MEMORANDUM

220001 - Pilu 80 Undercliff Road Freshwater - Response to Council RFI - R1

TO:	Giovanni Cirillo	**DATE:**	Updated 7 March 2025 To be read in conjunction with latest PWNA Acoustic Report Revision 5.
COMPANY:	-		
EMAIL:	-		
FROM:	Matthew Furlong		
SUBJECT:	**Pilu, 80 Undercliff Road, Freshwater – Response to Council RFI – September 2024**		

Pulse White Noise Acoustics Pty Ltd (PWNA) has been requested to undertake a review and response in relation to the *Northern Beaches Council Environmental Health Unit Referral Response* dated 23rd August 2024 for the DA2024/0946.

Previously PWNA has prepared numerous reports and peer review responses in relation to the application, including the previous application DA2022/2281 to which the "Peer Review" referred to by Council originated from. The timeline is outlined below:

- PWNA first prepared a *DA Acoustic Assessment* (referenced *220001 - Pilu, 80 Undercliff Road, Freshwater – Acoustic Assessment – R3*, dated 17th January 2022) to support the proposal under DA2022/2281 (Appendix A).
- A Peer Review was submitted to Council by Rodney Stevens Acoustics by a surrounding neighbour to which Council issued the applicant with a request for further information (dated 28th April 2023, DA2022/2281) (Appendix B).
- PWNA prepared a subsequent response letter which addressed all items outlined in the Rodney Stevens Acoustics Peer Review and was subsequently accepted by the Planning and Environmental Team (Appendix C).
- Subsequently, application DA2022/2281 was retracted, and a new Development Application was submitted (not on the grounds of Acoustics), DA2024/0946.
- DA2024/0946 was accompanied by the original PWNA *DA Acoustic Report* (to which was accepted by Council previously noting the Peer Review and Responses).
- However, the applicant received an internal Referral Response from the Northern Beaches Council Environmental Health Unit which required identical information to be clarified, again (Appendix D).
- In response, we re-submit the original **Accepted PWNA Response Technical Memorandum** (Appendix C).

We can confirm all items which are identified in the 2024 Environmental Health Referral Response letter are addressed in the original documentation and show the assessment prepared by PWNA which supports this application is acoustically acceptable and will not result in any an impact to the acoustic amenity of the surrounding environment.

Information contained within the PWNA Council RFI response letter for DA2022/2281 addressed the following elements (to which is identical to the information contained in the 2024 Environmental Health letter):

- Application Use of the AAAC Guidelines.
- Application and Use of the NSW Liquor and Gaming Requirements.
- Predicted noise levels to outdoor areas, based on the above.
- Recommendations for the use of any onsite Audio Systems.
- Patron noise management.

Based on the history, previous reviews and assessments and the subsequent information contained within the Appendix's outlined below believe the proposal is considered acoustically acceptable.

If you have any additional questions, please contact us should you have any further queries.

Regards,

Matthew Furlong
Principal Acoustic Engineer
PULSE WHITE NOSE ACOUSTICS PTY LTD
AAAC + AAS Member

Appendix A – PWNA Original *DA Acoustic Assessment* – (DA2022/2281) – 17th January 2022

Pilu, 80 Undercliff Road, Freshwater

Acoustic Assessment

Pilu
80 Undercliff Road,
Freshwater NSW 2010

Report Reference: 220001 - Pilu, 80 Undercliff Road, Freshwater - Acoustic Assessment – R3

Date: 17th January 2022

Revision: R3

Project Number: 220001

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DOCUMENT CONTROL

Project Name:	Pilu, 80 Undercliff Road, Freshwater
Project Number:	220001
Report Reference:	220001 - Pilu, 80 Undercliff Road, Freshwater - Acoustic Assessment – R3
Client:	Pilu

Revision	Description	Reference	Date	Prepared	Checked	Authorised
0	For Information	220001 - Pilu, 80 Undercliff Road, Freshwater - Acoustic Assessment - R1	21st September 2022	Matthew Furlong	Matthew Furlong	Ben White
3	For Submission	220001 - Pilu, 80 Undercliff Road, Freshwater - Acoustic Assessment – R3	17th January 2022	Matthew Furlong	Matthew Furlong	Ben White

PREPARED BY:

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1 INTRODUCTION

Pulse White Noise Acoustics (PWNA) have been engaged by Pilu to undertake an acoustic assessment of the proposed amendments to the operational parameters of Pilu Restaurant located at 80 Undercliff Road, Freshwater NSW 2096.

The proposal seeks approval for the following operational changes to the existing approved operation:

- Use of the external pavilion for general dining or gatherings (see location below).
- Increase in the number of patrons permitted, currently 80 and seeking 130.
    - A maximum of 100 patrons in the indoor areas of the main building.
    - A maximum of 50 patrons in the indoor area of the pavilion.
    - **However,** no more than 130 patrons at any one time.
- Use of live music inside and outside during ceremonies or gatherings.

The venue has a permitted operating hour as per the current liquor license of:

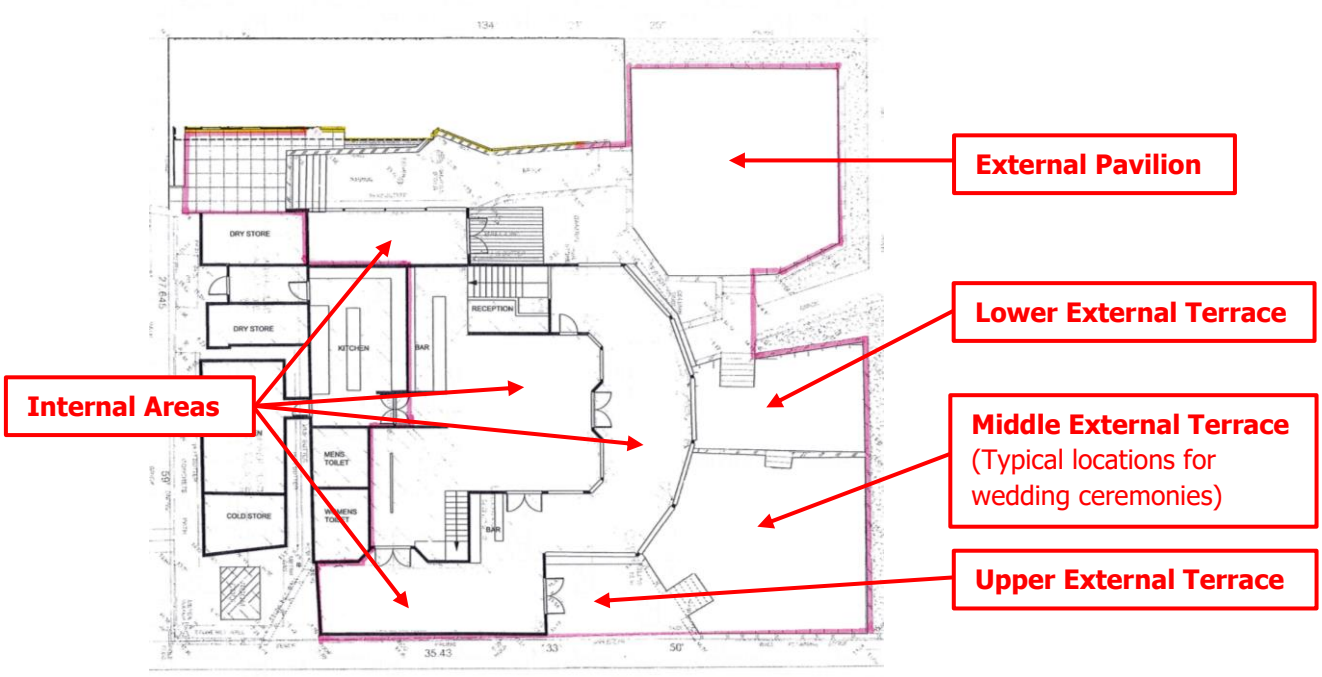
- Indoor (Main Building)
    - 7:00am to 12:00am (midnight), seven days a week.
- Outdoor (i.e., Pavilion)
    - 10:00am to 11:00pm, seven days a week.

Whilst noting above generally the restaurant does not regularly operate these hours, however occasionally.

The application will be assessed against relevant statutory regulations and guidelines including the following.

- Northern Beaches Council (previously Warringah Council) Development Control Plan (DCP) 2011.
- New South Wales (NSW) Environmental Protection Authority (EPA) document titled Noise Policy for Industry 2017 (NPI); and
- NSW Liquor and Gaming typically imposed noise conditions.

Figure 1 Site Layout



2 SITE DESCRIPTION AND SURROUNDING RECEIVERS

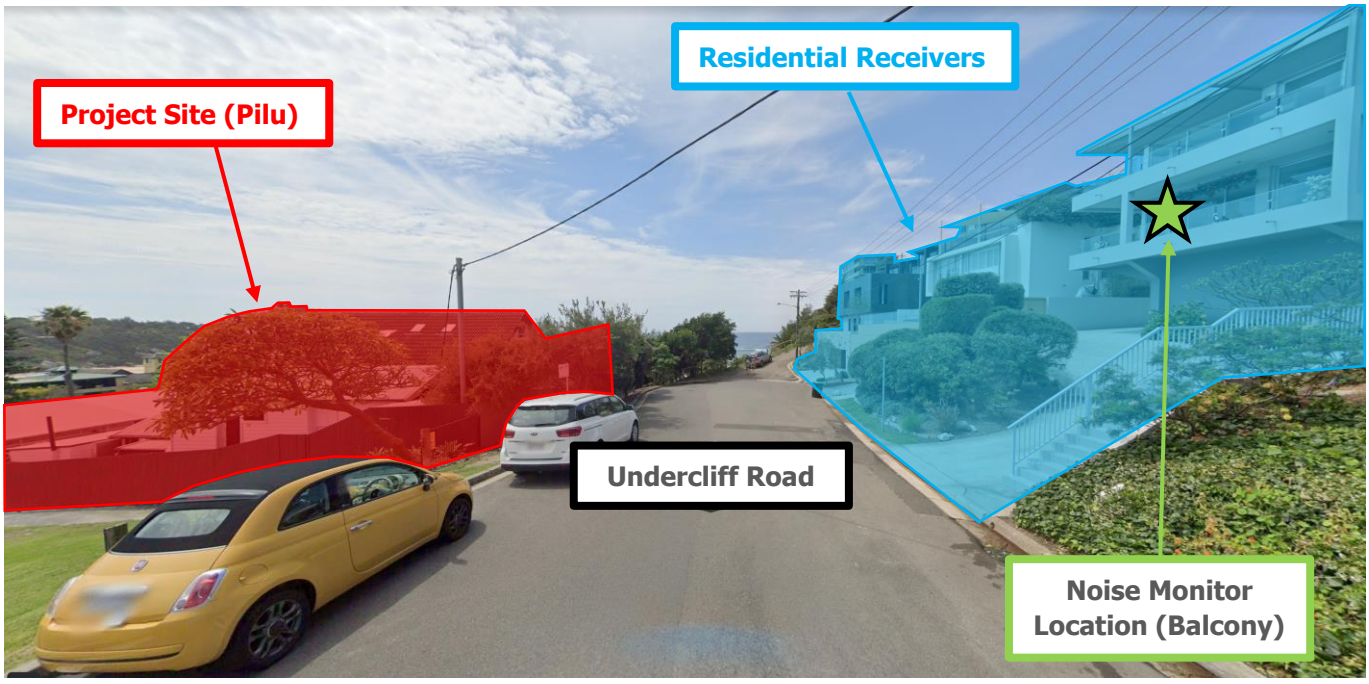
The site is bounded by the following:

- Moore Road along the northern boundary of the site with a public carpark.
- Freshwater Beach along the eastern boundary of the site.
- Undercliff Road along the southern boundary of the site with existing residential receivers located along the southern side.
- Public park along the western boundary of the site with residential recievers.

The nearest sensitive noise receivers to the future food premise are detailed below:

Receiver 1 - Existing residential dwelling located to the south of the site across Undercliff Road, situated at 67 to 75 Undercliff Road.

Figure 2 Google Street View – Undercliff Road, Looking East



A site map has been provided below which identifies and surrounding receivers and noise measuring locations, see Figure 3 below.

Figure 3 Site Map, Measurement Location and Surrounding Receivers – Sourced from SixMaps NSW

3 NOISE DESCRIPTORS AND TERMINOLOGY

Environmental noise constantly varies in level with time. It is therefore necessary to measure environmental noise in terms of quantifiable time periods and statistical descriptors. Typically, environmental noise is measured over 15-minute periods and relevant statistical descriptors of the fluctuating noise are determined to quantify the measured level.

Noise (or sound) consists of minute fluctuations in atmospheric pressure capable of detection by human hearing. Noise levels are expressed in terms of decibels, abbreviated as dB or dB(A), the A indicating that the noise levels have been frequency weighted to approximate the characteristics of normal human hearing. Because noise is measured using a logarithmic scale, 'normal' arithmetic does not apply, e.g. adding two sources of sound of an equal value results in an increase of 3 dB (i.e. 60 dBA + 60 dBA = 63 dBA). A change of 1 dB or 2 dB in the level of a sound is difficult for most people to detect, whilst a 3 dB – 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change roughly corresponds to a doubling or halving in loudness.

The most relevant environmental noise descriptors are the LAeq, LA1, LA10 and LA90 noise levels. The LAeq noise level represents the "equivalent energy average noise level". This parameter is derived by integrating the noise level measured over the measurement period and is equivalent to a level that would have been experienced had the fluctuating noise level remained constant during the measured time period.

The LA1, LA10 and LA90 levels are the levels exceeded for 1%, 10% and 90% of the sample period. These levels are sometimes thought of as the typical maximum noise level, the average repeatable maximum and average repeatable minimum noise levels, respectively.

Specific acoustic terminology is used in this assessment report. An explanation of common acoustic terms is included as Appendix A.

4 EXISTING NOISE ENVIRONMENT

4.1 Unattended Noise Monitoring

An unattended noise survey was conducted between Tuesday 16th August 2022 and Friday 26th August 2022 at the neighbouring residential receiver (Unit 1, 69 Undercliff Road, Freshwater) as shown in Figure 3 above. This survey was conducted to measure the existing background noise level. All data in the graphs presented in Appendix B have not been corrected (i.e., raw data is presented).

Instrumentation for the survey comprised one Svantek 971 sound level meter. Calibration of the logger was checked prior to and following the measurements. Drift in calibration did not exceed ±0.5 dB. All equipment carried appropriate and current NATA (or manufacturer) calibration certificates.

Charts presenting summaries of the measured daily noise data are attached in Appendix B. The charts present each 24-hour period and show the LA1, LA10, LAeq and LA90 noise levels for the corresponding 15-minute periods. This data has been filtered to remove periods affected by adverse weather conditions based on weather information.

4.1.1Results in accordance with the NSW EPA Noise Policy for Industry (NPI) 2017 (RBL's)

In order to assess the acoustical implications of the development at nearby noise sensitive receivers, the measured background noise data of the logger was processed in accordance with the NSW EPA's Noise Policy for Industry (NPI, 2017).

The Rating Background Noise Level (RBL) is the background noise level used for assessment purposes at the nearest potentially affected receiver. It is the 90th percentile of the daily background noise levels during each assessment period, being day, evening and night. RBL $L_{A90\ (15minute)}$ and L_{Aeq} noise levels are presented in the table below.

Data affected by adverse meteorological conditions and by spurious and uncharacteristic events have been excluded from the results, and also excluded from the data used to determine the noise emission criteria. Meteorological information has been obtained from the Observatory Hill (ID 066214) which is located within 30km. Levels presented below are processed results with extraneous weather events removed.

Table 1 Measured Ambient Noise Levels corresponding to the NPI's Assessment Time Periods

Measurement Location	Daytime [1] 7:00 am to 6:00 pm		Evening [1] 6:00 pm to 10:00 pm		Night-time [1] 10:00 pm to 7:00 am	
	L_{A90} [2] (dBA)	L_{Aeq} [3] (dBA)	L_{A90} [2] (dBA)	L_{Aeq} [3] (dBA)	L_{A90} [2] (dBA)	L_{Aeq} [3] (dBA)
Unit 1, 69 Undercliff Road, Freshwater – See Figure 3	56	60	56	59	55	58

Note 1 For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am.

Note 2 The LA90 noise level is representative of the "average minimum background sound level" (in the absence of the source under consideration), or simply the background level.

Note 3 The LAeq is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound.

4.1.2Results in accordance with NSW Liquor and Gaming

In addition to the overall broadband noise levels identified above, the unattended noise monitor in the rear of the site was recording the associated single octave (1/1) noise spectra for each period. These are provided below.

The use of single octave spectra is for the establishment of the patron and music acoustic criteria.

