



Edward St Microlots

79 & 81 Edward Street, Perth

Acoustic Report – Development Application

Project No.	P04384
Revision	001
Issued	11.09.2026
Client	Urbanista

Issue and Revision Record

Revision	Date	Comments	Engineer	Reviewer
001	11.09.2026	DA Issue	IK	TDN
002				
003				
004				

The project design and construction team are required to review and consider the implications of these recommendations on their design for the project. The design team shall coordinate with any specific condensation, acoustic, wind, structural, safety, constructability, maintenance or architectural design requirement for this particular project.

Engineering Lab NSW Pty Ltd

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Imran Khan | National Technical Director



E-LAB Consulting

e-lab.com.au



Table of Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION	2
1.1 DOCUMENT PURPOSE	2
1.2 RELEVANT DOCUMENTS	2
1.3 PROJECT DESCRIPTION.....	2
2. ACOUSTIC DESIGN CRITERIA	4
2.1 CITY OF VINCENT PLANNING 7 BUILDING POLICY – POLICY 7.5.21 SOUND ATTENUATION ...	4
2.2 ROAD NOISE – STATE PLANNING POLICY 5.4.....	4
2.3 INTERNAL NOISE LEVELS	5
2.4 NOISE EMISSIONS – WA ENVIRONMENTAL PROTECTION (NOISE) REGULATIONS 1997	6
2.5 INFLUENCING FACTORS	6
3. NOISE SURVEY	10
3.1 INSTRUMENTATION.....	10
3.2 MEASUREMENT SUMMARY	10
4. NOISE INTRUSION	12
4.1 TRAFFIC NOISE INTRUSION – SPP 5.4	12
4.2 MODELLING INPUTS	12
4.3 NOISE MODELLING RESULTS.....	13
5. NOISE INTRUSION ASSESSMENT.....	14
5.1 EXTERNAL FAÇADE	14
5.2 GLAZED FAÇADE.....	14
5.3 RAIN NOISE – ROOF TREATMENT	14
6. NOISE EMISSIONS	15
6.1 MECHANICAL PLANT	15
7. CONCLUSION	16
APPENDIX A NOISE MODELLING CHECKLIST	17
APPENDIX B FAÇADE NOISE MAPS.....	19

We recognise the Traditional Custodians of the land on which the proposed development will be constructed. We respect their enduring cultural and spiritual connections to the land and waters, and celebrate their knowledge, kinship, and values. We acknowledge that these connections to the land and waters have existed for millennia and will continue into the future. We respect the Elders who have gone before, together with those of today for their guidance on our shared journey. We recognise that we are, and always will be, on Aboriginal land.



Executive Summary

E-Lab Consulting has been commissioned by Urbanista to undertake an acoustic assessment for the proposed six-townhouse development at 79 & 81 Edwards Street, Perth WA 6000.

This Acoustic report has been prepared as part of Development Application for the proposed development. The following acoustic assessments were undertaken, and recommendations are made to maintain compliance:

- Noise Intrusion to the project from external noise sources in accordance with State Planning Policy 5.4 – Road and Rail Noise.
- Noise emissions from the development impacting noise sensitive receivers in accordance with WA Environmental Protection (Noise) Regulations 1997

Site Survey

An on-site noise survey was conducted to measure the ambient noise levels to assist in the design of the façade of the building and for noise model calibration.

Noise Intrusion – SPP5.4

An evaluation of external noise impacts (road traffic) on the project site was conducted in line with SPP 5.4. The methodology and assessment criteria are outlined in the SPP 5.4 Guidelines (hereafter referred to as the Guidelines).

Noise intrusion calculations were conducted to establish the performance requirement of the façade. A summary of façade treatments is detailed below:

Façade Orientation	Acoustic Façade Type	Required Acoustic Rating (R_w)	Typical Equivalent Glass
All Orientations	Glazing - Living & Bedroom	Single Glazing – R_w 32	6.38mm Laminatd Glass
All Orientations	Solid Façade	R_w 50	90mm brick masonry with internal dry wall lining, cavity to be provided with insulation. <u>Light weight Construction</u> Colorbond +92mm steel studs with insulation in cavity + 2 layers of 13mm soundchek plasterboard(13kg/m ²)

Noise Emissions – WA EPNR

Mechanical services must comply with the Western Australian Environmental Protection (Noise) Regulations (WA EPNR) criteria at the nearest noise-sensitive receivers during all periods of the day. Detailed mechanical equipment selections are typically unavailable at the development application stage. Noise emissions from mechancial plant are required to comply with WA EPNR.



1. Introduction

1.1 Document Purpose

E-Lab Consulting has been commissioned by Urbanista to undertake an acoustic assessment for the proposed six-townhouse developments at 79 & 81 Edwards Street, Perth WA 6000.

This acoustic report has been prepared as part of the Development Application for the proposed development. The following acoustic assessments have been undertaken, and recommendations made to demonstrate compliance:

- Noise Intrusion to the project from external noise sources (road traffic from Graham Farmer Freeway & Lord Street) in accordance with State Planning Policy 5.4 – Road and Rail Noise
- Noise emissions from the development impacting noise sensitive receivers in accordance with WA Environmental Protection (Noise) Regulations 1997

1.2 Relevant Documents

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

- City OF Vincent Planning & Building Policy – Policy 7.5.21 Sound Attenuation
- WAPC/DPLH, State Planning Policy 5.4 – Road and Rail Noise, Sep 2019 (SPP 5.4)
- Australian and New Zealand Standard AS/NZS 2107:2016 – Acoustics – Recommended design sound levels and reverberation times for building interiors (AS2107)
- National Construction Code 2022 Volume 1, Building Code of Australia (NCC 2022)
- Western Australian Environmental Protection (Noise) Regulations 1997 (WA EPNR)
- Architectural documentation drawn by Arastudio dated 1st June 2026.

1.3 Project Description

The proposed project site is located to the west of Lord Street and is to be built over two blocks of land, those being 79 & 81 Edwards Street, Perth WA 6000. The site is surrounded by a combination of residential dwellings and commercial premises. The property adjoining the site is the Uniting Church of Western Australia, with Perth Oval to the north and the Graham Farmer Freeway to the south.

The project location is within trigger distance of State Planning Policy 5.4 – Road and Rail Noise due to its proximity to Graham Farmer Freeway & Lord Street. Figure 1 shows the project location and the nearest noise sensitive receiver (NNSR).



Figure 1: Project Location and Nearest Noise Sensitive Receiver (Source: Google Maps)

2. Acoustic Design Criteria

This section presents the regulatory requirements and acoustic design criteria for the proposed project.

2.1 City of Vincent Planning 7 Building Policy – Policy 7.5.21 Sound Attenuation

City of Vincent Planning and Building Policy - Policy 7.5.21 Sound Attenuation policy requires the residential development to meet the following requirements:

Noise Intrusion

Noise intrusion from external sources shall be designed to meet the following sound levels:

- Living / Work Areas $L_{eq} 40dB(A)$
- Sleeping Areas (Bedrooms) $L_{eq} 35dB(A)$

Ambient noise at the project site is controlled by road traffic noise from Lord Street and the commercial establishments along Edward Street and Dalmeny Street. Attended noise measurements during peak time of traffic and business hours was carried out on 19th August 2026 between 7:55.am -8:15am

In addition, noise impact due to Graham Farmer Freeway and Lord Street was modelled in accordance with State Planning Policy 5.4.

Noise Emissions

Noise emissions from the development should comply with WA Environmental Protection (Noise) Regulations 1997. Applicable criteria have been detailed in section 2.4 of this report.

2.2 Road Noise – State Planning Policy 5.4

The project site falls within the SPP 5.4 trigger zone (Figure 2) for Graham Farmer Freeway & Lord Street. SPP 5.4 establishes the indoor and outdoor noise criteria that apply to a noise sensitive land use due to noise emissions from road and rail transport.



