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DURAL HEALTH HUB

ACOUSTIC ASSESSMENT FOR PLANNING PROPOSAL

NØRREBRO DESIGN

3 November 2025

ABN: 18626172361

Doc. Rev 3

Steven Jacobs

JMJ Properties & Projects Pty Limited

ABN 66 601 396 776

614, 8 Elizabeth Macarthur Drive, Bella Vista, NSW 2153

To Whom It May Concern,

Re: Acoustic Assessment for Dural Health Hub Planning Proposal

Thank you for organising the acoustic data gathering, as well as the detailed site survey, unattended acoustic monitoring and analysis performed on site.

This report presents the acoustic measurements results, our acoustic assessment of the adjacent properties and existing noise levels, and the acoustic report to accompany the Dural Health Hub Planning Proposal.

Yours faithfully,

Claudiu Pop
Director | Acoustic Consultant

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1. Introduction

The Planning Proposal seeks to amend the Hornsby Local Environmental Plan 2013 (HLEP 2013) to facilitate the future redevelopment of the site with a Health Services Facility (HSF). Specifically, the Planning Proposal seeks to:

- Amend Schedule 1 to include "Health Services Facility" as an Additional Permitted Use on the site; and
- Introduce a new local provision in Part 6 of the HLEP 2013 to allow development consent for a Health Services Facility with a maximum building height of 15 metres on the site.

This report provides a review of the documentation and regulations pertaining to the planning proposal for a health services facility at 675-685 Old Northern Road, Dural. The site has an area of 5,221m^2 and is located within the Hornsby Shire Local Government Area (LGA).

Figure 1: Site plan

For the purpose of this planning proposal acoustic assessment the following documents have been reviewed:

a. "Dural Health Hub – Site plan", drawing number PP01, revision 3, issued by Cox, dated, 30.10.2025.

b. "Potential Planning Proposal at 675 – 685 Old Northern Road Dural (Dural Health Hub)", issued by Hornsby Shire Council, dated 14.05.2025.

2. Operator Attended Measurements Results

Operator attended measurements were performed at the site, as well as a detailed investigation of the existing sound conditions and propagation away from Old Northern Road.

The measured parameter, **Sound Pressure Level LA_{eq}** is the "equivalent noise level" and is the summation of noise events integrated over a selected period of time. This noise metric is commonly used to correlate noise exposure and human annoyance. LA_{eq} is measured in dB(A) ('A' weighted sound pressure level) due to the fact that the ear is not as effective in hearing low frequency sounds as it is in 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 in is denoted as dB(A). Practically all noise is measured using the A weighting.

The noise survey was conducted with the following instruments:

Equipment	Make	Model No.
Type 1 Sound Calibrator	Bruel & Kjaer - Denmark	4231
Hand Held Analyser	Bruel & Kjaer- Denmark	2250

Table 1: Equipment used in the noise survey

The equipment was calibrated before and after the measurements and no deviations were recorded.

The measurement locations are illustrated below.

