



NØRREBRO
DESIGN

COPENHAGEN

SYDNEY

SINGAPORE

SAN FRANCISCO

ANYTIME FITNESS MANLY

3/5 PITTWATER ROAD, MANLY

DEVELOPMENT APPLICATION ACOUSTIC REPORT

12 Sep. 2024

Doc. Rev. 2



Dear Martin,

Re: Anytime Fitness Manly DA Acoustic Report

Thank you for organising the acoustic measurements at the existing Anytyme Fitness in Manly on Thursday 5th September 2024 and, as well as the detailed site survey on the property and adjacent buildings and hand-held analysis performed on site.

This report presents the acoustic hand-held measurements results, our acoustic assessment of the adjacent properties and existing noise levels, and provides a discussion and recommendations regarding compliance with the project criteria and applicable acoustics regulations.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Claudiu Pop'.

Claudiu Pop

Director Australasia

BEng (Struct), MSc (Acoustics), PhD Cand. (Architecture)

NØRREBRO DESIGN

COPENHAGEN | SYDNEY | SINGAPORE | SAN FRANCISCO

Document Control Sheet

Title	DEVELOPMENT APPLICATION ACOUSTIC REPORT
Project	ANYTIME FITNESS MANLY 3/5 PITTWATER ROAD, MANLY
Description	Acoustic assessment and noise impact study
Key Contact	Dr.Riduan Osman B.E.(Hons.)(NSWIT), PhD(Syd)

Prepared By

Company	Norrebro Pty Ltd
Address	Suite 9, 1 Bradly Avenue, Kirribilli Marina, Kirribilli NSW 2061
Phone	+61 435 128 822
Email	claudiu@norrebro.com.au; rosman@norrebro.com.au
Website	www.norrebro.com.au
Author	RO
Checked	CP
Authorised	CP

Revision History

Issued To	Revision and Date			
Martin de Jager	REV	0	1	2
Prestige Town Planning	DATE	5/09/2024	09/09/2024	12/09/2024

1. Introduction

Norrebro have been engaged by Anytime Fitness Manly to prepare the acoustic review and documentation for the development application for proposed fitness centre fit out extension at 3/5 Pittwater Road, Manly NSW 2095.

This report quantifies the existing noise environment and provides the noise criteria for the proposed development and at the boundaries of neighbouring properties that could be impacted by the proposed development in accordance with the Northern Beaches Council requirements. This plan has been prepared by a suitably qualified person, who possesses qualifications to render them eligible for membership of the Australian Acoustic Society and Institution of Engineers Australia.

The proposed development upgrade relates to an extension of the existing Anytime Fitness Manly operations into the adjacent tenancy in the same building.

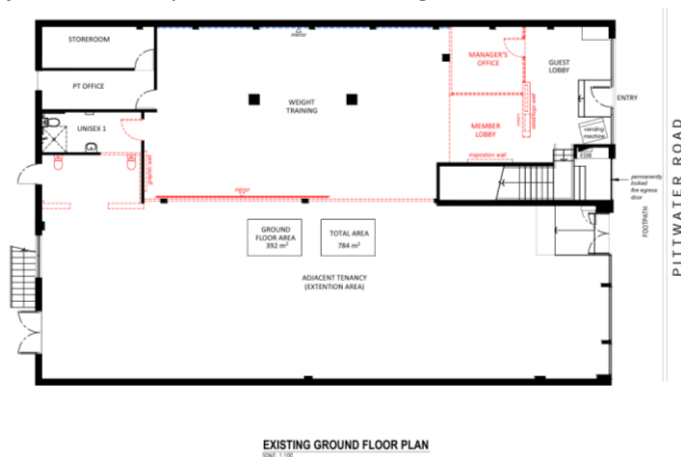


Figure 1: Floor plan showing the adjacent tenancy extension area (from Archispectrum)



Figure 2: Street view showing the adjacent tenancy extension area (from Prestige Town Planning)

2. Site Location

The property is situated on the Western side of Pittwater Road and within proximity of the Raglan Street intersection. The subject property is entirely occupied by a two (2) storey commercially orientated building and situated within an E1 – Local Centre Land Use Zone pursuant to the Manly Local Environmental Plan (LEP) 2013.

To the west, there is a residential property named Parkview, located at 48 Raglan Street, Manly which was identified as the potentially most affected receiver and detailed analysis and measurements have been performed for projected noise egress towards the building.

