

Our Ref: 21963\_R04\_BPS\_Q32022\_MonReport

28 October 2022

Ben Crawford  
Independent Cement & Lime Group  
750 Lorimer St, Port Melbourne  
Victoria 3207

E | [bcrawford@indcem.com.au](mailto:bcrawford@indcem.com.au)

Dear Ben

**Re: Quarterly Environmental Noise Monitoring – Building Product Services,  
Quarter 3 2022**

Umwelt has completed Quarter 3 2022 Environmental Attended Noise Monitoring for Building Product Services (BPS), Kembla Grange to satisfy BPS's Environment Protection Licence (EPL) 20747 requirements.

This report presents the results of noise monitoring carried out on 29 and 30 September 2022. The purpose of attended noise surveys is to quantify and describe the ambient noise environment in the region surrounding BPS and to estimate the BPS contribution to the ambient noise levels. Meteorological conditions present at the time of monitoring and the measured BPS noise levels are compared to criteria outlined in EPL20747.

**Noise monitoring methodology**

The compliance assessment methodology includes the following activities:

- Attended noise monitoring measurements, of fifteen-minute duration, at monitoring locations to measure the ambient noise levels in the surrounding region and to assess the BPS contribution (reported as an LAeq, 15 minute measurement) to the measured noise levels.
- Comparison of the BPS LAeq, 15 minute contribution with the relevant EPL LAeq, 15 minute noise criteria to assess compliance of BPS operations.
- Comparison of the BPS LAF,Max night-time attended noise monitoring results with the night-time LAF,Max criteria outlined in the EPL.

Attended noise monitoring for BPS was conducted in accordance with the NSW Environment Protection Authority (EPA) *Noise Policy for Industry* (NPfI, 2017), *Approved methods for the measurement and analysis of environmental noise in NSW* (EPA, 2022) and the Australian Standard *AS1055:2018, Acoustics – Description and Measurement of Environmental Noise*.

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T | 1300 793 267  
E | [info@umwelt.com.au](mailto:info@umwelt.com.au)

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Umwelt (Australia) Pty Limited  
ABN 18 059 519 041

During the attended monitoring sessions, noise measurements were taken with a SVAN 958A Precision Integrating Sound Level Meter (Serial Number 59838) which was calibrated on-site using a Type SV-36, Svantek Sound Level Calibrators (Serial Number 90124). The noise meter was run using three measurement profiles, Z Weighting (linear), C Weighting and A Weighting and records A-weighted 1/3 octave noise levels at 10<sup>th</sup> of a second intervals over a 15-minute measurement period.

During the attended monitoring sessions, the operator maintained a log of noise-related events that occurred and contributed to the ambient noise environment. Particular attention and note were made for contributions associated with BPS operations.

Attended noise monitoring data and results recorded include:

- the LAeq,15minute, LA10,15minute and LA90,15minute noise levels of the ambient acoustic environment for each 15-minute measurement period
- the recorded A-weighted 1/3 octave noise levels at 10<sup>th</sup> of a second intervals over each 15-minute measurement period
- the results of a 1000 Hz low pass filter at 10<sup>th</sup> of a second intervals over each 15-minute measurement period
- an assessment of the maximum LAFmax noise level recorded over each 15-minute measurement period
- operator comments regarding any extraneous noise sources contributing to the ambient noise levels.

The October 2021 version of EPL20747 identifies three noise monitoring locations, which are shown in **Figure 1**. EPL20747 calls for monitoring to be carried out during the day, evening and night period as defined in the Noise Policy for Industry for a minimum of two (2) of the residential locations and one (1) near-field location.

The noise criteria specified in EPL20747 for three residential locations, NML1, NML2 and NML3 are described in **Table 1**.

**Table 1 – Noise Criteria, dB(A)**

Time of day		Parameter	Noise Level
Day	7 am-6 pm Monday -Saturday	LAeq(15minute)	46
	8 am-6 pm Sunday & Public Holidays)		
Evening	6 pm – 10 pm	LAeq(15minute)	43
Night	10 pm to commencement of day period	LAeq(15minute)	40
		LAFmax	52

Source: EPL20747



**Figure 1** Location figure showing the BPS site and noise monitoring locations

The noise criteria in **Table 1** apply under the following meteorological conditions:

- Day – Stability categories A, B, C, D with wind speeds up to and including 3 m/s at 10 m above ground level.
- Evening – Stability categories A, B, C, D with wind speeds up to and including 3 m/s at 10 m above ground level.
- Night – Stability categories A, B, C, D with wind speeds up to and including 3 m/s at 10 m above ground level; or
- Stability Category E and F with wind speeds up to and including 2 m/s at 10 m above ground level.

For those meteorological conditions not referred to above the noise limits include a plus 5dB allowance.

### Identification of suitable meteorological conditions

Umwelt aims to conduct compliance monitoring during meteorological conditions where criteria will apply. Publicly available weather forecasts, such as Weatherzone and the Bureau of Meteorology's (BOM's) synoptic charts and Meteye forecasts are reviewed and periods of low wind speeds and no rain are selected for monitoring. It is noted that inversion conditions can occur during periods of low wind speeds. Therefore, preferentially targeting calm periods may inadvertently result in the monitoring being undertaken during inversion conditions. During strong inversion conditions, the noise criteria includes a 5 dB allowance and the value of the noise monitoring process is potentially diminished. The 5 dB allowance also applies to periods when the wind speed exceeds those nominated above (as per EPL20747).

Additionally, local radars may be checked immediately prior to monitoring to confirm the absence of rain or storms during summer months. Based on the prevailing meteorological conditions over 29 and 30 September 2022 the monitoring was conducted at NM1 and NM2 as well as an additional near-field location on Sylvester Avenue, Unanderra.

Meteorological conditions during monitoring were determined from meteorological data obtained from the EPA Kembla Grange Air Quality Monitoring Station (Station ID 526). Averaged data was available in one hour intervals. Stability categories present during monitoring were determined using the method from Fact Sheet D of the NPfI using the sigma theta data to estimate the Pasquill-Gifford stability category, as outlined in Section D1 of the NPfI, as specified in EPL20747.

The Quarter 3 2022 attended noise monitoring results in **Table 2** and **Table 3** for NML1 and NML2 respectively include:

- the noise criteria for each monitoring location (for the period when the measurement was taken)
- the estimated noise contribution from BPS
- whether the meteorological conditions include a plus 5dB allowance
- whether BPS is complying with the noise criteria at the time of monitoring.

At times, the contribution of BPS to total measured noise levels can only be estimated due to the presence of other more dominant noise sources. In these circumstances, the estimated contribution of BPS is determined during lulls of extraneous noise, such as wind or road traffic noise. Additionally, the near field monitoring conducted at Sylvester Avenue assists in determining the contribution of BPS noise levels in the acoustic environment.

Further details on the operator comments regarding any extraneous noise sources contributing to the ambient noise levels during the evening and night time monitoring period can be found in **Appendix A** for NML1 and in **Appendix B** for NML2 as notated run charts.

The meteorological conditions present during each measurement interval are presented in **Table 4**.

Calibration certificates for the sound and vibration analyser and sound level calibrator used are provided in **Appendix C**.

**Table 2 Quarter 3 2022 Attended Noise Monitoring Results – NML1 Orana Parade**

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated <sup>1</sup> BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Day	30/09/2022 9:23	58	62	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Princes Highway (Highway). Other contributing sources included birds, wind in foliage, rain, local traffic and distant road traffic noise from the Princes Motorway (Motorway) noise.
Day	30/09/2022 9:38	58	61	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included birds, wind in foliage, local traffic and distant road traffic noise from the Motorway.
Day	30/09/2022 9:53	58	67	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included birds, wind in foliage, local traffic and distant road traffic noise from the Motorway.
Day	30/09/2022 10:08	57	61	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included birds, wind in foliage, local traffic and distant road traffic noise from the Motorway.

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated <sup>1</sup> BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Day	30/09/2022 10:23	58	62	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included birds, wind in foliage, local traffic and distant road traffic noise from the Motorway.
Day	30/09/2022 10:38	58	62	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included birds, wind in foliage, local traffic and distant road traffic noise from the Motorway.
Evening	29/09/2022 19:47	55	59	43	<43	-	-	+ 5 dB	Yes	BPS was audible on occasions in the background of the measurement as dust collector fan discharge and front end loader bucket noise. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway, local traffic and wind in foliage. Other sources noted during the measurement included train noise.



Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated <sup>1</sup> BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Evening	29/09/2022 20:04	55	59	43	<43	-	-	+ 5 dB	Yes	<p>BPS was audible on occasions in the background of the measurement as dust collector fan discharge.</p> <p>The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic.</p> <p>Other sources noted during the measurement included other industrial noise, birds, wind in foliage and train noise.</p>
Night	30/09/2022 6:17	56	59	40	<40	52	<40 No specific event noise noted	+ 5 dB	Yes	<p>BPS was audible briefly on two occasions as front end loader bucket noise striking the concrete pad when loading the bucket.</p> <p>The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic.</p> <p>Other sources noted during the measurement included train noise and birds.</p>

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated <sup>1</sup> BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Night	30/09/2022 6:32	57	61	40	<40	52	<40 No specific event noise noted	+ 5 dB	yes	BPS was audible on occasions as dust collector fan discharge in the background of the measurement. A cement truck unloading was visible at BPS during the measurement; however, this activity was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic. Other sources noted during the measurement included train noise and birds.
Night	30/09/2022 6:47	57	60	40	<40	52	<40 No specific event noise noted	+ 5 dB	Yes	BPS was audible on occasions as dust collector fan discharge in the background of the measurement. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic. Other sources noted during the measurement included train noise and birds.



Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated <sup>1</sup> BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Night	30/09/2022 7:02 <sup>5</sup>	56	60	40	<40	52	<40 No specific event noise noted	+ 5 dB	Yes	<p>BPS was audible briefly on two occasions as front end loader bucket noise striking the concrete pad when loading the bucket.</p> <p>A cement truck unloading was visible at BPS during the measurement; however, this activity was not audible.</p> <p>The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic.</p> <p>Other sources noted during the measurement included train noise and birds.</p>

**Notes:**

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.
2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).
3. See **Table 4** for specific meteorological data during the monitoring period.
4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.
5. Measurement conducted in day period due to inclement weather delaying the night measurement.

**Table 3 Quarter 3 2022 Attended Noise Monitoring Results – NML2 Farmborough Road**

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated <sup>1</sup> BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Day	30/09/2022 7:41	51	55	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included nearby construction noise.
Day	30/09/2022 7:56	52	55	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included rain, birds and nearby construction noise.
Day	30/09/2022 8:11	53	55	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. A front end loader was visible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included birds and nearby construction noise.
Day	30/09/2022 8:26	53	56	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included birds and nearby construction noise.

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated <sup>1</sup> BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Day	30/09/2022 8:41	53	56	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included birds, insects and nearby construction noise.
Day	30/09/2022 8:56	54	58	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included birds, insects and nearby construction noise.
Evening	29/09/2022 20:30	49	60	43	<40	-	-	+ 5 dB	Yes	BPS was audible briefly as front end loader bucket noise striking the concrete pad when loading the bucket. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway, local traffic and wind noise.
Evening	29/09/2022 20:45	49	56	43	<40	-	-	+ 5 dB	Yes	BPS was audible at times in the background as dust collector fan noise. BPS was also audible as front end loader noise loading its bucket. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway, local traffic and some wind noise

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated <sup>1</sup> BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Night	30/09/2022 5:02	49	56	40	<40	52	< 40 No specific event noted	+ 5 dB	Yes	BPS was audible at times in the background as dust collector fan noise. The acoustic environment also included road traffic noise from the Highway, distant Motorway, local traffic, wind in foliage, aircraft and birds.
Night	30/09/2022 5:17	50	55	40	<40	52	< 50 from FEL bucket	+ 5 dB	Yes	BPS was audible at times during the measurement as front end loader bucket noise. The acoustic environment also included road traffic noise from the Highway and the distant Motorway, local traffic, wind in foliage, operator noise and birds.
Night	30/09/2022 5:36	50	55	40	< 40	52	< 40 No specific event noted	+ 5 dB	Yes	BPS was audible at times during the measurement as the dust collector fan. The acoustic environment also included road traffic noise from the Highway and the distant Motorway, local traffic and birds.
Night	30/09/2022 5:51	51	56	40	<40	52	< 50 from FEL bucket	+ 5 dB	Yes	BPS was audible once during the measurement as front end loader bucket noise. The acoustic environment also included road traffic noise from the Highway, the distant Motorway, local traffic, dogs and residential noise.

