CASA – 1-7 Waterfront Place Port Melbourne VIC

Noise Impact Assessment for Town Planning

Project No.	P01543
Revision	004
Issued	7 February 2025
Client	GFM Group Pty Ltd (ACN 675 440 730) in its capacity as trustee of the GFM BTS Trust Subtrust No.4 (ABN 12 757 352 180)

E-LAB Consulting

Where science and engineering inspire design.

Document QA and Revisions

ISSUE	DATE	COMMENTS	ENGINEER	REVIEWER
1	22/11/2024	Draft Issue	Terese D Ngyuen	Imran Khan
2	20/12/2024	Updated with comments	Terese D Ngyuen	Imran Khan
3	20/01/2025	Updated with comments	Terese D Ngyuen	Imran Khan
4	07/02/2025	Updated references	Mia Strembickyj	Imran Khan

Authorised by:

Engineering Lab NSW Pty Ltd

Brandon Notaras | Director

Acoustics & Vibration

Table of Content

1 INTRODUCTION

1.1 DOCUMENT PURPOSE

This report has been prepared to accompany a town planning application made to the Victorian Civil and Administrative Tribunal (VCAT) to amend Planning Permit 490/2020/A in respect of 1-7 Waterfront Place, Port Melbourne. The application seeks to construct a mixed-use development of 10-storeys (ground plus 9).

This acoustic assessment has been prepared to address the specific requirements outlined in Conditions 33 and 34 of the Planning Permit (490/2020/A) issued at the direction of VCAT. Following the original acoustic assessment prepared by Acoustic Logic (20200504.1/3107A/R1/JT), Council's permit conditions required additional acoustic measurements and improvements to be incorporated into the assessment. This report builds upon and updates the previous acoustic analysis while maintaining general accordance with the original Acoustic Logic report as stipulated in the permit conditions. The assessment includes new noise survey data and detailed analysis to ensure compliance with Council's requirements for acoustic protection of future occupants, particularly regarding noise impacts from port operations.

The following noise assessments were undertaken as part of this report:

- Airborne noise intrusion from traffic, port and tram noise sources surrounding the site.
- Internal noise limits for airborne and structure-borne noise generated by the private resident's gym.

1.2 RELEVANT DOCUMENTS

The following standards, guidelines and drawings have been used to establish the project specific acoustic design requirements for the development.

- Architectural drawings prepared by Woods Bagot dated 17 January 2025 (Issue for Town Planning).
- City of Port Phillip Planning Permit (490/2020/A).
- Acoustic Report (2020504.1/3107A/JT) for town planning prepared by Acoustic Logic dated 31 July 2020
- EPA Victoria, "*Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues*", Publication 1826.4. – 1 July 2021.
- Environment Protection Regulations (EPR) 2021, S.R. No 47/2021.
- Australian Standard AS/NZS 2107:2016, "*Acoustics – recommended sound design levels and reverberation times for building interiors*".

2 PROJECT SITE

2.1 SITE DESCRIPTION

The location of the proposal, noise monitoring and measurement positions, and the surrounding noise-sensitive receivers are shown in Figure 1.

The site maintains low ambient noise levels, interrupted by periods of increased activity during cruise ship operations. These intervals experience heightened pedestrian and vehicle movements, including taxis, ride-share services, and delivery vehicles. A tram stop is located to the west, while construction of an apartment building to the northeast, using primarily hand tools, has minimal noise impact during the noise survey period.

Figure 1: Acoustic site plan identifying the surrounding noise-sensitive receivers and noise monitoring locations

2.2 AMENDED PLANNING PERMIT CONDITIONS

The application to amend the Planning Permit (490/2020/A) at 1-7 Waterfront Place, Port Melbourne seeks permission for the following:

- Use and development of the land, to carry out works and construct a 10-storey mixed use building over two basement levels, comprising dwellings, retail (shop, food and drink premises, wellness centre), a restricted recreation facility (gymnasium) and reduction in car parking requirements., generally in accordance with the endorsed plans and subject to the following conditions:

