

77-83 Sutton Street, North Melbourne

Acoustic Assessment

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Project ID	20200960.1
Document Title	Acoustic Assessment
Attention To	BEG Projects Pty Ltd

Revision	Date	Document Reference	Prepared By	Checked By	Approved By
0	10/09/2020	20200960.1/1009A/R0/SHN	SHNzz	BAW	
1	6/10/2020	20200960.1/0610A/R1/SHN	SHNzz		
2	2/12/2020	20200960.1/0212A/R2/BAW	SHNzz	BAW	
3	3/02/2021	20200960.1/0302A/R3/BAW	BAW		BAW
4	3/05/2022	20200960.1/0305A/R4/BAW	BAW	BAW	BAW
5	14/03/2023	20200960.1/1403A/R5/BAW	BAW	BAW	BAW
6	19/04/2024	20200960.1/1904A/R6/BAW	BAW	BAW	BAW

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1 INTRODUCTION

Acoustic Logic Pty Ltd (AL) has been engaged by BEG Developments Pty Ltd to undertake an acoustic assessment of the proposed residential development located at 77-83 Sutton Street, North Melbourne. The purpose of the assessment to address the Condition 22 of Planning Permit No. PA2000891 prepared by Minister for Planning as well as to the address the external noise intrusion from the nearby traffic, train and industrial noise sources.

The assessment has been conducted based on the following documentation.

Table 1 – Referenced Documents

Prepared By	Document	Reference	Date
Minister for Planning	Planning Permit	PA2000891	12/08/2021
Point Architects	Architectural Drawings	TP100 – TP201	28/03/2024

2 PROJECT DESCRIPTION

The subject development is located at 77-83 Sutton Street, North Melbourne, which consists of a 12-storey mixed-use building with a two levels of common basement car park, residential communal facilities and retail on the ground level and residential apartments from level 1 to 11.

The site is bounded by Sutton Street to the north and existing commercial buildings to the east, south and west. The nearby road networks are Citylink (Toll Road) which is located approximately 110 metres west, and Boundary Road which is located approximately 70 metres east of the site. The Upfield Metropolitan Line rail corridor which carries passenger train is located approximately 110 metres west of the subject site.

The nearest industrial precinct is located on Stubbs Street which is approximately 220 metres west of site. The Laurens Street Industrial Precinct (Arden-Macaulay) is located approximately 750 metres to the south of the subject site.

Figure 1 below details the subject site location and its surrounding environments.

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Figure 1 - Subject site and surrounding environments (source: Google Maps)

2.1 LOCAL NOISE SOURCES

Based on the review of the subject development, the following have been identified as external noise sources which has been addressed in this report:

- Citylink Tollway - traffic noise associated with vehicle movement on the Citylink Tollway which is the dominant noise source impacting the subject site.
- Railway corridor - train noise associated with train movement along the Upfield Metropolitan Line rail corridor.
- Boundary Road - traffic noise associated with vehicle movement along Boundary Road.
- The existing industrial precinct on Stubbs Street located approximately 220 metres west of subject site.
- Laurens Street Industrial Precinct (Arden-Macaulay) located approximately 750 metres south of subject site.

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3 PLANNING PERMIT

Planning Permit No. PA2000891 prepared by Minister for Planning contains the following condition:

Design and Development Overlay – Schedule 26 (noise attenuation)

- 22 Prior to the commencement of the development, excluding bulk excavation and site remediation, an amended Acoustic Report prepared by a suitably qualified professional must be submitted to and approved by the Responsible Authority. The report must:
- (a) Provide for noise attenuation measures to achieve a maximum noise level of 35dB(A)Leq in unfurnished and uncarpeted habitable rooms with all windows and doors closed, unless there is no suitable air conditioning and/or mechanical ventilation, in which case the maximum noise level of 35dB(A)Leq in unfurnished and uncarpeted habitable rooms must be achieved with all the windows half open and the doors closed.
 - (b) Be based on external noise levels measured as part of a noise level assessment representative of the noise from industrial operations which occur in Arden-Macaulay. The recommendations in the approved acoustic report must be implemented at no cost to the Responsible Authority, prior to the occupation of the dwellings.

4 ENVIRONMENTAL NOISE DESCRIPTORS

Environmental noise constantly varies in level, due to fluctuations in local noise sources including traffic, tram and train. Accordingly, a 15-minute measurement interval is normally utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters.

In the case of environmental noise three principle measurement parameters are used, namely L_{10} , L_{90} and L_{eq} .

The L_{10} and L_{90} measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement intervals.

The L_{10} parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced by the source.

Conversely, the L_{90} level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The L_{90} parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source depends on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the L_{90} level.

The L_{eq} parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period. L_{eq} is important in the assessment of traffic and rail noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of industrial noise.

The L_1 parameter (or the noise level exceeded for 1% of the time) is used during the night period to assess potential sleep arousal effects due to transient noise sources.

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5 ASSESSMENT CRITERIA

5.1 SCHEDULE 26 TO THE DESIGN AND DEVELOPMENT OVERLAY

Schedule 26 reference in Condition 22 of the Planning Permit contains the following:

10/06/2010
C122

SCHEDULE 26 TO THE DESIGN AND DEVELOPMENT OVERLAY

Shown on the planning scheme map as **DDO26**

NORTH AND WEST MELBOURNE NOISE ATTENUATION AREA

1.0

Design objectives

19/01/2006
VC37

- To ensure that new, refurbished or converted developments for new residential and other noise sensitive uses constructed in the vicinity of the Laurens Street, North Melbourne Industrial Area include appropriate acoustical measures to attenuate noise levels within the building.
- To ensure that land use and development in the vicinity of the Laurens Street, North Melbourne Industrial Area does not adversely affect the viability of industry within the Area.

2.0

Requirements

19/01/2006
VC37

2.1

Building Design and Pre-construction Noise Measurement

19/01/2006
VC37

Any new or refurbished development or any conversion of part or all of an existing building that will accommodate new residential or other noise-sensitive uses must:

- Be designed and constructed to include noise attenuation measures. These noise attenuation measures must achieve a maximum noise level of 35dB(A)Leq in unfurnished and uncarpeted habitable rooms, with all windows and doors closed, unless there is no suitable air conditioning and/or mechanical ventilation, in which case the maximum noise level of 35dB(A)Leq in unfurnished and uncarpeted habitable rooms must be achieved with all the windows half open and the doors closed.
- Be fitted with suitable air conditioning and /or mechanical ventilation system to the satisfaction of the responsible authority unless the maximum noise level of 35dB(A)Leq in unfurnished and uncarpeted habitable rooms can be achieved with all the windows half open and the doors closed.
- Have walls, roof, windows, doors and external glazing and the air conditioning or ventilation system designed by a qualified acoustical consultant who must certify that the incorporation of the design features recommended by the consultant will achieve a maximum noise level in unfurnished and uncarpeted habitable rooms of 35dB(A)Leq, based on the external noise levels measured by the consultant as part of a noise level assessment conducted to the satisfaction of the responsible authority.

The pre-construction noise measurement will be conducted as follows:

- Be sufficient in detail and duration to be representative of the noise from the industrial operations which occur in the vicinity of the Laurens Street North Melbourne Industrial Area. This monitoring shall include sampling during the day, evening and night periods on weekdays and weekends.