Notes:

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.
2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).
3. See **Table 4** for specific meteorological data during the monitoring period.
4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.

**Table 4 Meteorological Conditions During Attended Monitoring**

EPL Id	Start Date and Time of 15 min period	Meteorological Assessment during Monitoring Period <sup>1,2</sup>				Includes Meteorological Allowance <sup>4</sup> (0dB/+5dB)
		Rain (mm)	Avg. Wind Speed @ Mic. <sup>3</sup> (m/s)	Avg. Wind Speed @ 10m (m/s)	Atmospheric Stability Category (ASC)	
NML1	29/09/2022 19:47	0	< 5	4.0	D	+ 5 dB
NML1	29/09/2022 20:04	0	< 5	5.2	D	+ 5 dB
NML1	30/09/2022 6:17	0	< 5	4.0	D	+ 5 dB
NML1	30/09/2022 6:32	0	< 5	4.0	D	+ 5 dB
NML1	30/09/2022 6:47	0	< 5	4.0	D	+ 5 dB
NML1	30/09/2022 7:02	0	< 5	4.7	C	+ 5 dB
NML1	30/09/2022 9:23	Light	< 5	6.0	C	+ 5 dB but invalid due to rain
NML1	30/09/2022 9:38	0	< 5	6.0	C	+ 5 dB
NML1	30/09/2022 9:53	0	< 5	6.0	C	+ 5 dB
NML1	30/09/2022 10:08	0	< 5	6.7	C	+ 5 dB
NML1	30/09/2022 10:23	0	< 5	6.7	C	+ 5 dB
NML1	30/09/2022 10:38	0	< 5	6.7	C	+ 5 dB
NML2	29/09/2022 20:30	0	< 5	5.2	D	+ 5 dB
NML2	29/09/2022 20:45	0	< 5	5.2	D	+ 5 dB
NML2	30/09/2022 5:02	0	< 5	3.5	D	+ 5 dB
NML2	30/09/2022 5:17	0	< 5	3.5	D	+ 5 dB
NML2	30/09/2022 5:36	0	< 5	3.5	D	+ 5 dB
NML2	30/09/2022 5:51	0	< 5	3.5	D	+ 5 dB
NML2	30/09/2022 7:41	0	< 5	4.7	C	+ 5 dB
NML2	30/09/2022 7:56	Light	< 5	4.7	C	+ 5 dB but invalid due to rain
NML2	30/09/2022 8:11	Light	< 5	4.7	C	+ 5 dB but invalid due to rain
NML2	30/09/2022 8:26	0	< 5	4.7	C	+ 5 dB
NML2	30/09/2022 8:41	0	< 5	4.7	C	+ 5 dB
NML2	30/09/2022 8:56	0	< 5	4.7	C	+ 5 dB

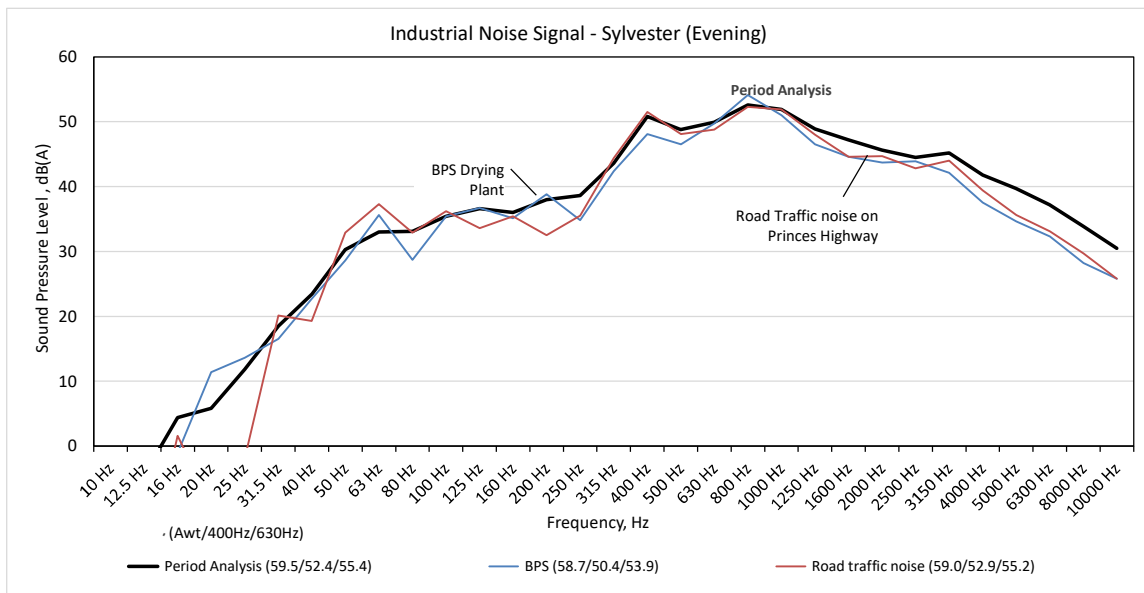
**Notes:**

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.
2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).
3. Wind speed at microphone height was determined by the operator.
4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.

## Near-field Monitoring

It was noted during the evening attended monitoring at NML1 and NML2 that the BPS dust collector fan was audible in the background during lulls in the road traffic noise from the Princes Highway. To further investigate the contribution of the dust collector fan to the acoustic environment at the monitoring locations, near-field monitoring was undertaken to the north of BPS, at Sylvester Avenue following the completion of the evening compliance noise measurements at NML1 and NML2.

**Figure 2** shows the one-third octave noise levels of the acoustic environment at Sylvester Avenue which includes BPS drying plant, distant traffic and local traffic.



**Figure 2 – One-third octave noise levels monitored at a near-field location in Sylvester Avenue**

### **Statement of Compliance**

The results of the Quarter 3 2022 noise monitoring program have been assessed against the EPL 20747 noise criteria and the meteorological conditions identified in the license for BPS.

The Quarter 3 2022 attended noise monitoring results show that BPS was compliant with the BPS EPL 20747 noise criteria for LAeq,15minute and LAFmax noise levels for all monitoring locations.

We trust this information meets with your current requirements. Please do not hesitate to contact the undersigned on 1300 793 267 should you require clarification or further details of the noise monitoring parameters recorded during this monitoring round.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Tim Procter', is positioned above the printed name.

**Tim Procter**

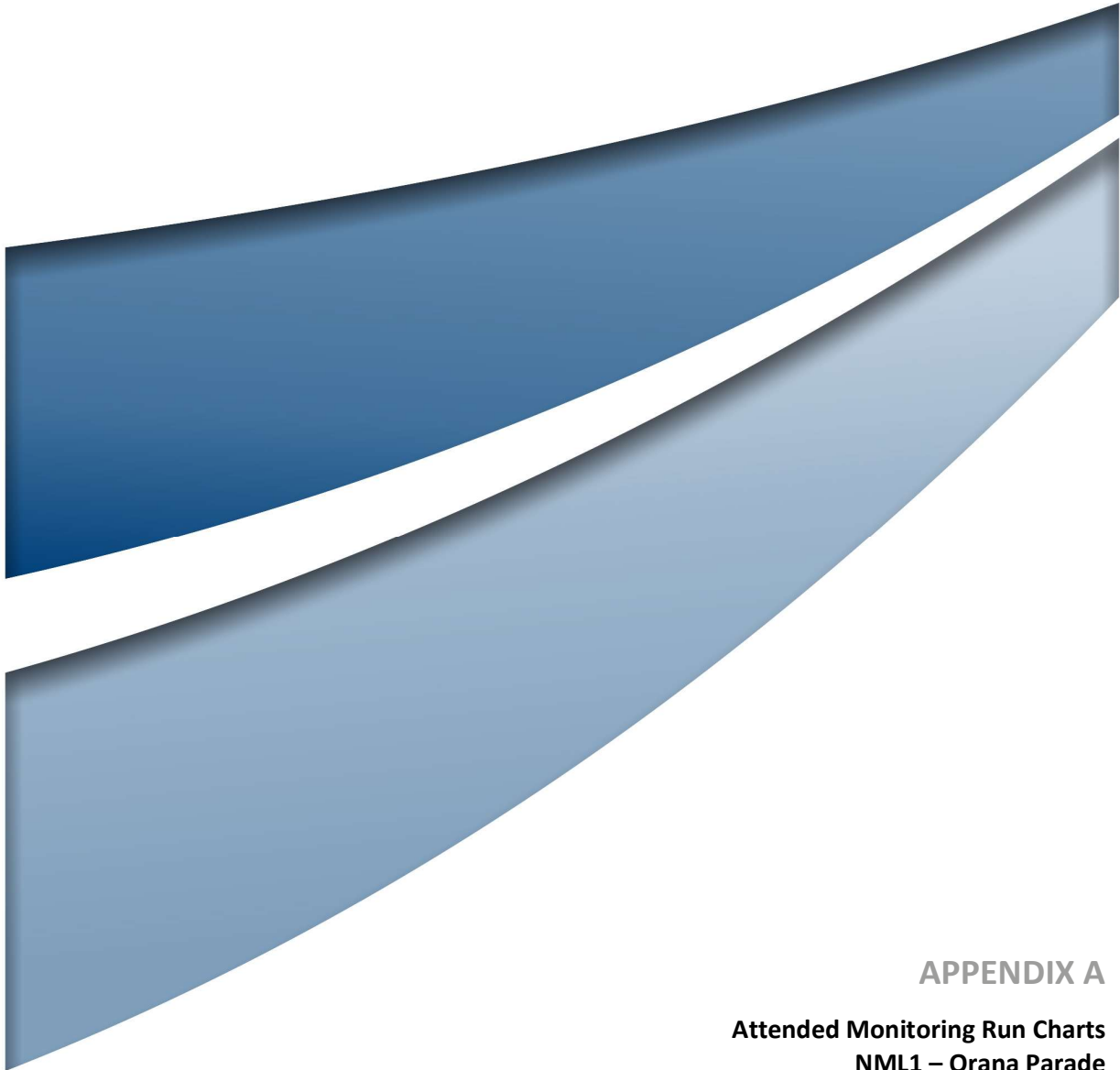
Practice Lead – Acoustic Environment

E | [tprocter@umwelt.com.au](mailto:tprocter@umwelt.com.au)