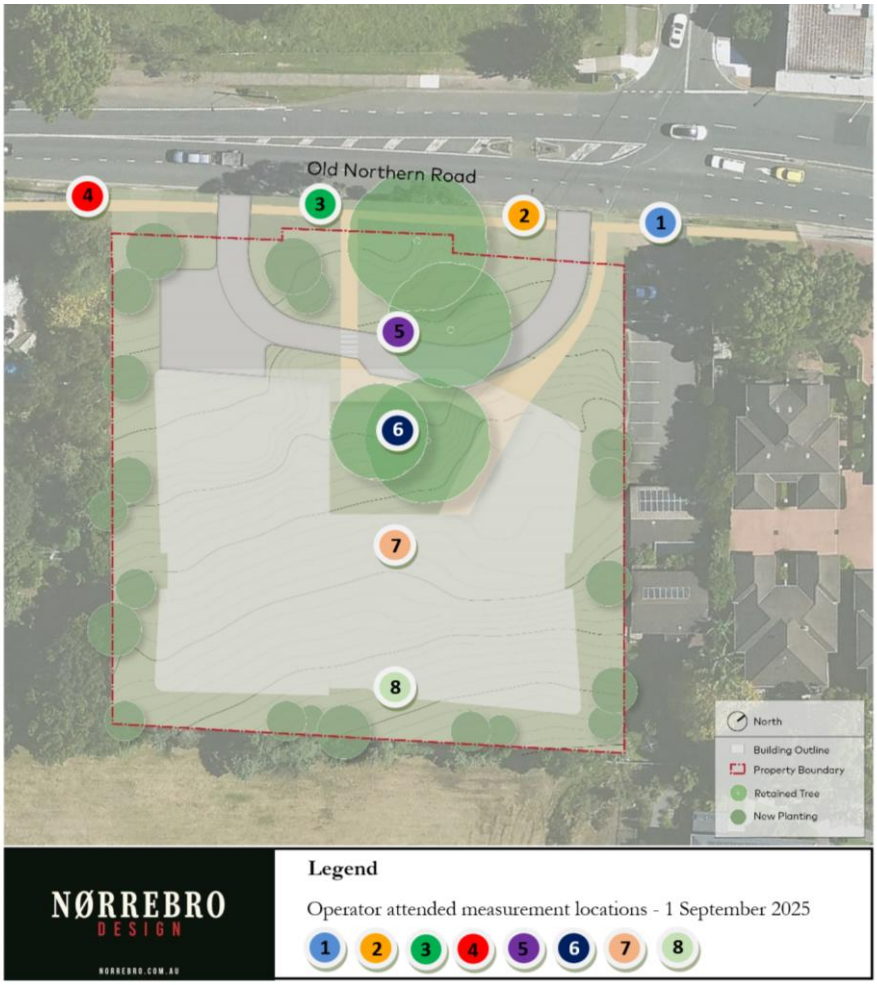

Figure 2: Operator attended measurements locations

The following figures present the measurement set-up at all locations and the table summarises the sound levels and the typical noise sources present during data acquisition.

Figure 3: Measurement location 1

Figure 4: Measurement location 2

Figure 5: Measurement location 3

Figure 6: Measurement location 4

Figure 7: Measurement location 5

Figure 8: Measurement location 6

Figure 9: Measurement location 7

Figure 10: Measurement location 8

The results of the measurements are tabulated below:

Location no.	LAeq (dBA)	L90 (dBA)	Remarks
1	68.8	67.9	Noise dominated by traffic.
2	72.8	67.7	Noise dominated by traffic.
3	67.3	61.0	Noise dominated by traffic.
4	68.9	64.8	Noise dominated by traffic.
5	50.1	47.4	Noise dominated by traffic. Some ambient noise.
6	47.1	45.5	Noise dominated by ambient noise. Some traffic noise.
7	51.8	51.4	Noise dominated by ambient noise (dog barks). Some traffic noise.
8	47.9	44.9	Noise dominated by ambient noise. Traffic noise audible occasionally.

Table 2: Hand held survey results

3. Noise Logger Measurements Results

Noise logger measurements were performed between Monday 25 August 2025 and Monday 1 September 2025.The location of the noise logger is shown in the figures below:

Figure 11: Noise logger location

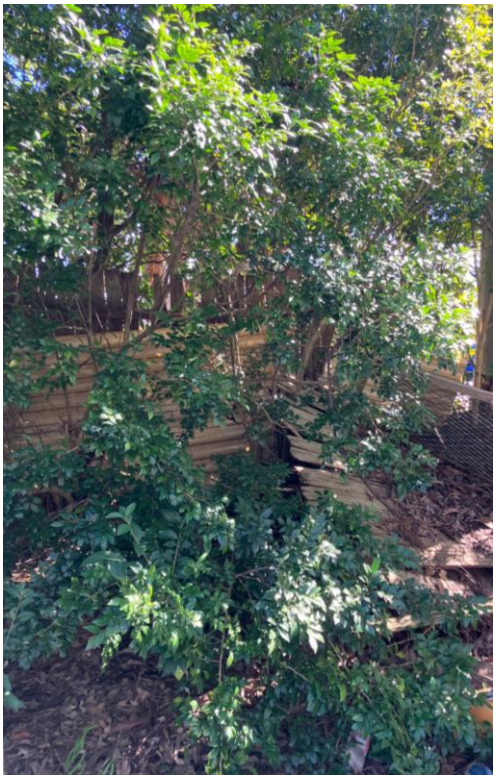

Figure 12: Noise logger location on the property boundary

The results of the logger measurements are shown below:

