OCTAVE ACOUSTICS

Stockland Development Pty Ltd
16 April 2026

79-81 Victoria Parade, Collingwood

Acoustic Town Planning Report

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0	20.03.2026	Issued to Client	TM/HG	AL
1	27.03.2026	Updated glazing mark-up	TM	AL
2	15.04.2026	Updated drawings	TM	AL
3	16.04.2026	Updated drawings	TM	-

Disclaimer

Contents

1. Introduction

Octave Acoustics was engaged by Stockland Development Pty Ltd to provide a town planning stage noise impact assessment for the residential led mixed-use development at 79-81 Victoria Parade, Collingwood (Subject Development / Subject Site). The Subject Site is located within the City of Yarra planning area.

2. Proposed Site & Development

The Subject Development will provide:

- A two-level basement incorporating underground car parking, storage, services and waste management.
- Ground level (level 1) with lobby and amenity area, retail tenancies, a substation, residential amenity spaces and the ground levels of the townhouses.
- Bike storage, general storage and upper storey of the townhouses on the mezzanine level.
- Apartments from level 2 to level 23.
- Communal terraces on levels 14 and 22.

The Subject Site is zoned Commercial 1 Zone (C1Z) and is bounded:

- Directly to the north by single storey commercial buildings (zoned C2Z) and beyond that by a multi-storey commercial building at 36 Wellington Street (zoned C2Z).
- To the south by Victoria Parade (zoned TRZ2) and beyond that by the Victoria Brewery mixed use development (zoned MUZ) and other predominantly residential buildings (zoned GRZ1).
- To the east by a multi-storey commercial building at 103 Victoria Parade (zoned C1Z).
- To the west by Wellington Street (zoned C1Z) and beyond that by multi-storey residential buildings (zoned C1Z and MUZ).

The closest potentially affected noise sensitive receivers are the residential dwellings to the west of the Subject Development across Wellington Street. A site map which shows the location of the Subject Site and surrounds is presented in Figure 1 below.

Figure 1 - Site Context

3. Site Assessment

3.1. Noise Monitoring

Octave Acoustic carried out unattended noise monitoring at two locations on the Subject Site. The noise monitors were installed from Wednesday the 6th to Wednesday the 13th of August 2025. The monitors were located atop the existing building at the Subject Site (Noise Monitor 1 and 2 as shown in Figure 1). The microphones were installed at a height of approximately 1.5 metres above the roof top of the existing building with direct line of sight to the adjacent Victoria Parade and Wellington Street. The noise monitoring results are provided in Appendix C: and Appendix D:.

Whilst on site, additional attended measurements were conducted on Wednesday 13th August 2025 to measure noise levels from rooftop mechanical plant on adjacent buildings (Attended Measurement Location 1 and 2 as shown in Figure 1, Figure 2 and Figure 3).

All measurements were carried out using NTi XL2 meters which were calibrated before and after all measurements using a Brüel & Kjær 4320 calibrator. No drift in calibration was detected. The NTi XL2s comply with the requirements of IEC 61672-1.2013 Sound Level Meters and are classified as Class 1 instruments. The calibrator complies with the requirements of IEC 60942.2004 Sound Calibrators. Both the NTi XL2s and calibrator carry current NATA certification.

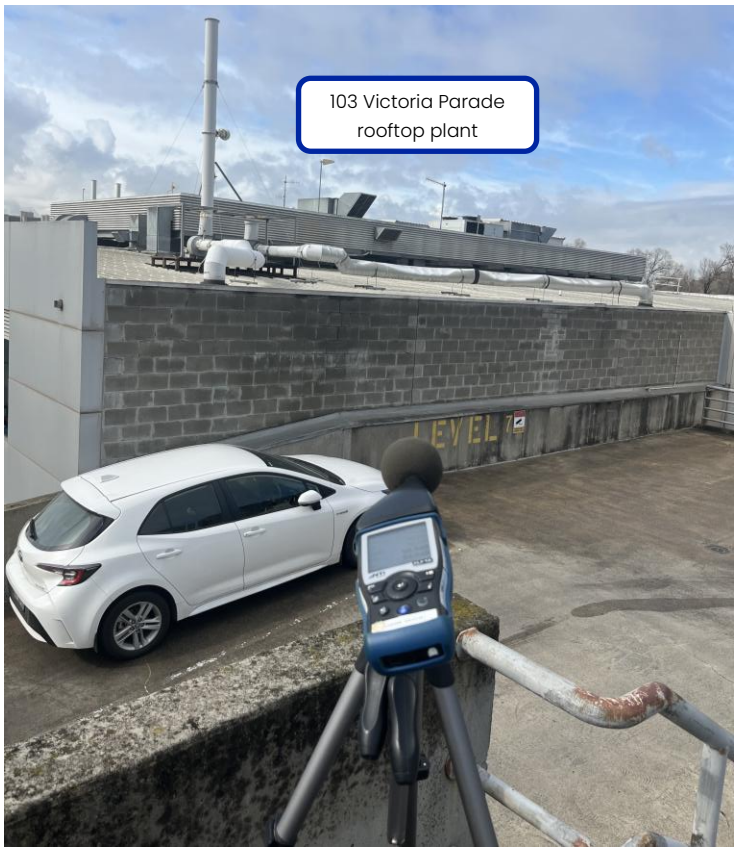


Figure 2 – Attended Measurement Location 1 – 103 Victoria Parade Rooftop Plant

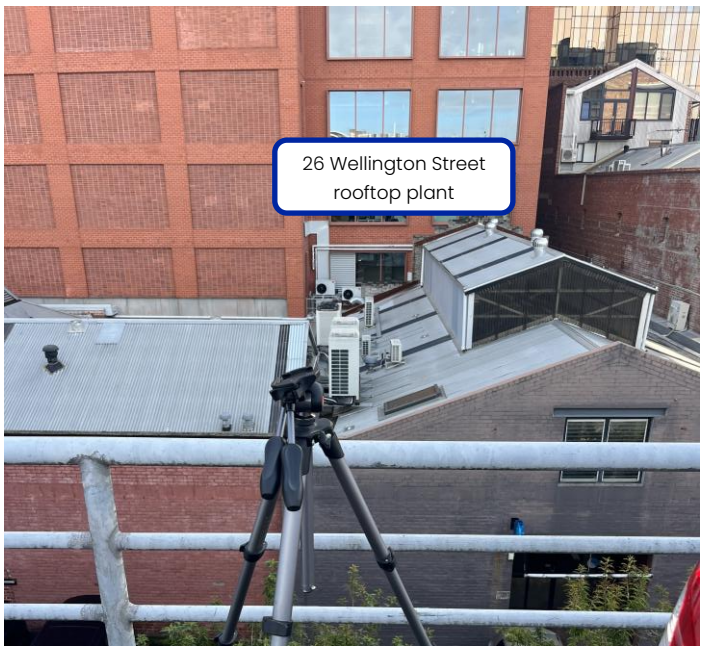


Figure 3 - Attended Measurement Location 2

3.1.1. Road Traffic Noise

The unattended noise monitoring locations were dominated by traffic noise on the adjacent roads. The resulting highest traffic noise level for each period is presented in Table 1 below.

Table 1 –Measured Peak Traffic Noise Levels

Period	Metric	Noise Monitor 1 (Victoria Parade)	Noise Monitor 2 (Wellington Street)
Day	dB $L_{Aeq,\ 1hr}$	71_3	64_7
Night		69_4	60_8
Day	dB $L_{Aeq,16hr}$	69_5	60_9
Night	dB $L_{Aeq,8hr}$	66_6	57_{10}

Notes:

1. Day/Evening period: 0am to 10pm
2. Night period: 10pm to 7am
3. Thursday 7th August 2025, 08:00 to 09:00
4. Saturday 9th August 2025, 22:00 to 21:00
5. Thursday 7th August 2025
6. Thursday 7th/Friday 8th August 2025
7. Thursday 7th August 2025, 16:00 to 17:00
8. Wednesday 13th August 2025, 06:00 to 07:00
9. Monday 11th August 2025
10. Friday 8th/Saturday 9th August 2025

3.1.2. Background Noise

Background noise levels recorded at Noise Monitor 2 for derivation of EPA noise criteria are set out in the following tables. Table 2 provides the minimum average hourly background noise levels for each period used for determining EPA noise limits applicable to mechanical plant noise in Section 4.4.1.

Table 2 – Average Hourly Background Noise Levels

Logger Location	Noise Descriptor	Minimum Average Hourly Background Sound Pressure Level for each Period dB		
		Day	Evening	Night
Location 2	L_{A90}	52	51	46

Notes:
1. Day period is:
   - 07:00 – 18:00 Monday – Saturday (except public holidays)
2. Evening period is:
   - 18:00 – 22:00 Monday – Saturday
   - 07:00 – 22:00 Sunday and public holidays
3. Night period is:
   - 22:00 – 07:00 the following day

Table 3 below provides the lowest hourly background noise levels for each period used for determining the applicable EPA noise limits for music and fixed domestic plant, as per Sections 4.4.2 and 0 respectively.

Table 3 - Minimum Hourly Background Noise Level Measured

Measurement Location	Minimum Hourly Background Sound Pressure Level for each Period, L_{90} dB(A)	
	Day/Evening[1]	Night
Location 2	49[2]	42[3]

Notes:
1. Day / evening period is:
   - Monday – Saturday (other than a public holiday), from 07:00 – 23:00
   - Sunday or a public holiday (other than if either is preceding a public holiday), from 09:00 – 22:00
   - Sunday or a public holiday (if either is preceding a public holiday), from 09:00 – 23:00
2. 21:00 – 22:00 Sunday the 10th of August 2025
3. 02:00 – 03:00 Wednesday the 13th of August 2025

The lowest hourly octave band background levels recorded during the monitoring period are presented below in Table 4, which have been used for determining EPA noise limits applicable to music noise during the night period, in Section 4.4.2.

Table 4 - Lowest Hourly Octave Band Noise Levels Measured During the Night Period

Metric	Octave Band Centre Frequency (Hz)						
	63	125	250	500	1000	2000	4000
Minimum ambient background level (dB L_{90}) during night period[1,2]	51	47	43	39	38	32	24

Notes:
1. 02:00 – 03:00 Wednesday the 13th of August 2025
2. Night period is:
   - Monday – Friday (other than a public holiday or a day preceding a public holiday), from 23:00 – 07:00 the following day
   - Saturday or any day preceding a public holiday, from 23:00 to 09:00 the following day
   - Sunday or a public holiday (if neither is preceding a public holiday), from 22:00 to 07:00 the following day

3.2. Other Noise Measurements

3.2.1. Rooftop Mechanical Equipment

Attended noise measurements were conducted on the rooftop carpark of the existing building at the Subject Site. These locations were chosen as having generally uninterrupted line of sight to the relevant adjacent plant areas and being generally representative of the nearest affected proposed apartment.

In both attended measurement locations, noise from mechanical services at adjacent buildings was observed to be inaudible above the prevailing ambient noise level.

3.2.1.1. 103 Victoria Parade Rooftop Plant

Noise levels during the attended measurement at Attended Measurement Location 1 were L_{Aeq} 53 dB and L_{A90} 49 dB, which includes noise from all sources.

In general, noise measured at this location was dominated by traffic noise, with the spectrogram showing variable noise across the measurement period, indicating that mechanical plant is unlikely to be a dominant source of noise during the measurement. There was one approximately 30-second period where noise from mechanical services was clearly audible and was measured at L_{Aeq} 61 dB. However, this was identified as occurring from within the Subject Site and was not related to mechanical services from adjacent developments.

3.2.1.2. 26-32 Wellington Street

Noise levels during the attended measurement Attended Measurement Location 2 were L_{Aeq} 54 dB and L_{A90} 51 dB, which includes noise from all sources.

Noise measurements at this location were found to be dominated by distant traffic, noise from aircraft and voice and door slams from people using the car park. Noise from mechanical services was subjectively inaudible at this location and the spectrogram of the recording did not clearly show any continuous noise at specific frequencies, which is typically associated with mechanical services.

4. Criteria

4.1. Planning Scheme

The key policy and provisions in the Yarra and Victorian Planning Schemes relating to noise include:

- Clause 13.07-1L-01 Interfaces and Amenity
- Clause 58.04-3 Noise Impacts
- Clause 53.06 Live Music and Entertainment Noise

4.1.1. Clause 13.07-1L-01 Interfaces and Amenity

Clause 13.07-1L-01 applies to:

- *Non-residential use and development.*
- *Accommodation (excluding an extension to an existing dwelling) within:*
  - *A residential zone within 30 metres of an existing commercial or industrial zone.*
  - *50 metres of a live music venue or hotel.*
  - *50 metres of a major road identified on the Mains Roads and Train Lines Map to this clause.*
  - *80 metres of a passenger rail identified on the Main Roads and Train Lines Map to this clause.*
  - *135 metres of a passenger rail identified on the Main Roads and Train Lines Map to this clause.*
  - *A non-residential zone.*

The objectives of this clause are:

- *To protect the operation of business and industrial activities from new residential use and development.*
- *To provide a reasonable level of amenity to new residential development within or adjacent to land in commercial and industrial zones.*
- *To support the growth and operation of surrounding non-residential development and uses.*

4.1.1.1. Clause 13.07-1L-01 Strategies

The strategies of Clause 13.07-1L-01 relevant to an acoustic assessment are:

Non-residential use and development

Noise

Locate noise generating uses, including plant and equipment, away from noise-sensitive habitable rooms (in particular, bedrooms) and private open space and where appropriate incorporate acoustic attenuation measures.

Ensure that noise emissions in residential zones (except the Mixed Use Zone) are compatible with a residential environment.

- Locate noise generating uses, including plant and equipment, away from noise-sensitive habitable rooms (in particular, bedrooms) and private open space and where appropriate incorporate acoustic attenuation measures.
- Ensure that noise emissions in residential zones (except the Mixed Use Zone) are compatible with a residential environment.

Residential development

Noise

Ensure new residential use and development includes design measures to minimise the impact of the normal operation of existing commercial and industrial operations on the amenity of the dwelling, such as:

- Locating noise-sensitive rooms (in particular, bedrooms) and private open space away from existing and potential noise sources, and where appropriate, incorporate other measures such as acoustic fencing, landscaping, acoustic glazing to balconies and windows and building setbacks.
- Providing for air ventilation that avoids compromising acoustic amenity when windows are closed.

4.1.1.2. Clause 13.07-1L-01 Policy Guidelines

Consideration under Clause 13.07-1L-01 is to be given to the following items, relevant to the Subject Site:

Non-residential use and development

- *The nature of the proposed use, including the following:*
  - *Associated activities which will be carried out.*
  - *Hours of operation.*
  - *Patron and/or staff numbers.*
  - *Potential off-site impacts, including how such impacts will be managed and mitigated.*
- *The current use of the land and adjoining properties.*
- *Limit the hours of operation for a use proposed in a residential zone (except the Mixed Use Zone) to 8am to 8pm.*
- *The location and layout of the existing development on the site, including the location of external windows, doors and car parking areas.*
- *Residential land within 30 metres of the subject site include details of habitable room windows, balconies, secluded private open space and car parking areas.*
- *The location and type of activities to be carried out on the land.*
- *Whether potential noise, fumes and air emissions, storage, waste and deliveries, light spillage and other operational matters may cause negative impacts on nearby residential properties in a residential zone.*
- *Whether noise from plant and equipment is designed to ensure it satisfies the requirements of the EPA Victoria, Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues, Part I: Commercial, industrial and trade premises (Noise Protocol, Part I).*
- *Whether music noise meets the requirements of the EPA Victoria, Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues, Part II: Entertainment venues and events (Noise Protocol, Part II), where Clause 53.06 does not apply.*
- *Patron noise.*

Residential development

- *The location of any noise source within the distances specified in the policy application of this clause.*
- *The days and hours of operation of any applicable noise generating use.*
- *Acoustic attenuation and other design features proposed to mitigate potential noise, fumes, air emissions, light spill, overlooking, waste management and other operational matters from nearby commercial or industrial uses.*
- *Whether the development is adequately protected from road traffic and rail noise.*
- *Noise from existing and proposed plant and equipment.*
- *Noise from patrons in non-residential uses.*

The policy document to consider as relevant for assessment of Clause 13.07-1L-01 is the City of Yarra "*Guidelines – managing noise impacts in urban development* (Yarra City Council, 2022)".