Based on the above, the assessment criteria based on Schedule 26 are summarized in the table below. It is AL's understanding that the proposed development will be installed with suitable air conditioning.

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Table 2 – Noise Level Criteria for the Laurens Street North Melbourne Industrial Area (Arden-Macaulay)

Location	Internal Noise Level Criteria dB(A) $L_{eq}(1hr)$ ¹
Apartment Habitable Rooms	35

Note 1 – Noise level within unfurnished and uncarpeted habitable rooms with all windows and doors closed.

5.2 STANDARD D16 AT CLAUSE 58.04-3

Standard D16 of Clause 58.04-3 was considered to establish the suitable internal noise level criteria for the subject development. The standard contains the following condition:

To contain noise sources in developments that may affect existing dwellings.

To protect residents from external and internal noise sources.

Standard D16

Noise sources, such as mechanical plants should not be located near bedrooms of immediately adjacent existing 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 D3 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.

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Table D3 Noise influence area

Noise Source	Noise influence area
Zone interface	
<i>Industry</i>	<i>300 metres from the industrial 1, 2 and 3 zone boundaries</i>
Roads	
<i>Freeways, tollways and other roads carrying 40,000 Annual Average Daily Traffic Volume</i>	<i>300 metres from the nearest trafficable lane</i>
Railways	
<i>Railway servicing passengers in Victoria</i>	<i>80 metres from the centre of the nearest track</i>
<i>Railway servicing freight outside Metropolitan Melbourne</i>	<i>80 metres from the centre of the nearest track</i>
<i>Railway servicing freight in Metropolitan Melbourne</i>	<i>135 metres from the centre of the nearest track</i>

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

Decision guidelines

Before deciding on an application, the responsible authority must consider:

- The design response.
- Whether it can be demonstrated that the design treatment incorporated into the development meets the specified noise levels or an acoustic report by a suitably qualified consultant submitted with the application.
- Whether the impact of potential noise sources within a development have been mitigated through design, location and siting.
- Whether the layout of rooms within a dwelling mitigates noise transfer within and between dwellings.
- Whether an alternative design meets the relevant objectives having regard to the amenity of the dwelling and the site context.

Based on these conditions, the subject site has been reviewed as follows:

1. The development is located within 300 metres of an industrial zone.
 - The existing industrial precincts are located approximately 220 metres west of the site subject site and 280m south of the subject site.
2. The development is within 300m of a freeway or road carrying an AADT >40,000.

- Citylink Tollway is classified as a freeway and located approximately 100 metres west of subject site.
3. The development is **not** within 80m of railway servicing passengers.
- Upfield Metropolitan Line rail corridor is approximately 110m from the closest façade of the development.
 - Although technically not applicable, the criteria has been considered to address train noise level intrusion within the subject site.

Based on the above the following criteria are recommended for this development to achieve the objective of protecting residents from external noise sources:

Table 3 – Internal Noise Criteria for Apartments with View of Citylink Tollway and Nearby Industrial Area

Location	Internal Design Noise Level ¹
Apartment living rooms with façade facing the west, north and south	40 dB(A) $L_{eq(16hr)}$ (6am – 10pm)
Apartment bedrooms with façade facing the west, north and south	35 dB(A) $L_{eq(8hr)}$ (10pm – 6am)

Note 1 – With external windows and doors closed. Apartments are unfurnished with finished floor.

For apartments with no view of the Citylink Tollway (ie facing the east), the internal noise level criteria shall be designed to ensure compliance with Australian Standards 2107:2016 per below.

5.3 AUSTRALIAN STANDARDS 2107:2016

Internal noise level criteria for external noise intrusion from traffic on Boundary road has been developed in accordance with *Australian Standard AS/NZS 2107:2016 "Recommended Design Sound Levels and Reverberation Times for Building Interiors"*. AS/NZS 2107:2016 sets out recommended design sound levels for residential developments depending on locality to minor or major roads. The Table 4 below details the criteria for the proposed development which is located adjacent to a major road.

Table 4 – Apartments facing away from Citylink Tollway (Eastern Façade)

Location	Required Internal Noise Level	
	Day dB(A) $L_{eq,1hr}$ (7am – 10pm)	Night dB(A) $L_{eq,1hr}$ (10pm – 7am)
Apartment Bedrooms	35-45 ¹	30-40
Apartment Living rooms	35-45	N/A

Note 1 - Bedrooms are assessed as living areas outside the night-time period of 10pm to 7am.

Note 2 - Assessment is based on apartments suitably furnished ready for occupation.

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6 NOISE LEVEL MEASUREMENTS

This section details the noise level measurements utilized for the assessment.

6.1 LOCATION OF MEASUREMENTS

Figure 2 below indicates the measured noise levels around the subject development.



Figure 2 - Measurement Locations (source: Google Maps)

The measurement locations are as the following:

- Measurement location 1 – attended noise level measurements were conducted adjacent the Upfield Metropolitan Line rail corridor. The microphone of the sound level meter was located approximately 1.5 metres above grade. The measurements were free-field and has full view of the train line and impacted by the vehicle movement on Citylink Tollway.
- Measurement location 2 – attended noise level measurements were conducted adjacent Boundary Road. The microphone of the sound level meter was located approximately 1.5 metres above grade. The measurements were affected by façade reflections and has full view of Boundary road.
- Measurement location 3 – attended noise level measurements were conducted adjacent Alfred Street. The microphone of the sound level meter was located approximately 1.5 metres above grade. The measurements were influenced by façade reflections and has full view of the Citylink freeway.
- Measurement location 4 – attended noise level measurements were conducted the subject site. The microphone of the sound level meter was located approximately 1.5 metres above grade. The measurements were free-field and has full view of the freeway.

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- Measurement location 5 – attended noise level measurements were conducted facing the freeway. The microphone of the sound level meter was located approximately 1.5 metres above grade. The measurements were free-field and has full view of the Citylink freeway.
- Measurement location 6 – attended noise level measurements were conducted adjacent Boundary Road. The microphone of the sound level meter was located approximately 1.5 metres above grade. The measurements were influenced by façade reflections and has full view of the Boundary Road.

The traffic noise level measurements of Citylink Tollway were previously obtained by AL at these locations (not shown in Figure 2):

- Location A – an unattended noise monitor was installed on an apartment external balcony on level 8 of the 111 Canning Street, North Melbourne development facing the Citylink Tollway. The microphone of the noise monitor was located approximately 1.5 metres above FFL of the balcony and has full view of Citylink Tollway. The measurements were affected by façade reflections. The monitor was installed on site between 23 and 26 August 2016.
- Location B – an unattended noise monitor was installed on an apartment external balcony on level 4 of the Parkville Stage 7 residential development located at Galada Avenue, Parkville. The microphone of the noise monitor was located approximately 1.5 metres above FFL of the balcony and has full view of Citylink Tollway. The measurements were affected by façade reflections. The monitor was installed on site between 24 and 26 September 2018.

The industrial noise level measurements of the Laurens Street Industrial Precinct (Arden-Macaulay) conducted in the locations indicated in Figure 3 below:



Figure 3: Site Map (Source: Google Map)

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The measurement locations are the following:

- Location C – Laurens Street between Weston Milling and Holcim facilities: The microphone of the monitor was placed 1.5 metres above grade and the measurements were affected by façade reflections.
- Location D – Attended noise measurements at 8 Munster Terrace. Measurements was conducted 1.5m above grade and were affected by façade reflections.
- Location E – Attended noise measurements at Arden Street at the Laurens Street Industrial Precinct (Arden-Macaulay)'s northern boundary. Measurements was conducted 1.5m above grade and were affected by façade reflections.

