



DA ACOUSTIC REPORT

Mackillop Catholic College, Woongarra

ID: 12590 R01v6

16 January 2025

Prepared For:

Stanton Dahl Architects on behalf of Catholic Schools Broken Bay

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This firm is a member of the Association of Australian Acoustical Consultants.

The work reported herein has been carried out in accordance with the terms of membership. We stress that the advice given herein is for acoustic purposes only, and that the relevant authorities should be consulted with regard to compliance with regulations governing areas other than acoustics.

1.0 INTRODUCTION

PKA has been engaged by Stanton Dahl Architects on behalf of Catholic Schools Broken Bay to provide acoustic consulting for the project at MacKillop Catholic College, Woongarra. The works include construction of 3 new buildings, to include 28 new GLAs, and associated amenities.

This report will address noise emission to external receivers and acoustic treatment/management measures that will need to be incorporated to meet relevant acoustic criteria.

This report does not include advice for internal acoustic design that is outside of the scope of standard DA acoustic report requirements.

2.0 SUMMARY

An acoustic assessment has been conducted in accordance with the acoustic requirements of the NSW EPA Noise Policy for Industry (NPfI) to assess the noise breakout for the proposed development and works, and to establish noise goals for future operation and mechanical plant.

Unattended noise measurements were conducted on site for a period of 7 days to obtain background noise levels of the surrounding environment. Following the measurements results, noise impacts were calculated to the nearest sensitive receivers based on architectural and operation plans provided to PKA.

Based on the survey conducted and calculations performed, the proposed development will comply with the NPfI providing the recommendations made in Section 7.0 of this report are implemented.

Recommendations include acoustic treatment to external spaces to address potential student noise build up, future external mechanical plant noise limits, PA/school bell recommendations. Traffic noise intrusion has been assessed and determined to not require specific treatments in accordance with the relevant SEPP (Transport and Infrastructure) clause and NSW EPA guideline. Based on the noise monitoring and given the extensive distance between the traffic noise source and the site works, there is no need for additional treatment to ameliorate traffic noise.

3.0 SITE DESCRIPTION

The site is bound by residential lots to north and west, with additional residences located opposite the arterial Sparks Road to the south. Directly to the east is a commercial lot, with additional residential lots further east. The site location, sensitive receivers, and noise monitor locations are shown in Figure 3-1.

Figure 3-1 Site Location



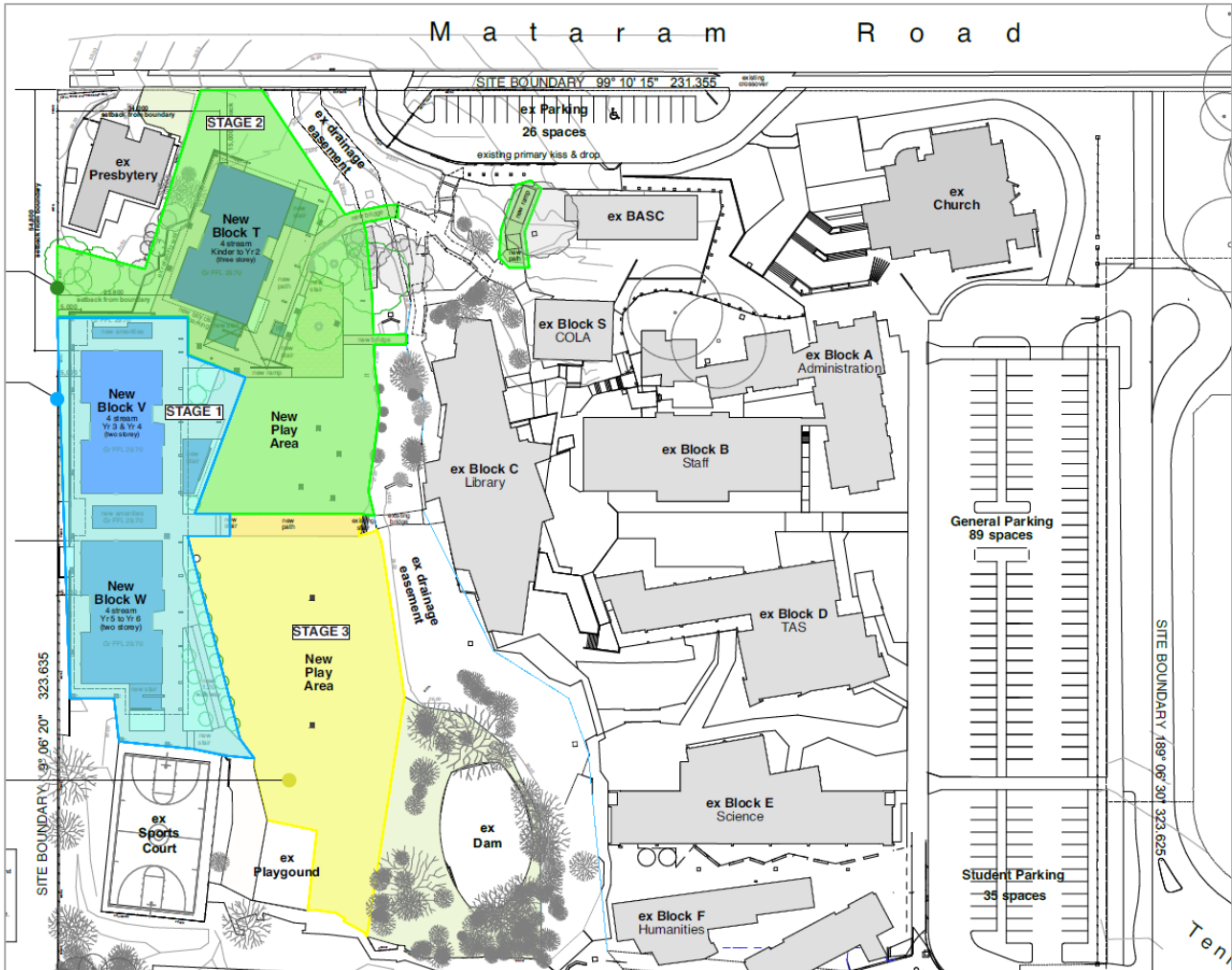
Receivers:

R1: Currently under construction (groundworks) and subdivision

R2: Currently under construction (groundworks) and subdivision

R3: Completed subdivision, Wildberry Road

Figure 3-2 Proposed Site Plan & Staging



4.0 NOISE CRITERIA

4.1 NSW EPA Noise Policy for Industry (NPfI)

Noise generated from commercial premises and from mechanical noise to other external receivers is generally assessed against the requirements of the current *NSW EPA Noise Policy for Industry 2017 (NPfI)*. The policy sets out two separate criteria to ensure environmental noise objectives are met. The first criterion considers intrusive noise to residential properties and the second is set to ensure the amenity of the land use is protected. The lower value of both criteria is considered to be the Project noise trigger level, which is the limit of the $L_{Aeq, 15min}$ noise level that must not be exceeded for the corresponding period of the day.

Amenity Criterion

To limit continuing increases in noise levels, the maximum ambient noise level within an area from commercial noise sources should not normally exceed the levels as specified in Table 2.2 of the policy for the specified time of the day. NSW EPA NPfI recommends the following Amenity Noise Levels for various receiver premises.

Table 4-1 Noise Criteria - Amenity for receiver buildings

Type of receiver	Time of day	Recommended Amenity Noise Level $L_{Aeq, (period)}$
Residential (Sub-Urban)	Day	55 dB(A)
	Evening	45 dB(A)
	Night	40 dB(A)

To ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area, a project amenity noise level applies for each new source of industrial noise as follows:

Project amenity noise level for development = recommended amenity noise level **minus 5 dB(A)**.

To standardise the time periods for the intrusiveness and amenity noise levels, this policy assumes that the Amenity $L_{Aeq, 15min}$ will be taken to be equal to the $L_{Aeq, period} + 3$ decibels (dB).

Intrusiveness Criterion

The intrusiveness of a stationary noise source may be considered acceptable if the average of the maximum A-weighted levels of noise, $L_{Aeq, 15 minute}$ from the source do not exceed by more than 5dB the Rating Background Level (RBL) measured in the absence of the source. This applies during all times of the day and night. There also exists an adjustment factor to be applied as per the character of the noise source. This includes factors such as tonal, fluctuating, low frequency, impulsive, intermittent etc. qualities of noise. The RBL is determined in accordance with Section 2.3 of the NSW EPA NPfI. The intrusiveness criterion is $L_{Aeq, 15 minute} < RBL + 5$.

Amenity noise levels in areas of high traffic noise

This site is not impacted by high traffic noise levels and therefore additional criteria not applicable.

4.2 Traffic Noise Intrusion

Two relevant guidelines establish criteria for traffic noise intrusion to educational facilities; see summarised criteria below.

SEPP (Transport and Infrastructure) – Clause 2.120

2.120 Impact of road noise or vibration on non-road development

- (1) This section applies to development for any of the following purposes that is on land in or adjacent to the road corridor for a freeway, a tollway or a transitway or any other road with an annual average daily traffic volume of more than 20,000 vehicles (based on the traffic volume data published on the website of TfNSW) and that the consent authority considers is likely to be adversely affected by road noise or vibration—*
 - (a) residential accommodation,*
 - (b) a place of public worship,*
 - (c) a hospital,*
 - (d) an educational establishment or centre-based child care facility.*
- (2) Before determining a development application for development to which this section applies, the consent authority must take into consideration any guidelines that are issued by the Planning Secretary for the purposes of this section and published in the Gazette.*
- (3) If the development is for the purposes of residential accommodation, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following LAeq levels are not exceeded—*
 - (a) in any bedroom in the residential accommodation—35 dB(A) at any time between 10 pm and 7 am,*
 - (b) anywhere else in the residential accommodation (other than a garage, kitchen, bathroom or hallway)—40 dB(A) at any time.*
- (3A) Subsection (3) does not apply to a building to which State Environmental Planning Policy (Housing) 2021, Chapter 3, Part 7 applies.*
- (4) In this section, **freeway**, **tollway** and **transitway** have the same meanings as they have in the Roads Act 1993.*

NSW EPA Development Near Rail Corridors and Busy Roads – Interim Guideline

The NSW EPA has prepared an interim guideline for assessing traffic noise to projects (including educational facilities). Section 3.6 of the Interim Guidelines (Development Near Rail Corridors and Busy Roads) establishes noise and vibration criteria. For the purposes of this project, only the airborne noise criterion is presented below as groundborne and vibration criteria are not necessary.