Table 2 Measured Single Octave (1/1) Spectra

Time Period [1]	Parameter 2	dB Octave Band Centre Frequency, Hz									Overall dBA
		31.5	63	125	250	500	1k	2k	4k	8k	
Day	Measured L_{90}	60	52	53	54	54	52	47	41	27	**56**
Evening		58	51	53	54	54	51	47	39	24	**56**
Night		57	49	51	53	53	51	46	37	21	**55**

Note 1 For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am.

Note 2 The L_{A90} noise level is representative of the "average minimum background sound level" (in the absence of the source under consideration), or simply the background level.

5 ACOUSTIC CRITERIA

5.1 Noise Emission Criteria

5.1.1 Northern Beaches Council (Previously Warringah Council) Development Control Plan (DCP) 2011

A review of the Warringah Council DCP 2011 (now under Northern Beaches Council) shows no relevant numerical acoustic objectives. In the absence of any requirements adoption of the NSW EPA *Noise Policy for Industry (NPI) 2017* and typical *NSW Liquor & Gaming Acoustic Requirements* will be undertaken.

5.1.2 NSW EPA Noise Policy for Industry (NPI) 2017

In NSW, the control of noise emissions is the responsibility of Local Government (Council) and the NSW Environment Protection Authority (NSW EPA).

The NSW EPA has released a document titled Noise Policy for Industry (NSW NPI 2017) which provides a framework and process for determining external noise criteria for the assessment of noise emission from industrial developments. The NSW NPI criteria for industrial noise sources have two components:

- Controlling the intrusive noise impacts for residents and other sensitive receivers in the short term; and
- Maintaining noise level amenity of particular land uses for residents and sensitive receivers in other land uses.

5.1.2.1 Intrusive Noise Impacts (Residential Receivers)

The NSW NPI states that the noise from any single source should not intrude greatly above the prevailing background noise level. Industrial noises are generally considered acceptable if the equivalent continuous (energy-average) A-weighted level of noise from the source (LAeq), measured over a 15 minute period, does not exceed the background noise level measured in the absence of the source by more than 5 dB(A). This is often termed the Intrusiveness Criterion.

The 'Rating Background Level' (RBL) is the background noise level to be used for assessment purposes and is determined by the methods given in the NSW NPI. Using the rating background noise level approach results in the intrusiveness criterion being met for 90% of the time. Adjustments are to be applied to the level of noise produced by the source that is received at the assessment point where the noise source contains annoying characteristics such as tonality or impulsiveness.

5.1.2.2 Protecting Noise Amenity (All Receivers)

To limit continuing increases in noise levels, the maximum ambient noise level within an area from industrial noise sources should not normally exceed the acceptable noise levels specified in Table 2.2 of the NSW NPI. That is, the ambient LAeq noise level should not exceed the level appropriate for the particular locality and land use. This is often termed the 'Background Creep' or Amenity Criterion.

The amenity assessment is based on noise criteria specified for a particular land use and corresponding sensitivity to noise. The cumulative effect of noise from industrial sources needs to be considered in assessing the impact. These criteria relate only to other continuous industrial-type noise and do not include road, rail or community noise. If the existing (measured) industrial-type noise level approaches the criterion value, then the NSW NPI sets

maximum noise emission levels from new sources with the objective of ensuring that the cumulative levels do not significantly exceed the criterion.

5.1.2.2.1 Area Classification

The NSW NPI characterises the "Urban" noise environment as an area with an acoustical environment which shows the following:

- It is dominated by 'urban hum' or industrial source noise, where urban hum means the aggregate sound of many unidentifiable sources, consisting mostly of traffic and/or industrial related sounds
- Has through traffic with characteristically heavy and continuous traffic flows during peak periods
- It is near commercial or industrial districts
- It has a combination of any of the above

The residential area surrounding the proposed development falls under the "Suburban" area classification (residential areas are located within R2 zones which are classified as "suburban" in Table 2.3 of the NSW NPI). However, from the measured onsite noise levels, ambient noise levels are significantly higher due to noise from the beach. Therefore, a more appropriate classification of urban has been determined.

Table 3 NSW NPI – Recommended LAeq Noise Levels from Industrial Noise Sources

Type of Receiver	Indicative Noise Amenity Area	Time of Day 1	Recommended Amenity Noise Level ($L_{Aeq, period}$) [2]
Residence	Urban	Day	60
		Evening	50
		Night	45

Note 1 For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2 The LAeq is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound.

When the existing noise level from industrial noise sources is close to the recommended "Amenity Noise Level" (ANL) given above, noise from the new source must be controlled to preserve the amenity of the area in line with the requirements of the NSW NPI.

Where existing road traffic noise is high enough to render stationary industrial noise sources effectively inaudible, the ANL can be modified so that the amenity criteria is not unduly stringent in an environment where road traffic noise is the dominant source of environmental noise. If all the conditions below are satisfied, the ANL becomes LAeq,traffic minus 15 dBA. The conditions are:

- The road traffic noise is the dominant noise source.
- The existing noise is 10 dB(A) or more above the acceptable ANL for the area.
- It is highly unlikely the road traffic noise levels would reduce in the near future.

5.1.2.3 Maximum Noise Level Event (Sleeping Disturbance)

Section 2.5 of the NPI states the following:

> *The potential for sleep disturbance from maximum noise level events from premises during the night-time period needs to be considered. Sleep disturbance is considered to be both awakenings and disturbance to sleep stages.*
>
> *Where the subject development/premises night-time noise levels at a residential location exceed:*
>
> - $L_{Aeq,15min}$ *40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or*
> - L_{AFmax} *52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater, a detailed maximum noise level event assessment should be undertaken.*

As outlined in section above, the measured rating background noise level during the night hours (10:00pm to 7:00am) is 55 dBA L_{A90}. Therefore, the resultant RBL + 15 dB is 70 dBA.

5.1.2.4 Project Specific External Noise Emission Criteria (Plant and Onsite Vehicles)

The intrusive and amenity criteria for industrial noise emissions, derived from the measured data, are presented in Table 4. These criteria are nominated for the purpose of determining the operational noise limits for mechanical plant associated with the development which can potentially affect noise sensitive receivers.

For each assessment period, the lower (i.e., the more stringent) of the amenity or intrusive criteria are adopted. These are shown in bold text in Table 4.

Table 4 External noise level criteria in accordance with the NSW NPI

Location	Time of Day 1	Project Amenity Noise Level, $L_{Aeq, period}$ [2] (dBA)	Measured $L_{A90, 15\ min}$ (RBL) [3] (dBA)	Measured $L_{AEQ, 15\ min}$ [4] (dBA)	Intrusive $L_{Aeq, 15\ min}$ Criterion for New Sources [4] (dBA)	Amenity $L_{Aeq, 15\ min}$ Criterion for New Sources [5] (dBA)
Residential Receivers	Day	55	56	60	61	**58**
	Evening	45	56	59	61	**48**
	Night	40	55	58	60	**43**

Note 1 For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 1:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 1:00 am.

Note 2 Project Amenity Noise Levels corresponding to "Urban" areas, equivalent to the Recommended Amenity Noise Levels minus 5 dBA.

Note 3 LA90 Background Noise or Rating Background Level.

Note 4 The LAeq is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound.

Note 5 *According to Section 2.2 of the NSW NPI, the LAeq, 15 minutes is equal to the LAeq, period + 3 dB.*

Note 6 *In accordance with section 2.3 of the NSW NPI, evening intrusiveness noise level objectives should not be set higher than the day period. As such the daytime project intrusiveness noise level objective will be adopted.*

In addition, a maximum noise level criterion of 55 dBA L_{AFmax} during the night period (10:00pm to 7:00am) at residential receivers also applies.

5.1.3NSW Liquor & Gaming Acoustic Requirements

Section 79 of the Liquor Act 2007 provides mechanisms for complaints to be made when `the amenity of local areas is disturbed by the use of licensed premises and registered clubs (including disturbances caused by patrons). These

complaints are addressed by the Director of Liquor and Gaming, and in this process they may impose temporary or permanent noise conditions on the licensed venue. Typical noise conditions that are imposed upon licensed premises are as follows:

> *The LA10* noise level emitted from the licensed premises shall not exceed the background noise level in any Octave Band Centre Frequency (31.5 Hz – 8k Hz inclusive) by more than 5 dB between 07:00 am and 12:00 midnight at the boundary of any affected residence.*
>
> *The LA10* noise level emitted from the licensed premises shall not exceed the background noise level in any Octave Band Centre Frequency (31.5 Hz – 8k Hz inclusive) between 12:00 midnight and 07:00 am at the boundary of any affected residence.*
>
> *Notwithstanding compliance with the above, the noise from the licensed premises shall not be audible within any habitable room in any residential premises between the hours of 12:00 midnight and 07:00 am.*
>
> ** For the purposes of this condition, the LA10 can be taken as the average maximum deflection of the noise emission from the licensed premises.*
>
> *This is a minimum standard. In some instances the Director may specify a time earlier than midnight in respect of the above condition.*
>
> *Interior noise levels which still exceed safe hearing levels are in no way supported or condoned by the Director.*

Note: NSW Liquor and Gaming criteria does not contain any requirements for commercial or industrial receivers. Noise impacts to these receivers will adopt the broadband criteria outlined in the NSW EPA NPI 2017, see above.

These criteria are applicable to noise emissions from the licensed venue component of the development, excluding noise from mechanical services. For external noise emissions, octave band spectral criteria for each assessment period have been summarised in Table 5 below.

Table 5 Liquor & Gaming NSW – L_{10} Criteria (external) – Residential Criteria Only

Time Period	Parameter 1	Octave Band Centre Frequency, Hz									Overall dBA
		31.5	63	125	250	500	1k	2k	4k	8k	
7:00am to 6:00pm	**Before Midnight Period (BG+5 dBA)**										
	Measured L_{A90} [1]	60	52	53	54	54	52	47	41	27	**56**
	Criteria L_{A10} [2]	69 [3]	57	58	59	59	57	52	46	32	**61**
6:00pm to 10:00pm	**Before Midnight Period (BG+5 dBA)**										
	Measured L_{A90} [1]	58	51	53	54	54	51	47	39	24	**56**
	Criteria L_{A10} [2]	69 [3]	56	58	59	59	56	52	44	29	**61**
10:00pm to 12:00am (Midnight)	**Before Midnight Period (BG+5 dBA)**										
	Measured L_{A90} [1]	57	49	51	53	53	51	46	37	21	**55**
	Criteria L_{A10} [2]	69 [3]	54	56	58	58	56	51	42	26	**60**

Note 1 The LA90 noise level is representative of the "average minimum background sound level" (in the absence of the source under consideration), or simply the background level.

Note 2 The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.

Note 3 Criteria is adjusted to match the threshold of hearing as outlined in International Standard ISO 226:2003.

6 ACOUSTIC ASSESSMENT

Assessment of each of the noise element associated with the proposal is outlined below.

6.1 Licensed Venue Assessment

As previously discussed, the currently permitted maximum number of patrons for the development is 80 patrons at any one time plus staff. The proposal seeks to increase this number to 100 patrons.

The assessment of licensed noise emissions from the development using this operating scenario has been made against the Liquor and Gaming NSW criteria identified previously.

6.1.1Assumed Source Noise Levels

For the purpose of this assessment, it is assumed that a single person speaking with a normal voice has a Sound Power Level (Lw) of 69 dBA. This has been formulated in accordance with the published noise levels from Klark Teknik (The Audio System Designer Technical Reference, Chapman Partnership).

Additionally, we assumed that one in two are talking which is a relatively conservative calculation.

With regards to music within the venue, a sample of Live Acoustic Music has been measured within a similar facility in the past. The measured spectrum is shown below.

Table 6 Measured Single Octave (1/1) Spectra

Measurement Location	Parameter [1]	Octave Band Centre Frequency, Hz									Overall dBA
		31.5	63	125	250	500	1k	2k	4k	8k	
Previous Project	Measured Live Music – Acoustic Guitar and Singer (Amplified)										
	Sound Power Level	58	73	86	84	84	79	78	73	65	85

Note 4 The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.

During periods when live music is not used, it is assumed that background music (or similar) will be playing inside only. For external areas it is assumed background music (or similar) would not be used. Background music within the restaurant will be 65 dBA (sound pressure).

6.1.2Predicted Licensed Venue Noise Levels

Noise emission calculations for the combination of patron noise and live music (where relevant) are provided below.

Predicted noise levels to the surrounding residential receivers are based on a full capacity within the venue and during the proposed operation hours.

The existing building is a double brick masonry construction with a lightweight roof. Existing windows are a 4 mm glazing.

Noise breakout to the environment has been modelled based on the following:

- Breakdown of patrons are as follows:
  - For general dining:
    - 100 patrons located inside.
      - No more than 50 permitted in the External Pavilion.
    - 20 patrons located outside.
- Background music inside the venue.
  - For a wedding ceremony:
    - 100 patrons outside in the middle and upper terrace for a short-term ceremony.
    - Use of amplified speech during the ceremony.
    - Use of amplified music during the ceremony (acoustic).
- Double cavity brick wall.
- Existing windows are 4 mm glazing construction.
- Roof is detailed below.
- Construction of the external pavilion is PVC lined (i.e., heavy plastic).

Table 7 Assumed Roof Construction (Inspected Onsite)

External Lining	Truss System	Internal Lining
Sheet Metal Roofing System (Similar to Colorbond™)	Flat roof truss system with a minimum cavity of 200 mm (Approx.) between each lining layer. Insulation is believed to be within the roof cavity for acoustic/thermal purposes.	1 x 13 mm Standard Plasterboard

Outlined in Table 8 and Predicted noise levels outlined below are for a wedding ceremony being undertaken on the middle and upper external terrace.

Table 9 below is the prediction licensed venue operational noise to the residential receivers to south of the site. Predicted noise levels include distance attenuation and any barrier effects.

Predicted noise levels in Table 8 are for the general dining within the venue, the predicted noise levels shown below represent noise associated with the venue for most of the operating time.

Table 8 Receiver 1 – Predicted Noise Levels – General Dining

Parameter	Octave Band Centre Frequency, Hz									Overall dBA
	31.5	63	125	250	500	1k	2k	4k	8k	
Predicted L_{A10} Noise Levels	34	34	43	38	34	24	26	14	0	**35**
L&G NSW criterion	69 [3]	54	56	58	58	56	51	42	26	**60**
Compliance	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Refer to section 6.1.3 below the for the required management controls to ensure compliance.

Predicted noise levels outlined below are for a wedding ceremony being undertaken on the middle and upper external terrace.

Table 9 Receiver 1 – Predicted Noise Levels – Wedding Ceremony

Parameter	Octave Band Centre Frequency, Hz									Overall dBA
	31.5	63	125	250	500	1k	2k	4k	8k	
Predicted L_{A10} Noise Levels	27	42	55	54	54	49	47	40	27	55
L&G NSW criterion	69 [3]	54	56	58	58	56	51	42	26	**60**
Compliance	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes** [1]	**Yes**

Note 1 In accordance with section 4.2 from the NSW EPA NPI 2017, an exceedance of <2dB is considered negligible 3and therefore acoustically acceptable.

Refer to section 6.1.3 below the for the required management controls to ensure compliance.

6.1.3Assessment Results and Recommendations

Predicted noise levels from the operation of the venue in full operation with Live Music between (all patrons and background music) has been predicted. To ensure compliance is achieved, the following recommendations must be implemented:

- No more than 100 patrons in the venue at any one time, staff not included. Breakdown of patrons are as follows:
  - For general dining:
    - Up to 100 patrons located inside.
      - No more than 50 permitted in the External Pavilion.
    - Up to 20 patrons located outside.
  - For a wedding ceremony:
    - 100 patrons outside in the middle and upper terrace for a short-term ceremony.
- Operation hours are:
  - Monday to Saturday: 5:00am to 12:00am (midnight).
  - Sunday: 10:00am to 10:00pm.
- Wedding ceremonies including the use of amplified music (assumed to be vocal and acoustic) and is permitted during the hours of 7:00am and 10:00pm. However, must be limited to 90 dBA Sound Power Level (or equal to 73 dBA @ 3m) when measured as a sound pressure level.
- Background music is assumed to be 65 dBA for dining areas, all measured as a sound pressure level.

- All doors and windows are to remain shut after 10:00pm and not opened before 7:00am and anytime amplified music is used. Low level background music is permitted to be played with windows open.
- Removal of glass or waste should be done internally and must not be externally of the premises after 10:00pm and before 7:00am.
- A contact number must be displayed for the purposes of receiving any complaints if they arrive.
- Signs must be displayed at all exits reminding patrons to be mindful of noise when leaving the premise.
- A revised Plan of Management (PoM) is to be prepared based on the additional trading hours. The plan should be reviewed regularly to ensure any required updated are captured.