6.2 MEASUREMENT EQUIPMENT

All attended noise level measurements were conducted using a Norsonic Nor140 Sound Level Analyser. The equipment was calibrated at the beginning and the end of the measurement using a B&K 4231 calibrator; no significant drift was detected. All measurements were taken on fast response mode.

All unattended long-term noise monitoring was conducted using an ARL-315 noise monitor. The equipment was calibrated at the beginning and the end of the measurement using a B&K 4231 calibrator; no significant drift was detected. All measurements were taken on fast response mode.

6.3 MEASUREMENT RESULTS

6.3.1 Traffic Noise Level Measurements

The tables below detail the measures noise level used in the assessment.

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Table 5 – Measured Traffic Noise Levels (Attended Measurements)

Measurement Locations ¹	Date of Measurements	Time of Measurements	Measured Noise Levels $L_{eq, 15mins} \text{ dB(A)}^3$
Location 1 (facing Citylink Tollway and railway corridor)	5/02/2021	07:20am-07:35am	61
Location 2 (facing Boundary Road)	30/11/2018	03:24pm-03:39pm	65 ²
Location 3 (facing Citylink Tollway)	30/11/2018	03:44pm-03:59pm	56 ²
Location 4 (adjacent subject site)	02/12/2020	01:48pm-02:03pm	60
Location 5 (facing Citylink Tollway)	02/12/2020	02:04pm-02:19pm	60
		02:20pm-02:35pm	62
		03:00pm-03:15pm	62
		03:15pm-03:30pm	64
		03:30pm-03:45pm	59

Measurement Locations ¹	Date of Measurements	Time of Measurements	Measured Noise Levels L _{eq, 15mins} dB(A) ³
Location 6 (facing Boundary Road)	02/12/2020	02:43pm-02:58pm	69 ²

Note 1 – Refer Section 6.1 for measurement locations.

Note 2 – Measured noise levels presented have been corrected -2.5 dB for façade reflections.

Note 3 – Noise from the Stubbs Street and Laurens Street Industrial Precinct (Arden-Macaulay) were inaudible at the measurement location.

Table 6 – Citylink Tollway Traffic Noise Level Measurements

Measurement Locations ¹	Period	Measured Noise Levels ²
Measurement location A at 111 Canning Street (facing Citylink Tollway)	Day (6.00 – 22.00)	66 dB(A) L _{eq,16hr}
	Night (22.00 – 6.00)	62 dB(A) L _{eq,8hr}
Measurement location B at Parkville Stage 7 (facing Citylink Tollway)	Day (6.00 – 22.00)	74 dB(A) L _{eq,16hr}
	Night (22.00 – 6.00)	68 dB(A) L _{eq,8hr}

Note 1 – Refer Section 6.1 for measurement locations.

Note 2 – Measured noise levels presented have been corrected -2.5 dB for façade reflections.

6.3.2 Train Noise Level Measurements

Table 7 – Measured Train Noise Levels (Attended Measurements)

Measurement Location ¹	Time	Measured Noise Levels ²
Measurement location 1 (facing the Upfield Metropolitan Line rail corridor)	Day (6am – 10pm)	74 L _{eq,16hr} dB(A)
	Night (10pm – 6am)	68 L _{eq,8hr} dB(A)

Note 1 – Refer Section 6.1 for measurement locations.

Note 2 – Train noise L_{eq} is derived by measuring the level of multiple train pass-bys and deriving a Sound Exposure Level (SEL). A L_{eq,16hr} and L_{eq,8hr} value is then derived from this based on the frequency of the train service during these periods.

6.3.3 Industrial Noise Measurements

6.3.3.1 Laurens Street Industrial Precinct (Arden-Macaulay)

To address the Schedule 26 detail in Section 5 above, the noise levels from the Laurens Street Industrial Precinct (Arden-Macaulay) has been assessed.

The table below details the measured noise levels of the Laurens Street Industrial Precinct (Arden-Macaulay).

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Table 8 – Attended Industrial Noise Levels

Location	Date and Time	Measured Noise Level dB(A) L_{eq}
Location C	25/11/2019: 10:50am – 11:00am	62 ¹
Location D	30/11/2017: 2:47pm	57 ¹
	06/12/2017: 7:32am	55 ¹
Location E	09/02/2020: 4:30pm to 4:45pm	59 ²

Note 1 – The measured noise levels have been corrected to account for façade reflections

Note 2 – The noise levels presented is based on the measured noise between the traffic at Arden Street.

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7 EVALUATION OF EXTERNAL NOISE INTRUSION

Internal noise levels will primarily be as a result of noise transfer through the windows, doors and roof as these are relatively light building elements that offer less resistance to the transmission of sound. Walls that are proposed to be precast / heavy masonry elements will not require upgrading acoustically.

The measured traffic and train noise levels conducted have been used to predict the noise levels at the façade of the proposed development, which considered the distance between measurement location and proposed building location.

The predicted noise levels through the windows, doors and roof are discussed below. The predicted noise levels have been based on the expected level and spectral characteristics of the external noise, the area of building elements exposed to traffic/train noise, the absorption characteristics of the rooms and the noise reduction performance of the building elements.

The constructions set out below are necessary for the satisfactory control of external noise.

7.1 TRAFFIC AND TRAIN NOISE ASSESSMENT

7.1.1 Recommended Glazing

The minimum glazing requirements schedule for this development is detailed in **Appendix 1 – Façade Markup**. The glass thicknesses shown in the schedule do not consider thermal, structural, safety or any other requirements other than acoustic requirements and thus may require upgrading in some instances. In these instances, increasing the glass thickness beyond the acoustic requirement will be acceptable. Where the glazing thickness has not been specified, standard glazing will be acceptable.

Table 9 below details the minimum R_w performance requirements for the glazing assembly installed. Where open-able windows or sliding doors are installed, the total R_w performance of the system shall not be lower than the values listed in Table 9. It is noted that the system supplied shall meet the overall minimum R_w ratings nominated based on a laboratory test report for the system. If an alternative system is proposed the system shall be reviewed and will require approval by a suitably qualified acoustic consultant to ensure that the proposed system is acceptable and will ensure compliance with the nominated internal noise design criteria.

Table 9 – Minimum External Glazing Requirements / Performance

Location	Required Glazing Construction ¹	Minimum R_w of Installed Window System	Acoustic Seals ²
Refer Appendix 1 – Façade Mark-up	6mm <u>or</u> 6/12/6 IGU	29	Yes
	6.38mm lam <u>or</u> 6/12/6.38 lam IGU	31	Yes
	10.38mm lam <u>or</u> 6/12/10.38 lam IGU	35	Yes
	12.76mm lam <u>or</u> 6/12/12.76 lam IGU	37	Yes
	12/12/8.76 lam IGU	39	Yes

Note 1 – or equivalent as approved by a suitably qualified acoustic consultant.

Note 2 – Mohair Seals in windows and doors are not acceptable where acoustic seals are required. Seals in these instances shall be equal to Schlegel Q-Ion.