Table 4-2 NSW EPA Traffic Noise Airborne Criteria

Table 3.1: Noise Criteria		
Residential Buildings		
<i>Type of Occupancy</i>	<i>Noise Level dB(A)</i>	<i>Applicable time period</i>
<i>Sleeping Areas (bedroom)</i>	35	<i>Night 10 pm to 7 am</i>
<i>Other habitable rooms (excl. garages, kitchens, bathrooms, & hallways)</i>	40	<i>At any time</i>
Non-Residential Buildings		
<i>Type of Occupancy</i>		<i>Recommended Max Level dB(A)</i>
<i>Educational Institutions including child care centres</i>		40
<i>Places of Worship</i>		40
<i>Hospitals</i>	- <i>Wards</i>	35
	- <i>Other noise sensitive areas</i>	45

Note: airborne noise is calculated as L_{eq} (9h)(night) and L_{eq} (15h)(day). Groundborne noise is calculated as L_{max} (slow) for 95% of rail pass-by events.

5.0 NOISE SURVEY

5.1 Methodology

Unattended noise monitoring was conducted on site between 23rd and 30th November 2023 to record the existing ambient noise levels at the boundary of the site. The noise monitor was programmed to store the L_n percentile noise levels for each 15-minute sampling period. Measurements were made of L_{min} , L_{max} , L_{90} , and L_{eq} and were later retrieved for analysis. The positions of the noise monitors are shown in Figure 3-1. The results and summary of the noise monitoring used in establishing the background noise levels are listed in graphical form in Appendix B of this report. Adverse periods of weather were manually excluded from the overall measurements.

During the noise monitoring, it was observed that intermittent construction and groundworks/landscaping was taking place in the adjacent residential subdivision. This was noted to impact periods of the day and cannot be cleanly isolated/extracted.

5.2 Instrumentation

Noise measurements were conducted using the following equipment:

- Sound analysers NTi XL2 Type Approved, Serial No. A2A-09467-E0 & A2A-16434-E0.
- Sound calibrator Pulsar Model 105 Acoustic Calibrator, Serial number 83440.

The instruments were calibrated before and after the noise measurements and there were no adverse deviations between the two. The analysers are type 1 and comply with AS IEC 61672.2-2004. The instruments carry traceable calibration certificates.

5.3 Project Noise Goals

The tables below present the results of the ambient noise monitor measurements. As a guide, the noise criteria defined in the NPfI is listed below (Table 5-1) as no additional conditions have been provided by the council at this stage. The assessment periods are defined by the NSW NPfI as Daytime: 7 am to 6 pm, Evening: 6 pm to 10 pm and Night: 10 pm to 7 am.

Table 5-1 NPfI Project Noise Trigger Levels

All values in dB(A)

Receivers	Period	Measured RBL (L_{A90})	Acceptable Noise Levels $L_{Aeq}(\text{period})$	NSW Noise Policy for Industry Criteria		Project Noise Trigger Levels $L_{Aeq15min}$
				Amenity $L_{Aeq15min}$	Intrusiveness $L_{Aeq15min}$	
R1	Day	37	55	53	42	42
	Evening	37	45	43	42	42
	Night	34	40	38	39	38
R2	Day	42	55	53	47	47
	Evening	39	45	43	44	43
	Night	34	40	38	39	38

The school premises are proposed to be used between 8 am and 6 pm. However, the additional criteria for outside school hours are provided for future development or mechanical plant.

6.0 ASSESSMENT

6.1 Student Noise Impact

Increase Student Numbers

The table below summarises the current and proposed student numbers.

Table 6-1 Proposed Student Numbers

Years	Current Students	Proposed Students	Proposed Increase
K – 6	638	840	202
7 – 12	917	990	73
Total	1555	1830	275

Noise Impact from the use of new buildings

The use of the proposed new buildings will be that of typical classrooms, and therefore are not anticipated to generate specifically problematic noise levels. It is anticipated that any noise impacts to residential receivers from inside the buildings will be sufficiently mitigated by conventional façade construction performance.

Noise Impact from the use of outdoor areas

The school has been operating for 20 years, and a majority of the identified residential receivers are future construction and will therefore be aware of the presence of the school. As the school is a predominant source of the existing acoustic amenity, it will be up to the residents to ensure any potential impacts are mitigated by the individual construction/design reports.

The location of outdoor play areas are such that residential receivers are not closely impacted, with the position of the new Blocks V and W providing effectively acoustic shielding to the western residential properties.

Despite the K – 6 student numbers increasing by 202, the distribution of students within the school grounds and the proportion of student increase, it is likely that the noise emission from the school to the nearest residential receivers will be either the same or lesser than is current. The increase to 7 – 12 student numbers is unlikely to result in any perceptible increase to noise impacts due to the location of senior school students and the marginal increase in student numbers as compared to the current approved operating numbers.

6.2 Mechanical Noise

Preliminary selections of mechanical equipment have not yet been provided to PKA for the purposes of mechanical noise assessment.

Mechanical noise goals have been established following the noise monitoring surveys that were conducted on site. When mechanical selections have been made, calculations of noise impacts and any requisite treatments can be made to ensure compliance with the relevant noise goals is achieved.

6.3 Traffic Noise

Based on the measured ambient noise levels at the proposed setback/building façade (those most affected by traffic noise) and the significant distance (> 200 m) to the main road noise source, the development does not require any specific design/treatments to mitigate traffic noise. The ambient noise level at the approximate location of the most affected proposed building was measured at 50 dB(A), which indicates compliance even with windows kept open. Therefore, the project will be compliant with the **SEPP (Transport and Infrastructure)** and **NSW EPA guidelines**.

7.0 RECOMMENDATIONS

Based on the architectural plans, and calculations performed by PKA, the proposed development complies with the established acoustic criteria. The following are recommendations to ensure that ongoing compliance is maintained.

Outdoor Plant and equipment

At the time of preparation of this report, a detailed mechanical specification/schedule was not available. However, it is noted that the mechanical plant is not proposed to be operated out of school hours. The selection of any future outdoor mechanical and plant equipment must be checked so that the rated sound power/pressure levels will comply at the boundary of the sensitive residences with the criteria listed in Table 5-1. The exact selection of the equipment, locations and acoustic treatment must be checked by an acoustic consultant prior to installation to ensure that the noise goals are met.

Treatment options that may be required include acoustic barriers/louvres, absorptive treatment and enclosures, and/or low-noise modules.

PA System/School Bell

While no specific design for a PA system or school bell has been provided to PKA, it is recommended that considerations for noise emission are made when positioning loudspeakers that are to be used. Directing the loudspeakers so that they face only inwards towards the school and not outwards to nearby residential receivers should be included when locating loudspeakers.

Soffit Treatment

To reduce potential for noise buildup beneath covered areas and emission to nearby receivers it is recommended that acoustically absorptive soffit treatment be included to under cover areas.

APPENDIX A DRAWINGS USED TO PREPARE REPORT

This report was prepared using drawings provided by SDA (Project ID: 2700.21)

No.	Rev.	Title	Date
A0101	DA02	Existing Campus Plan & Analysis	11/07/2024
A0102	DA02	Proposed Campus Plan	11/07/2024
A0103	DA02	Proposed Site Plan & Staging	11/07/2024
A0201	DA02	Block T - Ground Floor Plan	11/07/2024
A0202	DA02	Block T - First & Second Floor Plans	11/07/2024
A0203	DA02	Block V - Floor Plans	11/07/2024
A0204	DA02	Block W - Floor Plans	11/07/2024
A0205	DA02	Block T - Roof Plan	11/07/2024
A0206	DA02	Block V & W - Roof Plan	11/07/2024
A0301	DA02	Site Elevations	11/07/2024

APPENDIX B NOISE MEASUREMENTS (GRAPHICAL)

12590 Mackillop Catholic College, Woongarrah

Project Address: 91 Sparks Rd, Woongarrah

Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd



		Background Noise Levels L _{A90} dB					
		Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
		Measured	Corrected	Measured	Corrected	Measured	Corrected
Thursday	23/11/2023			36.8	36.8	30.8	30.8
Friday	24/11/2023	36.2	36.2	35.7	35.7	34.4	34.4
Saturday	25/11/2023	36.0	36.0	39.2	39.2	34.2	34.2
Sunday	26/11/2023	31.0	31.0	37.9	37.9	34.8	34.8
Monday	27/11/2023	39.0	39.0	35.3	35.3	33.1	33.1
Tuesday	28/11/2023	38.1	38.0	37.3	37.3	33.5	33.5
Wednesday	29/11/2023	40.4	40.3	41.3	41.3	34.2	34.2
Thursday	30/11/2023						
Rating Background Level (RBL)		37	37	37	37	34	34

		Existing Noise Levels L _{Aeq} dB					
		Daytime		Evening		Nighttime	
		07:00 - 18:00		18:00 - 22:00		22:00 - 07:00	
		Measured	Corrected	Measured	Corrected	Measured	Corrected
Thursday	23/11/2023			43.8	43.8	40.8	40.8
Friday	24/11/2023	52.1	52.0	43.0	43.0	41.1	41.1
Saturday	25/11/2023	46.1	46.1	46.6	46.6	42.5	42.5
Sunday	26/11/2023	43.6	43.6	43.5	43.5	47.2	47.2
Monday	27/11/2023	53.0	53.0	42.8	42.8	40.0	40.0
Tuesday	28/11/2023	48.4	48.5	44.1	44.1	41.1	41.2
Wednesday	29/11/2023	54.0	51.4	48.6	48.6	44.2	44.2
Thursday	30/11/2023						
Average Noise Level (L _{Aeq})		51	50	45	45	43	43