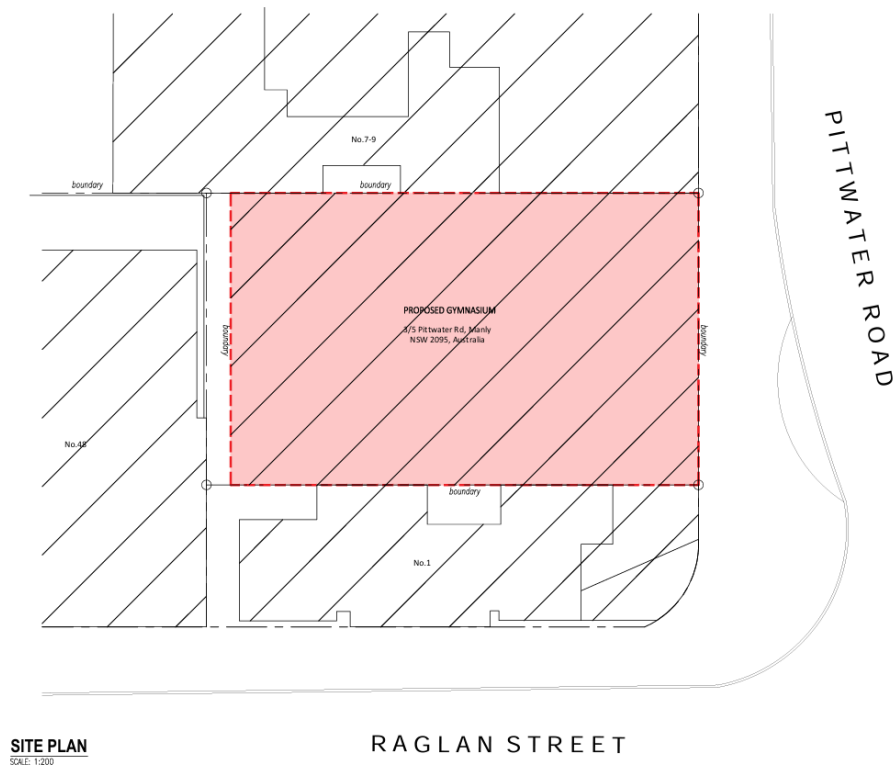


Figure 3: Site plan showing the location of the property in red (from Archispectrum)



Figure 4: Parkview residential building at 48 Raglan Street

The nearest commercial tenancy, is the adjacent building at 1 Pittwater Road, in accordance with the NSW INP amenity criteria shall have a noise level not exceeding 65 dB(A).

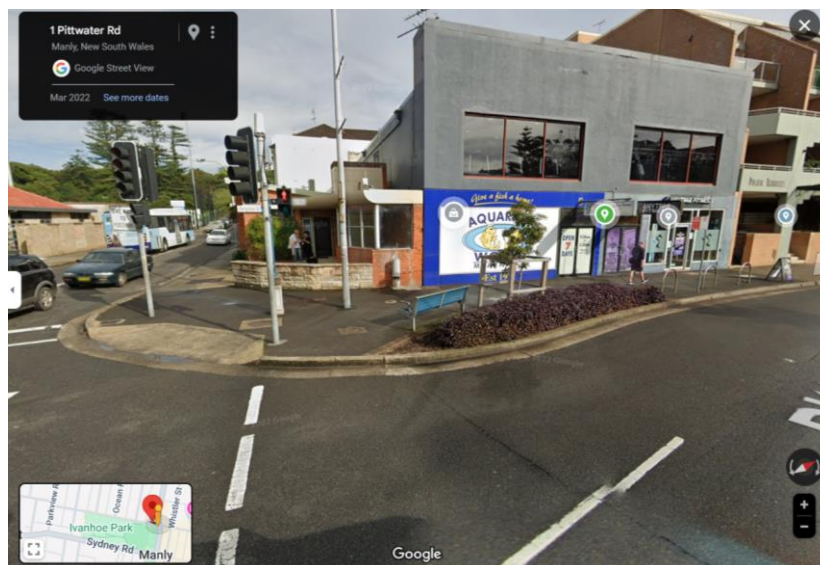


Figure 5: Commercial building at 1 Pittwater Road (from Google)

The buildings are separated by a 30mm airgap and do not have a common wall.



Figure 6: Separate walls between adjacent gym and commercial buildings

It is expected that the external walls construction achieves a sound insulation in excess of R_{w55-60} conservatively, which will provide good sound attenuation and vibration control due to separate brick walls.

Due to the high measured daily traffic noise levels and separate brick walls, the commercial property is not a critical receiver.

When the proposed development is in operation, the noise emitted from Anytime Fitness will not have an adverse impact on the amenity of the adjacent commercial property.

3. Project Acoustic Criteria

Noise emissions from the project site will be assessed against the requirements of the following:

- Northern Beaches Council – ‘Manly Development Control Plan (DCP) 2013
- Northern Beaches Council – ‘Manly Local Environmental Plan (LEP) 2013’
- NSW EPA – ‘Noise Policy for Industry (NPfI) 2017

3.1. Development Control Plans

A review of the Manly Development Control Plan (DCP) 2013 was conducted and the references to the acoustic requirements and relevant noise criteria are reproduced below:

3.4 Amenity (Views, Overshadowing, Overlooking /Privacy, Noise)

Relevant DCP objectives to be met in relation to these paragraphs include the following:

Objective 1) To protect the amenity of existing and future residents and minimise the impact of new development, including alterations and additions, on privacy, views, solar access and general amenity of adjoining and nearby properties including **noise and vibration impacts**.

Objective 2) To maximise the provision of open space for recreational needs of the occupier and provide privacy and shade.