M | 0438 007 971



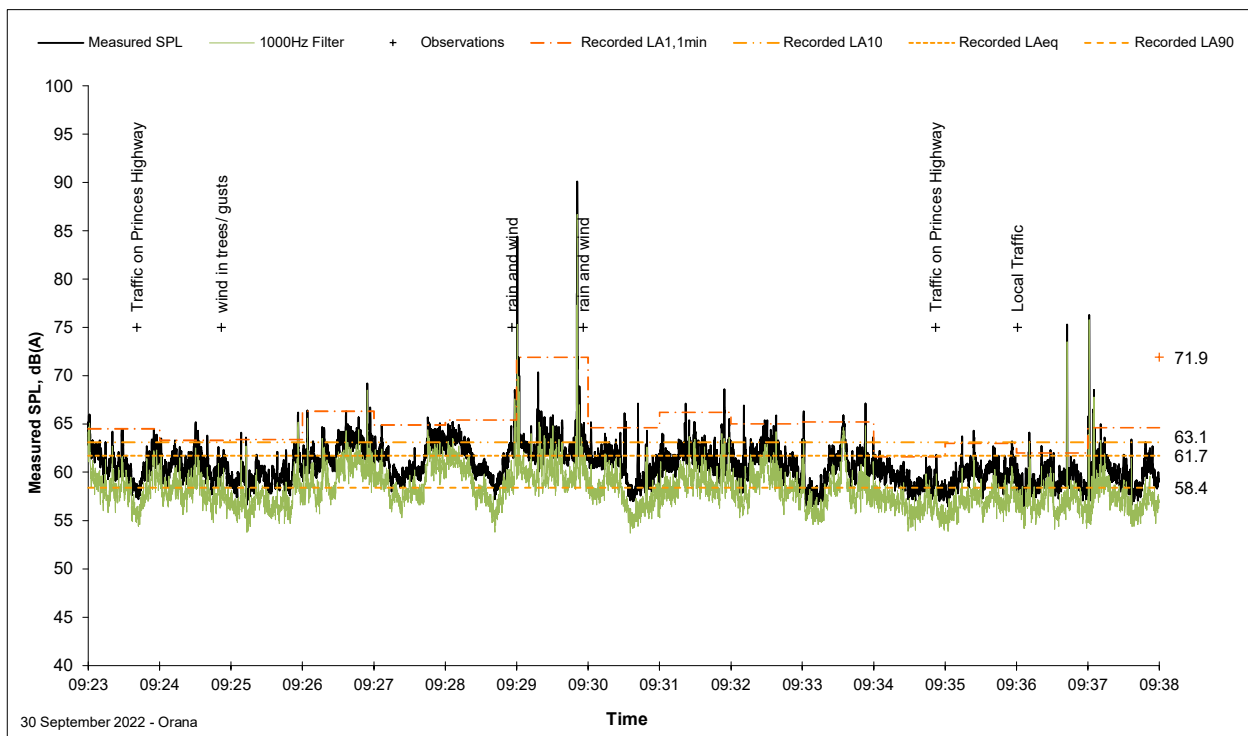




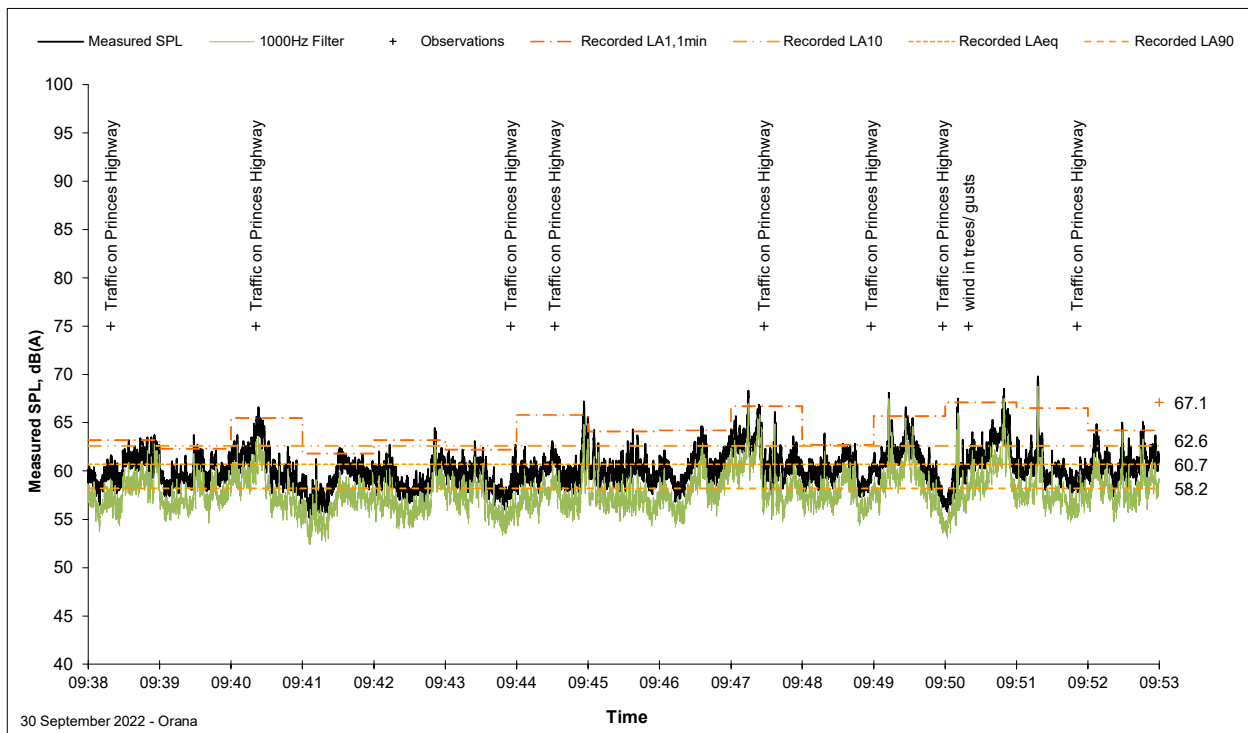
**APPENDIX A**

**Attended Monitoring Run Charts  
NML1 – Orana Parade**

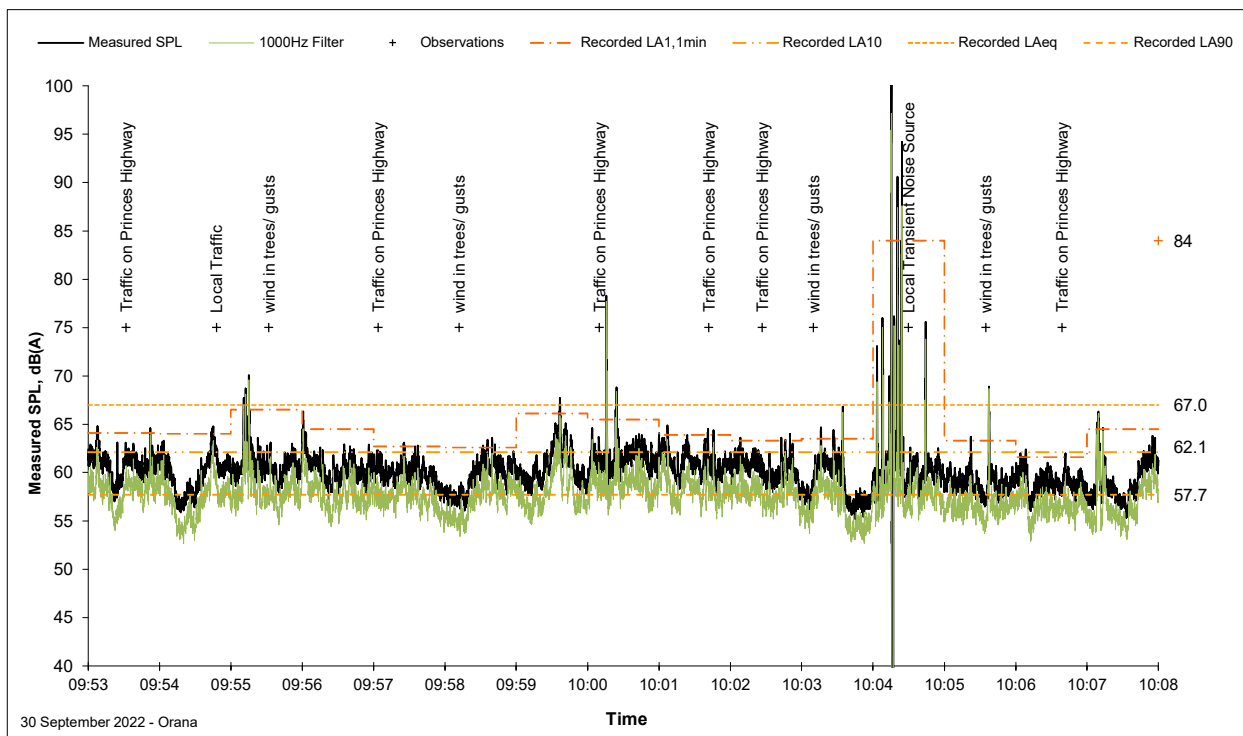
## Day Monitoring Results for NML1, Orana Parade



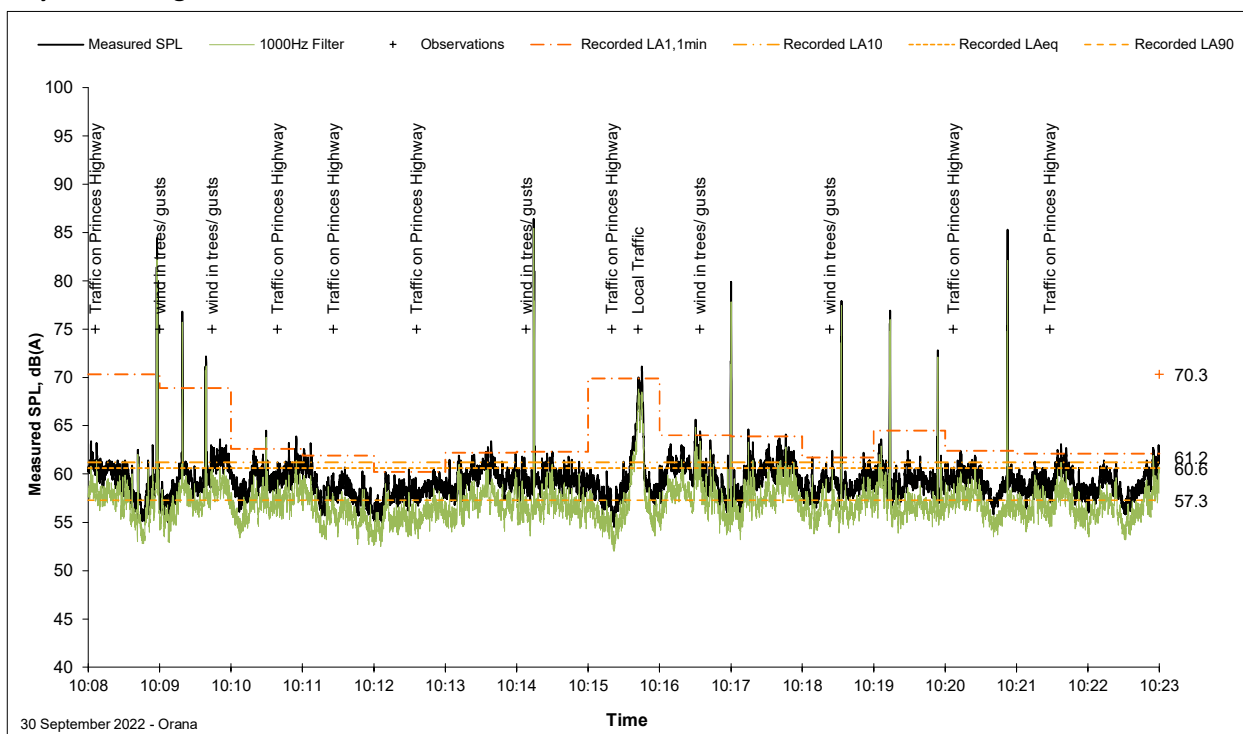
## Day Monitoring Results for NML1, Orana Parade



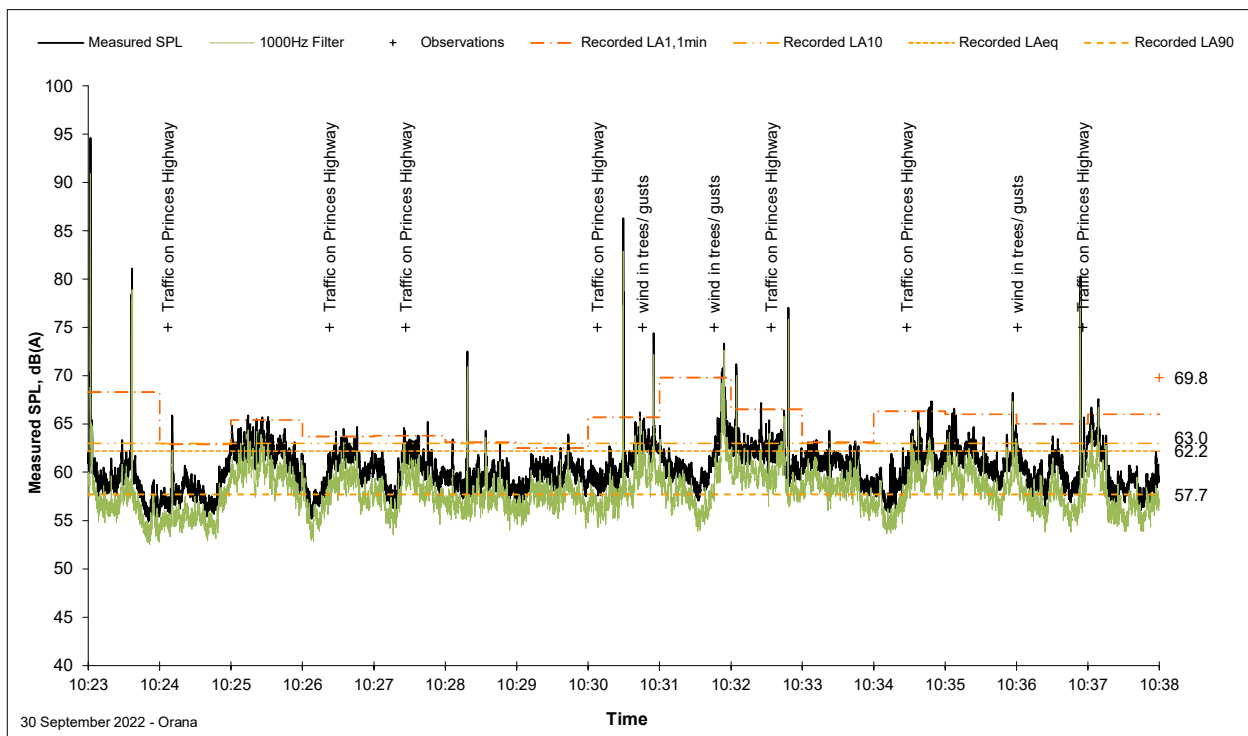
## Day Monitoring Results for NML1, Orana Parade