On the assumption the recommendations outlined are incorporated compliance with the acoustic project criteria outlined in section 5 above will be achieved.

7 CONCLUSION

Pulse White Noise Acoustics (PWNA) have been engaged by Pilu to undertake an acoustic assessment of the proposed amendments to the operational parameters of Pilu Restaurant located at 80 Undercliff Road, Freshwater NSW 2096.

Detailed acoustic modelling has indicated that noise from the operation of the licensed venue elements of the development are likely to result in compliance with the typically imposed NSW Liquor and Gaming acoustic requirements. To ensure compliance, recommended building and management controls are recommended in this report.

For any additional information please do not hesitate to contact the person below.

Regards,

Matthew Furlong
Principal Acoustic Engineer
PULSE WHITE NOISE ACOUSTICS PTY LTD

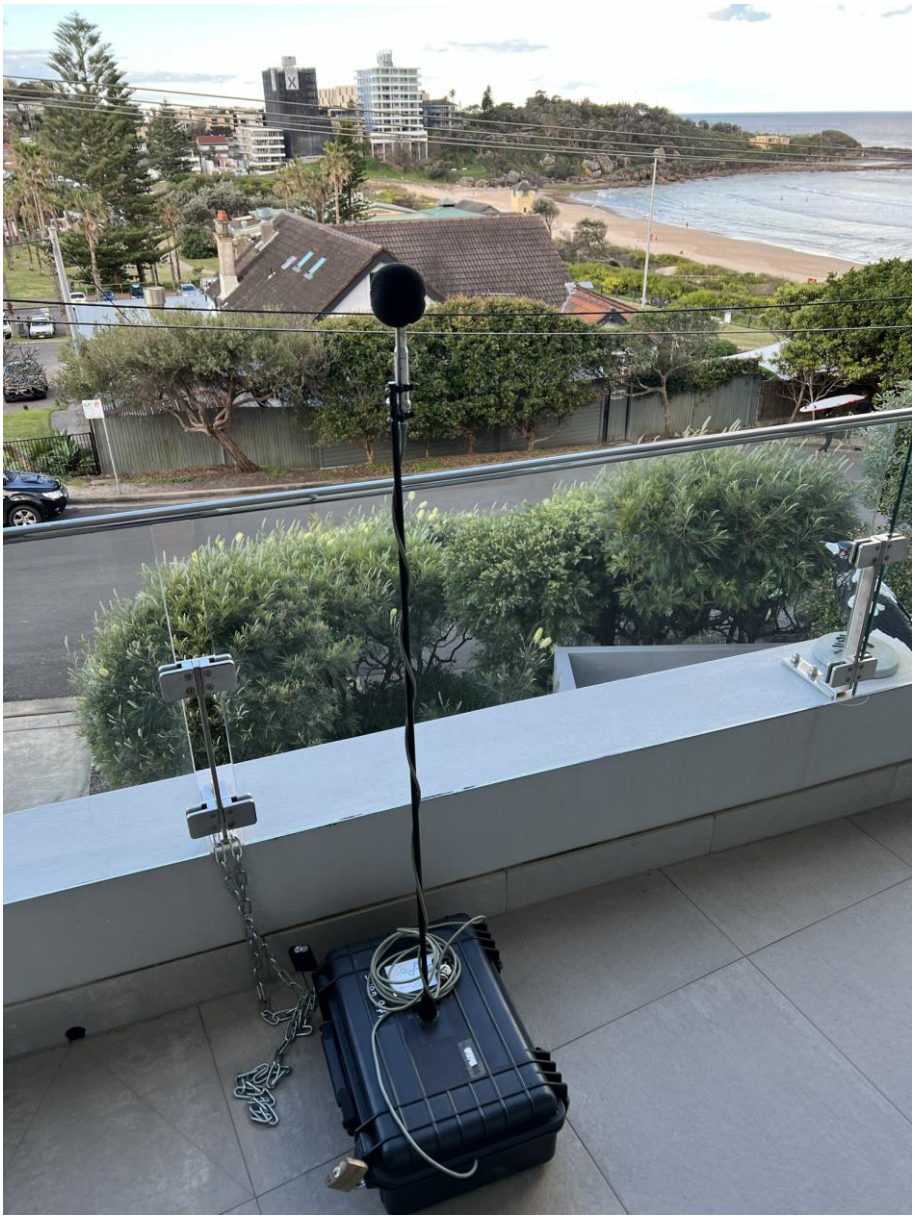
APPENDIX A. APPENDIX TERMINOLOGY

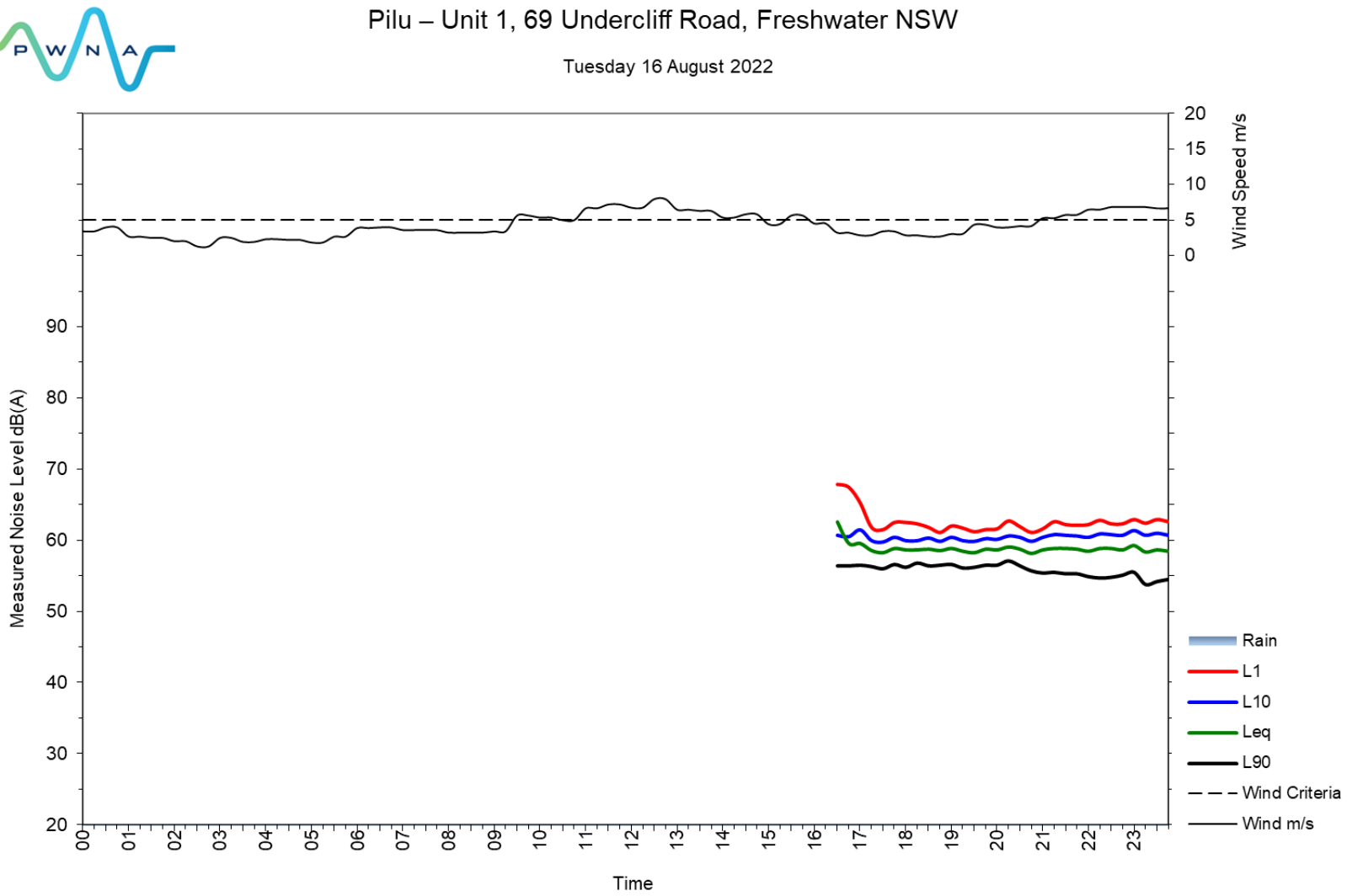
Sound power level	The total sound emitted by a source
Sound pressure level	The amount of sound at a specified point
Decibel [dB]	The measurement unit of sound
A Weighted decibels [dB(A])	The A weighting is a frequency filter applied to measured noise levels to represent how humans hear sounds. The A-weighting filter emphasises frequencies in the speech range (between 1kHz and 4 kHz) which the human ear is most sensitive to, and places less emphasis on low frequencies at which the human ear is not so sensitive. When an overall sound level is A-weighted it is expressed in units of dB(A).
Decibel scale	The decibel scale is logarithmic in order to produce a better representation of the response of the human ear. A 3 dB increase in the sound pressure level corresponds to a doubling in the sound energy. A 10 dB increase in the sound pressure level corresponds to a perceived doubling in volume. Examples of decibel levels of common sounds are as follows: 0dB(A) Threshold of human hearing 30dB(A) A quiet country park 40dB(A) Whisper in a library 50dB(A) Open office space 70dB(A) Inside a car on a freeway 80dB(A) Outboard motor 90dB(A) Heavy truck pass-by 100dB(A) Jackhammer/Subway train 110 dB(A) Rock Concert 115dB(A) Limit of sound permitted in industry 120dB(A) 747 take off at 250 metres
Frequency [f]	The repetition rate of the cycle measured in Hertz (Hz). The frequency corresponds to the pitch of the sound. A high frequency corresponds to a high pitched sound and a low frequency to a low pitched sound.
Ambient sound	The all-encompassing sound at a point composed of sound from all sources near and far.
Equivalent continuous sound level [L_{eq}]	The constant sound level which, when occurring over the same period of time, would result in the receiver experiencing the same amount of sound energy.
Reverberation	The persistence of sound in a space after the source of that sound has been stopped (the reverberation time is the time taken for a reverberant sound field to decrease by 60 dB)
Air-borne sound	The sound emitted directly from a source into the surrounding air, such as speech, television or music
Impact sound	The sound emitted from force of one object hitting another such as footfalls and slamming cupboards.
Air-borne sound isolation	The reduction of airborne sound between two rooms.
Sound Reduction Index [R] *(Sound Transmission Loss)*	The ratio the sound incident on a partition to the sound transmitted by the partition.
Weighted sound reduction index [R_w]	A single figure representation of the air-borne sound insulation of a partition based upon the R values for each frequency measured in a laboratory environment.
Level difference [D]	The difference in sound pressure level between two rooms.
Normalised level difference [D_n]	The difference in sound pressure level between two rooms normalised for the absorption area of the receiving room.
Standardised level difference [D_{nT}]	The difference in sound pressure level between two rooms normalised for the reverberation time of the receiving room.
Weighted standardised level difference [$D_{nT,w}$]	A single figure representation of the air-borne sound insulation of a partition based upon the level difference. Generally used to present the performance of a partition when measured in situ on site.
C_{tr}	A value added to an R_w or $D_{nT,w}$ value to account for variations in the spectrum.

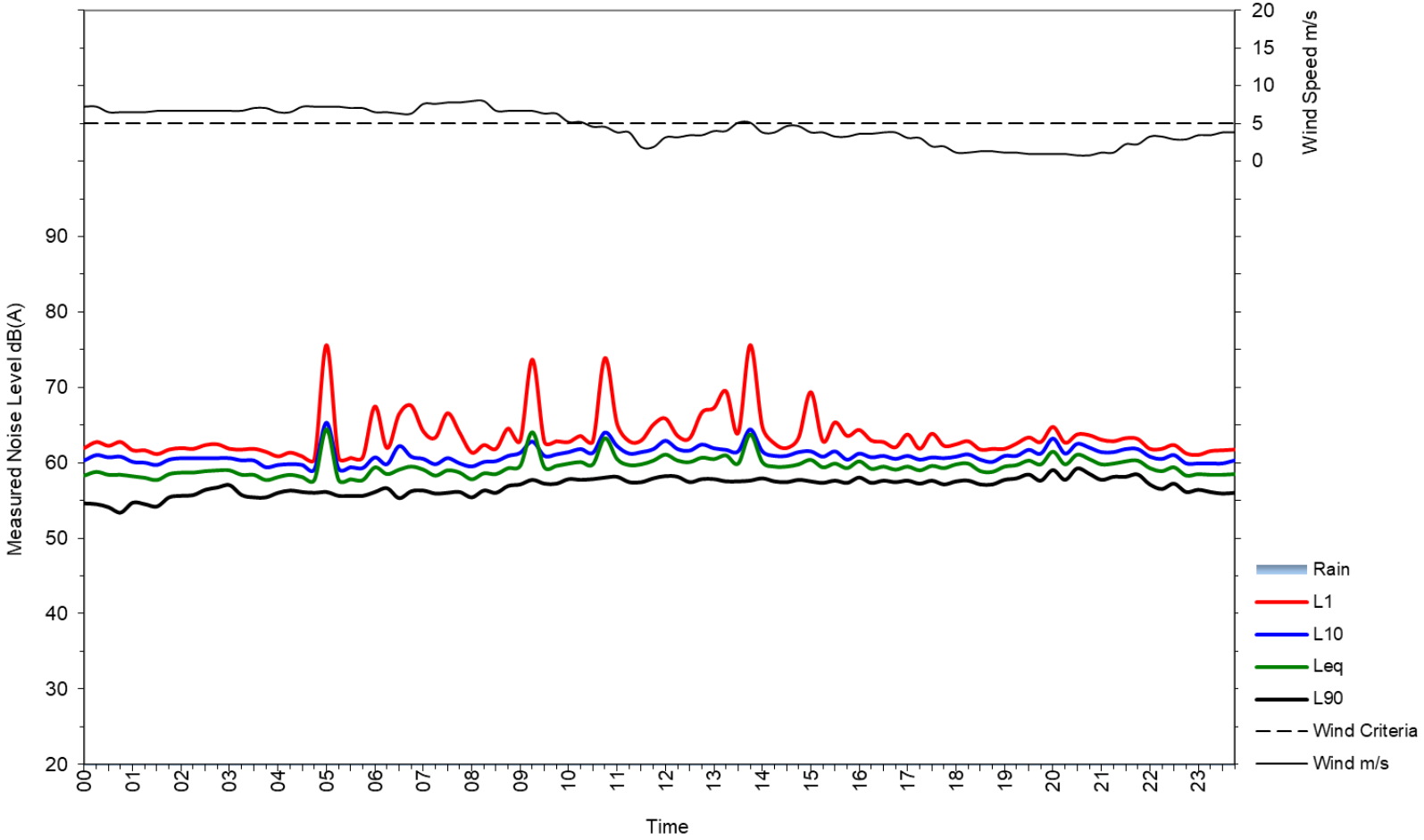
Impact sound isolation	The resistance of a floor or wall to transmit impact sound.
Impact sound pressure level [L_i]	The sound pressure level in the receiving room produced by impacts subjected to the adjacent floor or wall by a tapping machine.
Normalised impact sound pressure level [L_n]	The impact sound pressure level normalised for the absorption area of the receiving room.
Weighted normalised impact sound pressure level [$L_{n,w}$]	A single figure representation of the impact sound insulation of a floor or wall based upon the impact sound pressure level measured in a laboratory.
Weighted standardised impact sound pressure level [$L'_{nT,w}$]	A single figure representation of the impact sound insulation of a floor or wall based upon the impact sound pressure level measured in situ on site.
C_I	A value added to an L_{nW} or $L'_{nT,w}$ value to account for variations in the spectrum.
Energy Equivalent Sound Pressure Level [$L_{A,eq,T}$]	'A' weighted, energy averaged sound pressure level over the measurement period T.
Percentile Sound Pressure Level [$L_{Ax,T}$]	'A' weighted, sound pressure that is exceeded for percentile x of the measurement period T.
Speech Privacy	A non-technical term but one of common usage. Speech privacy and speech intelligibility are opposites and a high level of speech privacy means a low level of speech intelligibility. It should be recognised that acceptable levels of speech privacy do not require that speech from an adjacent room is inaudible.
Sound Pressure Level, LP dB	A measurement obtained directly using a microphone and sound level meter. Sound pressure level varies with distance from a source and with changes to the measuring environment. Sound pressure level equals 20 times the logarithm to the base 10 of the ratio of the rms sound pressure to the reference sound pressure of 20 micro Pascals.
Sound Power Level, Lw dB	Sound power level is a measure of the sound energy emitted by a source, does not change with distance, and cannot be directly measured. Sound power level of a machine may vary depending on the actual operating load and is calculated from sound pressure level measurements with appropriate corrections for distance and/or environmental conditions. Sound power levels is equal to 10 times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 picoWatt
Noise Reduction	The difference in sound pressure level between any two areas. The term "noise reduction" does not specify any grade or performance quality unless accompanied by a specification of the units and conditions under which the units shall apply
Audible Range	The limits of frequency which are audible or heard as sound. The normal ear in young adults detects sound having frequencies in the region 20 Hz to 20 kHz, although it is possible for some people to detect frequencies outside these limits.
Background Sound Low	The average of the lowest levels of the sound levels measured in an affected area in the absence of noise from occupants and from unwanted, external ambient noise sources. Usually taken to mean the LA90 value
Character, acoustic	The total of the qualities making up the individuality of the noise. The pitch or shape of a sound's frequency content (spectrum) dictate a sound's character.
Loudness	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on
LMax	The maximum sound pressure level measured over a given period.
LMin	The minimum sound pressure level measured over a given period.
L1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L10	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L90	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).
Leq	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.