Figure 2: Project Location and SPP 5.4 Zone (Source: Department of Planning, Lands and Heritage)

The applicable noise level criteria are presented below in Table 1.

Table 1: State Planning Policy 5.4 Criteria

Proposal	New / Upgrade	Noise Target - Outdoor		Noise Target - Indoor
		Day 6am – 10pm $L_{Aeq, (Day)}$ dB	Night 10pm – 6am $L_{Aeq, (Night)}$ dB	
Noise-Sensitive land-use and/or development	New noise-sensitive land-use and/or development within the trigger distance of an existing/proposed transport corridor	55	50	DAY – L_{Aeq} 40 (Living & Work Areas) NIGHT – L_{Aeq} 35 (Bedrooms)

SPP5.4 requires assessment of traffic impact for future traffic volumes for the next 20 years. Where predicted noise levels exceed the noise targets, mitigation measures are needed to meet the noise targets. The policy requires outdoor targets to be met in all outdoor areas, as far as is reasonable and practicable, using the noise mitigation measures outlined in the Guidelines.

2.3 Internal Noise Levels

Recommended internal noise levels within the development are outlined by AS 2107:2016 – Acoustics – Recommended design sound levels and reverberation times for building interiors.

The recommended internal noise levels stated in AS 2107:2016 apply to the combined internal noise levels from building services and external sources. The internal noise level criteria in AS2107 recommend continuous equivalent (L_{Aeq}) levels for background noise.

A summary of the AS2107 criteria is presented in Table 2.

Table 2: Project Internal Noise Targets – Residential Spaces

Façade Orientation	Acoustic Façade Type	Required Acoustic Rating (R_w)	Typical Equivalent Glass
Sole Occupancy Unit (SOU)	Sleeping Areas	10pm to 7am	35 – 40 dB (A) L_{Aeq}
	Living Areas	Anytime	35 – 45 dB (A) L_{Aeq}

2.3.1 Rain Noise

There is no mandatory guidance in relation to internal noise limits due to rain noise. However, it is recommended that the internal noise levels are designed not to exceed the internal ambient noise levels in Table 2 by 5 dB(A), for a rainfall of 15 mm/hr.



2.4

2.4 Noise Emissions – WA Environmental Protection (Noise) Regulations 1997

Environmental noise emissions resulting from the development are addressed through the Environmental Protection Act 1986 with the prescribed standards detailed in the Environmental Protection (Noise) Regulations 1997 (WA EPNR). The regulations are based on maximum allowable noise levels termed the 'assigned noise level'.

According to the EPNR, noise emissions from any premises are deemed not to significantly impact the receiver if the emissions are 5 dB or less below the assigned levels. In summary, assigned noise levels are set by evaluating the presence of commercial and industrial zones, major transport routes, and sporting venues around noise-sensitive premises.

The assigned levels apply at premises receiving the noise (noise sensitive receiver) and not to areas within the project site or lot. In addition, the Environmental Protection (Noise) Regulations 1997 identify the following in Schedule 3, clause 2A.

- "If the land within either of the circles is categorised on the land use map as land in respect of which mixed uses are permitted, the use of that land that results in the highest influencing factor is to be used in the determination of the influencing factor."

The City of Vincent and City of Perth online mapping systems (Local Planning Scheme 7) have been used to ascertain land use. Based on these maps, the influencing factor at the nearest noise sensitive receivers has been calculated.

The nearest noise sensitive receivers have been identified as detailed below and shown in Figure 1.

- **85/89 Edward St, Perth WA 6000 (Uniting Church Western Australia)**

2.5 Influencing Factors

The zoning maps used for the calculation of influencing factor showing the land use types for the City of Vincent and the City of Perth are presented in Figure 3 and Figure 4 respectively.

Traffic data for roads surrounding the nearest noise sensitive receiver were obtained from Main Roads Western Australia (MRWA). Table 3 presents the traffic data of the nearby roads.



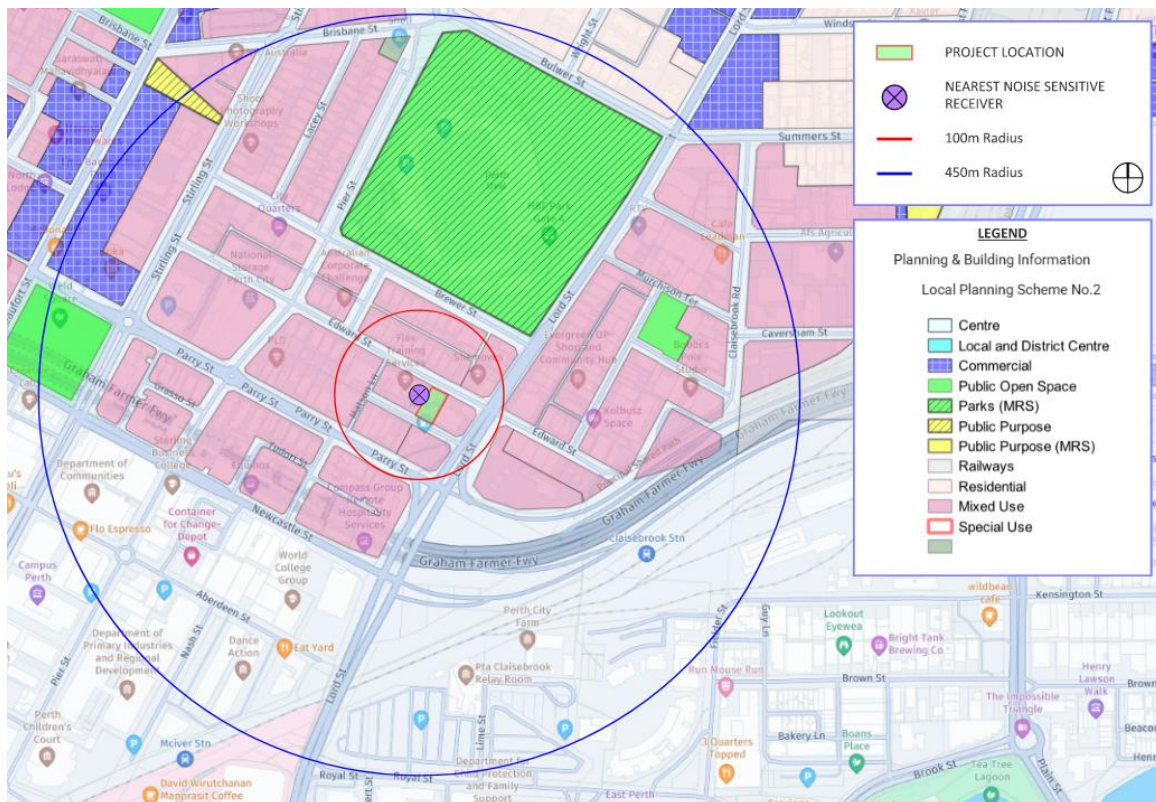


Figure 3: Zoning Maps for the Project and Surrounding Areas - 85/89 Edward Street (Source: City of Vincent Intramaps)