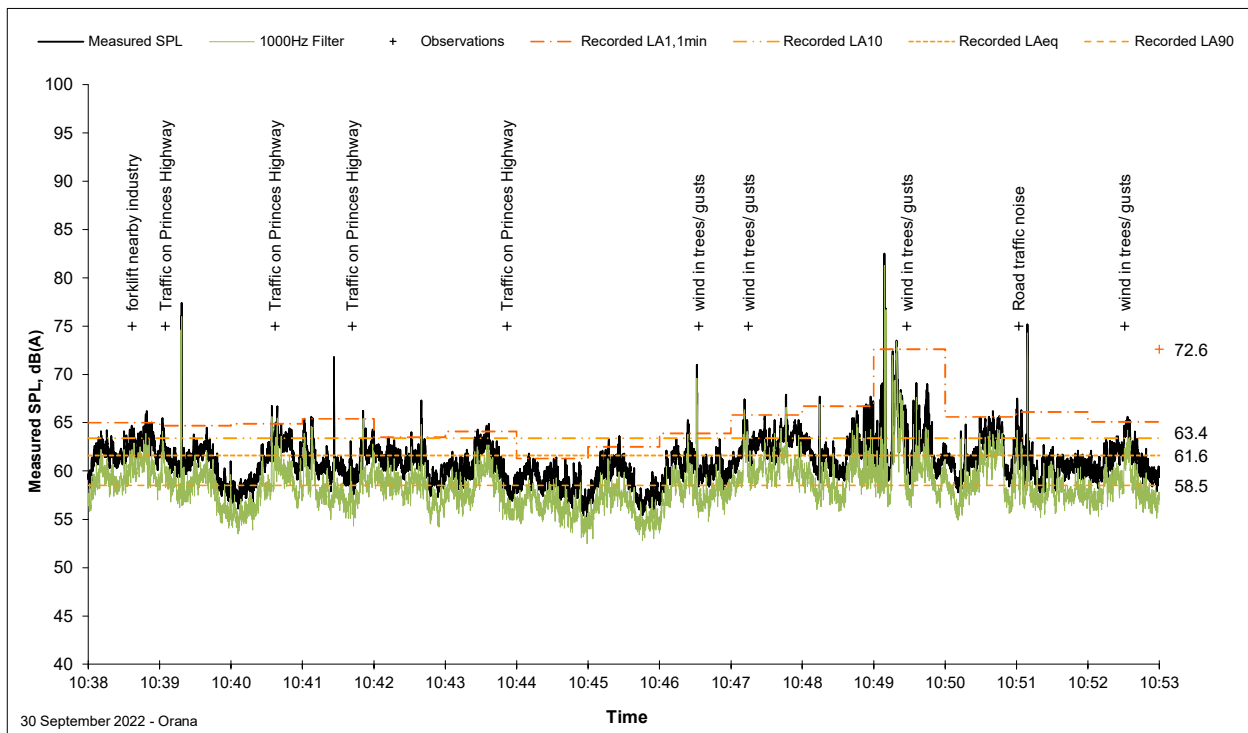
## Day Monitoring Results for NML1, Orana Parade



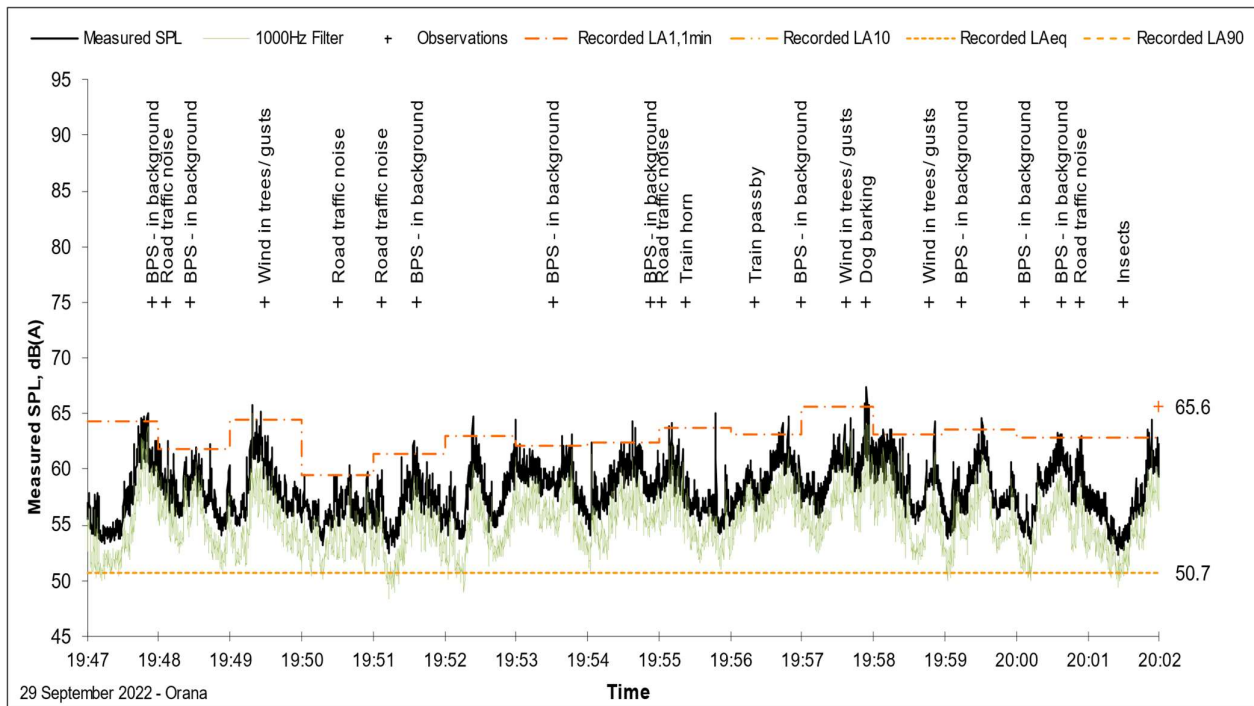
## Day Monitoring Results for NML1, Orana Parade



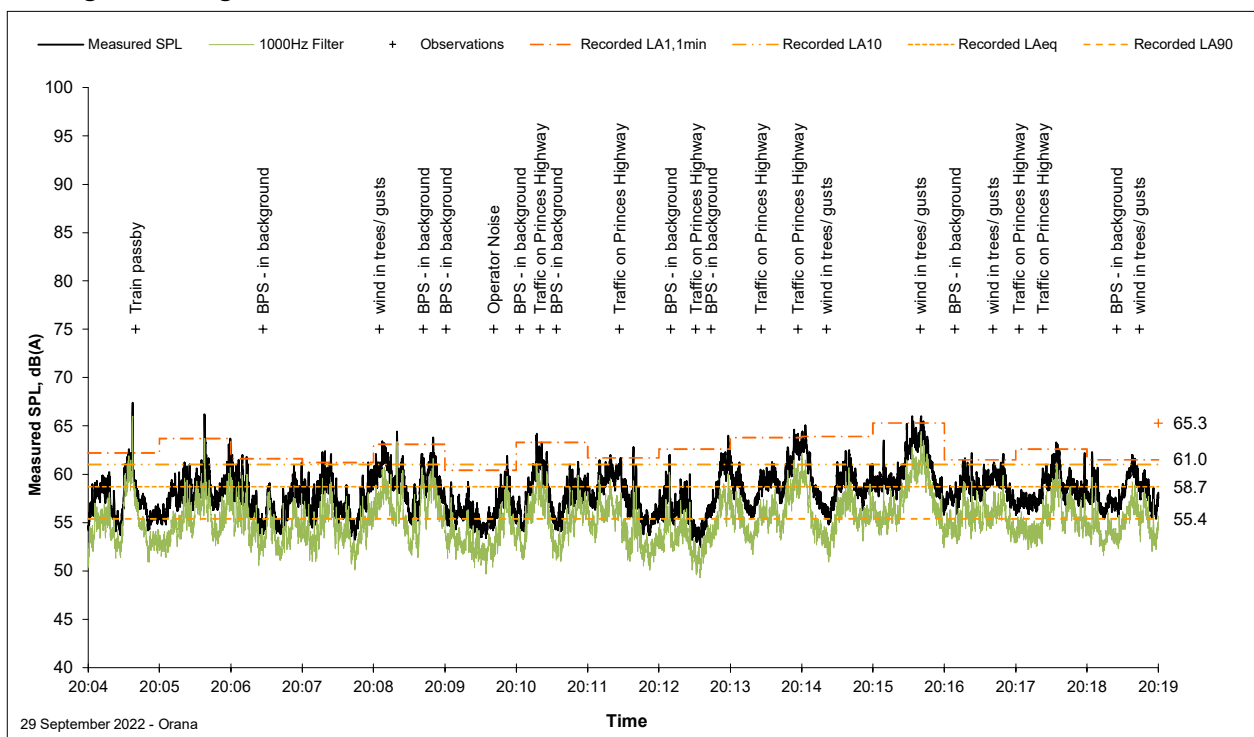
## Day Monitoring Results for NML1, Orana Parade



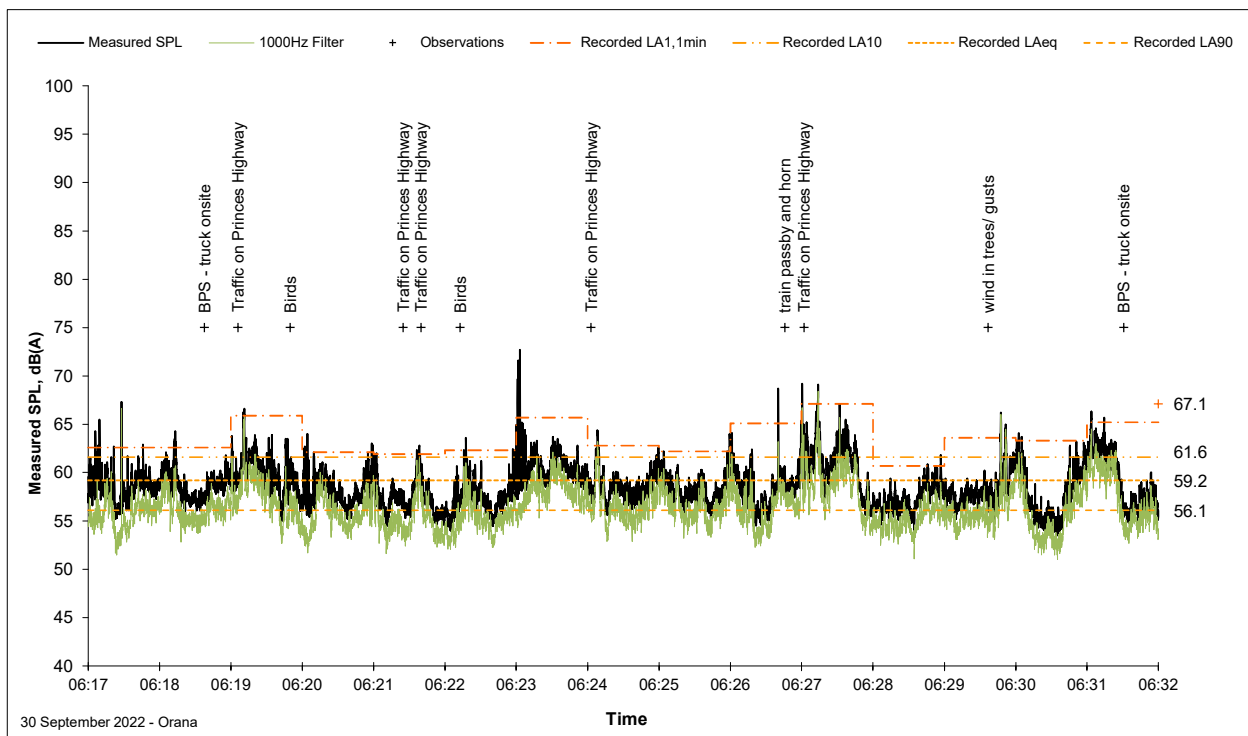
## Evening Monitoring Results for NML1, Orana Parade



