

20250114.2/0611A/R2/LJK

6/11/2025

HPG General Pty Ltd
Suite 1
256 Victoria Avenue
CHATSWOOD NSW 2067

Attn: Josh Algie

21-27 Roseville Avenue & 16-24 Lords Street, Roseville - Acoustics - Repsonse to Request for Additional Information**1 INTRODUCTION**

Acoustic Logic have been engaged to provide acoustic consultancy services in relation to the proposed residential development at 21-27 Roseville Avenue and 16-24 Lords Street, Roseville. This letter provides a response to the Department of Planning, Housing and Infrastructure *Request for Additional Information – Residential flat building with in-fill affordable housing at 16-24 Lord Street and 21-27 Roseville Avenue, Roseville (SSD-78996460)* dated 15 July 2025 with respect to noise from rooftop plant and internal acoustic amenity.

2 PLANT NOISE EMISSION**2.1 PROJECT NOISE EMISSION OBJECTIVES**

A summary of the project noise trigger levels determined in accordance with the NSW Environment Protection Authority's (EPA) document Noise Policy for Industry (NPfI) are presented in Table 1.

SYDNEY
9 Sarah St
MASCOT NSW 2020
(02) 8339 8000ABN 98 145 324 714
www.acousticlogic.com.au

The information in this document is the property of Acoustic Logic Pty Ltd 98 145 324 714 and shall be returned on demand. It is issued on the condition that, except with our written permission, it must not be reproduced, copied or communicated to any other party nor be used for any purpose other than that stated in particular enquiry, order or contract with which it is issued.

Table 1 – Project Noise Trigger Levels

Location/Receiver Type	Time	RBL dB(A) L ₉₀	Project Trigger Noise Level (dB(A) L _{eq,15min})		
			Intrusiveness	Amenity	Max Event
R1 Scout Hall	When in Use	n/a	n/a	55	n/a
R2 & R4 - Residential	Day	37	42	53	n/a
	Evening	36	41	43	n/a
	Night	27	32	38	40 L _{eq} 52 L _{max}
R3 & R5 - Residential	Day	38	43	53	n/a
	Evening	37	42	43	n/a
	Night	27	32	38	40 L _{eq} 52 L _{max}
R6 Place of Worship	When in Use	n/a	n/a	40 (int) 50 (ext) ¹	n/a

Notes:

1. The NPfI presents an internal criteria for a place of worship. Assuming a 10 dB loss through an open window, this corresponds to an external criteria of 50 dB(A).



Figure 1 – Site Plan Showing Local Context

	- Project Site		- Active Recreation (Scout Hall)
	- Residential Receivers		- Place of Worship

These project noise trigger levels apply to noise emission from fixed mechanical plant within the proposed development and are applicable to the rooftop mechanical plant.

2.2 PROPOSED PLANT

It is noted that the Noise and Vibration Impact Assessment includes the following statement:

Residential condensers: The project may include residential condenser units which will be located on condenser farms on each floor or balconies. Providing condenser equipment is selected using suitable noise level data, then acoustic treatments can be implemented such as screening, enclosures, and treatment to exhaust to ensure that the relevant noise emission criteria will be achieved.

The proposed development is not intended to have condenser units located on balconies. The residential condenser units are proposed to be located in clusters located on the rooftop of each building as indicated on the architectural drawings referenced below.

2.2.1 Preliminary Plant Noise Emission Analysis

Detailed mechanical design and plant selection has not been undertaken at this stage. However, a preliminary assessment has been conducted utilising indicative plant selections based upon the mechanical design of similar developments in the proposed development area.

Noise emitting rooftop plant is expected to comprise of condenser units. The location of these units are shown on the following architectural drawings by FK Australia (FKA):

- 24119 SSDA-108 Rev B 30/10/2025
- 24119 SSDA-109 Rev B 30/10/2025

The number of units per building, indicative selection and associated sound power levels are presented in Table 2.