7.1.2 Apartment Roof / Ceiling Construction

Concrete roof construction does not require further upgrade acoustically. Any lightweight element shall be designed to ensure compliance with the assessment criteria is achieved.

Penetrations in ceilings (such as for light fittings etc.) must be sealed gap free with a flexible sealant. Any ventilation openings in the ceilings would need to be acoustically treated to maintain the acoustic performance of the ceiling construction.

7.1.3 Apartment External Walls

Concrete or masonry external walls will not require upgrading acoustically. Penetrations in walls must be sealed gap free with a flexible sealant. Any ventilation openings in the walls would need to be acoustically treated to maintain the acoustic performance of the wall construction.

7.2 INDUSTRIAL NOISE ASSESSMENT

7.2.1 Laurens Street Industrial Precinct (Arden-Macaulay)

Our inspection and noise level measurements at the subject site indicate that the noise from the Laurens Street Industrial Precinct (Arden-Macaulay) was inaudible. As such, industrial noise levels from the Laurens Street Precinct (Arden-Macaulay) have been predicted on the subject site based on the noise level measurements detailed in Table 8 above.

The noise levels from the operation of Laurens Street Industrial Precinct (Arden-Macaulay) at the façade of the subject development is predicted to be <55 dB(A). Based on this, the façade design recommended in Section 7.1 above will ensure that compliance with the criteria nominated under Schedule 26 requirement will be met by achieving an internal noise level of $\leq 35 \text{ dB(A)}_{L_{eq,1hr}}$ within unfurnished and uncarpeted habitable rooms with all windows and doors closed. As noted above, it is AL's understanding that the proposed development will be installed with suitable air conditioning.

7.2.2 Stubbs Street Industrial Precinct

The nearest industrial area has been identified in Figure 1 which is located approximately 220 metres west of subject site on Stubbs Street, which is located west of the Citylink Tollway. Our inspection and measurements at the locations detailed in Figure 2 indicate that the operation from the industrial area is inaudible, as the noise levels are dominated by the Citylink Tollway (i.e. the noise level from the industrial area is lower than the Citylink Tollway). Based on this, the façade design recommended in Section 7.1 above will ensure compliance with the industrial noise level criteria in Table 3.

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8 CONCLUSION

This report details our acoustic assessment for the proposed mixed-use development located at 77-83 Sutton Street, North Melbourne. The assessment has been conducted to ensure that the operation of the Laurens Street Industrial Precinct (Arden-Macaulay) complies with the criteria nominated under Schedule 26 of the Design and Development Overlay, and therefore satisfies Condition 22 of Planning Permit No. PA2000891 prepared by Minister for Planning.

In addition, Section 7 of the report has detailed our acoustic treatment recommendations to ensure that the internal noise level criteria established in Section 5 is achieved.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,



Acoustic Logic Consultancy Pty Ltd
Barli Wibisono

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Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

External Wall Types

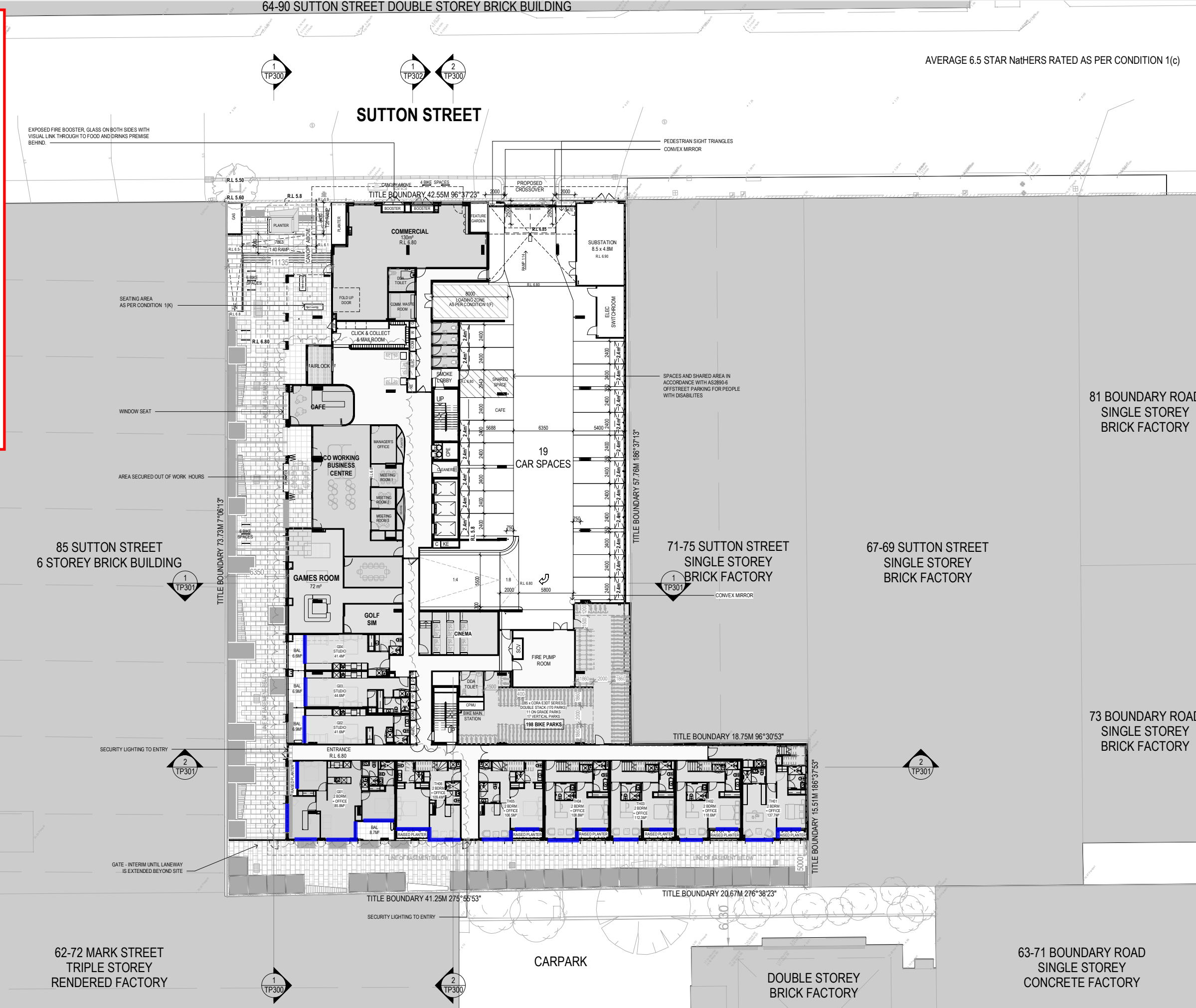
Masonry or precast walls do not require acoustic treatment.