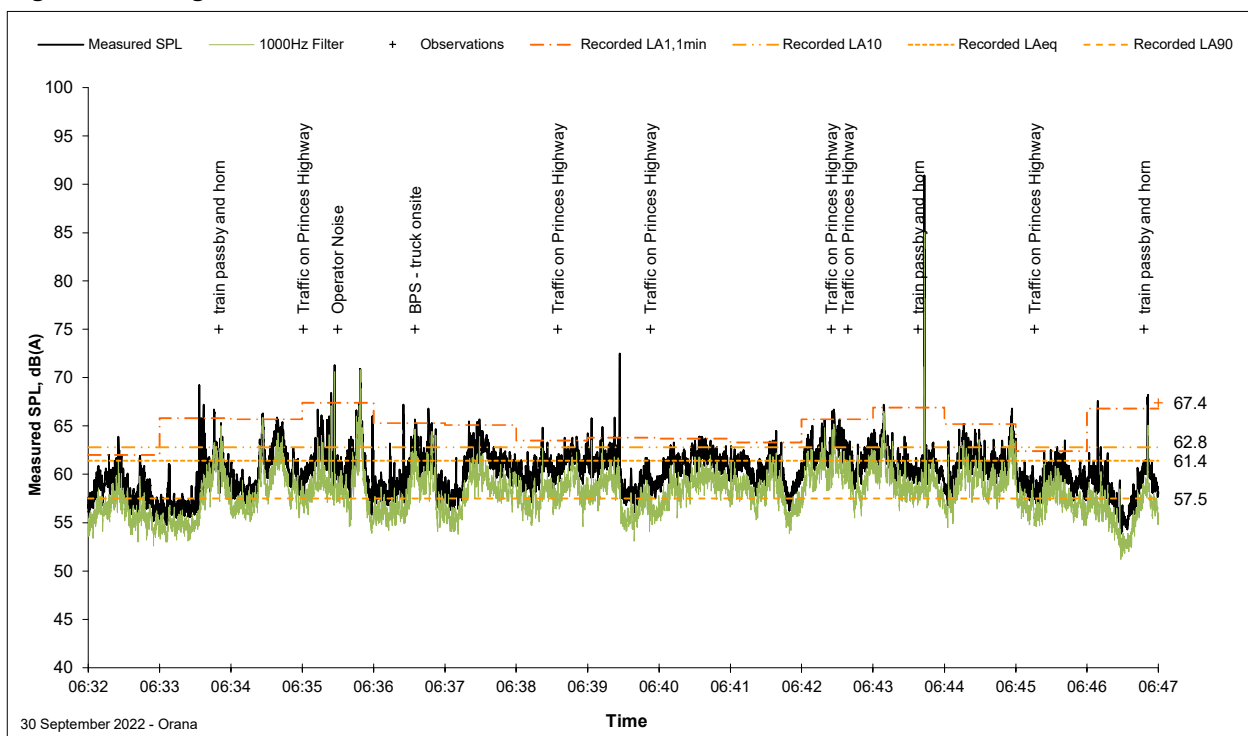
## Evening Monitoring Results for NML1, Orana Parade



## Night Monitoring Results for NML1, Orana Parade

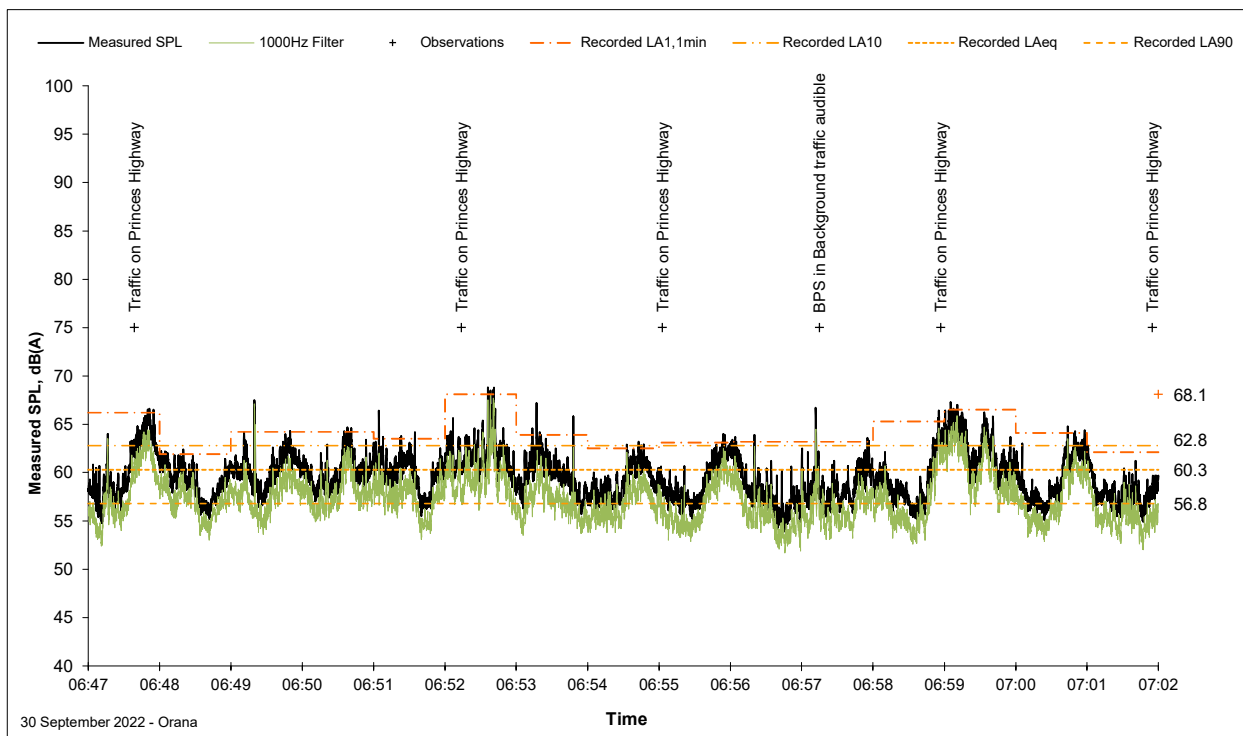


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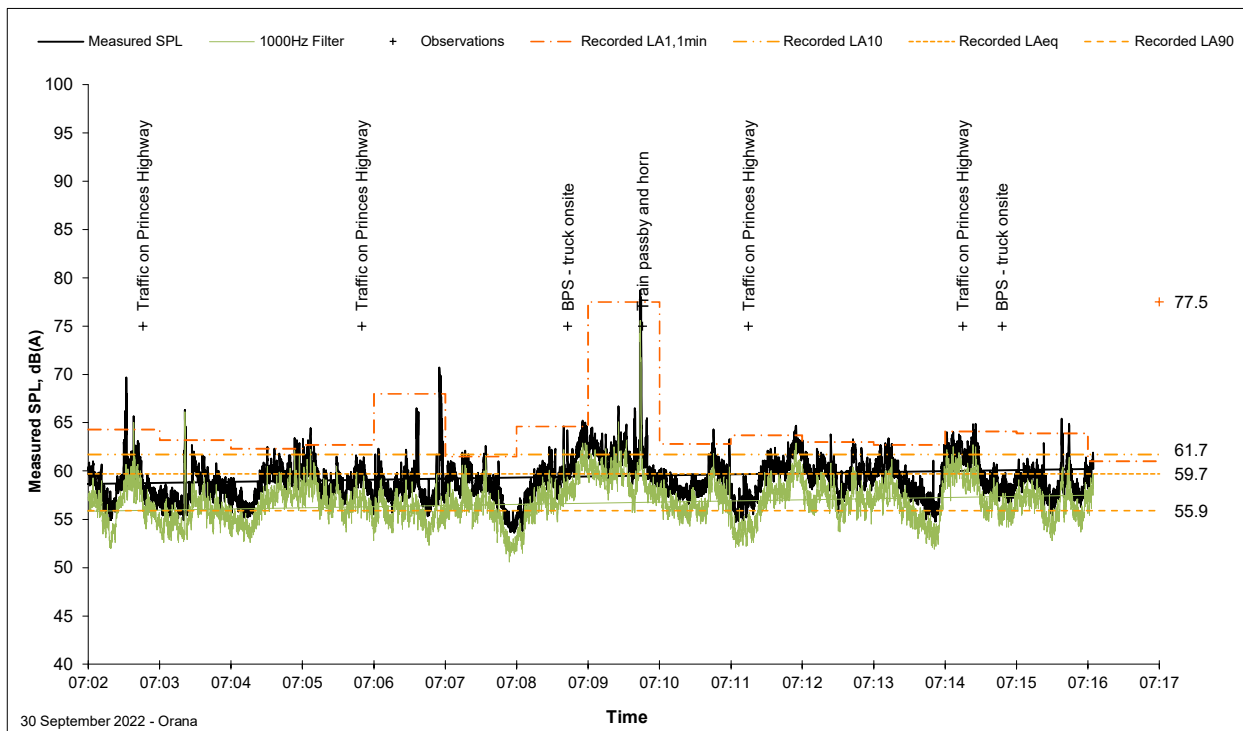




