

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright



ENFIELD
ACOUSTICS
NOISE
VIBRATION

290 PARK STREET, FITZROY NORTH

Acoustic Report for Town Planning Application

For

**ADVERTISED
PLAN**

ANTIPODEAN LAND DEVELOPMENTS PTY LTD

DOC. REF: V1034-04-P ACOUSTIC REPORT (R0)
8 APRIL 2026

Enfield Acoustics Pty Ltd
ABN 15 628 634 391
Ph: +61 3 9111 0090
PO Box 920
North Melbourne, VIC 3051

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**



Project	290 Park Street, Fitzroy North
Subject	Acoustic Report for Town Planning Application
Client	Antipodean Land Developments Pty Ltd
Document Reference	V1034-04-P Acoustic Report (r0)
Date of Issue	8 April 2026

ADVERTISED PLAN

Disclaimer:

The information contained in this document shall remain the property of Enfield Acoustics Pty Ltd and the Client. The information contained within this document shall not be distributed to third parties without the written consent of Enfield Acoustics Pty Ltd and the Client.

The information contained within this document should not be relied upon by any third parties or applied under any context other than that described within this document. Advice provided in this document is done so with respect to instructions, on the basis of information supplied to Enfield Acoustics Pty Ltd at the time of writing, and in accordance with any reasonable assumptions, estimations, modelling and engineering calculations that we have been required to undertake. Enfield Acoustics Pty Ltd do not represent, warrant or guarantee that the use of guidance in the report will lead to any certified outcome or result, including any data relied on by third parties.

Table of Contents

1	Introduction.....	3
2	Policy Requirements	3
2.1	Planning Scheme Clause 53.06.....	3
2.2	Patron Noise	5
2.3	Planning Scheme Clause 58.04.....	5
3	Assessment	6
3.1	Acoustic Treatment.....	6
3.2	Railway Hotel Noise Impacts.....	10
3.2.1	Site Inspection and Observations.....	10
3.2.2	Music Noise Sensitivity Analysis	13
3.2.3	Patron Noise Sensitivity Analysis.....	14
3.3	Traffic and Tram Noise Impacts.....	15
3.4	Ground Floor Commercial Use	17
3.5	Domestic Air Conditioning.....	17
4	Conclusion.....	18
	Appendix A: MDA Letter	19

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

1 Introduction

Enfield Acoustics has been engaged by the Applicant Antipodean Land Developments Pty Ltd to assess potential noise impacts relating to the proposed mixed-use development at 290 Park Street, Fitzroy North (Subject Land). This report will form part of the planning permit application for the proposed development.

The Subject Land is proposed to be developed for the following:

- Commercial use of ground floor
- Apartments from ground floor to the sixth floor

Based on our review of the development plans, our assessment will focus on the following noise impacts:

- Noise impacts from surrounding commercial uses to proposed on-site sensitive uses
- Noise impacts from the proposed ground floor commercial use
- Traffic and tram noise impacts from Nicholson Street
- Noise impacts from domestic plant

It is noted that a previous assessment was undertaken by Marshall Day Acoustics on behalf of the operator of the Railway Hotel in relation to a previous application for the Subject Land (refer to Appendix A), hereafter referred to as the **MDA Letter**.

For the purposes of this acoustic assessment, our office will adopt (in part) the findings presented within the MDA Letter.

Our assessment is based on Plans prepared by Architecture Architecture dated 31 March 2026.

2 Policy Requirements

2.1 Planning Scheme Clause 53.06

Clause 53.06 of the planning scheme requires that new residential use is designed such that music noise from nearby live entertainment venues are not prejudiced by residential encroachment.

Specifically, new residential uses must be designed such that indoor compliance with the *Environment Protection Regulations 2021* (Regulations) and EPA *Publication 1826: Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* (Noise Protocol) is achieved (see below):

**ADVERTISED
PLAN**

ADVERTISED PLAN



A live music entertainment venue must be designed, constructed and managed to minimise noise emissions from the premises and provide acoustic attenuation measures that would protect a noise sensitive residential use within 50 metres of the venue.

A noise sensitive residential use must be designed and constructed to include acoustic attenuation measures that will reduce noise levels from any:

- Indoor live music entertainment venue to below the noise limits specified in the Environment Protection Regulations under the *Environment Protection Act 2017* and the incorporated Noise Protocol (Publication 1826, Environment Protection Authority, November 2020)
- Outdoor live music entertainment venue to below 45dB(A), assessed as an L_{eq} over 15 minutes.

For the purpose of assessing whether the above noise standards are met, the noise measurement point may be located inside a habitable room of a noise sensitive residential use with windows and doors closed (consistent with EPA Publication 1826).

A permit may be granted to reduce or waive these requirements if the responsible authority is satisfied that an alternative measure meets the purpose of this clause.

Under Clause 103 and 104 of the Noise Protocol, new residential developments that encroach on existing venues with music are given the opportunity to comply indoors via architectural treatment of the façade (under the 'Agent-of-Change' principle).

The Noise Protocol refers to the following assessment periods for indoor entertainment venues:

Day	Hours
Day/Evening Period	
Monday to Saturday	7.00am to 11.00pm
Sunday or a public holiday	9.00am to 10.00pm [^]
Noise Protocol Limit	$L_{Aeq} \leq L_{A90} \text{ (background) } + 5\text{dB}$
Night Period	
Monday to Friday	11.00pm to 7.00am the following day
Saturday	11.00pm to 9.00am the following day
Sunday or a public holiday	10.00pm to 7.00am the following day [^]
Noise Protocol Limit	$L_{OCT10} \leq L_{OCT90} \text{ (background) } + 8\text{dB}$
Notes:	[^] There are provisions under Regulations (Regulation 123) that allow for the Day/Evening period to extend up to 11.00pm where a Sunday or public holiday precedes another public holiday, however is not usually a material consideration for planning assessments.

Given that the building has not been constructed yet and internal ambient background noise levels are unknown, a conservative approach would be to adopt the Base Noise Limits (BNL) of the Regulations for the purpose of this assessment, as follows:

Base Noise Limit – ‘Day/Evening’ period

Period	Noise Limit
‘Day/Evening’ period,	32 dB L _{Aeq}

Base Noise Limit – ‘Night’ period

Period	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz
‘Night’ period limit, L _{OCT10} dB	40	30	20	20	15	10	10

2.2 Patron Noise

Patron noise is not covered under the Noise Protocol. However, guidance on the assessment of patron noise impacts can be sought from the City of Yarra document Guidelines – *Managing Noise Impacts in Urban Development*, which recommends the following noise targets for new residential developments near existing outdoor patron areas:

Location	Noise Target
Habitable Rooms	35dB L _{Aeq-15min}
Bedrooms	30dB L _{Aeq-15min} 45dB L _{Amax}
Balconies	65dB L _{Aeq-15min}

The above patron noise targets are not a statutory requirement (unlike the Noise Protocol) and function as a risk analysis to determine whether adverse noise impacts are likely to occur and if specific acoustic mitigation and/or controls should be considered to minimise impacts.

2.3 Planning Scheme Clause 58.04

With respect to road traffic noise impacts, Clause 58.04 of the planning scheme (Standard D16) and the City of Yarra Guidelines require that internal noise levels in apartment buildings meet the following:

Location	Noise Criteria
Habitable Rooms	40dB L _{Aeq-16hr} 45dB L _{Aeq-1hr} (peak-day)
Bedrooms	35dB L _{Aeq-8hr} 40dB L _{Aeq-1hr} (peak-night)

**ADVERTISED
PLAN**

3 Assessment

3.1 Acoustic Treatment

To assist the Subject Land development to mitigate noise from surrounding noise sources (i.e., music and patron noise from the Railway Hotel and road traffic and tram noise from Nicholson Street), the following acoustic treatment is recommended:

Glazing requirements

Location	Acoustic Performance Requirement	Glazing Construction
Refer to Appendix B	$\geq R_w38$	Double glazed construction with: • 12.38mm laminated glass • 12mm airgap • 10mm glass
Refer to Appendix B	$\geq R_w35$	Double glazed construction with: • 10.38mm laminated glass • 12mm airgap • 6mm glass
Refer to Appendix B	$\geq R_w32$	Double glazed construction with: • 6.38mm laminated glass • 12mm airgap • 6mm glass
Where not indicated	Glazing specification by others Minimum forms of glazing construction comply with Standard D16 and City of Yarra Guidelines (e.g., 6mm glass or any double glazed construction) and other required limits and targets	
Notes:	• All operable windows to habitable rooms must be installed with acoustic bulb seals and sliding doors must be installed with pile seals to the perimeter. • The glazing construction nominated above is indicative only. Any other glazing system achieving the nominated performance requirement (R_w) is acceptable, subject to certification by suppliers.	