4.2. Clause 58.04-3 Noise Impacts

Clause 58.04-3 of the planning scheme contains the following objectives in relation to noise impacts:

- *To contain noise sources in developments that may affect existing dwellings or small second dwellings.*
- *To protect residents from external and internal noise sources.*

Standard D16 of Clause 58.04-3 states the following:

- *Noise sources, such as mechanical plants should not be located near bedrooms of immediately adjacent existing dwellings or small second dwellings.*
- *The layout of new dwellings and buildings should minimise noise transmission within the site.*
- *Noise sensitive rooms (such as living areas and bedrooms) should be located to avoid noise impacts from mechanical plants, lifts, building services, non-residential uses, car parking, communal areas and other dwellings.*
- *New dwellings should be designed and constructed to include acoustic attenuation measures to reduce noise levels from off-site noise sources.*
- *Buildings within a noise influence area specified in Table D5 should be designed and constructed to achieve the following noise levels:*
  - *Not greater than 35dB(A) for bedrooms, assessed as an LAeq,8h from 10pm to 6am.*
  - *Not greater than 40dB(A) for living areas, assessed LAeq,16h from 6am to 10pm.*
- *Buildings, or part of a building screened from a noise source by an existing solid structure, or the natural topography of the land, do not need to meet the specified noise level requirements.*

Noise levels should be assessed in unfurnished rooms with a finished floor and the windows closed.

Table 5 – Noise Influence Area (Table D5)

Noise Source	Noise Influence Area
Zone Interface Industrial Zone 1,2 & 3	**300m** to the zone boundary
Road Freeways and tollways	**300m**
Other roads	**300m and carrying 40,000 Annual Average Daily Traffic Volume (AADT)**
Railway Railway servicing passengers in Victoria	**80m**
Railway servicing freight in non-Metropolitan Melbourne	**80m**
Railway servicing freight in Metropolitan Melbourne	**135m**

Note: the noise influence area shall be measured from the closest part of the building to the noise source.

With respect to Table 5 above, Octave Acoustics determined that the subject site:

- is located adjacent to Victoria Parade, which carries an AADT > 40,000;
- is not located within 80 metres of a passenger railway and not within 135 metres of a freight railway;
- is not located within 300m of an industrial zone interface.

4.3. Traffic Noise Criteria

As discussed in Section 4.2, the proposed development is located as defined in Planning Scheme Clause 58.04-3. In addition, Octave Acoustics proposes to assess noise intrusion to habitable rooms of apartments with respect to the traffic noise criteria as defined in the City of Yarra Guidelines – *managing noise impacts in urban development* (City of Yarra Guidelines), as per policy clause 13.07-1L-01 of the Scheme, which recommends the following, and is summarised in Table 6:

- The application of the criteria should extend to all residential developments affected by road traffic noise.
- The period between 6am and 7am should be considered as a night period impact.
- The loudest hour of road traffic noise not to exceed 45dBA $L_{eq,1h}$ in habitable rooms from 7am to 10pm and 40dBA $L_{eq,1h}$ in bedrooms from 10pm to 7am.
- Where night period internal amenity is achieved via building façade upgrades, the building must be designed to ensure adequate fresh air provision in accordance with the National Construction Code and other relevant standards, without compromising the acoustic amenity outcome.

Table 6 – Summary of Design Sound Levels for Traffic Noise

Type of Occupancy/ Activity	Design Sound Level Maximum
Habitable Rooms	40dB $(L_{Aeq16h})_1$, with loudest hour not exceeding 45dB $(L_{Aeq1h})_2$
Bedrooms	35dB $(L_{Aeq8h})_3$, with loudest hour not exceeding 40dB $(L_{Aeq1h})_4$

Notes:
1. *From 06:00 to 22:00*
2. *From 07:00 to 22:00*
3. *From 22:00 to 06:00*
4. *From 22:00 to 07:00*

4.4. Environment Protection Regulations 2021

4.4.1. Noise Emissions Associated with Mechanical Plant

Noise associated with commercial building plant and services is required to comply with Part 5.3, Division 3 of the *Environment Protection Regulations 2021* (EPR 2021). EPA Victoria *Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues Publication 1826.5* (Publication 1826.5) provides a protocol for determining EPR 2021 noise limits and carrying out subsequent assessment of noise impacts.

EPR 2021 is a regulation under the *Environment Protection Act 2017* (EP Act) and compliance is mandatory when noise levels are assessed at noise sensitive areas which includes residential properties.

The applicable EPR 2021 noise limits have been calculated and are provided in Table 7 below.

Table 7 - EPR 2021 Mechanical Plant Noise Limits

Period	Zoning Level, dB L_{Aeq}	Minimum Average Hourly Background Noise Level, dB L_{A90}	Background Classification	Applicable Noise Limit$_{4,5}$, dB L_{Aeq}
Day$_1$	62	52	Neutral	62
Evening$_2$	55	51	Neutral	55
Night$_3$	50	46	Neutral	50

Notes:
1. Day period is:

- 07:00 – 18:00 Monday – Saturday (except public holidays)

2. Evening period is:
   - 18:00 – 22:00 Monday – Saturday
   - 07:00 – 22:00 Sunday and public holidays
3. Night period is:
   - 22:00 – 07:00 the following day
4. Where the noise source under consideration is equipment used solely in relation to emergencies (such as fire pumps, standby generators, stair pressurisation and smoke spill fans), the relevant noise limit applying to the testing or maintenance of such equipment is increased by 10dB for the day period and 5dB for the evening and night periods.

The City of Yarra Guidelines further state the following with regard to commercial and industrial plant and equipment noise:

All residential developments should be designed to ensure that existing commercial uses formally comply with the EPA Noise Protocol, Part I external to the development wherever possible. Where it is demonstrated that external compliance cannot practically be achieved, including treatment of the source of noise in consultation with the commercial operator, an internal assessment may be considered. The following recommended maximum noise levels for commercial/industrial noise (windows closed) are to be met if noise is assessed internally:

- *Noise Protocol Part I indoor limits, being the outdoor limits less 20dB, and*
- *Not more than 30dBA L_{eq} in bedrooms at night and 35dBA L_{eq} in living rooms (30min).*
- *Not more than 45dBA L_{max} in bedrooms and at night and 50dBA L_{max} in living rooms.*

In addition to the above, commercial plant and equipment noise levels should not exceed the following levels externally:

- *Not more than 10dBA above Noise Protocol, Part I period noise limits, outside any openable windows or doors, and*
- *For balconies and other private open spaces:*
  - *Not more than 65dBA during the day*
  - *Not more than 55dBA during the evening and night*

Where night period internal amenity is achieved via building façade upgrades, the building must be designed to ensure adequate fresh air provision in accordance with the National Construction Code and other relevant standards, without compromising the acoustic amenity outcome.

4.4.2. EPR2021 Part 5.3 & Clause 53.06; Music Noise from Indoor Entertainment Venues

Music noise emissions associated with the operation of indoor entertainment venues are required to comply with Part 5.3, Division 4 of the EPR 2021. Publication 1826.4 provides a protocol for determining EPR 2021 noise limits and carrying out subsequent assessment of noise impacts. EPR 2021 is a regulation under the Environment Protection Act 2017 (EP Act) and compliance is mandatory when noise levels are assessed at noise sensitive areas which includes residential properties.

The applicable EPR 2021 noise limits for music noise affecting residential properties adjacent to or within the Subject Development have been calculated from existing background noise levels and are presented in Table 8 and Table 9 below.

It should be noted that Publication 1826.4 states that music noise measurements must be undertaken outdoors, adjacent to the façade of a noise sensitive room. However, when the noise sensitive residential use is the 'Agent of Change' in accordance with VPP 53.06, music noise levels may be measured indoors, with music noise limits defined by the ambient background noise levels indoors, or the base noise limits of the policy.

Clause 53.06 defines a *live music entertainment venue* as:

- *A food and drink premises, nightclub, function centre or residential hotel that includes live music entertainment.*
- *A rehearsal studio*
- *Any other venue used for the performance of music and specified in clause 2.0 of the schedule to this clause, subject to any specified condition or limitation.*

The requirements to be met in order to satisfy Clause 53.06 are stated as:

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 Environment Protection Regulations 2021 Part 5.3 (EPR 2021).*
- *Outdoor live music entertainment venue to below 45dB(A), assessed as an Leq 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.

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.

Applications requirements under Clause 53.06 are as follows:

An application must be accompanied by the following information, as appropriate:

- *A site analysis, including plans detailing:*
  - *The existing and proposed layout of the use, buildings or works, including all external windows and doors.*
  - *The location of any doors, windows and open-source space areas of existing properties in close proximity to the site.*
- *If the application is associated with a noise sensitive residential use:*
  - *The location of any live music entertainment venues within 50 metres of the site.*
  - *The days and hours of operation of that venue.*
  - *The times during which live music will be performed.*
- *Details of existing and proposed acoustic attenuation measures.*

If in the opinion of the responsible authority an application requirement is not relevant to the evaluation of an application, the responsible authority may waive or reduce the requirement.

With respect to these requirements, it is appropriate that the performance of any acoustic attenuation measures are assessed with respect to the degree to which compliance with Part 5.3 of the *Environment Protection Regulations 2021* is achieved at the potentially most affected noise sensitive receivers.

Table 8 - EPR 2021 Day & Evening Period Criteria for Music Noise

Period	Minimum Ambient Background, dB L_{A90}	+ 5 dB	Applicable EPR 2021 Noise Limit dB L_{Aeq}
Day/Evening[1]	49[2]	+5	54

Notes:

1. Day / evening period is:
   - Monday – Saturday (other than a public holiday), from 07:00 – 23:00
   - Sunday or a public holiday (other than if either is preceding a public holiday), from 09:00 – 22:00
   - Sunday or a public holiday (if either is preceding a public holiday), from 09:00 – 23:00
2. 21:00 – 22:00 Sunday the 10th of August 2025

Table 9 - EPR 2021 Night Period Criteria for Music Noise

Metric	Octave Band Centre Frequency (Hz)

	63	125	250	500	1000	2000	4000
Minimum Ambient Background Level (dB L_{90})[2]	51	47	43	39	38	32	24
+8	+8	+8	+8	+8	+8	+8	+8
Applicable Music Noise Limit (dB L_{10})	59	55	52	47	46	40	32

Notes:
1. Night period is:
   - Monday – Friday (other than a public holiday or a day preceding a public holiday), from 23:00 – 07:00 the following day
   - Saturday or any day preceding a public holiday, from 23:00 to 09:00 the following day
   - Sunday or a public holiday (if neither is preceding a public holiday), from 22:00 to 07:00 the following day
2. 02:00 – 03:00 Wednesday the 30th of October 2024

No live music venues have been identified within 50m of the Subject Site.

4.4.3. EPA Noise Control Guidelines – Fixed Domestic Plant

Noise impacts associated with the operation of domestic plant is subject to the *Environment Protection Regulations 2021* (Regulations) under the *Environment Protection Act 2017*. The Regulations state that domestic plant noise shall not be unreasonable at residential premises.

EPA *Noise Guideline: Assessing Noise from Residential Equipment* (Publication 1973) provides guidance as to what constitutes unreasonable noise. Publication 1973 states that noise affecting adjacent residential properties shall not be audible (indoors) during prohibited periods. At all other times noise shall not exceed the background noise level by more than 5dB. A summary of the prohibited periods and associated criteria are presented in Table 10.

Table 10 – EP Regulation Noise Criteria for Domestic Plant

Period	Minimum Hourly Background Noise Level, dB L_{A90}	Applicable Noise Limit, dB L_{Aeq}
Prohibited period[1,2]	42	37[3]
Other periods	49	54

Notes:
1. For heating equipment (including central heating, a hot water system or a heat pump, A/C or split system used for heating), a vacuum cleaner, swimming pool pump, spa pump, and water pump (other than a pump being used to fill a header tank) the prohibited period is defined as:
   - 22:00 – 07:00 Monday – Friday
   - 22:00 – 09:00 Weekend and public holidays
2. For A/C, evaporative cooling, or split system used for cooling the prohibited period is defined as:
   - 23:00 – 07:00 Monday – Friday
   - 23:00 – 09:00 Weekend and public holidays
3. L_{90} minus 5dB typically accepted as being an appropriate assessment trigger for inaudibility.

4.4.4. General Environmental Duty

Under Part 3.2 of the EP Act, a person who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste [including noise] must minimise those risks, so far as reasonably practicable.

With respect to noise, to determine what is (or was at a particular time) reasonably practicable in relation to the minimisation of risks of harm to human health and the environment, regard must be given to:

- The likelihood of those risks eventuating,
- The degree of harm that would result if those risks eventuated,
- What the concerned person knows, or ought reasonably to know, about the harm or risks of harm and any ways of eliminating or reducing those risks,
- The availability and suitability of ways to eliminate or reduce those risks,
- The cost of eliminating or reducing those risks.

It should be noted that the General Environmental Duty requirement applies irrespective of whether compliance with EPR 2021 noise limits is achieved. Compliance with EPR noise limits does not necessarily infer adequate conduct under General Environmental Duty.

4.5. Guidelines & Other

4.5.1. EPA Publication 1254.2

EPA Victoria Publication 1254.2 *Noise Control Guidelines* May 2021 (Publication 1254.2) sets out best practice guidelines for management of noise associated with waste collections and deliveries. The relevant sections of Publication 1254.2 are set out below. It is important to understand that Publication 1254.2 is primarily intended to be used by municipal officers to assist in the resolution of complaints or to avert possible noise nuisance. As such, where noise sources dealt with below are also subject to EPR 2021, then requirements under the latter take precedence. For example, Publication 1254.2 states that delivery activities should be inaudible at adjacent dwellings during the night period. However, EPR 2021 also applies to delivery noise and permits up to 43 dB(A) at adjacent dwellings during the night, a level that may be audible. In this instance, the applicable criteria would be 43 dB(A) and not a requirement for inaudibility.

4.5.1.1. Deliveries

Where a residential area will be impacted by noise from deliveries, then deliveries should be inaudible in a habitable room of any residential premises (regardless of whether any door or window giving access to the room is open) outside the hours contained in the schedule.

Schedule: Deliveries to shops, supermarkets & service stations

7am – 10pm Monday to Saturday

9am – 10pm Sundays and public holidays

Note: All ancillary motors or trucks should be turned off whilst making the delivery

4.5.1.2. Truck-Mounted Refrigeration Units

Whether parked on residential or non-residential premises, the noise from the operation of a truck-mounted refrigeration unit must not be audible within a habitable room of any other residence (regardless of whether any door or window giving access to the room is open) during the hours contained in the schedule.

Schedule: Truck mounted refrigeration units

Non-residential premises (e.g., noise from a delivery truck, whether moving or parked on the street)

10pm – 7am Monday to Saturday

10pm – 9am Sundays and public holidays

Residential premises (including a truck owner keeping their vehicle on the street outside their home)

8pm – 7am Monday to Saturday

8pm – 9am Weekends and public holidays

4.5.1.3. Domestic Refuse Collection

The main annoyance produced by domestic refuse collections occurs in the early morning (in other words, before 7 am). Therefore, if possible, routes should be selected to provide the least impact on residential areas during that time.