## Night Monitoring Results for NML1, Orana Parade



## Night Monitoring Results for NML1, Orana Parade

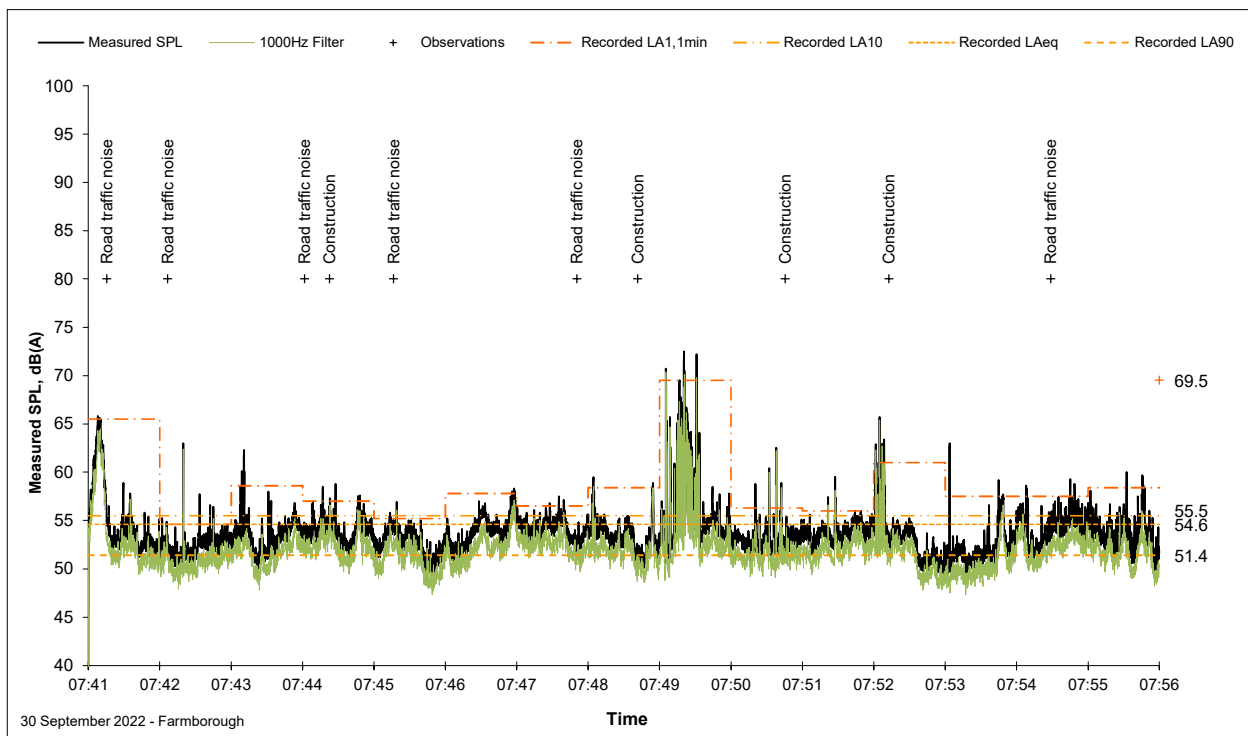




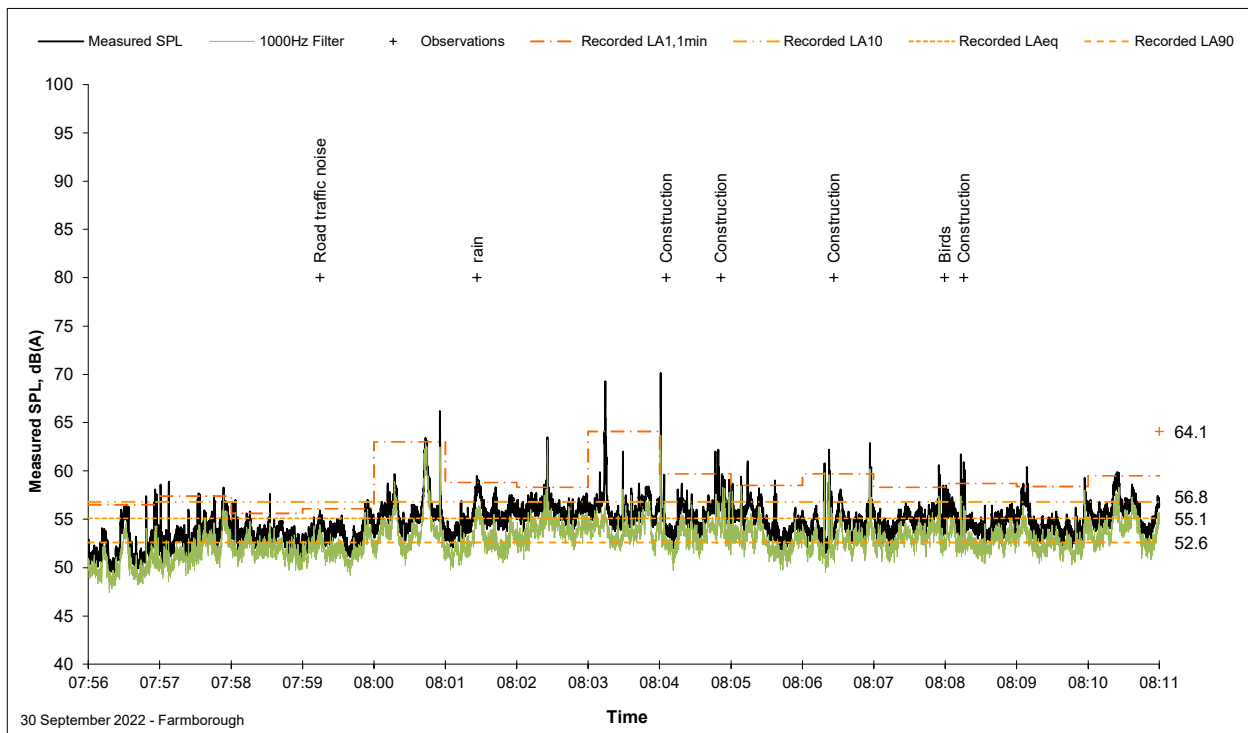
## APPENDIX B

**Attended Monitoring Run Charts  
NML2 – Farmborough Road**

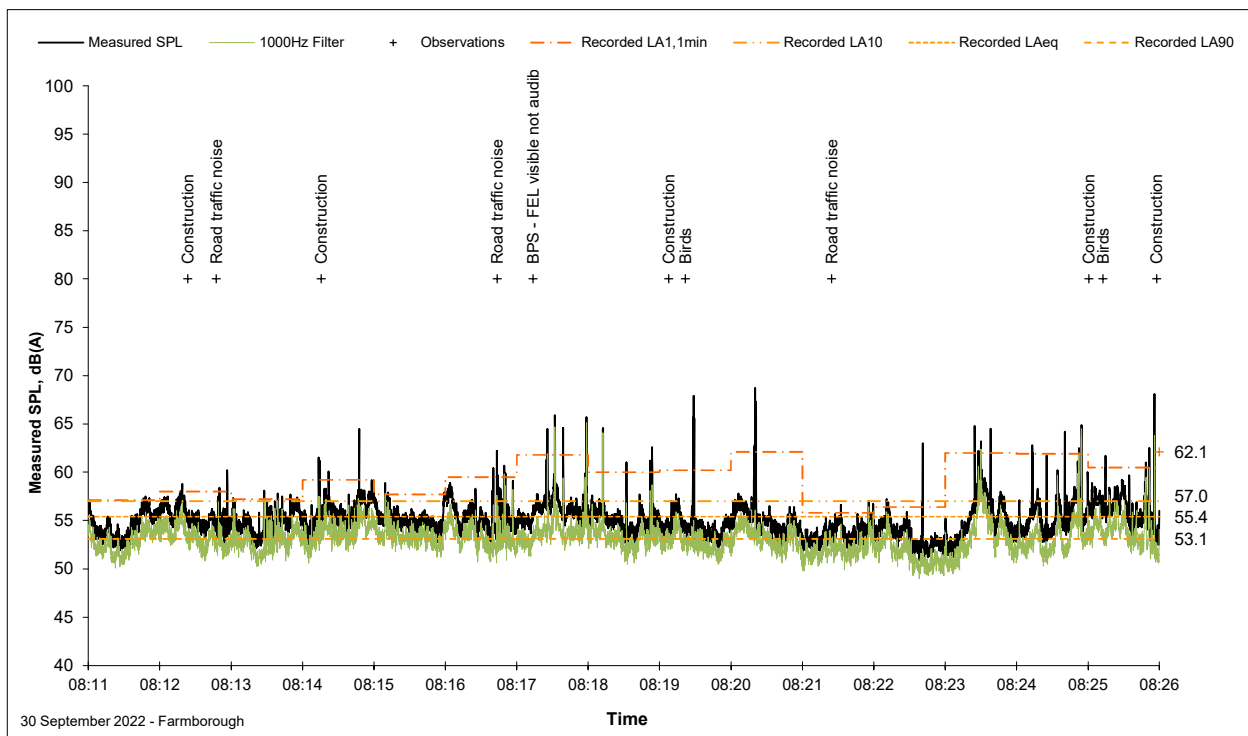
## Day Monitoring Results for NML2, Farmborough Road



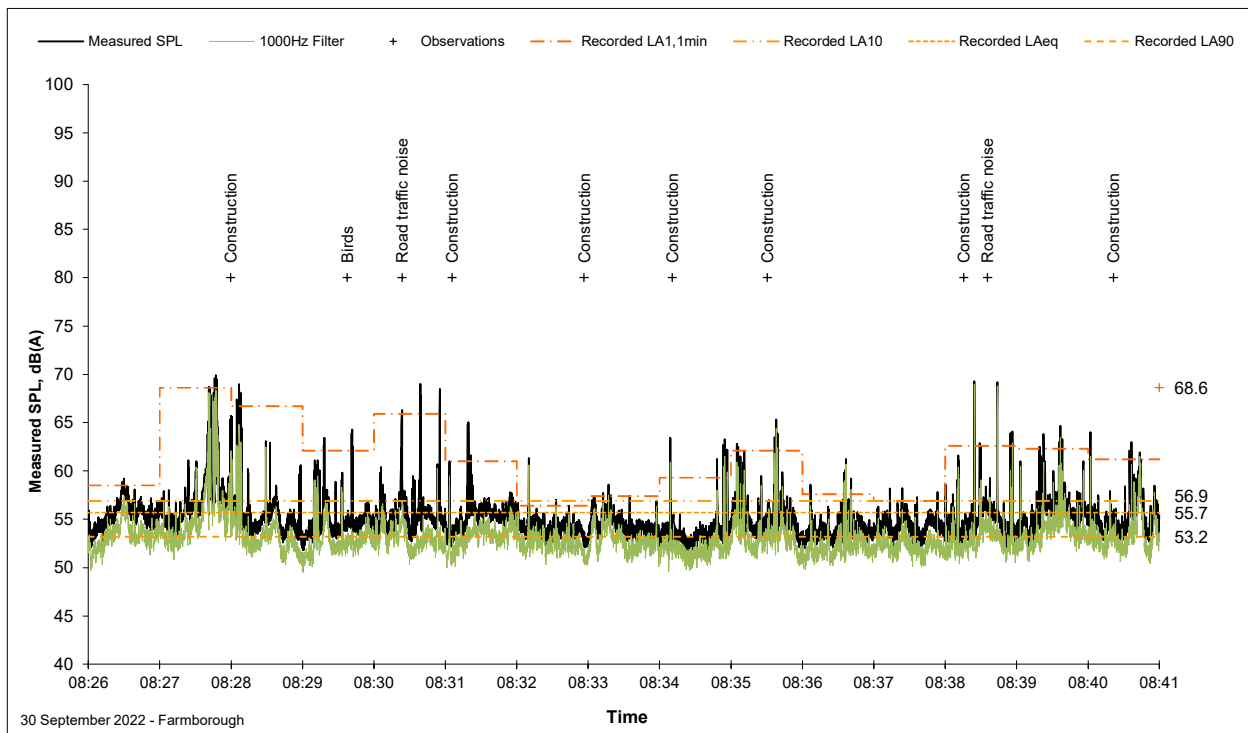
## Day Monitoring Results for NML2, Farmborough Road



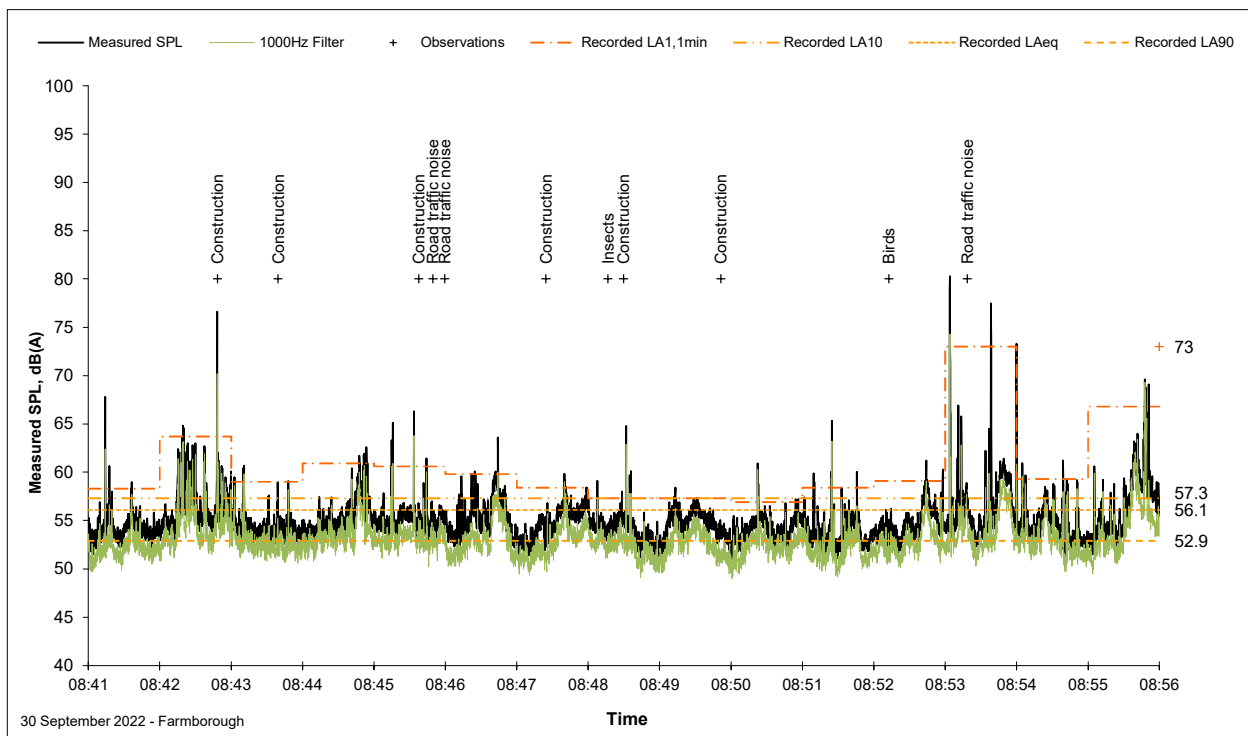
## Day Monitoring Results for NML2, Farmborough Road