12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

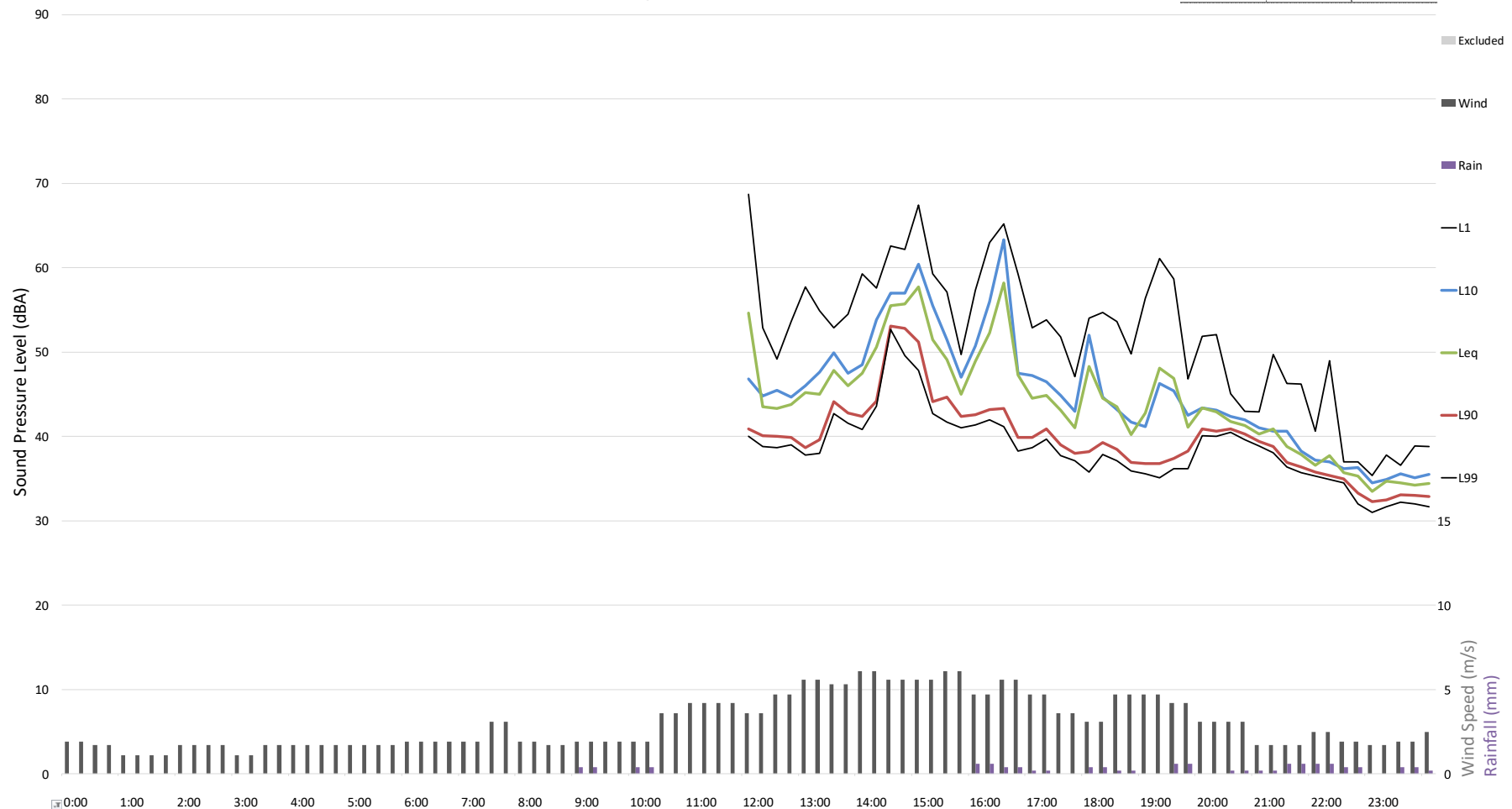
Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

23/11/2023 Thursday
Existing Ambient Noise Levels (dBA)

Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
Measured	Corrected	Measured	Corrected	Measured	Corrected
		43.8	43.8	40.8	40.8
		36.8	36.8	30.8	30.8



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

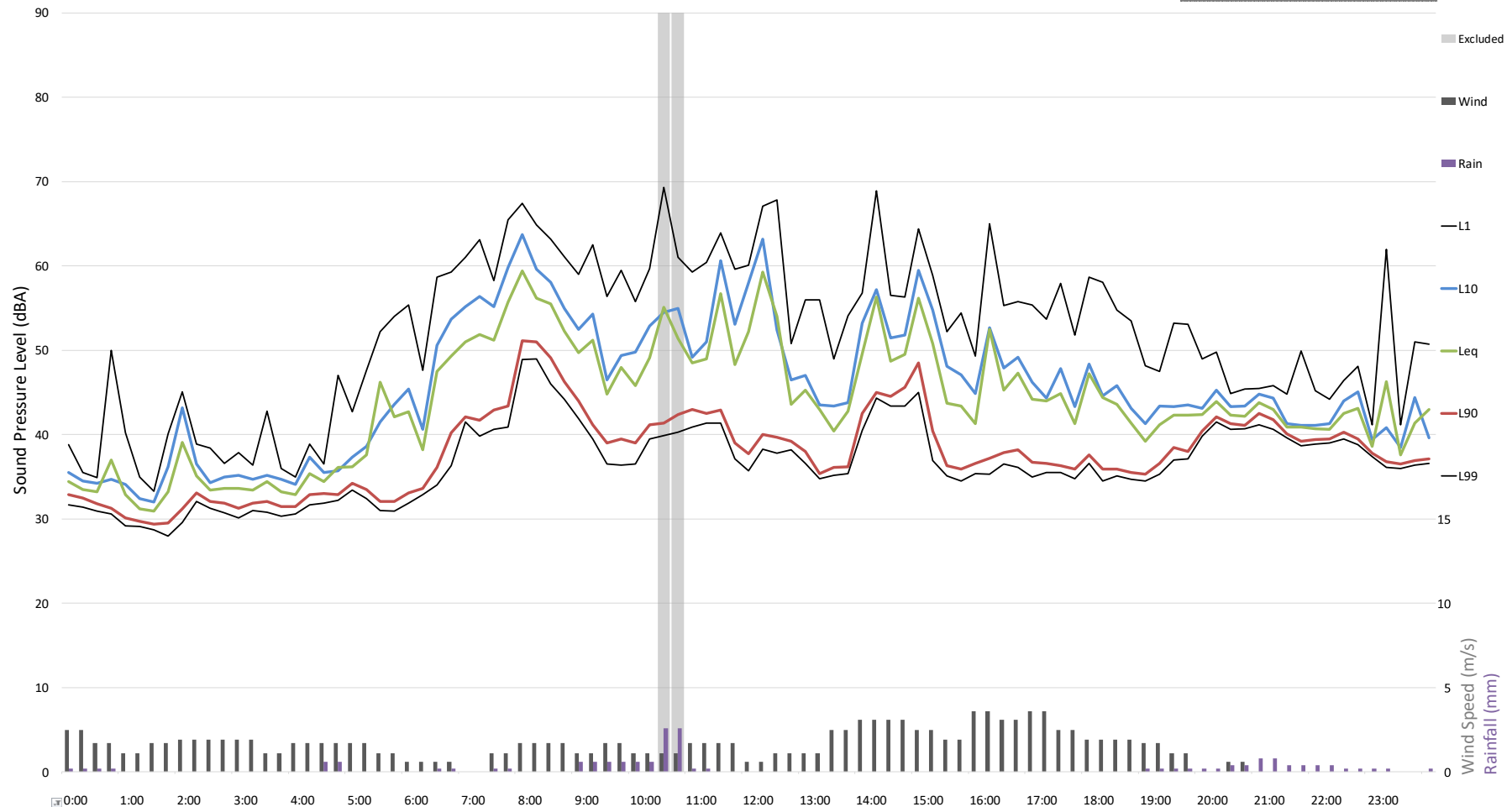
Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

24/11/2023 Friday
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	52.1	52.0	43.0	43.0	41.1	41.1
L _{A90} dB	36.2	36.2	35.7	35.7	34.4	34.4



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd

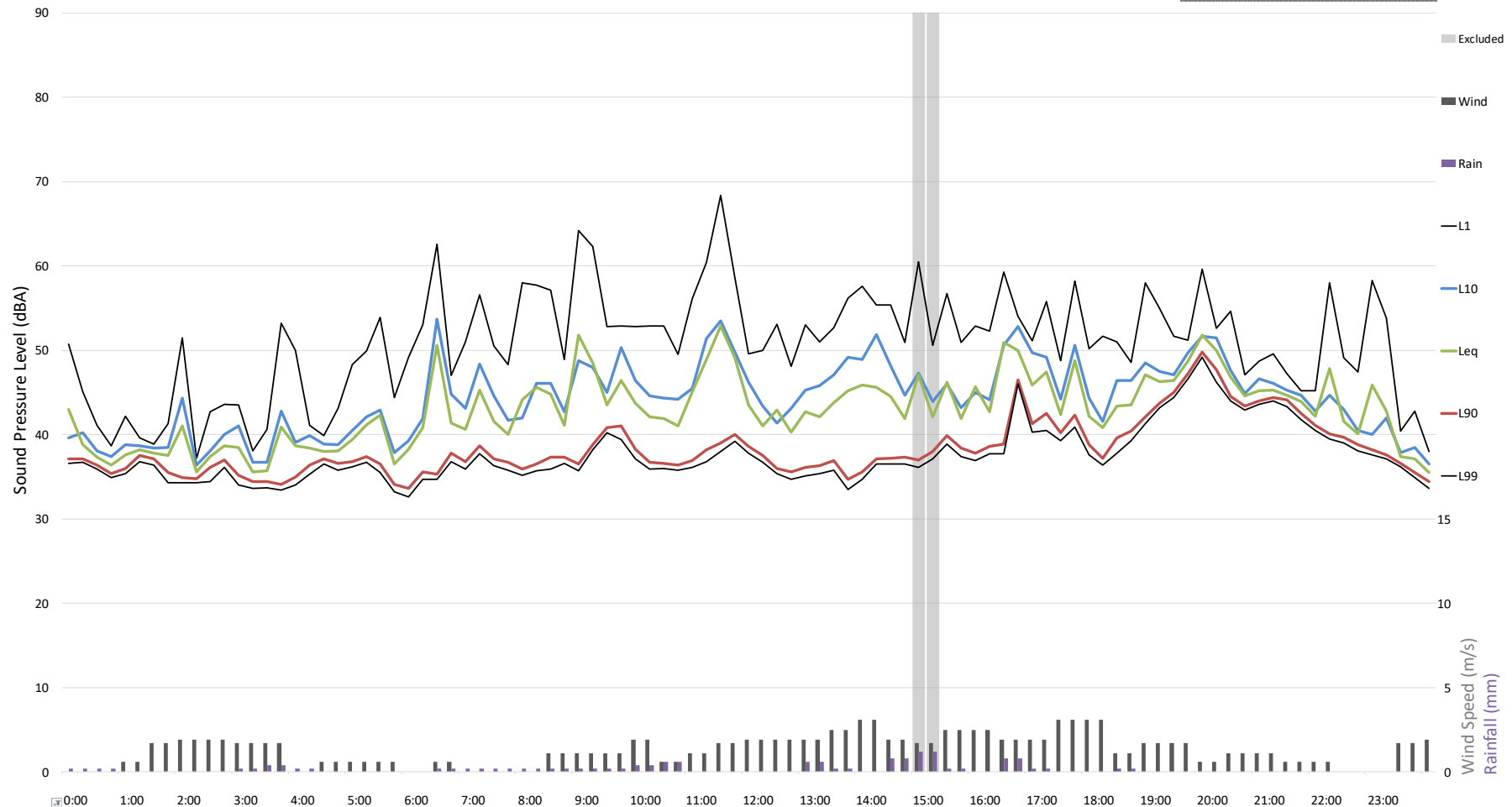
BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

25/11/2023  Saturday

Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	46.1	46.1	46.6	46.6	42.5	42.5
L _{A90} dB	36.0	36.0	39.2	39.2	34.2	34.2



