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Woolworths Strathfieldsaye - 17-23 Apsley Lane & 39 Blucher Street

Noise Emission Assessment

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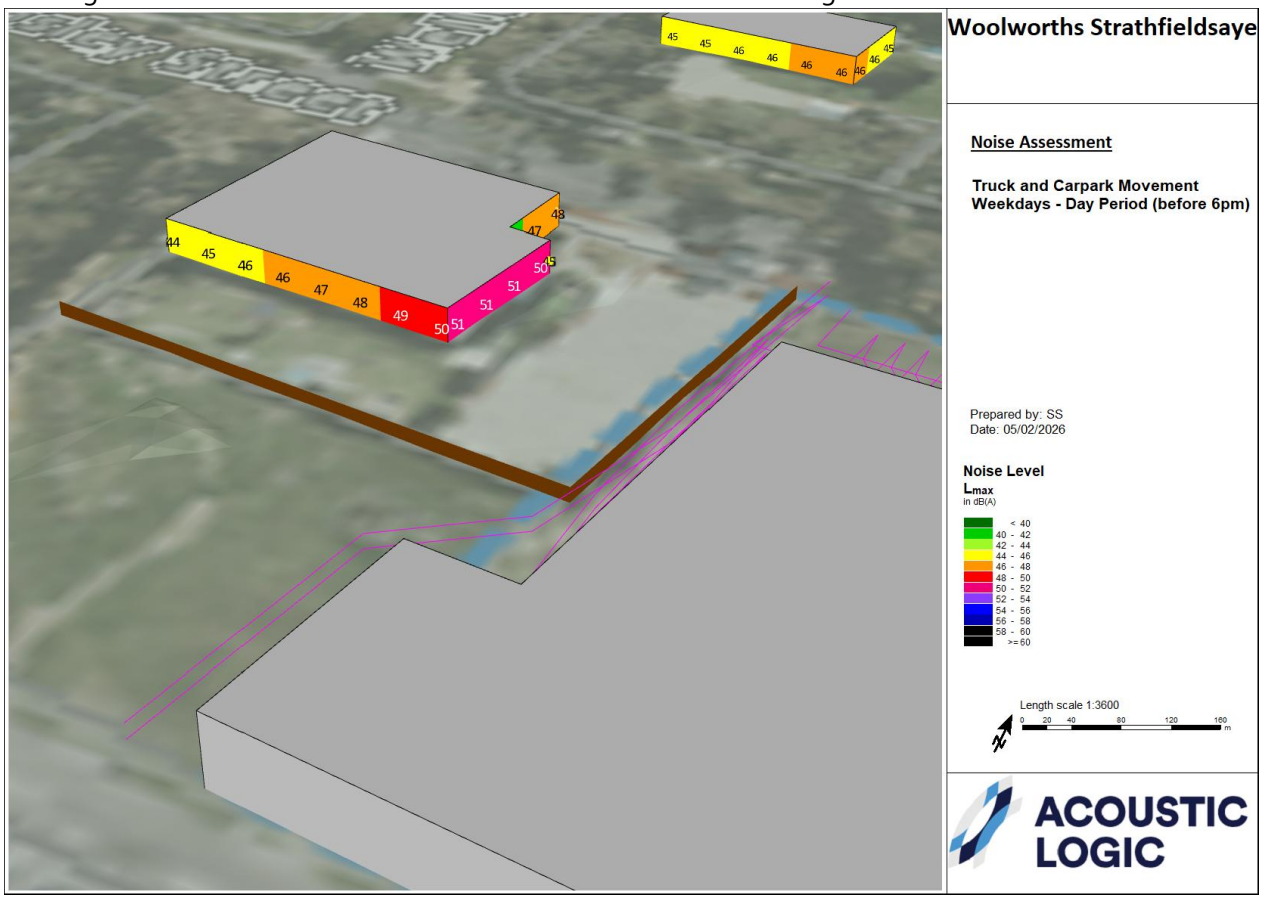
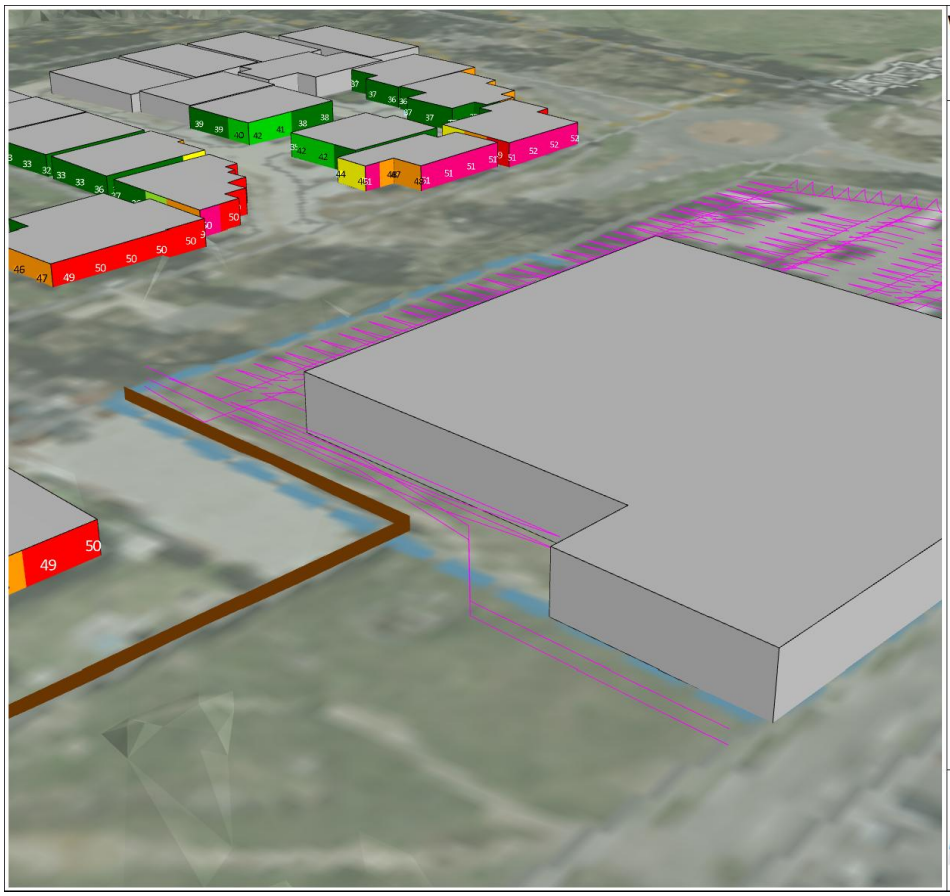
1 INTRODUCTION

