

MEMORANDUM



240238-50-88 Parraween St, Cremorne_Acoustic Review-R0

TO: Sagarika Sanjay
COMPANY: Skermanic Pty Ltd
FROM: Ben White
SUBJECT: Revised Desing- Acoustic Review

DATE: 1 July 2024

Pathways Cremorne, 50-88 Parraween Street and 59-67 Gerard Street, Cremorne

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1 INTRODUCTION

This report details the acoustic assessment and submission for alterations to the Pathways Cremorne project located at 50-88 Parraween Street and 59-67 Gerard Street, Cremorne.

As part of the proposed alterations to the project an acoustic assessment of the development has been undertaken including the revised design and the previously completed acoustic assessment.

2 PROJECT DETAILS

The project includes a seniors living development which is located at 50-88 Parraween Street and 59-67 Gerard Street, Cremorne. The project includes consists of seniors living development with basement carparking with four separate multi story buildings as well as additional cottages and associated common and services areas.

Details of the site location are included in the figure below.



Figure 1 – Site Location Details

As part of the proposed alterations to the proposed development on the site the acoustic assessment has included the following:

- The previously undertaken acoustic assessment of the site, including the PWNA *Pathways Cremorne Seniors Housing, Noise Impact Assessment for SSDA* with reference 230040-Pathways Cremorne Seniors housing Noise Impact Assessment-SSDA-R3 and dated 7/12/2023.
- The proposed alterations to the design of the project including those detailed within the MDP Architecture drawings with Project number 3236 and dated 14/6/2024. Details of the proposed ground floor of the project are included in the figure below.

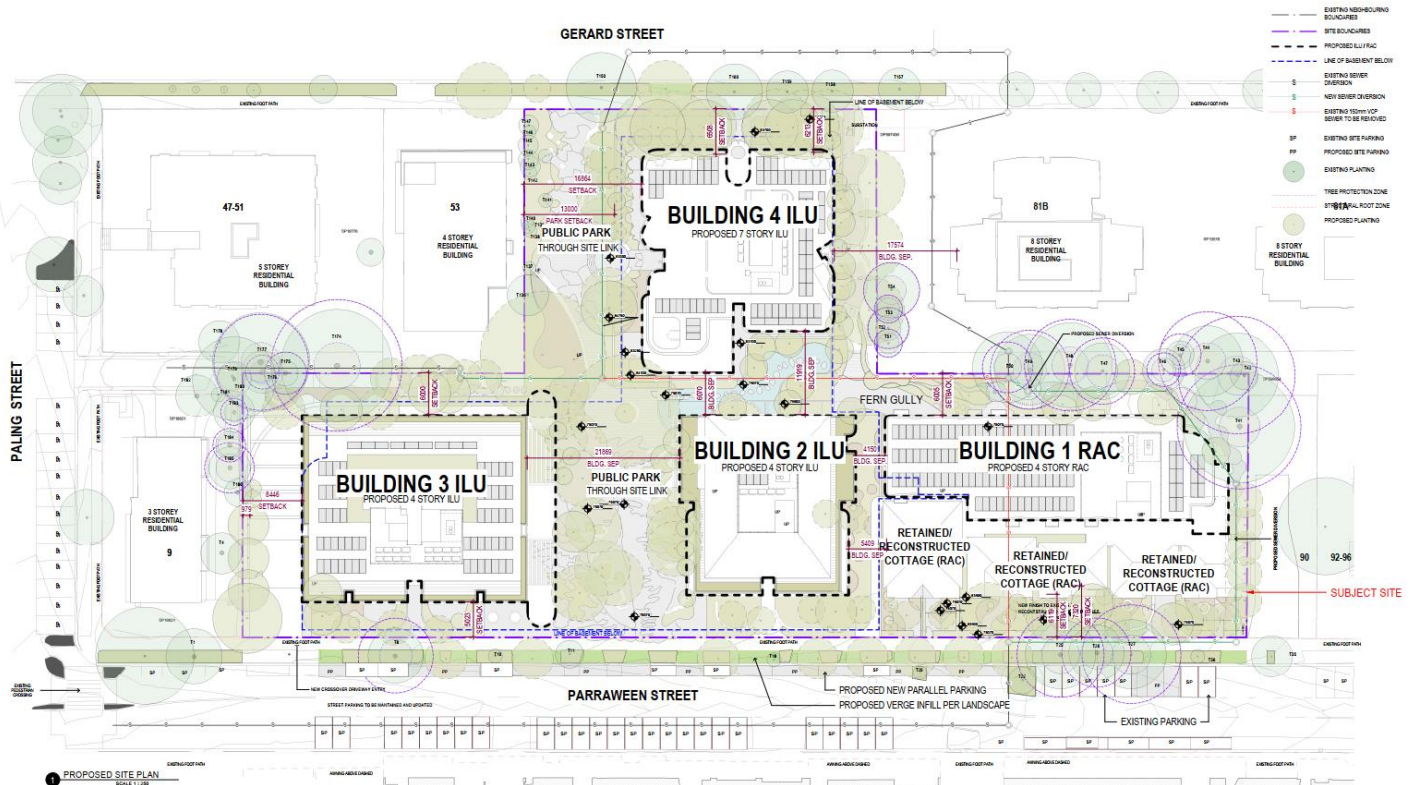


Figure 2 – Proposed Site Plan of the project

The proposed alterations to the design of the project includes the following:

- Building 4 - No change to currently documented building design.
- Building 3 - Design alterations to the architectural layouts of the building.
- Building 2 - Design alterations to the architectural layouts of the building, including the incorporation of the cottages in the site to be included within the new building.
- Building 1 - Design alterations to the architectural layouts of the building including the reuse of the existing buildings on the site including those located at 78-88 Parraween Street to include residential accommodation.