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd

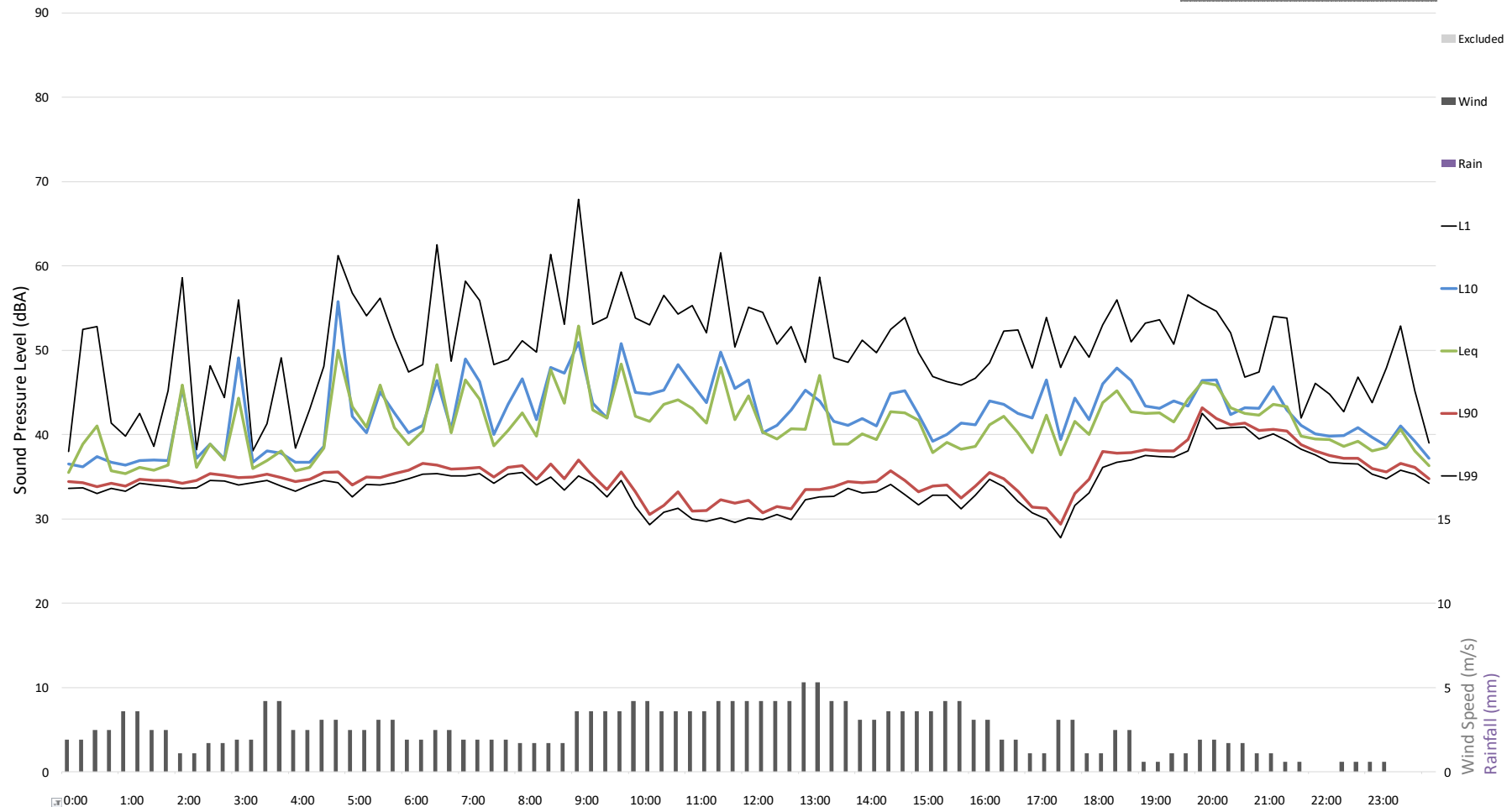
BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

26/11/2023 Sunday

Existing Ambient Noise Levels (dBA)

	Daytime 08:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 08:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	43.6	43.6	43.5	43.5	47.2	47.2
L _{A90} dB	31.0	31.0	37.9	37.9	34.8	34.8



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

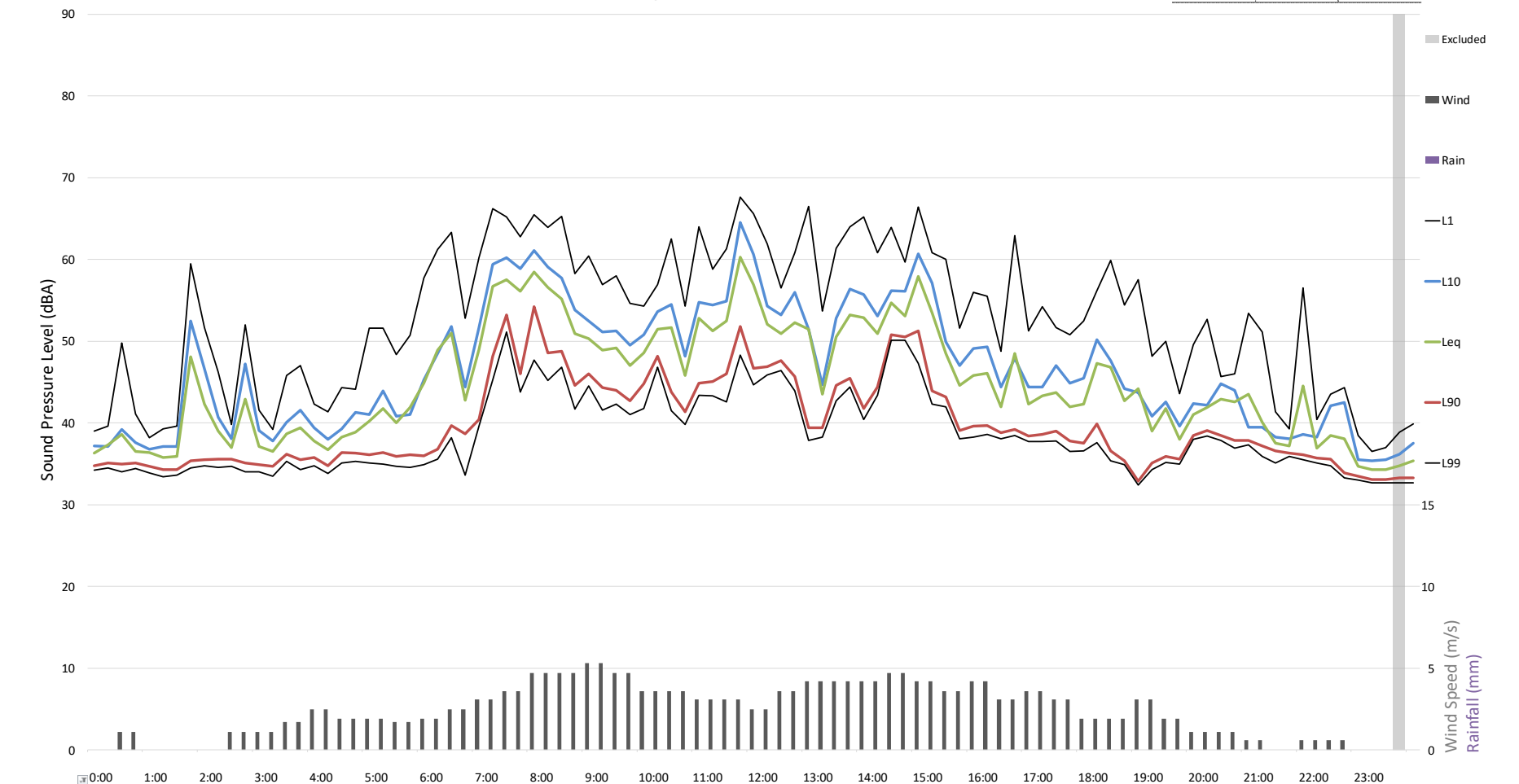
Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

27/11/2023  Monday
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	53.0	53.0	42.8	42.8	40.0	40.0
L _{A90} dB	39.0	39.0	35.3	35.3	33.1	33.1



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

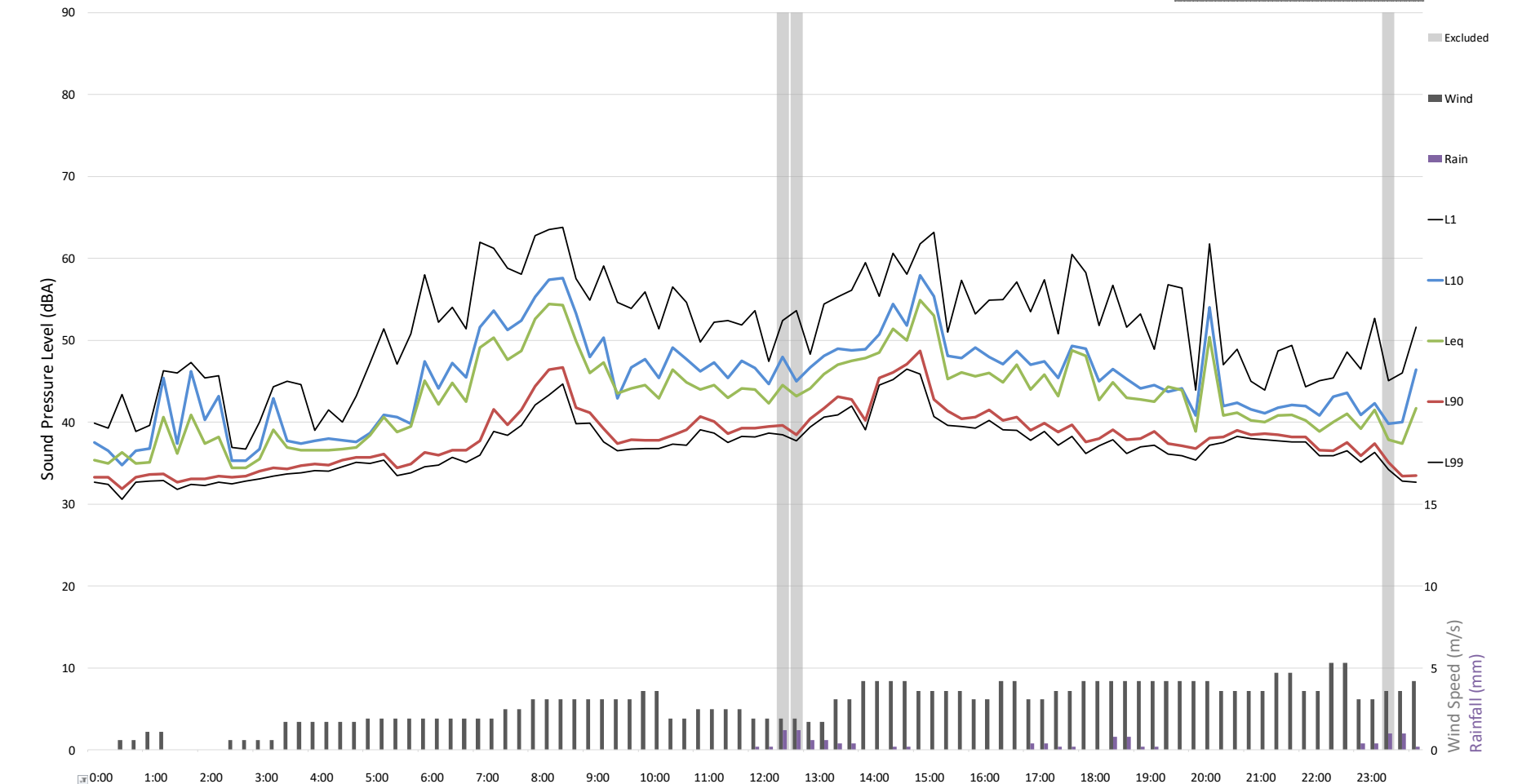
Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