Table 2 – Mechanical Plant Sound Power Levels, dB

Item		Octave Band Centre Frequency, Hz							
		63	125	250	500	1k	2k	4k	8k
Building A									
CU-1 (46 units)	Daikin RXYMQ5BVM	67	64	63	58	57	54	49	42
CU-2 (23 units)	Daikin RXYMQ6BVM	69	66	67	59	57	54	55	41
CU-3 (7 units)	Daikin RXYMQ9BVM	69	70	67	65	62	59	53	47
Building B									
CU-1 (26 units)	Daikin RXYMQ5BVM	67	64	63	58	57	54	49	42
CU-2 (13 units)	Daikin RXYMQ6BVM	69	66	67	59	57	54	55	41

Item		Octave Band Centre Frequency, Hz							
		63	125	250	500	1k	2k	4k	8k
CU-3 (4 units)	Daikin RXYMQ9BVM	69	70	67	65	62	59	53	47
Building C									
CU-1 (41 units)	Daikin RXYMQ5BVM	67	64	63	58	57	54	49	42
CU-2 (21 units)	Daikin RXYMQ6BVM	69	66	67	59	57	54	55	41
CU-3 (7 units)	Daikin RXYMQ9BVM	69	70	67	65	62	59	53	47

Item		Octave Band Centre Frequency, Hz							
		63	125	250	500	1k	2k	4k	8k
Building D									
CU-1 (42 units)	Daikin RXYMQ5BVM	67	64	63	58	57	54	49	42
CU-2 (21 units)	Daikin RXYMQ6BVM	69	66	67	59	57	54	55	41
CU-3 (7 units)	Daikin RXYMQ9BVM	69	70	67	65	62	59	53	47

2.3 NOISE EMISSION ASSESSMENT

Predicted noise levels at nearby residential receivers are as presented in Table 3.

Table 3 – Predicted Noise Emission from Rooftop Plant

Receiver Location	Predicted Noise Level, dB(A)	Project Noise Trigger Level, dB(A)	Compliance
R1 – Roseville Scout Hall	30	55	Yes
R2 - 19 Roseville Avenue	< 25	42 (Day) 41 (Evening) 32 (Night)	Yes
R2 - 14 Lord Street	< 25		Yes
R3 – 26 Lord Street	25	43 (Day) 42 (Evening) 32 (Night)	Yes
R4 – 22 Roseville Avenue	27	42 (Day)	Yes

Receiver Location	Predicted Noise Level, dB(A)	Project Noise Trigger Level, dB(A)	Compliance
R4 - 24 Roseville Avenue	27	41 (Evening) 32 (Night)	Yes
R5 – 19 Lord Street	27	43 (Day) 42 (Evening) 32 (Night)	Yes
R5 – 21 Lord Street	29		Yes
R5 – 23 Lord Street	28		
R5 – 25 Lord Street	28		
R6 – Place of Worship	25	50	Yes

It should be noted that the predicted noise levels are based on a worst-case scenario of all condenser units operating simultaneously at 100% capacity. This scenario is unlikely to occur and therefore noise levels at receivers from the operation of the rooftop plant are expected to be lower than those presented.

2.4 DISCUSSION

The attenuation provided by the proposed parapets around the edge of each rooftop is predicted to sufficiently mitigate noise from the rooftop condenser units to nearby sensitive receivers. No additional acoustic treatment is required to achieve compliance with the established project noise emission objectives.

As this assessment has been based on indicative plant selections, it is recommended that a cumulative assessment of plant noise sources be conducted during the construction certificate stage to confirm that the final plant selections to be installed meet the project noise emission objectives.

3 INTERNAL ACOUSTIC AMENITY

3.1 PROJECT NOISE INTRUSION OBJECTIVES – AIRBORNE NOISE

The internal noise levels that should be achieved in noise sensitive developments is determined in the State Environmental Planning policy (Transport and Infrastructure) 2021 and the NSW Government Department of Planning document *Development Near Rail Corridors and Busy Roads – Interim Guideline* (DNRCBR). The requirements for a residential development are presented in Table 4. The $L_{eq,15hr}$ descriptor is recommended to assess noise levels in habitable rooms of non-residential development.