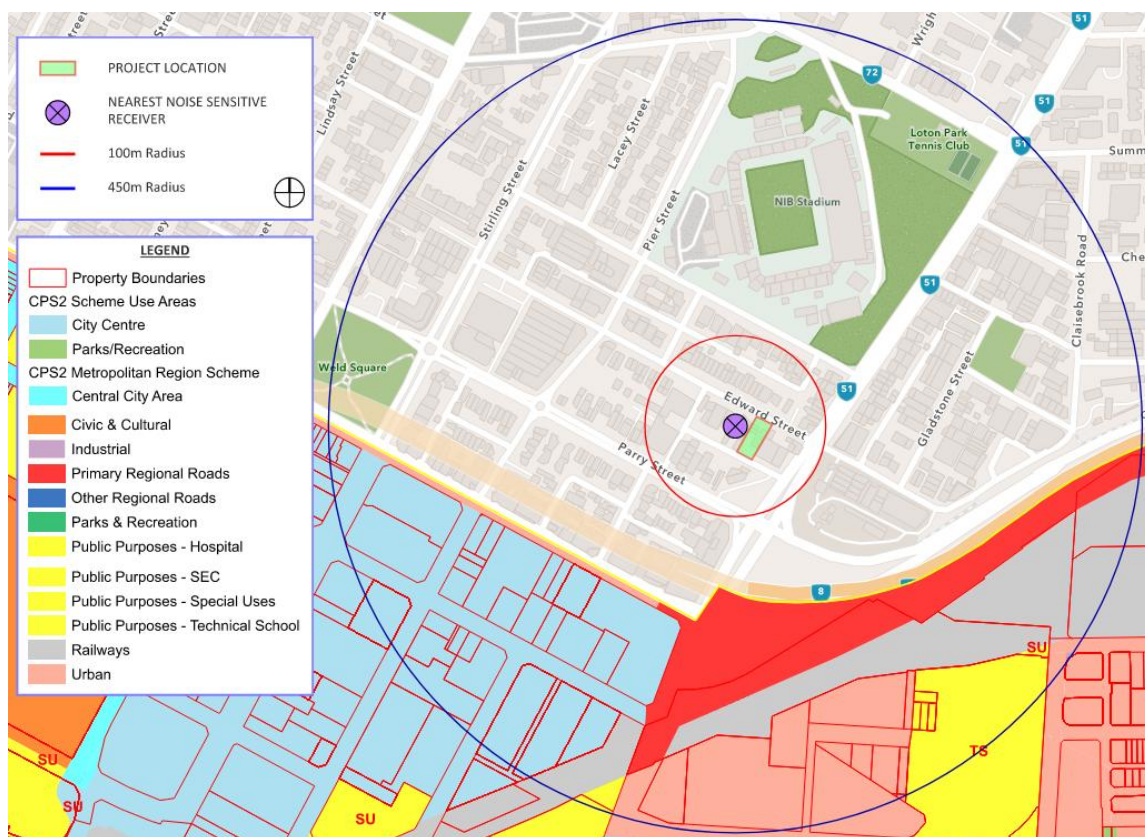


Figure 4: Zoning Maps for the Project and Surrounding Areas - 85/89 Edward Street (Source: City of Perth Intramaps)

Table 3: Traffic Data (Source: Main Roads WA)

Road	WA EPNR Classification	Annual Average Daily Traffic Volumes / Year
Lord Street (North of Bulwer St)	Major Road	20,336 (2021 - 2022)
Lord Street (South of Newcastle St)		21,481 (2021 - 2022)
Graham Farmer Fwy (Northbridge Tunnel (Eastbound))		61,667 (2026 – 2027)
Graham Farmer Fwy (Northbridge Tunnel (Westbound))		64,620 (2026 – 2027)

Table 4 presents the influencing factor for results from identifying major roads, commercial and industrial areas for the nearest noise sensitive receivers is detailed in Table 4.

Table 4: Influencing Factor (IF) Noise Sensitive Receivers

Noise Sensitive Receivers	Commercial	Industrial	Road	Influencing Factor
85/89 Edward St, Perth WA 6000 (Uniting Church Western Australia)	68% within 100m Radius 56% within 450m Radius	0% within 100m Radius 0% within 450m Radius	Lord Street (North of Bulwer St) within 100m Radius Lord Street (South of Newcastle St) Graham Farmer Fwy (East and West Bound) within 450m Radius	12 dB

2.5.1 Assigned Noise Levels – Noise Sensitive Receivers

Table 5 summarises the assigned levels at the nearest noise sensitive receivers. All noise emissions from the development are below the assigned level criteria for all defined periods of the day and at the lot boundary of the receiver or 15m from any associated building.

Table 5: Assigned Levels – 85/89 Edward Street

Types of Premises Receiving Noise	Time of Day	Assigned Levels (dB)		
		L _{A10}	L _{A1}	L _{Aeq}
Noise Sensitive Premises:	0700 to 1900 hours Monday to Saturday	57	67	77
Highly Sensitive Area	0900 to 1900 hours Sunday & public holidays	52	62	77
	1900 to 2200 hours all days	52	62	67
	2200 hours on any day to 0700 hours Monday to Saturday, and 0900 hours Sunday & public holidays	47	57	67



2.5.2 Commercial, Industrial Premises

Table 6 provides additional noise sensitive criteria for the noise sensitive receivers relating to commercial and industrial premises and their assigned noise levels.

Table 6: Additional Noise Level Criteria

Types of Premises Receiving Noise	Time of Day	Assigned Levels (dB)		
		L _{A10}	L _{A1}	L _{Aeq}
Noise sensitive premises: any area other than highly sensitive areas	All Hours	60	75	80
Commercial premises	All Hours	60	75	80
Industrial and utility premises	All Hours	65	80	90

2.5.3 Noise Character Adjustments

Regulation 7 states that the noise character must be “free” of annoying characteristics, namely —

- Tonality, e.g. whining, droning;
- Modulation, e.g. like a siren; and
- Impulsiveness, e.g. banging, thumping.

Regulation 9(1) establishes the methodology for determining noise characteristics. If these characteristics cannot be reasonably and practicably removed, a series of adjustments to the measured levels are required, indicated in Table 7.

Table 7: Noise Character Adjustments

Adjustment Where Noise Emission is not Music these Adjustments are Cumulative to a Maximum of 15 dB			Adjustment Where Noise Emission is Music		
Where tonality is present	Where modulation is present	Where impulsiveness	Where tonality is present	Where modulation is present	Where impulsiveness
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB	+ 5 dB

2.5.4 Mechanical Services Noise Emissions

Mechanical equipment serving the project is required to meet the assigned levels of the EPNR at the nearest sensitive receivers. It is important that noise emissions from the site do not present any form of tonality, modulation or impulsiveness (as defined by the EPNR).



3. Noise Survey

Attended noise measurement and unattended noise logging were carried out on site to ascertain the noise levels at the project site and noise from Lord Street to assist with the design of the external façade and calibration of the model.

Attended noise measurements were carried out on 19th August 2026. Noise logging was carried out from 19th to 25th August 2026. The Location of the deployed noise logger and attended measurement is shown in Figure 1.

3.1 Instrumentation

The following instrumentation was used to conduct the noise survey, the results of which are presented in the following sections:

- NSRT mk3 Sentry Noise Logger
- NTi XL3 Class 1 Sound Level Meter, S/N: A3A-00650-D1
- Larson Davis Sound Calibrator, S/N: 22031

The sound level meter was calibrated before and after the measurements and no significant drift was found. Test measurements were performed using instrumentation equivalent to an integrating sound level meter which met the accuracy requirements of a Class 1 instrument as defined by IEC 60651 and IEC 60804. The sound level meter complied with the requirements documented in AS IEC 61672.1.

The sound level meter was calibrated by an authorised NATA (National Association of Testing Authorities) laboratory less than two years prior to the assessment and has successfully passed all AS 1259 and AS/NZS 4476 standards and specifications.

The sound level meter was calibrated before and after the measurement session, using a Class 1 acoustic calibrator, also calibrated less than two years prior, and in compliance with AS IEC 60942-2004.

The filters complied with the requirements defined in IEC 61260.

3.2 Measurement Summary

Table 8 summaries the measured outdoor noise levels at the project site, accompanied by on-site observations of noise sources contributing to the acoustic environment.