28/11/2023 Tuesday
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	48.4	48.5	44.1	44.1	41.1	41.2
L _{A90} dB	38.1	38.0	37.3	37.3	33.5	33.5



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

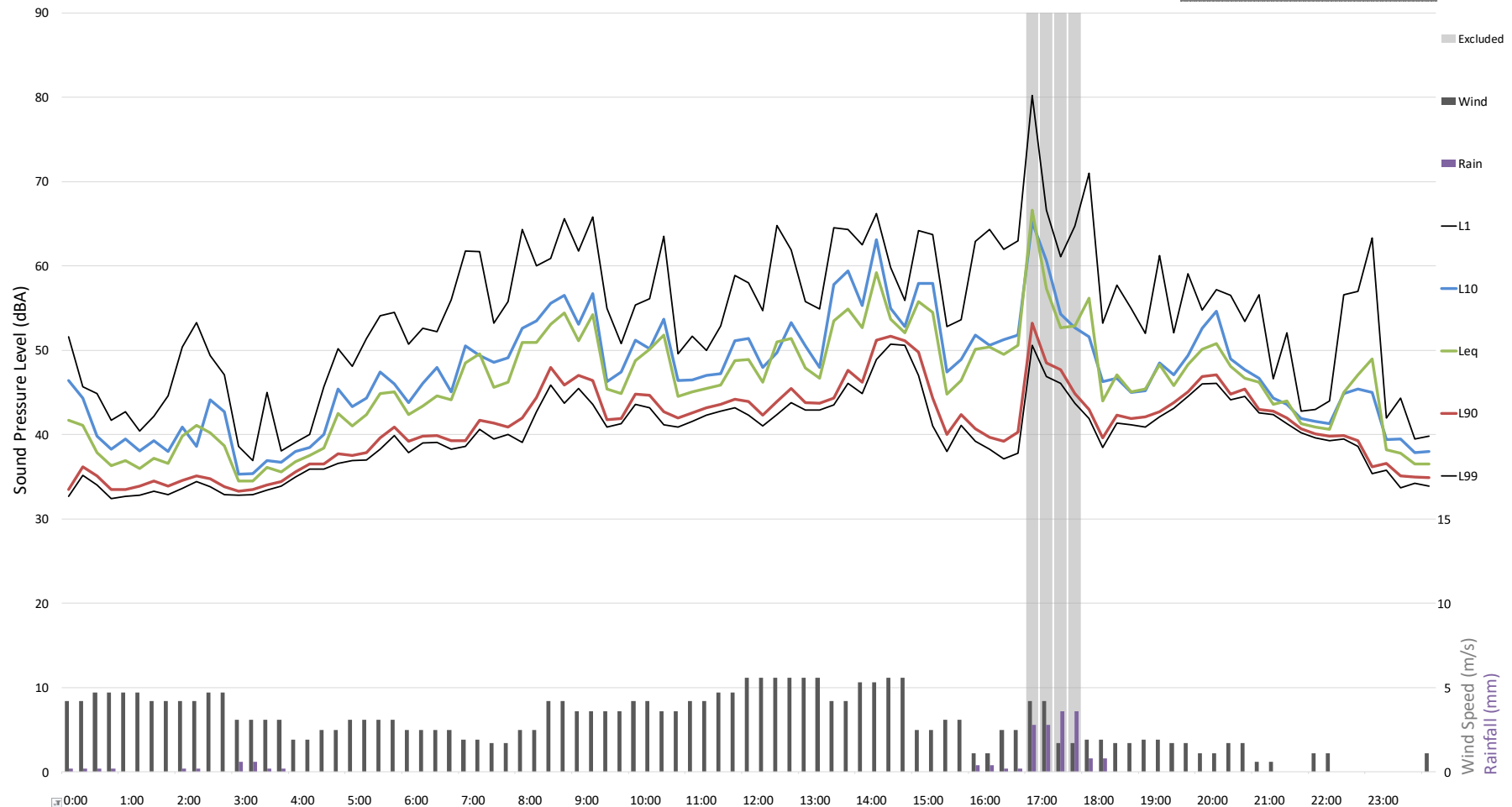
Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

29/11/2023 Wednesday
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	54.0	51.4	48.6	48.6	44.2	44.2
L _{A90} dB	40.4	40.3	41.3	41.3	34.2	34.2



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

Logger Location: On western boundary line, halfway between Sparks Rd and Mataram Rd

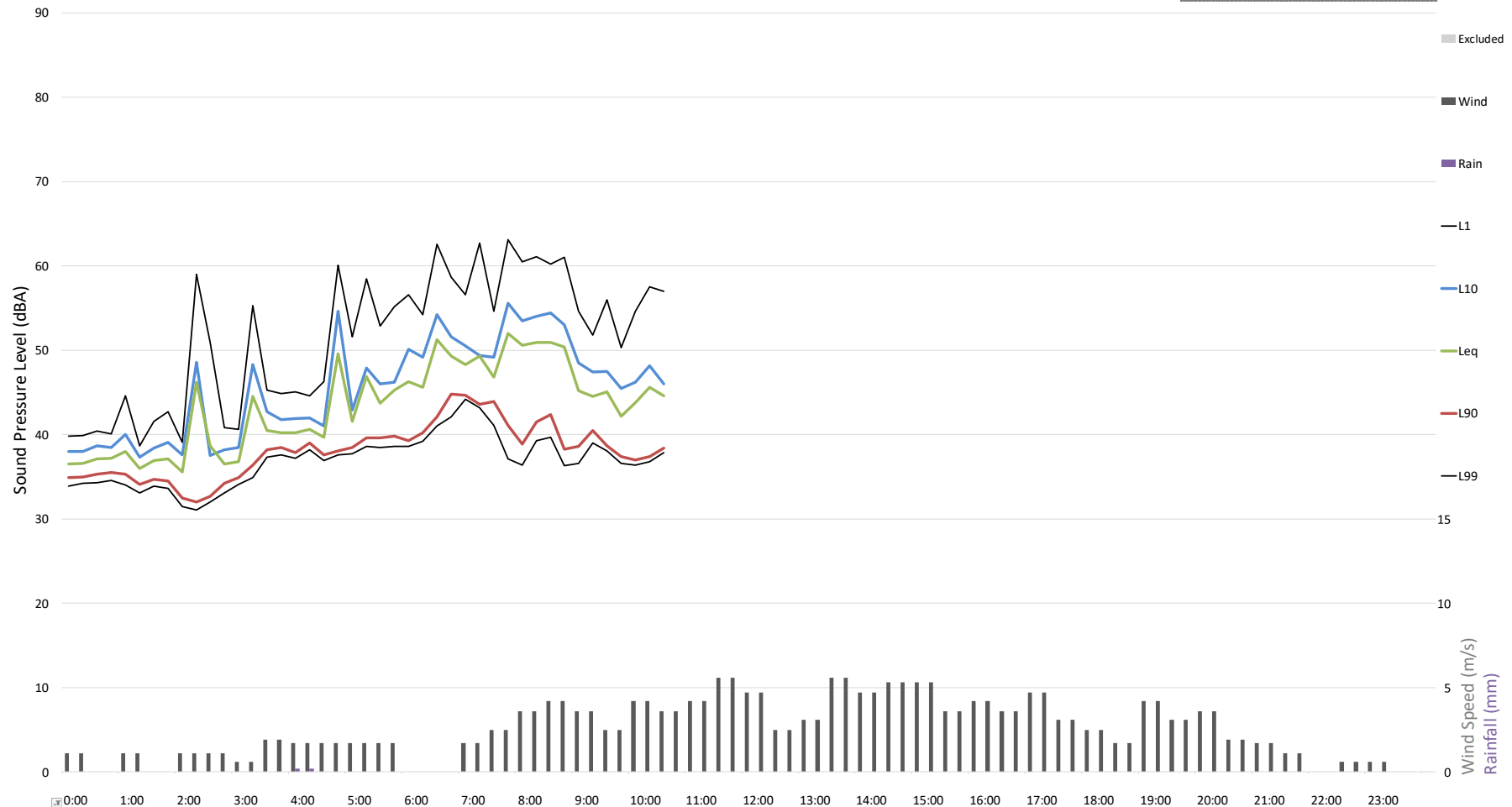
BOM weather data: Gosford IDN60901

30/11/2023 Thursday

Existing Ambient Noise Levels (dBA)

PKA Acoustic Consulting

Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB					
L _{A90} dB					



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarrah

Logger Location: North west corner of site, on boundary fence to Mataram Rd

PKA Acoustic Consulting

		Background Noise Levels L _{A90} dB					
		Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
		Measured	Corrected	Measured	Corrected	Measured	Corrected
Thursday	23/11/2023			41.6	41.6	32.5	32.5
Friday	24/11/2023	41.5	41.5	38.5	38.5	32.4	32.4
Saturday	25/11/2023	39.1	39.1	39.4	39.4	39.7	39.7
Sunday	26/11/2023	37.3	37.3	37.1	37.1	37.8	37.8
Monday	27/11/2023	43.3	43.3	36.4	36.4	32.3	32.3
Tuesday	28/11/2023	43.3	43.3	39.5	39.5	34.3	34.3
Wednesday	29/11/2023	42.8	42.6	39.1	39.1	36.9	36.9
Thursday	30/11/2023						
Rating Background Level (RBL)		42	42	39	39	34	34

		Existing Noise Levels L _{Aeq} dB					
		Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
		Measured	Corrected	Measured	Corrected	Measured	Corrected
Thursday	23/11/2023			49.0	49.0	46.6	46.6
Friday	24/11/2023	62.0	61.6	44.3	44.3	43.2	43.2
Saturday	25/11/2023	47.4	47.5	46.4	46.4	47.5	47.5
Sunday	26/11/2023	47.7	47.7	43.2	43.2	50.2	50.2
Monday	27/11/2023	57.8	57.8	45.9	45.9	47.1	44.2
Tuesday	28/11/2023	64.0	64.0	45.1	45.1	45.4	45.3
Wednesday	29/11/2023	59.8	59.8	50.8	50.8	49.9	49.9
Thursday	30/11/2023						
Average Noise Level (L _{Aeq})		60	60	47	47	48	47