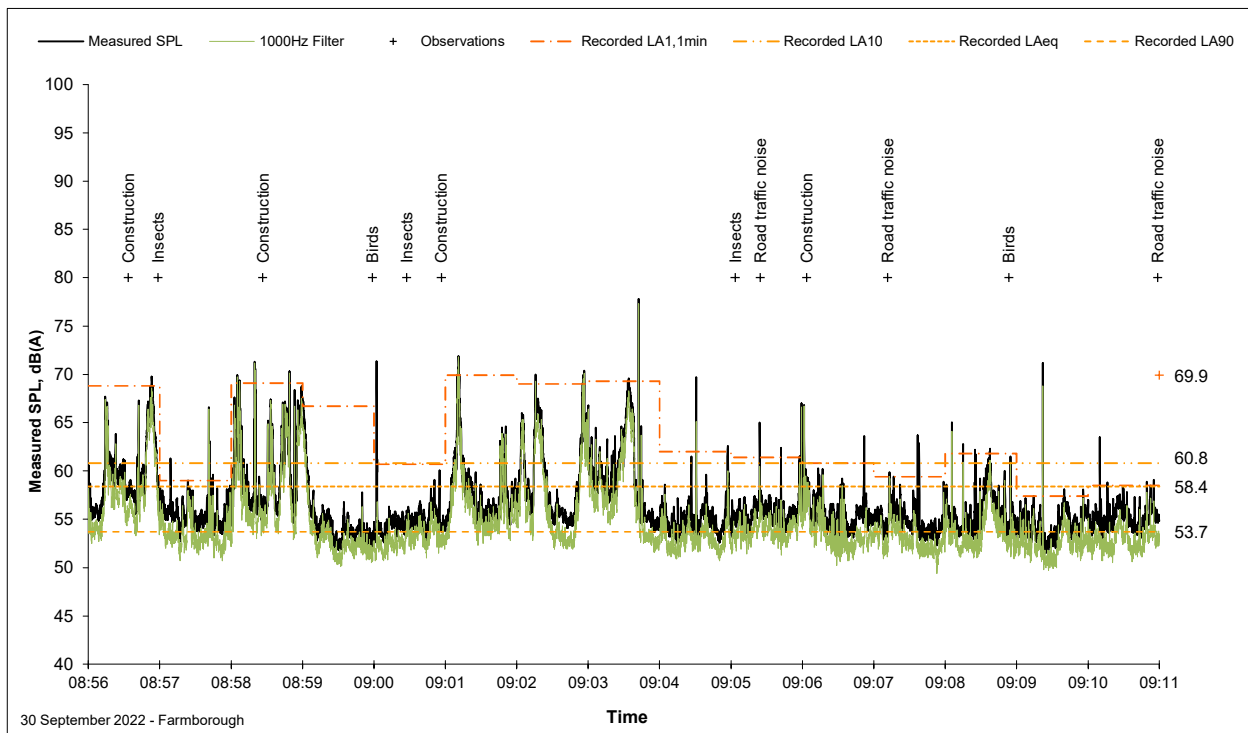
## Day Monitoring Results for NML2, Farmborough Road



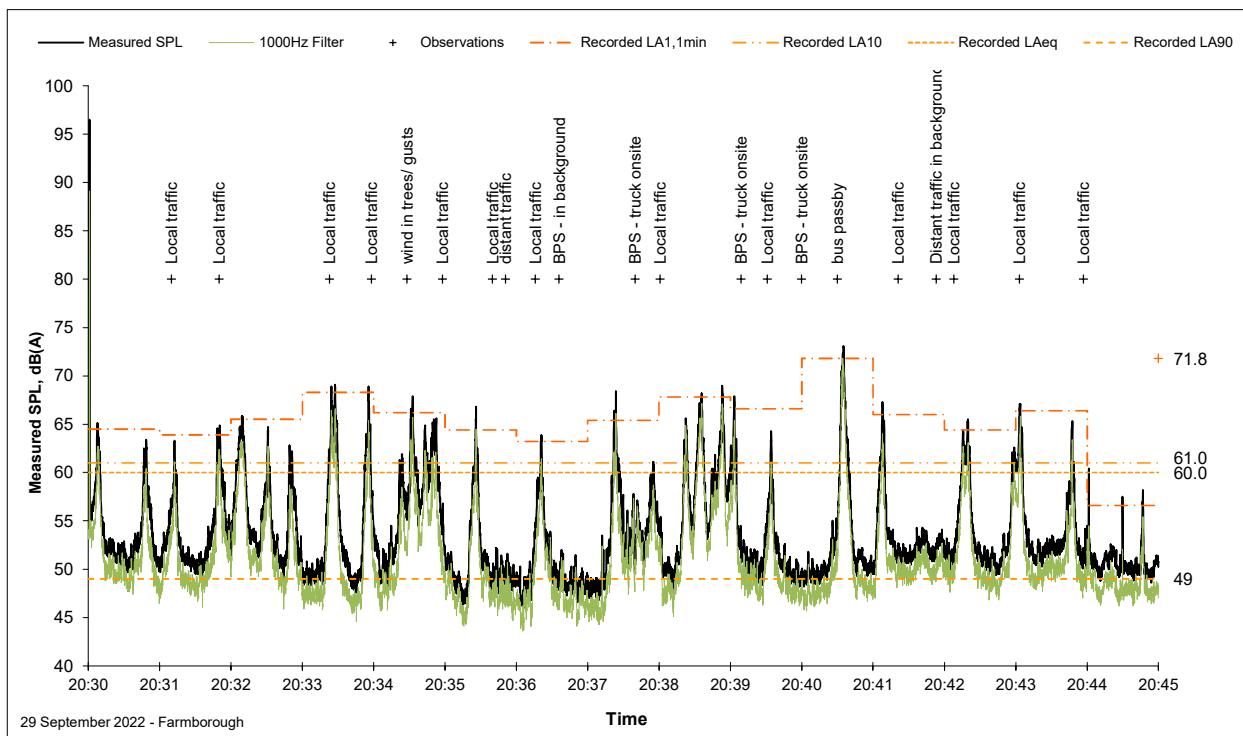
## Day Monitoring Results for NML2, Farmborough Road



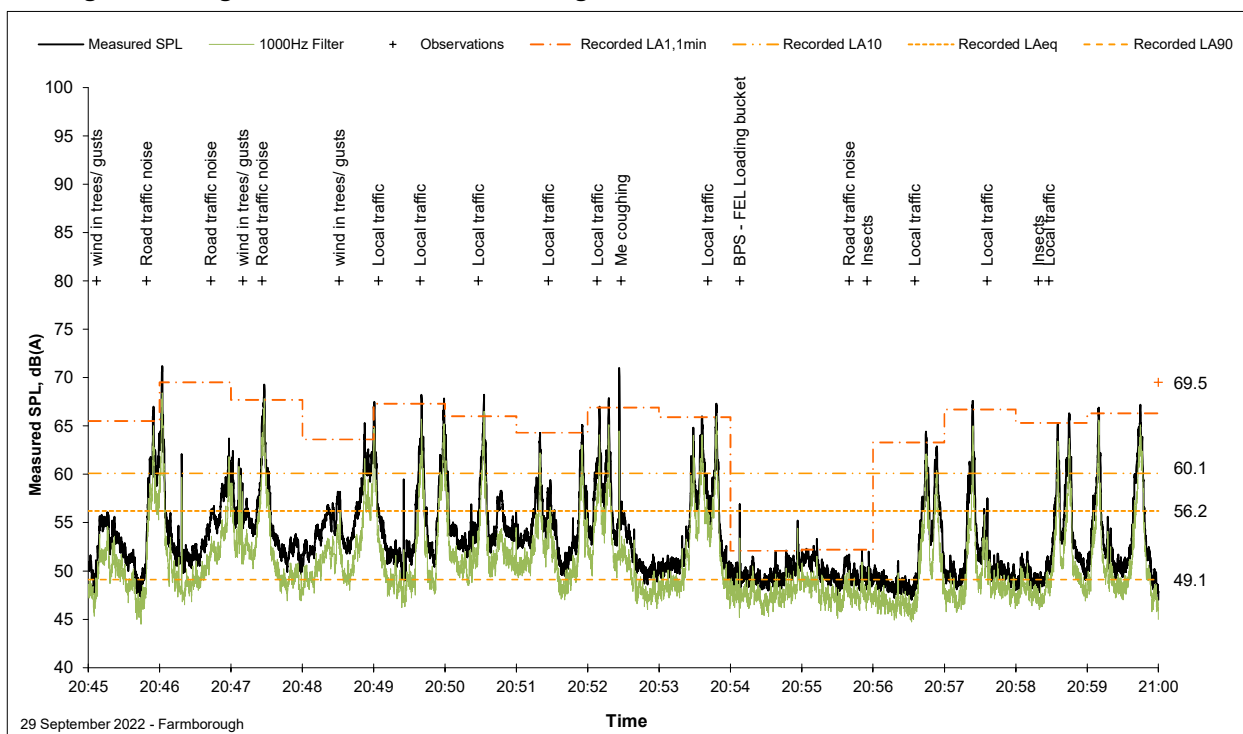
## Day Monitoring Results for NML2, Farmborough Road



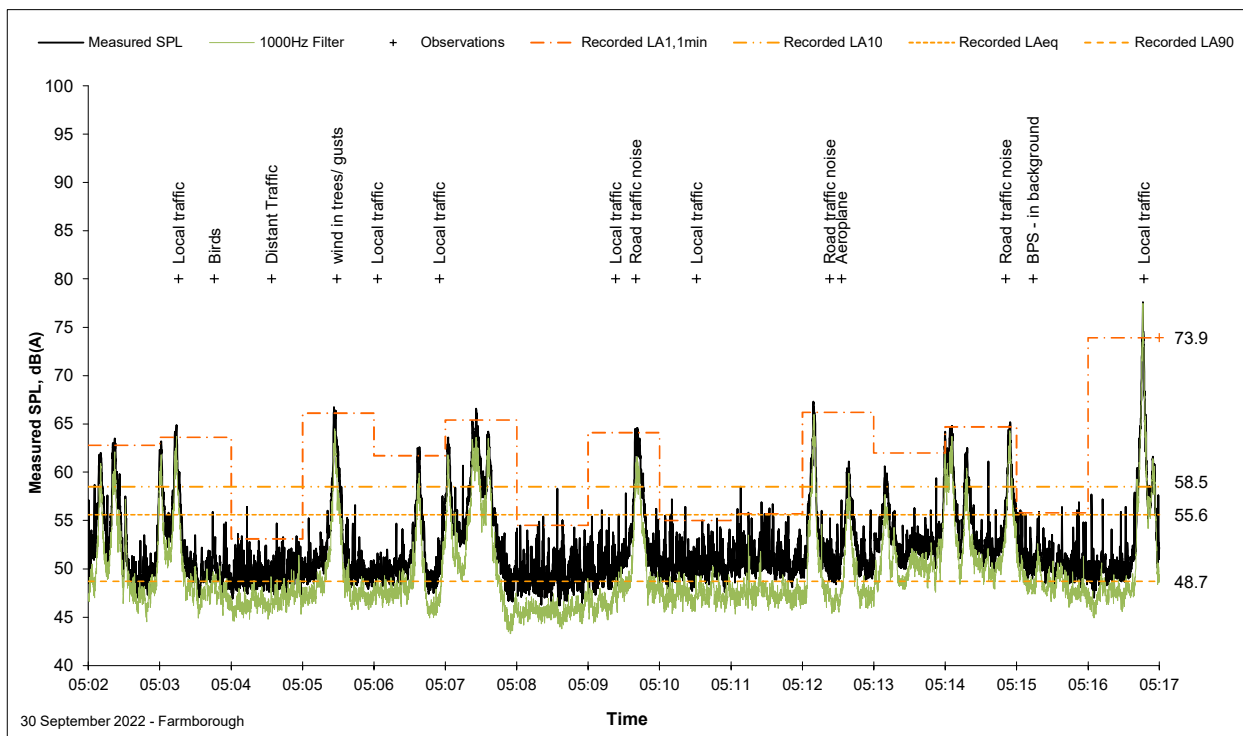
## Evening Monitoring Results for NML2, Farmborough Road