Table 8: Noise Measurement Summary

Measurement Time	Measured Noise Levels		Comments
	L _{Aeq} dB (A)	L _{A90} dB (A)	
8:00 am – 8:15 am	56	51	▪ Ambient noise from Birds and wind ▪ Noise From Traffic along Lord Street, occasional traffic on Edward Street ▪ Occasional Road Trains (Trucks) turning onto East side of Edward Street

Noise data recorded by the unattended logger is presented graphically in Figure 5. The average L_{Aeq} noise levels for weekdays during the measurement period are detailed below:

- Daytime (6 am – 10 pm) 56 dB(A)
- Night-time (10 pm – 6 am) 50 dB(A)



78 & 81 Edward Street, Perth

Wednesday 19 August 2026
to
Tuesday 25 August 2026

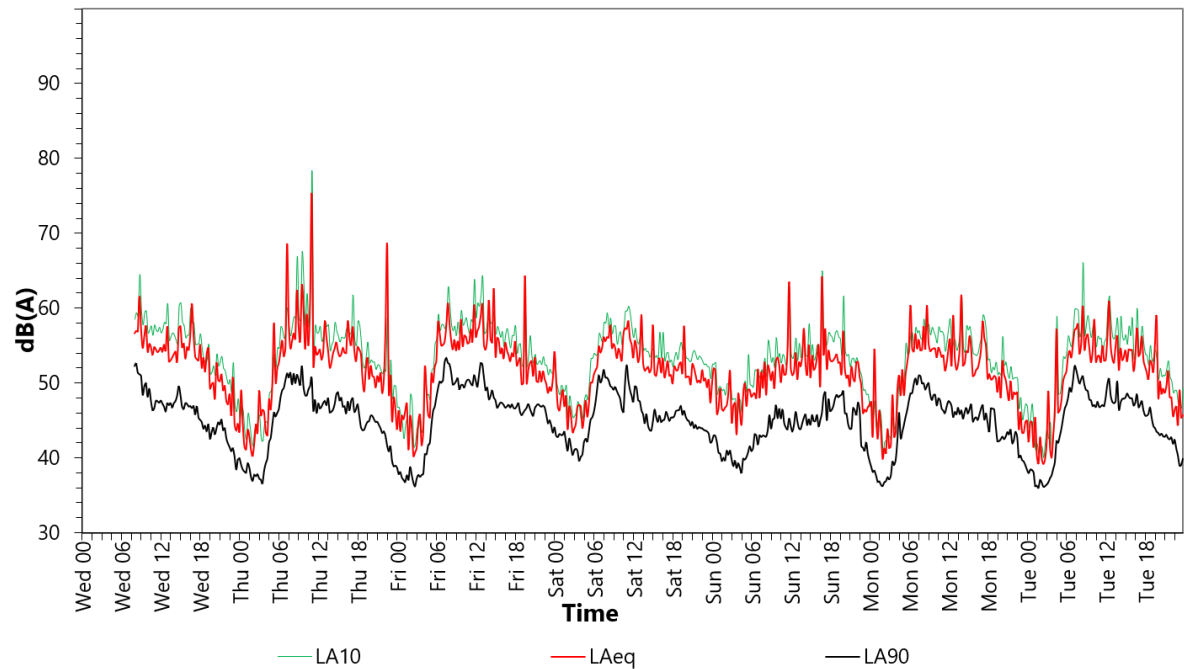


Figure 5: Unattended Noise Logging



4. Noise Intrusion

4.1 Traffic Noise Intrusion – SPP 5.4

An evaluation of external transport noise impacts on the site was conducted in line with SPP 5.4. The methodology and assessment criteria are outlined in the SPP 5.4 Guidelines (hereafter referred to as the Guidelines). Sound PLAN v9.0, a 3D noise modelling software, was used to simulate noise emissions from major roads and to assess the resulting noise levels at the building façades of the development.

The noise assessment accounts for both current and future traffic volumes that will impact the proposed development. The findings from this assessment were used to evaluate the level of noise intrusion into the apartments.

Noise levels were modelled 1 metre from the building façade. The predicted receiver noise levels at the façade also include a +2.5 dB façade correction, in accordance with SPP 5.4 requirements. Compliance with the relevant sections of the SPP 5.4 Noise Modelling Checklist is documented in Appendix A.

4.2 Modelling Inputs

4.2.1 Topography & Ground Absorption

Topographical data for areas surrounding the site (1m elevation contours) were sourced from Geoscience Australia Digital Elevation Model (DEM) 5 Metre Grid of Australia derived from LiDAR.

A ground condition of 0.6 has been used in the model, which is between a soft ground condition (1) and a reflective ground condition (0).

A reflection order of 3 has been considered in all assessments.

4.2.2 Road Traffic

The road traffic noise assessment has been conducted based on the methodology described by the Calculation of Road Traffic Noise algorithm (CoRTN, UK Transport Agency).

The CoRTN algorithm has been developed to calculate LA10,18hr noise levels. However, SPP 5.4 requires road noise assessments to be based upon the energy averaged LAeq,16hr and LAeq,8hr noise descriptors for the daytime and night-time respectively. Conversions are applied using the method outlined in the DEFRA publication, "Method for Converting the UK Road Traffic Noise Index LA10,18hour to the EU Noise Indices for Road Noise Mapping."

- This algorithm considers the following parameters:
- Noise levels measured on site for calibration of the model
- Traffic volume during each period of the day, and for current and future scenarios
- Traffic speeds
- Percentage of heavy vehicles; and
- Gradient and surface of road

The noise model included the heights of road traffic noise sources as specified by the Guidelines. Below are the modelled heights of the vehicle "strings":

- Passenger vehicles: + 0.5 m
- Heavy vehicles — Engine noise: + 1.5 m
- Heavy vehicles — Exhaust: + 3.6 m



The modelled and observed average daily traffic volumes for 2026 and 2046 were sourced from Main Roads Western Australia (MRWA), Reference No. 43841. This data pertains to traffic on Lord Street and Graham Farmer Freeway.

SPP 5.4 requires that all noise assessments account for changes in traffic volumes anticipated over the next 20 years. The traffic volume projections provided by MRWA were utilised for this purpose. Table 9 summarises the current and projected future traffic volumes used in the assessment.

Table 9: Traffic Volumes - Current and Future

Road	Year	Daily Vehicle Count	Daytime Vehicle Volume / Hr	Nighttime Vehicle Volume / Hr	Percentage Of Heavy Vehicle	Speed (Km / Hr)
Graham Farmer Fwy	2026	125,640	7,242	1,222	Day – 9% Night –7%	80
	2046	144,610	8,335	1,406	Day –9% Night –7%	80
Lord Street	2026	21,867	1,279	176	Day – 6% Night –6%	60
	2046	29,443	1,721	237	Day – 6% Night –6%	60

The noise model for the current year was calibrated using data obtained from the noise logging. A correction factor of -1.4 dB was applied to eliminate the discrepancy between the actual noise logger data and model predictions.

4.2.3 Model Calibration

The noise model for the current year was calibrated using data obtained from the noise logging. A correction factor of +2.9 dB was applied to eliminate the discrepancy between the actual noise logger data and model predictions.

4.3 Noise Modelling Results

The road traffic noise assessment for the future year (2046) predicted the highest external noise levels for the daytime and night-time periods:

- Day-time scenario 68 dB(A)
- Night-time scenario 60 dB(A)

Predicted noise levels on the façades (façade noise maps) are provided in Appendix B. The façade sections facing Lord Street / Graham Farmer Freeway are projected to experience noise levels exceeding the 'noise target' values outlined in SPP5.4. Noise intrusion assessment and recommendations for façade to meet the internal noise levels are provided in Section 5.

5. Noise Intrusion Assessment

5.1 External Façade

Noise intrusion calculations were conducted using the approach outlined in British Standard BS EN 12354:2000. The calculations were based on the highest on-site measured noise levels to select appropriate glazing for achieving the desired internal noise levels. Adjustments were made to the linear spectral noise levels to account for potential losses from flanking paths and façade corrections. The minimum required external façade configuration has been recommended based on the highest measured outdoor noise levels.