  - **33 Acoustic Report and Mitigation Measures**

    Concurrent with the endorsement of plans under condition 1 of this permit, other than demolition, early works (hording site services, site shed etc) works to remediate contaminated land, and excavation and piling, an updated Acoustic Report prepared by a suitably qualified person must be submitted to, approved by and be to the satisfaction of the Responsible Authority. The Report must be generally in accordance with the submitted Acoustic Assessment prepared by Acoustic Logic (Rev: 3, 22/10/2020) but updated to include:

    a) Confirmation that the Port was audible during measurements, or if the measured noise levels are inclusive of Port noise and what noise level the Port was generating;

    b) Confirmation of how it was established that the Port was in full operation. Alternatively, provide long term continuous monitoring (at least 7-days) to reasonably sample and establish the variability of Port operation;

    c) Appropriate mitigation measures based on surrounding noise sources, including the Port (in full operation) and the adjacent tram/light rail, to confirm that all dwellings will achieve internal noise levels not exceeding 30dBA in any bedrooms and 40 dBA in living areas;

    d) Appropriate mitigation measures to ensure the use of the gym will not unreasonably impact the above/surrounding dwellings in terms of noise and vibration.

    When approved, the Report will be endorsed and will then form part of this permit and the development must incorporate the mitigation measures listed

  - **34 Internal Noise Levels to Dwellings**

    All dwellings must achieve internal noise levels not exceeding 30dBA in any bedrooms and 40 dBA in living areas, to the satisfaction of the Responsible Authority.

3 NOISE MONITORING

3.1 INSTRUMENTATION

The equipment used for the noise survey conducted by E-LAB was the following:

- NTi XL3 Sound Level Meter, S/N A3A-00549-D1.
- NTi XL2 Sound Level Meter, S/N A2A-24333-E1.
- Pulsar Acoustic Calibrator, Model 105, S/N 100360.

All equipment was calibrated before and after the measurements and no significant drift was found. All equipment carries current traceable calibration certificates that can be provided upon request.

3.2 LONG-TERM NOISE MONITORING

Long-term noise monitoring has been undertaken for the project site at locations shown in Figure 1 to measure the background and ambient noise that is representative of the surrounding noise-sensitive receivers. Detailed graphical noise monitoring data is presented in Appendix B.

As per Planning Permit Condition 33, the port was in operation during the long-term measurements undertaken by E-LAB on the 8th and 12th of November 2024. We should note that since the issue of the permit, the Spirit of Tasmania operations have been relocated to Geelong, resulting in an overall reduction in port activity.

Table 1 below outlines the cruise ship names and times each was berthed at the pier during the survey, which correlates with the noise levels presented in Appendix B.

Table 1: Cruise ship names and timetable during noise survey

CRUISE SHIP NAME	DATE & TIME
Pacific Explorer	08/11/2024 07:00 to 16:00
Diamond Princess	09/11/2024 07:00 to 17:00
Disney Wonder	10/11/2024 06:15 to 23:00
Pacific Explorer	11/11/2024 07:00 to 16:00
Queen Elizabeth	12/11/2024 07:00 to 18:00

3.2.1 Background Noise

Long-term measures were undertaken at the site's perimeter, with a direct line of sight to the pier and port activities. The microphone was located approximately 3m above ground level, above the existing solid site hoarding (see Figure 2).

Figure 2: On-site monitoring location

The results of the noise monitoring at location LT1, as indicated in Figure 1, are presented in Table 2 below.

Table 2: Unattended noise monitoring results

LOCATION	MEASURED EQUILAVENT CONTINUOUS NOISE LEVEL – L_{EQ} dB(A)		MEASURED BACKGROUND NOISE LEVELS – L_{90} dB(A)		
	DAY (6AM TO 10PM)	NIGHT (10PM TO 6AM)	DAY	EVENING	NIGHT
LT1	64 $L_{Aeq,T}$	62 $L_{Aeq,T}$	49 $L_{A90,average,1hr}$	49 $L_{A90,average,1hr}$	42 $L_{A90,average,1hr}$

As defined in the EPR Part 5.3, Division 3, Regulation 116, in relation to noise emitted from commercial, industrial and trade premises, operating time periods are presented below:

Figure 3: EPR applicable time periods for noise limits

PERIOD	APPLICABLE DAYS	APPLICABLE TIMES
Day	Monday to Saturday (except public holidays)	07:00 to 18:00
Evening	Monday to Saturday	18:00 to 22:00
	Sunday and public holidays	07:00 to 22:00
Night	All days	22:00 to 07:00

3.3 SHORT-TERM (ATTENDED) NOISE MONITORING

3.3.1 Tram Noise

Short-term noise measurements were conducted at the subject site to determine the tram noise impact on Monday 10th November 2024. The results of the measurements are presented in Table 3.