Refer to the markups below for locations of recommended glazing and treatment.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN



Where indicated

GLAZING

≥Rw38 
12.38mm laminated glass / 12mm airgap / 10mm glass

≥Rw35 
10.38mm laminated glass / 12mm airgap / 6mm glass

≥Rw32 
6.38mm laminated glass / 12mm airgap / 6mm glass

Everywhere else - As per architects specification

Notes:

- Windows shall be fitted with bulb seals to perimeter
- Sliding doors shall be fitted with pile seals to perimeter
- Glazing construction indicative only, any other glazing system achieving the Rw requirement (e.g. when certified by proprietary suppliers) is acceptable

DOORS

≥Rw35 
Solid core timber (>40mm) or framed 10.5mm Vlam Hush Glass with the following seals, or equivalent:

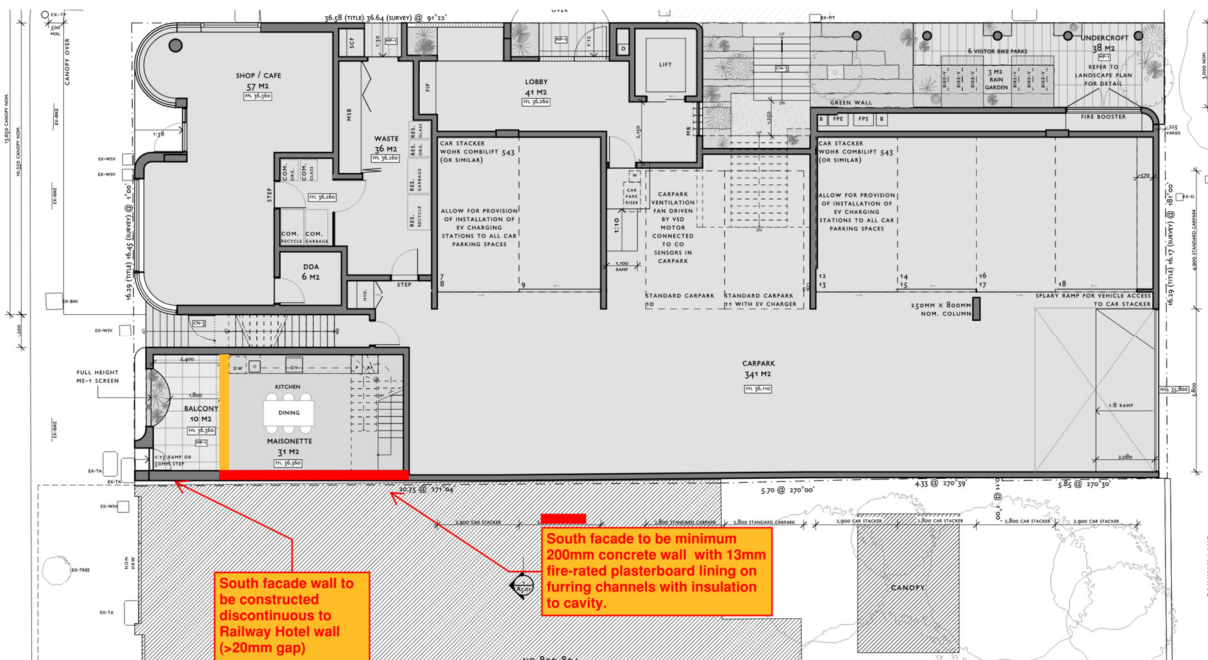
Door frame: Raven RP120 with RP78Si
Automatic door bottom seal: Raven RP70
Meeting Stile Seals (where required): Raven RP71si

Vision panels where required to be min 10.5mm Vlam Hush Glass

Or any other proprietary door meeting the Rw requirement (e.g. Capral 225 series with 10.5mm Vlam Hush, or Criterion Silencio series)

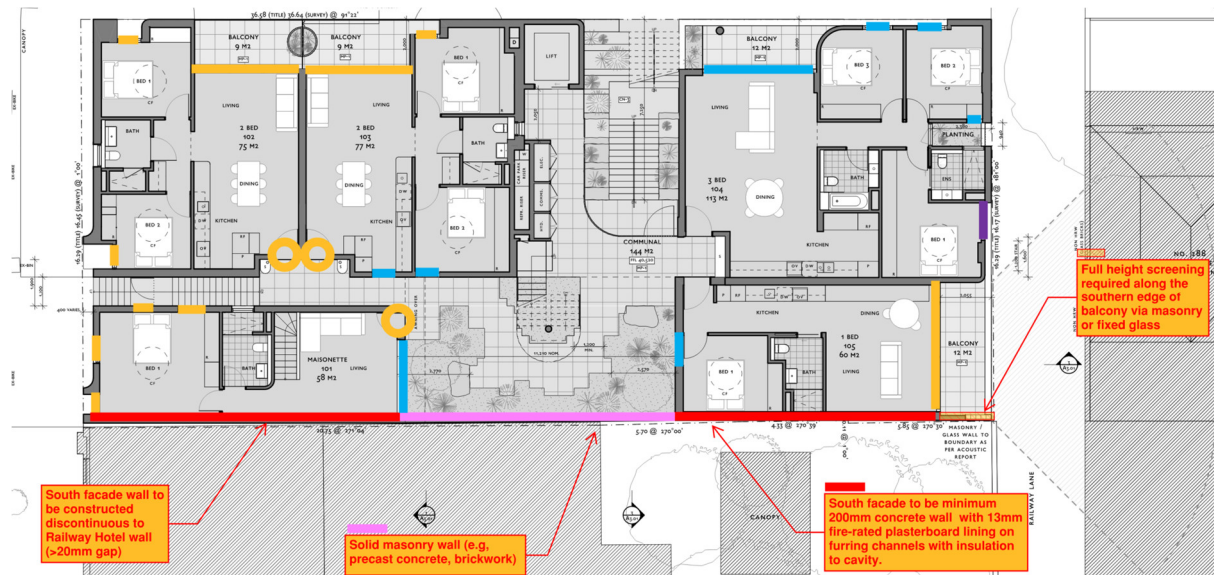
This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Ground floor