5.2 Glazed Façade

Noise intrusion has been calculated for all façade elements, weighted according to their surface area. Based on the highest measured noise levels, required façade performance is presented in Table 10.

Table 10: Acoustic Façade Categories and Glazing Arrangements

Façade Orientation	Acoustic Façade Type	Required Acoustic Rating (R_w)	Typical Equivalent Glass
All Orientations	Glazing - Living & Bedroom	Single Glazing – R_w 32	6.38mm Laminatd Glass
All Orientations	Solid Façade	R_w 50	90mm brick masonry with internal dry wall lining, cavity to be provided with insulation. <u>Light weight Construction</u> Colorbond +92mm steel studs with ionsulation in cavity + 2 layers of 13mm soundchek plasterboard(13kg/m ²)

Note that additional components of the glazing system (e.g., frames, seals etc.) are also required to achieve the nominated performance ratings. The overall performance of the glazing and frame assembly should not fall more than 3 dB below the nominated rating.

5.3 Rain Noise – Roof Treatment

In accordance with the project rain noise criteria for noise-sensitive areas such that internal noise criteria during rainfall of no greater than 5 dB(A) above the AS2107 recommended internal noise levels, it has been determined that a system capable of reducing rain noise by circa 38 dB(A) would be required.

A typical roof/ceiling configuration for controlling rain noise is detailed below:

- Colorbond metal deck roof with 75 mm thick high-density Anticon insulation to the underside, and a suspended plasterboard ceiling with 50mm glasswool insulation(14kg/m³) laid directly above.

6. Noise Emissions

6.1 Mechanical Plant

Mechanical services will be expected to comply with the respective WA EPNR criteria at the nearest noise sensitive receivers for all periods of the day. At this stage no information has been provided regarding mechanical service equipment selection.

Selection of equipment shall ensure compliance with WA EPNR is maintained or appropriate screening is provided to meet compliance.

7. Conclusion

E-Lab Consulting were commissioned by Urbanista to undertake an acoustic assessment for the proposed six-townhouse development at 79 & 81 Edwards Street, Perth WA 6000.

This acoustic report was prepared as part of the Development Application for the proposed development. The following acoustic assessments have been undertaken, and recommendations have been made to demonstrate compliance:

- Noise Intrusion to the project from external noise sources (road traffic from Lord Street & Graham farmer Freeway) in accordance with State Planning Policy 5.4 – Road and Rail Noise
- Noise emissions from the development impacting noise sensitive receivers in accordance with WA Environmental Protection (Noise) Regulations 1997

To assess each of the acoustic considerations for the proposed development, noise criteria have been established in Section 2 in accordance with the following documents:

- WAPC/DPLH, State Planning Policy 5.4 – Road and Rail Noise, Sep 2019 (SPP 5.4)
- Western Australian Environmental Protection (Noise) Regulations 1997 (WA EPNR)
- Australian and New Zealand Standard AS/NZS 2107:2016 – Acoustics – Recommended design sound levels and reverberation times for building interiors (AS2107)
- National Construction Code 2022 Volume 1, Building Code of Australia (NCC 2022)

A road traffic noise assessment has been conducted, and the minimum recommended external façade construction has been specified to comply with internal noise level criteria. Predicted noise levels at the building façades were calculated using the 3D noise modelling software package SoundPLAN v9.0.

Appendix A Noise Modelling Checklist

Checklist Item		Action
Road Traffic Input Data - Current		
Road Name	Graham Farmer Freeway 2026	
	16-hr daytime road traffic volume	107,500
	Percentage of heavy vehicles (daytime)	9
	8-hr night-time road traffic volume	18,140
	Percentage of heavy vehicles (night-time)	7
Road Pavement	Open Graded Asphalt	-2.5 dB
Road traffic heights	Have the road emissions sources been modelled at the following heights?	
	Light and heavy vehicle tyre-road height at +0.5 m	Y
	Heavy vehicle engine height at +1.5 m	Y
	Heavy vehicle exhaust height at +3.6 m	Y
Traffic Speed	What is the modelled road posted (signal) traffic speed?	80 km / hr

Checklist Item		Action
Road Traffic Input Data - Future		
Road Name	Graham Farmer Freeway 2046	
	16-hr daytime road traffic volume	123,731
	Percentage of heavy vehicles (daytime)	9
	8-hr night-time road traffic volume	20,879
	Percentage of heavy vehicles (night-time)	7
Road Pavement	Open Graded Asphalt	-2.5 dB
Road traffic heights	Have the road emissions sources been modelled at the following heights?	
	Light and heavy vehicle tyre-road height at +0.5 m	Y
	Heavy vehicle engine height at +1.5 m	Y
	Heavy vehicle exhaust height at +3.6 m	Y
Traffic Speed	What is the modelled road posted (signal) traffic speed?	80 km / hr

Checklist Item		Action
Road Traffic Input Data - Current		
Road Name	Lord Street 2026	
	16-hr daytime road traffic volume	19,217
	Percentage of heavy vehicles (daytime)	6
	8-hr night-time road traffic volume	2,651
	Percentage of heavy vehicles (night-time)	6
Road Pavement	Stone Mastic Asphalt	-1.5 dB
Road traffic heights	Have the road emissions sources been modelled at the following heights?	
	Light and heavy vehicle tyre-road height at +0.5 m	Y
	Heavy vehicle engine height at +1.5 m	Y
	Heavy vehicle exhaust height at +3.6 m	Y
Traffic Speed	What is the modelled road posted (signal) traffic speed?	60 km / hr

Checklist Item		Action
Road Traffic Input Data - Future		
Road Name	Lord Street 2046	
	16-hr daytime road traffic volume	25,874
	Percentage of heavy vehicles (daytime)	6
	8-hr night-time road traffic volume	3,569
	Percentage of heavy vehicles (night-time)	6
Road Pavement	Dense Graded Asphalt	-1.5 dB
Road traffic heights	Have the road emissions sources been modelled at the following heights?	
	Light and heavy vehicle tyre-road height at +0.5 m	Y
	Heavy vehicle engine height at +1.5 m	Y
	Heavy vehicle exhaust height at +3.6 m	Y
Traffic Speed	What is the modelled road posted (signal) traffic speed?	60 km / hr

Appendix B Façade Noise Maps



E-LAB

ISSUE	DATE	STATUS
1	10-09-2025	ISSUE FOR INFORMATION

LEGEND

Facade Noise Level - $L_{max}(L_{Aeq})$ dB(A)

40 <	<= 40
43 <	<= 43
46 <	<= 46
49 <	<= 49
52 <	<= 52
55 <	<= 55
58 <	<= 58
61 <	<= 61
64 <	<= 64
67 <	<= 67
70 <	<= 70
73 <	<= 73
76 <	<= 76
79 <	<= 79