12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

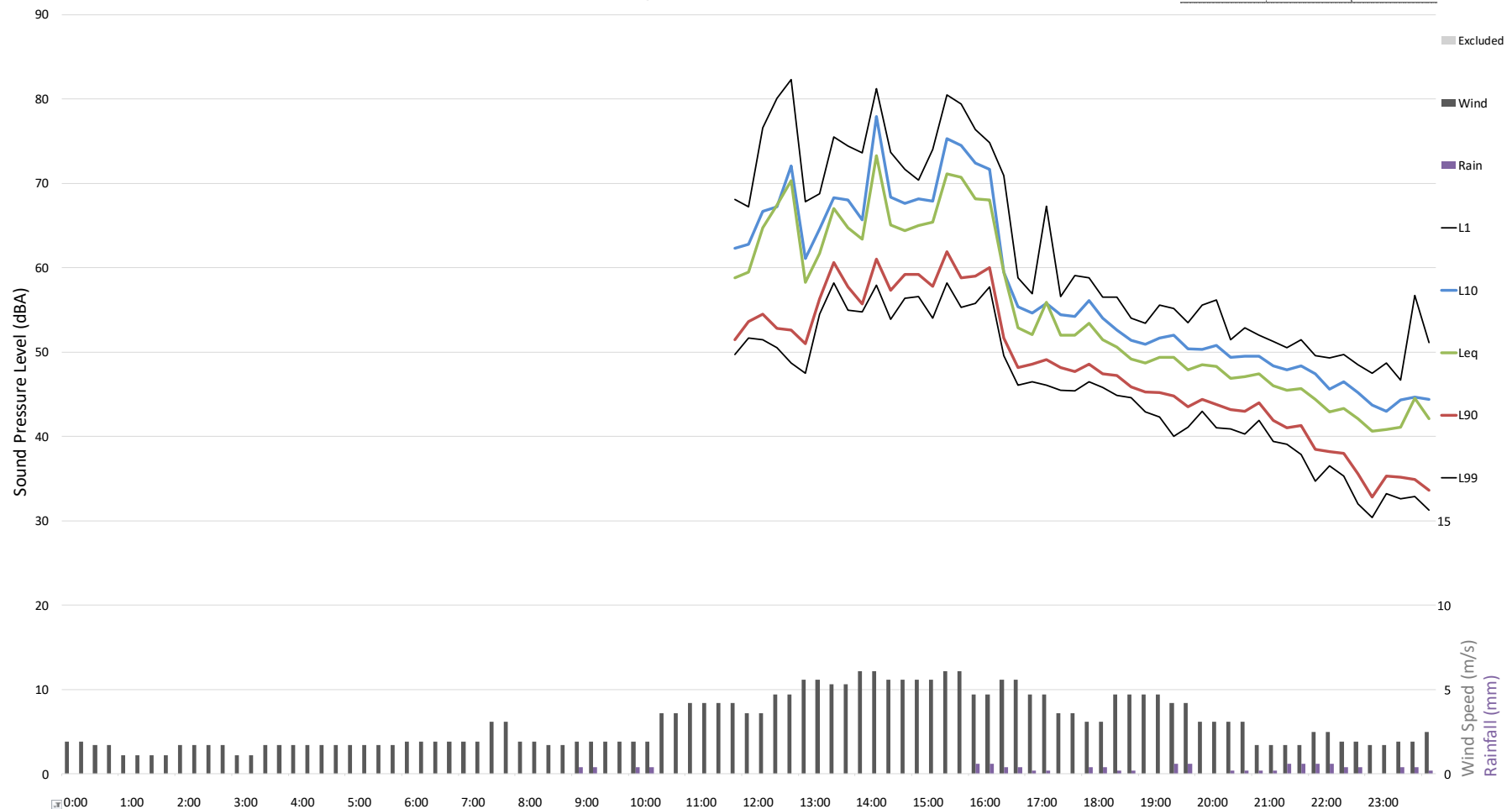
Logger Location: North west corner of site, on boundary fence to Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

23/11/2023 Thursday
Existing Ambient Noise Levels (dBA)

Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB		49.0	49.0	46.6	46.6
L _{A90} dB		41.6	41.6	32.5	32.5



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

Logger Location: North west corner of site, on boundary fence to Mataram Rd

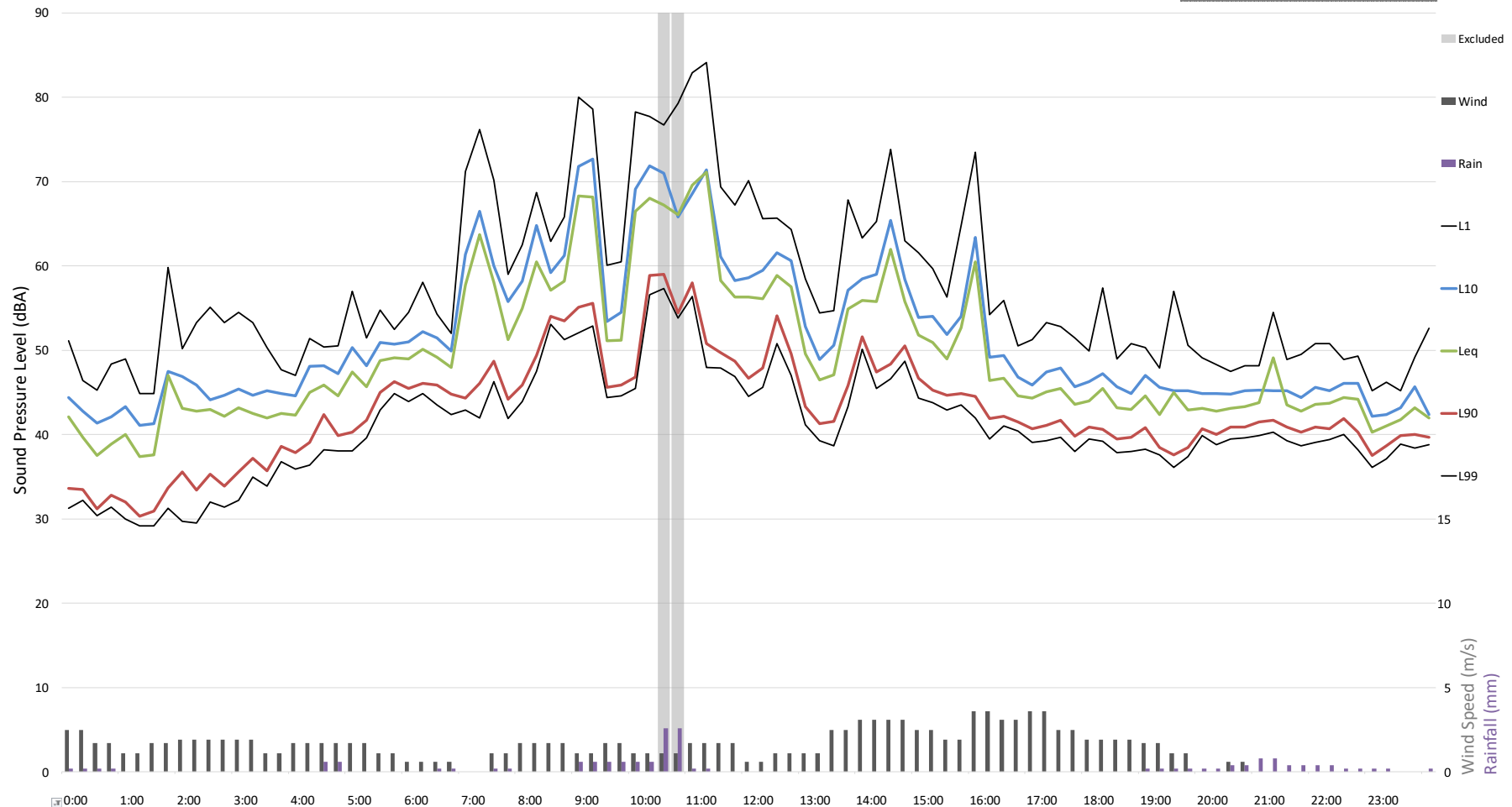
BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

24/11/2023 Friday

Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	62.0	61.6	44.3	44.3	43.2	43.2
L _{A90} dB	41.5	41.5	38.5	38.5	32.4	32.4



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

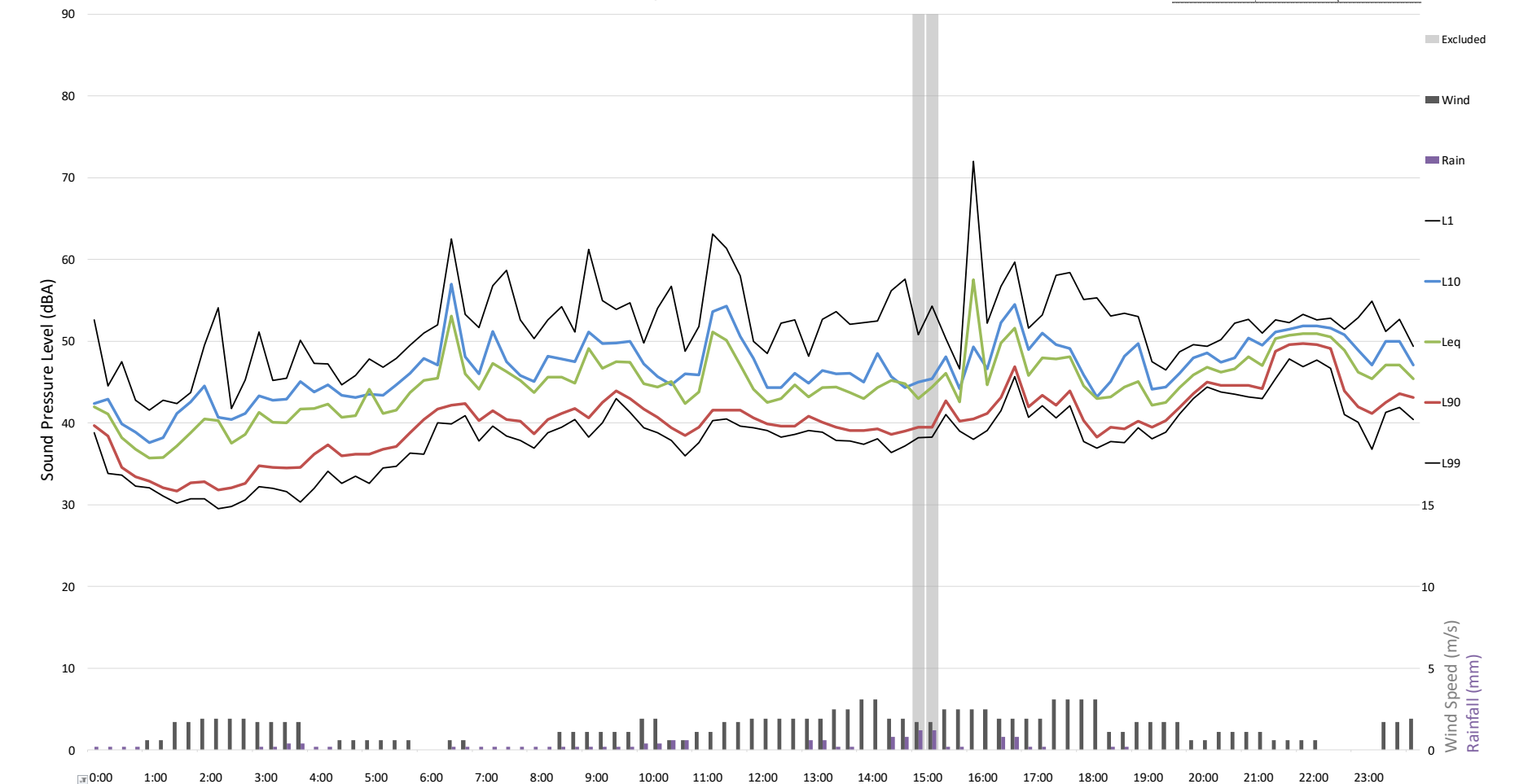
Logger Location: North west corner of site, on boundary fence to Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