Table 4 – DNRCBR Airborne Noise Criteria

Building Use	Room	Noise Level dB(A) L_{eq}
Residential	Sleeping Area (Bedroom)	35 (10pm to 7am)
	Other habitable rooms (excl. garages, kitchens, bathrooms & hallways)	40 (at any time)

The above criteria apply with the windows closed. Where the above criteria are exceeded by more than 10 dB(A) when windows or doors are open, "the design of ventilation for these rooms should be such that

occupants can leave the windows close, if they so desire, and also meet the ventilation requirements of the Building Code of Australia”.

3.2 NOISE INTRUSION ASSESSMENT

Dimensions and locations of windows have been based on the following architectural drawings by FK Australia (FKA):

- 24119 SSDA-200 Rev B 30/10/2025
- 24119 SSDA-201 Rev B 30/10/2025

Representative traffic noise levels have been determined from unattended measurements data using the methodology outlined in Appendix B3 of the NSW EPA *Road Noise Policy* (RNP). These are summarised in Table 5.

Table 5 – Noise Measurement Summary

Noise Monitoring Location	Noise Source	Descriptor/Time Period	Noise Level (dB(A))
1 – 21 Roseville Ave	Roseville Avenue	L _{eq,15hr}	57
		L _{eq,9hr}	46
2 – 24 Lords Street	Lord Street	L _{eq,15hr}	58
		L _{eq,9hr}	49

3.3 GLAZING CONSTRUCTION

Acoustically rated external windows and doors are required. Aluminium framed/sliding glass doors and windows will be satisfactory provided they meet the following criteria.

All external windows and doors listed are required to be fitted with Q-lon type (or equal) acoustic seals. **(Mohair Seals are unacceptable)**. The suitability of alternative seal types should be determined to an appropriately qualified acoustic expert.

The complying construction is listed below

Table 6 – Complying Glazing Constructions

Level	Space	Glazing Construction	Acoustic Seals
All levels	All Facades	6mm Toughened	Yes

Thicker glazing may be required for structural, safety or other purposes. Where it is required to use thicker glazing than scheduled, this will also be acoustically acceptable.

It is recommended that only window systems having test results indicating compliance with the required ratings obtained in a certified laboratory be used where windows with acoustic seals have been recommended.

In addition to complying with the minimum complying glazing construction, the R_w rating of the glazing fitted into openable frames and fixed into the building opening should not be lower than the values listed in the following table. This will require the use of acoustic seals around the full perimeter of open-able frames and the frame will need to be sealed into the building opening using a flexible sealant.

Table 7 – Minimum R_w of Glazing (with Acoustic Seals)

Glazing Assembly	Minimum R_w of Installed Window
6mm float or toughened	30

3.4 DISCUSSION

Windows, Doors and Skylights Closed

The attenuation provided by the glazing construction outlined in Section 3.3 is expected to sufficiently ameliorate traffic noise intrusion to meet the established criteria with the windows, door and other openings in the building envelope closed.

Windows, Doors and Skylights Open

With windows, doors or other openings to a room open to achieve an open area of 5% of the floor area, noise intrusion from traffic may exceed the criteria presented in Table 4 by up to 10 dB(A) without the need for alternative ventilation, such as mechanical ventilation. This corresponds to an internal noise level of 45 dB(A) in any bedroom (10 pm to 7 am) and 50 dB(A) in other habitable rooms (anytime).

Predicted noise levels with an open areas totalling of 5% of the floor area comply with the 50 dB(A) daytime and 45 dB(A) night-time requirements.

The doors, windows and skylights are not require to be closed to maintain the acoustic amenity of apartments facing Lord Street or Roseville Avenue.

Alternative ventilation is therefore not required for the purposes of achieving appropriate traffic noise intrusion levels.

4 CONCLUSION

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

Acoustic Logic Pty Ltd
Laura Keen