This report presents an acoustic assessment of the proposed Woolworths shopping centre and associated loading and parking facilities located at 17-23 Apsley Lane & 39 Blucher Street, Strathfieldsaye. This report presents an assessment of potential noise impacts associated with the proposed development, which include:

- Truck movement on the subject site entering and leaving the loading dock
- Loading activities within the loading dock area

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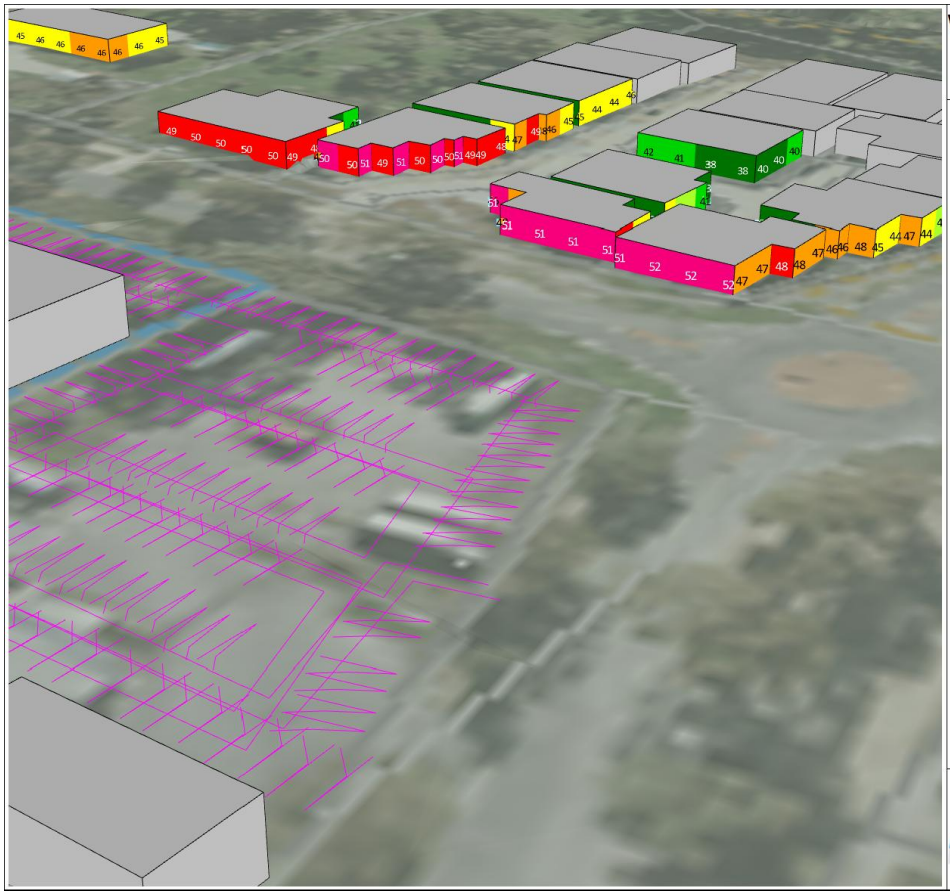
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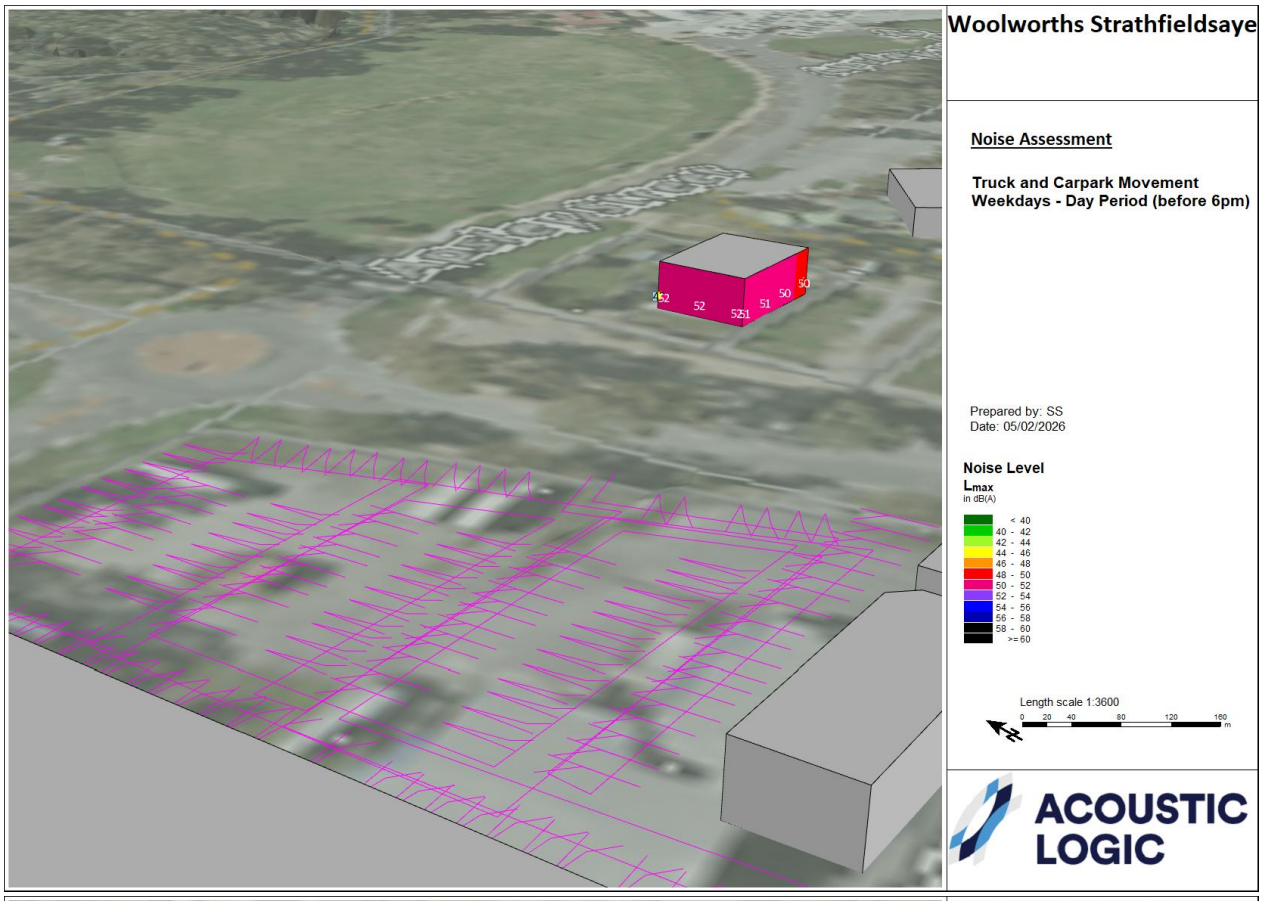
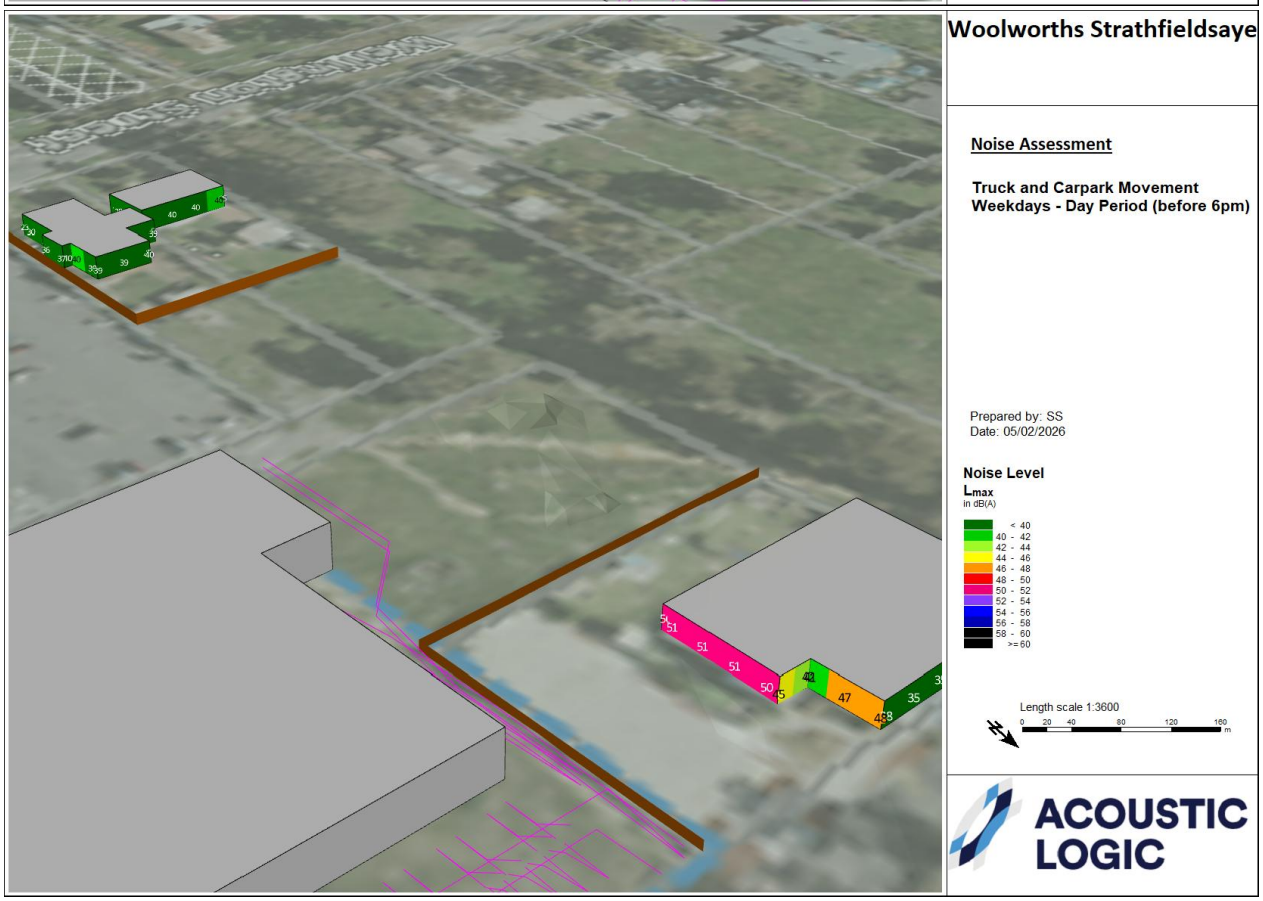