Collection of refuse should follow the following criteria:

- Collections occurring once a week should be restricted to the hours 6 am – 6 pm Monday to Saturday
- Collections occurring more than once a week should be restricted to the hours 7 am – 6 pm Monday to Saturday
- Compaction should only be carried out while on the move.
- Bottles should not be broken up at the point of collection.
- Routes that service entirely residential areas should be altered regularly to reduce early morning disturbance.
- Noisy verbal communication between operators should be avoided where possible.

4.5.1.4. Industrial Waste Collection

EPA Victoria state that industrial waste includes waste from commercial, industrial and trade activities (including cafes and restaurants).

It is understood that the Subject Development will include commercial tenancies on the ground floor. As such, the waste collection is considered to be industrial waste collection.

Annoyance created by industrial waste collection tends to intensify in the early morning period. To this end, early-morning collections should be restricted to non-residential areas to minimise early morning disturbances. Where a residential area is impacted by noise from the collection of refuse, then collections should be restricted to the times contained within the schedule.

- Refuse bins should be located at sites that provide minimal annoyance to residential premises.
- Compaction should be carried out while the vehicle is moving.
- Bottles should not be broken up at collection site.
- Routes which service predominantly residential areas should be altered regularly to reduce early morning disturbances.
- Noisy verbal communication between operators should be avoided where possible.

Schedule: Industrial waste collection

One collection per week

6:30am – 8pm Monday to Saturday

9am – 8pm Sundays and public holidays

Two or more collections per week

7am – 8pm Monday to Saturday

9am – 8pm Sundays and public holidays

5. Assessment

5.1. Noise Impacts on the Development from External Sources

A 3-D computer noise model of the Subject Site and surrounds was built in CadnaA software and calculations run implementing the ISO9613 algorithms. The ISO9613 algorithms calculate the propagation of noise between source and receiver taking into account propagation effects associated with:

- Source sound power.
- Geometrical spreading.
- Atmospheric conditions.
- Air absorption.
- Ground absorption (G=0).
- Reflection.
- Barrier effects associated with topography and built form, including buildings and fences.

5.1.1. Traffic Noise

The noise model was validated using results of on-site noise monitoring as detailed in Section 3.1.1 and was run to calculate the induced sound pressure level associated with traffic noise across the façades of the proposed development. External noise intrusion was then calculated using standard transmission loss algorithms and standard façade.

Performance requirements for the glazing system specification were developed to comply with the noise amenity targets as detailed in Section 4.3 of this report. The resulting performance requirements are presented in Table 11 below. Refer to the markup provided in Appendix B of this report for the extent of glazing requirements. Non-glazed façade walls, including spandrel façade elements, are required to achieve an R_w rating which is at least 10 dB(A) higher than the glazed elements.

Table 11 – Minimum Performance Requirement for Glazing & Facade, R_w

Performance Requirement for Glazing Assembly including Frame and Seals	Façade Element	Indicative Glazing or Wall Construction[1]
$R_w \geq 32$ Associated façade walls to be rated to $R_w \geq 42$	Fixed/Awning windows	Good quality commercial framing systems fitted with an IGU consisting of two panes of 6mm float glass separated by a 12mm airgap. (e.g., 6/12/6 IGU). All operable elements including awning windows to include full perimeter EPDM seals.
	Sliding doors	Equivalent to Capral 900 sliding door fitted with 6.38mm thick laminated glass. Sliding doors to include double brush pile seals with central rubber fin at all locations except for the astragals, where interlocking Q-Lon seals should be used.
$R_w \geq 36$ Associated façade walls to be rated to	Fixed/Awning windows	Double-glazed system incorporating at least one pane of 10.76mm thick laminated glass. (e.g., 6/12/10.76 IGU). All operable elements including awning windows to include full perimeter EPDM seals.

Performance Requirement for Glazing Assembly including Frame and Seals	Façade Element	Indicative Glazing or Wall Construction[1]
$R_w \geq 46$	Sliding doors	Equivalent to Capral 900 sliding door fitted with 10.5mm thick V-Lam Hush glass. Sliding doors to include double brush pile seals with central rubber fin at all locations except for the astragals, where interlocking Q-Lon seals should be used.
$R_w \geq 40$ $R_w+C_{tr} \geq 36$ Associated façade wall elements are to be rated to $R_w \geq 50$	Fixed/Awning windows	Double-glazed system incorporating one pane of 12.5mm thick laminated VLam Hush and one pane of 10.38mm thick laminated glass (e.g., 12.5/12/10.38 IGU). Framing should be packed with 60kg/m^3 rockwool. All operable elements including awning windows to include full perimeter EPDM seals.
	Sliding doors	Equivalent to Capral 900 sliding door (acoustic configuration) fitted with a monolithic block of 10.5mm and 12.5mm thick V-Lam Hush glass. Framing should be packed with 60kg/m^3 rockwool. Sliding doors to include double brush pile seals with central rubber fin at all locations except for the astragals, where interlocking Q-Lon seals should be used.
$R_w \geq 46$ $R_w+C_{tr} \geq 41$ Associated façade wall elements are to be rated to $R_w \geq 56$	Fixed/Awning windows	Equivalent to Capral 419 Flushline Acoustic framing system which incorporates two panes of 10.5mm V-Lam Hush separated via a 107mm airgap. (e.g., 10.5/107/10.5 IGU). Framing should be packed with 60kg/m^3 rockwool. **Seals:** As per door suppliers advice in order to achieve the required R_w 46 performance requirement.
	Sliding doors	Two sets of sliding doors installed in an airlock arrangement. Equivalent to a primary Capral 900 sliding door fitted with 10.5mm thick V-Lam Hush glass and secondary Capral 900 sliding door fitted with 6.38mm laminated glass. Note that both sets of doors are separated by a 100mm airgap. Framing should be packed with 60kg/m^3 rockwool. **Seals:** As per door suppliers advice in order to achieve the required R_w 46 performance requirement.

Notes

1. *Indicative glazing is not provided as a specification but rather to inform the Contractor as to the types of glazing that may satisfy the R_w performance requirements. Note that there have been many instances of indicative glazing not satisfying the performance requirements shown. It is the responsibility of the Contractor to ensure that the nominated glazing assemblies satisfy the R_w and $R_w + C_{tr}$ performance requirements. This is best done by obtaining a laboratory test report from a NATA certified test facility.*

5.1.2. Assessment of Rooftop Mechanical Equipment of Adjacent Buildings

Attended noise measurements indicated that noise from mechanical services from adjacent buildings was subjectively inaudible above ambient noise levels at the Subject Site and was not able to be clearly identified on the spectrogram of the noise recording (Section 3.2.1). Nevertheless, to provide a conservative assessment, analysis of rooftop plant from adjacent buildings has been conducted on the conservative assumption that measured noise levels were from rooftop plant at adjacent buildings.

Measured noise levels were L_{Aeq} 53 and 54dB, which is below the EPR 2021 noise limits during the day and evening period. The adjacent buildings are predominantly office uses and, as such, it is expected that noise would be reduced significantly during the night period. For this reason, combined with noise at the measurement locations being dominated by extraneous sources, it is expected that noise from rooftop plant at adjacent buildings will comply with EPR 2021 noise limits.

Compliance with the external requirements of the City of Yarra Guidelines has been assessed below on the conservative basis that noise was from mechanical services.

Table 12 – Compliance with City of Yarra Guidelines

City of Yarra Guideline	Expected Result	Complies?
Outside any openable windows or doors. No higher than: ▪ 72dBA during the day period. (EPA Day limit +10) ▪ 65dBA during the evening period. (EPA Evening limit +10) ▪ 60dBA during the night period. (EPA Night limit +10)	≤ 54dBA	Yes
On balconies, not more than 65dBA during the day.	≤ 54dBA	Yes
On balconies, not more than 55dBA during the evening and night.	≤ 54dBA	Yes

5.1.3. Clause 53.06 Live Music & Indoor Entertainment Noise

Octave Acoustics attended the Subject Site and inspected the surrounding area, to determine the presence of any existing indoor entertainment/music venues, proximate to the site. No such venues were identified within 50 metres of the Subject Site. In addition, a search of the Victorian Liquor Licencing database has been undertaken and confirmed the observations made on site. Therefore, it is considered an assessment of music noise impacts impacting the Subject Development is not triggered by Victorian Planning Provision 53.06.

5.2. Noise Impacts Associated with the Development

5.2.1. Noise from Mechanical Plant

It is important to note that at this early stage of the design, a full quantitative assessment of mechanical plant and equipment noise cannot be undertaken as neither a detailed mechanical design nor associated plant and equipment selections are available. Nevertheless, an indicative assessment of expected treatment has been conducted in the sections below.

5.2.1.1. Carpark and Bin Room Exhaust Fans

Noise from carpark and bin room exhaust fans can typically be treated by fitting lined duct and or attenuators to the connecting ductwork. Exhaust fans are typically located on the rooftop, and the proposed rooftop plant areas are not located near apartments either within or external to the Subject Development.

Noise from the exhaust fans will be reviewed during the design process and it is expected that noise from exhaust fans will be able to be adequately attenuated with standard acoustic mitigation measures.

5.2.1.2. Condensing Units and Heat Pumps

Condensing units (CUs) and heat pumps are to be primarily located on the rooftop above Level 17 of the South Building and on the rooftop above Level 23 of the North Building.

Condensers and heat pumps require air flow for operation and are typically not able to be fitted with lined duct or attenuators. As such, a preliminary assessment has been conducted based on the following indicative quantities and sound power levels.

Table 13 – Indicative Condensing Unit and Heat Pump Sound Power Levels

Unit	Qty	Overall, dB(A) (per unit)	Octave Band Centre Frequency (Hz)						
			63	125	250	500	1000	2000	4000
South Building CUs	204	71	75	75	72	69	65	62	59
South Building Heat Pumps	≈4	84	81	82	78	79	77	76	71
North Building CUs	274	71	75	75	72	69	65	62	59
North Building Heat Pumps	≈6	84	81	82	78	79	77	76	71

The CadnaA model was updated with the sound power levels as stated in the table above. Each item of plant was located on the rooftop of the respective building.

The rooftop plant areas are not overlooked by nearby residential dwellings. As such, it is calculated that noise levels from rooftop condensing units and heat pumps will comply with EPR 2021 noise limits without further consideration. However, it is calculated that the following acoustic treatment may be required to reduce noise transmission from rooftop plant in the South Building to overlooking apartments in the North Building:

- Rooftop plant is expected to be required to be situated towards the southern side of the South Building as far as practicable.
- A plant screen may be required around the South Building rooftop plant. Any plant screens are to be constructed as follows:
  - The screen shall extend at least 300mm above the top of the highest item of plant.
  - The plant screen shall be constructed using any solid (non-perforated) cladding such as fibre cement sheeting, lightweight aerated concrete or profiled metal cladding providing that the selected material (or combined skins) has a surface mass of at least 12kg/m^2;
  - The screen shall have no gaps or holes in it, thus preventing noise passing through. Any gaps or penetrations shall be fully caulked with a flexible acoustic sealant;
  - There may be a gap underneath the screen of no higher than 100mm for drainage purposes;
  - Any doors providing access to the plant screen shall also be solid (non-perforated) and have a surface mass of at least 12kg/m^2. The head and jambs of the door shall overlap the rebated frame by at least 20mm. The gap between the foot of the door and the rooftop shall be no greater than 10mm.
- Rooftop condensing units may need to be fitted with low noise cards that reduce noise emissions from by at least 5dB(A) during the night period.

Details of the required acoustic treatment will be completed during the design stages of the project.

5.2.1.3. Substation

There is to be a substation located on the ground floor (level 1) of the Subject Development. The substation is to be:

- Abutting Victoria Parade.
- At least 50m from, and oriented away from the nearest ground floor townhouses.
- Two floors below the nearest apartment, with a bicycle store level between.
- Not located proximate to residential dwellings outside of the Subject Development.

For these reasons, noise impacts from the substation are expected to be negligible.

5.2.2. Music Noise Emissions from Ground Floor Commercial Food & Beverage Tenancy

A commercial food and beverage tenancy to be located on ground floor of the Subject Development, which could be classified as an indoor entertainment venue for the purposes of EPR 2021.

Music noise from the tenancy may potentially impact apartments within the development. It is mandatory that music noise emissions from the tenancy comply with EPR 2021 noise limits (refer to Section 4.4.2).

To ensure that the EPR 2021 music noise limits are not exceeded, it is recommended that the following conditions be included in the lease agreement of the tenancy:

- Any music noise emissions from the venue shall comply with the Environment Protection Regulations 2021 Part 5.3 Division 4 – Unreasonable and aggravated noise from entertainment venues and outdoor entertainment venues.
- Any pre-recorded music played at greater than background level as defined in Section 9A of the Liquor Control Reform Amendment (Licensing) Act 2009 shall be played via a limiter set such that music noise levels do not exceed the applicable Environment Protection Regulations 2021 Part 5.3 noise limits for indoor entertainment venues. Consistent with Section 9A of the Liquor Control Reform Amendment (Licensing) Act 2009, background music means a level that enables patrons to conduct a conversation at a distance of 600 millimetres without having to raise their voices to a substantial degree.
- Fixed speakers shall not be installed outdoors.
- No live music is to be played within the tenancy.

5.2.3. Carpark Ramp & Entrance Door

Noise impacts from usage of the carpark ramp shall be minimised through the implementation of the following:

- An automated door be fitted to the ramp leading to the basement car park. The door motor, guiderails, drum and associated mechanisms should be installed using vibration isolation mounts equivalent to Embelton NRD. Where under axial load, these mounts shall be selected to achieve minimum static deflection of 8mm where installed.
- Noise from the garage door should not exceed 65dB LAmax at 2 metres from the door.
- Where possible the structural set out should minimise movement and control joints oriented perpendicular to traffic flow.
- The floor surface of the ramp and carpark should have a broom finish to avoid tyre squeal noise.
- No speed humps shall be installed.

5.2.4. Waste Collection

Noise associated with on-site waste management and waste collection activities is required to comply with EPR 2021 noise limits. It is understood that the main building's waste management and waste collection activities will occur within the basement of the Subject Development. As such it is expected that associated noise will comfortably comply with EPR 2021 noise limits at the nearest residential receivers.

5.2.5. Level 14 and Level 22 Communal Outdoor Area

The Subject Development includes space for a small communal outdoor and BBQ area on Level 14 in the South Building and Level 22 in the North Building. Octave Acoustics recommends that the hours of operation for the communal area as limited as follows, in order to minimise the noise impact on any nearby residential receivers:

- From 10pm to 7am the following morning, 7 days a week.

6. Conclusion

Octave Acoustics was engaged by Stockland Property Group to carry out a town planning stage noise impact assessment for the proposed residential-led development at 79-81 Victoria Parade, Collingwood.

Octave Acoustics has reviewed the proposal and carried out acoustic assessments addressing the noise related requirements of:

- City of Yarra Guidelines – managing noise impacts in urban development.
- AS/NZS 2107:2016 Recommended design sound levels and reverberation times for building interiors for internal noise levels.
- Part 5.3 of the Environmental Protection Regulations 2021 (EPR 2021) for mechanical plant noise emissions.
- Clause 58.04-3 of the Yarra Planning Scheme
- Part 5.3 of the Environmental Protection Regulations (EPR2021) in relation to music noise emissions.
- Planning Scheme Clause 53.06 Live Music and Entertainment Noise
- Planning Scheme Clause 13.07-1L-01 Interfaces and Amenity
- EPA 1254.2 Noise control guidelines (Publication 1254) for waste collections and deliveries.

The results of the investigations and assessments show that, with the recommendations provided in this report, the Subject Development is expected to satisfy the acoustic requirements that are described above. In summary, both noise impacts on the development and noise associated with the development, can be mitigated using standard building methods and management strategies to comply with mandatory acoustic requirements and Victorian best practice.