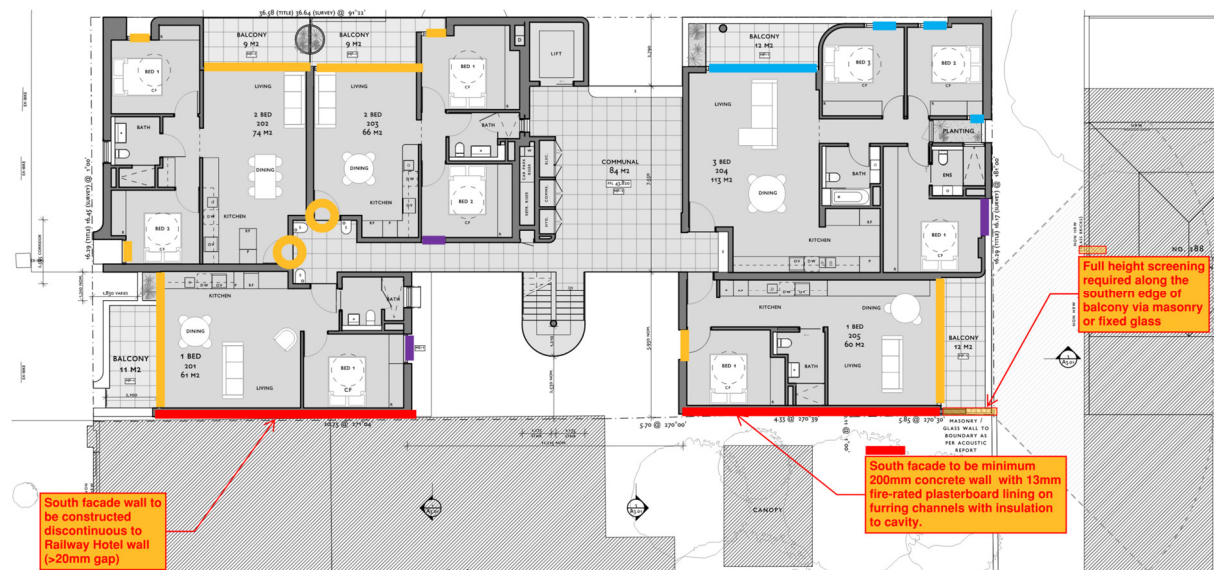


This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

Level 1

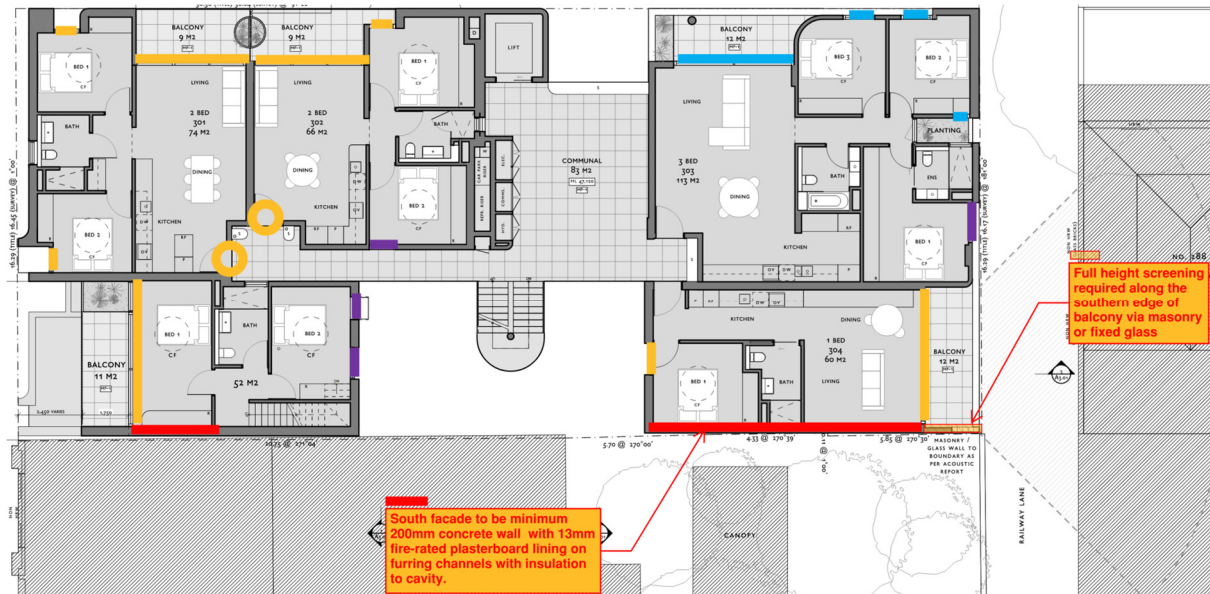


Level 2

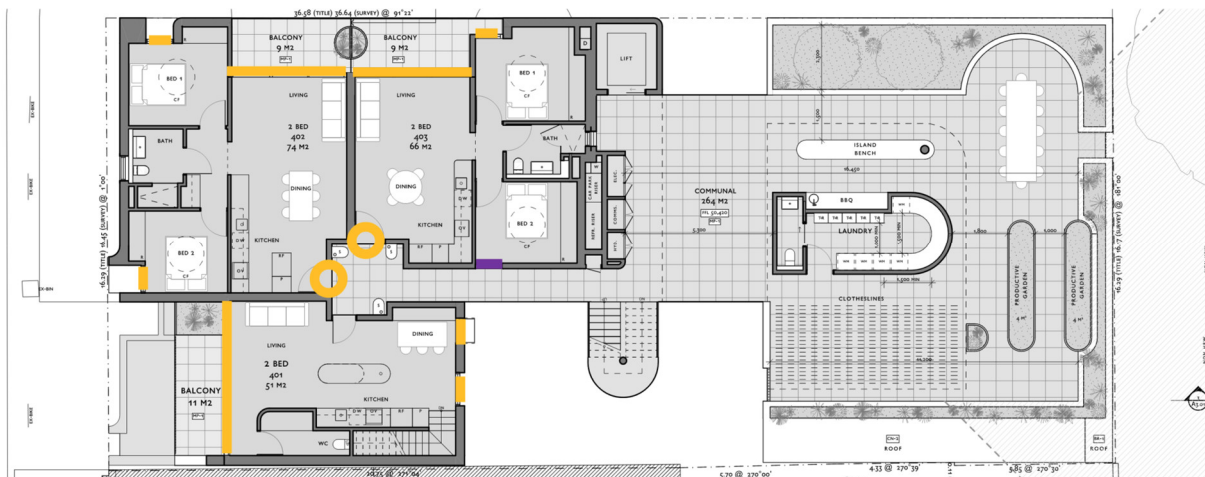


**ADVERTISED
PLAN**

Level 3



Level 4



**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ENFIELD
ACOUSTICS
NOISE
VIBRATION

[illegible][illegible]

Further details on surrounding noise sources and predicted noise levels from the treatment above are discussed in the following sections of the report.

3.2.1 Site Inspection and Observations

V1034-04-P Acoustic Report (r0)
Page 10 of 20

Only low level amplified music or acoustic music is permitted in the beer garden on any Saturday or Sunday between the hours of noon and 8 pm.
Live or amplified music other than background music is only permitted in the premises on any Thursday, Friday or Saturday night until 1 am the following morning.
Low level amplified music or acoustic music is permitted in the premises on any Sunday between the hours of midday and 8 pm.

MAXIMUM CAPACITIES

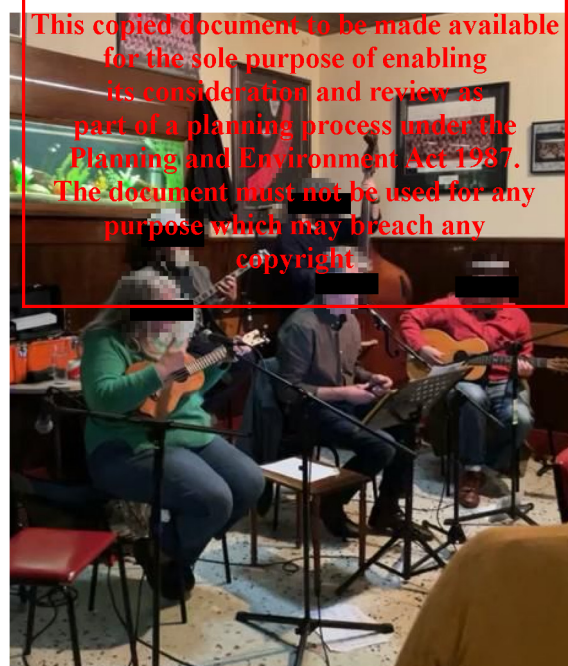
Ground Floor - 250 patrons First Floor - 250 patrons Beer Garden - 120 patrons

Our office had previously visited the Railway Hotel on 9 June 2022 and 7 September 2024 to make observations of potential noise impacts from the Railway Hotel.

Our observations are summarised below:

9 June 2022 (Thursday) – between 8.30pm to 10.30pm

Live acoustic music was occurring internally towards the south section of the Hotel (acoustic folk music) with an internal reverberant level measured at 75dB(A) L_{eq} . It was noted that live acoustic music was not measurable within the outdoor courtyard (<45dB L_{Aeq}). The stage area is relatively separated from the outdoor area (and the Subject Land) and an upper floor separates the main bar area, meaning that noise transmission through the roof is not expected to be material.



This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

Acoustic Folk Band

While our office was only able to measure live music within the southern ground floor section of the Hotel, it is noted that live music could also occur within the first-floor function room.