- Vehicle movement within the carpark
- Operation of mechanical services associated with the use of the facilities.

The assessment has been based on the documentation detailed in Table 1.

Table 1 – Referenced Documents

Company	Document Number	Date
Nettleton Tribe	14473_TP000, 14473_TP001, 14473_TP002, 14473_TP010, 14473_TP011, 14473_TP012, 14473_TP020, 14473_TP021, 14473_TP030, 14473_TP040, 14473_TP041, 14473_TP042, 14473_TP043, 14473_TP060. 14473_TP091	Issue: B 2/10/2025
Ratio:	Transport Impact Assessment	6/02/2026

2 SITE DESCRIPTION

The proposed shopping centre is to be located at 17-23 Apsley Lane & 39 Blucher Street, Strathfieldsaye. The subject site consists of a Woolworths supermarket with associated loading dock, 4 dedicated spaces for future retail tenants, pad site on the west and parking facilities in the east and north.

The subject development is bounded as follows:

1. Apsley Street to the north and Apsley Lane to the south.
2. Blucher Street to the east.
3. Existing childcare and associated parking facilities on the northwest façade of the subject site.
4. Residential to the north, east, and south of the subject site.
5. Existing IGA supermarket and associated parking 20m to the south.

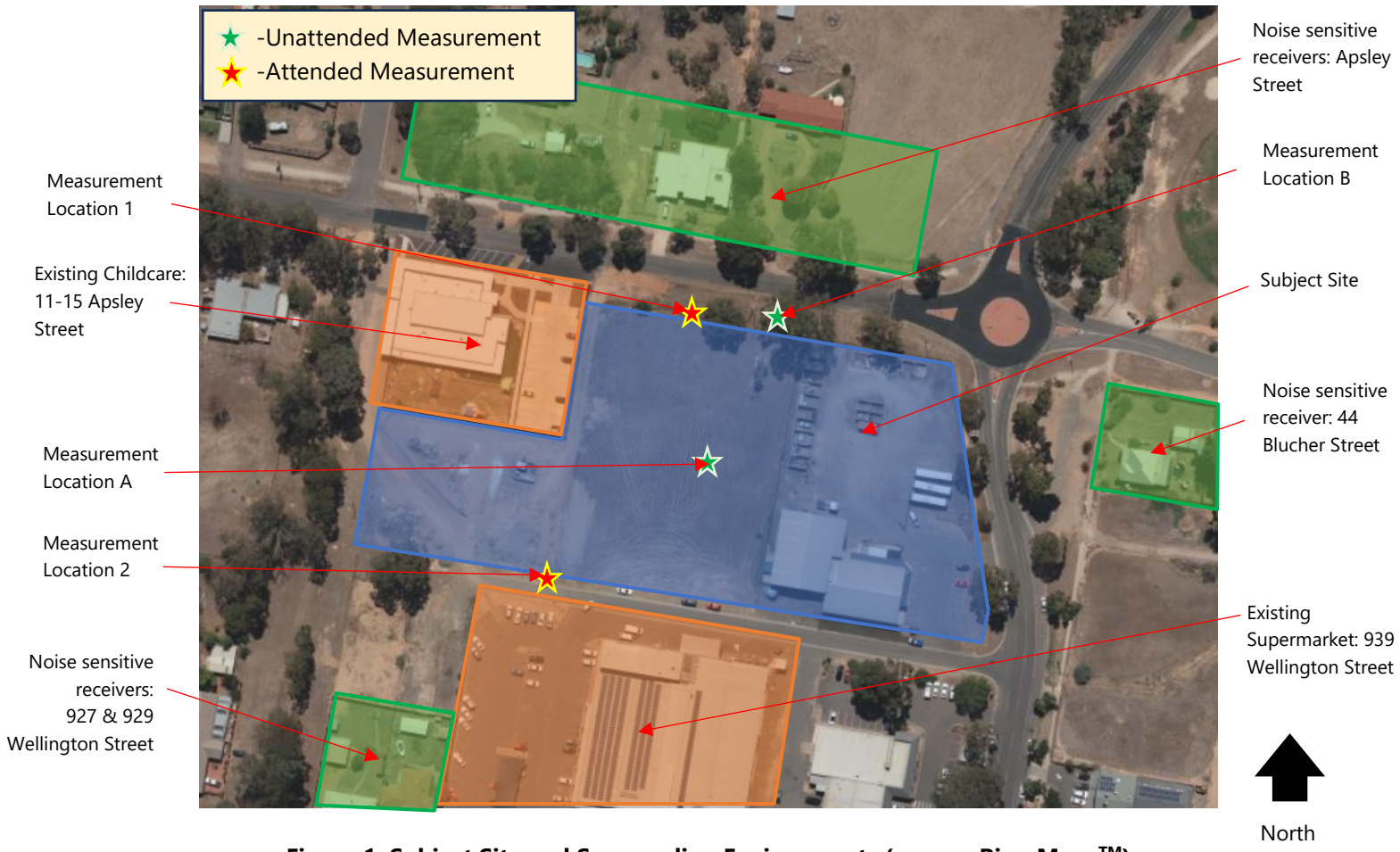


Figure 1: Subject Site and Surrounding Environments (source: Bing Maps™)

2.1 LOCAL NOISE SOURCES

Acoustic Logic attended the site on multiple occasions during the day period. The following observations were made with respect to the subject site and surrounding existing noise sources:

- Traffic noise is associated with the surrounding roadways, most notably from Apsley Street to the north, Blucher Street to the east.
- IGA supermarket to the south with loading dock 10m from southern boundary of subject site and associated parking lot traffic noise.

3 ENVIRONMENTAL NOISE DESCRIPTORS

Environmental noise constantly varies in level, due to fluctuations in local noise sources including road traffic. 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 principal 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 noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of industrial noise.

4 NOISE LEVEL MEASUREMENTS

4.1 NOISE MEASUREMENTS

Noise measurements were conducted around the proposed development to determine existing noise levels.

4.1.1 Measurement Locations and Time of Measurements

Noise level measurements were conducted at the following locations (refer Figure 1 for measurement locations):

- **Measurement Location A**: Unattended background noise level measurements conducted centrally within the subject site between 10 September and 15 September 2025. Measurements were conducted at 1.5m above grade and were conducted in free field.
- **Measurement Location B**: Unattended noise level measurements conducted at the northern boundary of the subject site with full view of Apsley Street between 10 September and 15 September 2025. Measurements were conducted at 1.5m above grade and were conducted in free field.
- **Measurement Location 1**: Attended noise level measurement conducted at the northern boundary of the subject site with full view of Apsley Street between 11:50am – 12:05pm on 15 September 2025. Measurements were conducted at 1.5m above grade and were conducted in free field.
- **Measurement Location 2**: Attended noise level measurement conducted at the southern boundary of the subject site with full view of Apsley Lane and the IGA supermarket between 12:15pm – 12:30pm on 15 September 2025. Measurements were conducted at 1.5m above grade and were conducted in free field.

4.1.2 Measurement Equipment

Unattended noise monitoring was conducted using Rion NL42 Noise Monitors. The noise monitors were programmed to store 15-minute statistical noise levels through the monitoring period. Equipment was calibrated at the beginning and the end of the measurements using a Rion NC-75 calibrator; no significant drift was detected. All measurements were taken on fast response mode.

Attended noise 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 Rion NC-74 calibrator; no significant drift was detected. All measurements were taken on fast response mode.

4.2 MEASURED NOISE LEVELS

The tables below detail the measured noise levels obtained from the unattended and attended noise measurements.

Table 2 – Unattended Background Noise Level Measurements (Location A)

Period	Time	Measured Noise Level $L_{90,\ period}$ dB(A)
Day	7am – 6pm (Mon – Sat)	44
Evening	6pm – 10pm (Mon – Sat) 7am – 10pm (Sun)	42
Night	10pm – 7am	37

Table 3 – Unattended Background Noise Level Measurements (Location B)

Period	Time	Measured Noise Level $L_{90,\ period}$ dB(A)
Day	7am – 6pm (Mon – Sat)	42
Evening	6pm – 10pm (Mon – Sat) 7am – 10pm (Sun)	38
Night	10pm – 7am	34

Table 4 – Attended Noise Level Measurements

Measurement Location	Date	Time	Measured Noise Level $L_{eq,\ 15min}$ dB(A)	Measured Noise Level $L_{90,\ 15min}$ dB(A)
Location 1	15/09/2025	11:50am – 12:05pm	52	44
Location 2	15/09/2025	12:15pm – 12:30pm	52	47

5 ASSESSMENT CRITERIA

5.1 ENVIRONMENTAL NOISE EMISSIONS CRITERIA

To ensure that noise emissions from the proposed development site do not impact adversely on the amenity of the proposed development residents and surrounding noise sensitive areas, the proposed development should be designed to comply with the EPA Publication 1826.5.