The dominant noise sources from the trams at the site were identified as the noise generated during take-off and braking, as well as the high-pitched squeals from the wheels. Trams take off slowly at this location, which marks the end of the tram line, ruling out high-speed noise contributions. Observations revealed that as one tram takes off, the next tram arrives shortly after. It remains stationary at the stop for approximately 10 minutes with its engine switched off (not idling) until it is ready to depart. This operational pattern minimises prolonged engine noise but emphasises the transient noises associated with starting, stopping, and wheel movements.

Table 3: Short-term noise measurement summary

MEASUREMENT LOCATION	TIME & DURATION (mm:ss)	L_{Aeq} dB(A)	L_{A90} dB(A)	L_{A10} dB(A)	L_{AFmax} dB(A)	COMMENTS
ST4	10:55am 00:34	61	50	68	71	Departure of Tram (Route 109)
	10:56am 00:26	65	52	70	74	Arrival of Tram (Route 109)
	11:09am 00:39	62	53	67	73	Departure of Tram (Route 109)
	11:10am 00:32	63	53	70	75	Arrival of Tram (Route 109)

3.3.2 Previous Ambient Noise Measurements

As presented in Acoustic Logic's report, previous 15-minute attended noise measurements were undertaken around the site on the 12th of August 2016. Refer to measurement locations in Figure 1, and the results are presented in Table 4 below:

Table 4: Previous short-term noise measurement summary

MEASUREMENT LOCATION	TIME & DURATION (mm:ss)	L_{Aeq} dB(A)	COMMENTS
ST1	Between 6:00am to 7:30am 15:00	69 $L_{Aeq,15mins}$	
ST2	Between 6:00am to 7:30am 15:00	65 $L_{Aeq,15mins}$	
ST3	Between 6:00am to 7:30am 15:00	69 $L_{Aeq,15mins}$	Noise levels include traffic noise on Waterfront Place and are not representative of dock operation

4 PROJECT NOISE CRITERIA

4.1 INTERNAL NOISE LEVELS

4.1.1 Port Phillip Planning Scheme Schedule 23 (DDO23)

Schedule 23 to the Design and Development Overlay (DDO23) of the Port Philip Planning Scheme contains the design requirements in respect of acoustic protections:

> ***Design requirements B7: Station pier interface***
>
> ▪ *Any development intended for residential or other sensitive uses must include acoustic protection for future occupiers and be designed and constructed to ensure noise levels do not exceed:*
>
> - *30dBA in any bedrooms; and*
> - *45dBA in living areas,*
>
> *when the port facilities are in full operation.*

4.1.2 Planning Permit Conditions (490/2020/A)

As outlined in Conditions 33 and 34 of the planning permit, the internal noise limits for the project are:

> *all dwellings will achieve internal noise levels not exceeding*
>
> - *30 dBA in any bedroom; and,*
> - *40 dBA in living areas.*

The acoustic design outlined in this report has been developed to satisfy the requirements outlined in Conditions 33 and 34. This includes appropriate mitigation measures to achieve the specified internal noise levels of 30 dBA in bedrooms and 40 dBA in living areas. The private residents' gymnasium should not unreasonably impact surrounding dwellings regarding noise and vibration and should be further coordinated during the detailed design stage.

5 OPERATIONAL NOISE ASSESSMENT

5.1 AIRBORNE NOISE INTRUSION

Internal noise intrusion will predominantly occur through windows, doors, and roof structures due to their relatively lightweight construction and lower sound transmission loss properties. The proposed precast/masonry wall elements provide sufficient acoustic mass and do not require additional acoustic treatment.