Appendix A: Glossary of Terms

'A' Frequency Weighting

The 'A' frequency weighting roughly approximates to the Fletcher-Munson 40 phon equal loudness contour. The human loudness perception at various frequencies and sound pressure levels is equated to the level of 40 dB at 1 kHz. The human ear is less sensitive to low frequency sound and very high frequency sound than midrange frequency sound (i.e. 500 Hz to 6 kHz). Humans are most sensitive to midrange frequency sounds, such as a child's scream. Sound level meters have inbuilt frequency weighting networks that very roughly approximates the human loudness response at low sound levels. It should be noted that the human loudness response is not the same as the human annoyance response to sound. Here low frequency sounds can be more annoying than midrange frequency sounds even at very low loudness levels. The 'A' weighting is the most commonly used frequency weighting for occupational and environmental noise assessments. However, for environmental noise assessments, adjustments for the character of the sound will often be required.

AMBIENT NOISE

The ambient noise level at a particular location is the overall environmental noise level caused by all noise sources in the area, both near and far, including all forms of traffic, industry, lawnmowers, wind in foliage, insects, animals, etc. Usually assessed as an energy average over a set time period 'T' (LAeq,T).

AUDIBLE

Audible refers to a sound that can be heard. There are a range of audibility grades, varying from "barely audible", "just audible" to "clearly audible" and "prominent".

BACKGROUND NOISE LEVEL

Total silence does not exist in the natural or built-environments, only varying degrees of noise. The Background Noise Level is the minimum repeatable level of noise measured in the absence of the noise under investigation and any other short-term noises such as those caused by all forms of traffic, industry, lawnmowers, wind in foliage, insects, animals, etc. It is quantified by the noise level that is exceeded for 90 % of the measurement period 'T' (LA90,T). Background Noise Levels are often determined for the day, evening and night time periods where relevant. This is done by statistically analysing the range of time period (typically 15 minute) measurements over multiple days (often 7 days). For a 15-minute measurement period the Background Noise Level is set at the quietest level that occurs at 1.5 minutes.

'C' FREQUENCY WEIGHTING

The 'C' frequency weighting approximates the 100 phon equal loudness contour. The human ear frequency response is more linear at high sound levels and the 100 phon equal loudness contour attempts to represent this at various frequencies at sound levels of approximately 100 dB.

DECIBEL

The decibel (dB) is a logarithmic scale that allows a wide range of values to be compressed into a more comprehensible range, typically 0 dB to 120 dB. The decibel is ten times the logarithm of the ratio of any two quantities that relate to the flow of energy (i.e. power). When used in acoustics it is the ratio of the square of the sound pressure level to a reference sound pressure level, the ratio of the sound power level to a reference sound power level, or the ratio of the sound intensity level to a reference sound intensity level. See also Sound Pressure Level and Sound Power Level. Noise levels in decibels cannot be added arithmetically since they are logarithmic numbers. If one machine is generating a noise level of 50 dB, and another similar machine is placed beside it, the level will increase to 53 dB (from 10 $\log_{10}(10^{(50/10)} + 10^{(50/10)})$ and not 100 dB. In theory, ten similar machines placed side by side will increase the sound level by 10 dB, and one hundred machines increase the sound level by 20 dB. The human ear has a vast sound-sensitivity range of over a thousand billion to one, so the logarithmic decibel scale is useful for acoustical assessments.

dBA – See 'A' frequency weighting

dBC – See 'C' frequency weighting

EQUIVALENT CONTINUOUS SOUND LEVEL, LAeq

Many sounds, such as road traffic noise or construction noise, vary repeatedly in level over a period of time. More sophisticated sound level meters have an integrating/averaging electronic device inbuilt, which will display the energy time-average (equivalent continuous sound level - LAeq) of the 'A' frequency weighted sound pressure level. Because the decibel scale is a logarithmic ratio, the higher noise levels have far more sound energy, and therefore the LAeq level tends to indicate an average which is strongly influenced by short-term, high level noise events. Many studies show that

human reaction to level-varying sounds tends to relate closer to the LAeq noise level than any other descriptor.

'F' (FAST) TIME WEIGHTING

Sound level meter design-goal time constant which is 0.125 seconds.

FREE FIELD

In acoustics a free field is a measurement area not subject to significant reflection of acoustical energy. A free field measurement is typically not closer than 3.5 metres to any large flat object (other than the ground) such as a fence or wall or inside an anechoic chamber.

FREQUENCY

The number of oscillations or cycles of a wave motion per unit time, the SI unit is the hertz (Hz). 1 Hz is equivalent to one cycle per second. 1000 Hz is 1 kHz.

LOUDNESS

The volume to which a sound is audible to a listener is a subjective term referred to as loudness. Humans generally perceive an approximate doubling of loudness when the sound level increases by about 10 dB and an approximate halving of loudness when the sound level decreases by about 10 dB.

MAXIMUM NOISE LEVEL, LAFmax

The root-mean-square (rms) maximum sound pressure level measured with sound level meter using the 'A' frequency weighting and the 'F' (Fast) time weighting. Often used for noise assessments other than aircraft.

MAXIMUM NOISE LEVEL, LASmax

The root-mean-square (rms) maximum sound pressure level measured with sound level meter using the 'A' frequency weighting and the 'S' (Slow) time weighting. Often used for aircraft noise assessments.

NOISE

Noise is unwanted, harmful or inharmonious (discordant) sound. Sound is wave motion within matter, be it gaseous, liquid or solid. Noise usually includes vibration as well as sound.

OFFENSIVE NOISE

Reference: Dictionary of the NSW Protection of the Environment Operations Act 1997).

"Offensive Noise means noise:

(a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:

(i) is harmful to (or likely to be harmful to) a person who is outside the premise from which it is emitted, or

(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or

(b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances prescribed by the regulations."

'S' (SLOW) TIME WEIGHTING

Sound level meter design-goal time constant which is 1 second.

SOUND ATTENUATION

A reduction of sound due to distance, enclosure or some other devise. If an enclosure is placed around a machine, or an attenuator (muffler or silencer) is fitted to a duct, the noise emission is reduced or attenuated. An enclosure that attenuates the noise level by 20 dB reduces the sound energy by one hundred times.

SOUND EXPOSURE LEVEL (LAE)

Integration (summation) rather than an average of the sound energy over a set time period. Use to assess single noise events such as truck or train pass by or aircraft flyovers. The sound exposure level is related to the energy average (LAeq,T) by the formula $LAeq,T = LAE - 10 \log_{10} T$. The abbreviation (SEL) is sometimes inconsistently used in place of the symbol (LAE).

SOUND PRESSURE

The rms sound pressure measured in pascals (Pa). A pascal is a unit equivalent to a newton per square metre (N/m^2).

SOUND PRESSURE LEVEL, Lp

The level of sound measured on a sound level meter and expressed in decibels (dB). Where $LP = 10 \log_{10}(Pa/Po)^2$ dB (or $20 \log_{10}$ (Pa/ Po) dB) where Pa is the rms sound pressure in Pascal and Po is a reference sound pressure conventionally chosen is 20 µPa (20×10^{-6} Pa) for airborne sound. Lp varies with distance from a noise source.

SOUND POWER

The rms sound power measured in watts (W). The watt is a unit defined as one joule per second. A

measures the rate of energy flow, conversion or transfer.

SOUND POWER LEVEL, Lw

The sound power level of a noise source is the inherent noise of the device. Therefore, sound power level does not vary with distance from the noise source or with a different acoustic environment. Lw = Lp + 10 $\log_{10}$ 'a' dB,

re: 1pW, (10^{-12} watts) where 'a' is the measurement noise-emission area (m2) in a free field.

SOUND TRANSMISSION LOSS

The amount in decibels by which a random sound is reduced as it passes through a sound barrier. A method for the measurement of airborne Sound Transmission Loss of a building partition is given in Australian Standard AS1191 - 2002.

STATISTICAL NOISE LEVELS, Ln

Noise which varies in level over a specific period of time 'T' (standard measurement times are often 15-minute periods) may be quantified in terms of various statistical descriptors with some common examples:

The noise level, in decibels, exceeded for 1% of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as LAF1,T. This may be used for describing short-term noise levels such as could cause sleep arousal during the night.

The noise level, in decibels, exceeded for 10% of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as LAF10,T. In most countries the LAF10,T is measured over periods of 15 minutes, and is used to describe the average maximum noise level.

The noise level, in decibels, exceeded for 90% of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as LAF90,T. In most countries the LAF90,T is measured over periods of 15 minutes, and is used to describe the average minimum or background noise level.

WEIGHTED SOUND REDUCTION INDEX, Rw

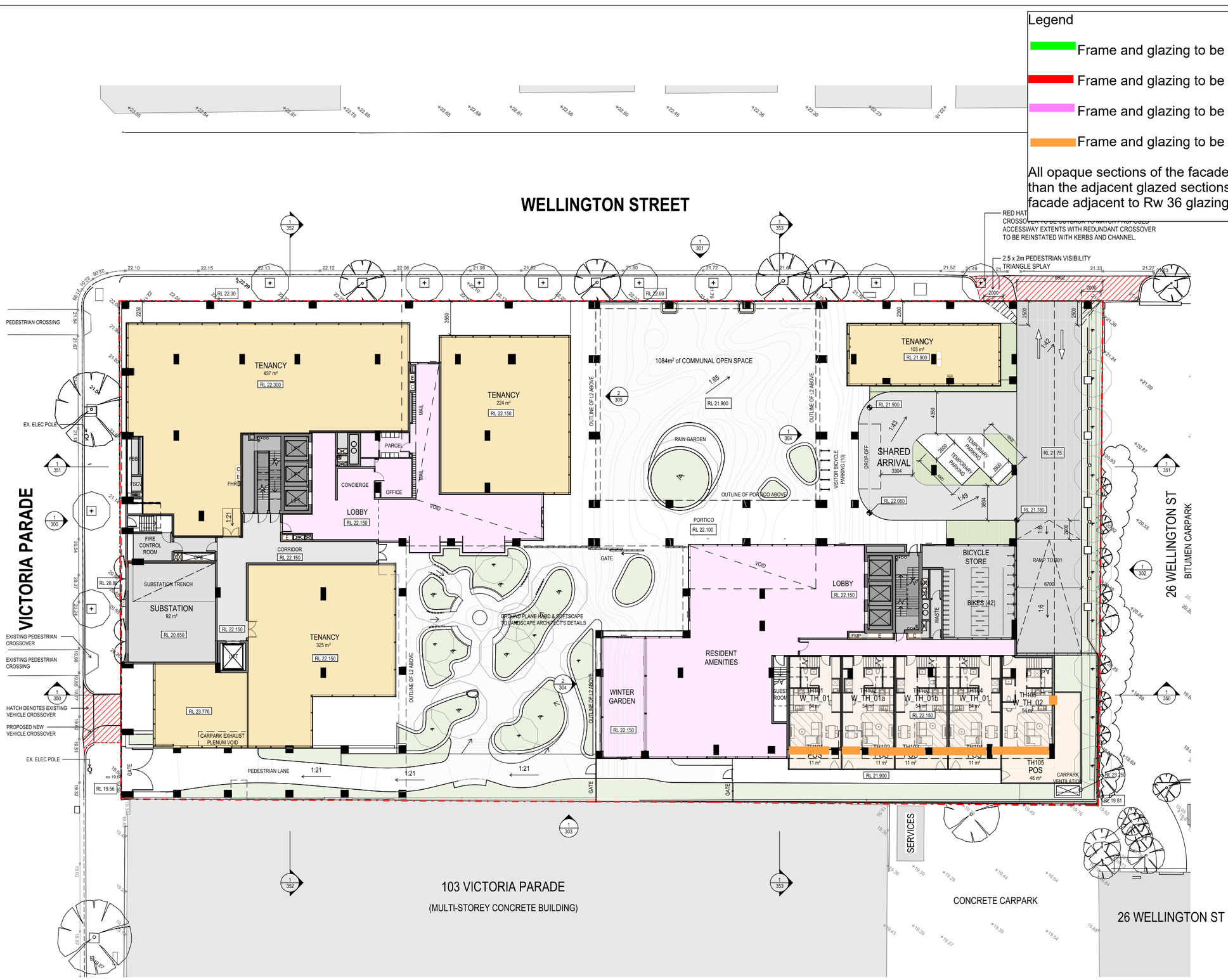
This is a single number rating of the airborne sound insulation of a wall, partition or ceiling. The sound reduction is normally measured over a frequency range of 100 Hz to 3.150 kHz and averaged in accordance with ISO standard weighting curves (Refer AS/NZS 1276.1:1999). Internal partition wall Rw+C ratings are frequency weighted to simulate insulation from human voice noise. The Rw+C is similar in value to the STC rating value. External walls, doors and windows may be Rw+Ctr rated to simulate insulation from road traffic noise. The spectrum adaptation term Ctr adjustment factor takes account of low frequency noise. The weighted sound reduction index is normally similar or slightly lower number than the STC rating value.

'Z' FREQUENCY WEIGHTING

The 'Z' (Zero) frequency weighting is 0 dB within the nominal 1/3 octave band frequency range centred on 10 Hz to 20 kHz. This is within the tolerance limits given in AS IEC 61672.1-2004: 'Electroacoustics - Sound level meters – Specifications'.

Appendix B: Application of Glazing and Façade Markup

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED



Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

Rev.	Issue	Revision Description	Date	Appr by
8		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
7		TOWN PLANNING ISSUE UPDATES	13.04.2026	SG
6		TOWN PLANNING ISSUE	20.03.2026	SG
5		DRAFT 100% TOWN PLANNING ISSUE	11.03.2026	SG
4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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Client: STOCKLAND
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Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L1 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 102

Revision 8

PRINTED: 14/04/2026 9:46:06 PM
FILE: Autodesk Docs://Stockland Collingwood (23)/8_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS **100mm** WHEN SHEET IS PRINTED TO SCALE AS INDICATED

EXTERNAL STORAGE SCHEDULE		
LEVEL	**STORAGE TYPE**	**COUNT**
OVERBONNET		
B2	OVERBONNET	151
B1	OVERBONNET	114
OVERBONNET		265
STORAGE LOCKER		
B2	STORAGE LOCKER	33
B1	STORAGE LOCKER	10
L1 MEZZ - N	STORAGE LOCKER	59
L1 MEZZ - S	STORAGE LOCKER	45
STORAGE LOCKER		147