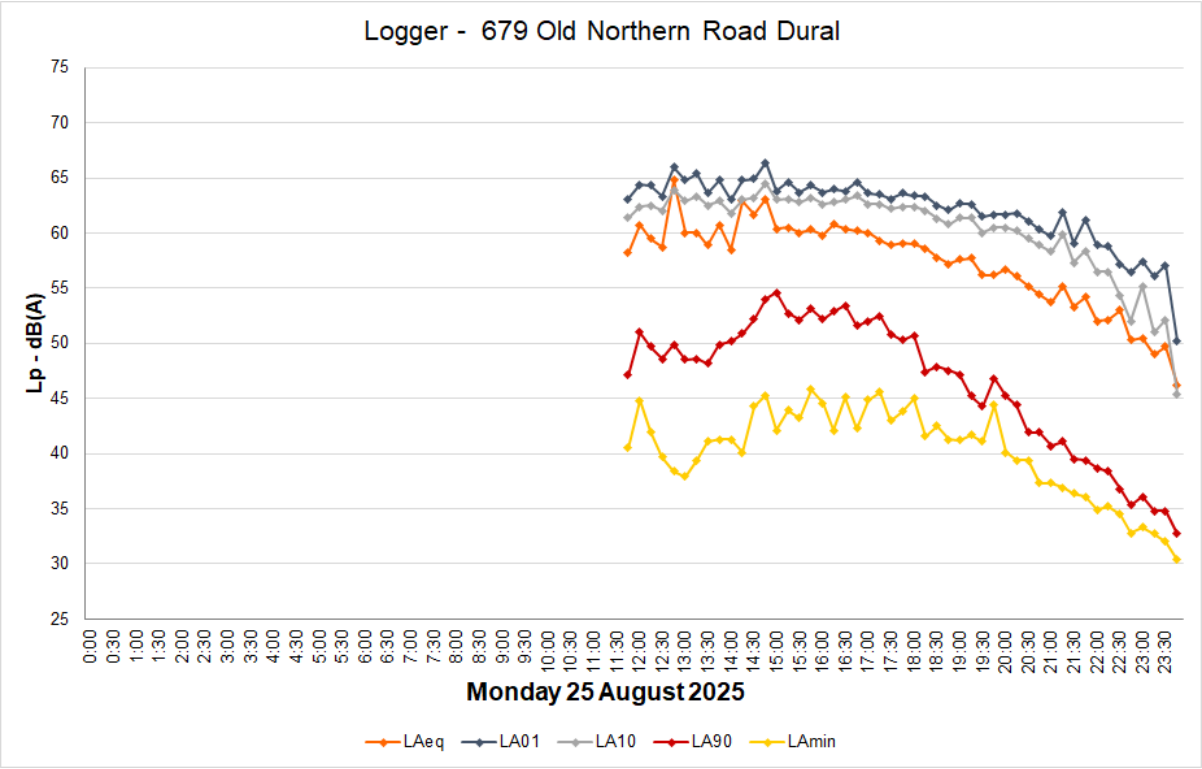

Figure 13: Noise logger plot for day 1

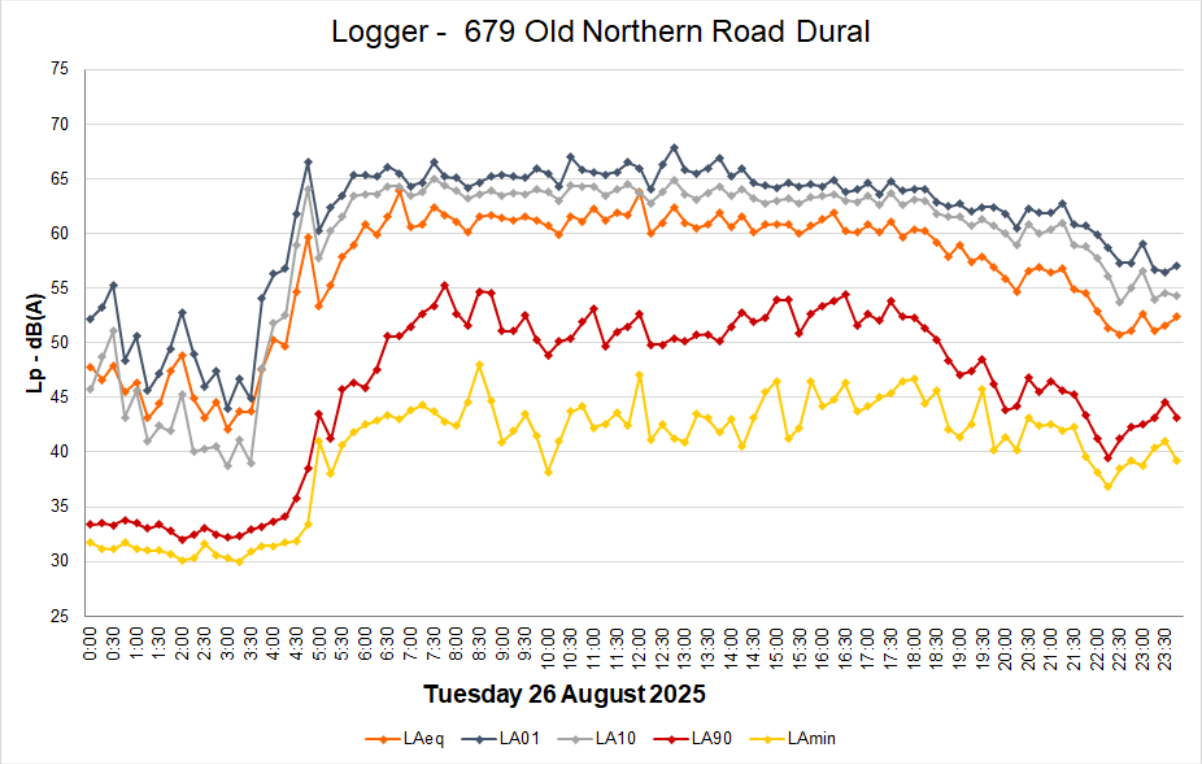

Figure 14: Noise logger plot for day 2

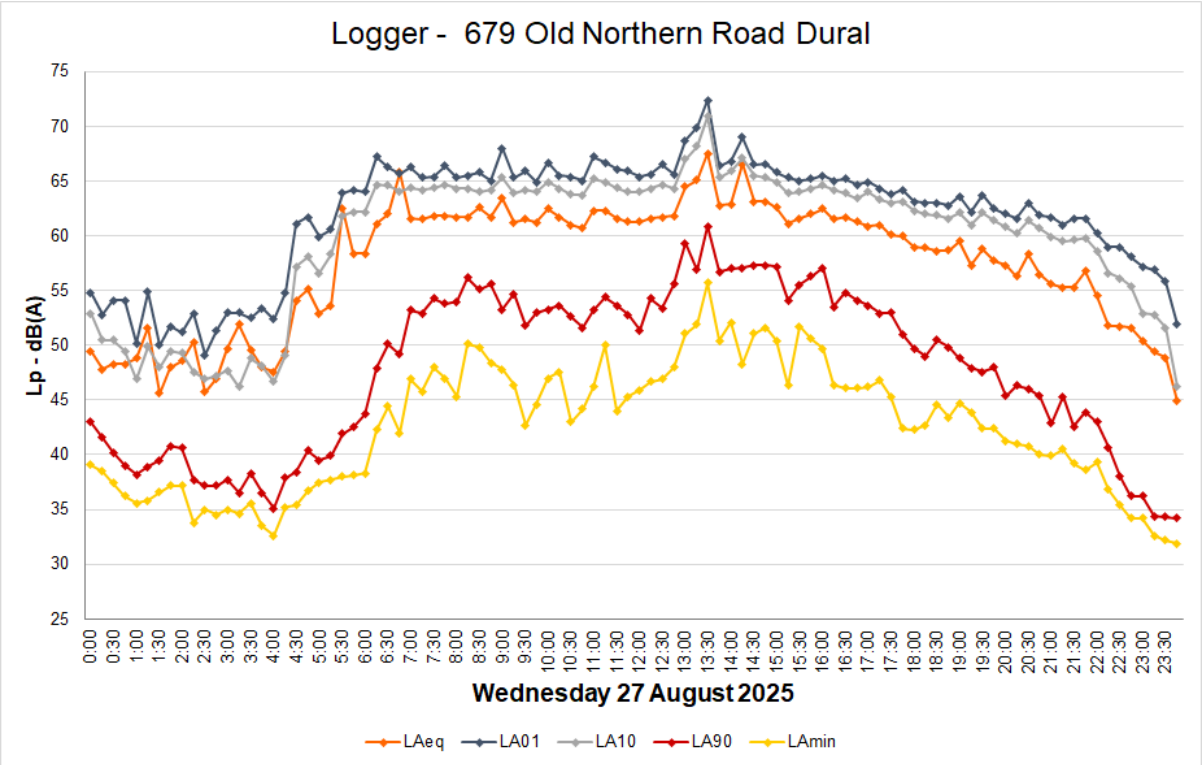

Figure 15: Noise logger plot for day 3

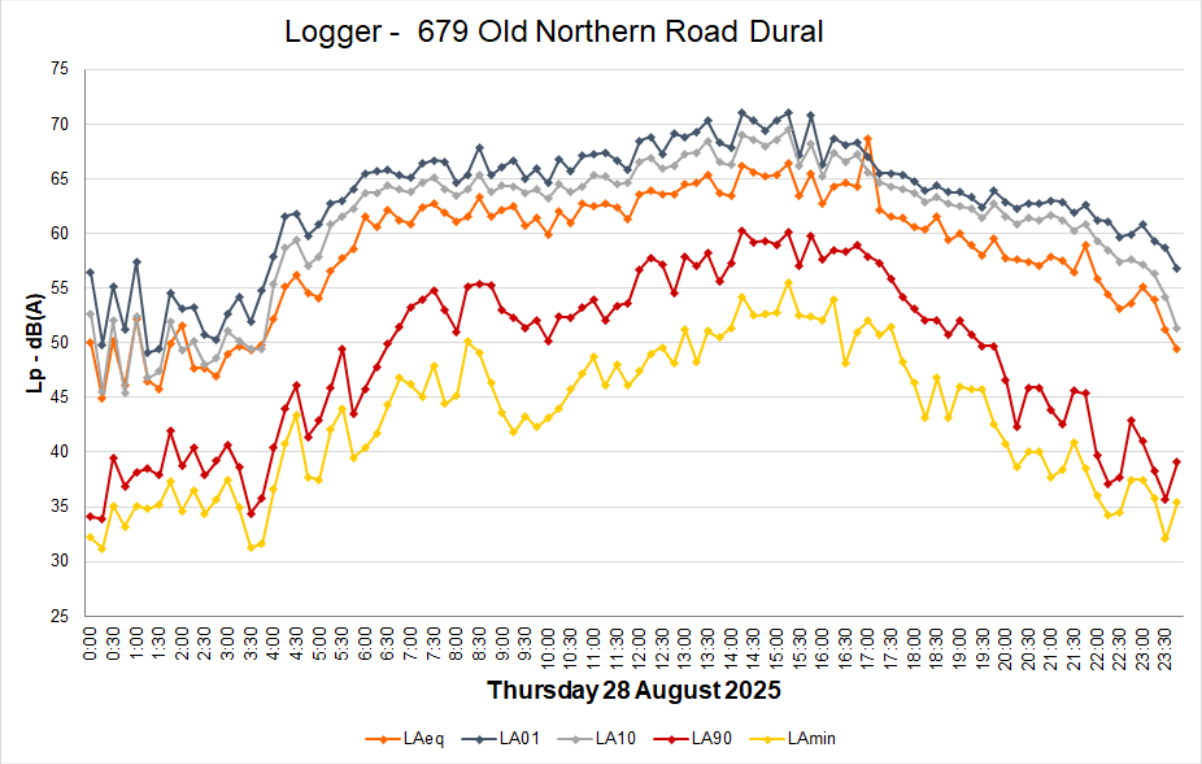

Figure 16: Noise logger plot for day 4

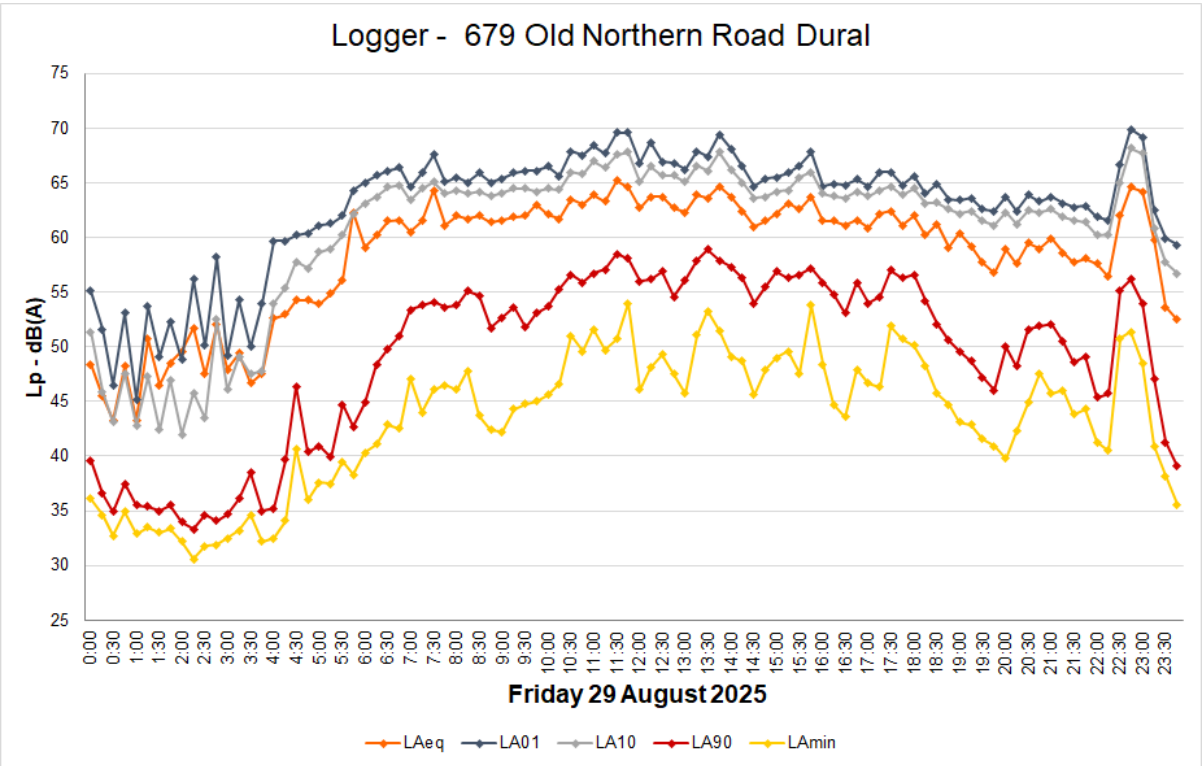

Figure 17: Noise logger plot for day 5

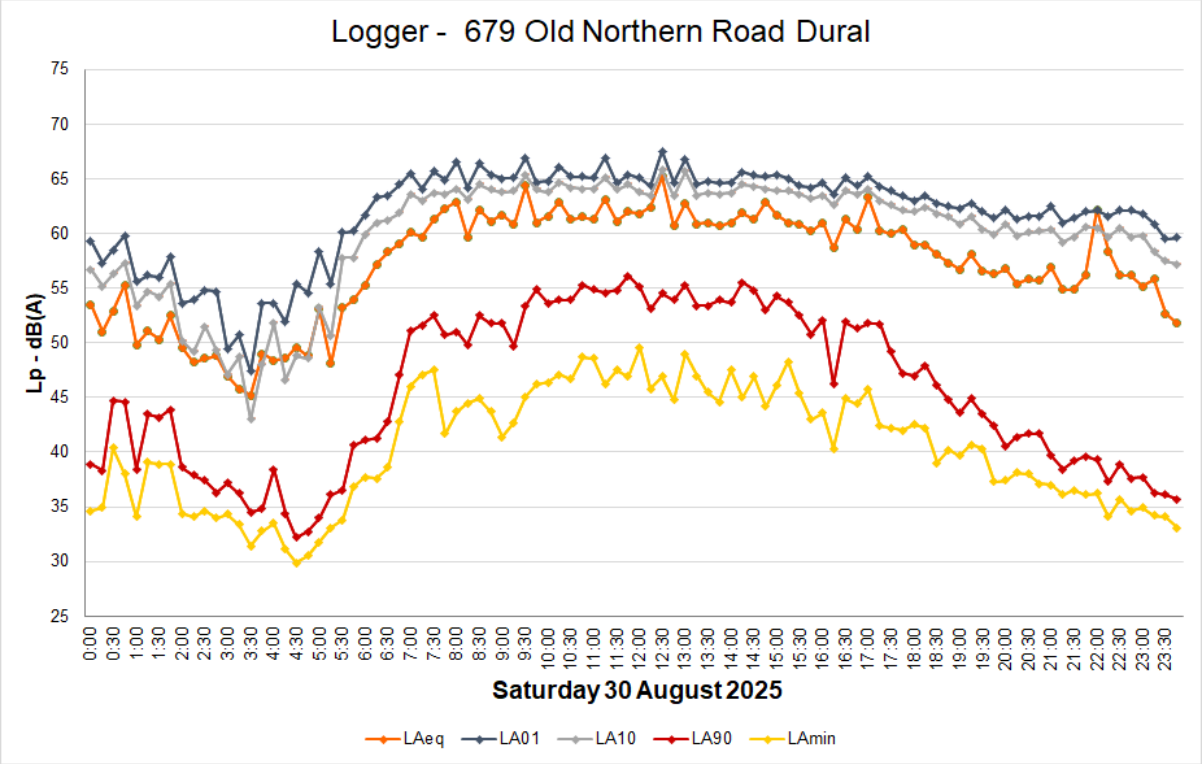

Figure 18: Noise logger plot for day 6

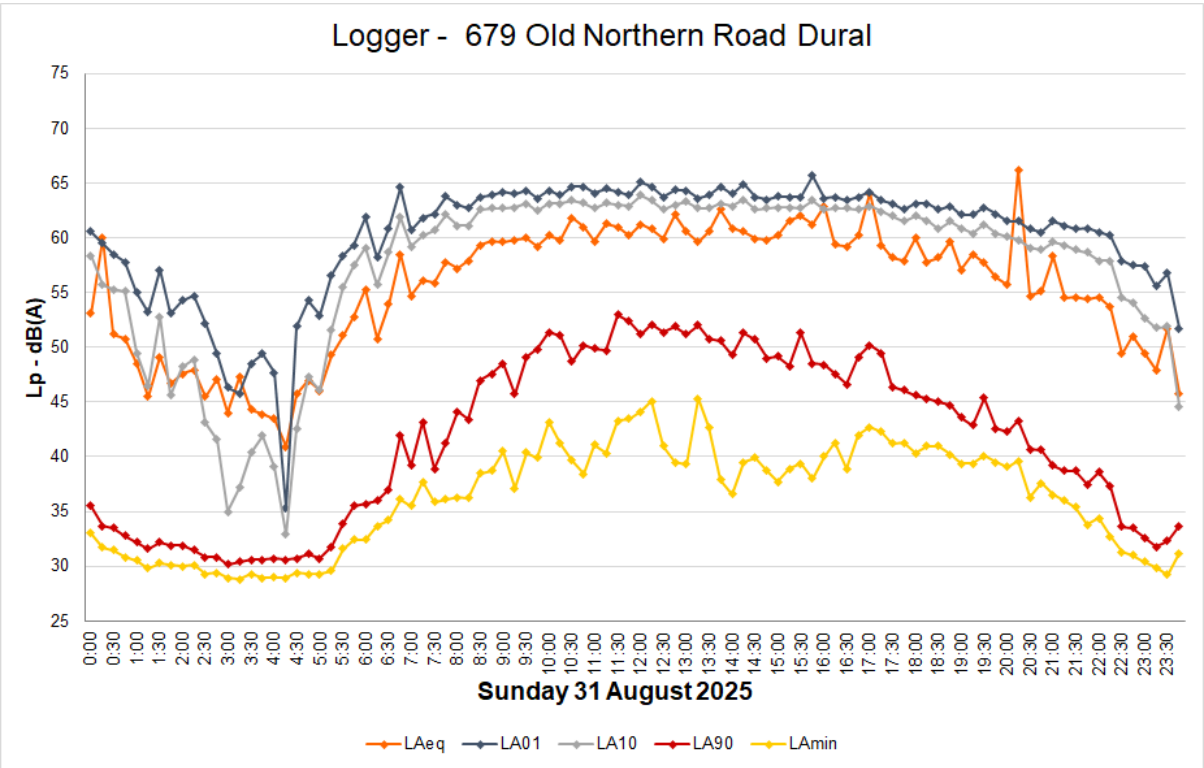

Figure 19: Noise logger plot for day 7

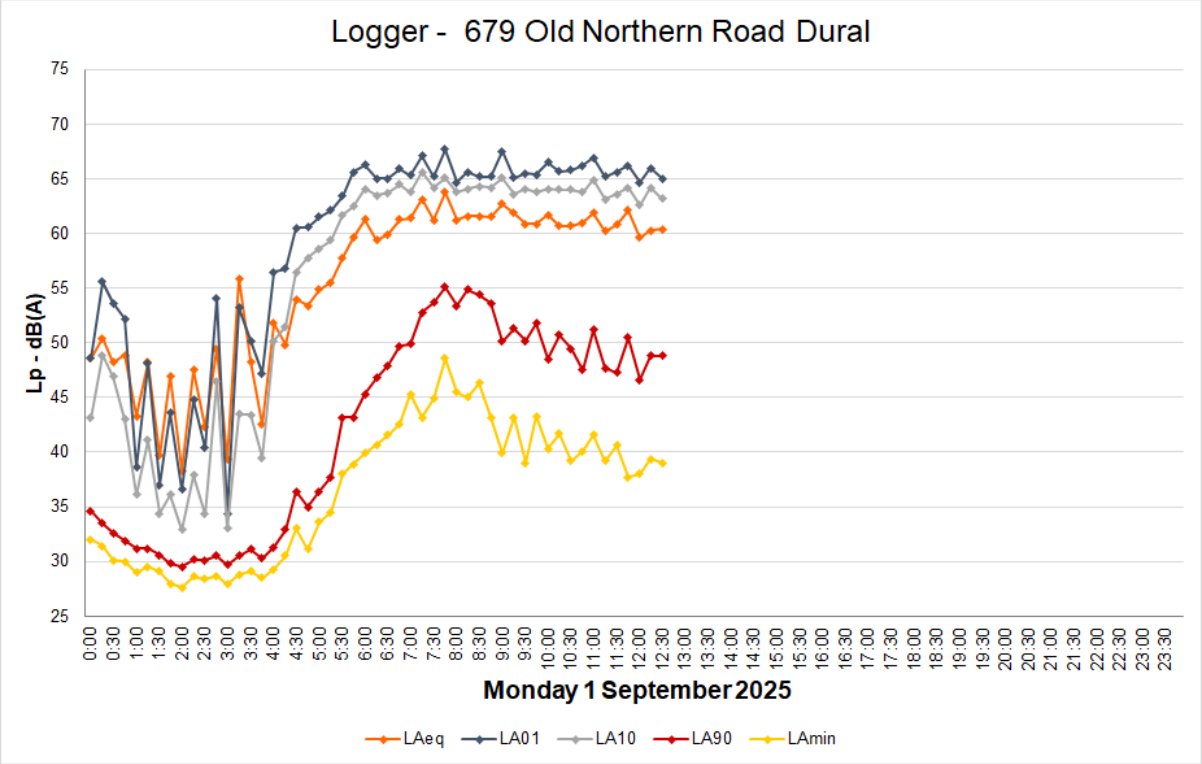

Figure 20: Noise logger plot for day 8