Long-term survey results (LT1) and the attended tram noise levels measured at ST4 have been utilised to calculate facade noise levels at the proposed development, accounting for distance attenuation between the measurement point and building location.

Using updated data captured by E-Lab (detailed in Section 3), predictions for noise transmission through windows, doors, and roof structures are outlined in Section 6.1. These calculations incorporate external noise levels, spectral characteristics, predicted exposed surface areas, room acoustic properties, and the acoustic performance of building elements.

All recommendations in this section are based on acoustic requirements only. Structural, thermal and any other considerations will be considered during design development for the final façade glazing system (i.e. double glazing, single glazed units etc.).

The major external noise sources affecting the project site are traffic noise from Waterfront Place and noise from port operations. During our noise measurements, we observed that port operations primarily contribute to increased pedestrian and vehicle activity in the area - these observed conditions have been incorporated into our assessment.

A façade acoustic assessment has been conducted based on $L_{Aeq,T}$ noise survey undertaken at site as noted in Section 3.2.1, and assessed to the internal noise criteria presented in 4.1.2.

6 MITIGATION MEASURES

6.1 EXTERNAL SOUND ISOLATION – BUILDING ENVELOPE

6.1.1 Glazed Façade Elements

To simplify the acoustic façade requirements across the entire precinct, an acoustic facade type (AFT) has been assigned to typical glazing arrangements in Table 5. A markup of the AFT's on architectural general arrangement plans is provided in Appendix A. The preliminary façade recommendations in Table 5 will be refined once the architectural design has progressed into a detailed design.

This aligns generally with the original Acoustic Logic Town Planning acoustic report and assessment.

Table 5: Acoustic façade types & glazing arrangements

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

NOTE 1: The specified acoustic performance requirements for glazing systems incorporate the combined sound transmission loss of both the glass panels and associated framing components.

6.1.2 Non-Glazed Façade Elements

In addition to the required glazing systems outlined in Table 5, the solid/non-glazed elements of the façade shall be constructed to ensure the resulting internal noise levels within each space in the proposed development do not exceed the project internal noise limits outlined in Section 4.1.2.

The concrete roof construction provides sufficient acoustic performance without requiring additional treatment. All ceiling penetrations (including those for lighting fixtures and services) must be sealed with appropriate flexible sealant to maintain acoustic integrity. Where ventilation openings are required in ceiling spaces, these must incorporate suitable acoustic treatment to preserve the specified acoustic performance of the ceiling assembly and ensure compliance with the internal noise criteria outlined in Section 4.1.2.

Masonry constructions such as concrete or core-filled blockwork will be satisfactory with no additional acoustic treatment required.

Lightweight constructions are to have an indicative acoustic performance of no less than R_w 50 where directly facing the port, and R_w 45 in all other areas to ensure the resulting internal noise levels within each space in the proposed development do not exceed the recommended internal noise levels outlined in Section 4.1.2.

7 CONCLUSION

E-LAB Consulting has prepared this Noise Impact Assessment in support of an application to amend Planning Permit (490/2020/A) having regard to Conditions 33 and 34 and DDO23.

The assessment has considered the following key acoustic elements:

- Noise impacts from road traffic, port noise and tram noise on the proposed development
- Internal noise limits for airborne and structure-borne noise generated by the private-residents gym.

Having given regard to the analysis conducted within this report, this noise impact assessment finds that the proposed development meets the requirements of Planning Permit Conditions 33 and 34, and supports the proposed amendments to these conditions. The assessment demonstrates compliance with all applicable noise and vibration requirements outlined above.

Appendix A **Façade Glazing Markup**

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 01

Recent revision history

Description	Date
Town Planning Issue	17/01/2025

GENERAL NOTES:

- ALL CAR PARKING SPACES TO HAVE FUTURE PROVISION FOR THE INSTALLATION OF EV CHARGING STATIONS.
- REFER TO LANDSCAPE ARCHITECT DRAWINGS PREPARED BY OCULUS FOR FACADE PLANTER AND LEVEL 01 OUTDOOR GARDEN
- MIN. 1700MM HIGH SCREEN BETWEEN APARTMENTS TO ALL RESIDENCES IN ACCORDANCE WITH STANDARD DTS
- REFER BELOW SYMBOLS FOR WASTE BIN TYPES:
  - G GARAGE BINS
  - GL GLASS
  - O ORGANICS
  - R RECYCLING
  - WASH WASHING BAY
- REFER TO WASTE REPORT BY RATIO CONSULTANTS
- REFER TO TRAFFIC REPORT BY RATIO CONSULTANTS
- REFER TO ARCHITECTURAL COMPLIANCE DIAGRAMS