The MDA Letter (refer Appendix A) predicts the following maximum allowable internal music noise levels from the first-floor function room:

Table 9: First-floor function room internal noise levels predicted to achieve compliance at the existing receivers, dB L₁₀

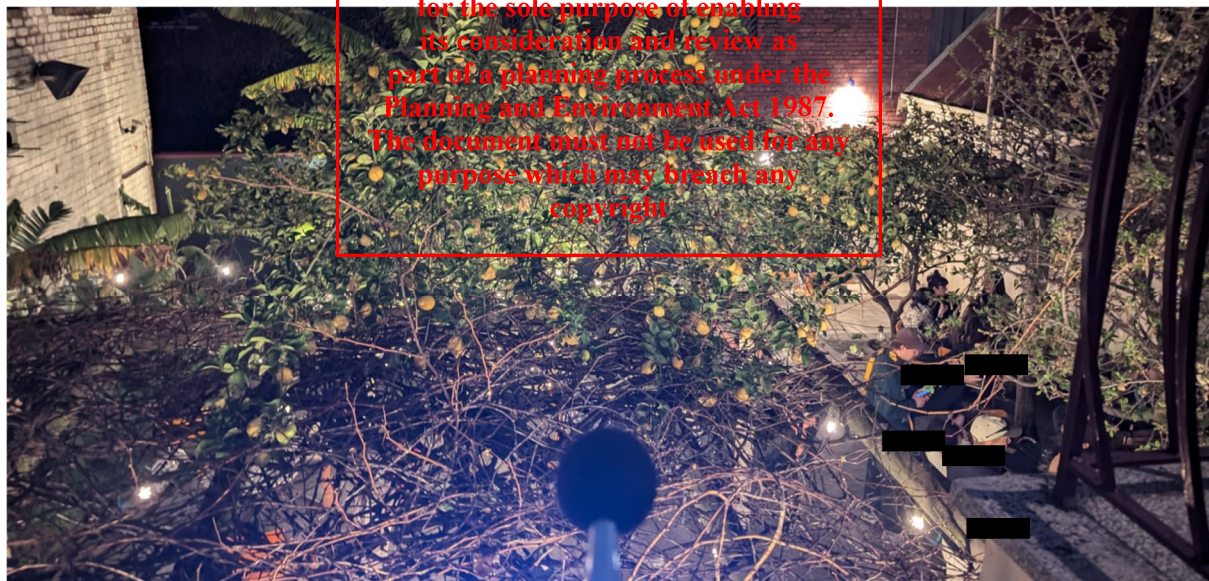
Source description	Octave Band Centre Frequency, Hz							A
	63	125	250	500	1000	2000	4000	
Internal reverberant noise level predicted to achieve compliance at the existing receivers	76	75	76	76	75	69	67	79

The music noise levels above were derived based on a requirement for the Hotel to comply at existing dwellings to the east (i.e., 288 Park Street).

Given that there are already existing dwellings in proximity to the Railway Hotel, the maximum allowable music levels within the Hotel's first-floor function room are already inherently limited.

7 September 2024 (Saturday) – between 7.30pm to 8.30pm

Our office also visited the Hotel on a separate occasion to measure patron noise emissions within the beer garden. The beer garden was not busy with approximately 30 patrons occupying the outdoor area. Our office measured a patron noise level of approximately 70dB(A) L_{eq} (see photo below) above the beer garden. Background music (up to 8pm) was observed to be at low levels relative to patron noise.



Measurement of patrons

Given that up to 120 patrons are permitted to occupy the beer garden (as per the liquor license), a 6dB correction can be applied to estimate noise emissions from 120 patrons (approximately 3dB per doubling of patrons).

Item	Noise Level
Measured patron noise emissions above beer garden <i>30 patrons</i>	70 dB(A) L _{eq}
Predicted patron noise emissions above beer garden <i>120 patrons</i>	76 dB(A) L _{eq}

3.2.2 Music Noise Sensitivity Analysis

To determine the risk of non-compliance with the Noise Protocol from music within the Hotel, our assessment will consider the following areas, which are likely to drive compliance requirements:

- Beer garden – Day/Evening period
- First-floor function room – Night period

Given that our office could not measure music noise impacts from the beer garden during our site inspections, our assessment will assume a ‘low-level amplified music’ (consistent with the liquor license) of up to 75dB(A) L_{eq} occurring within the beer garden. The spectrum used in our assessment was taken from the attended measurement of the live acoustic performance, as follows:

Item	L_{Aeq} , dB(A)	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz
Live acoustic performance within beer garden	75	67	74	76	73	69	66	61

Based on our experience, this level is consistent with moderate levels of background music and live acoustic music.

Music noise from other parts of the Hotel was not considered acoustically significant, noting that:

- Live music occurring internally within the hotel was not measurable externally
- The levels of live music allowable on the first-floor would not be greater than outdoor music (after including attenuation by the built form).

Desktop modelling was conducted to determine the internal music level predicted within the Subject Land development, inclusive of the acoustic treatment recommended in Section 3.1.

The following music noise levels were predicted:

Internal music noise levels – Day/Evening period

Location	Internal Noise Level, L_{Aeq}	Base Noise Limit, L_{Aeq}	Compliance?
Ground floor	≤6 dB	32 dB	✓
Level 1	≤30 dB		✓
Level 2	≤30 dB		✓
Level 3	≤25 dB		✓
Level 4	≤30 dB		✓
Level 5	≤24 dB		✓
Level 6	≤21 dB		✓

Internal music noise levels – Night period

Location	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz
Ground floor	≤19	≤9	≤7	-	-	-	-
Level 1	≤21	≤10	≤9	-	-	-	-
Level 2	≤26	≤18	≤17	≤6	-	-	-
Level 3	≤29	≤20	≤17	≤6	-	-	-
Level 4	≤27	≤18	≤15	≤3	-	-	-
Level 5	≤25	≤14	≤9	-	-	-	-
Level 6	≤18	≤12	≤7	-	-	-	-
Base Noise Limit	40	30	20	20	15	10	10
Compliance?	✓	✓	✓	✓	✓	✓	✓

Inclusive of the acoustic treatment recommended in Section 3.1, the result of our sensitivity analysis indicates that music noise levels from the Railway Hotel are predicted to comply with the most stringent noise limit of the Regulations within all habitable rooms of the Subject Land, indicating a satisfactory outcome.

Overall, we do not consider music noise impacts to present as high-risk in terms of adverse noise impacts, given that:

- Appreciable forms of glazing and facade treatment have been recommended to mitigate music noise.
- External music noise impacts from the beer garden are not expected to occur during the most sensitive 'Night' hours (only permitted up to 8pm externally as per the liquor licence).
- Based on the MDA Letter, music noise from the first-floor function room is moderate and is expected to be sufficiently mitigated by the built form of the Hotel building.
- The Hotel is already required to comply at existing dwellings, meaning that the maximum allowable music noise levels within the Hotel are already inherently limited.

On this basis, we are satisfied that the music from the Railway Hotel would not result in unreasonable noise impacts at proposed apartments.

3.2.3 Patron Noise Sensitivity Analysis

Our office has also conducted a sensitivity analysis based on the permitted patron capacity within the beer garden (120 patrons) to determine noise impacts on the Subject Land development.

Desktop modelling was conducted to determine the internal patron level predicted within the Subject Land development, inclusive of the acoustic treatment recommended in Section 3.1. The modelling assumes patron noise emissions derived in Section 3.2.1 from the measurements conducted of the beer garden.

The following patron noise emissions were predicted:

Living rooms

Location	Internal Noise Level, L_{Aeq}	Noise Target, L_{Aeq}	Compliance?
Ground floor	≤ 5 dB	35 dB	✓
Level 1	≤ 30 dB		✓
Level 2	≤ 30 dB		✓
Level 3	≤ 24 dB		✓
Level 4	≤ 28 dB		✓
Level 5	≤ 19 dB		✓
Level 6	≤ 28 dB		✓

Bedrooms

Location	Internal Noise Level, L_{Aeq}	Noise Target, L_{Aeq}	Compliance?
Ground floor	N/A	30 dB	✓
Level 1	≤ 19 dB		✓
Level 2	≤ 19 dB		✓
Level 3	≤ 21 dB		✓
Level 4	≤ 21 dB		✓
Level 5	≤ 20 dB		✓
Level 6	≤ 18 dB		✓

