	81	Neighbourhood noise
10:50 AM	57.7	69.5	Neighbourhood noise

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
10:52 AM	61.3	73.3	Neighbourhood noise
10:54 AM	66.8	73.1	
10:56 AM	64.1	76.1	
10:58 AM	69	81.8	
11:00 AM	73	72.6	
11:02 AM	61.1	69.5	
11:04 AM	84	86.4	
11:06 AM	68.5	87.2	
11:08 AM	70.4	89.4	
11:10 AM	62.7	73.5	
11:12 AM	68.8	71.9	
11:14 AM	75	77.4	
11:16 AM	72.8	89.8	
11:18 AM	65.4	76.4	
11:20 AM	67.3	72.1	
11:22 AM	74.8	78.3	Traffic, birds, dogs
11:24 AM	69.3	80.4	Neighbourhood noise
11:26 AM	75.5	80.8	Traffic, birds, dogs
11:28 AM	72.4	79.1	Music from nearby house, traffic and birds
11:30 AM	68.4	72.3	Neighbourhood noise
11:32 AM	67.9	86.2	Aircraft overhead
11:34 AM	73.8	88.7	Neighbourhood noise
11:36 AM	65	85.1	
11:38 AM	74.5	79.6	
11:40 AM	56.8	75.6	
11:42 AM	65.6	71.3	
11:44 AM	67.5	70.4	
11:46 AM	76.4	89.7	
11:48 AM	65.4	76.1	
11:50 AM	66	74.4	

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
11:52 AM	71.4	83.6	Neighbourhood noise
11:54 AM	69.5	78.5	
11:56 AM	76.3	80.3	
11:58 AM	72.8	79	
12:00 PM	74.3	78.2	
12:02 PM	74.9	81.7	
12:04 PM	58.8	69.3	
12:06 PM	65.3	77.8	
12:08 PM	64.6	80.6	
12:10 PM	78	83.1	
12:12 PM	72	79.9	
12:14 PM	77.8	82.5	
12:16 PM	74.5	73.9	
12:18 PM	74.6	91.3	Local vehicle defining maximum
12:20 PM	71.4	80.2	Neighbourhood noise
12:22 PM	74.2	79.6	Music from event just audible, however maximums below ambient.
12:24 PM	77.2	79.4	
12:26 PM	66.8	85.8	Neighbourhood noise
12:28 PM	61.8	76.1	Neighbourhood noise
12:30 PM	57.7	77.9	Neighbourhood noise
12:32 PM	72.2	80.3	Music from event just audible, however maximums below ambient.
12:34 PM	71.1	86.3	Neighbourhood noise
12:36 PM	62.9	80.3	
12:38 PM	70.8	81.5	
12:40 PM	64.4	76.9	
12:42 PM	58.7	70.1	
12:44 PM	74.6	73.3	
12:46 PM	58.6	70.3	
12:48 PM	64.1	86.8	Birds, traffic, local resident music.

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
12:50 PM	65.3	76.4	Neighbourhood noise
12:52 PM	66.3	73	
12:54 PM	69.5	74.3	
12:56 PM	74.5	73.8	
12:58 PM	59.5	77.5	
01:00 PM	74.5	79.2	
01:02 PM	63	77.8	
01:04 PM	70.6	78.3	
01:06 PM	56.7	73.8	
01:08 PM	64.1	83.2	
01:10 PM	57.2	70.4	
01:12 PM	77.4	76.7	
01:14 PM	75.3	80.5	Aircraft overhead
01:16 PM	59.8	73.7	Neighbourhood noise
-			Break in sound checks
02:26 PM	71.8	76.5	Neighbourhood noise, traffic, birds, local music from resident
02:28 PM	65.2	72.5	Light rain commencing
02:30 PM	77.2	92.3	Neighbourhood noise
02:32 PM	69.6	75.6	
02:34 PM	73.4	72.1	
02:36 PM	76	79.3	
02:38 PM	74	79.7	
02:40 PM	69.7	81	Aircraft overhead
02:42 PM	72.9	78.8	Neighbourhood noise
02:44 PM	71.8	77.5	
02:46 PM	79.4	84.4	
02:48 PM	78.3	88.4	
02:50 PM	64.7	69.6	
02:52 PM	77.8	78.3	