Designing for Amenity

- a) Careful design consideration should be given to minimise loss of sunlight, privacy, views, **noise and vibration impacts** and other nuisance (odour, fumes etc.) for neighbouring properties and the development property. This is especially relevant in higher density areas, development adjacent to smaller developments and development types that may potentially impact on neighbour’s amenity such as licensed premises.

3.9 Mechanical Plant Equipment

Note: Mechanical Plant Equipment refers to the necessary infrastructure to support and maintain services or operations including air conditioning (both heating and cooling systems and ventilation),

swimming pool filtration and other mechanical systems. Plant may also maintain other systems, such as plumbing and lighting for larger developments.

3.9.3 Noise from Mechanical Plant

External mechanical plant systems (for pools, air conditioning and the like) must be acoustically enclosed and located centrally and away from neighbours living areas of neighbouring properties and side and rear boundaries.

Note: Excessive noise from the operation of mechanical plant such as air conditioning units, swimming pool pumps, and ventilation and refrigeration systems can disturb residents, disrupt sleep, interfere with normal daily activities or significantly impact on people's health.

3.2. EPA Noise Policy for Industry (NPfI)

The NSW EPA 'Noise Policy for Industry' (2017) defines an 'Urban' area as an area with an acoustical environment that:

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

The proposed development is located in an 'urban' area as defined by the NSW EPA 'Noise Policy for Industry' (2017).

2.2.1 Amenity Criterion:

The amenity criterion guideline is intended to limit the absolute noise level from all noise sources to a level that is consistent with the general environment (e.g. cumulative noise from project site and other developments). The EPA's NPI sets out acceptable noise levels for different residential areas, being rural, suburban and urban. When determining types of residential receiver, the NPI considers the land zoning, existing noise levels and environmental noise characteristics of the area being assessed. Based on the measured noise levels and environmental noise characteristics, the 'Urban' classification is most appropriate for the nearest affected residence and has been selected. The NPI requires project amenity noise levels to be calculated in the following manner;

$$\text{Project Amenity Noise Level dB(A) Leq(15min)} = \text{Recommended Amenity Noise Level} - 5 \text{ dB(A)} + 3 \text{ dB(A)}$$

Affected Occupancy	Location Classification	Period	Recommended amenity noise level dB(A)	Project Amenity Noise Level dB(A) Leq(15min)
Residential	Urban	Day (7am-6pm)	60 dB(A)	57 dB(A)
		Evening (6pm-10pm)	50 dB(A)	47 dB(A)
		Night (10pm-7am)	45 dB(A)	42 dB(A)

Table 1: NPfI Project Amenity Criteria

Accordingly, the noise criteria at the nearest affected residence are the higher of the existing noise levels or the 'Project Amenity Noise Level dB(A) Leq(15min)'.

4. Site Acoustic Survey, Identification of Noise Sensitive Receivers and Noise Measurement Details

4.1. Noise Sensitive Receivers Locations Relative to the Site

The residential most affected receivers are located at 48 Raglan Street, as marked below:



Figure 7: Most affected external residential receivers marked in red

Acoustic operator attended measurements have been performed to document the existing noise levels at the locations below for day, evening and night-time periods.



Figure 8: Measurement locations

3.2. Documented Existing Noise Levels at Receivers

The existing noise levels were measured at the identified nearest receivers.

The 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 2: Equipment Used in the Survey

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

The following figures illustrate the measurement locations and a full 1/3 octave analysis of the measurements at each location to identify the spectral component of the typical traffic (i.e., passenger car traffic, trucks, busses and other sources).