5.1.1 Zoning Level

The 'Zoning' level is determined by the Influencing Factor (IF) and is calculated by the formula and the 'Zoning Level versus Influencing Factor' graph nominated in Section 1.1 of EPA Publication 1826.5 and VicPlan Mapping. The IF is calculated from the proportion of industrial and commercial land around noise sensitive areas. Review of the surrounding area indicates an IF of approximately **0.22** which results in the zoning limits detailed in Table 5 below.

Table 5 - Zoning Levels

Period	Zoning Level dB(A)
Day	54
Evening	48
Night	43

5.1.2 EPA Noise Protocol – Part 1

Table 6 below details the assessment criteria based on both the zoning levels and the measured background noise levels.

Table 6 – Noise Limits

Period	Background dB(A) $L_{90,Period}$	Zoning limit	Classification	Project Noise Limits dB(A) L_{eq}
Day Monday – Saturday (7am – 6pm)	42	54	Neutral	**54**
Evening Monday – Saturday (6pm – 10pm) Sunday (7am – 10pm)	38	48	Low	**46**
Night Monday – Friday (10pm – 7am)	34	43	Neutral	**43**

6 ENVIRONMENTAL NOISE ASSESSMENT

6.1 TRUCK MOVEMENT AND LOADING DOCK ACTIVITIES

Assessment of the truck movement entering and exiting the loading dock and the activities within the back-of-house / loading dock has been conducted to ensure compliance with EPA Publication 1826.5 is achieved in combination with other noise sources at the nearest noise sensitive residential receivers identified in Figure 1. The following sound power level of delivery vehicles driving at 10km/h and loading dock operation have been used in the assessment, which has been based on measurements conducted by Acoustic Logic of similar operations.

Table 7 – Sound Power Level (Loading Dock)

Type of Operation	Sound Power Level
Semi-Truck Engine (Driving at 10km/h)	105dB(A)
Semi-Truck Exhaust (Driving at 10km/h)	97dB(A)
Heavy Rigid Truck	95 dB(A)
Van	86 dB(A)
Loading Dock Operation	85 dB(A)

Nearest noise sensitive receivers are identified in Figure 1. Provided compliance is achieved at these receivers, compliance will be achieved at other receivers located further from the development.

The following shall be implemented:

- A maximum of 1 large truck deliveries will occur in a half hour time period.
- All deliveries shall occur between 7am and 6pm.
- Trucks are to have vacated the loading dock by 6pm.
- Fence between proposed development and existing childcare shall be solid and imperforate and minimum 1.6 metres high.
- The underside of the roof within the loading bay area (above the dock leveller) shall be lined with absorptive material such as 40mm Envirospray or approved equivalent by a suitable qualified acoustic consultant.

Provided the acoustic treatment recommendations above are implemented, we confirm that the delivery truck movement and operation of the loading dock / back-of-house will achieve compliance with EPA Publication 1826.5 in combination with other noise sources at the nearest noise sensitive residential receivers.

6.2 VEHICLE MOVEMENT

Assessment of vehicle movement within the carpark of the proposed development has been conducted to ensure compliance with EPA Publication 1826.5 is achieved in combination with other noise sources at the nearest noise sensitive residential receivers identified in Figure 1. The following sound power level has been used in the assessment, which has been based on measurements conducted by AL of similar operations.

Table 8 – Sound Power Level (Cars)

Type of Operation	Sound Power Level
Car Engine at 10km/h	86 dB(A)

The following assumptions have been made:

- Numbers of vehicle movements have been assumed based on advice from the traffic engineer as noted below:
    - *AM Peak Hour – Blucher Street 89 vehicles / Apsley Lane 21 vehicles / Apsley Street 8 vehicles*
    - *PM Peak Hour – Blucher Street 353 vehicles / Apsley Lane 83 vehicles / Apsley Street 30 vehicles*
- PM Peak Hour is assumed to occur in the period before 6:00pm.

Based on the proposed location of the carpark and the traffic numbers noted above, we confirm that the operation of the carpark will achieve compliance with EPA Publication 1826.5 in combination with other noise sources at the nearest noise sensitive residential receivers.

6.3 PLANT AND EQUIPMENT SERVING THE DEVELOPMENT

To ensure that noise emissions from plant and equipment serving the development do not impact adversely on the amenity of nearby noise sensitive residential receivers, noise emissions from the plant and equipment shall comply with EPA Publication 1826.5.

To ensure amenity for future residents and nearby noise sensitive receivers is preserved, a review of the mechanical plant and equipment is to be conducted during the detailed design stage of the project by a suitably qualified acoustic consultant to ensure compliance with EPA Publication 1826.5. Compliance with the nominated criteria will be achieved by the use of standard acoustic treatment such as acoustic screens, internally lined ductwork, acoustic attenuators, variable speed drives and anti-vibration mounts.

Major rooftop mechanical plant areas serving the supermarket is to be designed to incorporate a solid imperforate acoustic screen and/or alternative treatment as approved by a suitably qualified acoustic consultant to ensure compliance with EPA Publication 1826.5.

6.4 PREDICTED NOISE LEVELS AT NEAREST NOISE SENSITIVE RECEIVERS

Noise levels from truck deliveries, loading dock operation and vehicle movement associated with the carpark have been predicted at noise sensitive receiver locations using SoundPlan™ modelling software implementing the ISO 9613-2:2024 *"Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation"* noise propagation Standard. Noise levels presented are the façade incidence levels and do not include façade reflection.

The predicted noise levels at the windows of the nearest residential dwellings are indicated in the table below. This represents the most impacted dwelling. Compliance at this location indicates compliance at other residential dwellings in the vicinity of site.

Table 9 – Predicted Noise Levels at Nearest Residential Receivers

Location	Period	Predicated Noise Levels	EPA Publication 1826.5 Criteria	Complies
Apsley Street Residences at nearest south facing windows	Day	≤54	54	Yes
	Evening	≤46	46	Yes
	Night	≤43	43	Yes
44 Blucher Street at west facing windows	Day	≤54	54	Yes
	Evening	≤46	46	Yes
	Night	≤43	43	Yes
927 & 929 Wellington Street at north facing windows	Day	≤54	54	Yes
	Evening	≤46	46	Yes
	Night	≤43	43	Yes
Existing Childcare: 11-15 Apsley Street	Day	≤54	54	Yes
	Evening	-	N/A Childcare not operational during these period	-
	Night	-		-

7 CONCLUSION

This report details our acoustic assessment of the proposed supermarket development to be located at 17-23 Apsley Lane & 39 Blucher Street, Strathfieldsaye.