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
02:54 PM	75.1	85.3	Event noise just audible in lulls of ambient noise, approximately 60 dB(C).
02:56 PM	64.4	76.6	
02:58 PM	70.9	77	
03:00 PM	62.8	77.1	Clear vocal audible from event, SPL approximately 50 dB(A).
03:02 PM	66.3	74.2	
03:04 PM	66.4	75.4	Neighbourhood noise, and light rain.
03:06 PM	60.7	69.6	
03:08 PM	63.3	74.4	
03:10 PM	68.8	84.4	
03:12 PM	79.1	79.3	
03:14 PM	72.8	73.9	
03:16 PM	68.4	77.7	
03:18 PM	71	76.6	Heavy rain dominating soundscape
03:20 PM	68.3	82.8	
03:22 PM	72.4	83.5	
03:24 PM	74.8	83.8	
03:26 PM	73.3	75.8	
03:28 PM	71.8	78.1	
03:30 PM	73.6	79.8	
03:32 PM	73	76.8	Localised vehicle max. Heavy rain continuing
03:34 PM	76.5	94.5	
03:36 PM	75.4	83.9	Heavy rain.
03:38 PM	71.2	76.3	Some event noise audible. Up to 60 dB(A), 65 dB(C).
03:40 PM	67.9	78.8	Rain easing
03:42 PM	76	87.4	Raining
03:44 PM	67.5	76.4	Rain easing
03:46 PM	71.2	85.9	
03:48 PM	72.1	81.5	Music just audible, up to 53 dB(A), 68 dB(C). Ambient noise dominant.
03:50 PM	74.5	80.4	Neighbourhood noise



Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
03:52 PM	72.3	75.8	Light rain continuing. Event just audible up to 62 dB(A), 72 dB(C).
03:54 PM	60	71.7	Neighbourhood noise and light rain throughout
03:56 PM	61.2	77.9	
03:58 PM	68.4	71.7	
04:00 PM	66.8	85.6	
04:02 PM	64.4	80.2	
04:04 PM	64.1	80.5	
04:06 PM	61.4	76.5	
04:08 PM	60.5	73.3	
04:10 PM	63.2	87.4	
04:12 PM	59.4	72.9	
04:14 PM	66.8	76.5	
04:16 PM	67.9	81.8	
04:18 PM	67.1	83.3	
04:20 PM	66.3	77.9	
04:22 PM	74	72.9	
04:24 PM	66	75.9	
04:26 PM	62	70.4	
04:28 PM	69.8	74.1	
04:30 PM	74.3	81.6	
04:32 PM	63.2	75.1	
04:34 PM	58.2	75.3	
04:36 PM	58.3	72.8	
04:38 PM	62	73.2	
04:40 PM	65.6	74.2	
04:42 PM	68.1	75	
04:44 PM	63.8	76.7	
04:46 PM	64.5	77.3	
04:48 PM	63.2	78.3	Neighbourhood noise and light rain throughout

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
04:50 PM	74	74.8	Neighbourhood noise and light rain throughout
04:52 PM	65.6	73.1	Neighbourhood noise and light rain throughout
04:54 PM	65.5	74.9	
04:56 PM	67.5	78	
04:58 PM	67.1	81	
05:00 PM	70.8	79.2	
05:02 PM	64.5	77.7	
05:04 PM	67.8	79.1	
05:06 PM	63	77.2	
05:08 PM	65.7	77.6	
05:10 PM	77.9	77.8	
05:12 PM	63.1	76.2	
05:14 PM	64.1	74.6	
05:16 PM	64.6	72.4	Neighbourhood noise. Varying light to moderate rain periods.
05:18 PM	62.9	77.2	
05:20 PM	60.9	73.3	
05:22 PM	71.9	78	
05:24 PM	60	69.6	
05:26 PM	64.3	73	
05:28 PM	63.3	69	Aircraft overhead
05:30 PM	66.2	81.2	Neighbourhood noise, light rain continuing
05:32 PM	65.8	81.9	
05:34 PM	62.7	80.4	
05:36 PM	77.5	78.6	
05:38 PM	63.1	81.2	
05:40 PM	62.9	75.8	
05:42 PM	66.4	76.9	
05:44 PM	65.1	87.9	
05:46 PM	66.9	70.2	
05:48 PM	70.8	74.8	