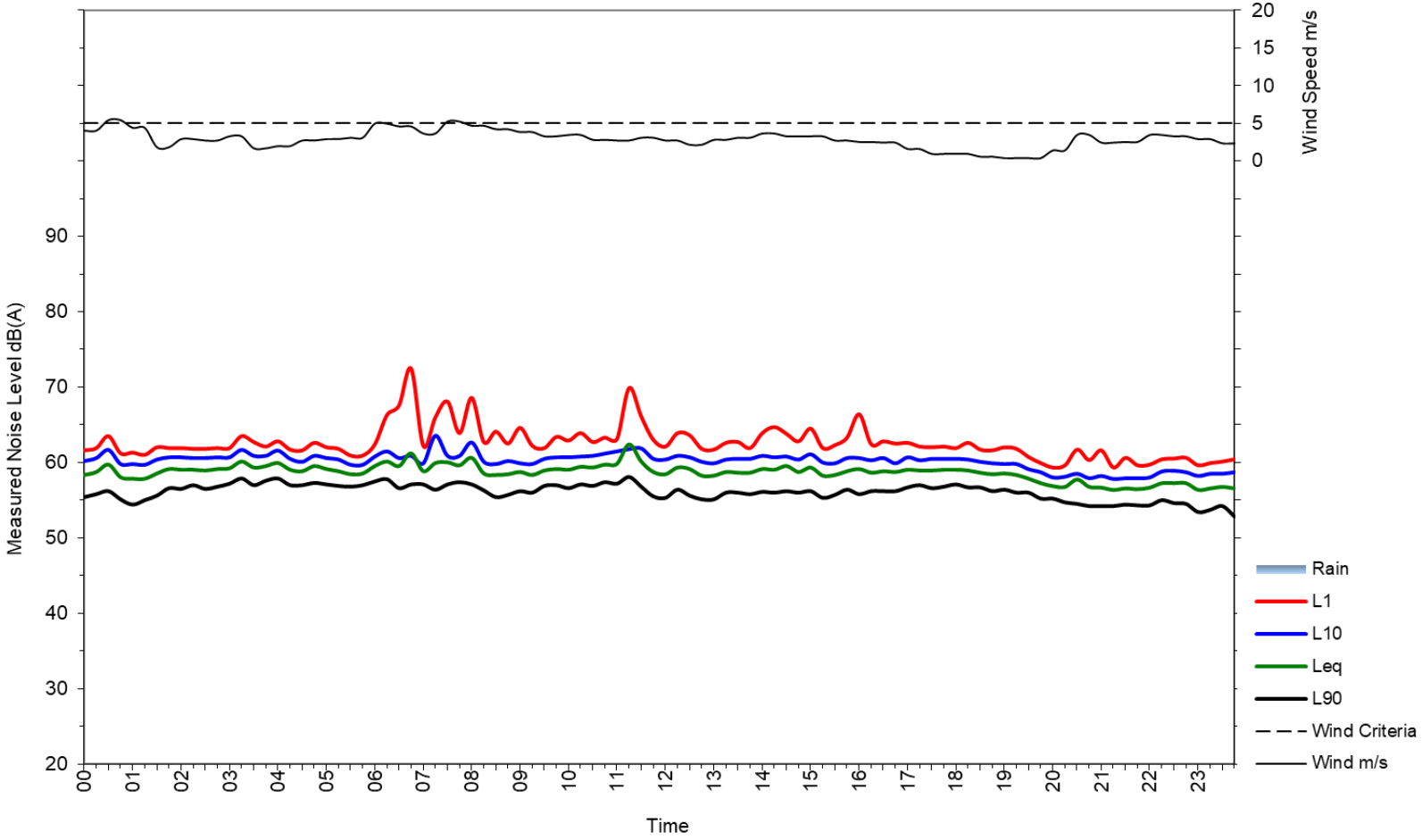
APPENDIX B. UNATTENDED NOISE MONITORING RESULTS – UNIT 1, 69 UNDERCLIFF ROAD, FRESHWATER

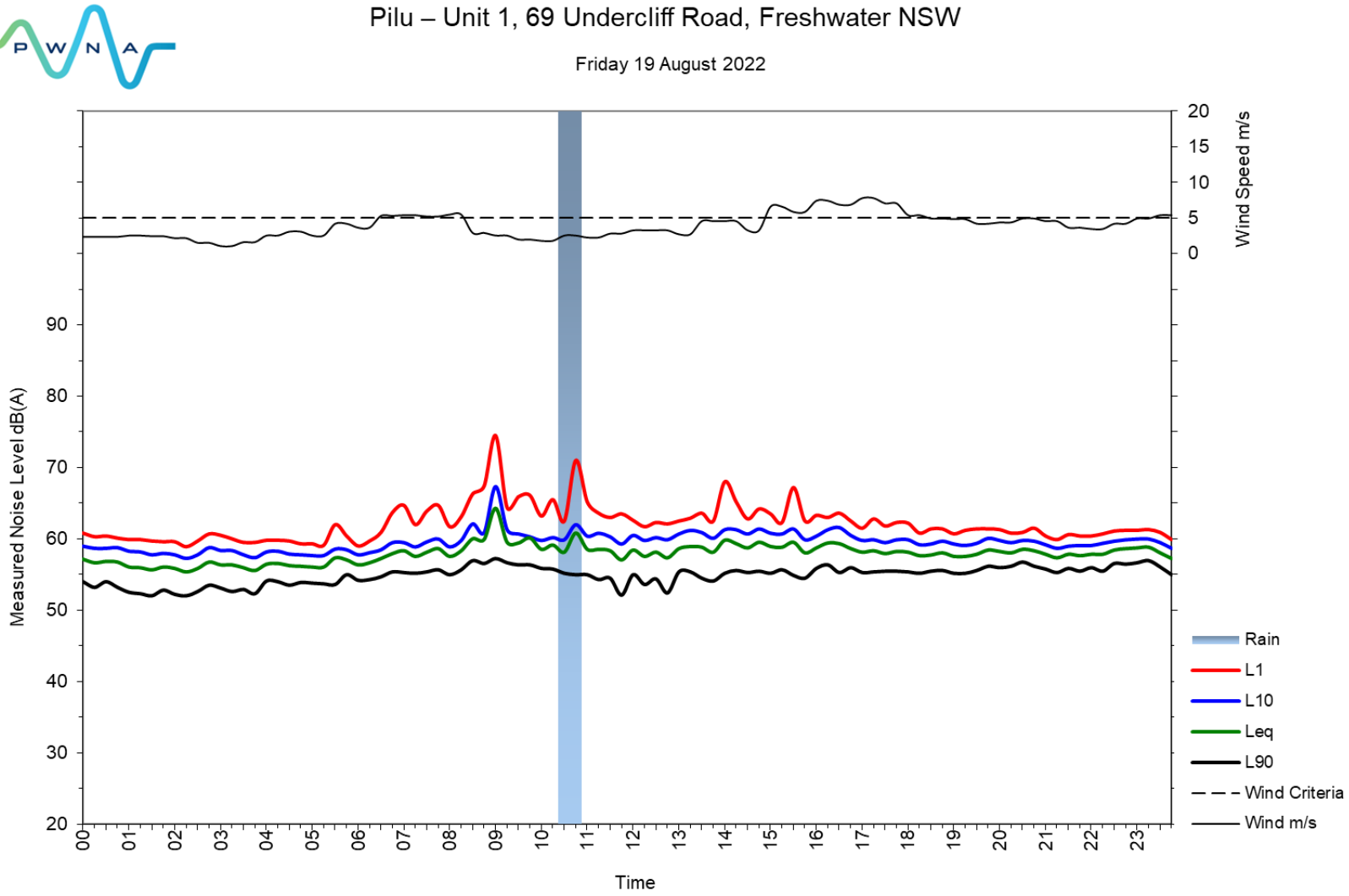
Figure 4 Unattended Noise Monitoring

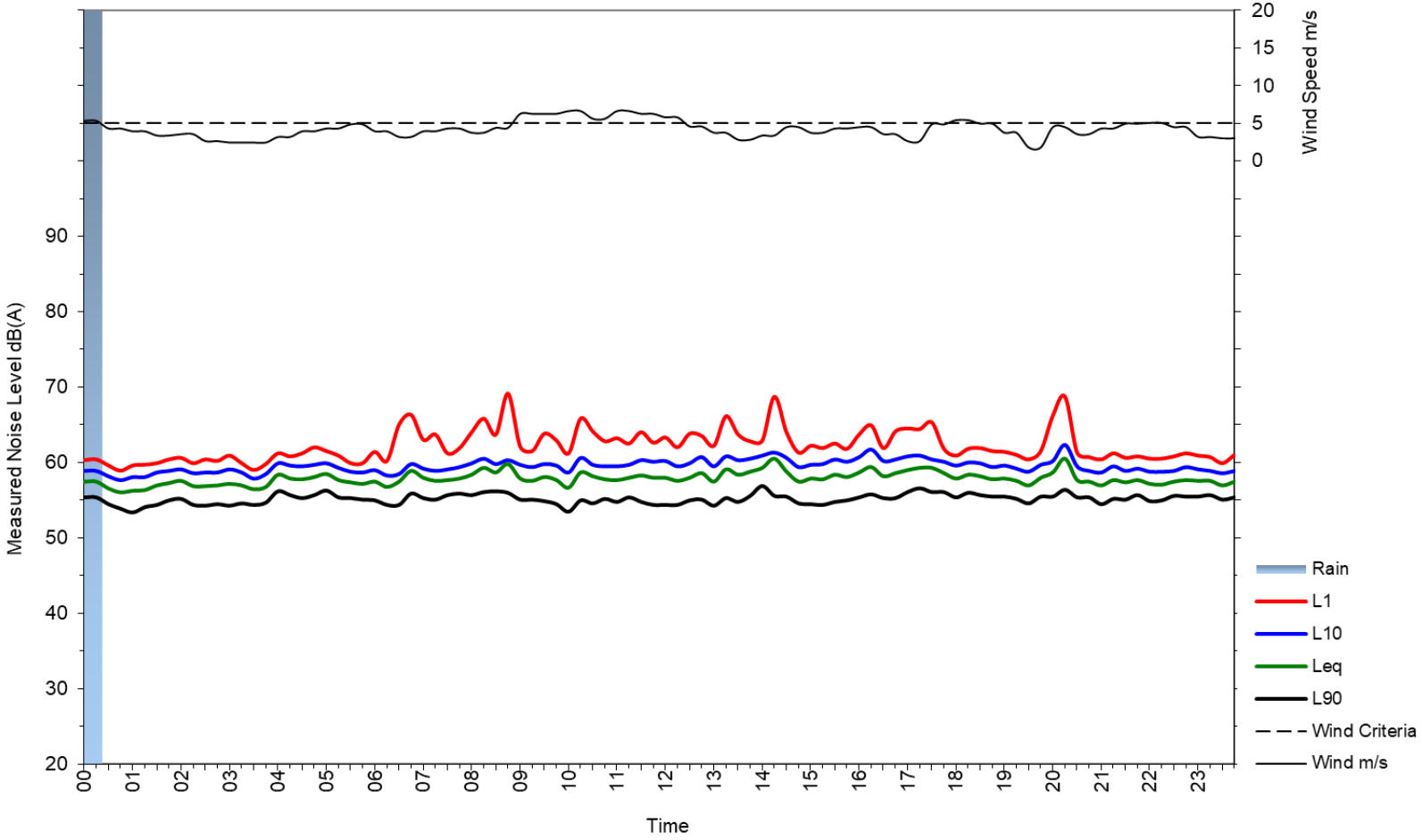


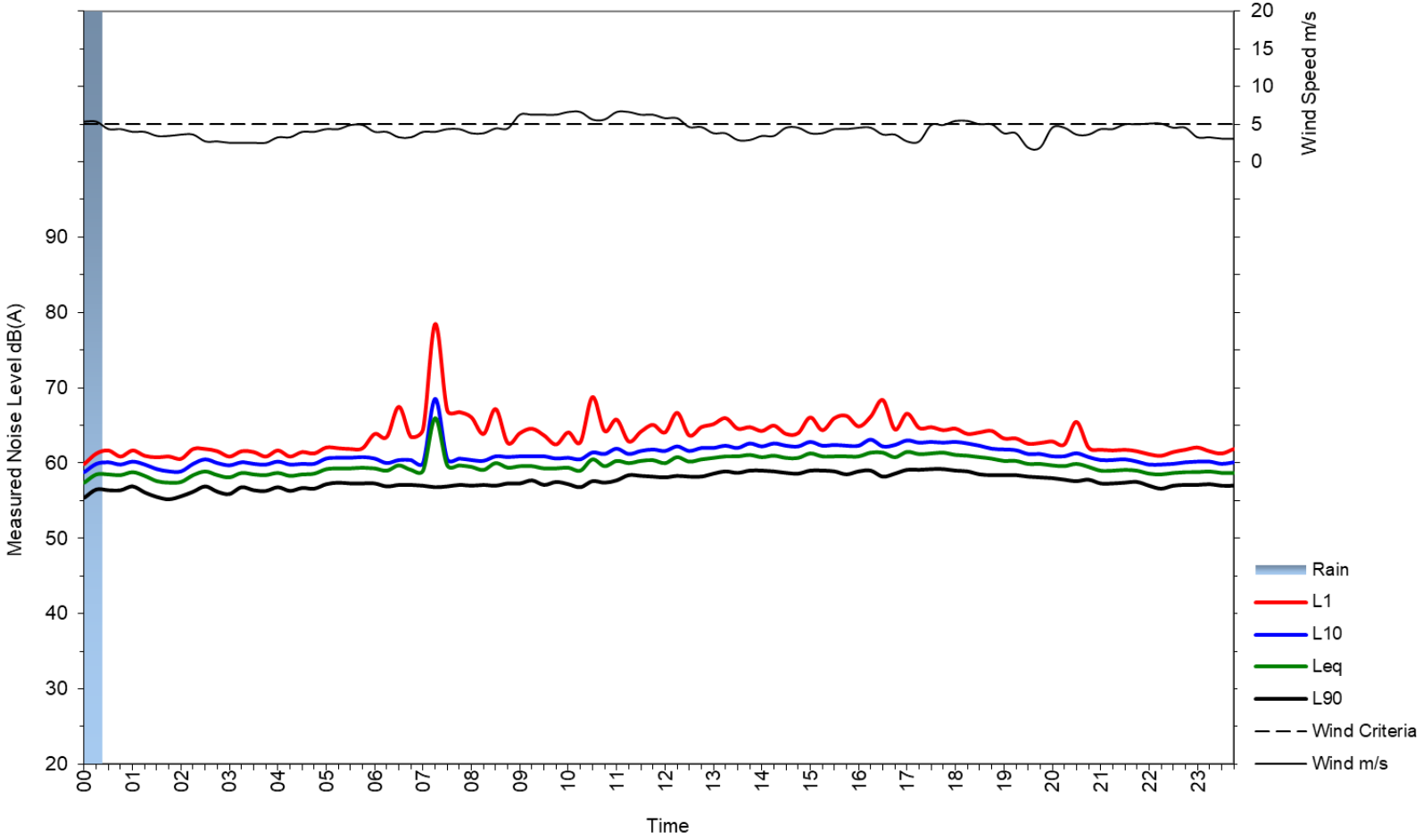

Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Tuesday 16 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s