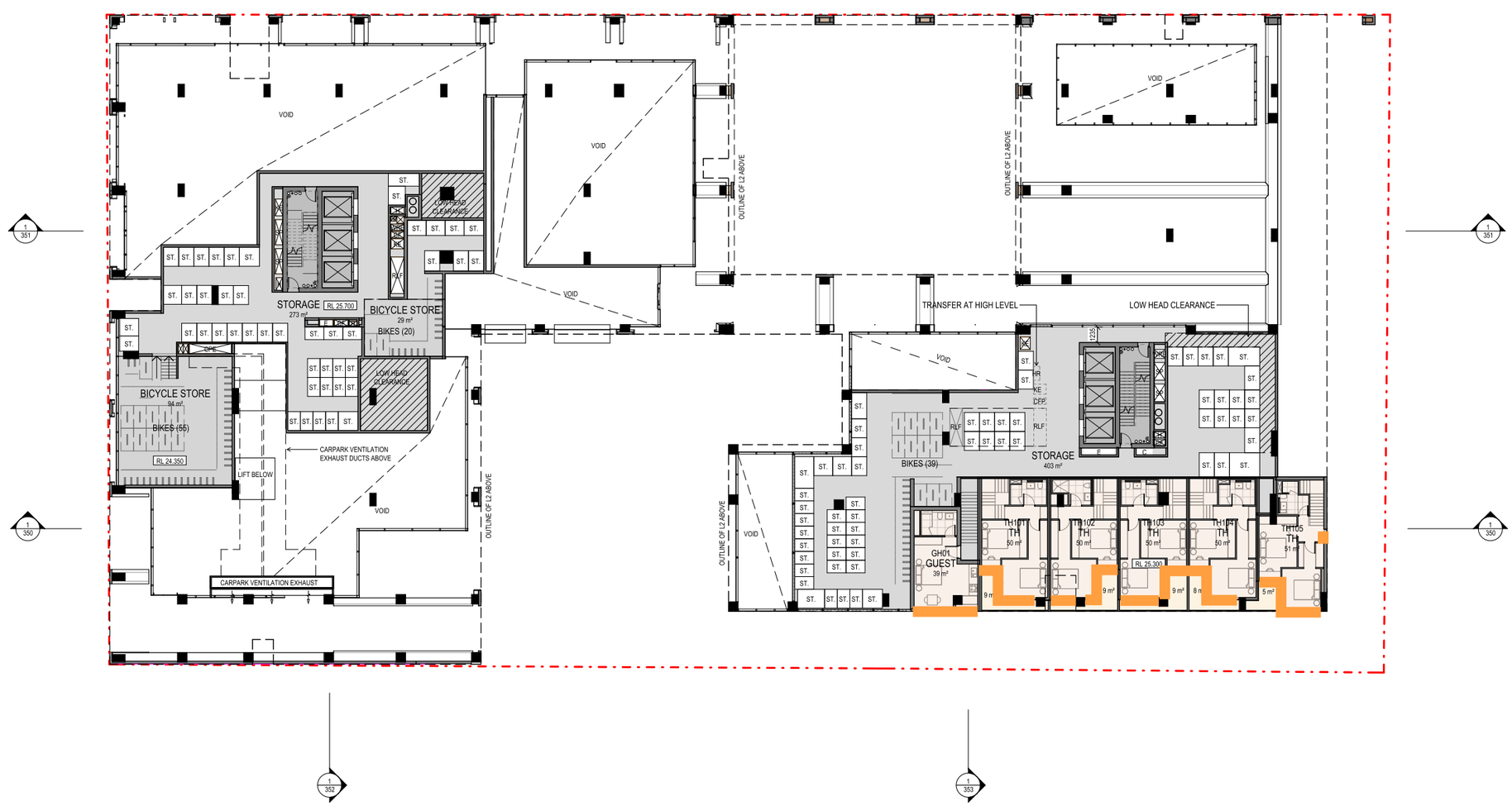
BIKE PARKING SCHEDULE	
BIKE RACK TYPE	
B2	
HORIZONTAL BIKE	
VERTICAL BIKE (FLOOR MOUNTED)	
B1	
HORIZONTAL BIKE	
L1	
HORIZONTAL BIKE	
HORIZONTAL BIKE (VISITOR)	
VERTICAL BIKE (FLOOR MOUNTED)	
VERTICAL BIKE (WALL MOUNTED)	

BIKE PARKING SCHEDULE

Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.



ENCES. ALL SHOP FACTURE SHALL NOT IGNED BY THE CALED. THIS DRAWING ECIFICATIONS AND

FORMAT. IF A PARTY A FORMAT OTHER THAN S AND ACKNOWLEDGES ROVIDED. REFER TO

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Rev.	Issue	Revision Description	Date	Appr by
9		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
8		TOWN PLANNING ISSUE UPDATES	13.04.2026	SG
7		TOWN PLANNING ISSUE UPDATES	25.03.2026	SG
6		TOWN PLANNING ISSUE	20.03.2026	SG
5		DRAFT 100% TOWN PLANNING ISSUE	11.03.2026	SG
4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

Wardle

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25 Rokeby Street
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ABN 83 006 814 268

Client
STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project
STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title
FLOOR PLANS
LEVEL MEZZANINE PLAN

Project No.
2518

Scale @ A1
1 : 200

Date

Drawing Status
TOWN PLANNING ISSUE

Drawing No.
AR 103

Revision
9

PRINTED: 14/04/2026 9:46:07 PM
FILE: Autodesk Docs://Stockland Collingwood (2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Within the blue dotted line:
- Rw 40 glazing for bedrooms with < 6.5m2 of glazing
- Rw 46 glazing for bedrooms with >= 6.5m2 of glazing

Legend

Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

Rev.	Issue	Revision Description	Date	Appr by
9		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
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6		DRAFT 100% TOWN PLANNING ISSUE	11.03.2026	SG
5		DRAFT FLOOR PLATE UPDATE	27.02.2026	SG
4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L2 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 104

Revision 9

PRINTED: 14/04/2026 9:46:14 PM
FILE: Autodesk Docs://Stockland Collingwood /2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

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Within the blue dotted line:
- Rw 40 glazing for bedrooms with < 6.5m2 of glazing
- Rw 46 glazing for bedrooms with >= 6.5m2 of glazing

Legend

Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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8		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
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3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L3 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 105

Revision 8

PRINTED: 14/04/2026 9:46:20 PM
FILE: Autodesk Docs://Stockland Collingwood /2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Within the blue dotted line:
- Rw 40 glazing for bedrooms with < 6.5m2 of glazing
- Rw 46 glazing for bedrooms with >= 6.5m2 of glazing

Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L4 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 106

Revision 8

PRINTED: 14/04/2026 9:46:27 PM
FILE: Autodesk Docs://Stockland Collingwood /2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

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Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41 (green)
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36 (red)
- Frame and glazing to be rated to at least Rw 36 (pink)
- Frame and glazing to be rated to at least Rw 32 (orange)

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

Within the blue dotted line:

- Rw 40 glazing for bedrooms with < 6.5m2 of glazing
- Rw 46 glazing for bedrooms with >= 6.5m2 of glazing

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3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title FLOOR PLANS
LEVEL L5 PLAN

Project No. 2518

Scale @ A1 1 : 200

Date

Drawing Status
TOWN PLANNING ISSUE

Drawing No. AR 107

Revision 9

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

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FILE: Autodesk Docs://Stockland Collingwood /2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Within the blue dotted line:
- Rw 40 glazing for bedrooms with < 6.5m2 of glazing
- Rw 46 glazing for bedrooms with >= 6.5m2 of glazing

Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L6 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 108

Revision 8

PRINTED: 14/04/2026 9:46:42 PM
FILE: Autodesk Docs://Stockland Collingwood/2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Within the blue dotted line:
- Rw 40 glazing for bedrooms with < 6.5m2 of glazing
- Rw 46 glazing for bedrooms with >= 6.5m2 of glazing

Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L7 PLAN

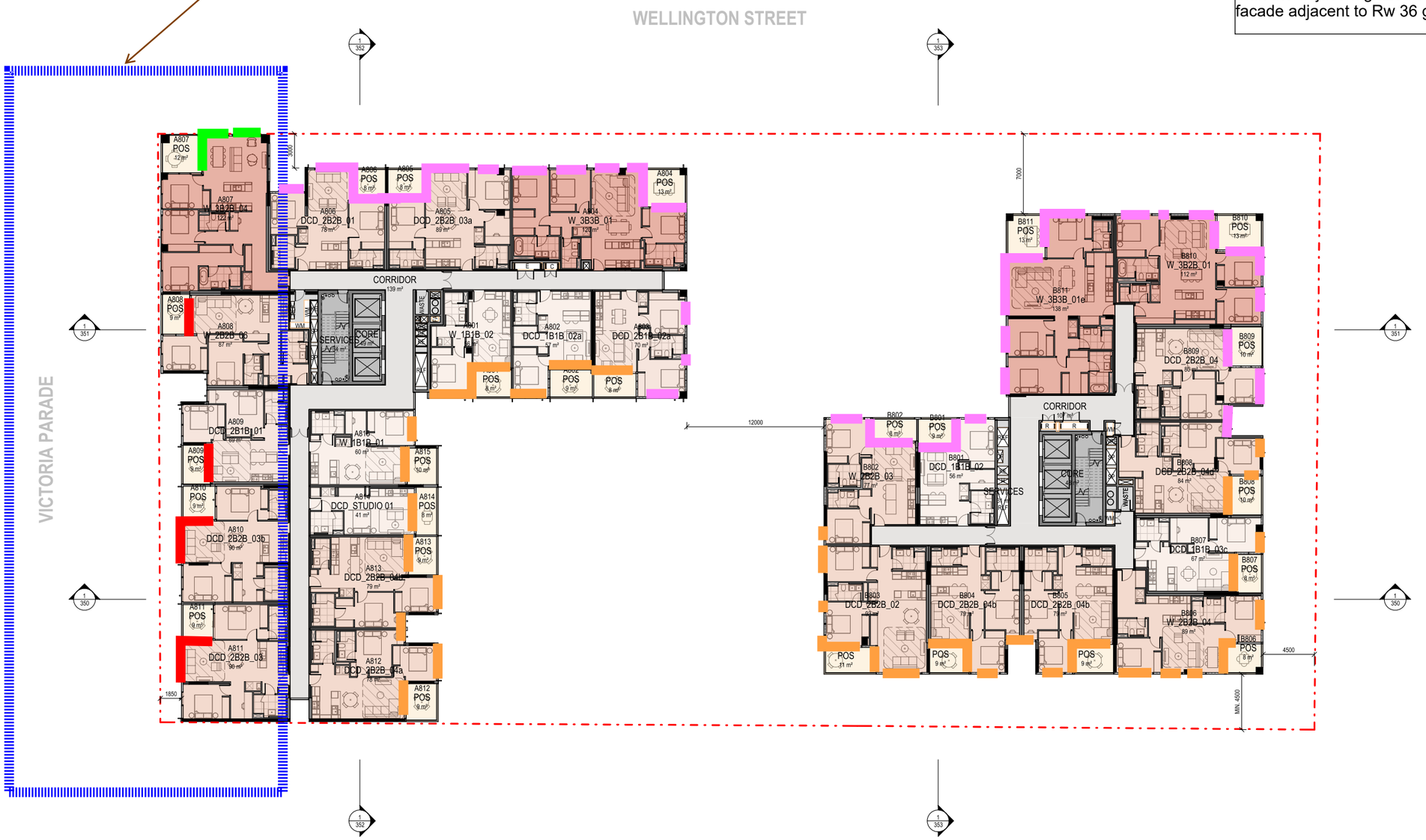
Project No. 2518
Scale @ A1 1 : 200
Date

Drawing Status: TOWN PLANNING ISSUE
Drawing No. AR 109
Revision 9

PRINTED: 14/04/2026 9:46:49 PM
FILE: Autodesk Docs://Stockland Collingwood /2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Within the blue dotted line:
- Rw 40 glazing for bedrooms with < 6.5m2 of glazing
- Rw 46 glazing for bedrooms with >= 6.5m2 of glazing



Legend

Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L8 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

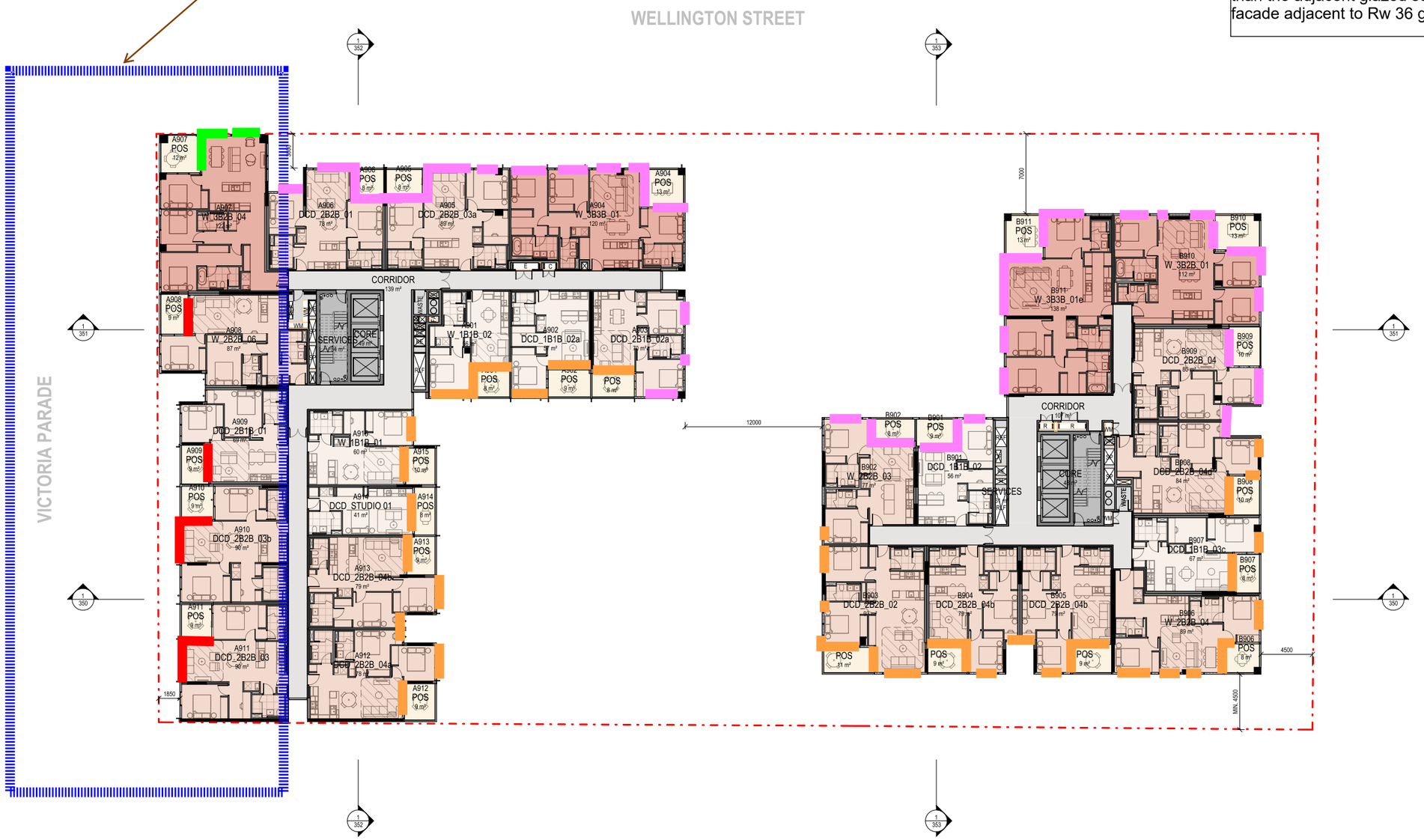
Drawing No. AR 110

Revision 8

PRINTED: 14/04/2026 9:46:55 PM
FILE: Autodesk Docs://Stockland Collingwood 2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Within the blue dotted line:
- Rw 40 glazing for bedrooms with < 6.5m2 of glazing
- Rw 46 glazing for bedrooms with >= 6.5m2 of glazing



Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

Rev.	Issue	Revision Description	Date	Appr by
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1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L9 PLAN

Project No. 2518
Scale @ A1: 1 : 200
Date

Drawing Status: TOWN PLANNING ISSUE
Drawing No. AR 111
Revision 8

PRINTED: 14/04/2026 9:47:02 PM
FILE: Autodesk Docs://Stockland Collingwood 2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

WELLINGTON STREET

VICTORIA PARADE

Legend

Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L10 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 112