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
05:50 PM	65.5	69.3	Neighbourhood noise, light rain continuing
05:52 PM	65.3	70.9	
05:54 PM	74.3	74.9	
05:56 PM	59.8	71.3	
05:58 PM	57.8	76.3	
06:00 PM	62.5	77.9	
06:02 PM	69.4	77.2	Event just audible, not above 50 dB(A), 65 dB(C), light rain continuing.
06:04 PM	73.3	79.3	
06:06 PM	62.9	75.3	
06:08 PM	59.8	69.4	
06:10 PM	65.3	73.6	
06:12 PM	62	76.1	
06:14 PM	68.8	81.4	
06:16 PM	68.5	79.6	
06:18 PM	68.2	75.1	Event audible not above 50 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
06:20 PM	69	89	
06:22 PM	67.2	81.1	
06:24 PM	70.1	77.5	
06:26 PM	73.8	85.1	
06:28 PM	78.2	78.4	
06:30 PM	72.8	84.4	
06:32 PM	68.5	75	
06:34 PM	59.8	71.1	Neighbourhood noise, and rain
06:36 PM	60.3	79.9	
06:38 PM	64.4	78.1	
06:40 PM	65.9	77.1	Event audible not above 50 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
06:42 PM	62.2	84.5	
06:44 PM	70.9	80.9	
06:46 PM	69.2	74.9	

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
06:48 PM	69.6	76.2	Event audible not above 50 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
06:50 PM	70.2	73.6	
06:52 PM	65.1	77.9	
06:54 PM	66.8	84.6	
06:56 PM	66.9	79	
06:58 PM	68.9	78.2	
07:00 PM	66.7	74.1	
07:02 PM	66.7	76	Event noise elevated slightly 52 dB(A), 73 dB(C). Ambient still defining maximums.
07:04 PM	62.9	78.8	Event audible not above 50 dB(A), 68 dB(C). Dominated by traffic, and birds and rain.
07:06 PM	74.1	74.7	
07:08 PM	60.1	73.5	
07:10 PM	59.8	76.5	
07:12 PM	66.3	75.1	
07:14 PM	68.6	75.1	
07:16 PM	65.7	78.8	Event audible not above 50 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
07:18 PM	63	81.2	
07:20 PM	73.3	87.7	
07:22 PM	61.4	74.3	
07:24 PM	64.8	76.3	
07:26 PM	66.8	76.7	
07:28 PM	67.3	78.2	
07:30 PM	67.5	79.9	No audible event noise. Rain much heavier.
07:32 PM	63.2	70.1	
07:34 PM	61.2	72.8	
07:36 PM	68	74.1	
07:38 PM	61.2	77.2	
07:40 PM	61.9	70.3	
07:42 PM	65.8	77.7	
07:44 PM	59.2	69.2	

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
07:46 PM	58.7	72.3	Event audible not above 50 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
07:48 PM	65.2	80.6	
07:50 PM	63.3	81.7	
07:52 PM	61.8	78.5	
07:54 PM	62.9	71.8	
07:56 PM	74.3	78.3	
07:58 PM	57.1	71.9	
08:00 PM	65.4	72.2	
08:02 PM	76.5	85.5	
08:04 PM	61.3	76.8	
08:06 PM	65.6	76.8	
08:08 PM	58.9	73.9	
08:10 PM	67.1	78.8	
08:12 PM	65.1	73.6	
08:14 PM	61.8	71.9	
08:16 PM	68.1	73.4	Event audible not above 50 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
08:18 PM			Battery change
08:20 PM	58.8	75	Event audible not above 50 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
08:22 PM	64.4	73.2	
08:24 PM	58.9	69.7	
08:26 PM	65.6	75.4	
08:28 PM	68	74.4	
08:30 PM	63.3	74.8	No audible event noise. Rain continuing.
08:32 PM	64.2	69.6	
08:34 PM	64.8	76.2	
08:36 PM	68.2	73.7	
08:38 PM	74.1	73.3	Rain stopped. Neighbourhood noise only
08:40 PM	68.7	78.3	
08:42 PM	68.8	73.7	