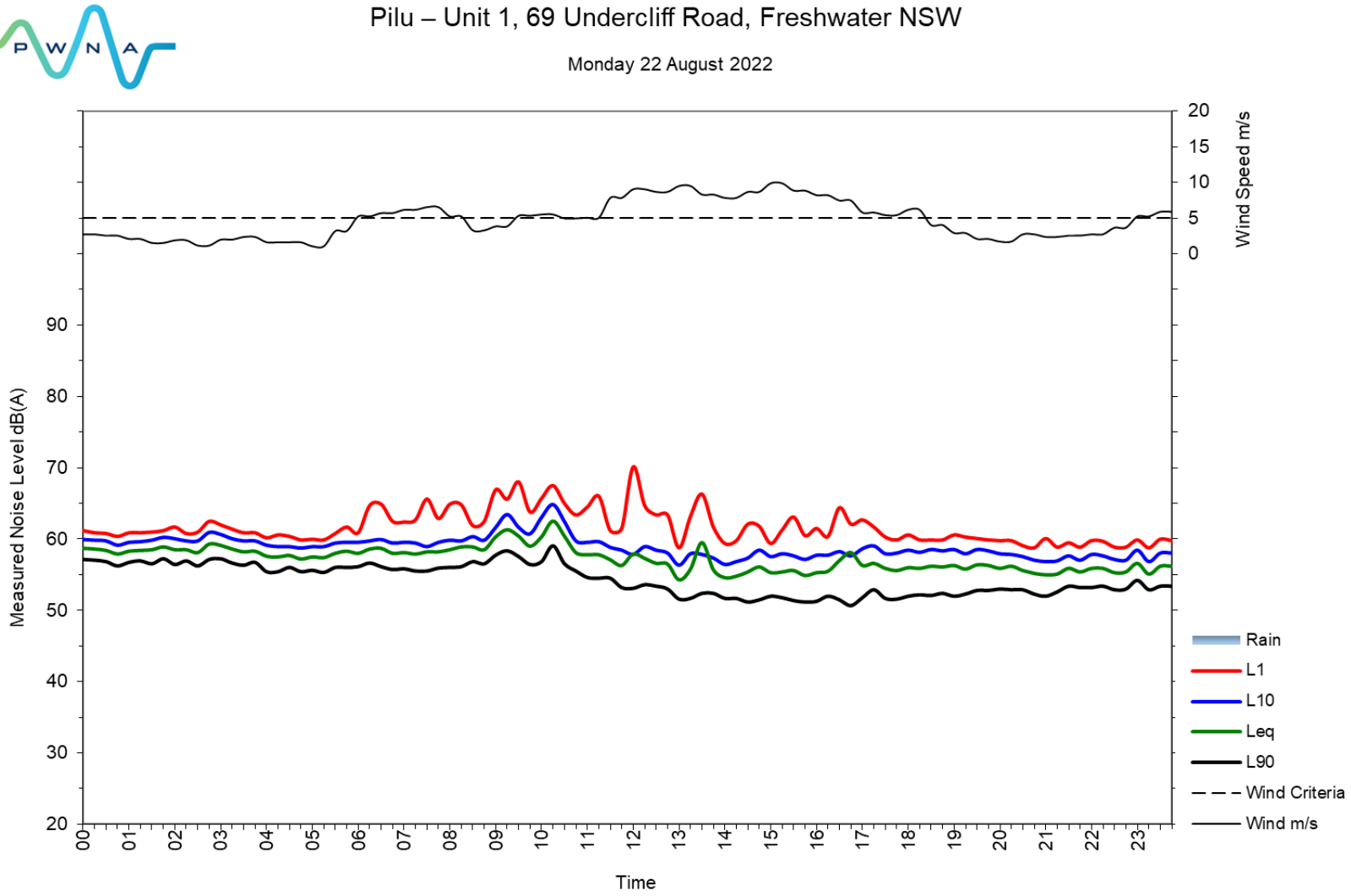

Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Wednesday 17 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s

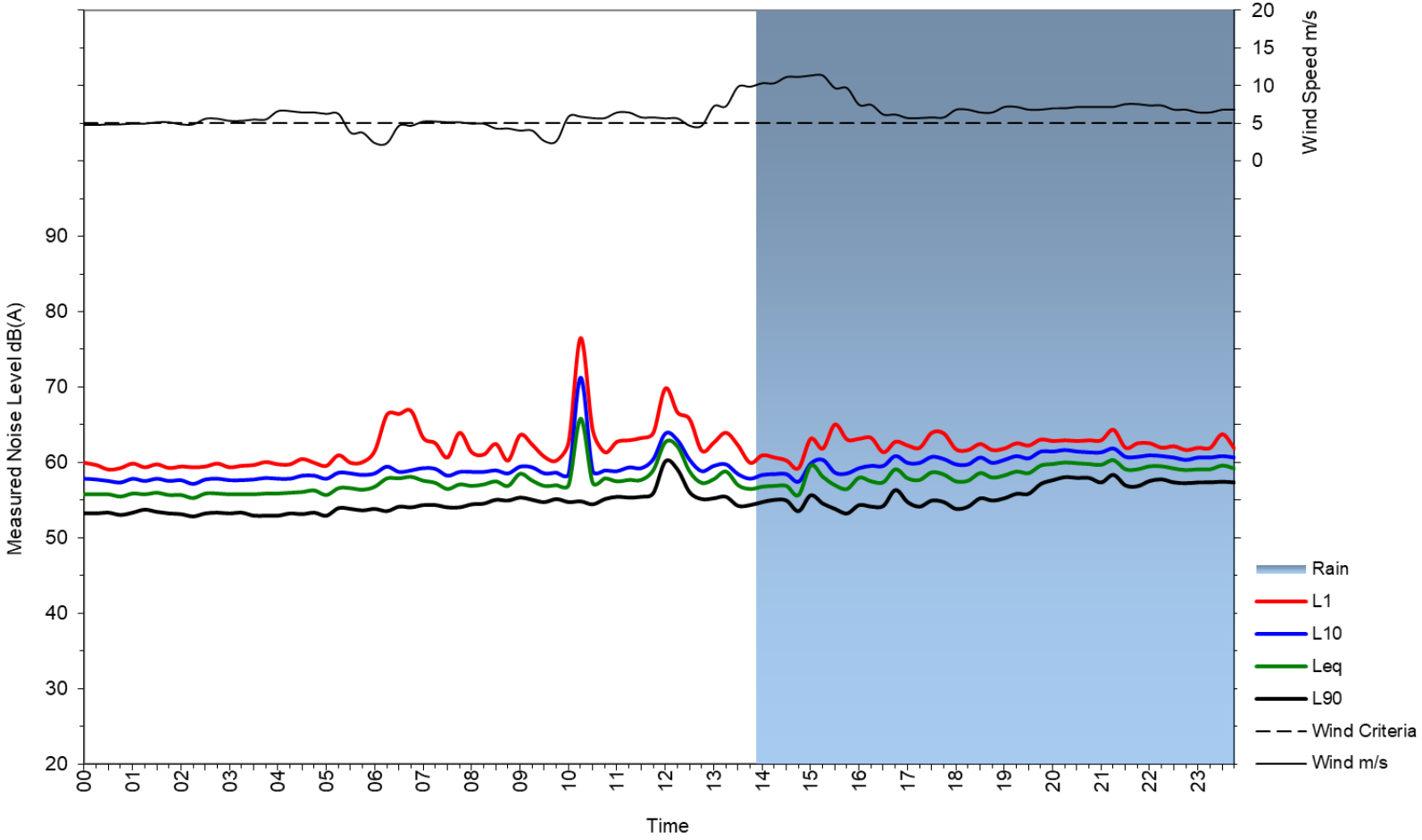

Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Thursday 18 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s

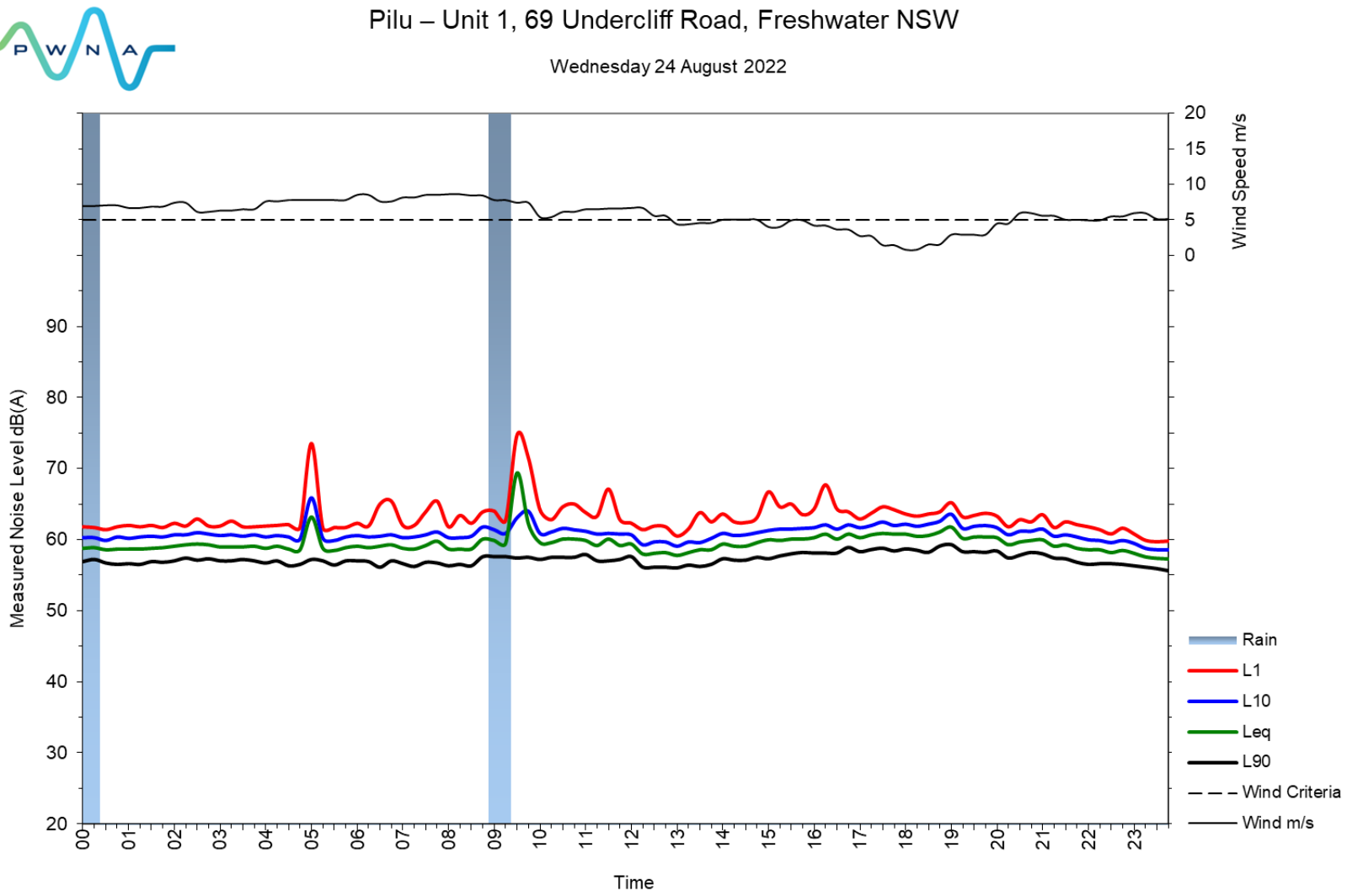

Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Friday 19 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s

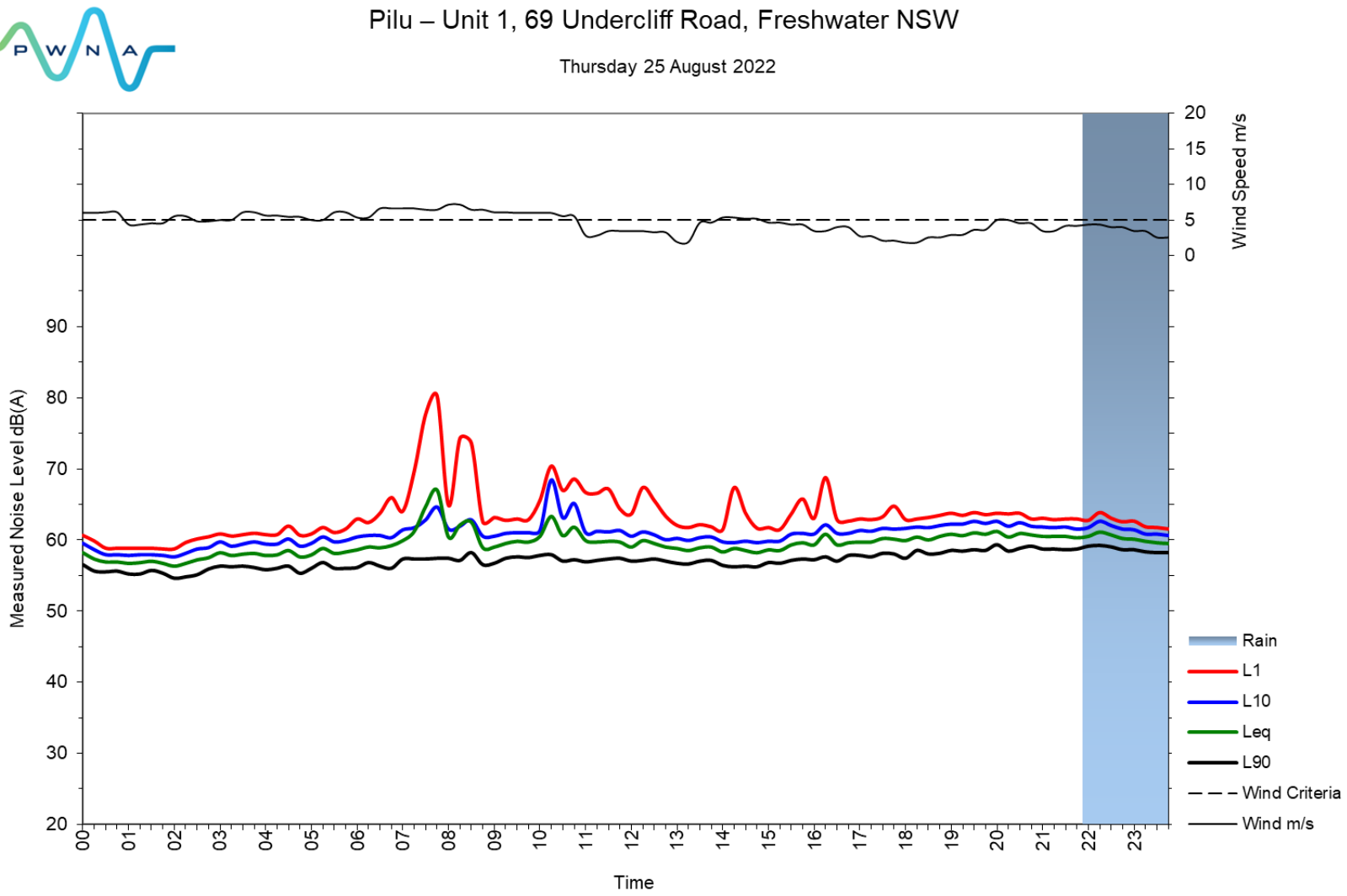

Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Saturday 20 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s