The summary of the noise logger measurements is tabulated below:

Location & Survey Period	L_{Aeq} Ambient Noise Levels			L_{A90} Rating Background Level			Notes
	Day	Evening	Night	Day	Evening	Night	
679 Old Northern Road Dural	61.5	57.4	50.8	53.0	45.4	34.3	No rainfall over period

Table 3: Noise logger measurements results summary

4. Noise Criteria for the Proposed Development Site

NSW STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

Clause 102 of the NSW State Environmental Planning Policy (Infrastructure) 2007 (the 'Infrastructure SEPP') states the following:

Clause 102: Development for any of the following purposes that is on land in or adjacent to a road corridor for a freeway, a tollway or a transit way or any other road with an annual average daily traffic volume of more than 40,000 vehicles (based on the traffic volume data available on the website of the RTA) and that the consent authority considers is likely to be adversely affected by road noise or vibration:

- *building for residential use*
- *a place of public worship*
- *a hospital*
- *an educational establishment or childcare centre*

The requirements of Clause 102 will be addressed, in detail, in the acoustic report for the Development Application stage.

NSW DEPARTMENT OF PLANNING - DEVELOPMENT NEAR RAIL CORRIDORS AND BUSY ROADS INTERIM GUIDELINE - CRITERIA

The NSW State Environmental Planning Policy (Infrastructure) 2007 (the 'Infrastructure SEPP') referred to in the NSW Department of Planning Development Near Rail Corridors and Busy Roads – Interim Guideline (2008) requires that all developments facing busy roads and roads with large traffic volumes and heavy vehicle traffic (as defined below) comply with the interim guideline.

Busy road: defined as Roads specified in Clause 102 of the Infrastructure SEPP: a freeway, tollway or a transitway or any other road with an average annual traffic (AADT) volume of more than 40,000 vehicles (based on the traffic volume data provided on the website of the RTA).

Any other road – with an average annual daily traffic (AADT) volume of more than 20,000 vehicles (based on the traffic volume data published on the website of the RTA)

Any other road – with a high level of truck movements or bus traffic.

The requirements of NSW Department of Planning's Development near Rail Corridors and Busy Roads – Interim Guideline (2008) will be addressed, in detail, in the acoustic report for the Development Application stage.

NSW NOISE POLICY FOR INDUSTRY (NSW NPFI) 2017 - CRITERIA

The NSW NPFI (2017) provides assessment methodologies, criteria and detailed information on the assessment of environmental noise emissions in NSW.