NOTES

PROJECT
78 & 81 Edward St, Perth

PROJECT NO.
PD4348

ARCHITECT

CLIENT
Urbanista

SCALE
NTS

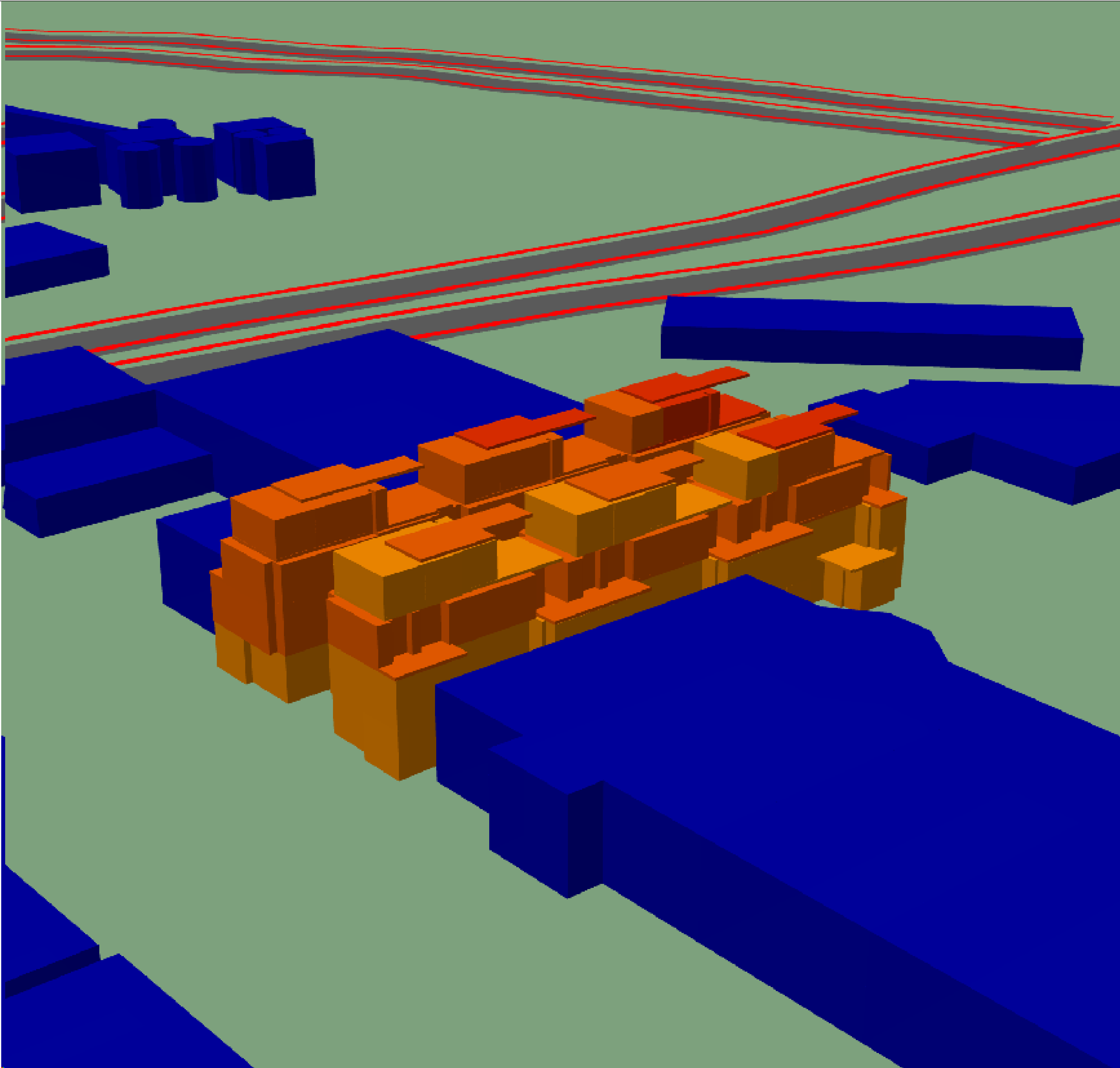
STATUS
ISSUE FOR INFORMATION

DRAWING
2046 FACADE NOISE LEVELS - DAYTIME
VIEW 1

DISCIPLINE
ACOUSTICS

DRAWING NUMBER
AC-DWG-100-01-01

REVISION
001



E-LAB

ISSUE	DATE	STATUS
1	16-09-2025	ISSUE FOR INFORMATION

LEGEND	
Facade Noise Level - $L_{\text{max}}(L_{\text{Aeq}})$ dB(A)	
40 <	<= 40
43 <	<= 43
46 <	<= 46
49 <	<= 49
52 <	<= 52
55 <	<= 55
58 <	<= 58
61 <	<= 61
64 <	<= 64
67 <	<= 67
70 <	<= 70
73 <	<= 73
76 <	<= 76
79 <	<= 79

NOTES

PROJECT
78 & 81 Edward St, Perth

PROJECT NO.
PD4348

ARCHITECT

CLIENT
Urbanista

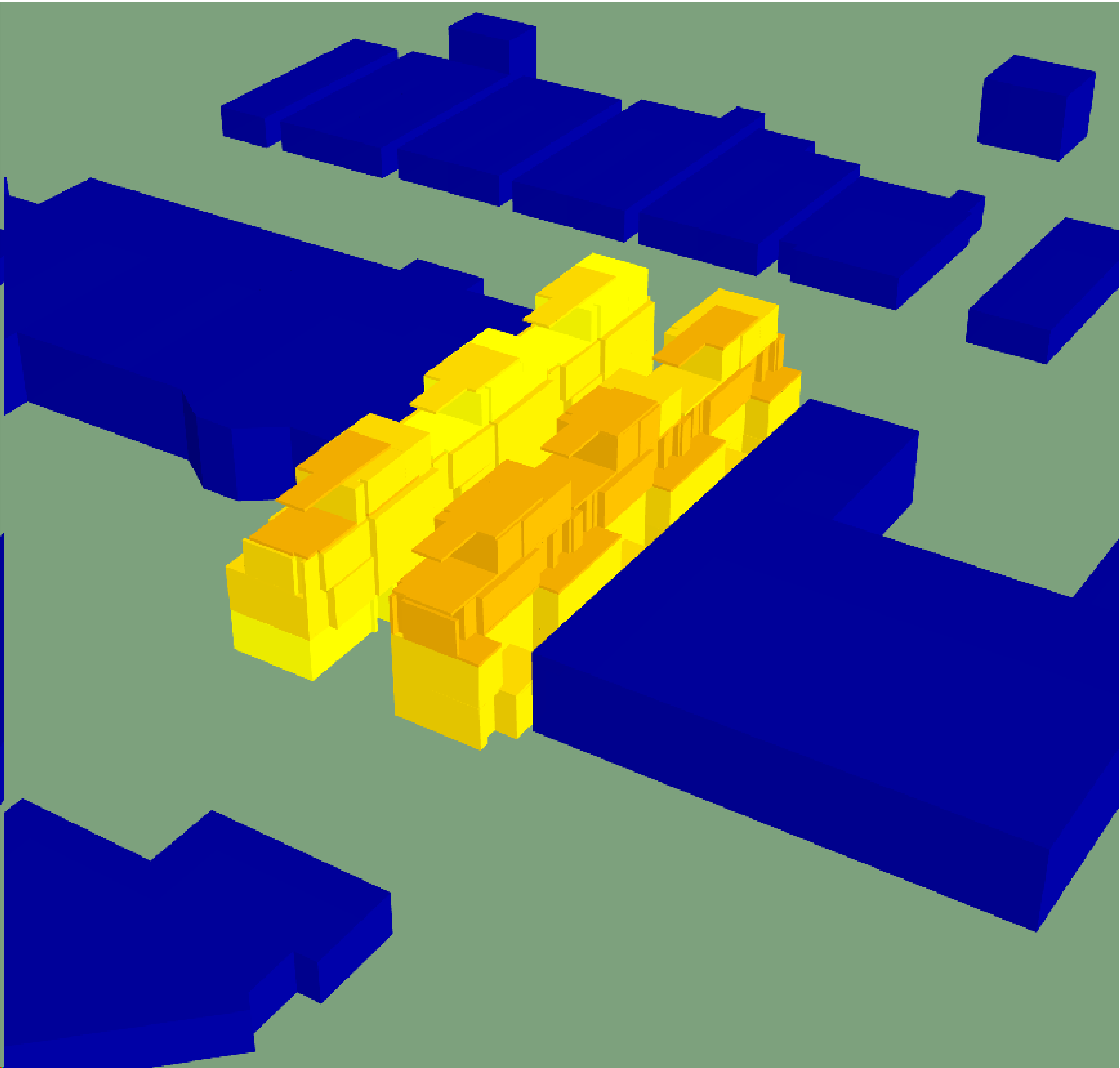
SCALE
NTS

STATUS
ISSUE FOR INFORMATION

DRAWING
2046 FACADE NOISE LEVELS - DAYTIME
VIEW 2

DISCIPLINE
ACOUSTICS

DRAWING NUMBER	REVISION
AC-DWG-100-01-02	001



E-LAB

ISSUE	DATE	STATUS
1	10-09-2025	ISSUE FOR INFORMATION

LEGEND	
Facade Noise Level - $L_{max,eq}$ dB(A)	
40 <	<= 40
43 <	<= 43
46 <	<= 46
49 <	<= 49
52 <	<= 52
55 <	<= 55
58 <	<= 58
61 <	<= 61
64 <	<= 64
67 <	<= 67
70 <	<= 70
73 <	<= 73
76 <	<= 76
79 <	<= 79