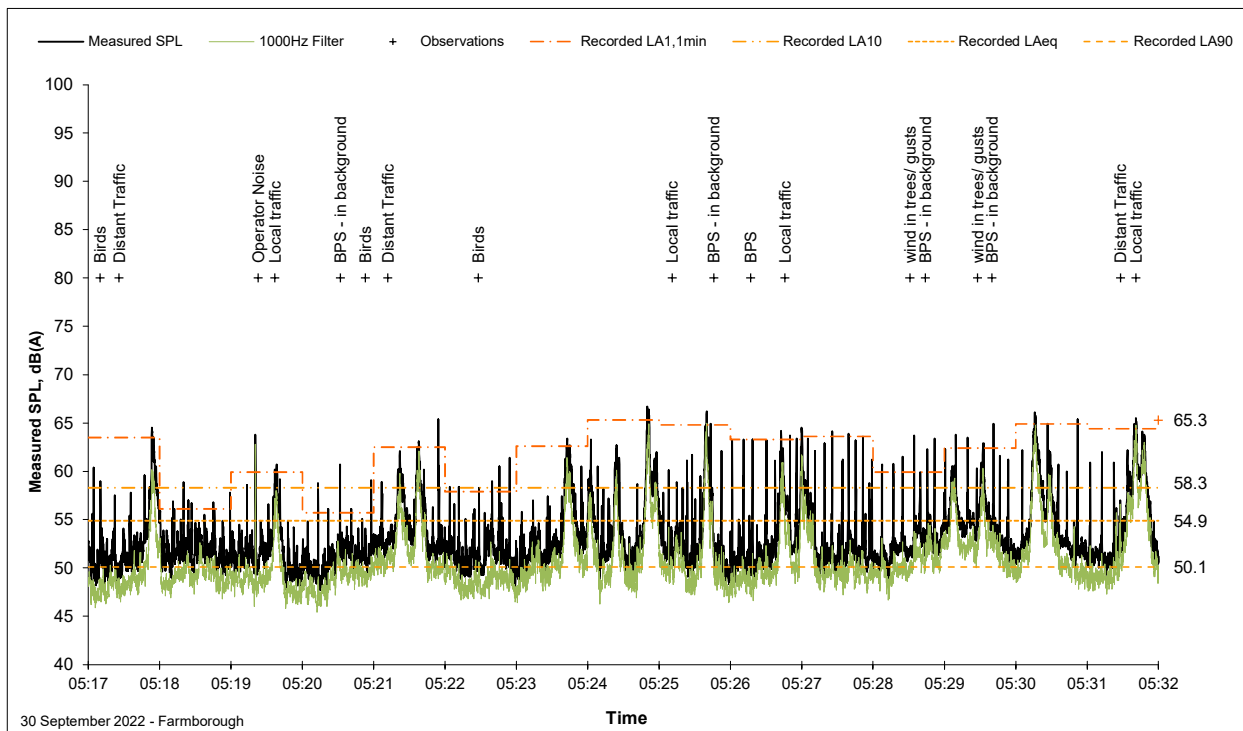
## Evening Monitoring Results for NML2, Farmborough Road



## Night Monitoring Results for NML2, Farmborough Road

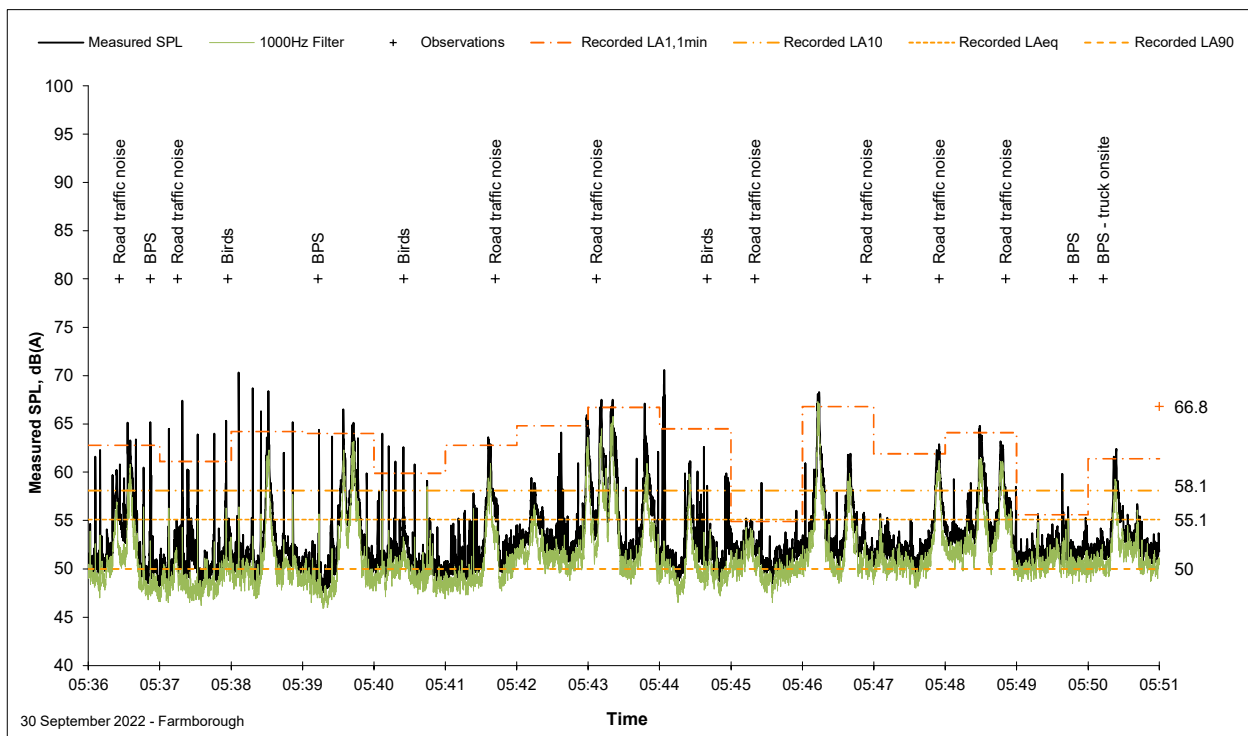


## Night Monitoring Results for NML2, Farmborough Road

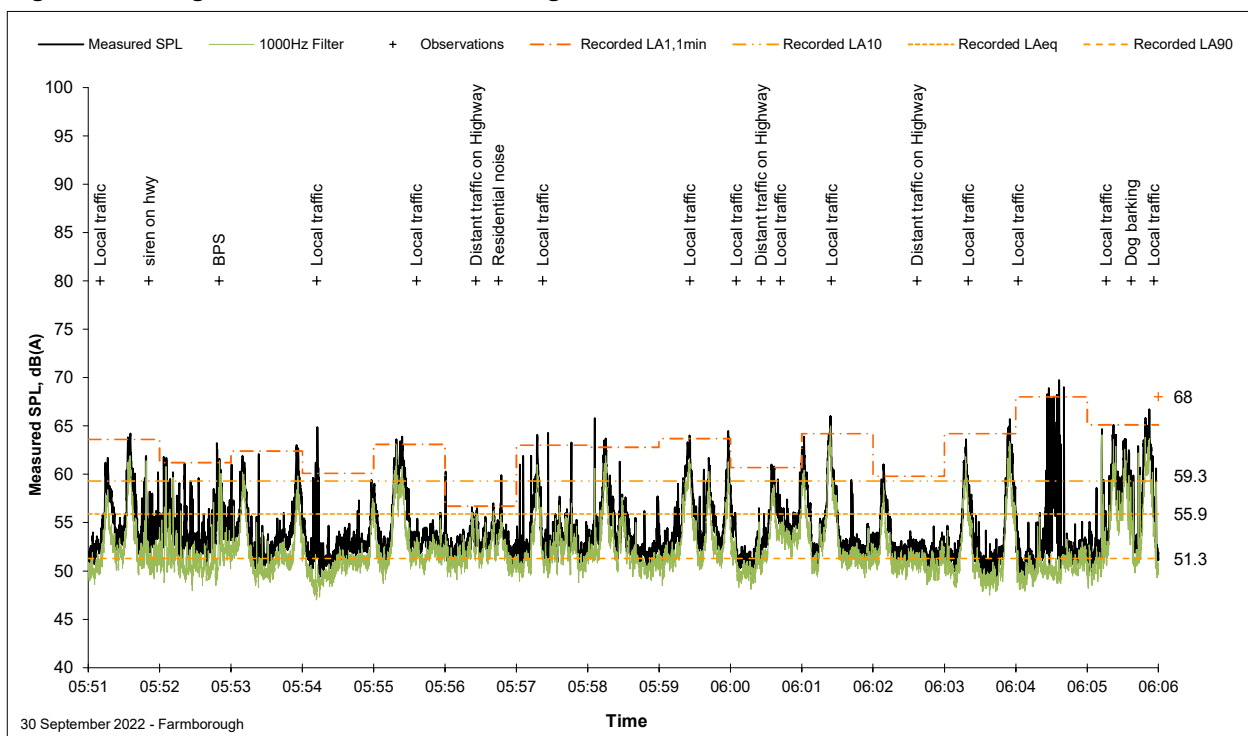




## Night Monitoring Results for NML2, Farmborough Road



## Night Monitoring Results for NML2, Farmborough Road





**APPENDIX C**  
**Calibration Certificates**



# CERTIFICATE OF CALIBRATION

CERTIFICATE No: **SLM33564**

EQUIPMENT TESTED: Sound & Vibration Analyser

Manufacturer: Svantek

Type No: SVAN-958A

Mic. Type: 7052E

Pre-Amp. Type: SV12L

Serial No: 59838

Serial No: 71100

Serial No: 73582

Filter Type: 1/3 Octave

Test No: F033563

Owner: Umwelt (Australia) Pty Ltd  
75 York Street  
Teralba, NSW 2284

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

## CONDITIONS OF TEST:

Ambient Pressure 993 hPa  $\pm 1$  hPa

Temperature 24  $^{\circ}\text{C} \pm 1^{\circ}\text{C}$

Relative Humidity 39 %  $\pm 5\%$

Date of Receipt : 22/08/2022

Date of Calibration : 23/08/2022

Date of Issue : 24/08/2022

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: 

AUTHORISED SIGNATURE: 

Hein Soe

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.



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Measurements

  
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Head Office & Calibration Laboratory  
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154  
(02) 9680 8133  
[www.acu-vib.com.au](http://www.acu-vib.com.au)



# CERTIFICATE OF CALIBRATION

CERTIFICATE No: **C33577**

EQUIPMENT TESTED : Sound Level Calibrator

Manufacturer: Svantek

Type No: SV-36

Serial No: 90124

Owner: Umwelt Australia Pty Ltd

75 York Street

Teralba, NSW 2284

Tests Performed: Measured Output Pressure level, Frequency & Distortion

Comments: See Details overleaf. All Test Passed.

Parameter	Pre-Adj	Adj Y/N	Output: (dB re 20 µPa)	Frequency (Hz)	THD&N (%)
Level1:	NA	N	93.98 dB	1000.00 Hz	1.26 %
Level2:	NA	N	114.01 dB	1000.01 Hz	1.12 %
Uncertainty			±0.11 dB	±0.05%	±0.20 %
Uncertainty (at 95% c.l.) k=2					

## CONDITION OF TEST:

Ambient Pressure 1006 hPa ±1 hPa

Temperature 22 °C ±1° C

Relative Humidity 37 % ±5%

Date of Receipt : 22/08/2022

Date of Calibration : 24/08/2022

Date of Issue : 24/08/2022

Acu-Vib Test AVP02 (Calibrators)

Procedure: Test Method: AS IEC 60942 - 2017

CHECKED BY: .....

AUTHORISED  
SIGNATURE: .....

*Hein Soe*

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