25/11/2023  Saturday
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	47.4	47.5	46.4	46.4	47.5	47.5
L _{A90} dB	39.1	39.1	39.4	39.4	39.7	39.7



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

Logger Location: North west corner of site, on boundary fence to Mataram Rd

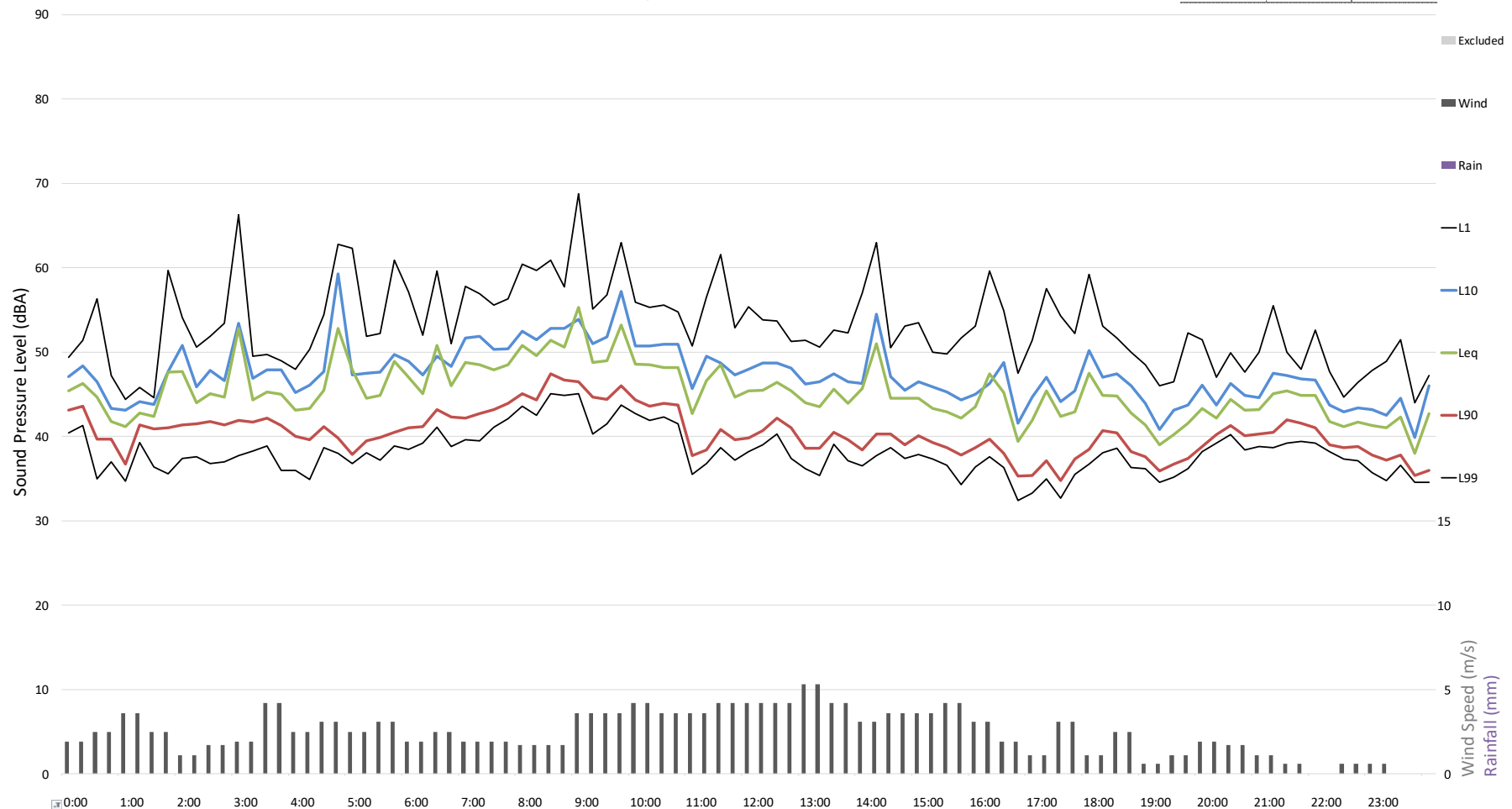
BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

26/11/2023 Sunday

Existing Ambient Noise Levels (dBA)

	Daytime 08:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 08:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	47.7	47.7	43.2	43.2	50.2	50.2
L _{A90} dB	37.3	37.3	37.1	37.1	37.8	37.8



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

Logger Location: North west corner of site, on boundary fence to Mataram Rd

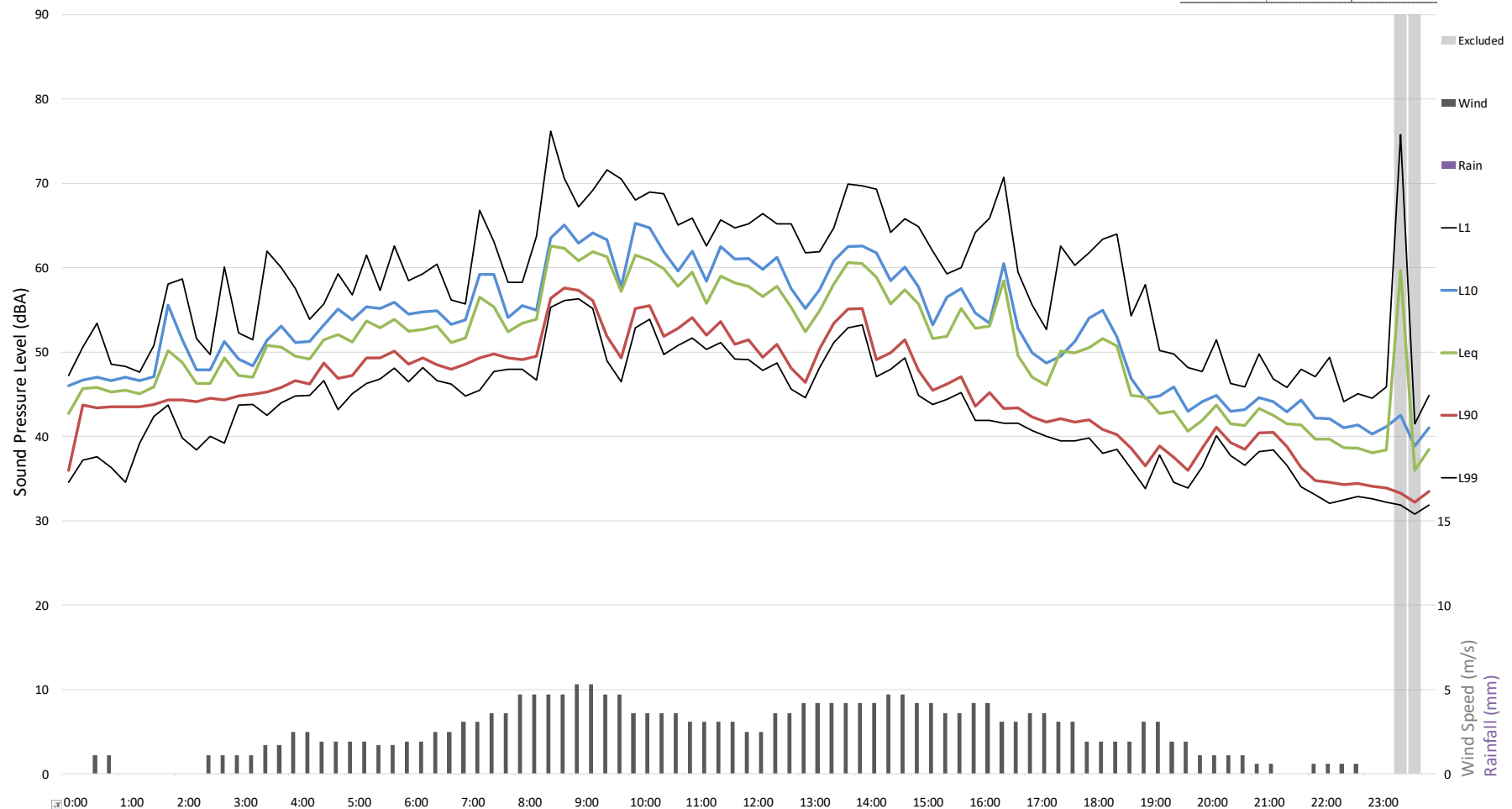
BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

27/11/2023  Monday

Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	57.8	57.8	45.9	45.9	47.1	44.2
L _{A90} dB	43.3	43.3	36.4	36.4	32.3	32.3



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Project Address: 91 Sparks Rd, Woongarra