Project
1-7 Waterfront Place, Port Melbourne

Client
Perpetual Corporate Trust Ltd

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Sheet title
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Sheet number TP-22101
Revision A
Status
TOWN PLANNING APPLICATION

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 02

#	Status	Description	Date
A		Town Planning Issue	17/01/2025

GENERAL NOTES:

- ALL CAR PARKING SPACES TO HAVE FUTURE PROVISION FOR THE INSTALLATION OF EV CHARGING STATIONS.
- REFER TO LANDSCAPE ARCHITECT DRAWINGS PREPARED BY OCULUS FOR FAÇADE PLANTER AND LEVEL 01 OUTDOOR GARDEN.
- MIN. 1700MM HIGH SCREEN BETWEEN APARTMENTS TO ALL RESIDENCES IN ACCORDANCE WITH STANDARD D15
- REFER BELOW SYMBOLS FOR WASTE BIN TYPES:
  - G GARAGE BINS
  - GL GLASS
  - O ORGANICS
  - R RECYCLING
  - WASH WASHING BAY
- REFER TO WASTE REPORY BY RATIO CONSULTANTS
- REFER TO TRAFFIC REPORT BY RATIO CONSULTANTS
- REFER TO ARCHTITECTURAL COMPLIANCE DIAGRAMS

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Revision A

Status
TOWN PLANNING APPLICATION

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 03

Recent revision history

#	Status	Description	Date
A		Town Planning Issue	17/01/2025

GENERAL NOTES:

- ALL CAR PARKING SPACES TO HAVE FUTURE PROVISION FOR THE INSTALLATION OF EV CHARGING STATIONS.
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Status
TOWN PLANNING APPLICATION

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 04

Recent revision history

#	Status	Description	Date
A		Town Planning Issue	17/01/2025

GENERAL NOTES:

- ALL CAR PARKING SPACES TO HAVE FUTURE PROVISION FOR THE INSTALLATION OF EV CHARGING STATIONS.
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ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
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2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 05

Recent revision history

#	Status	Description	Date
A		Town Planning Issue	17/01/2025

GENERAL NOTES:

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Status
TOWN PLANNING APPLICATION

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 06

Recent revision history

#	Status	Description	Date
A		Town Planning Issue	17/01/2025

GENERAL NOTES:

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Perpetual Corporate Trust Ltd

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Status
TOWN PLANNING APPLICATION

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 07

Recent revision history

#	Status	Description	Date
A		Town Planning Issue	17/01/2025

GENERAL NOTES:

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TOWN PLANNING APPLICATION

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
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3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 08

Recent revision history

#	Status	Description	Date
A		Town Planning Issue	17/01/2025

must verify all dimensions on site before commencing
epairing shop drawings.

ale drawings.

GENERAL NOTES:

- ALL CAR PARKING SPACES TO HAVE FUTURE PROVISION FOR THE INSTALLATION OF EV CHARGING STATIONS.
- REFER TO LANDSCAPE ARCHITECT DRAWINGS PREPARED BY OCULUS FOR FACADE PLANTER AND LEVEL 01 OUTDOOR GARDEN.
- MIN. 1700MM HIGH SCREEN BETWEEN APARTMENTS TO ALL RESIDENCES IN ACCORDANCE WITH STANDARD D15
- REFER BELOW SYMBOLS FOR WASTE BIN TYPES:
  - G GARAGE BINS
  - GL GLASS
  - O ORGANICS
  - R RECYCLING
  - WASH WASHING BAY
- REFER TO WASTE REPORY BY RATIO CONSULTANTS
- REFER TO TRAFFIC REPORT BY RATIO CONSULTANTS
- REFER TO ARCHTITECTURAL COMPLIANCE DIAGRAMS