Roof

Roof assumed to be of masonry or precast construction. i.e not a lightweight roof

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P4	S72 AMENDMENT / CONDITION 1 SUBMISSION			23/01/2023
P5	RFI RESPONSE			14/07/2023
P6	INTERNAL REFERRAL RESPONSE			17/10/2024
P7	INTERNAL REFERRAL RESPONSE			22/02/2024
P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024

PROJECT	TITLE	DRAWN	SCALE	PLOT DATE	JOB No.
77-83 SUTTON STREET NORTH MELBOURNE VIC 3051	PROPOSED GROUND LEVEL FLOOR PLAN	SD	1 : 200 @ A1	28/03/24	1015
				DWG No	REVISION
				TP102	P9

Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

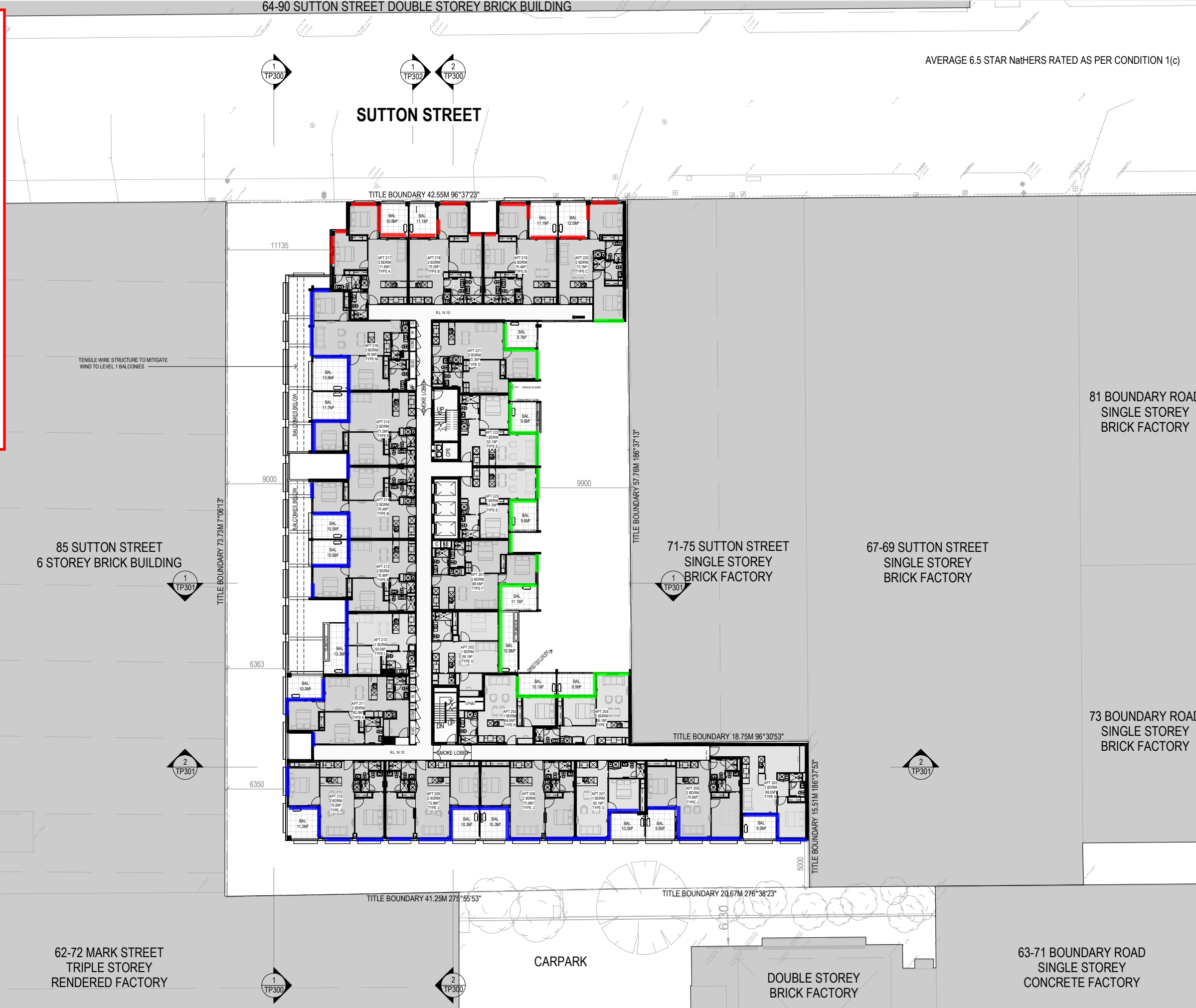
External Wall Types

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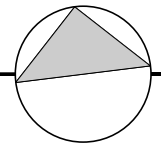
Roof

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89 SUTTON STREET
VACANT SITE
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P9	PERMIT AMENDMENT			28/03/2024



Glazing Schedule

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- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

External Wall Types

Masonry or precast walls do not require acoustic treatment.

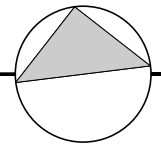
Roof

Roof assumed to be of masonry or precast construction. i.e not a lightweight roof

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VACANT SITE**
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P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024



Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

External Wall Types

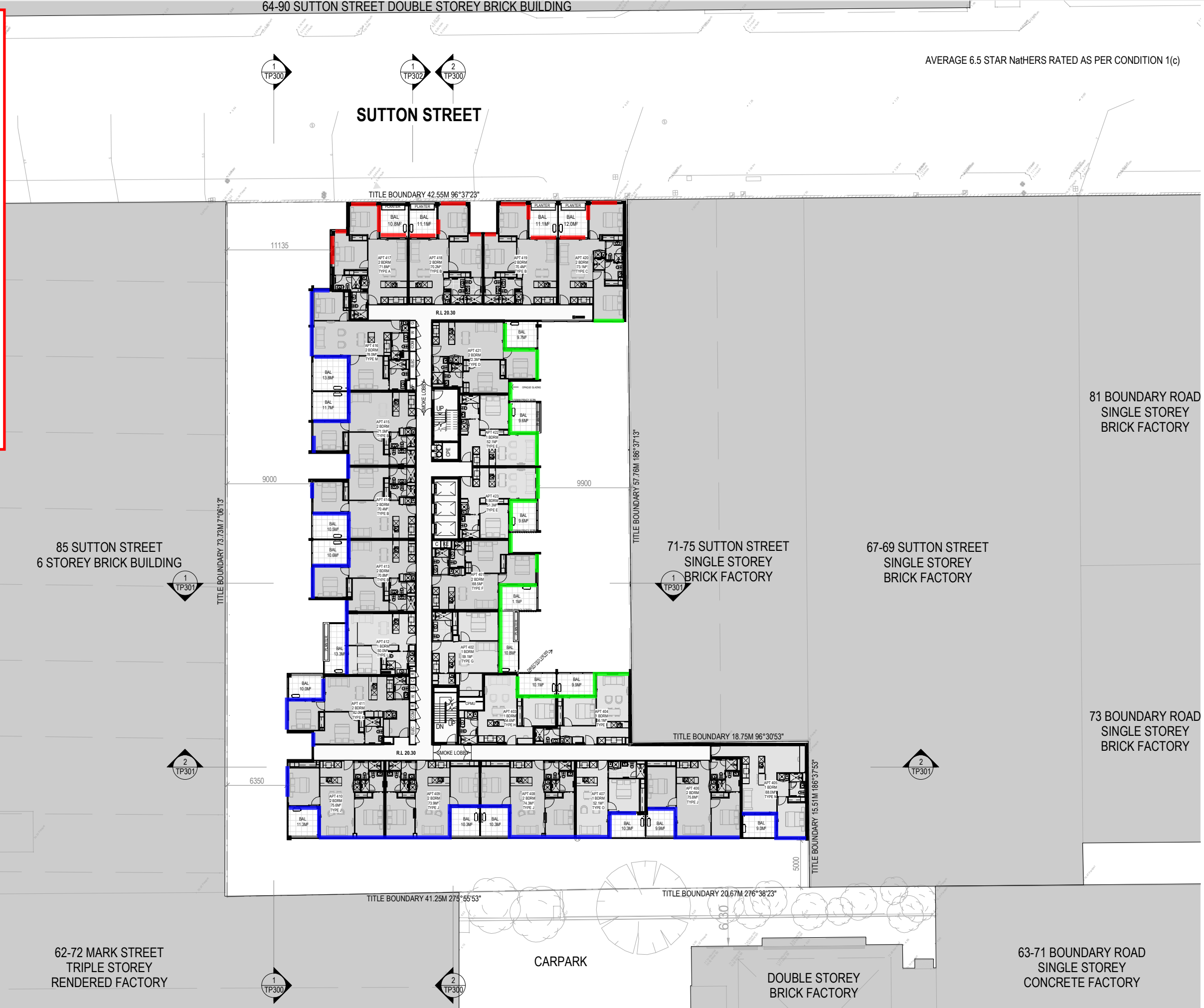
Masonry or precast walls do not require acoustic treatment.