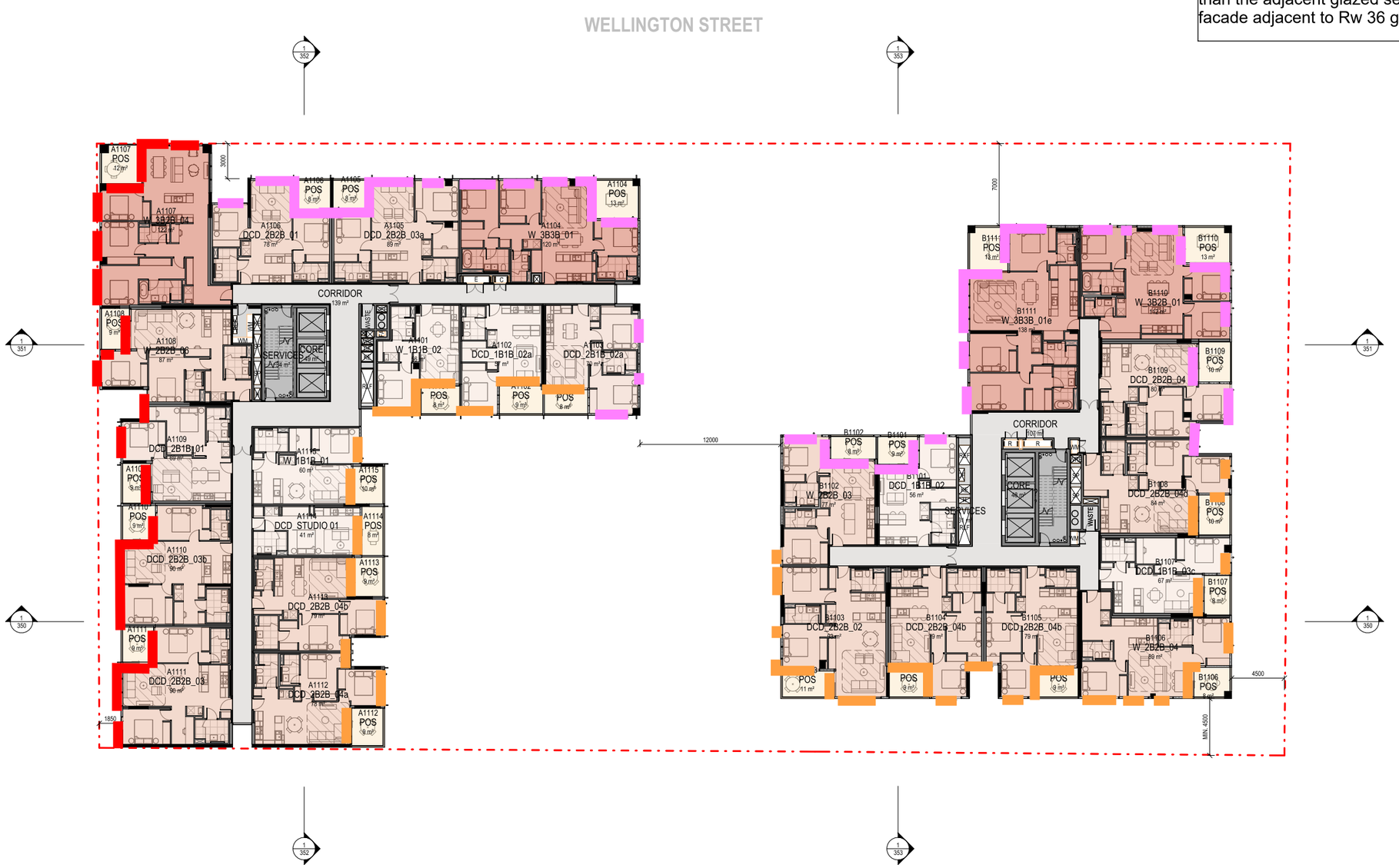
Revision 8

PRINTED: 14/04/2026 9:47:08 PM
FILE: Autodesk Docs://Stockland Collingwood 25\18_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

WELLINGTON STREET

VICTORIA PARADE



Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L11 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 113

Revision 8

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FILE: Autodesk Docs://Stockland Collingwood 2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

WELLINGTON STREET

VICTORIA PARADE

Legend

Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L12 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 114

Revision 9

PRINTED: 14/04/2026 9:47:21 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

WELLINGTON STREET

VICTORIA PARADE

Legend

Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

Rev.	Issue	Revision Description	Date	Appr by
8		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
7		TOWN PLANNING ISSUE UPDATES	25.03.2026	SG
6		TOWN PLANNING ISSUE	20.03.2026	SG
5		DRAFT 100% TOWN PLANNING ISSUE	11.03.2026	SG
4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client
STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project
STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title
FLOOR PLANS
LEVEL L13 PLAN

Project No.
2518

Scale @ A1
1 : 200

Date

Drawing Status
TOWN PLANNING ISSUE

Drawing No.
AR 115

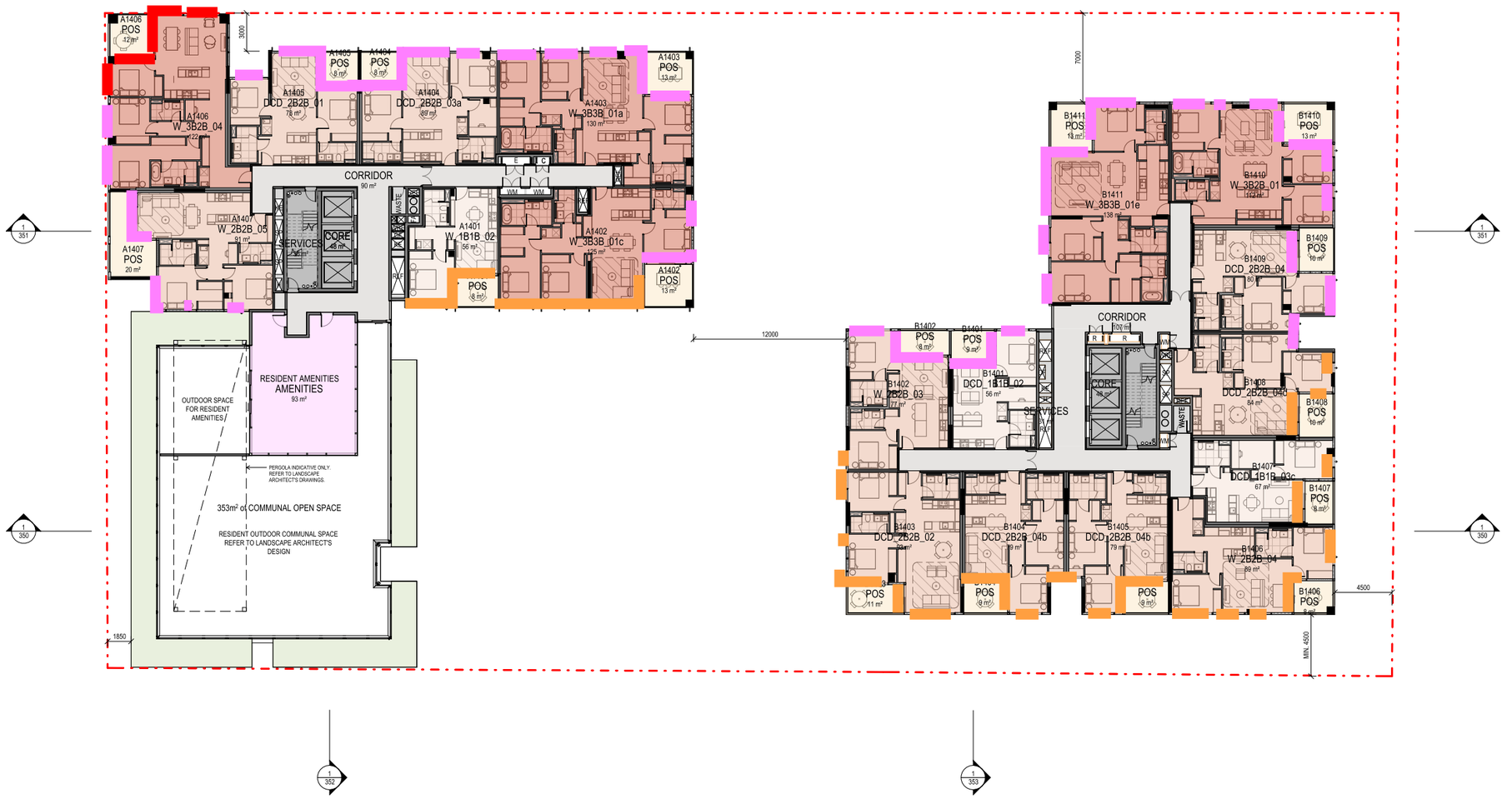
Revision
8

PRINTED: 14/04/2026 9:47:27 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

WELLINGTON STREET

VICTORIA PARADE



Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

Rev.	Issue	Revision Description	Date	Appr by
9		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
8		TOWN PLANNING ISSUE UPDATES	25.03.2026	SG
7		TOWN PLANNING ISSUE	20.03.2026	SG
6		DRAFT 100% TOWN PLANNING ISSUE	11.03.2026	SG
5		DRAFT FLOOR PLATE UPDATE	27.02.2026	SG
4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L14 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 116

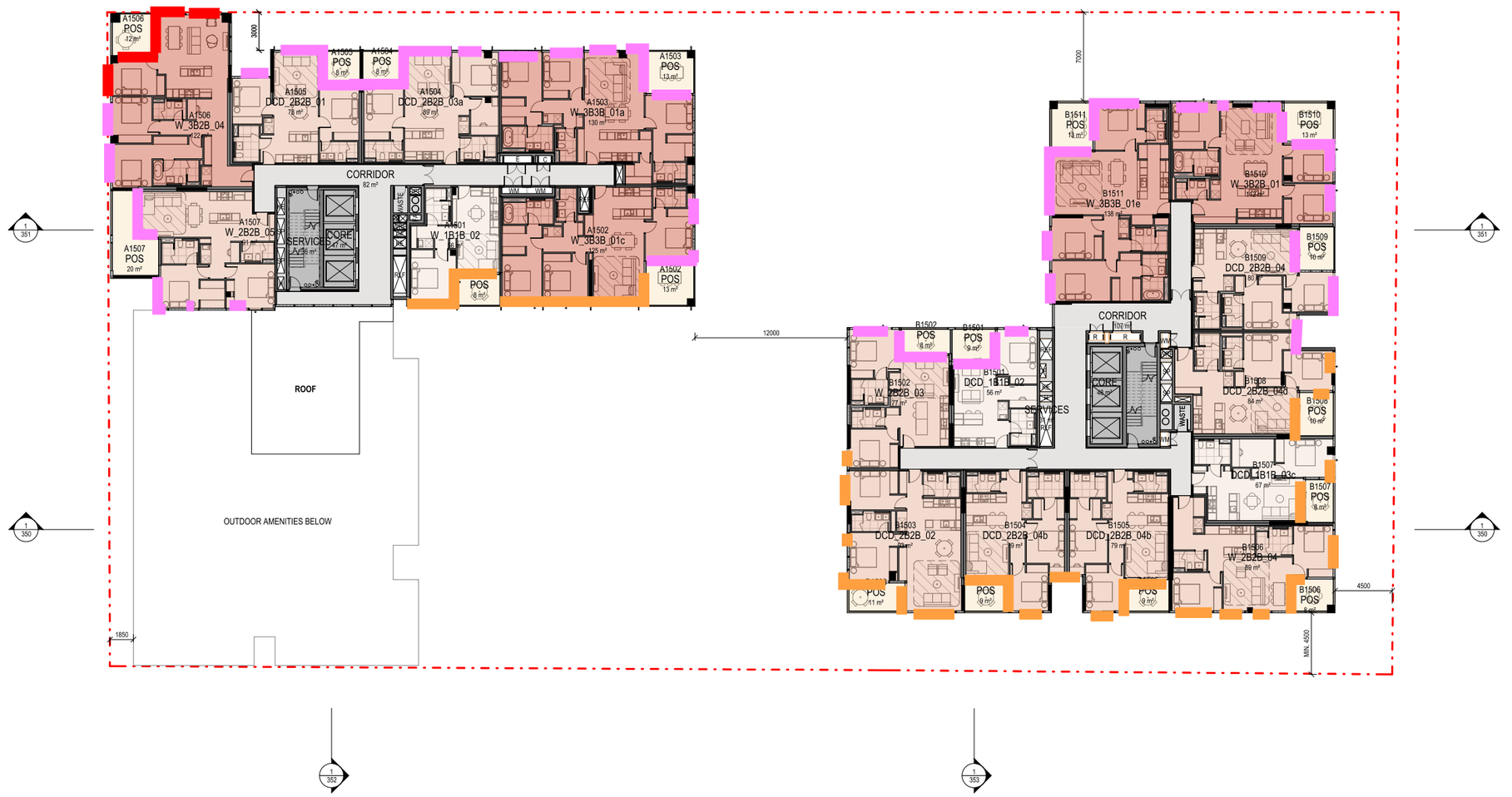
Revision 9

PRINTED: 14/04/2026 10:23:19 PM
FILE: Autodesk Docs://Stockland Collingwood 2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

WELLINGTON STREET

VICTORIA PARADE



Legend

- Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41
- Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36
- Frame and glazing to be rated to at least Rw 36
- Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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8		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
7		TOWN PLANNING ISSUE UPDATES	25.03.2026	SG
6		TOWN PLANNING ISSUE	20.03.2026	SG
5		DRAFT 100% TOWN PLANNING ISSUE	11.03.2026	SG
4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L15 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 117

Revision 8

PRINTED: 14/04/2026 10:23:32 PM
FILE: Autodesk Docs://Stockland Collingwood (2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Legend

Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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9		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
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4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L16 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 118

Revision 9

PRINTED: 14/04/2026 9:47:45 PM
FILE: Autodesk Docs://Stockland Collingwood 2518_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Legend

Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.

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Rev.	Issue	Revision Description	Date	Appr by
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7		TOWN PLANNING ISSUE	20.03.2026	SG
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4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L17 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 119

Revision 9

PRINTED: 14/04/2026 9:47:59 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Legend

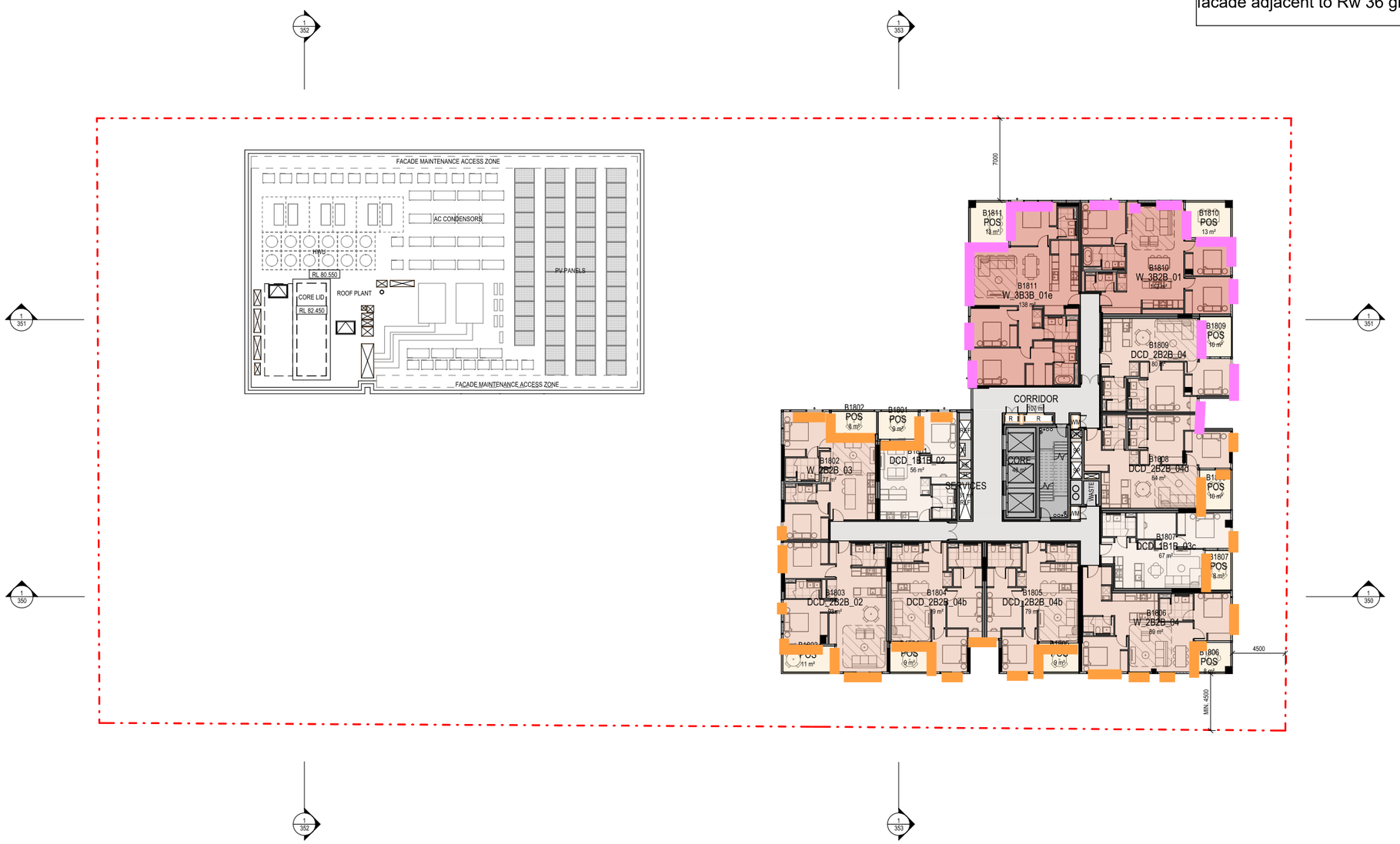
Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.