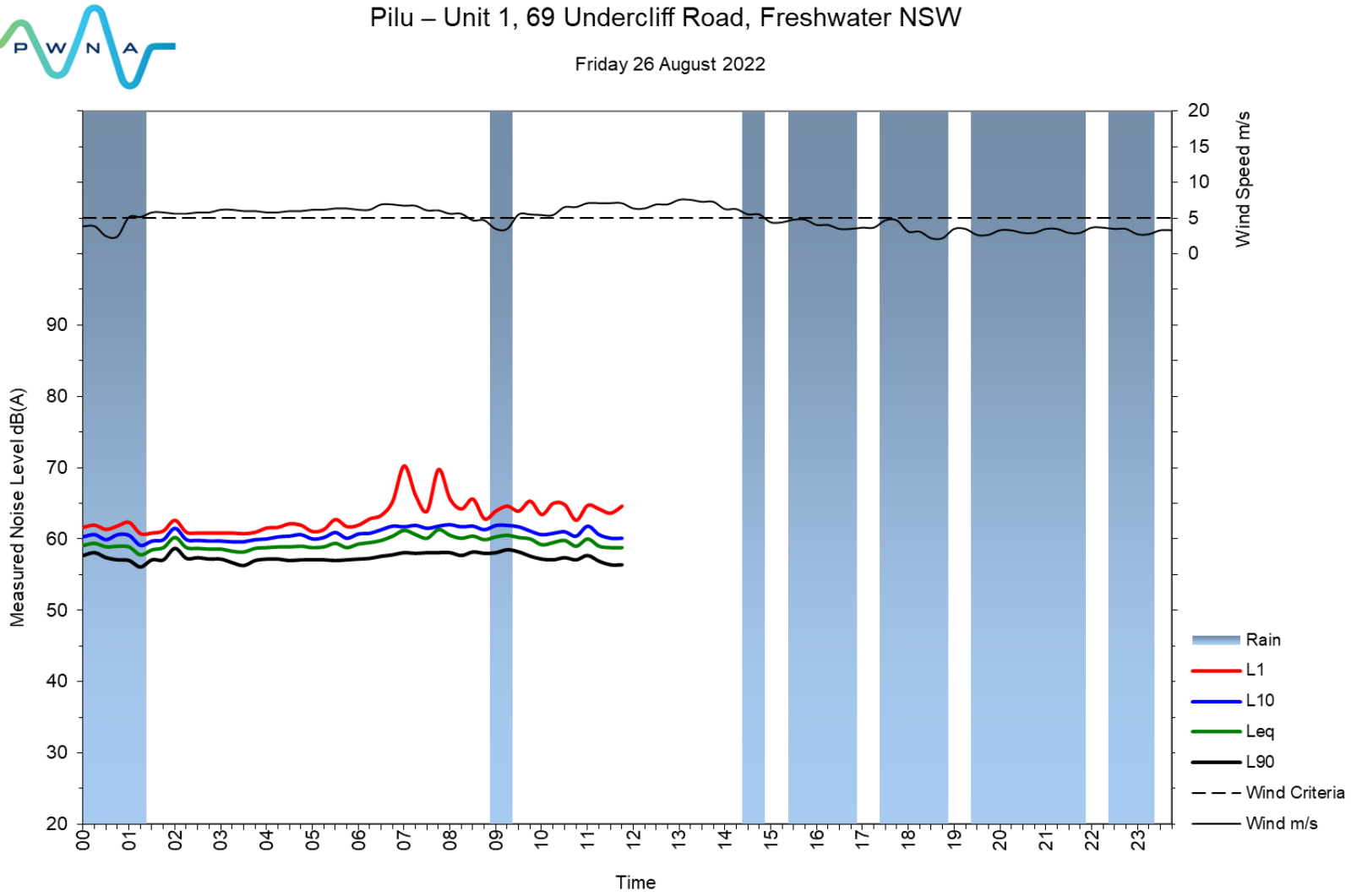

Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Sunday 21 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Monday 22 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Tuesday 23 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Wednesday 24 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Thursday 25 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Pilu – Unit 1, 69 Undercliff Road, Freshwater NSW
Friday 26 August 2022
Measured Noise Level dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s

Appendix B – Northern Beaches Council Request For Information (RFI) – (DA2022/2281) – 28th April 2023

northern beaches council

28 April 2023

Giovanni Cirillo
Suite 195 20-40 Meagher Street
CHIPPENDALE NSW 2008

Dear Sir,

Development Application No: DA2022/2281 for Formalisation of the use of premises as a restaurant (Pilu at Freshwater) including ancillary use as a function centre, increased patron numbers and extended hours of operation at 80 Undercliff Road FRESHWATER.

I refer to your application which is under assessment by Council.

The assessment of your application has revealed issues, which prevent Council from supporting the proposal in its current form.

The following is a list of the issues identified:

Heritage Referral Response

This application has been referred to Council's Heritage advisor, as it is a locally listed heritage item, being Item I76 - "Freshwater" Restaurant, 80 Undercliff Road, Freshwater, listed in Schedule 5 of WLEP 2011.

This application seeks to formalise use of the site for events ancillary to the restaurant and also seeks approval for structures which have never been approved, namely the "Pilu Pavilion" and the "Wedding Ceremony Umbrella" located within the garden area of the existing heritage building. The application also proposes to update the restaurants operating hours.

These structures are used for weddings and other events and are located to the east of the main heritage building. The application states that these structures were in existence (without consent) when Pilu began operating from the site in 2004. No physical works are proposed as part of this application.

As this application is seeking approval for use of these structures within the curtilage of a heritage building, which have never been approved, it is considered that the application should include an assessment of the impact of these structures on the heritage significance of the item. Therefore, a Heritage Impact Statement (HIS) is required. This is a requirement under Clause 5.10 Heritage Conservation of the Warringah Local Environmental Plan 2011 (WLEP 2011) which states the following:-

"(5) ***Heritage assessment***
The consent authority may, before granting consent to any development:

(a) on land on which a heritage item is located, or

(b) on land that is within a heritage conservation area, or

(c) on land that is within the vicinity of land referred to in paragraph (a) or (b),

require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned."

Therefore, heritage cannot support this application until a Heritage Impact Statement has been submitted which assesses the impact of the use of these existing garden structures and the use of the garden area for events and the intensification of the use of the premises, on the heritage significance of the main restaurant building.

Environmental Health Referral Response (Acoustics)

This DA seeks to formalise the use of the site and its existing improvements as a restaurant with ancillary event services being permitted. This DA also proposes to update the restaurant's operating hours for consistency with the existing liquor licence to 10am – 12am (midnight), Monday to Saturday and 10am – 10pm Sundays. It also seeks to increase the maximum patron occupancy of the restaurant to a maximum of 50 patrons in the pavilion and a maximum of 100 patrons indoors but which must not cumulatively exceed 130 patrons at any one time.

The restaurant includes an existing outdoor pavilion and terrace area. This area is proposed to be used for private wedding ceremonies. During a ceremony, the outdoor area is proposed to host up to 100 patrons with the majority standing.

One of the issues that such an arrangement presents which Environmental Health considers is noise implications.

The submitted Acoustic Report by PWNA Revision 3 17th January 2022 finds:

Assessment Results and Recommendations

Predicted noise levels from the operation of the venue in full operation with Live Music between (all patrons and background music) has been predicted. To ensure compliance is achieved, the following recommendations must be implemented:

No more than 100 patrons in the venue at any one time, staff not included. Breakdown of patrons are as follows:

◦ *For general dining:*

− *Up to 100 patrons located inside.*

o No more than 50 permitted in the External Pavilion.

− *Up to 20 patrons located outside.*

◦ *For a wedding ceremony:*

− *100 patrons outside in the middle and upper terrace for a short-term ceremony.*

Operation hours are:

- *Monday to Saturday: 5:00am to 12:00am (midnight).*
- *Sunday: 10:00am to 10:00pm.*

Wedding ceremonies including the use of amplified music (assumed to be vocal and acoustic) and is permitted during the hours of 7:00am and 10:00pm. However, must be limited to 90 dBA Sound Power Level (or equal to 73 dBA @ 3m) when measured as a sound pressure level.

Background music is assumed to be 65 dBA for dining areas, all measured as a sound pressure level.

Pulse White Noise Acoustics Pty Ltd

All doors and windows are to remain shut after 10:00pm and not opened before 7:00am and anytime amplified music is used. Low level background music is permitted to be played with windows open.

Removal of glass or waste should be done internally and must not be externally of the premises after 10:00pm and before 7:00am.

A contact number must be displayed for the purposes of receiving any complaints if they arrive.

Signs must be displayed at all exits reminding patrons to be mindful of noise when leaving the premise.

A revised Plan of Management (PoM) is to be prepared based on the additional trading hours. The plan should be reviewed regularly to ensure any required updated are captured.

On the assumption the recommendations outlined are incorporated compliance with the acoustic project criteria outlined in section 5 above will be achieved.

Subsequently, a peer review of the acoustic assessment report, submitted by way of objection has found:

DISCUSSION

PWNA's methodology, establishment of noise criteria and noise levels used for calculation purposes are not satisfactory for the assessment of noise for this type of venue. The findings of PWNA's report show that under their proposed scenarios the licensed venue has the potential to comply with the noise criteria. This is based on the incorrect noise criteria used (Refer to Section 2.1). The noise levels used for the assessment of the licensed venue must be based on the AAAC guidelines.

It is our opinion that new noise assessment must be carried out. The noise criteria must be revised to reflect the correct time periods as per LG's requirements. The

new assessment should be based on the noise levels contained in the AAAC guidelines for activities taking place at the venue while operating at full capacity.

The resulting noise levels from the use of the licensed venue must be compared to the relevant noise criteria including sleep arousal, patrons and vehicle movements.

Clarification on the use of background music/PA system must be provided. It can be difficult to control noise from live performances taking place outdoors as musicians are likely to bring their own equipment that will not be connected the in-house sound system. Details of the types of live performances allowed i.e., duets, string quartets, etc. must be provided, all instruments and microphones must be connected to the in-house sound system. The in-house system must be calibrated to ensure compliance to noise criteria. Any noise mitigation measures required for such performances must be clearly detailed.

Section 6.1.3 of PWNA's report provides a number of recommendations, these must be reviewed and updated.

Council accepts that acoustic assessments on yet to be operated venues/areas are theoretical assessments usually to be certified at operational time and adjustments made if necessary to operations; however the issues raised in the Peer Review are considered relevant and necessitate a revised acoustic report.

We further note that we express concerns about any "outdoor " activity past 10pm any day due to neighbouring residential receivers and that restriction of activities inside the building and managing leaving guests (particularly following a wedding) will be difficult to manage and enforce. This is mainly in regard to "offensive noise" from potential shouting, yelling from an event which is sporadic and difficult to adequately manage.

Clause D3 Noise of the Warringah Development Control Plan states the following:-

"Objectives

• To encourage innovative design solutions to improve the urban environment.

• To ensure that noise emission does not unreasonably diminish the amenity of the area or result in noise intrusion which would be unreasonable for occupants, users or visitors.

Requirements

1. Noise from combined operation of all mechanical plant and equipment must not generate noise levels that exceed the ambient background noise by more than 5dB(A) when measured in accordance with the NSW Industrial Noise Policy at the receiving boundary of residential and other noise sensitive land uses."

It is considered that any supplementary or amended acoustic report which seeks to address the above issues be supported with detailed architectural plans that show proposed floor layouts where the maximum of 130 seats across the buildings will be achieved / maintained.

Traffic Engineer Referral Response (Parking and Traffic)

Parking requirement

- The site is zoned "RE2 Private Recreation", according to Warringah LEP. The Warringah DCP applies to the subject site. Under the DCP, 15 parking spaces per 100 sqm of GFA or 1 space per 3 seats are required for restaurants although consideration can be given to a reduced rate if there is available parking in the vicinity at the restaurant's hours of operation. With the proposed maximum of 130 seats, this equates to 43 spaces. No additional parking spaces are proposed under this DA application.

- It is noted that a development contribution was previously paid to Council, and a Deed was made providing the use of 28 car parking spaces in the adjacent Council public carpark for the existing restaurant. The deed stated that the execution and implementation of the Deed allowed the site to comply fully with the Council's requirement for off-street parking for the premises.

- With the proposed changes to the development under this DA, there would be a shortfall of 15 parking spaces.

- As outlined in the SEE, "The restaurant use was approved in 1980 under 1980/311 with no stated maximum occupancy. The current occupant of the premises has operated since 2004 in the manner proposed in this application without incident. Therefore, the proposal does not represent an intensification in terms of occupancy from that approval under 1980/311 in which the execution of the Deed satisfied the off-street parking requirements."

  Although the original consent may not have imposed a patronage limit it is not considered acceptable to now define a patronage limit without demonstrating that the proposed patronage limit will not impose unacceptable parking impacts on the community. A parking analysis should be undertaken and demonstrate that there is adequate parking availability within the adjacent on and offstreet carparking to cater for the restaurant's peak parking demands.

- A Traffic Impact Statement (TIS) should be prepared, and the following items related to the proposal's parking requirement should be included:

  o The parking accumulation survey for the available parking in nearby on and off-street locations (during the weekend midday period when parking occupancy rates are anticipated to be high) should be undertaken.

  This is to identify:

  a) restaurant customer accumulation,
  b) parking capacity
  c) parking occupancy at no less than 30-minute intervals within a 200m radius of the restaurant.

The analysis should be undertaken on a day when the restaurant capacity is anticipated to be operating at or near to capacity.

o Travel Mode surveys for both staff and customers should also be conducted for the existing site and identify mode of travel and vehicle occupancy levels (for multiple occupant vehicles). This will assist in gaining a better understanding of the likely parking impacts of the development and potentially demonstrate that there is a lower parking demand due to a high level of car sharing and/or use of public transport or ride share platforms.

o Some information about the anticipated number of development staff and staff travel mode should be included in the traffic report.

- Bicycle parking stands are also required in line with DCP requirements i.e. 1 high security space for each 200m2 of GFA and 1 customer space for every 600m2 of GFA, Bicycle parking spaces are not presented in the architectural plans and their presence will contribute towards reducing reliance on private motor vehicle travel. The location for bicycle parking spaces should be confirmed on the amended plans.

- Some limited information about the deliveries/loading and waste management have been included in the SEE. It is reported that *"it is requested that the new condition specifically exempt deliveries and allow them to occur from Undercliff Road which is closer to the main building and kitchen. Only deliveries are specific for weddings e.g., DJ and some florists, all other restaurant deliveries would be through the main driveway."*

  The use of Undercliff Road for deliveries is considered inappropriate with deliveries considered to be more appropriately received from the driveway accessed from the Moore Road carpark. Some details on the frequency of deliveries and size of delivery vehicles is required to demonstrate that the development can receive deliveries without impacting on adjacent parking or residential premises.

Site Access

- Condition 13 of DA consent 1980/311 required that "the entranceway fronting Undercliff Road not to be used by restaurant patrons for access. All vehicular, pedestrian and service access to be from the northern access".

  To limit impacts on nearby residential development, it is proposed that a similar condition is will also be applied to this proposed DA, if approved.

Traffic Impact

- An indication of the traffic generation potential of the development proposal should be provided by reference to the TfNSW Guide to Traffic Generating Developments, Section 3 – Land use Traffic Generation (October 2002). Restaurant Trip Generation and the travel mode Surveys (car driver, taxi, car passenger and share/Uber trips) should also be used to determine potential trip generation attributed to the proposed development. This should also be included in the TIA report.

Accessibility

The submitted BCA report under Section D3.1 on page 6 states:

> *The buildings are not generally compliant with access for persons with disabilities. An existing path is provided to the restaurant building that would facilitate accessibility.*
>
> *The pavilion building would not be accessible due to its landscape setting.*

As such, it is considered that as the DA seeks approval for the use of buildings that will be access by the general public and such access is not apparent, an access report from a qualified access consultant which demonstrates how access into and around the buildings to be used on site will meeting the requirements of the BCA and the DDA.

Council is providing you with three options to progress the handling of your application:

1. Prepare and submit further supporting information/amendments to the assessing officer directly addressing the issues by 12 May 2023 (14 days). If the amended information is deemed acceptable and satisfactorily addresses all the issues raised, you must then upload all documentation via the NSW planning portal; or

2. Request that the current proposal proceed to determination in its current form, which may result in refusal of the application; or

3. Withdraw the application from Council, which may include the refund of a portion of the application fees. Please note, that should this be your preferred option, Council will require additional information and will request this under separate cover.

Should you choose to amend your application, we ask that you contact the assessment officer to discuss resolution of the above issues and submission requirements. This is to ensure any amendments satisfactorily address the assessment issues, prior to further expenses and resources being spent on the application.

Should you choose to amend your plans to address the concerns above, you may also need to update your supporting documentation (e.g.: BASIX certificate, Bushfire Report, Geotechnical Report, etc). Please discuss this with the assessment officer to ensure the right documentation is updated.

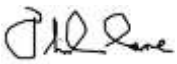
To ensure the timely and efficient processing of your application, it is recommended that a genuine attempt is made to address these issues in their entirety as only **one** opportunity for amendments will be provided.

As per the requirements of section 36 of the Environmental Planning and Assessment Regulation 2021 you are advised that this application was accepted on 3 February 2023 and 83 days in the assessment period has now elapsed.

Please advise of your selected option by responding to this letter by 12 May 2023 at council@northernbeaches.nsw.gov.au and marked to the attention of the assessment officer. Should Council not receive your response and selected option by this date, Council will assume that you are not withdrawing this application and it will be determined in its current form.

Should you wish to discuss any issues raised in this letter, please contact Phil Lane on 1300 434 434 during business hours Monday to Friday.

Regards,



Phil Lane
Principal Planner

Appendix C – PWNA Response to Council RFI/Peer Review – (DA2022/2281) – 5th May 2023

APPENDIX C - PWNA Response Council RFI DA2022/2281 - 5th May 2023

MEMORANDUM

220001 – Pilu, 80 Undercliff Road, Freshwater – Response to Council RFI – 28th April 2023

TO:	Giovanni Cirillo	**DATE:**	5 May 2023
COMPANY:	-		
EMAIL:	-		
FROM:	Matthew Furlong		
SUBJECT:	Pilu, 80 Undercliff Road, Freshwater – Response to Council RFI – 28th April 2023		

Pulse White Noise Acoustics Pty Ltd (PWNA) have been asked to respond to the alleged acoustic issues outlined in the Northern Beaches Council (Council) letter dated 28th April 2023 concerning DA2022/2281.

This letter references a Peer Review conducted by Rodney Stevens Acoustics (RSA) of our Acoustic Assessment.