Review of loading dock operation, mechanical plant and equipment serving the development, and vehicle movement within the carpark have been conducted to ensure compliance with EPA Publication 1826.5 is achieved at the identified nearby noise sensitive residential receivers.

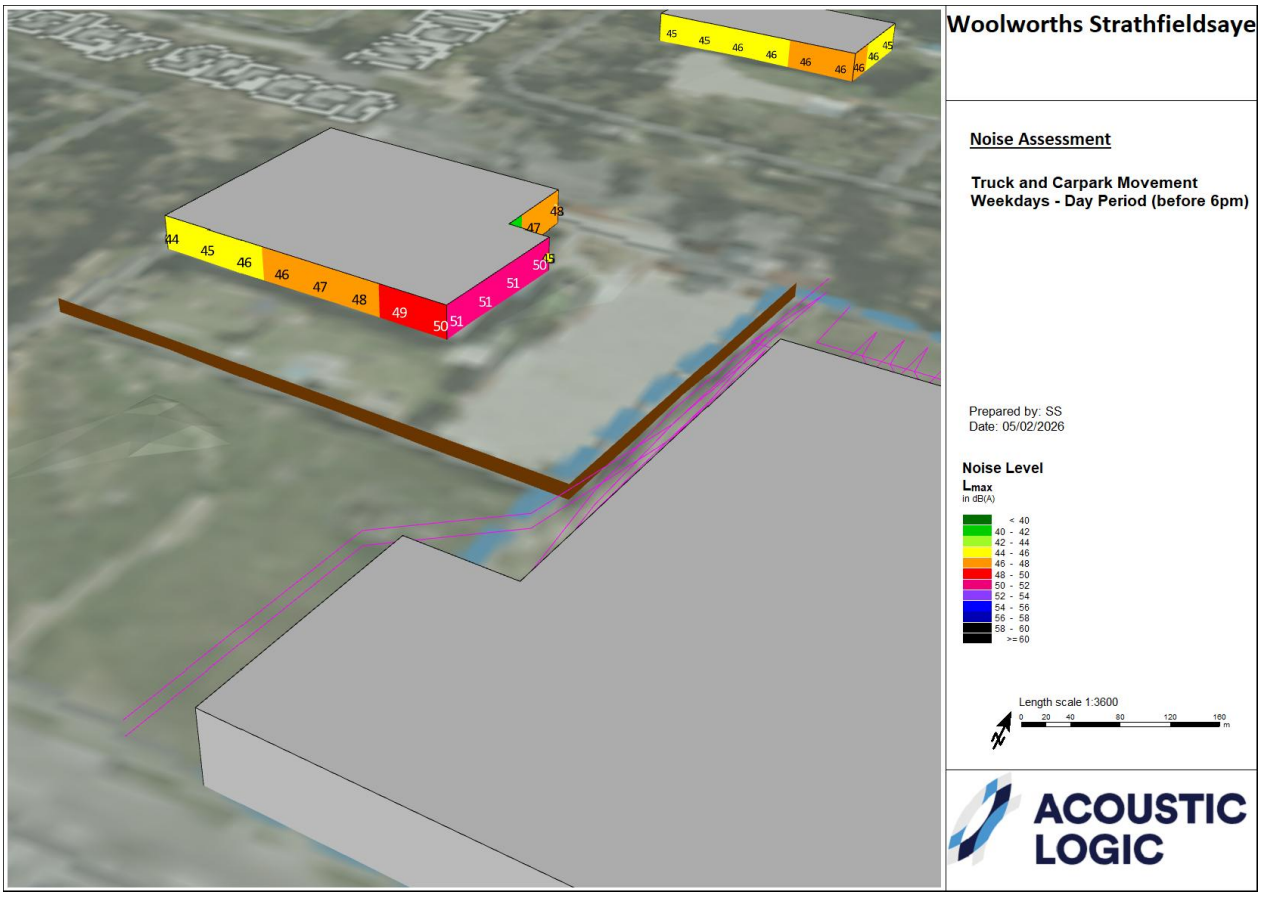
Provided the acoustic treatment recommendations are implemented, compliance with the proposed criteria will be achieved.

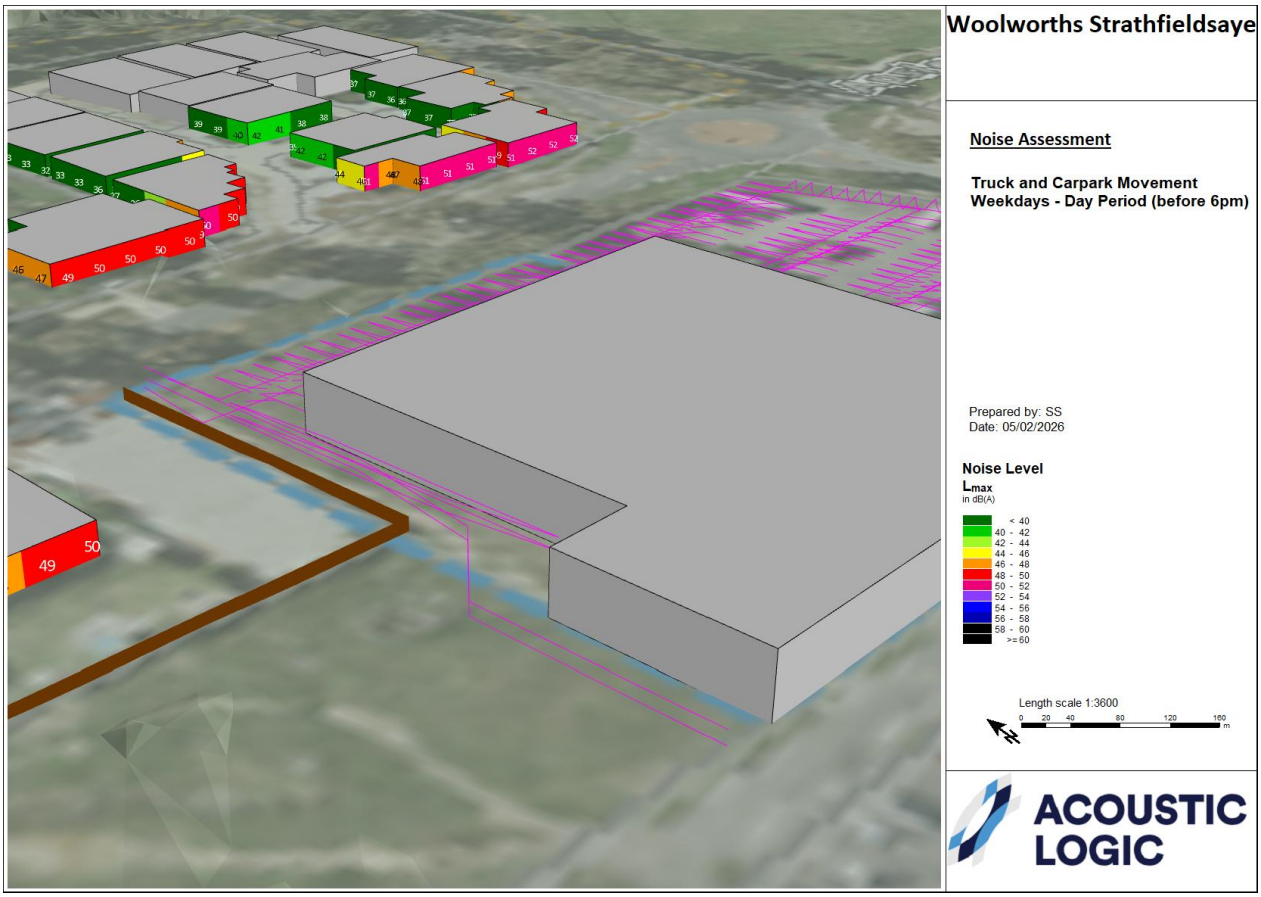
We trust this information is satisfactory. Please contact us should you have any further queries.