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
08:44 PM	66.8	69.6	Light rain commencing
08:46 PM	61.8	74.7	Light rain, neighbourhood noise, no audible event noise
08:48 PM	64.6	71.7	
08:50 PM	67.5	71.7	
08:52 PM	55.4	69.8	
08:54 PM	62.4	73.6	
08:56 PM	61.6	68.8	
08:58 PM	59.8	66.4	
09:00 PM	61.4	74	
09:02 PM	56.3	68	
09:04 PM	63.8	76.7	
09:06 PM	66.2	76	
09:08 PM	68.9	70.6	
09:10 PM	63.7	71.6	
09:12 PM	74.5	84.8	
09:14 PM	61.5	69.6	Event audible up to 53 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
09:16 PM	59.4	79.8	Event audible not above 50 dB(A), 65 dB(C). Dominated by traffic, and birds and rain.
09:18 PM	67.6	79.1	
09:20 PM	68.6	81.2	Stopped raining. Event not above 50 dB(A), 65 dB(C).
09:22 PM	63	78.5	
09:24 PM	61.2	74.1	
09:26 PM	60.3	78.6	Event audible up to 52 dB(A), 67 dB(C). Dominated by traffic, and birds and rain.
09:28 PM	64.3	79.7	Event noise up to 54 dB(A), 72 dB(C).
09:30 PM	65.4	82.7	
09:32 PM	63.4	76.2	Event noise up to 54 dB(A), 65 dB(C).
09:34 PM	65.6	79.5	Event noise up to 52 dB(A), 65 dB(C).
09:36 PM	58	73	Light rain commencing and continues
09:38 PM	62.1	76.9	Event noise up to 53 dB(A), 65 dB(C).

Time	L <sub>max</sub> dB(A)	L <sub>max</sub> dB(C)	Description of Noise
09:40 PM	59.7	75.8	Event noise up to 52 dB(A), 65 dB(C).
09:42 PM	68.6	85.4	Event noise up to 50 dB(A), 65 dB(C).
09:44 PM	68.1	88.7	
09:46 PM	67.8	80.3	
09:48 PM	77.7	79.9	
09:50 PM	62	71.4	Event noise up to 48 dB(A), 65 dB(C).
09:52 PM	62.8	73.3	Event noise up to 50 dB(A), 65 dB(C).
09:54 PM	55.4	72.6	Event noise up to 51 dB(A), 65 dB(C).
09:56 PM	61.1	76.5	Event noise up to 49 dB(A), 64 dB(C).
09:58 PM	66.5	77.7	Event noise up to 50 dB(A), 65 dB(C).
10:00 PM	61.4	78.9	
10:02 PM	58.9	73.7	Event noise up to 50 dB(A), 62 dB(C).
10:04 PM	83.9	84.3	Siren defining maximum
10:06 PM	67.8	77.4	Event noise up to 50 dB(A), 65 dB(C).
10:08 PM	62.7	74	Event noise up to 50 dB(A), 70 dB(C).
10:10 PM	68.7	74.8	Event noise up to 50 dB(A), 65 dB(C).
10:12 PM	63.7	79.6	
10:14 PM	60	75.6	
10:16 PM	62.3	74.2	
10:18 PM	66.3	84	Event noise up to 48 dB(A), 62 dB(C).
10:20 PM	61.8	78	Event noise up to 52 dB(A), 65 dB(C).
10:22 PM	59.7	70.7	
10:24 PM	70.7	78.7	Event noise up to 48 dB(A), 65 dB(C).
10:26 PM	66.7	77.3	Event noise up to 52 dB(A), 68 dB(C).
10:28 PM	64.1	78.1	Event noise up to 53 dB(A), 66 dB(C).
10:30 PM	56.7	76.7	Event inaudible. Rain continuing. Neighbourhood noise and distant traffic.
10:32 PM	63.9	75.9	
10:34 PM	67	77.6	
10:36 PM	70.3	79.8	Rain stopped.
10:38 PM	70.7	75.3	Neighbourhood noise, traffic.