NOTES

PROJECT
78 & 81 Edward St, Perth

PROJECT NO.
PD4348

ARCHITECT

CLIENT
Urbanista

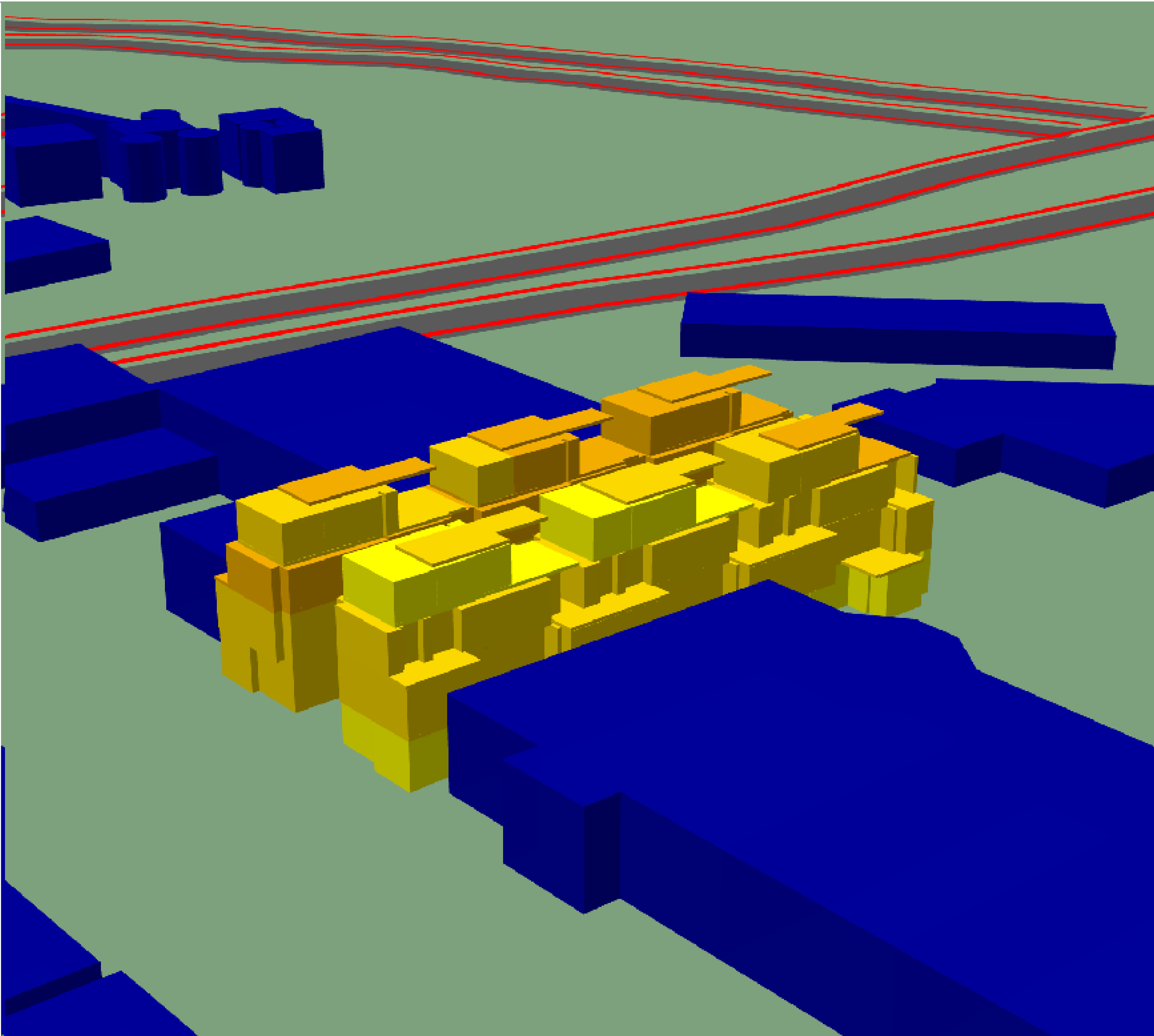
SCALE
NTS

STATUS
ISSUE FOR INFORMATION

DRAWING
2046 FACADE NOISE LEVELS - NIGHTTIME
VIEW 1

DISCIPLINE
ACOUSTICS

DRAWING NUMBER	REVISION
AC-DWG-100-02-01	001



E-LAB

ISSUE	DATE	STATUS
1	16-09-2025	ISSUE FOR INFORMATION

LEGEND	
Facade Noise Level - $L_{\text{max}}(\text{dB(A)})$	
40 <	<= 40
43 <	<= 43
46 <	<= 46
49 <	<= 49
52 <	<= 52
55 <	<= 55
58 <	<= 58
61 <	<= 61
64 <	<= 64
67 <	<= 67
70 <	<= 70
73 <	<= 73
76 <	<= 76
79 <	<= 79