PWNA prepared an Acoustic Assessment which accompanied the DA2022/2281 submission (reference: *220001 - Pilu, 80 Undercliff Road, Freshwater – Acoustic Assessment – R3*, dated 17th January 2023).

RSA have undertaken a peer review of our report at the request of McKees Legal Solutions acting for a neighbouring residence located approximately 50m south of the restaurant.

As outlined in further detail below, this response is based on the following documents:

- Northern Beaches Council letter dated 28th April 2023 (in relation to DA2022/2281).
- External "Peer Review Report" prepared by RSA (dated 15th March 2023, Revision 0, reference R120176R1).

Councils' comments are shown below:

Environmental Health Referral Response (Acoustics)

This DA seeks to formalise the use of the site and its existing improvements as a restaurant with ancillary event services being permitted. This DA also proposes to update the restaurant's operating hours for consistency with the existing liquor licence to 10am – 12am (midnight), Monday to Saturday and 10am – 10pm Sundays. It also seeks to increase the maximum patron occupancy of the restaurant to a maximum of 50 patrons in the pavilion and a maximum of 100 patrons indoors but which must not cumulatively exceed 130 patrons at any one time.

The restaurant includes an existing outdoor pavilion and terrace area. This area is proposed to be used for private wedding ceremonies. During a ceremony, the outdoor area is proposed to host up to 100 patrons with the majority standing.

One of the issues that such an arrangement presents which Environmental Health considers is noise implications.

The submitted Acoustic Report by PWNA Revision 3 17th January 2022 finds:

Assessment Results and Recommendations

Predicted noise levels from the operation of the venue in full operation with Live Music between (all patrons and background music) has been predicted. To ensure compliance is achieved, the following recommendations must be implemented:

No more than 100 patrons in the venue at any one time, staff not included. Breakdown of patrons are as follows:

◦ For general dining:

− Up to 100 patrons located inside.

o No more than 50 permitted in the External Pavilion.

− Up to 20 patrons located outside.

◦ For a wedding ceremony:

− 100 patrons outside in the middle and upper terrace for a short-term ceremony.

Operation hours are:

◦ Monday to Saturday: 5:00am to 12:00am (midnight).

◦ Sunday: 10:00am to 10:00pm.

Wedding ceremonies including the use of amplified music (assumed to be vocal and acoustic) and is permitted during the hours of 7:00am and 10:00pm. However, must be limited to 90 dBA Sound Power Level (or equal to 73 dBA @ 3m) when measured as a sound pressure level.

Background music is assumed to be 65 dBA for dining areas, all measured as a sound pressure level.

Pulse White Noise Acoustics Pty Ltd

All doors and windows are to remain shut after 10:00pm and not opened before 7:00am and anytime amplified music is used. Low level background music is permitted to be played with windows open.

Removal of glass or waste should be done internally and must not be externally of the premises after 10:00pm and before 7:00am.

A contact number must be displayed for the purposes of receiving any complaints if they arrive.

Signs must be displayed at all exits reminding patrons to be mindful of noise when leaving the premise.

A revised Plan of Management (PoM) is to be prepared based on the additional trading hours. The plan should be reviewed regularly to ensure any required updated are captured.

On the assumption the recommendations outlined are incorporated compliance with the acoustic project criteria outlined in section 5 above will be achieved.

Subsequently, a peer review of the acoustic assessment report, submitted by way of objection has found:

DISCUSSION

PWNA's methodology, establishment of noise criteria and noise levels used for calculation purposes are not satisfactory for the assessment of noise for this type of venue. The findings of PWNA's report show that under their proposed scenarios the licensed venue has the potential to comply with the noise criteria. This is based on the incorrect noise criteria used (Refer to Section 2.1). The noise levels used for the assessment of the licensed venue must be based on the AAAC guidelines.

It is our opinion that new noise assessment must be carried out. The noise criteria must be revised to reflect the correct time periods as per LG's requirements. The new assessment should be based on the noise levels contained in the AAAC guidelines for activities taking place at the venue while operating at full capacity.

The resulting noise levels from the use of the licensed venue must be compared to the relevant noise criteria including sleep arousal, patrons and vehicle movements.

Clarification on the use of background music/PA system must be provided. It can be difficult to control noise from live performances taking place outdoors as musicians are likely to bring their own equipment that will not be connected the in-house sound system. Details of the types of live performances allowed i.e., duets, string quartets, etc. must be provided, all instruments and microphones must be connected to the in-house sound system. The in-house system must be calibrated to ensure compliance to noise criteria. Any noise mitigation measures required for such performances must be clearly detailed.

Section 6.1.3 of PWNA's report provides a number of recommendations, these must be reviewed and updated.

Council accepts that acoustic assessments on yet to be operated venues/areas are theoretical assessments usually to be certified at operational time and adjustments made if necessary to operations; however the issues raised in the Peer Review are considered relevant and necessitate a revised acoustic report.

We further note that we express concerns about any "outdoor " activity past 10pm any day due to neighbouring residential receivers and that restriction of activities inside the building and managing leaving guests (particularly following a wedding) will be difficult to manage and enforce. This is mainly in regard to "offensive noise" from potential shouting, yelling from an event which is sporadic and difficult to adequately manage.

Clause D3 Noise of the Warringah Development Control Plan states the following:-

"Objectives

• To encourage innovative design solutions to improve the urban environment.

• To ensure that noise emission does not unreasonably diminish the amenity of the area or result in noise intrusion which would be unreasonable for occupants, users or visitors.

Requirements

1. Noise from combined operation of all mechanical plant and equipment must not generate noise levels that exceed the ambient background noise by more than 5dB(A) when measured in accordance with the NSW Industrial Noise Policy at the receiving boundary of residential and other noise sensitive land uses."

It is considered that any supplementary or amended acoustic report which seeks to address the above issues be supported with detailed architectural plans that show proposed floor layouts where the maximum of 130 seats across the buildings will be achieved / maintained.

As shown above, Council's Environmental Health team have relied on an external Acoustic Peer Review conducted by RSA (Reference: R230176731R1, dated 15th March 2023). This Peer Review was commissioned by a resident located at 77 Undercliff Road through McKee Legal Solutions.

Upon reviewing the RSA document, PWNA have found substantial and fundamental issues as well as inconsistencies in undertaking Acoustic Assessments by RSA. The Peer Review documents shows a lack of understanding of the correct methodology which is adopted by the Acoustic Consulting Industry in the state of New South Wales (NSW), and a misunderstanding in the application of the relevant noise criteria outlined currently in the NSW Noise Framework.

A detailed review of the issues contained in the peer review conducted by RSA (RCA) are provided below.

Item 1 – Ambient Noise Assessment and Criteria

RSA Comment:

2.1 Ambient Noise Assessment and Criteria

Section 4 refers to the ambient noise levels recorded in accordance with the EPA's Noise Policy for Industry 2017 (NPfI) and presents the results of the day, evening and night ambient noise levels.

Table 2 presents the octave band ambient noise levels for the day, evening and nighttime. The NSW liquor and Gaming (LG) criteria is referenced, however the results from table 2 do not reflect the correct times of day for this assessment. The L&G noise criteria refers to a daytime period from 7:00am to 12:00am (midnight) and night time period from 12:00am (midnight) to 7:00am. The correct time periods must be calculated and updated in this table.

Section 5 presents the noise criteria for the proposed changes to the licensed venue. EPA's Noise Policy for Industry 2017 (NPfI) should only be used to assess noise emissions from mechanical, industrial and carpark activities.

Section 5.1.2.3 presents the sleep disturbance noise criteria and concluded that a RBL+ 15 dB = 70 dB(A) is to be used as the limiting noise criteria. The noise criteria presented is incomplete, the correct noise criteria in accordance with the NPfI Section 2.5 has to be assessed as follows:

- *$L_{Aeq,15min}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or*
- *L_{AFmax} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater, a detailed maximum noise level*

The correct noise levels and descriptor must be revised and presented in a revised report.

Section 5.1.3 presents the L&G noise criteria based on the ambient noise survey carried out. Table 5 presents the derived noise criteria for three time periods. This is not correct as the L&G guidelines require a day and night time, additionally the octave band frequency criteria must be presented in A weighted form as per AS1055 – 2018 and after the threshold of hearing correction has been applied. The noise criteria must be revised.

PWNA Response

- No response is required to Paragraph 1.
- Paragraph 2:
  - As RSA undertake acoustic assessments in NSW, they should be aware that the determination of Rating Background Noise Levels (RBL's) in New South Wales is undertaken in accordance with the NSW EPA *Noise Policy for Industry (NPI) 2017* – a NSW EPA document.
  - As shown in the extract below, it is clear that the time periods assessed under the NPI are associated with the Day, Evening and Night periods. See extract below.

Figure 1 Extract – NSW EPA Noise Policy for Industry (NPI) 2017 – Notes below Table 2.1

Noise Policy for Industry

Active recreation area (e.g. school playground, golf course)	All	When in use	55
Commercial premises	All	When in use	65
Industrial premises	All	When in use	70
Industrial interface (applicable only to residential noise amenity areas)	All	All	Add 5 dB(A) to recommended noise amenity area

Notes: The recommended amenity noise levels refer only to noise from industrial sources. However, they refer to noise from all such sources at the receiver location, and not only noise due to a specific project under consideration. The levels represent outdoor levels except where otherwise stated.

Types of receivers are defined as follows:

- rural residential – see Table 2.3
- suburban residential – see Table 2.3
- urban residential – see Table 2.3
- industrial interface – an area that is in close proximity to existing industrial premises and that extends out to a point where the existing industrial noise from the source has fallen by 5 dB or an area defined in a planning instrument. Beyond this region the amenity noise level for the applicable category applies. This category may be used only for existing situations (further explanation on how this category applies is outlined in Section 2.7)
- commercial – commercial activities being undertaken in a planning zone that allows commercial land uses
- industrial – an area defined as an industrial zone on a local environment plan; for isolated residences within an industrial zone the industrial amenity level would usually apply.

Time of day is defined as follows:

- day – the period from 7 am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays
- evening – the period from 6 pm to 10 pm
- night – the remaining periods.

(These periods may be varied where appropriate, for example, see A3 in Fact Sheet A.)

In the case where existing schools are affected by noise from existing industrial noise sources, the acceptable L_{Aeq} noise level may be increased to 40 dB $L_{Aeq(1hr)}$.

- Further to this, it is also the industry accepted practice that when conducting acoustic assessments for other NSW noise policies outside the NPI (like the NSW Liquor and Gaming), the methodologies outlined in the NSW EPA NPI for determining RBLs are adopted.

- RSA suggestion that the time periods reflected in the NSW EPA NPI 2017 are not suitable is incorrect.

- Furthermore, this suggestion by RSA about time periods being incorrect is not consistent with general industry practice. This is demonstrated by referencing other acoustic assessments by reputable acoustic consulting firms for licensed premises in NSW; see below.

    - ARUP Acoustic Consulting – 388 George Street, Sydney.

    - Renzo Tonin & Associates – 533-535 Princes Highway, Kirrawee.

Figure 2 **Extract – 388 George Street, Sydney – ARUP Acoustic Report**

Table 3: L_{A90} octave band attended noise survey results

Location	Time Period	$dBL_{90,\ 15min}$ – Octave band centre frequency (Hz) dBZ								
		31.5	63	125	250	500	1k	2k	4k	8k
NM1	Day	70	67	67	65	62	60	56	49	36
	Evening	63	63	64	62	59	56	52	44	33
	22:00hrs – 00:00hrs*	63	63	64	62	59	56	52	44	33
	Night	60	62	65	62	57	54	49	42	32

*Calculated RBL for this time period is the same as the calculated RBL for the evening period

Figure 3 **Extract – 533-535 Princes Highway, Kirrawee – Renzo Tonin Acoustic Report**

4.2 Project noise goals

The octave band noise goals set out in Table 4 below have been established from measured noise levels set out in Section 4.1. The shorter time periods of 10pm-11pm and 11pm-12midnight have been used to assess varied operational scenarios during those specific time periods. The day and evening periods are consistent with the NSW EPA standard assessment time periods.

Table 4: OLGR noise goals

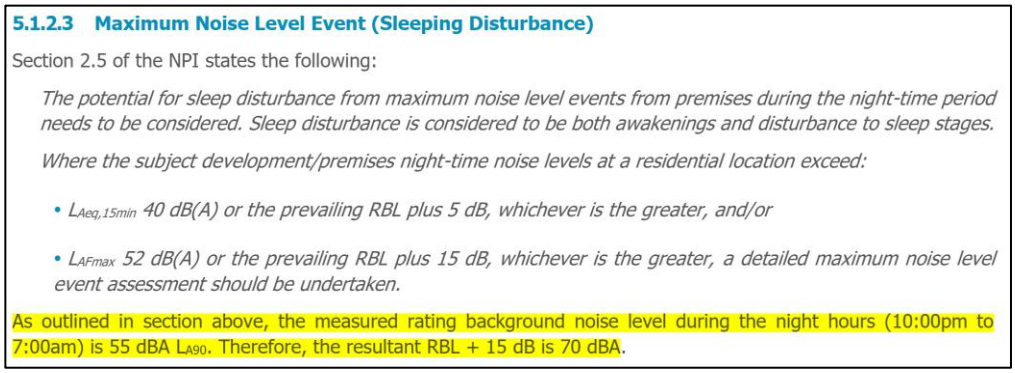
Assessment period	Octave band centre frequency - Hz (dBZ)								
	31.5	63	125	250	500	1k	2k	4k	8k
Location A1, A2									
Day (7am - 6pm)	64	66	59	55	51	52	48	41	31
Evening (6-10pm)	58	61	55	51	48	51	47	40	29
10-11pm	55	59	52	48	43	46	42	37	28
11-12pm	52	56	49	43	39	43	39	34	28

- As shown in the extracts above, Rodney Stevens Acoustic application of NSW Liquor and Gaming requirements and determination of RBLs are incorrect, as evident above.

- Therefore, Table 2 of the PWNA submission remains correct.

- Paragraph 3:
    - A lack of understanding of the site and associated development application is evident in the RSA comment. The site does not contain any "industrial" or "carparks".
    - In relation to the mechanical plant, compliance is already achieved. Again, no alterations to this existing system are currently proposed.
    - No further comment required.
- Paragraph 4 & 5:
    - The criteria are not incomplete. Refer to the report and the extract provided below.
    - No further comment required.

Figure 4 Extract – PWNA Pilu Acoustic Assessment



5.1.2.3 Maximum Noise Level Event (Sleeping Disturbance)

Section 2.5 of the NPI states the following:

The potential for sleep disturbance from maximum noise level events from premises during the night-time period needs to be considered. Sleep disturbance is considered to be both awakenings and disturbance to sleep stages.

Where the subject development/premises night-time noise levels at a residential location exceed:

- $L_{Aeq,15min}$ *40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or*
- L_{AFmax} *52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater, a detailed maximum noise level event assessment should be undertaken.*

As outlined in section above, the measured rating background noise level during the night hours (10:00pm to 7:00am) is 55 dBA L_{A90}. Therefore, the resultant RBL + 15 dB is 70 dBA.

- Paragraph 5:
    - In relation to the first two (2) sentences, PWNA have shown that RSA are fundamentally incorrect in their understanding of the correct methodology for licensed premises assessments in NSW. No further comment required.
    - In relation to their commentary around A-Weighting:
        - Like above, a lack of understanding is evident in their response. As per Figure 3 (ARUP report) and Figure 2 (Renzo Tonin Report) above, it is common industry knowledge that octave band assessments are done in a Z-weighting and have a broadband A-weighting applied for the overall level.
        - Nowhere in AS1055:2018 "*Acoustics—Description and measurement of environmental noise*" does it suggest that noise level spectrum data should be provided as A-weighted levels.
        - Based on this, RSA are incorrect in their statement.
        - No further comment required.
    - Regarding the threshold of hearing, RSA should refer to ISO 226 which shows the threshold of hearing in octave bands in Z-weighting (in line with commentary above).

- No further comment required.

Item 2 – Noise Impacts and Assessment

RSA Comment:

Section 6 presents the noise levels generated by the licensed venue. The noise levels from patrons and music have been based on PWNA's data base and previous attended noise measurements. PWNA is a member firm of the Association of Australasian Acoustical Consultants (AAAC). It is unclear why the AAAC Licensed Premises Guideline v2 - Nov 2020 was not used for this assessment. The AAAC Licensed Premises Guideline v2 - Nov 2020 provides methodology for assessing licensed venues, it provides information to cover the following key areas:

- *Patron sound level data which will be useful in predicting noise emissions from groups of people in various situations including, restaurants, small outdoor drinking/smoking areas, poker machine areas, beer gardens and nightclubs.*
- *Typical music sound level data within venues and measures to minimise and limit music noise breakout.*

The AAAC guideline must be used for this assessment. All noise generating activities must be revised and the new outcomes must be presented. Figure 1 presents the layout of the existing venue, it can be seen that it has multiple internal and external areas. The scenarios presented in Section 6.1.2 provide insufficient information and are not representative of a real event. For example, the venue has 4 different external areas. Detailed scenarios, including the number of patrons, activities carried out and any other relevant noise generating activity i.e. live bands, DJs and the effect of door being open must be clearly detailed.