Balconies

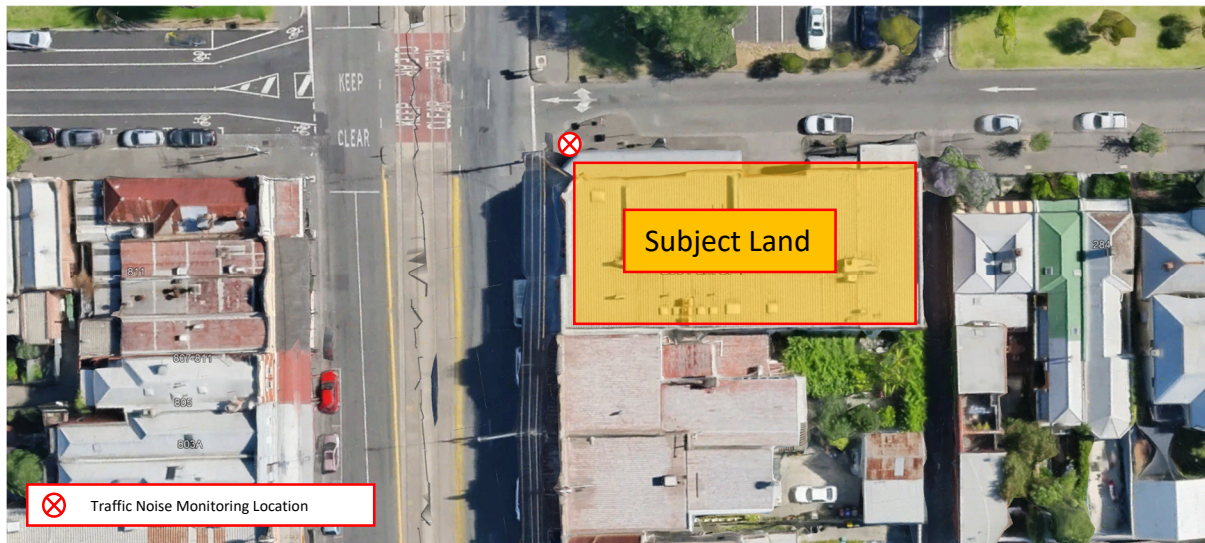
Location	Noise Level, L_{Aeq}	Noise Target, L_{Aeq}	Compliance?
Ground floor	N/A	65 dB	✓
Level 1	≤ 62 dB		✓
Level 2	≤ 62 dB		✓
Level 3	≤ 55 dB		✓
Level 4	≤ 42 dB		✓
Level 5	≤ 32 dB		✓
Level 6	≤ 32 dB		✓

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach our copyright

Inclusive of the acoustic treatment recommended in Section 3.1, the result of our sensitivity analysis indicates that patron noise emissions from the Railway Hotel are predicted to comply with the patron noise targets from the City of Yarra document Guidelines, indicating a satisfactory outcome.

3.3 Traffic and Tram Noise Impacts

Site inspections were carried out by our office on 9 June 2022 and 14 June 2022 to conduct attended traffic and tram noise measurements at the following location:



The attended noise monitoring captured both road traffic and tram noise impacts at the worst-affected facade (west) of the development. Appreciable levels of road traffic were observed on Nicholson Street during our site inspection, noting that traffic was relatively continuous over the monitoring duration.

Measurement time	Noise Level
Between 6pm to 6.15pm (Day Peak)	69 dB LAeq
Between 10pm to 10.15pm (Night Peak)	64 dB LAeq

While the Planning Scheme considers long-term average noise emissions, our assessment considers the more onerous peak traffic noise levels, resulting in a conservative assessment. In our experience, designing to peak traffic noise levels often results in a better acoustic outcome and overall amenity for future occupants.

Inclusive of the glazing construction recommended in Section 3.1, desktop modelling was conducted to predict internal noise levels, as follows:

Living rooms

Location	Internal Noise Level, LAeq	Noise Target, LAeq	Compliance?
Ground floor	≤40 dB	40 dB	✓
Level 1	≤40 dB		✓
Level 2	≤40 dB		✓
Level 3	≤39 dB		✓
Level 4	≤38 dB		✓
Level 5	≤37 dB		✓
Level 6	≤36 dB		✓

**ADVERTISED
PLAN**

Bedrooms

Location	Internal Noise Level, L_{Aeq}	Noise Target, L_{Aeq}	Compliance?
Ground floor	N/A	35 dB	✓
Level 1	≤35 dB		✓
Level 2	≤35 dB		✓
Level 3	≤34 dB		✓
Level 4	≤33 dB		✓
Level 5	≤32 dB		✓
Level 6	≤31 dB		✓

The results above indicate that long-term average noise levels can be complied with using peak 'Day' and 'Night' traffic noise levels, inferring that the short-term ($L_{Aeq-1hr}$) criteria will also be met.

We note that no specific acoustic controls are required for the façade as standard forms of façade construction such as masonry (as indicated on the Plans) would comfortably surpass the performance requirements of the windows and doors.

On this basis, Enfield Acoustics is satisfied that the proposed development will comply with noise targets as recommended by Clause 58.04 of the planning scheme and City of Yarra Guidelines, providing that the glazing construction recommended in Section 3.3 is installed.

3.4 Ground Floor Commercial Use

With respect to potential noise impacts from the commercial use on ground floor, this is a matter that is typically resolved via compliance with the *National Construction Code*, (NCC) which recommends that the floor/ceiling is constructed to achieve $R_w + C_{tr} 50$.

It is also our experience that floor/ceiling partitions when constructed to NCC compliance are usually sufficient in addressing any airborne noise impacts that might occur within dwellings situated directly above small-scale commercial use, such as restaurant, cafés and offices.

The siting and context of the Subject Land indicate that any future commercial use will likely be moderate in nature, and consistent with the above examples.

Regardless, any commercial noise emissions must comply with the Noise Protocol at all on-site and off-site sensitive uses, noting that this is a statutory requirement and is enforceable regardless of planning controls.

Overall, we are satisfied that there is little risk of on-going noise impacts from the ground floor commercial use, noting that this is a typical configuration in many apartment developments across Victoria.

3.5 Domestic Air Conditioning

All outdoor air-conditioning (AC) units will need to be installed and used in compliance with the Environment Protection Regulations 2021 (Regulations), which prohibits the use of such equipment at night if it is audible within an adjoining residence.

The Plans indicate that domestic ACs will be installed on the rooftop. This is considered typical and is accepted as standard practice.

In reality, ACs are sometimes used during the night period but rarely result in noise complaints. Under the Regulations, an objective assessment is not typically required in planning because all AC units emit similar types of noise and rely on prohibited use at night in the event of a noise complaint.

Overall, the risk of adverse noise impacts from domestic ACs is low, especially in the context of being in a developed, urban area. Regardless, all domestic plant use is controlled by the Environment Protection Regulations 2021 which is enforceable regardless of planning controls.

4 Conclusion

Enfield Acoustics has assessed potential noise impacts from the proposed mixed-use development at 290 Park Street, Fitzroy North and is satisfied that a planning permit can be approved.

Appreciable forms of acoustic mitigation have been recommended to assist in mitigating noise impacts from surrounding commercial uses and from road and tram traffic on Nicholson Street.

Noise emissions from surrounding commercial use (Railway Hotel) were predicted to comply with the Base Noise limit of the Regulations and patron noise targets of the City of Yarra Guidelines.

Based on the traffic noise levels measured, we are also satisfied that the development can achieve satisfactory internal noise levels (in accordance with Standard D16) with moderate forms of glazing construction.

With regards to noise impacts from domestic plant from the Subject Land, we do not consider this to be a material risk of noise impacts, however, it is also recommended that all mechanical plant and equipment on the Subject Land be assessed once all requirements are known.

To this end, we are satisfied that a planning permit can be approved for the Subject Land where the recommendations in this report are adopted.

**ADVERTISED
PLAN**

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

Appendix A: MDA Letter

**ADVERTISED
PLAN**

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

18 August 2023

800 Nicholson Street Pty Ltd
By email: mat@everett4.com

Attention: Mat Everett

Dear Mat

RAILWAY HOTEL FITZROY NORTH – INFORMATION FOR ENFIELD ACOUSTICS

Marshall Day Acoustics (MDA) met with Enfield Acoustics (EA) on 30/06/2023 to discuss the proposed residential development at 290 Park Street, Fitzroy North with respect to potential noise impacts from existing operations at the Railway Hotel at 800 Nicholson Street, Fitzroy North.

MDA subsequently issued a meeting note Mn001 dated 7 July 2023 and agreed to provide the following information to EA:

- Patron noise
 - MDA to provide EA with results of patron noise modelling, including predicted patron noise levels at future facades of proposed residential development, noise model inputs, and commentary regarding risks/limitations to existing and potential future beer garden operations.
- Mechanical services noise
 - MDA to predict mechanical services noise levels from the Railway Hotel at the proposed residential development and provide these results and model inputs to EA for review and comment.
- Music noise
 - MDA to determine the music noise levels at the proposed residential development that would result in compliance at the nearest existing noise sensitive areas. MDA to provide these levels to EA for review and comment.
 - MDA to provide EA with internal music noise levels and anticipated existing transmission loss value of existing building elements at the Railway Hotel for model validation.

Further to additional noise measurements at site and detailed noise modelling, the analysis, results and information for EA are provided below.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

290 PARK STREET (PROPOSED DEVELOPMENT)

MDA has based the acoustic analysis on the floor plan layouts provided in the following town planning architectural drawings (shown in Table 1) provided by Architecture Architecture.