Roof

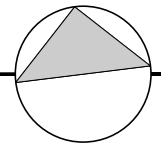
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P7	INTERNAL REFERRAL RESPONSE			22/02/2024
P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024



TOWN PLANNING

PROJECT	TITLE	DRAWN	SCALE	PLOT DATE	JOB No.
77-83 SUTTON STREET NORTH MELBOURNE VIC 3051	PROPOSED LEVEL 4 FLOOR PLAN	SD	1 : 200 @ A1	28/03/24	1015
				DWG No	REVISION
				TP106	P9

Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

External Wall Types

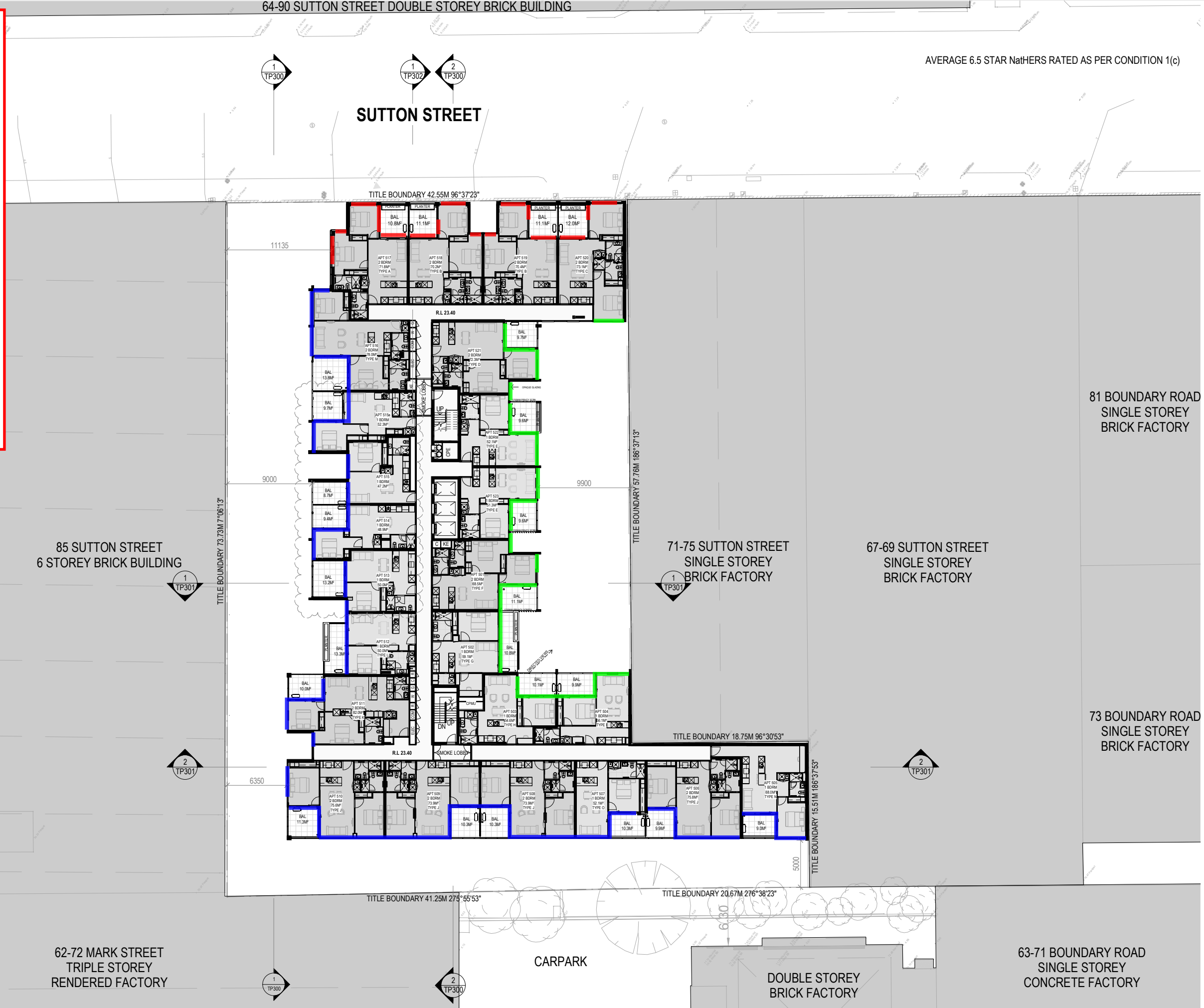
Masonry or precast walls do not require acoustic treatment.

Roof

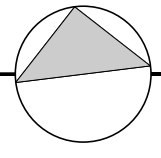
Roof assumed to be of masonry or precast construction. i.e not a lightweight roof

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P6	INTERNAL REFERRAL RESPONSE			17/10/2024
P7	INTERNAL REFERRAL RESPONSE			22/02/2024
P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024



TOWN PLANNING

PROJECT	TITLE	DRAWN	SCALE	PLOT DATE	JOB No.
77-83 SUTTON STREET NORTH MELBOURNE VIC 3051	PROPOSED LEVEL 5 FLOOR PLAN	SD	1 : 200 @ A1	28/03/24	1015
				DWG No	REVISION
				TP107	P9

Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

External Wall Types

Masonry or precast walls do not require acoustic treatment.