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4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L18 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 120

Revision 8

PRINTED: 14/04/2026 9:47:54 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Legend

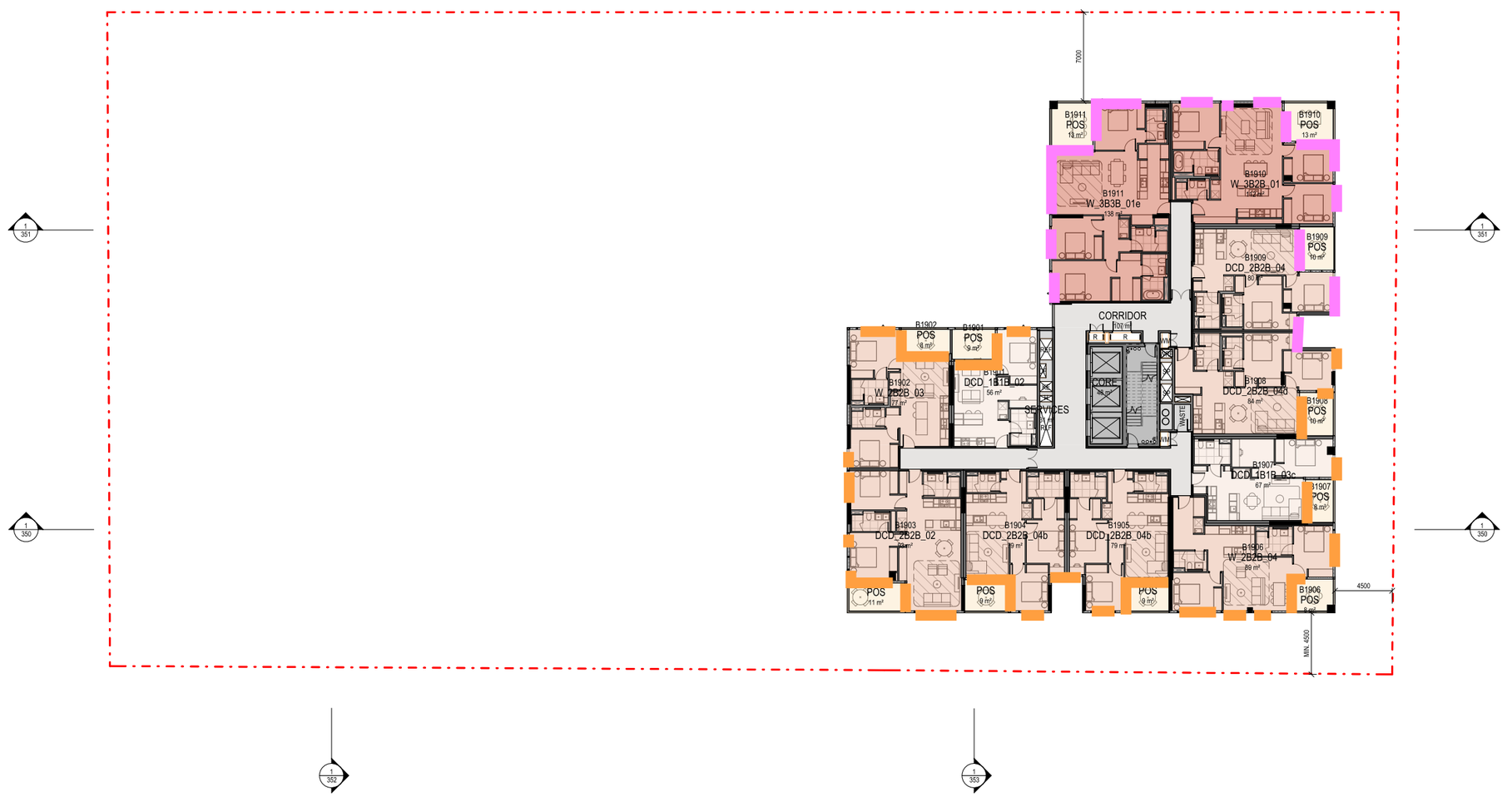
Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.



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Rev.	Issue	Revision Description	Date	Appr by
7		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
6		TOWN PLANNING ISSUE	20.03.2026	SG
5		DRAFT 100% TOWN PLANNING ISSUE	11.03.2026	SG
4		DRAFT 80% TOWN PLANNING ISSUE	18.12.2025	SG
3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L19 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 121

Revision 7

PRINTED: 14/04/2026 9:47:59 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Legend

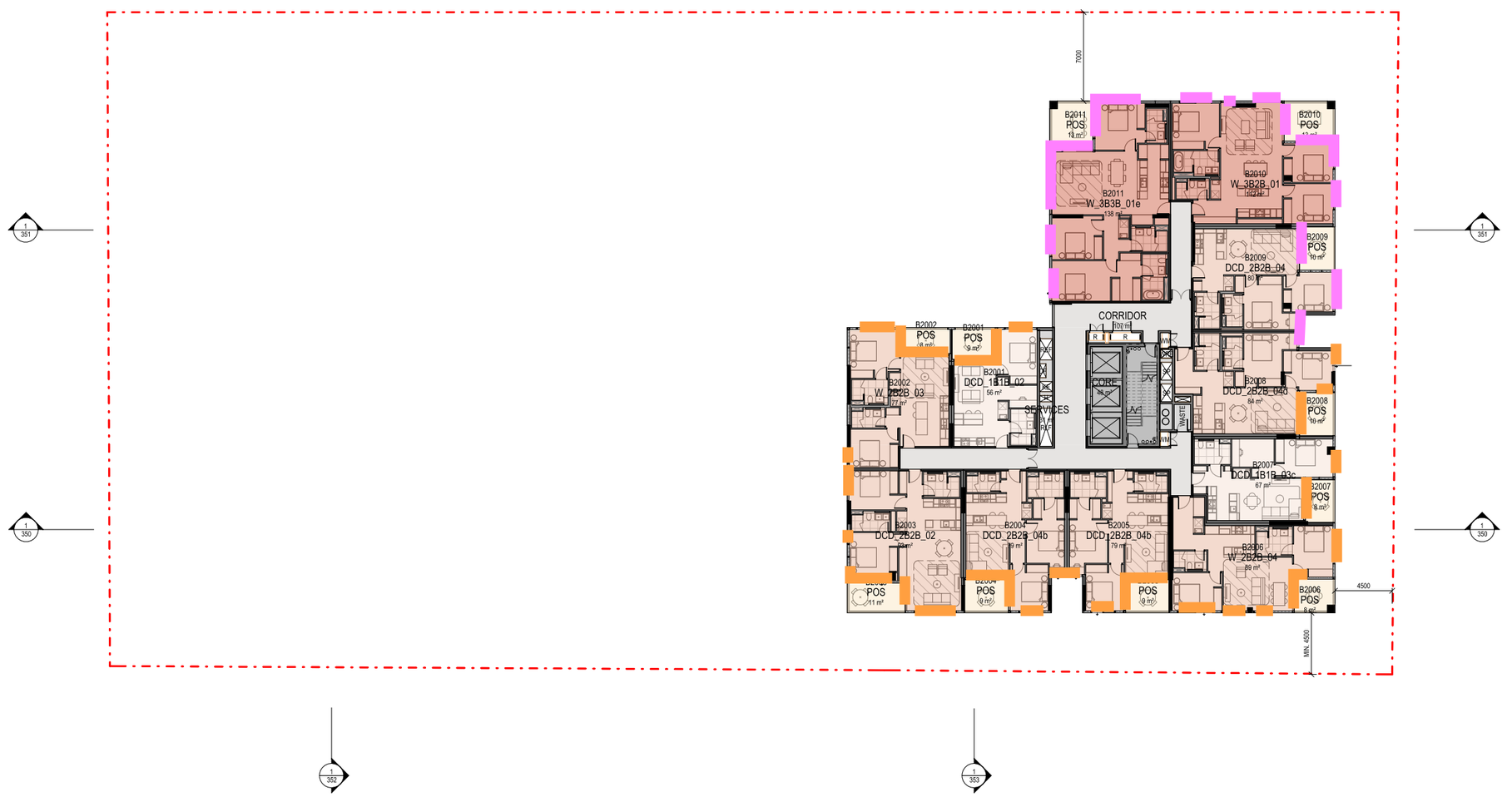
Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.



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7		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
6		TOWN PLANNING ISSUE	20.03.2026	SG
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3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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ABN 83 006 814 268

Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L20 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 122

Revision 7

PRINTED: 14/04/2026 9:48:05 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Legend

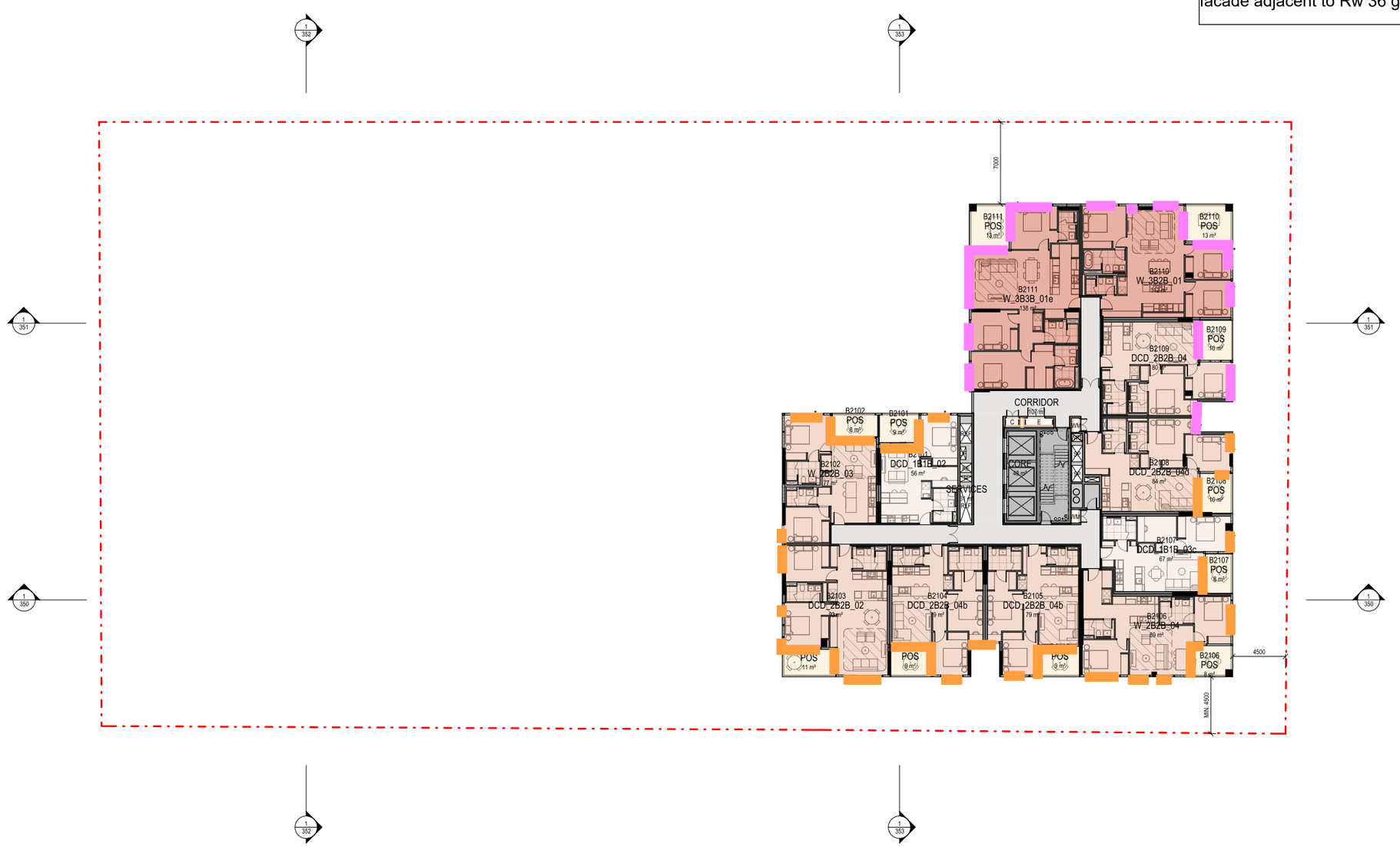
Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.



Rev.	Issue	Revision Description	Date	Appr by
7		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
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1		FOR INFORMATION	24.10.2025	

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Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L21 PLAN

Project No. 2518

Scale @ A1: 1 : 200

Date

Drawing Status: TOWN PLANNING ISSUE

Drawing No. AR 123

Revision 7

PRINTED: 14/04/2026 9:48:09 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Legend

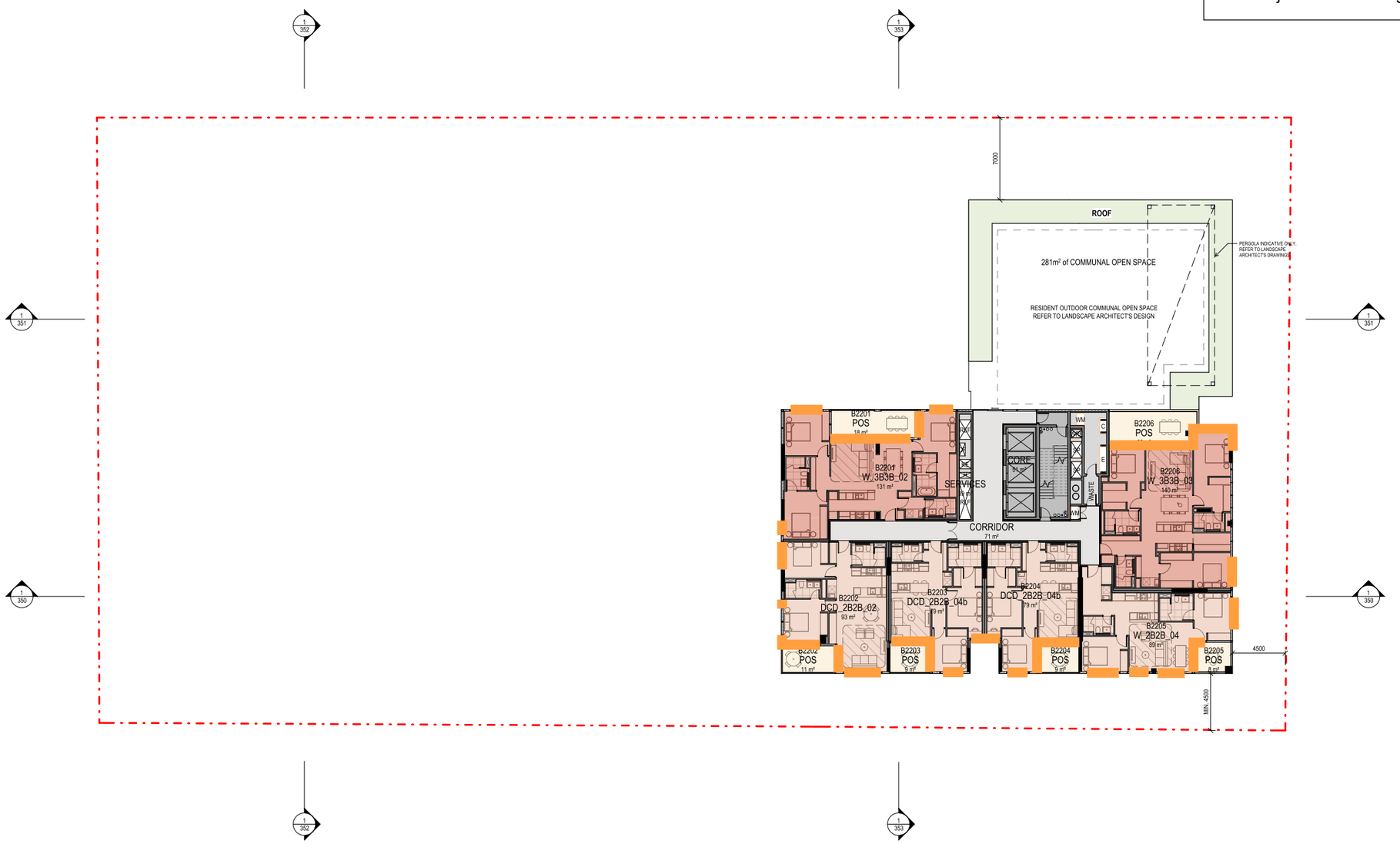
Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.