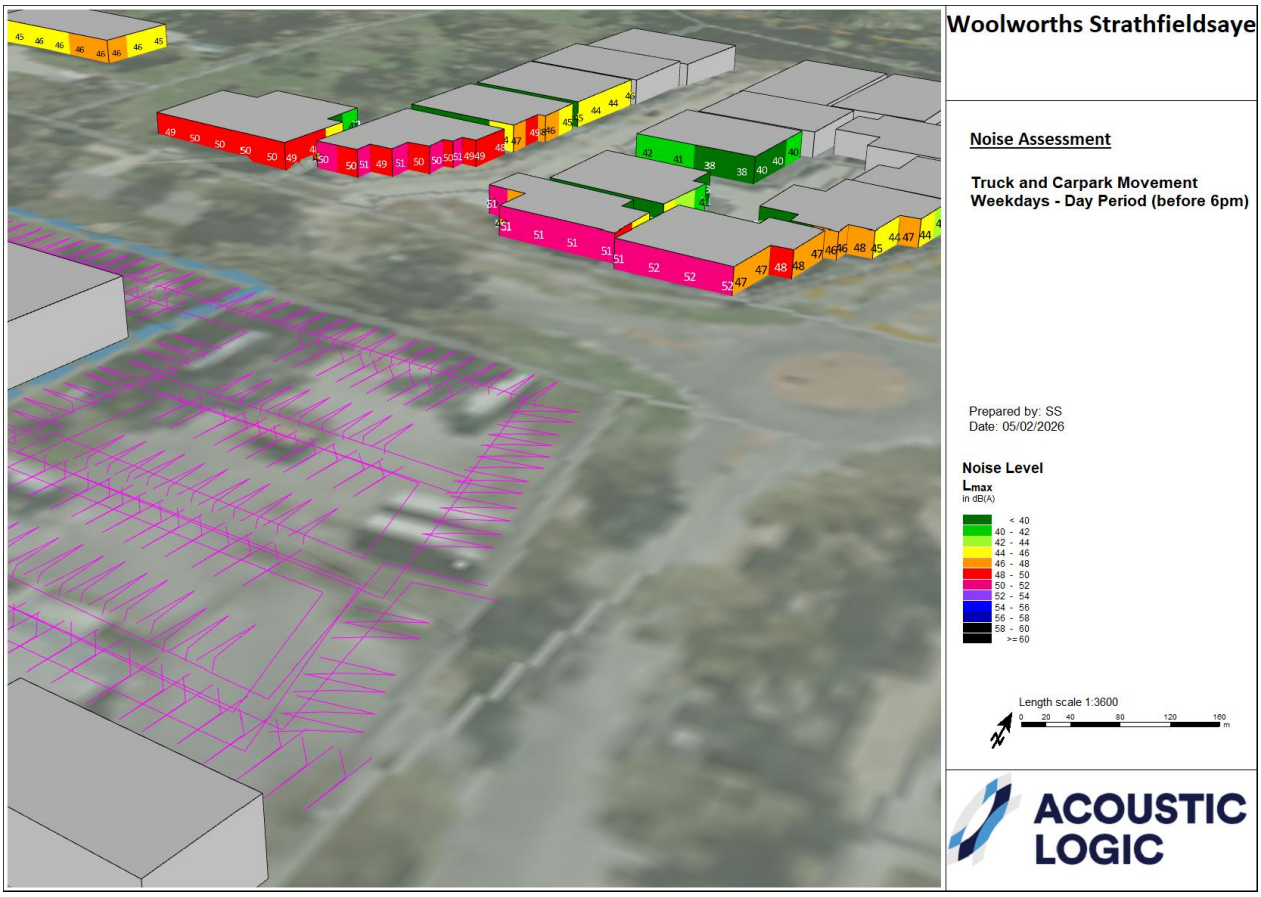
Yours faithfully,

Acoustic Logic Pty Ltd
Ben Mcclymont

APPENDIX 1 - SOUNDPLAN MODEL



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