The venue is proposing to operate until 12:00am, the is no information regarding the closing procedures of the venue. It is likely that activities such as patrons leaving, cleaning and general closing will occur past 12:00am. The assessment does not look into this possibility.

A sleep disturbance assessment has not been carried out. The licensed venue will operate during part of the night time period with vehicles leaving the premises and the operation of the mechanical plants and equipment.

Tables 8 and 9 present the resulting noise levels at the southern receivers however the receivers to the north west have not been taken into consideration.

Additionally, the results presented in these tables are likely to change once the revised noise criteria and noise levels have been used.

The recommendations provided in Section 6.1.3 must be revised once the new assessment has been carried out.

PWNA Response

- Regarding paragraph 1:
  - RSA are correct in stating that PWNA is a member firm of the AAAC. PWNA also note that RSA are **not** a member of AAAC.
  - Furthermore, since RSA is not a member of the AAAC, it is unclear why they are suggesting that the AAAC Licensed Premise Guideline must be used.

- The fact that PWNA are members of the AAAC does not mean that it is mandatory for this Guideline to be used for licensed premises assessments where relevant legislation (Council DCP, NSW Liquor and Gaming) does not specifically request its implementation. PWNA often does use the methodology in this document for the assessment of licensed premises where it is considered useful and relevant.

- Current the Northern Beaches Council DCP/LEPs and NSW Liquor and Gaming requirements do not request its use in the assessment of licensed premises, therefore no further comment on this point is required.

- Regarding paragraph 2:
  - Refer to the discussion above.
  - No further comments are required.

- Regarding Paragraph 3:
  - Refer to the comments above.
  - Furthermore, RSA contradict themselves in their assessment methodology. In numerous acoustic reports written by RSA, the AAAC guidelines have not been adopted. This is a double standard that potentially suggests a disingenuity in their approach to this peer review. See examples below.
  - Note: interestingly the RSA extracts shown below also show un-weighted octave band noise levels and not A-weighted octave band levels that the suggest should be used.

Figure 5 Extract – Rodney Stevens Acoustics – 72 Laycock Street, Bexley – Acoustic Report

5.1 Typical Patron Vocal Levels

Calculations of the amount of noise transmitted to these receivers from patrons at the proposed development have been based on voice levels as referenced in the Handbook of Acoustical Measurements and Noise Control by Cyril M. Harris. This handbook provides voice spectrums for males and females as well as different vocal efforts. The spectrum is given in Table 5-1.

The spectra have been scaled based upon the overall number of patrons expected to be in the respective areas at any given time

Table 5-1 Speech Spectrums - Handbook of Acoustical Measurements and Noise Control.

Type	Noise Level (dB) at Octave Band Centre Frequency (Hz)							Overall dB(A)
	125	250	500	1 k	2 k	4 k	8 k	
Male (Raised)	53	59	64	58	54	49	43	64
Female (Raised)	35	55	60	58	54	49	43	62

Figure 6 Extract – Rodney Stevens Acoustics – Lot 31 Wharf C, Honeysuckle Drive Newcastle – Acoustic Report

5.1 Patron Noise Assessment

The proposed additions to the Hotel will see an addition of up to 96 patrons. Calculations of noise transmitted from Honey Suckle Hotel have been made based on a typical patron sound power spectrum as based on the sound power levels derived from Table 16.1 in "*Handbook of Acoustical Measurements and Noise Control*" by C.M. Harris. Harris documents a typical casual male voice being 53 dBA at 1 m, a typical normal voice is 58 dBA at 1 m, a typical raised voice is 65 dBA at 1 m, a typical loud voice is 75 dBA at 1 m and shouting is 88 dBA at 1 m. Applying a standard conversion of + 8 dBA to convert sound pressure level at 1 m to a sound power level, the sound power level of a typical raised voice equates to 78 dBA.

Table 5-1 outlines the sound power spectrum of a patron talking with a raised vocal effort.

Table 5-1 Typical Sound Pressure Level of 1 Person with Normal Voice at 1m – Lp

Scenario	Resultant Noise Level per Octave Band (dB)								Overall (dBA)
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
1 Patron – Normal Voice	58	48	51	54	46	41	39	35	58

This spectrum and overall noise level is believed to be a reasonable approximation of the typical scenario that could be expected from patrons using the outdoor dining area.

Figure 7 Extract – Rodney Stevens Acoustics – 72 Laycock Street, Bexley – Acoustic Report

5.1 Typical Patron Vocal Levels

The following sections summarise the results of patron and music noise assessment and predicted levels at nearby receivers as a result of the operation of the proposed alterations and additions (see Figure 2-1 and Figure 2-2).

Calculations of the amount of noise transmitted to these receivers from the proposed additions have been based on voice levels as referenced in the Handbook of Acoustical Measurements and Noise Control by Cyril M. Harris. This handbook provides voice spectrums for males and females as well as different vocal efforts. The spectrum is given in Table 5-1.

The spectra have been scaled based upon the overall number of patrons expected to be in the respective areas at any given time

Table 5-1 Speech Spectrums - Handbook of Acoustical Measurements and Noise Control.

Type	Noise Level (dB) at Octave Band Centre Frequency (Hz)						
	125	250	500	1 k	2 k	4 k	8 k
Male (Raised)	53	59	64	58	54	49	43
Female (Raised)	35	55	60	58	54	49	43

Figure 8 Extract – Rodney Stevens Acoustics – 3020 Old Hume Highway, Berrima – Acoustic Report

5.3 Restaurant, Chapel and Meeting Rooms – Patron and PA

Calculations of noise transmitted from the proposed developments have been made based on a typical patron sound power spectrum as based on the sound power levels derived from Table 16.1 in "*Handbook of Acoustical Measurements and Noise Control*" by C.M. Harris. Harris documents a typical casual male voice being 53 dBA at 1 m, a typical normal voice is 58 dBA at 1 m, a typical raised voice is 65 dBA at 1 m, a typical loud voice is 75 dBA at 1 m and shouting is 88 dBA at 1 m. Applying a standard conversion of + 8 dBA to convert sound pressure level at 1 m to a sound power level, the sound power level of a typical raised voice equates to 78 dBA.

Rodney Stevens Acoustics
Report Number R170103DR1
Revision 1

S 4.55 for Development Application for Expansion of Existing Tourist Facilities
Bendooley Estate, 3020 Old Hume Highway, Berrima NSW 2577

Page 8

Table 5-1 outlines the sound power spectrum of a patron talking with a raised vocal effort.

Table 5-1 Typical Sound Power Level of 1 Person with Raised Voice - Lw

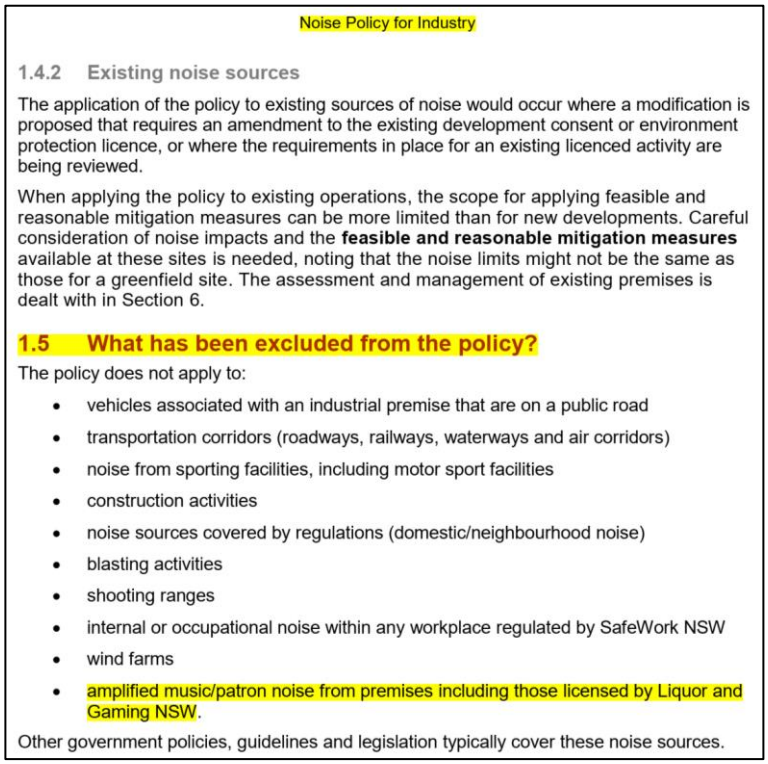
Scenario	Resultant Noise Level per Octave Band (dB)								Overall (dBA)
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
1 Patron – Raised Voice	58	59	69	76	74	68	64	55	67

- More importantly, the assumed noise levels adopted by PWNA for a single patron talking are higher in all cases than those adopted by RSA.
- No further comments are required.

- Regarding Paragraph 4:
  - RSA are directed to section 6.1.2 and 6.1.3 of the report. This is provided.
  - No further comments are required.
- Regarding Paragraph 5:
  - The comments from RSA are….

    "The venue is proposing to operate until 12:00am, the is no information regarding the closing procedures of the venue. It is likely that activities such as patrons leaving, cleaning and general closing will occur past 12:00am. The assessment does not look into this possibility."

  - The Development Application seeks operation until 12:00am – Midnight (not after). An assessment of activities is not required after the venue has closed as there will not be any significant activity after closing time.
  - No further comments are required.
- Regarding Paragraph 6:
  - A Sleeping Disturbance assessment is not relevant to Activity Noise. The NSW EPA NPI is noticeably clear on this matter. RSA should refer to Section 1.2 of the NSW EPA NPI 2017. An extract is provided below for their convenience.



Noise Policy for Industry

1.4.2 Existing noise sources

The application of the policy to existing sources of noise would occur where a modification is proposed that requires an amendment to the existing development consent or environment protection licence, or where the requirements in place for an existing licenced activity are being reviewed.

When applying the policy to existing operations, the scope for applying feasible and reasonable mitigation measures can be more limited than for new developments. Careful consideration of noise impacts and the **feasible and reasonable mitigation measures** available at these sites is needed, noting that the noise limits might not be the same as those for a greenfield site. The assessment and management of existing premises is dealt with in Section 6.

1.5 What has been excluded from the policy?

The policy does not apply to:

- vehicles associated with an industrial premise that are on a public road
- transportation corridors (roadways, railways, waterways and air corridors)
- noise from sporting facilities, including motor sport facilities
- construction activities
- noise sources covered by regulations (domestic/neighbourhood noise)
- blasting activities
- shooting ranges
- internal or occupational noise within any workplace regulated by SafeWork NSW
- wind farms
- amplified music/patron noise from premises including those licensed by Liquor and Gaming NSW.

Other government policies, guidelines and legislation typically cover these noise sources.

  - As a Sleeping Disturbance Assessment (formally referred to a *Maximum Noise Level Event Assessment* in the Policy) is a NSW EPA NPI 2017 requirement, it is not relevant in this assessment.
  - No further comments are required.

- Regarding Paragraph 7:
  - Compliance is achieved at neighbouring properties within 25m of the site. The receivers RSA are referring to receivers which are located 80m to the west and 275m to the north.
  - Its unclear why RSA believe these receivers would be non-compliant when noise levels at the closest receivers is acceptable.
  - The current assessment assesses noise to the worst-case residential receivers.
  - Furthermore, no amendment to the assessment is required as per the discussion above. PWNA have undertaken the assessment correctly. The methodologies suggested by RSA are incorrect.
  - No further comments are required.

In summary, the Peer Review which has been conducted by RSA is fundamentally inaccurate. It suggests methodologies and reporting requirements which are inconsistent with best practice. Furthermore, their comments show a lack of understanding of the current NSW Noise Framework and its associated application.

Based on the fact that the acoustic assessment shows full compliance with the applicable assessment guidelines, the statements provided by RSA to the contrary are incorrect. The acoustic assessment undertaken by PWNA is fully compliant with the requirements of Northern Beaches Council.

Finally, a review of the information contained in the Objection from McKees Legal Solution notes that they have been engaged by the neighbours of 77 Undercliff Road, Freshwater. The assessment that RSA has conducted at no point discusses any impacts to the property located at 77 Undercliff Road, Freshwater. As such, it is not clear what the intended purpose of their Peer Review is. For reference, full compliance with current NSW Noise Policies and Noise Framework is achieved at 77 Undercliff Road, Freshwater.

Furthermore, we note inaudibility is only required after midnight under the current NSW Liquor and Gaming Requirements. The information outlined by McKees notes that events are audible at their location. We do not doubt this; however, a Background + 5dBA requirement (as required by NSW Liquor and Gaming) does not equate to inaudibility – it means 5dBA above the rating background noise level (RBL) for the relevant time-period. As such, noise from events may at times be audible and still be acceptable.

If you have any additional questions, please contact us should you have any further queries.

Regards,

Matthew Furlong
Principal Acoustic Engineer
PULSE WHITE NOISE ACOUSTICS PTY LTD

Appendix D – Northern Beaches Council Environmental Health Referral Response – (DA2024/0946) – 23rd August 2024

beaches council

Environmental Health Referral Response - industrial use

Application Number:	DA2024/0946
Proposed Development:	Use of the premises as a restaurant including ancillary use as a function centre
Date:	23/08/2024
To:	Jordan Davies
Land to be developed (Address):	Lot B DP 329073 , 80 Undercliff Road FRESHWATER NSW 2096

Reasons for referral

This application seeks consent for large/and or industrial development.

And as such, Council's Environmental Investigations officers are required to consider the likely impacts.

Officer comments
General Comments

The DA seeks approval for the following:
To authorise the use of the site as a restaurant, and to formalise the detailed operations of the existing venue under an accompanying Plan of Management, including any necessary BCA and fire-related upgrades.
Operating Hours
• 10am – 12am (midnight), Monday to Saturday
• 10am – 10pm Sundays. Maximum Indoor Capacity
• 50 patrons in the Pavilion.
• 100 patrons in the Main Building.
• 130 patrons maximum may be hosted on the site (at any time).

This appears inconsistent with the Pulse White Noise Acoustics Pty Ltd Acoustic Assessment date 26 March 2024, which states
Predicted noise levels from the operation of the venue in full operation with Live Music between (all patrons and background music) has been predicted. To ensure compliance is achieved, the following recommendations must be implemented:
 No more than 100 patrons in the venue at any one time

a pier review of the acoustic assessment report by an external consultant states:
PWNA's methodology, establishment of noise criteria and noise levels used for calculation purposes are not satisfactory for the assessment of noise for this type of venue. The findings of PWNA's report show that under their proposed scenarios the licensed venue has the potential to comply with the noise criteria. This is based on the incorrect noise criteria used (Refer to Section 2.1). The noise levels used for the assessment of the licensed venue must be based on the AAAC guidelines.
It is our opinion that new noise assessment must be carried out. The noise criteria must be revised to reflect the correct time periods as per LG's requirements.
The new assessment should be based on the noise levels contained in the AAAC guidelines for activities taking place at the venue while operating at full capacity.
The resulting noise levels from the use of the licensed venue must be compared to the relevant noise

criteria including sleep arousal, patrons and vehicle movements.
Clarification on the use of background music/PA system must be provided. It can be difficult to control noise from live performances taking place outdoors as musicians are likely to bring their own equipment that will not be connected the in house sound system. Details of the types of live performances allowed i.e, duets, string quartets, etc. must be provided, all instruments and microphones must be connected to the in house sound system. The in house system must be calibrated to ensure compliance to noise criteria. Any noise mitigation measures required for such performances must be clearly detailed.
Section 6.1.3 of PWNA's report provides a number of recommendations, these must be reviewed and updated

Council accepts that acoustic assessments on yet to be operated venues/areas are theoretical assessments usually to be certified at operational time and adjustments made if necessary to operations; however the issues raised in the Pier Review should be referred back to the applicant for clarification.

We further note that we express concerns about any "outdoor " activity past 10pm any day due to neighbouring residential receivers and that restriction of activities inside the building and managing leaving guests (particularly following a wedding) will be difficult to manage and enforce .This is mainly in regard to "offensive noise" from potential shouting, yelling from an event which is sporadic and difficult to adequately manage.

Therefore Environmental Health can not recommend approval or conditions at this time.

Recommendation

REFUSAL

The proposal is therefore supported.

Note: Should you have any concerns with the referral comments above, please discuss these with the Responsible Officer.

Recommended Environmental Investigations Conditions:

Nil.