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9		TOWN PLANNING ISSUE UPDATES	14.04.2026	SG
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ABN 83 006 814 268

Client
STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project
STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title
FLOOR PLANS
LEVEL L22 PLAN

Project No.
2518

Scale @ A1
1 : 200

Date

Drawing Status
TOWN PLANNING ISSUE

Drawing No.
AR 124

Revision
9

PRINTED: 14/04/2026 9:48:12 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

THE DISTANCE BETWEEN THESE MARKS SHOULD MEASURE AS 100mm WHEN SHEET IS PRINTED TO SCALE AS INDICATED

Legend

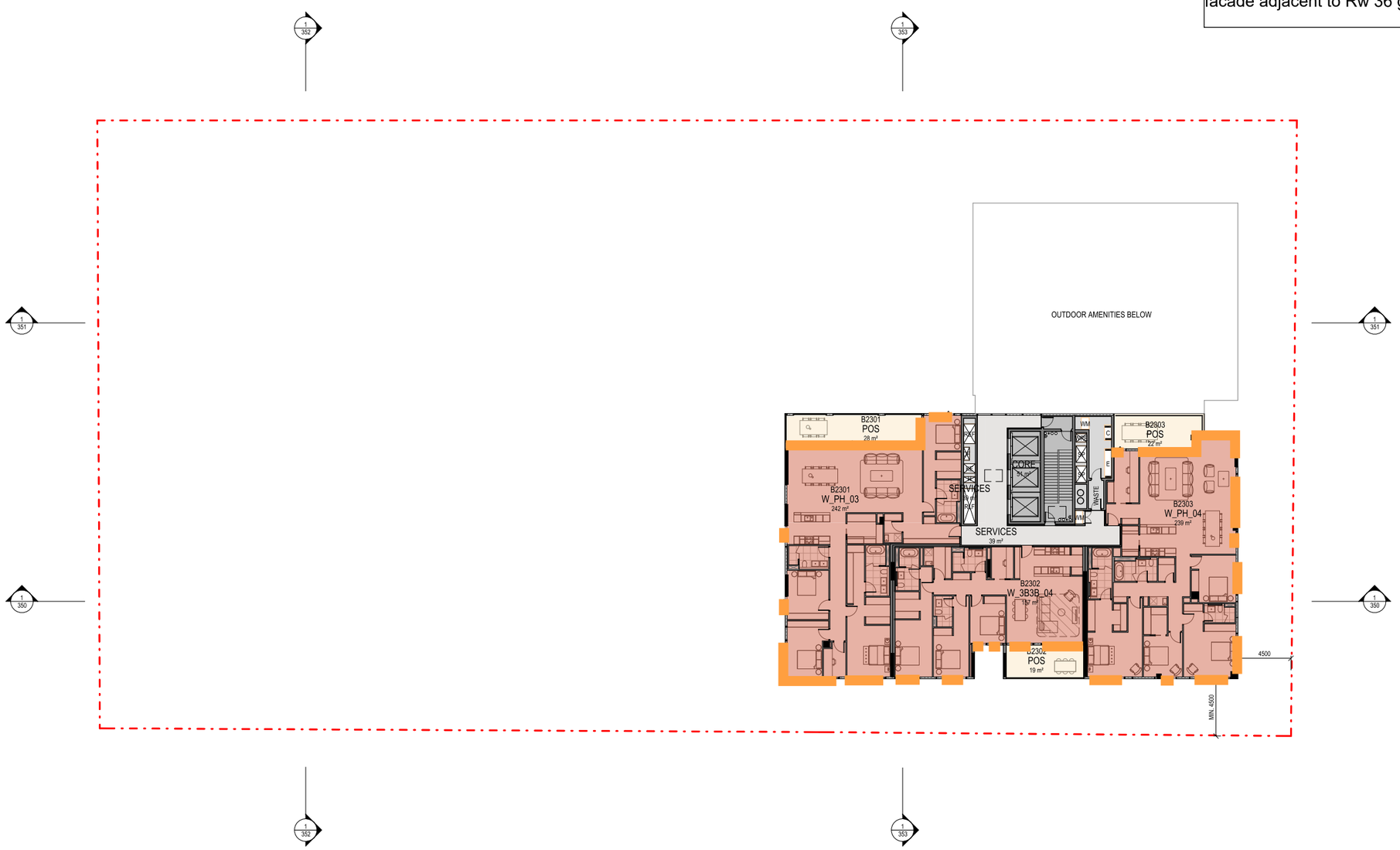
Frame and glazing to be rated to at least Rw 46 and Rw+Ctr 41

Frame and glazing to be rated to at least Rw 40 and Rw+Ctr 36

Frame and glazing to be rated to at least Rw 36

Frame and glazing to be rated to at least Rw 32

All opaque sections of the facade are to be rated to at least 10dB higher than the adjacent glazed sections. For example, opaque sections of the facade adjacent to Rw 36 glazing must be rated to at least Rw 46.



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3		DRAFT 80% TOWN PLANNING ISSUE	12.12.2025	SG
2		DRAFT TOWN PLANNING ISSUE	24.11.2025	SG
1		FOR INFORMATION	24.10.2025	

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Client: STOCKLAND
LEVEL 36, 525 COLLINS STREET, MELBOURNE 3000

Project: STOCKLAND COLLINGWOOD
79-81 VICTORIA PARADE
COLLINGWOOD 3066

Title: FLOOR PLANS
LEVEL L23 PLAN

Project No.: 2518

Scale @ A1: 1 : 200

Date

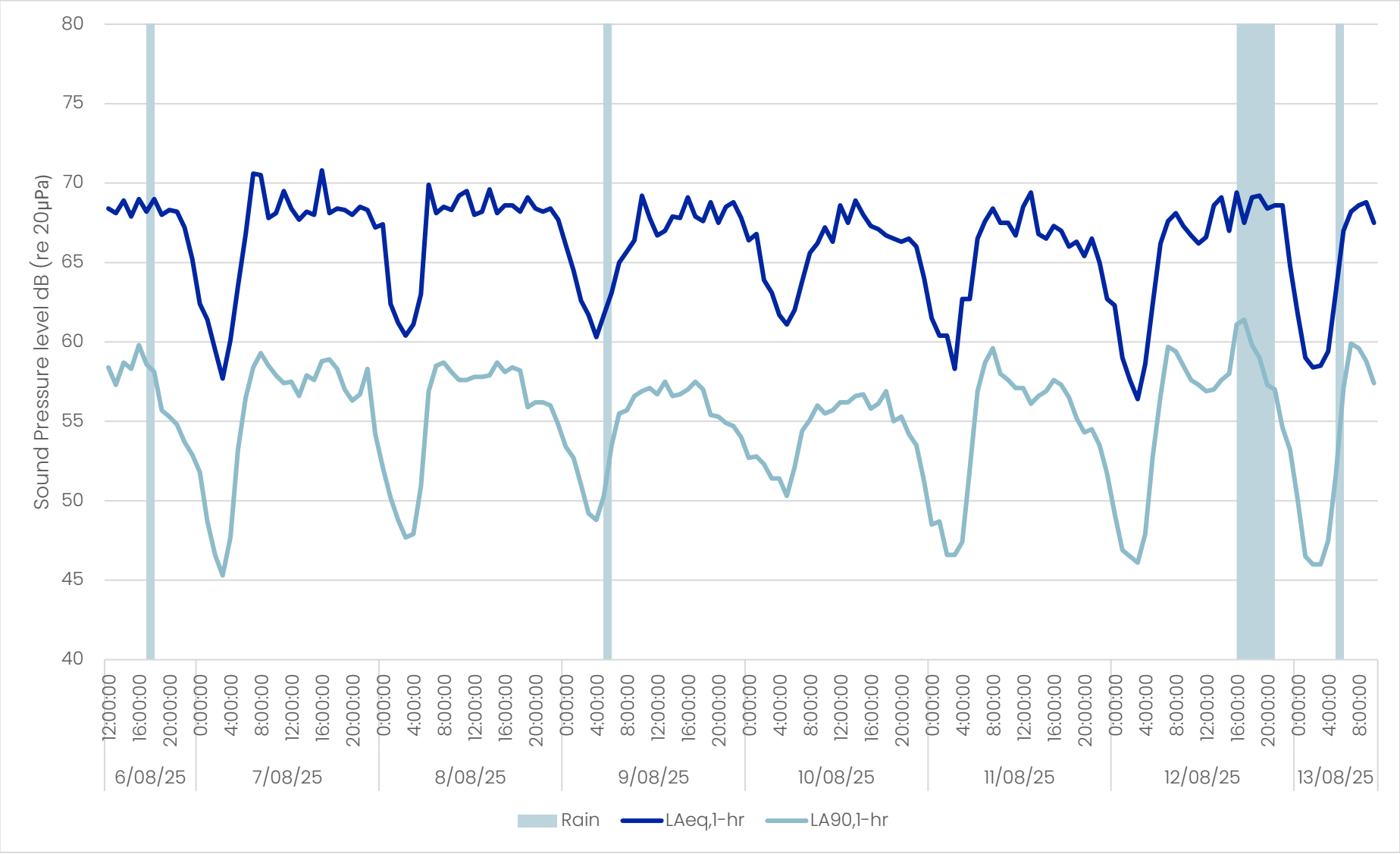
Drawing Status: TOWN PLANNING ISSUE

Drawing No.: AR 125

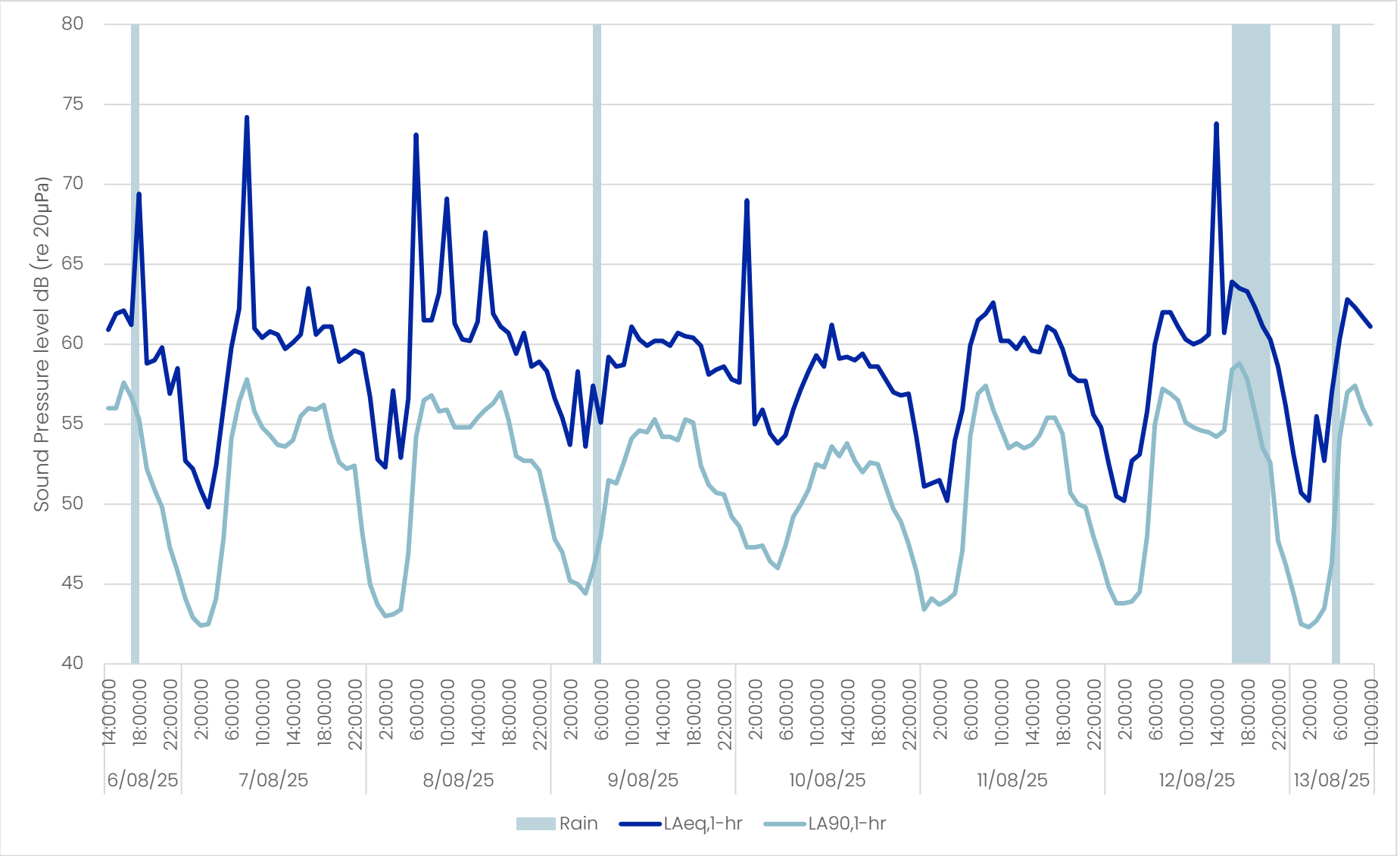
Revision: 8

PRINTED: 14/04/2026 9:48:14 PM
FILE: Autodesk Docs://Stockland Collingwood (2518)_Stockland_ARCHITECTURAL_MASTER_R25.rvt

Appendix C: Unattended Noise Monitoring – Victoria Parade


Sound Pressure level dB (re 20µPa)
80
75
70
65
60
55
50
45
40
12:00:00
16:00:00
20:00:00
0:00:00
4:00:00
8:00:00
12:00:00
16:00:00
20:00:00
6/08/25
7/08/25
8/08/25
9/08/25
10/08/25
11/08/25
12/08/25
13/08/25
Rain
LAeq,1-hr
LA90,1-hr

Appendix D: Unattended Noise Monitoring – Wellington Street


Sound Pressure level dB (re 20µPa)
80
75
70
65
60
55
50
45
40
14:00:00
18:00:00
22:00:00
2:00:00
6:00:00
10:00:00
14:00:00
18:00:00
22:00:00
6/08/25
7/08/25
8/08/25
9/08/25
10/08/25
11/08/25
12/08/25
13/08/25
Rain
LAeq,1-hr
LA90,1-hr