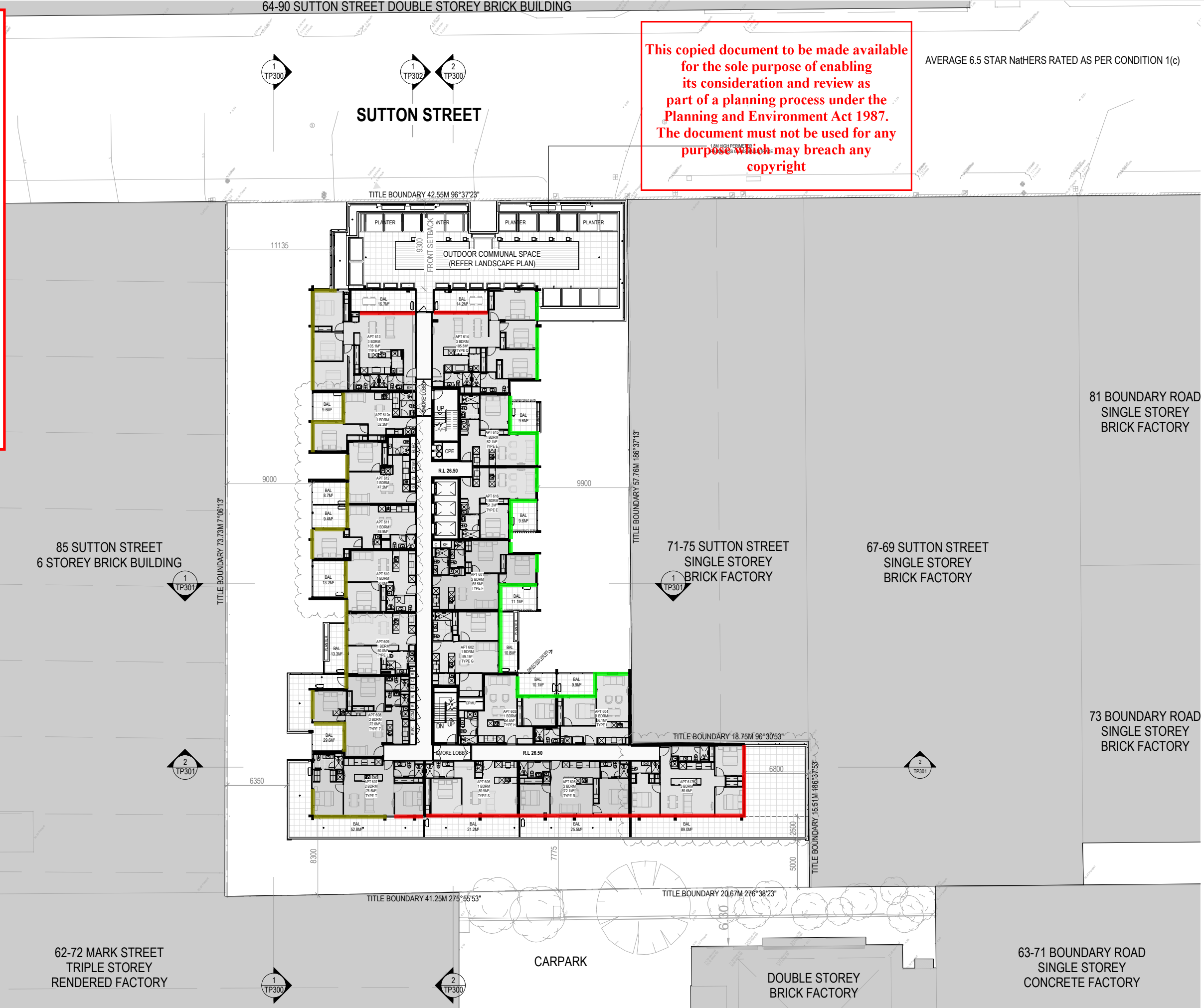
Roof

Roof assumed to be of masonry or precast construction. i.e not a lightweight roof

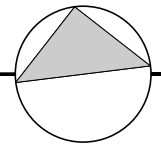
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AVERAGE 6.5 STAR NatHERS RATED AS PER CONDITION 1(c)

ADVERTISED PLAN



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P4	S72 AMENDMENT / CONDITION 1 SUBMISSION			23/01/2023
P5	RFI RESPONSE			14/07/2023
P6	INTERNAL REFERRAL RESPONSE			17/10/2024
P7	INTERNAL REFERRAL RESPONSE			22/02/2024
P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024



TOWN PLANNING

PROJECT	TITLE	DRAWN	SCALE	PLOT DATE	JOB No.
77-83 SUTTON STREET NORTH MELBOURNE VIC 3051	PROPOSED LEVEL 6 FLOOR PLAN	SD	1 : 200 @ A1	28/03/24	1015
				DWG No	REVISION
				TP108	P9

Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

External Wall Types

Masonry or precast walls do not require acoustic treatment.

Roof

Roof assumed to be of masonry or precast construction. i.e not a lightweight roof

AVERAGE 6.5 STAR NatHERS RATED AS PER CONDITION 1(c)

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89 SUTTON STREET
VACANT SITE

85 SUTTON STREET
6 STOREY BRICK BUILDING

71-75 SUTTON STREET
SINGLE STOREY
BRICK FACTORY

67-69 SUTTON STREET
SINGLE STOREY
BRICK FACTORY

81 BOUNDARY ROAD
SINGLE STOREY
BRICK FACTORY

73 BOUNDARY ROAD
SINGLE STOREY
BRICK FACTORY

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74-88 MARK STREET
SINGLE STOREY
BRICK FACTORY

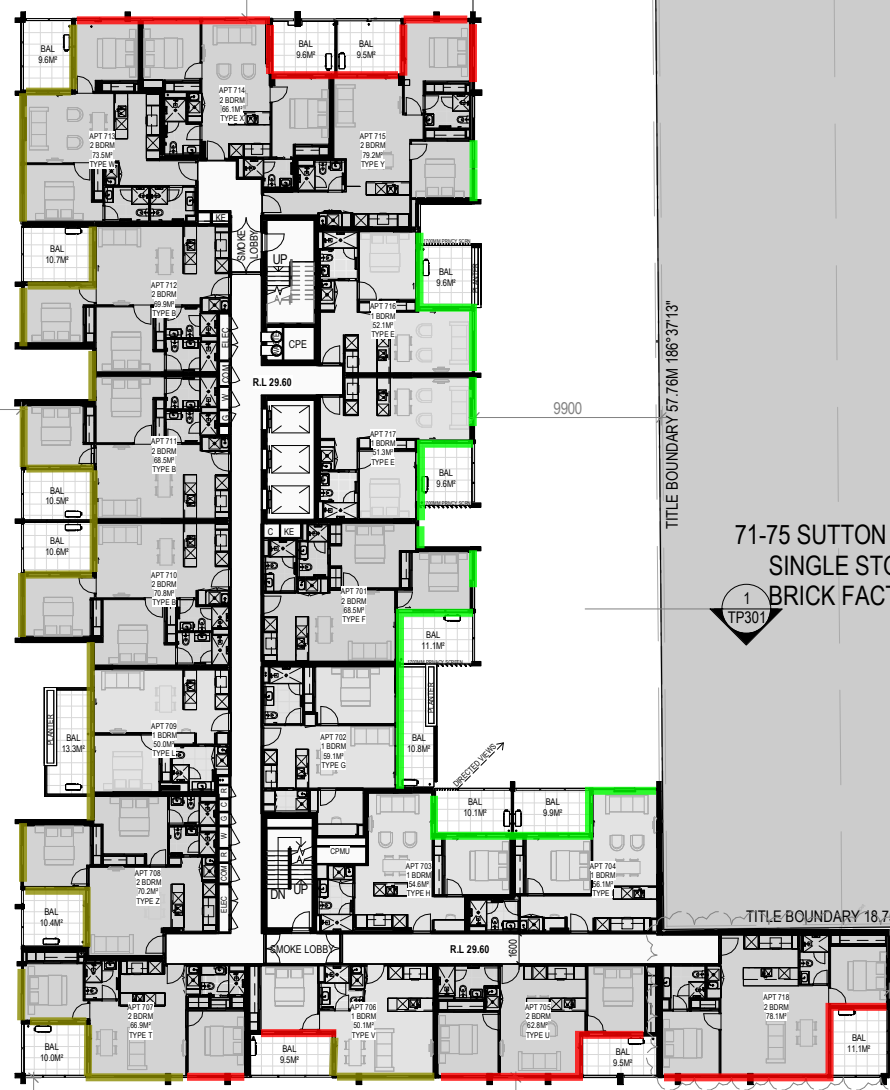
62-72 MARK STREET
TRIPLE STOREY
RENDERED FACTORY