Table 1: Relevant documentation

Drawing number	Description	Date
A1.01	Ground floor plan	16/2/23
A1.02	First floor plan	16/2/23
A1.03	Second floor plan	16/2/23
A1.04	Third floor plan	16/2/23
A1.05	Roof plan	24/6/22

The areas identified as being the most affected by noise from the venue are detailed in Table 2.

Table 2: Most affected areas at 290 Park Street

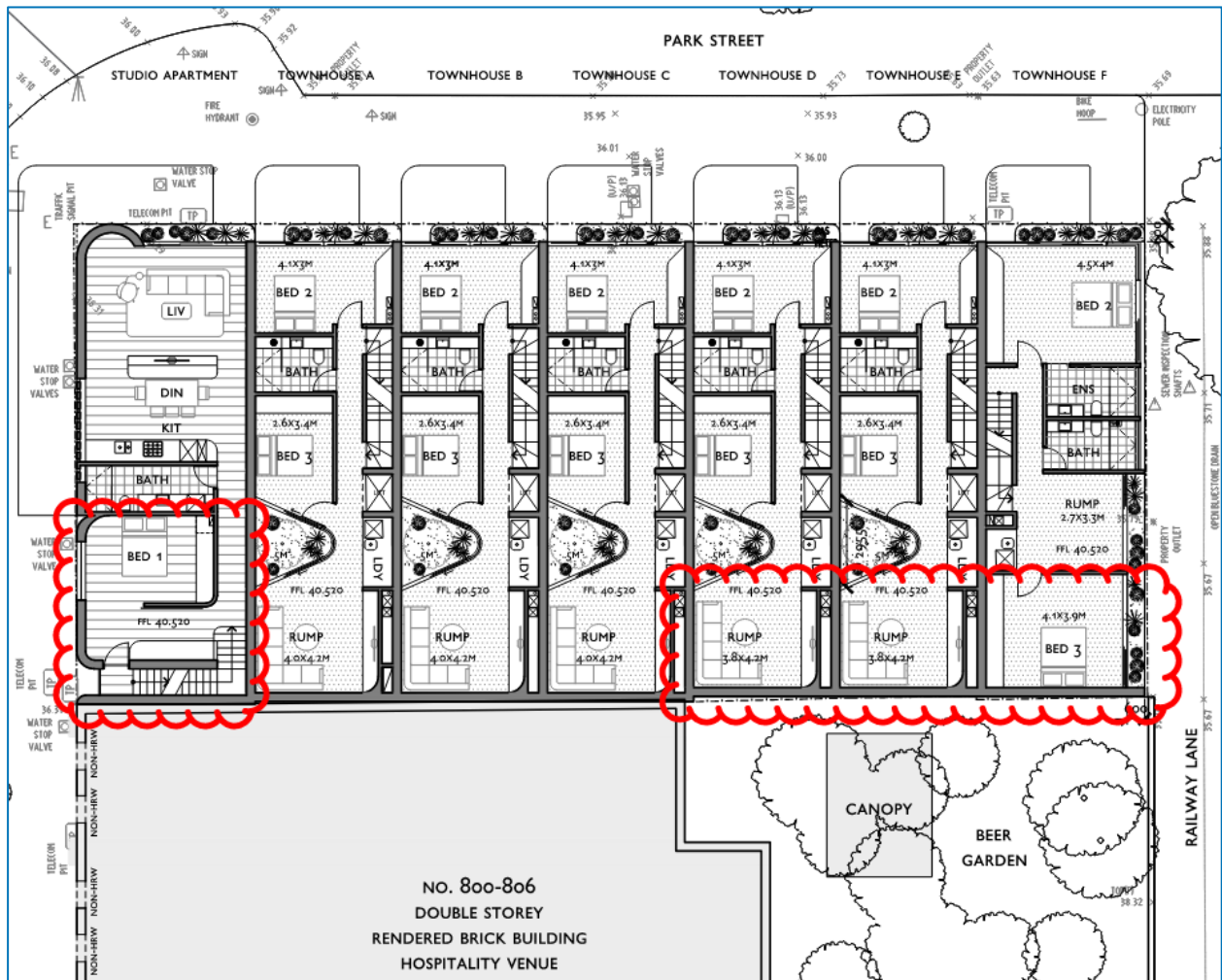
Dwelling	First floor	Second floor	Third floor
Studio apartment	Bedroom 1 west facing window	Open terrace area to west	-
Townhouse A	-	Southern wall of living area	Southern wall of sitting area
Townhouses B and C	-	Louvre/glazing on southern facade Southern wall of living area	Louvre/glazing on southern facade Southern wall of sitting area
Townhouses D and E	Southern wall of rumpus room	Louvre/glazing on southern facade Southern wall of living area	Louvre/glazing on southern facade Southern wall of sitting area
Townhouse F	Southern wall of Bedroom 3 and Bedroom 3 east facing window	Outdoor terrace to east Southern wall of living area	-

The level 1, 2 and 3 floor plans are shown in Figure 1, Figure 2 and Figure 3 respectively. The areas identified as being the most affected by noise in Table 2 above are highlighted in each figure.

**ADVERTISED
PLAN**

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

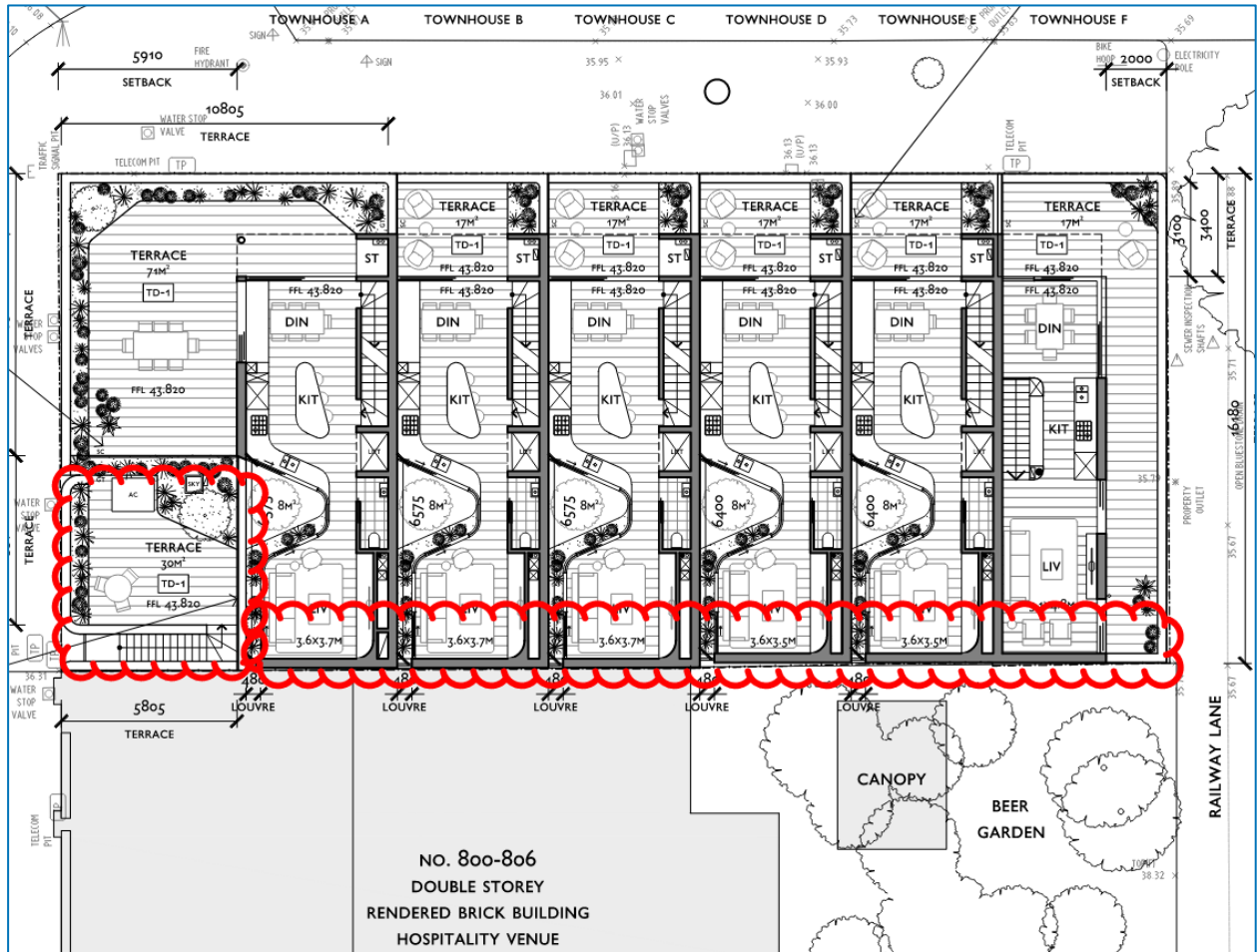
Figure 1: Proposed development – first floor