Figure 9: Measurement location 1 – inside existing gym – noisiest location

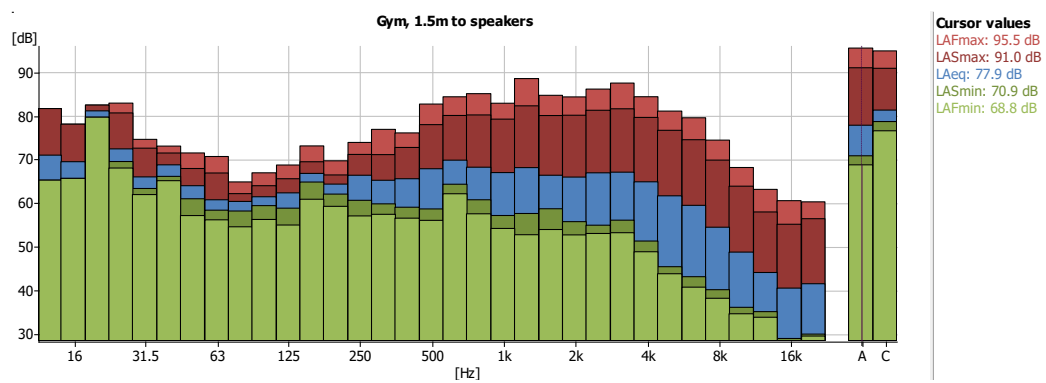


Figure 10: Measurement location 1 results



Figure 11: Measurement location 2 – inside proposed gym extension space

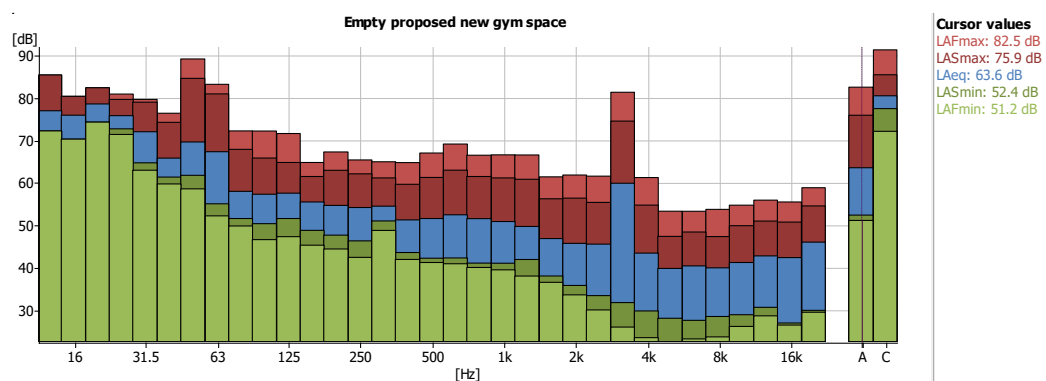


Figure 12: Measurement location 2 results



Figure 13: Measurement location 3 – outside existing gym space

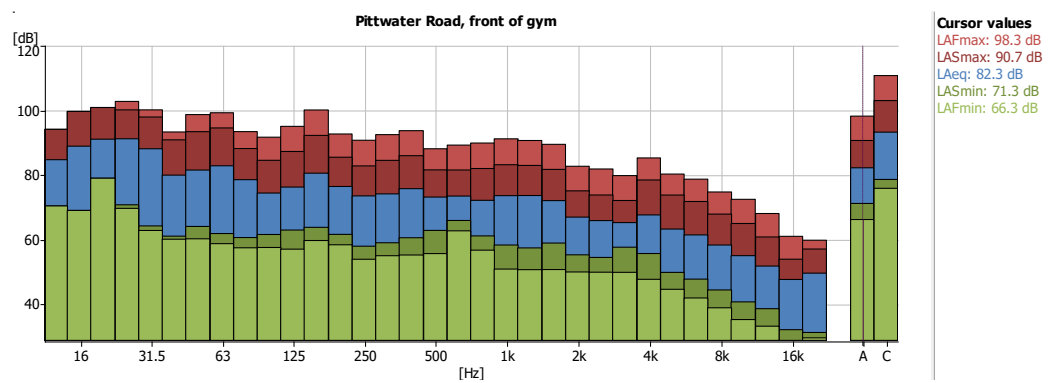


Figure 14: Measurement location 3 results

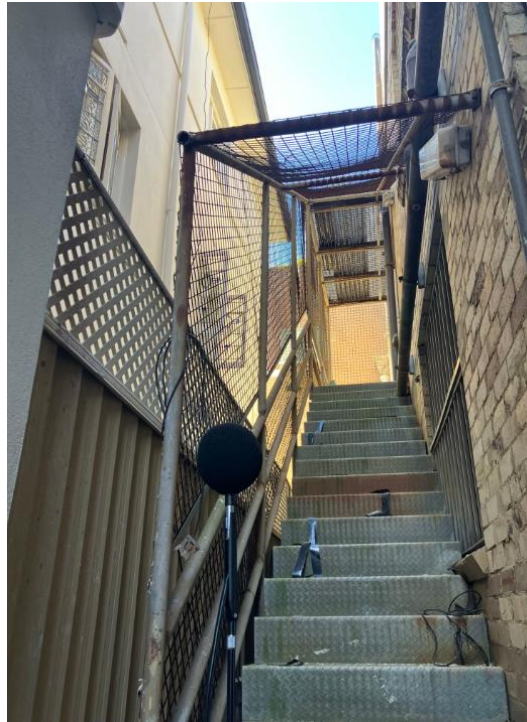


Figure 15: Measurement location 4 – outside between gym space and Parkview

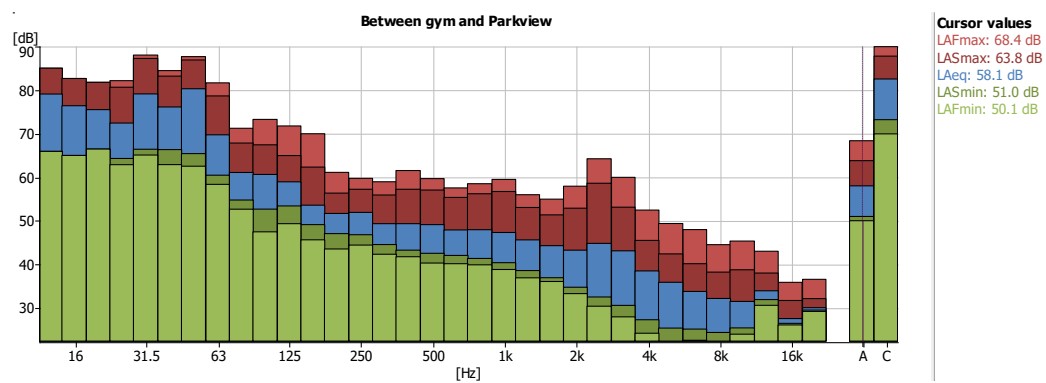


Figure 16: Measurement location 4 results

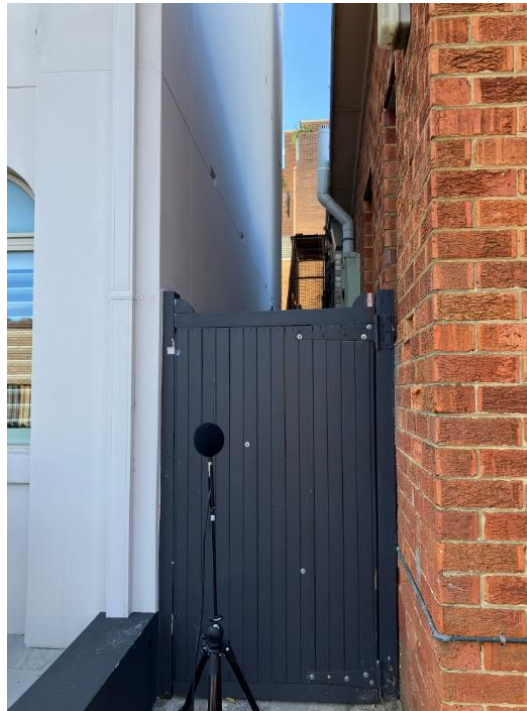


Figure 17: Measurement location 5 – outside between gym space and Parkview at Raglan Street level