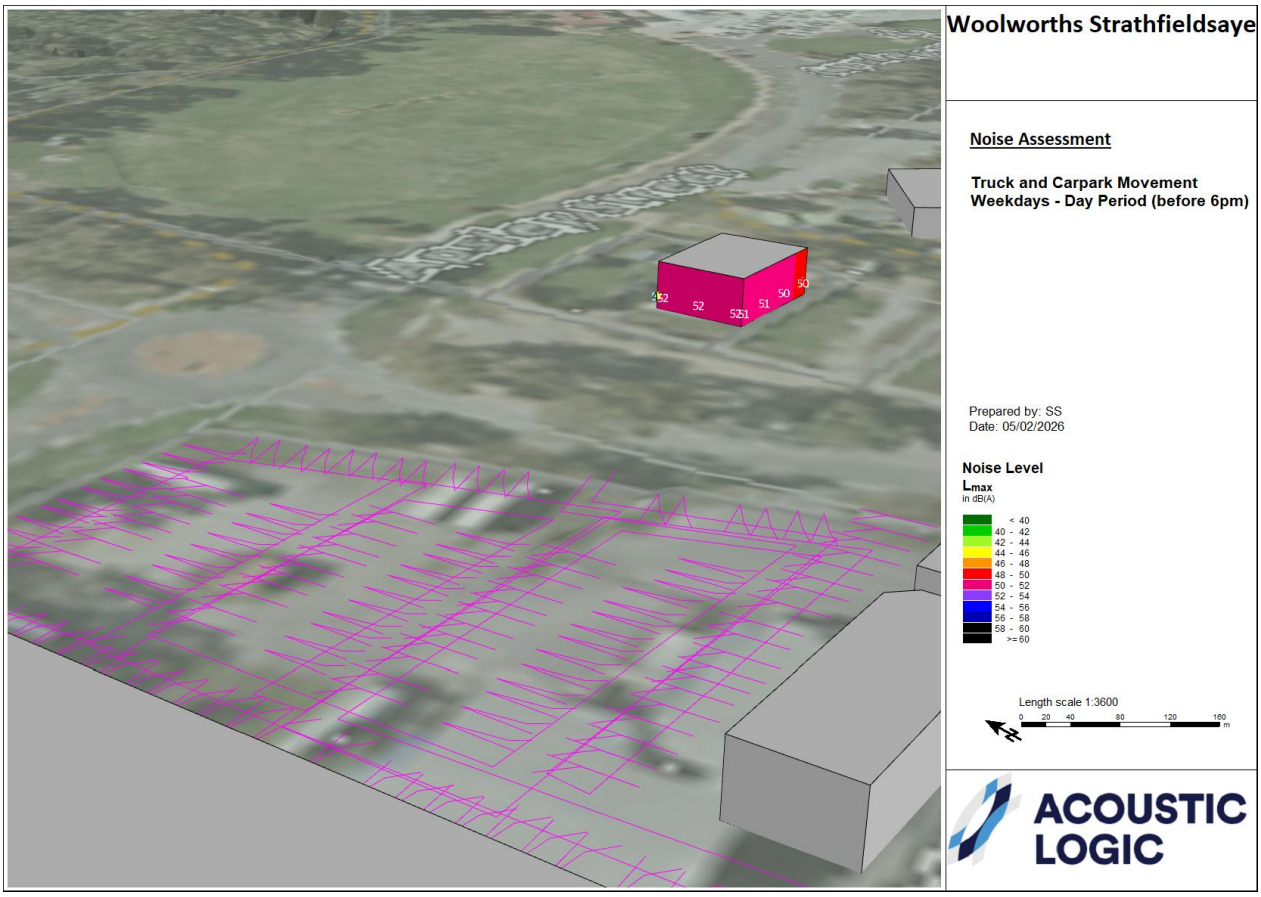
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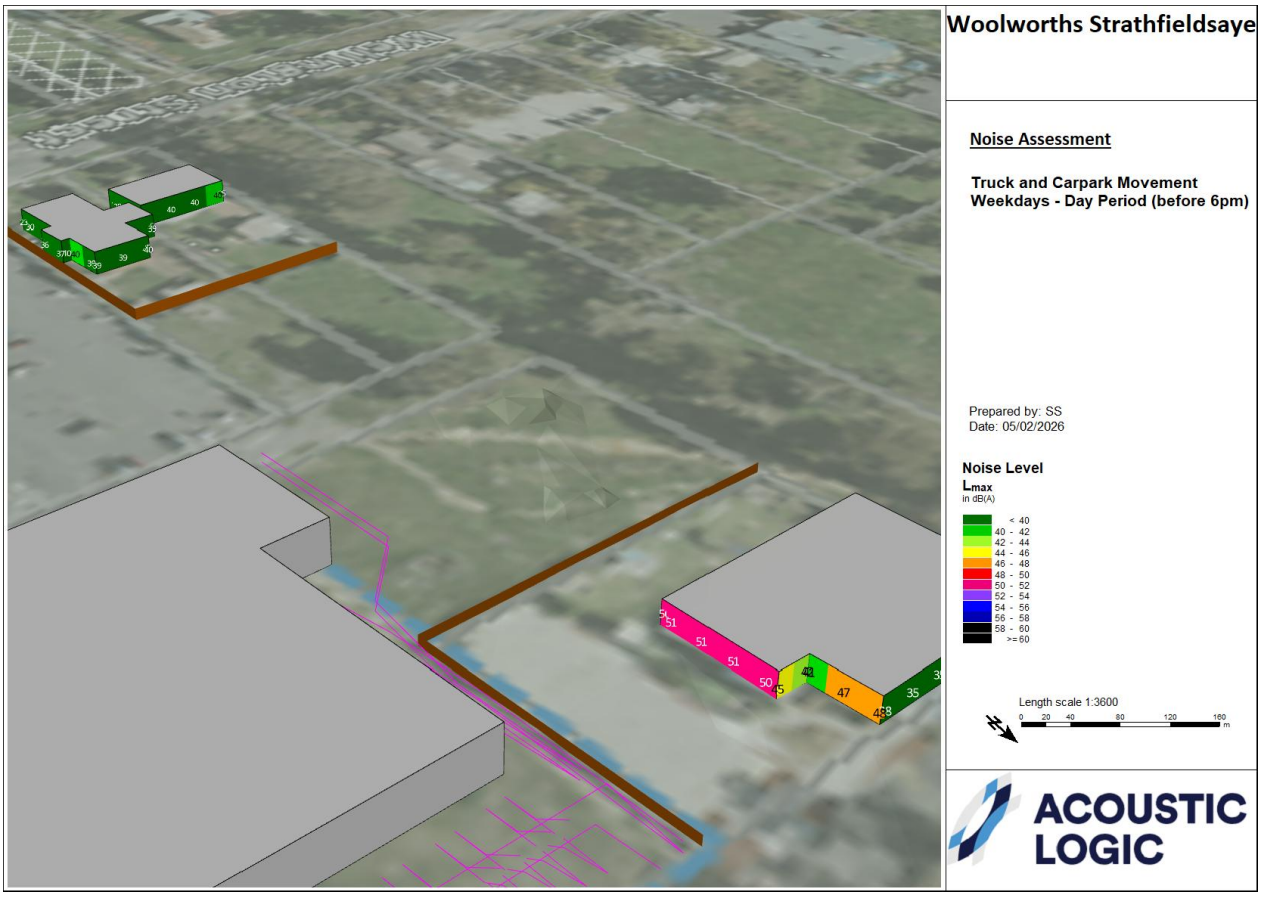
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