This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

**ADVERTISED
PLAN**

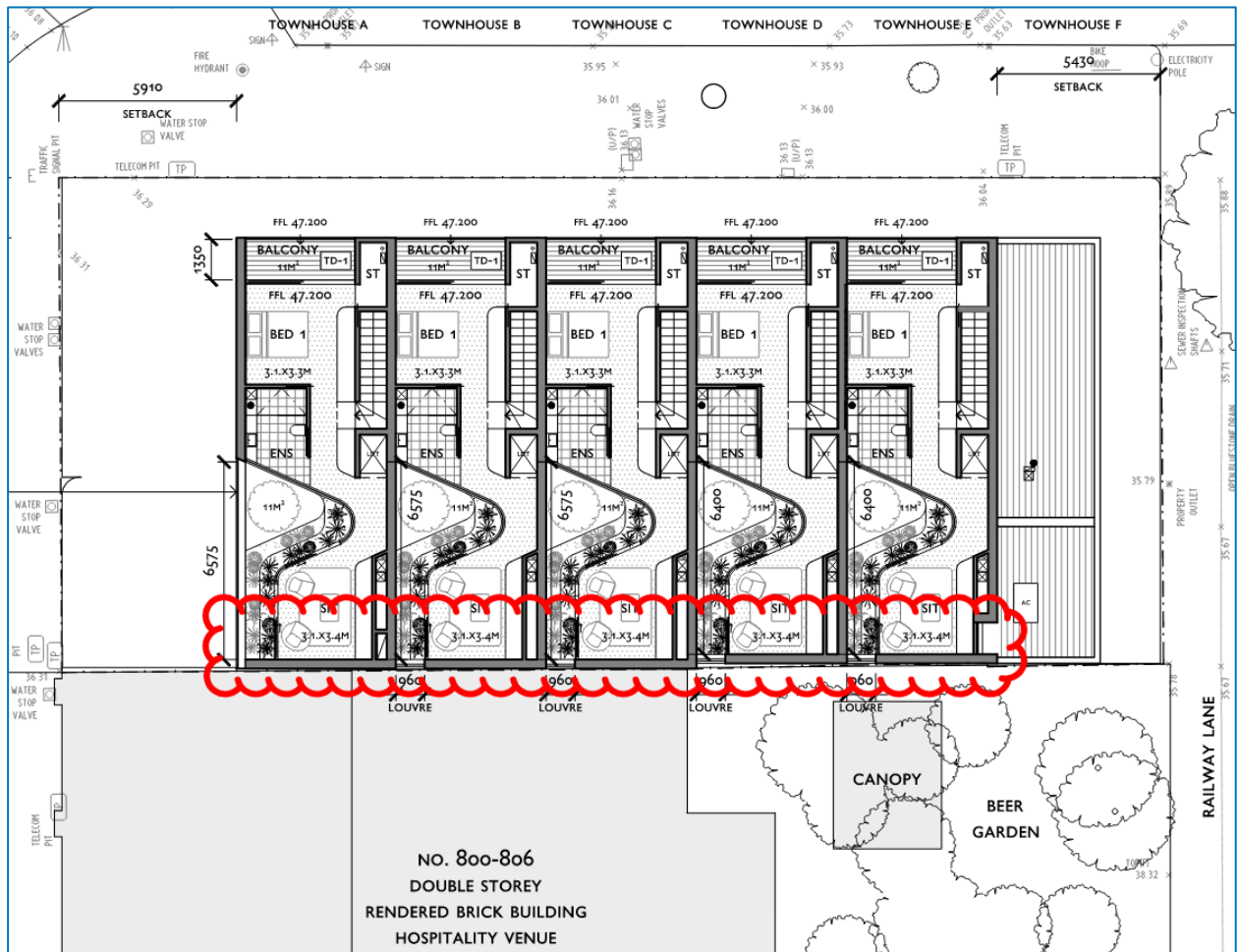
Figure 2: Proposed development – second floor



This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

Figure 3: Proposed development – third floor



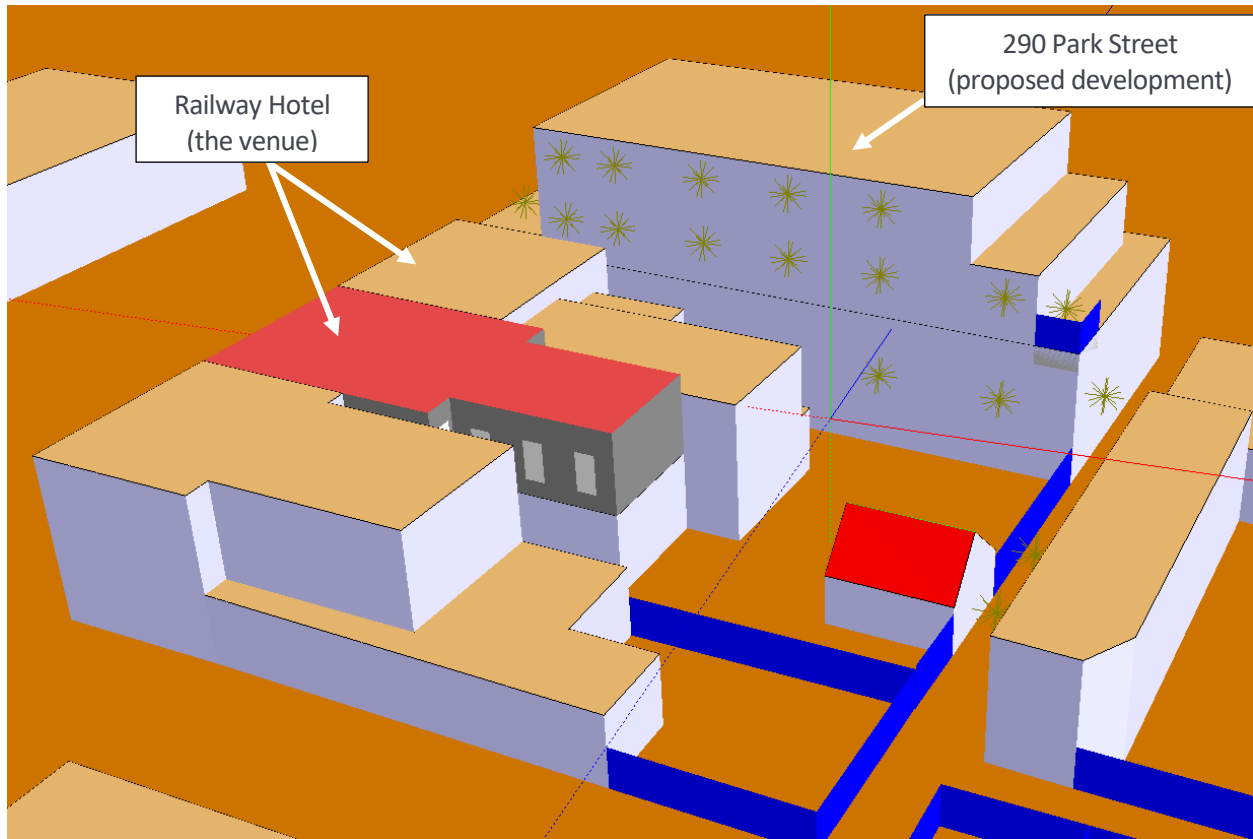
This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

**ADVERTISED
PLAN**

NOISE MODELLING METHOD

A digital noise model of the venue and surrounding built environment was developed using SoundPLANnoise 9.0. An extract from the model showing typical geometry is shown in Figure 4. Based on a review of elevation data available online, in addition to observations made onsite, we have modelled the terrain as completely flat and have assumed that the ground and surrounding surfaces are completely reflective.

Figure 4: 3D model used to predict noise levels at existing and proposed noise sensitive areas surrounding the venue



This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

**ADVERTISED
PLAN**

PATRON NOISE

The beer garden area at the rear of the venue is currently licensed for 120 patrons. We have predicted patron noise levels at the future facades of the proposed development for the following scenarios:

- Full capacity (120 patrons) – taverns with significant food offerings (i.e. 120 patrons seated)
- Full capacity (120 patrons) – vertical consumption (i.e. patrons standing in beer garden area).