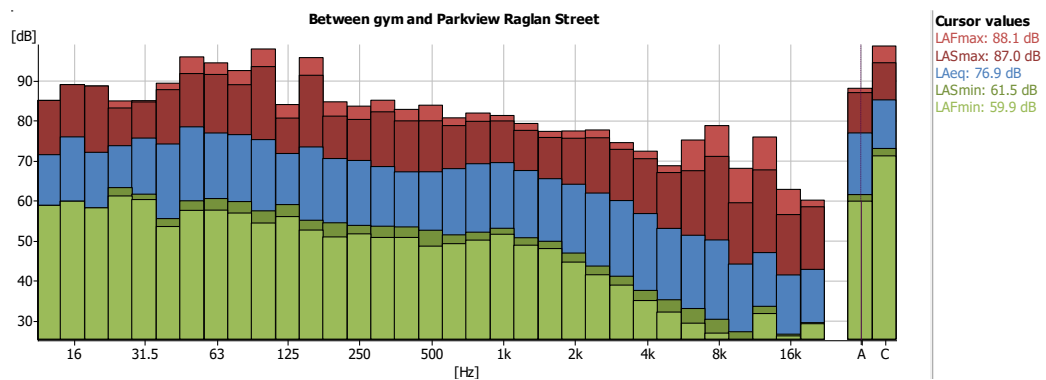


Figure 18: Measurement location 5 results



Figure 19: Measurement location 3 outside existing gym space - evening

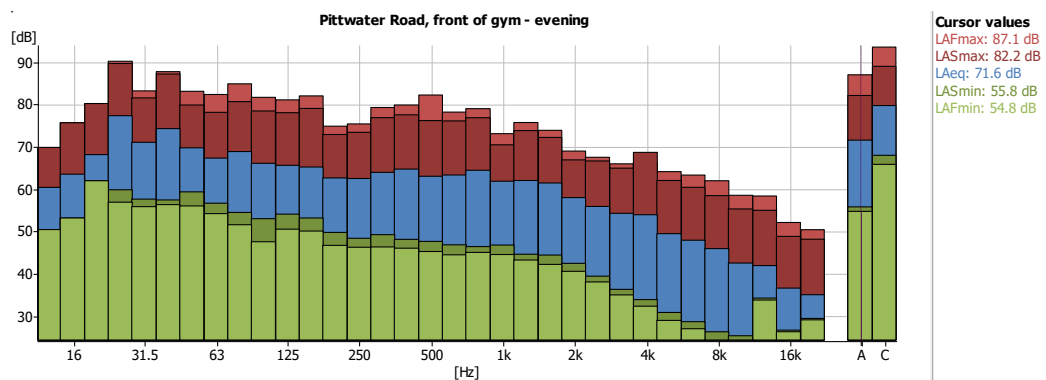


Figure 20: Measurement location 3 evening results



Figure 21: Measurement location 4 between gym and Parkview - evening

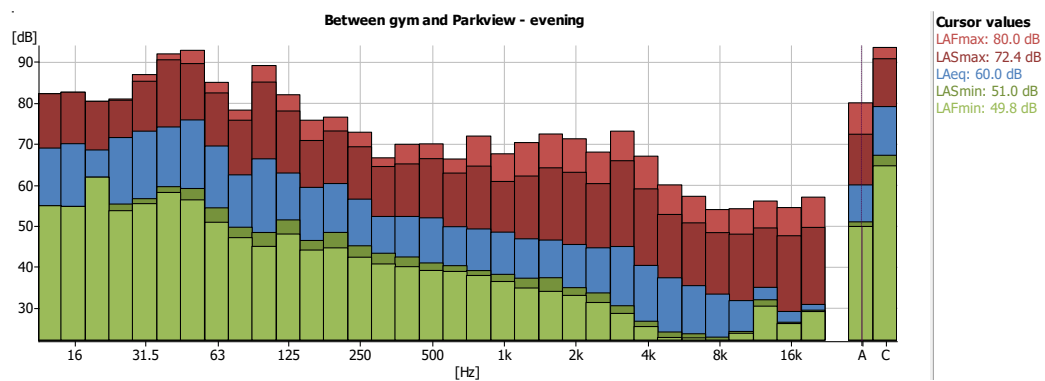


Figure 22: Measurement location 4 results - evening



Figure 23: Measurement location 5 between gym and Parkview at street level - evening