NOTES

PROJECT
78 & 81 Edward St, Perth

PROJECT NO.
PD4348

ARCHITECT

CLIENT
Urbanista

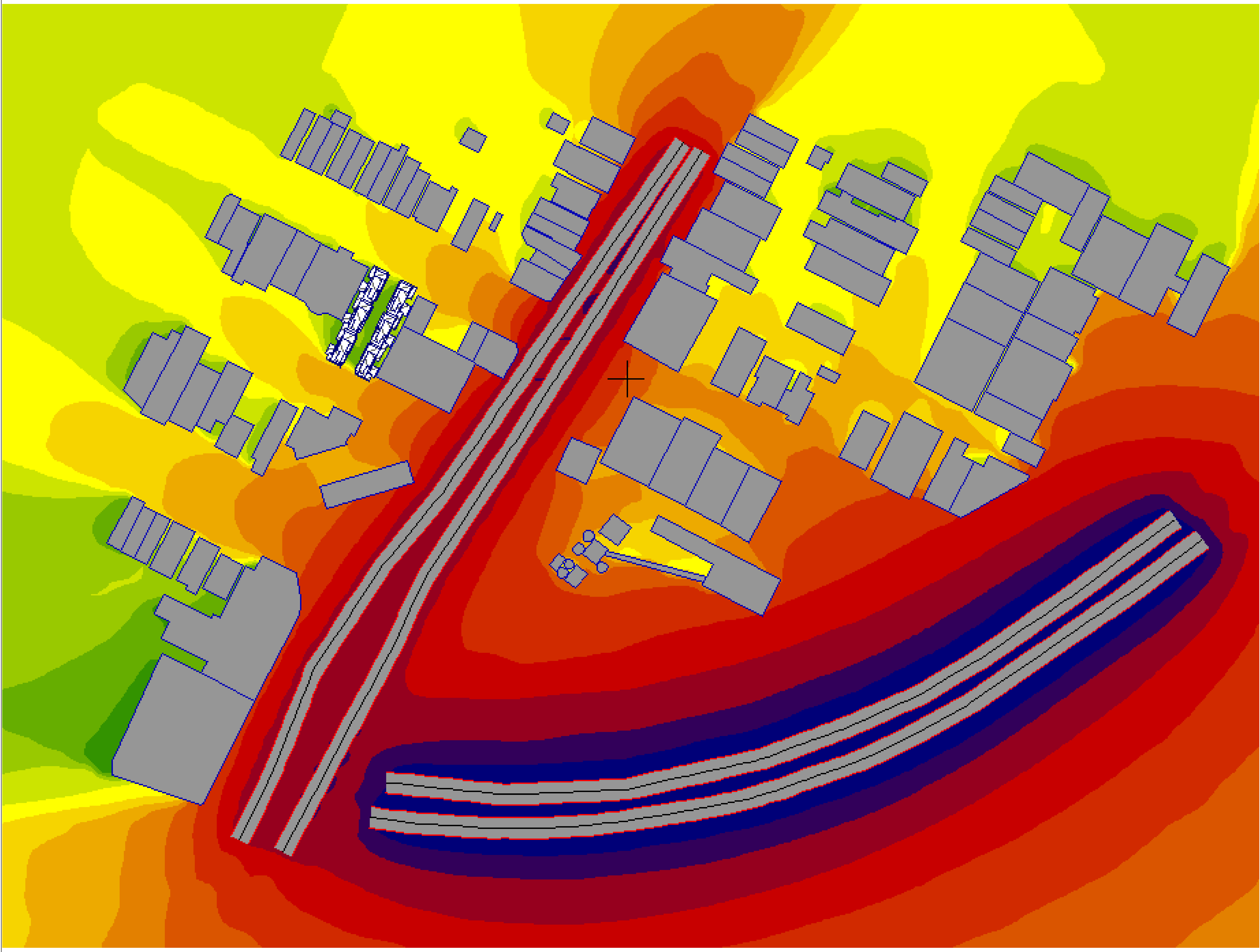
SCALE
NTS

STATUS
ISSUE FOR INFORMATION

DRAWING
2046 FACADE NOISE LEVELS - NIGHTTIME
VIEW 2

DISCIPLINE
ACOUSTICS

DRAWING NUMBER	REVISION
AC-DWG-100-02-02	001





E-LAB

ISSUE	DATE	STATUS
1	10-09-2025	ISSUE FOR INFORMATION

LEGEND

Grid Noise Level - $L_{Aeq,1hr}$ (dB(A))

40 <	<= 40
43 <	<= 43
46 <	<= 46
49 <	<= 49
52 <	<= 52
55 <	<= 55
58 <	<= 58
61 <	<= 61
64 <	<= 64
67 <	<= 67
70 <	<= 70
73 <	<= 73
76 <	<= 76
79 <	<= 79

NOTES

Signs and symbols

Road

Road axis

Emission line

Main building

Auxiliary building

PROJECT

78 & 81 Edward St, Perth

PROJECT NO.

P04348

ARCHITECT

CLIENT

Urbanista

SCALE

NTS

STATUS

ISSUE FOR INFORMATION

DRAWING

2046 GRID NOISE MAP - DAYTIME

1.5M HEIGHT

DISCIPLINE

ACOUSTICS

DRAWING NUMBER

AC-DWG-100-03-01

REVISION

001

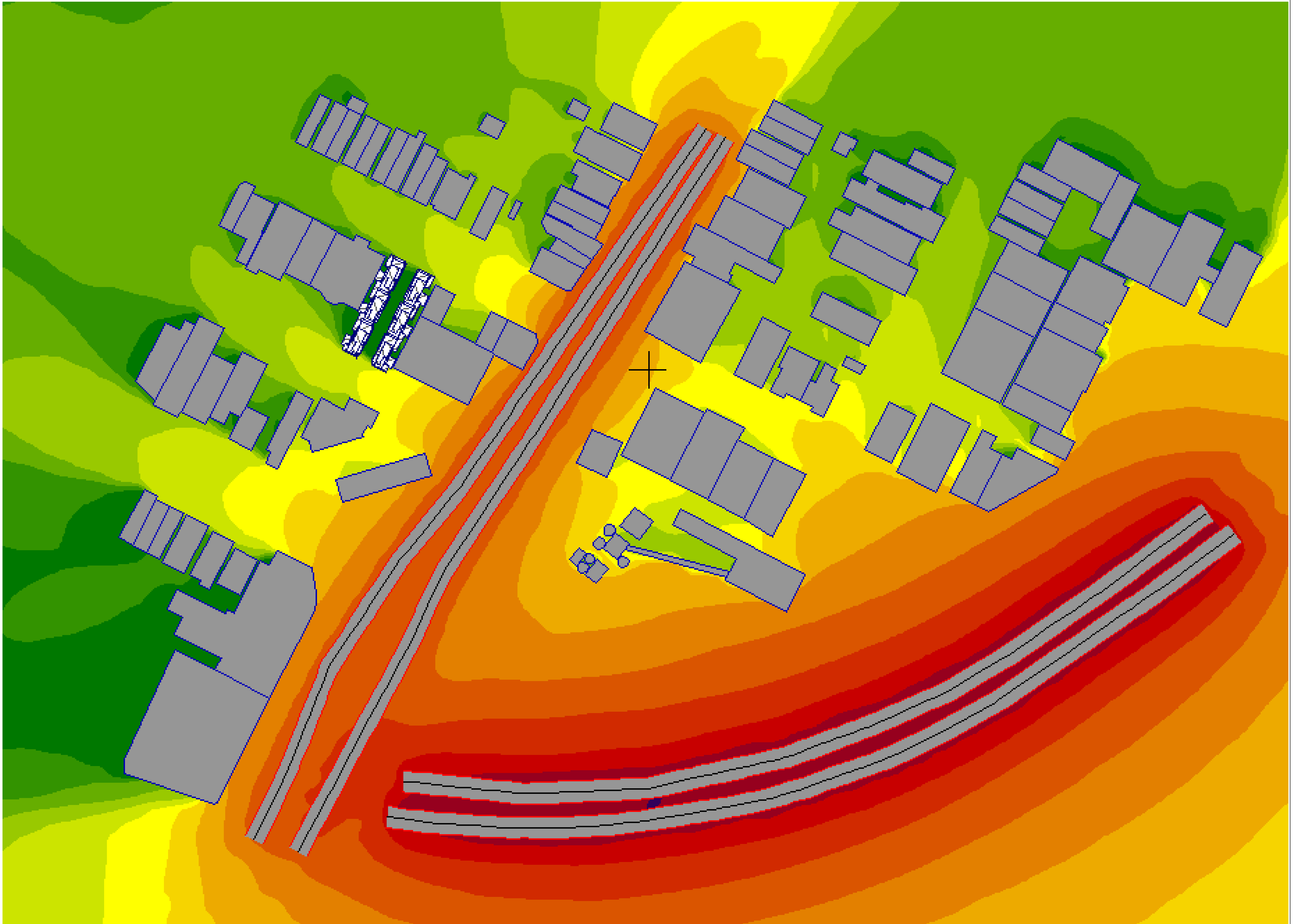


Legend

Fixed Noise Level - $L_{Aeq,TOT}$ dB(A)

	<= 40
40 <	<= 43
43 <	<= 46
46 <	<= 49
49 <	<= 52
52 <	<= 55
55 <	<= 58
58 <	<= 61
61 <	<= 64
64 <	<= 67
67 <	= 70
70 <	= 73
73 <	= 76
76 <	= 79
79 <	

DRAWING NUMBER	REVISION
MC-DWG-100-03-02	001





e-lab.com.au

Sydney | Brisbane | Melbourne | Perth | Newcastle | Canberra

Fire Engineering | Acoustics | Sustainability | Performance Testing | Human-Centred Design