CARPARK

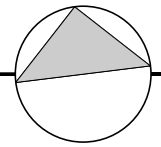
DOUBLE STOREY
BRICK FACTORY

63-71 BOUNDARY ROAD
SINGLE STOREY
CONCRETE FACTORY

SUTTON STREET



REV	DESCRIPTION	DRN	CHK	DATE
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P7	INTERNAL REFERRAL RESPONSE			22/02/2024
P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024



TOWN PLANNING

PROJECT	TITLE	DRAWN	SCALE	PLOT DATE	JOB No.
77-83 SUTTON STREET NORTH MELBOURNE VIC 3051	PROPOSED LEVEL 7 FLOOR PLAN	SD	1 : 200 @ A1	28/03/24	1015
				DWG No	REVISION
				TP109	P9

Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

External Wall Types

Masonry or precast walls do not require acoustic treatment.

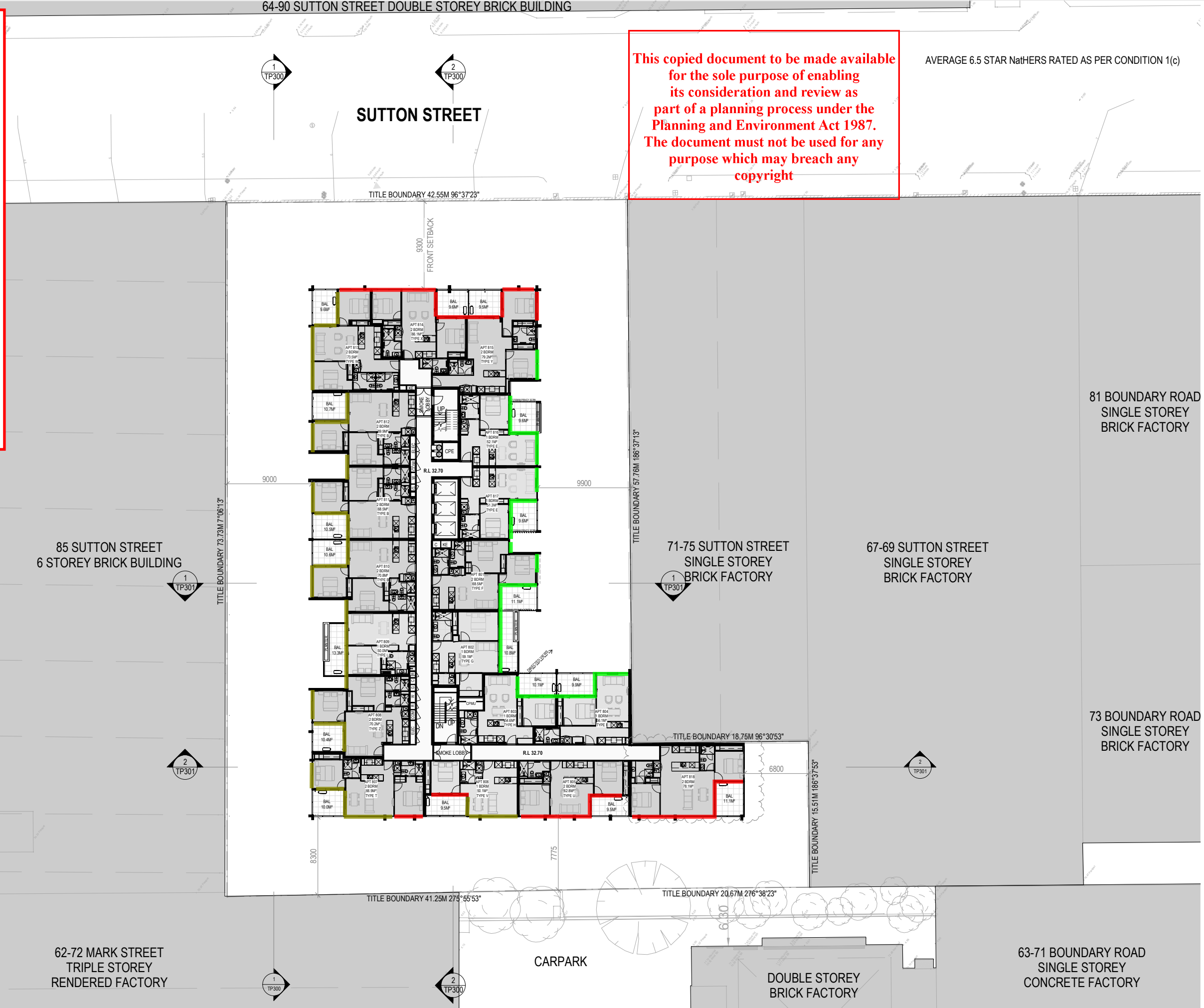
Roof

Roof assumed to be of masonry or precast construction. i.e not a lightweight roof

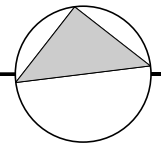
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AVERAGE 6.5 STAR NatHERS RATED AS PER CONDITION 1(c)

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P7	INTERNAL REFERRAL RESPONSE			22/02/2024
P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024



TOWN PLANNING

PROJECT	TITLE	DRAWN	SCALE	PLOT DATE	JOB No.
77-83 SUTTON STREET NORTH MELBOURNE VIC 3051	PROPOSED LEVEL 8 FLOOR PLAN	SD	1 : 200 @ A1	28/03/24	1015
				DWG No	REVISION
				TP110	P9

Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

All glazing to be installed with acoustic seals equal to Schlegel Q-Ion bulb seals. Note that Mohair seals will not be acoustically acceptable.

External Wall Types

Masonry or precast walls do not require acoustic treatment.

Roof

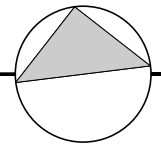
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P7	INTERNAL REFERRAL RESPONSE			22/02/2024
P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024



TOWN PLANNING

PROJECT	TITLE	DRAWN	SCALE	PLOT DATE	JOB No.
77-83 SUTTON STREET NORTH MELBOURNE VIC 3051	PROPOSED LEVEL 9 FLOOR PLAN	SD	1 : 200 @ A1	28/03/24	1015
				DWG No	REVISION
				TP111	P9

Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
- █ 12/12/8.76mm lam IGU

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External Wall Types

Masonry or precast walls do not require acoustic treatment.

Roof

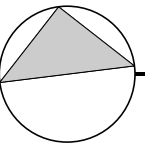
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P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024



Glazing Schedule

- █ 6mm or 6/12/6 IGU
- █ 6.38mm lam or 6/12/6.38mm lam IGU
- █ 10.38mm lam or 6/12/10.38mm lam IGU
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P8	RSA RECOMMENDATIONS			21/03/2024
P9	PERMIT AMENDMENT			28/03/2024