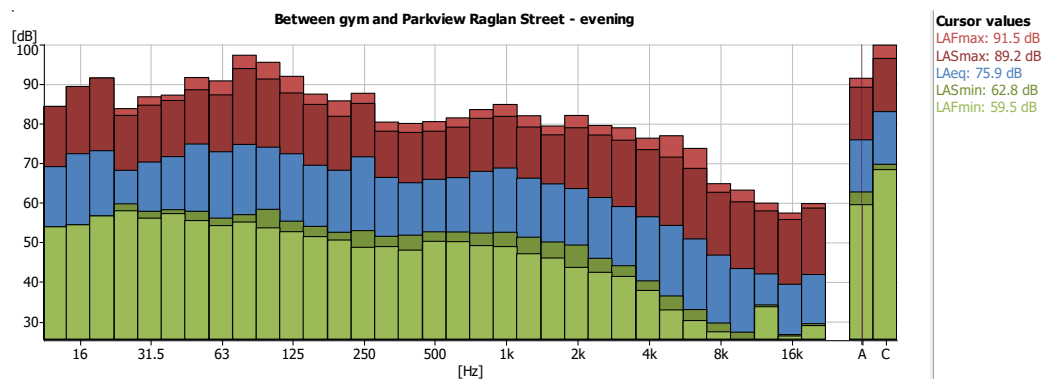


Figure 24: Measurement location 5 Results - evening



Figure 25: Measurement location 3 - night

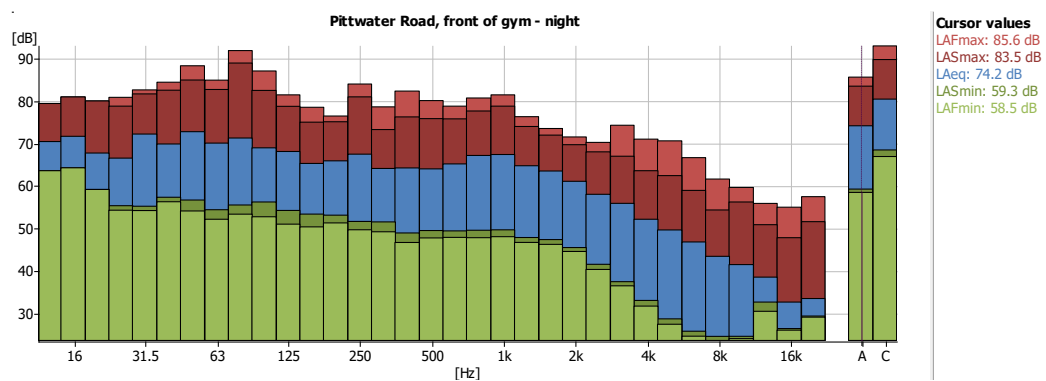


Figure 26: Measurement location 3 results - night

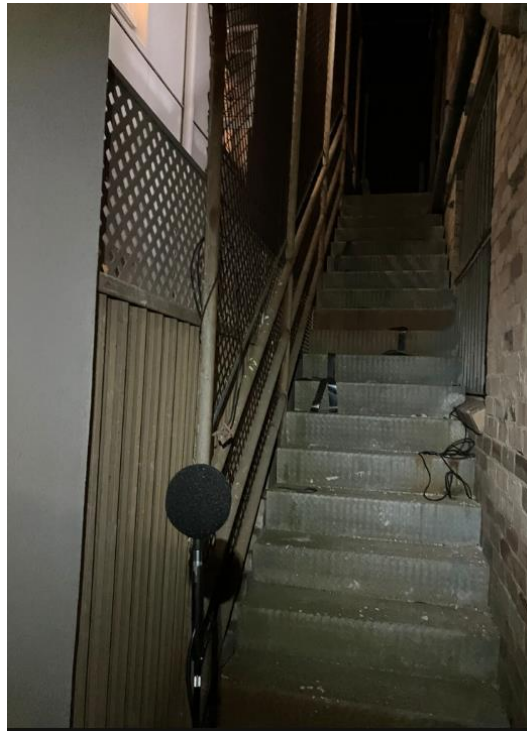


Figure 27: Measurement location 4 - night

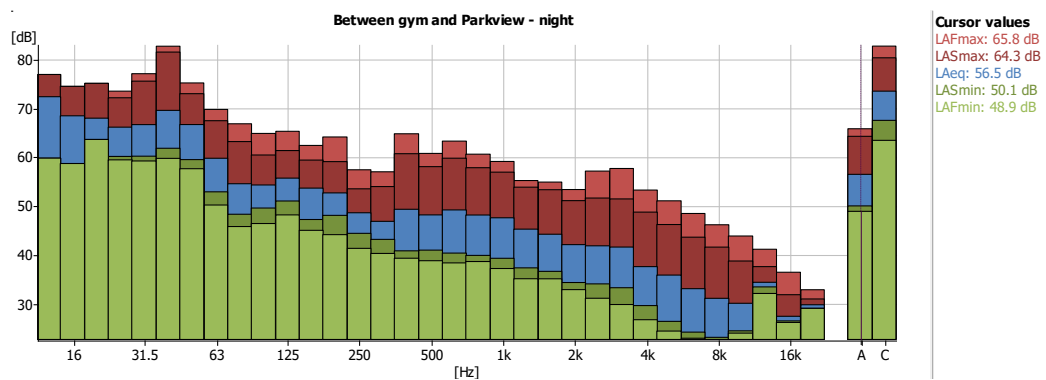


Figure 28: Measurement location 4 results - night

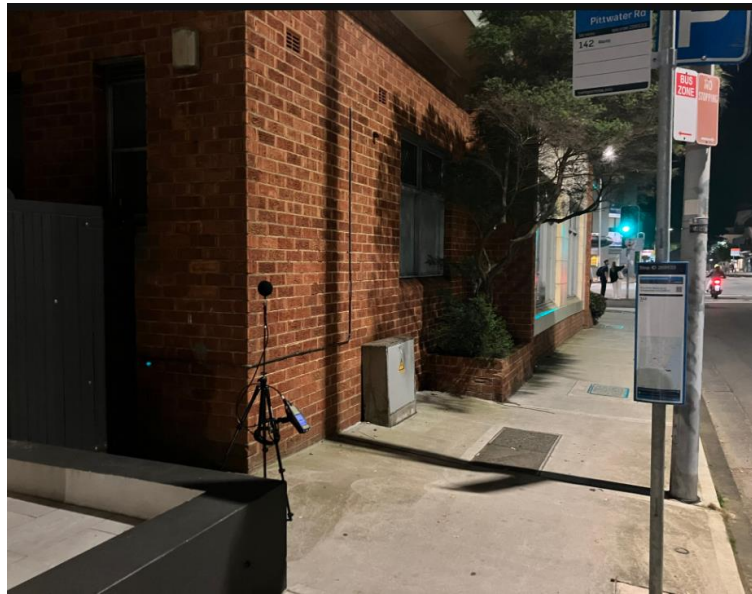


Figure 29: Measurement location 5 - night

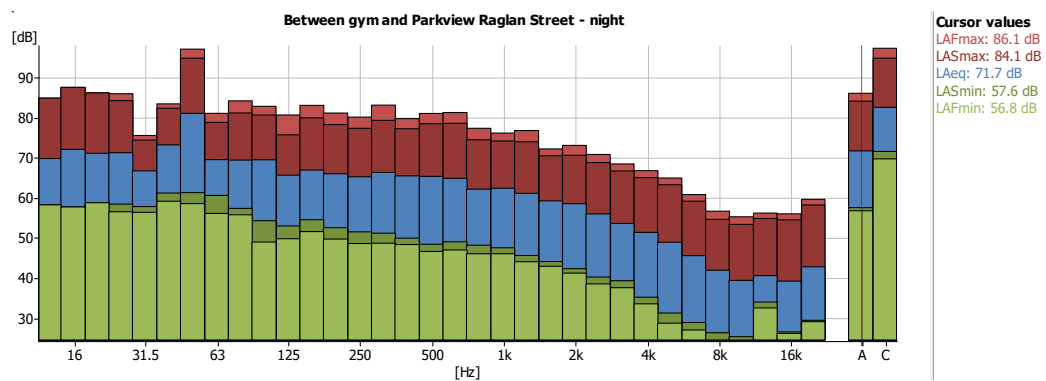


Figure 30: Measurement location 5 results- night

The results of the measurements are tabulated below:

Measurement location and time	LAeq (dBA) 15min	L90 (dBA) 15min	Remarks
Location 1 (Inside existing gym) 2PM-2:15PM	77.9	70.8	Noise dominated by music and gym operation
Location 2 (new proposed extension) 2:15PM-2:30PM	63.9	54.1	Noise dominated by traffic noise intrusion
Location 3 (front of gym - day) 2:30PM-2:45PM	82.3	69.7	Noise dominated by traffic noise
Location 3 (front of gym - evening) 9PM-9:15PM	71.6	57.9	Noise dominated by traffic noise
Location 4 (between gym and Parkview - evening) 9:15PM-9:30PM	60	52.5	Noise dominated by traffic noise and some apartment sounds and music from open window
Location 5 (between gym and Parkview, Raglan Street - evening) 9:30PM-9:45PM	75.9	63.7	Noise dominated by traffic noise
Location 3 (front of gym - night) 10PM-10:15PM	74.2	61.9	Noise dominated by traffic noise
Location 4 (between gym and Parkview - night) 10:15PM-10:30PM	56.9	51.4	Noise dominated by distant traffic noise, some environmental noise, some apartment music