The octave band sound power levels for the two patron noise scenarios used in the model are shown below in Table 3 and were derived using a method developed by MDA which was adopted by EA in their planning report.

Table 3: Patron noise source octave band sound power levels, dB L_w

Scenario	Octave Band Centre Frequency, Hz							A
	63	125	250	500	1000	2000	4000	
Taverns with significant food offerings	87	89	90	97	95	91	84	99
Vertical consumption	92	94	95	102	100	96	89	104

The predicted patron noise levels at the most affected location at the western, southern and eastern facades of the proposed development at 290 Park Street are shown below in Table 4 and take into account the attenuation provided by the acoustic screening proposed by EA for the Townhouse F level 2 terrace area.

Table 4: Predicted patron noise levels, dB L_{eq}

Noise affected area	Description	Taverns with significant food offerings	Vertical consumption
Western Facade			
Studio apartment	Outside first floor west facing bedroom window	42	47
	Second floor external west facing terrace area	43	48
Southern facade			
Townhouse F	First floor southern wall of bedroom	79	84
	Second floor southern wall of living area	74	79
Townhouse E	Third floor southern facade louvre/glazing on southern wall of living area	71	76
Eastern facade			
Townhouse F	Outside first floor east facing bedroom window	70	76
	Second floor external east facing terrace area (with proposed 1.7 m acoustic screening)	56	61

MDA's predicted levels at the second-floor terraces on the eastern and western facade comply with the 65 dB L_{Aeq} requirement for balconies as per Clause 58.04 of the City of Yarra Planning Scheme and Guidelines which has been adopted by Enfield Acoustics in their planning report.

While we acknowledge this compliance, we consider that there is a future risk of complaints to the EPA of unreasonable noise under the Environment Protection Act 2017. If the EPA determines that noise levels are unreasonable there are limited opportunities for reducing the risk of harm (outside of managerial controls which may affect the operation of the venue and physical controls at the cost of the venue).

Correspondingly, a developer of land near existing sources of noise must discharge their General Environmental Duty to minimise the risks of harm to human health from noise pollution so far as reasonably practicable.

The noise levels predicted at the east facing first-floor bedroom window of Townhouse F, and at the south facing facades with the fixed louvres/glazed area and solid walls will be reduced by the attenuation provided by the building facade materials proposed by EA. Ideally the building facade should be specified so that worst-case patron noise levels (i.e. from the vertical consumption scenario at full capacity) meet the internal noise thresholds nominated by EA.

MECHANICAL SERVICES NOISE

The following key items of mechanical plant associated with the venue are relevant to the assessment:

- Existing refrigeration plant at ground level in the venue's beer garden area
- Existing rooftop kitchen exhaust fan (KEF)

MDA measured the existing ground floor refrigeration plant at the venue on 13 July 2023 during the night period (outside the venue's regular operating hours). Noise from the plant was continuous with intermittent noise from the refrigeration condenser fan. A tonal component from the plant was also observed during the measurement.

MDA has not been able to measure the existing rooftop KEF to date. As such, we have used measurements of a similar rooftop KEF at a venue in Richmond to inform our predictions and assessment, which results in noise levels in-line with our observations at ground level. We consider the values used provide a conservative estimate for a plant item that we consider to be relatively low risk at this stage, given it's not expected to be operational during the night period.

The derived octave band sound power levels of the existing plant associated with the venue, used in our noise model to predict levels at the proposed development's facades, are presented in Table 5.

Table 5: Octave band sound power levels, dB L_w

Item	Octave Band Centre Frequency (Hz)							A
	63	125	250	500	1000	2000	4000	
Refrigeration plant	71	79	77	78	76	74	69	81
Kitchen exhaust fan	81	79	79	80	74	68	61	80

MDA has predicted noise levels in accordance with the Noise Protocol and Environment Protection Regulations 2021 at the most affected locations at the western, southern and eastern facades of the proposed development as presented in Table 6.

**ADVERTISED
PLAN**

Table 6: Predicted effective noise levels, dB L_{eff}

Noise affected area	Description	Predicted noise levels
Western facade		
Studio apartment	Outside first floor west facing bedroom window	36
	Second floor external west facing terrace area	45
Southern facade		
Townhouse F	First floor southern wall of bedroom	61
	Second floor southern wall of living area	58
Townhouse E	Third floor southern facade louvre/glazing on southern wall of living area	57
Eastern facade		
Townhouse F	Outside first floor east facing bedroom window	56
	Second floor external east facing terrace area (with proposed 1.7 m acoustic screening)	45

The predicted effective noise levels shown in Table 6 include a +5 dB tonality adjustment to account for the refrigeration plant's tonal component and includes the attenuation provided by the acoustic screening proposed by EA for the Townhouse F level 2 terrace area.

The predicted levels are provided so that EA can determine whether proposed internal amenity criteria will be achieved.

MUSIC NOISE

The Railway Hotel has existing use rights to operate as a Hotel, which has been recognised by Yarra City Council. The existing use rights apply to the entire Railway Hotel, including its first floor function room, which has been used as a live music venue at various points during the Railway Hotel's operating history. At the time that the EA assessment was undertaken, there was no live music being played in the first floor function room, but the current operators of the Railway Hotel intend to continue to use the first floor for live music.

As such, to provide EA with an accurate assessment of noise we have performed noise measurements and analysis to determine allowable levels of music noise within the first floor function room which would enable compliance with Noise Protocol music noise limits at existing residential properties.

MDA conducted a 15-minute attended background measurement within the vicinity of the venue and proposed development during the night period between 0141 and 0156 hrs on 13 July 2023 in order to determine the Noise Protocol night time music noise limit for the venue which applies at the existing noise sensitive areas and proposed development. The measured background levels and night time music noise limits are presented in Table 7.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Table 7: Music noise limits, dB

Description	Octave Band Centre Frequency, Hz						
	63	125	250	500	1000	2000	4000
Background noise measurement	37	34	31	29	26	19	13
Noise limit: dB L ₉₀ octave + 8 dB	45	42	39	37	34	27	21

MDA have estimated the transmission loss of the venue's first floor function room roof and south facing glazed facades based on in-situ sound insulation measurements conducted on 28 June 2023. The venue's estimated sound insulation performance (shown below in Table 8) has been used in the model to predict music noise transfer from within the venue's first floor function room to the surrounding existing and proposed noise sensitive areas through the venue's roof and facades.

Table 8: Estimated sound insulation performance, dB

Building element	Octave Band Centre Frequency, Hz							R _w
	63	125	250	500	1000	2000	4000	
Function room roof	11	13	18	19	20	20	21	20
Glazing in southern facade	21	18	19	21	23	24	27	21

Based on the estimated transmission loss provided by the first floor function room building envelope and the applicable music noise limits at the existing surrounding residential dwellings, we have determined the allowable internal music level for the first floor function room as shown in Table 9.

Table 9: First-floor function room internal noise level predicted to achieve compliance at the existing receivers, dB L₁₀

Source description	Octave Band Centre Frequency, Hz							A
	63	125	250	500	1000	2000	4000	
Internal reverberant noise level predicted to achieve compliance at the existing receivers	76	75	76	76	75	69	67	79

Based on the above allowable internal music noise levels being played within the first floor function room, music noise levels at the most affected locations at the most affected western, southern and eastern facades is provided in Table 10.

Table 10: Predicted music noise levels at proposed development, dB L₁₀

Location	Description	Octave Band Centre Frequency, Hz							
		63	125	250	500	1000	2000	4000	A
Western facade									
Studio apartment	Outside first floor west facing bedroom window	43	39	35	33	30	23	17	35
	Second floor external west facing terrace area	47	45	41	40	38	32	29	42
Southern facade									

ADVERTISED
PLAN

Location	Description	Octave Band Centre Frequency, Hz							
		63	125	250	500	1000	2000	4000	A
Townhouse E	First floor southern wall of rumpus room	48	46	41	39	35	27	21	40
Townhouse A	Second floor southern wall of living area	52	49	45	45	45	39	36	48
	Third floor southern facade louvre/glazing on southern wall of living area	53	51	48	47	45	39	35	49
Eastern facade									
Townhouse F	Outside first floor east facing bedroom window	39	37	33	31	28	22	17	33
	Second floor external east facing terrace area (with proposed 1.7 m acoustic screening)	39	34	27	32	30	23	19	34

These music noise levels are provided so that EA can determine whether nominated internal amenity criteria is likely to be achieved with the proposed building envelope materials.

Yours faithfully

MARSHALL DAY ACOUSTICS PTY LTD



Nash Cameron Jeffs
Acoustic Consultant

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**