3 PROPOSED DESIGN CHANGES

This assessment details an acoustic review of the proposed design modifications included in the design modifications to the project, including those detailed within the MDP Architecture drawings with Project number 3236 and dated 21/4/2024.

A summary of the proposed changes to the project and the resulting impact on the acoustic performance and design of the development are detailed in the section above and discussed below.

1. Based on the proposed alterations to the project, including those detailed in Section s above and the architectural drawings, the relevant acoustic performance requirements and constructions included within the PWNA *Pathways Cremorne Seniors Housing, Noise Impact Assessment for SSDA* with reference 230040-Pathways Cremorne Seniors housing Noise Impact Assessment-SSDA-R3 and dated 7/12/2023 remain accurate for the site.

The exiting projects approvals and acoustic design will be acoustically acceptable based on the details included within the PWNA *Pathways Cremorne Seniors Housing, Noise Impact Assessment for SSDA* Revision 3 includes the required external noise emission requirements as well as the internal noise levels criteria which the building performance is required to comply with.

5 CONCLUSION

This report details the acoustic assessment and submission for alterations to proposed seniors living development located at 50-88 Parraween Street and 59-67 Gerard Street, Cremorne.

Based on the details included in the points above, the proposed change to the design of the previously completed acoustic assessment and recommendations included in the PWNA *Pathways Cremorne Seniors Housing, Noise Impact Assessment for SSDA* with reference 230040-Pathways Cremorne Seniors housing Noise Impact Assessment-SSDA-R3 and dated 7/12/2023 remain suitable and accurate for the project.

If you have any additional questions, please contact the author below.

Regards



Ben White
Director
Pulse White Noise Acoustics

APPENDIX A – ACOUSTIC GLOSSARY

The following is a brief description of the acoustic terminology used in this report.

<i>Ambient Sound</i>	The totally encompassing sound in a given situation at a given time, usually composed of sound from all sources near and far.
<i>Audible Range</i>	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.
<i>Character, acoustic</i>	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.
<i>Decibel [dB]</i>	The level of noise is measured objectively using a Sound Level Meter. The following are examples of the decibel readings of every day sounds;
	0dB the faintest sound we can hear
	30dB a quiet library or in a quiet location in the country
	45dB typical office space. Ambience in the city at night
	60dB Martin Place at lunch time
	70dB the sound of a car passing on the street
	80dB loud music played at home
	90dB the sound of a truck passing on the street
	100dB the sound of a rock band
	115dB limit of sound permitted in industry
	120dB deafening
<i>dB(A)</i>	<i>A-weighted decibels</i> The ear is not as effective in hearing low frequency sounds as it is hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter. The sound pressure level in dB(A) gives a close indication of the subjective loudness of the noise.
<i>Frequency</i>	Frequency is synonymous to <i>pitch</i> . Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
<i>Loudness</i>	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
<i>L_{Max}</i>	The maximum sound pressure level measured over a given period.
<i>L_{Min}</i>	The minimum sound pressure level measured over a given period.
<i>L₁</i>	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
<i>L₁₀</i>	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
<i>L₉₀</i>	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L ₉₀ noise level expressed in units of dB(A).
<i>Leq</i>	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
<i>Background Sound Low</i>	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 L _{A90} value
<i>Ctr</i>	A frequency adaptation term applied in accordance with the procedures described in ISO 717.

<i>dB (A)</i>	'A' Weighted overall sound pressure level
<i>Noise Reduction</i>	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
<i>NR Noise Rating</i>	Single number evaluation of the background noise level. The NR level is normally around 5 to 6 dB below the "A" weighted noise level. The NR curve describes a spectrum of noise levels and is categorised by the level at 1000 Hz ie the NR 50 curve has a value of 50 dB at 1000 Hz. The NR rating is a tangential system where a noise spectrum is classified by the NR curve that just encompasses the entire noise spectrum consideration.
<i>R_w</i>	Weighted Sound Reduction Index - Laboratory test measurement procedure that provides a single number indication of the acoustic performance of a partition or single element. Calculation procedures for <i>R_w</i> are defined in ISO 140-2:1991 "Measurement of Sound Insulation in Buildings and of Building Elements Part 2: Determination, verification and application of precision data".
<i>R'_w</i>	Field obtained Weighted Sound Reduction Index - this figure is generally up to 3-5 lower than the laboratory test determined level data due to flanked sound transmission and imperfect site construction.
<i>Sound Isolation</i>	A reference to the degree of acoustical separation between any two areas. Sound isolation may refer to sound transmission loss of a partition or to noise reduction from any unwanted noise source. The term "sound isolation" does not specify any grade or performance quality and requires the units to be specified for any contractual condition
<i>Sound Pressure Level, L_p dB</i>	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.
<i>Sound Power Level, L_w dB</i>	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
<i>Speech Privacy</i>	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.
<i>Transmission Loss</i>	Equivalent to Sound Transmission Loss and to Sound Reduction Index in terminology used in countries other than Australia. A formal test rating of sound transmission properties of any construction, by usually a wall, floor, roof etc. The transmission loss of all materials varies with frequency and may be determined by either laboratory or field tests. Australian Standards apply to test methods for both situations.