<p>Location 5</p> <p>(between gym and Parkview, Raglan Street - night)</p> <p>10:30PM-10:45PM</p>	<p>71.7</p>	<p>59.8</p>	<p>Noise dominated by traffic noise</p>
---	-------------	-------------	---

Table 3: Hand Held Measurements Results

5. Anytime Fitness Noise Emissions Analysis

5.1. Methodology

Calculations were undertaken taking into account the location of measurements, orientation of windows, barrier effects (where applicable), proposed gymnasium areas and distance sound attenuation.

Noise emissions from the operation have been predicted based on the following assumptions and information available to this office:

5.2. Sound levels assumptions

Gym activities	Sound Pressure Levels
Training, music and instructors' guidance	75-85 dB(A)

Table 4: Effective Sound Pressure Levels for Anytime Fitness

Norrebro assumes operational sound levels between 75-85 dB(A), which is conservative for this type of operation in the experience of this office.

5.3. Predicted Maximum Noise Levels

The following table presents the maximum external noise levels for the residential and commercial developments, based upon the assumed operations presented above.

Assessment location	Time period	Predicted Maximum External Noise Level dB(A) Leq(15min)	Project Trigger Noise Level dB(A) Leq(15min)	Complies
Parkview	When in use	Less than 40 dB(A)	42 dB(A) * <i>(conservative, as measured night-time background + 0 is 51.4db(A))</i>	Yes
Commercial Property at 1 Pittwater Road	When in use	Less than 30dB(A) (inaudible at any time)	63 dB(A)	Yes

Table 5: Predicted External Noise Levels

5.4. Detailed Design Review and Final Acoustic Verification

An acoustic consultant shall be engaged during detail design and final stages to ensure compliance with the project criteria, including internal acoustics and external noise propagation. This is particularly important for the design and review of **impact isolation, door seals and reverberation control** for Anytime Fitness Manly.

The current DA acoustic assessment based on the current scheme and proposed location and interior layout indicate that compliance can be achieved.

Noise management during operation of the gymnasium

With regards to the audio system, it is confirmed that the proposed facility will not produce any obnoxiously loud music, neither internally nor externally, with no large loudspeaker system installed. This includes televisions with speakers to support the visuals, generating low level background music only which is pre-set to an acceptable volume as recommended by the acoustic consultant.

- Members and staff members must at all-times ensure that equipment is used in a correct and controlled manner so that no unnecessary noise is created e.g. unnecessary dropping of weights.
- The gymnasium shall adhere to a strict “No-weights-drop-policy and staff is to monitor and implement the policy at all times.
- Ensuring that glass windows and doors are kept closed at all times (other than when patrons enter and exit the premises).
- Staff are to monitor behaviour of patrons within the subject premises and as patrons’ egress to ensure noise emission of patrons is kept to a minimum when entering and leaving the premises.
- Internal noise levels from all loudspeakers shall be kept under 75dBA at all times within the gym.
- All low frequency and full range speakers are to be isolated from building structure and services.

Member Orientation:

As part of the noise management strategy, the following points shall be covered during new member orientation:

- Members are made aware of the need to remain quiet and respectful when entering and leaving the gym, especially during the early hours of the morning.
- Education on the appropriate use of each piece of equipment on the gym floor. This includes the way equipment is used in a controlled manner as to maintain a quiet and courteous environment.
- Weight training is restricted to areas allocated for such use i.e. where appropriate acoustic impact absorbing rubber flooring has been installed.

Recommended door seals for existing back door facing Parkview

With regards to the existing glazed door in the proposed extension space, we recommend installing acoustic seals to minimise sound leakage.



Figure 31: Recommended acoustic door seals location



Figure 32: Recommended door to be treated with acoustic seals (facing Parkview)

6. Conclusion

Norrebro has been engaged to provide a Noise Assessment for the development application for a proposed Anytime Fitness extension into the adjacent space at 3/5 Pittwater Road, Manly NSW 2095.

It is our opinion that the acoustic criteria stipulated for the project are met and the acoustic impact on the adjacent properties will be minimal due to existing acoustic conditions, design of the proposed extension and measured typical noise levels from gym operation and the proposed noise management plan.

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

Yours faithfully,



Claudiu Pop

Director Australasia | Acoustic Consultant

BEng (Struct), MSc (Acoustics), PhD Cand. (Architecture)

☎ +61 435 129 922

NØRREBRO
DESIGN

COPENHAGEN | SYDNEY | SINGAPORE | SAN FRANCISCO

E: claudiu@norrebro.com.au

W: www.norrebro.com.au