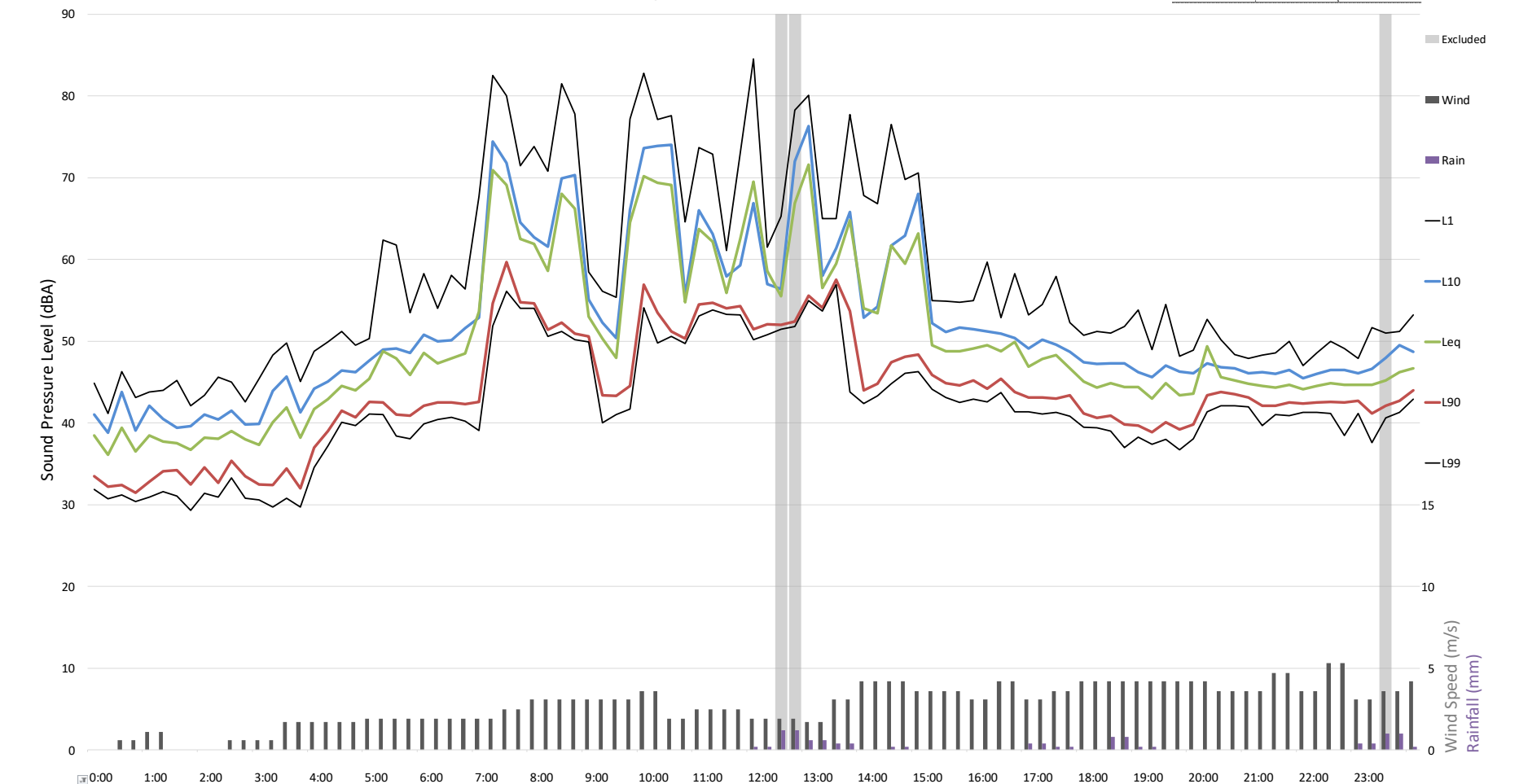
Logger Location: North west corner of site, on boundary fence to Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

28/11/2023 Tuesday
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	64.0	64.0	45.1	45.1	45.4	45.3
L _{A90} dB	43.3	43.3	39.5	39.5	34.3	34.3



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

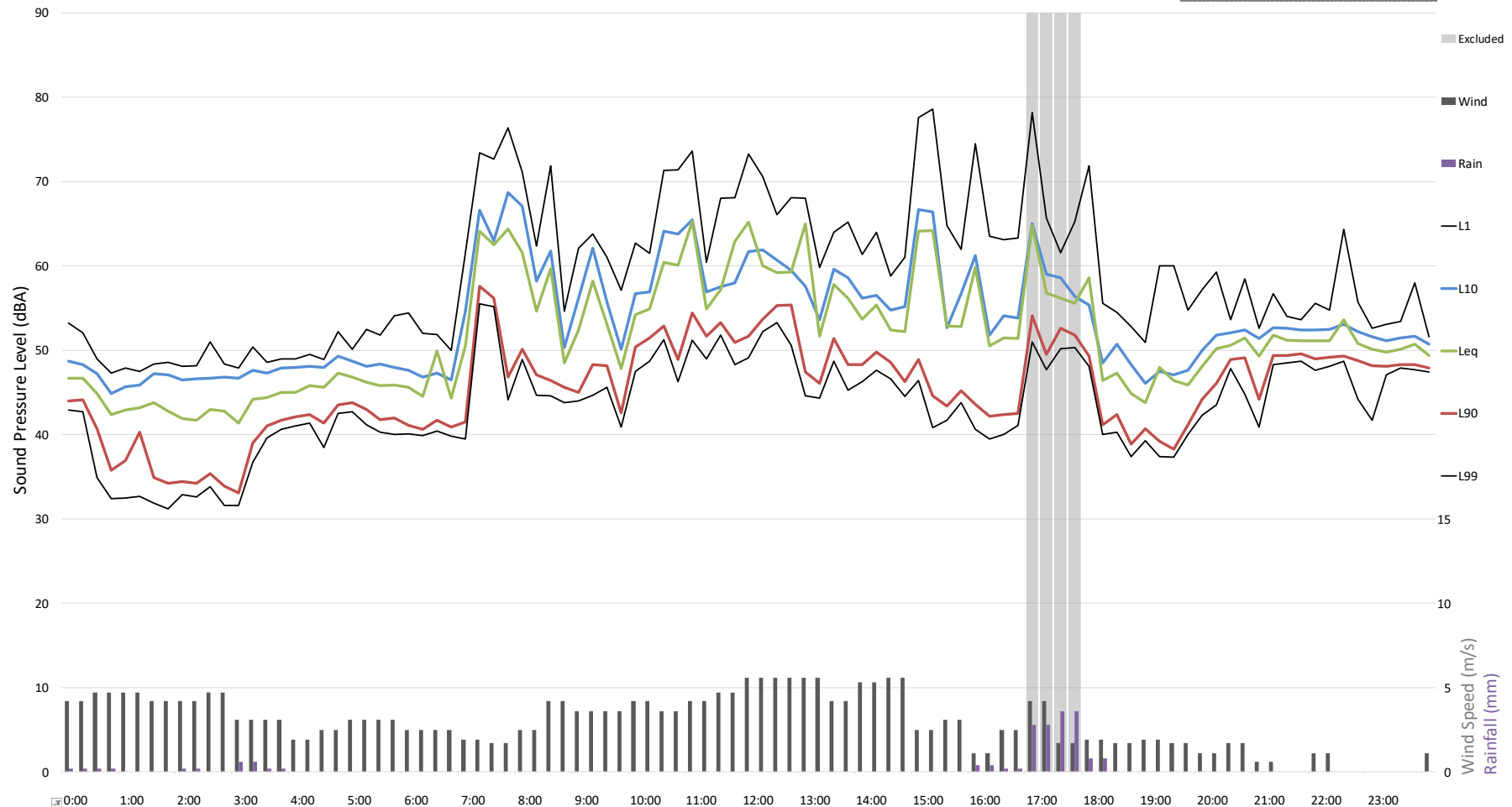
Logger Location: North west corner of site, on boundary fence to Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

29/11/2023 Wednesday
Existing Ambient Noise Levels (dBA)

	Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
	Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB	59.8	59.8	50.8	50.8	49.9	49.9
L _{A90} dB	42.8	42.6	39.1	39.1	36.9	36.9



12590 Mackillop Catholic College, Woongarra

Project Address: 91 Sparks Rd, Woongarra

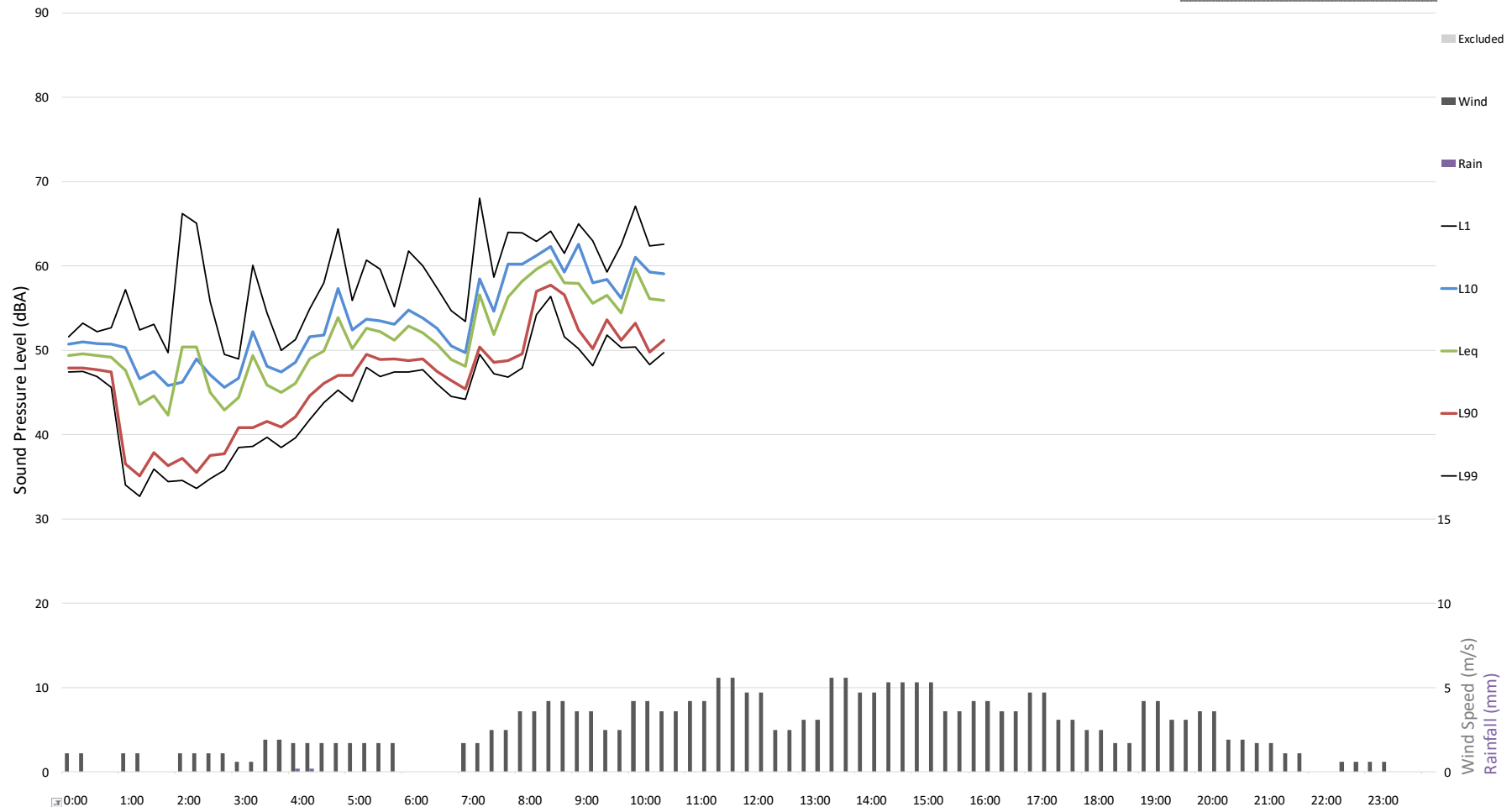
Logger Location: North west corner of site, on boundary fence to Mataram Rd

BOM weather data: Gosford IDN60901

PKA Acoustic Consulting

30/11/2023 Thursday
Existing Ambient Noise Levels (dBA)

Daytime 07:00 - 18:00		Evening 18:00 - 22:00		Nighttime 22:00 - 07:00	
Measured	Corrected	Measured	Corrected	Measured	Corrected
L _{Aeq} dB					
L _{A90} dB					





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