Project
1-7 Waterfront Place, Port Melbourne

Client
Perpetual Corporate Trust Ltd

Issued
W–B
WOODS BAGOT

Project number
131042

Size check
25mm

Checked	Approved	Sheet size	Scale
Checker	Approver	A1	1 : 200

Sheet title
LEVEL 08 PLAN (TOWER)

Sheet number
TP-22108

Revision
A

Status
TOWN PLANNING APPLICATION

ACOUSTIC FAÇADE TYPE	REQUIRED ACOUSTIC RATING (R_w)	TYPICAL EQUIVALENT GLASS
1	31[1]	Single: 6.38mm laminated glass Double: 6.38mm / 12mm airgap / 6mm glazing
2	35[1]	Single: 10.38mm laminated glass Double: 10.38mm / 12mm airgap / 6mm glazing
3	38[1]	Double: 13.52mm / 12mm airgap / 8mm glazing

LEVEL 09

Recent revision history

#	Status	Description	Date
A		Town Planning Issue	17/01/2025

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25mm

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Checker	Approver	A1	1 : 200

Sheet title
LEVEL 09 PLAN (TOWER))

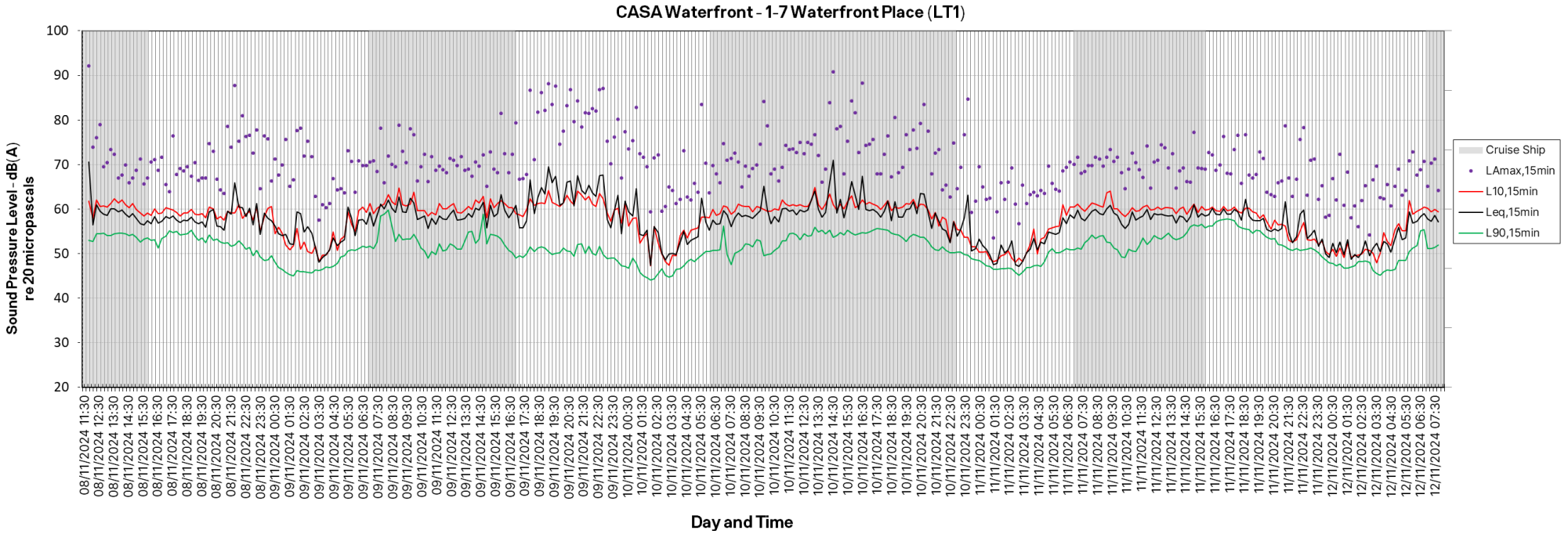
Sheet number
TP-22109

Revision
A

Status
TOWN PLANNING APPLICATION

Appendix B **Noise Monitoring Data**

Figure 4: Long-term noise monitoring data graph (LT1)



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