The NSW NPFI criteria for noise sources consider two (2) components:

- Controlling **intrusive** noise impacts for residential receivers. Assessing intrusiveness generally requires noise measurements to quantify background (L_{A90}) noise levels at a location considered representative of the most potentially affected residential receiver(s). The intrusiveness criterion essentially means that the equivalent continuous noise level (L_{Aeq}) of the source(s) under consideration should be controlled to not exceed background noise levels by more than 5 dB.
- Maintaining noise **amenity** for various categories of land use (including residential receivers and other sensitive receivers). The amenity criterion is based on the sensitivity of a particular land use to industrial-type noise. The recommended amenity noise levels detailed in Table 2.2 of NSW NPFI represent the objective for total industrial noise at a receiver location, whereas the project amenity noise level represents the objective for noise from a single industrial development at a receiver location. This is to ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area. The project amenity criteria for each new source of industrial noise is equalled to recommended amenity noise level minus 5dB(A). A +3dB(A) to be added to project amenity noise level for conversion from a period level to a 15-minutes level. Where the resultant project amenity noise level is 10dB or more below the existing industrial noise level, the project amenity noise levels can be set at 10 dB below existing industrial noise levels if it can be demonstrated that existing industrial noise levels are unlikely to reduce over time.

The project amenity noise levels at the nearest affected residential receiver are listed in Table 4.

Table 2.2: Amenity noise levels.

Receiver	Noise amenity area	Time of day	L_{Aeq}, dB(A)
(see Table 2.3 to determine which residential receiver category applies)			**Recommended amenity noise level**
Residential	Rural	Day	50
		Evening	45
		Night	40
	Suburban	Day	55
		Evening	45
		Night	40
	Urban	Day	60
		Evening	50
		Night	45

Table 4: Amenity noise levels, dB(A) (Source NSW NPFI)

The following are the time periods referred to above:

- Daytime: 0700 to 1800 hrs;
- Evening: 1800 to 2200 hrs;
- Night-time: 2200 to 0700 hrs.

The nearest affected residence is at 673-671 Old Northern Road, Dural which shares a boundary with the proposed Dural Health Hub site.

Based on the operator attended measurements and the acoustic monitoring data measurements performed on site as detailed above, the amenity criteria as detailed in Table 5 below are applicable.

Location	Time	Descriptor	Amenity Noise	Development Emitted Noise
Residence – 673-671 Old Northern Road, Dural	0700 to 1800	$L_{eq,\ 15min,\ day}$	**50**	**58**
	1800 to 2200	$L_{eq,\ 15min,\ evening}$	**45**	**50**
	2200 to 0700	$L_{eq,\ 15min,\ night}$	**40**	**39**

Table 5: Recommended maximum development emitted noise at the nearest affected residence

Note that the above recommended maximum Development Emitted Noise at the nearest affected residence is based on the detailed noise logging (7 days minimum) and the intrusive noise levels were determined in accordance with the NSW NPFI (2017) procedures.

The two important aspects for noise egress control from the redevelopment towards the adjacent properties are mechanical services noise control and traffic noise control. Based on the acoustic measurements on site and the review of the provided documentation we conclude that compliance can easily be achieved with the criteria, provided the recommendations below are implemented.

5. Mechanical ventilation design

All new mechanical plant shall be selected or acoustically treated such that the noise levels at the nearest affected residence do not exceed 40 dB(A) during the night-time period (if in use), 45 dB(A) in the evening (if in use) and 50 dB(A) during daytime operation.

6. Additional vehicular traffic noise

We estimate that the proposed parking (and subsequent traffic) will not affect the background noise levels, or at least not on an acoustically quantifiable level.

The NSW Road Noise Policy (RNP) (2011) states that an increase in 2 dB or more may incur noise mitigation measures. The extent of the increase in $L_{Aeq\ 15\ minute}$ is dependent on the existing and proposed traffic volume. The operation of the car park is not expected to increase the background noise levels due to vehicle activity.

However, as good practice we recommend implementing the following measures to mitigate the carpark entry and exit noise.

- Provide speed limit signage (10km/h maximum speed) throughout the carpark and driveways.
- Install ***"Please Respect Our Neighbours by Keeping Vehicle Noise Down"*** or equivalent signage at the lobby and carpark exit.

7. Conclusion

Norrebro has been engaged by JMJ Properties & Projects Pty Limited to provide an acoustic assessment to accompany the planning proposal for a health services facility at 675-685 Old Northern Road, Dural.

Operator attended and detailed noise logging measurements of the existing acoustic conditions have been undertaken.

It is concluded that acoustic criteria stipulated in the relevant codes and guidelines can be met at the proposed location in terms of noise emissions towards adjacent properties. It was found that the existing noise levels were generally high and any future mechanical plant can be acoustically treated to achieve compliance.

A full acoustic assessment report will be prepared for the Development Application Stage when mechanical plant noise data is available. It is expected that typical mechanical plant noise will be masked during the daytime and evening by the traffic noise from Old Northern Road.

Please do not hesitate to contact the undersigned directly for acoustic matters relating to this project.

Yours faithfully,

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