

1 Gatacre Ave & 1-5 Allison Ave, Lane Cove

DA Acoustic Assessment

|                |                                                |
|----------------|------------------------------------------------|
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## 1 INTRODUCTION

Acoustic Logic (AL) have been engaged to conduct an acoustic assessment of potential noise impacts associated with the proposed residential development to be located at 1 Gatacre Ave & 1-5 Allison Ave, Lane Cove.

Acoustic Logic have used the following documents and regulations in assessment for the relative noise impacts:

- Lane Cove Council Development Control Plan (DCP) 2010
- NSW Department of Planning document – *“State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021”*; and
- NSW Department of Planning document – *“Development near Rail Corridors and Busy Roads – Interim Guidelines” 2009*.
- NSW Department of Environment and Heritage, Environmental Protection Authority document – *‘Noise Policy for Industry (NPfI) 2017’*.

The assessment has been conducted based on the architectural drawing prepared by PBD architects.

## 2 SITE DESCRIPTION

The project site is located at 1 Gatacre Ave & 1-5 Allison Ave, Lane Cove. The key features of the proposal are summarised below:

- Construction of a six-storey residential building.
- Two storey basement parking accommodating 36 vehicle spaces in Basement 1 and 54 vehicle spaces in Basement 2.

Onsite acoustic investigation carried out by this office regarding the surrounding acoustic environment around the project site indicate the following:

- Pacific Highway carries a high amount of traffic and dominates the acoustic environment surrounding the site and sensitive receivers.

The nearest noise sensitive receivers surrounding the project site include:

- **Receiver 1** – Commercial Receivers located northeast of the site at 378 to 382 Pacific Highway, Lane Cove.
- **Receiver 2** – Residential Receiver located south of the site at 17 Haldane Crescent, Lane Cove.
- **Receiver 3** – Residential Receivers located southwest of the site at 7-9 Allison Avenue and 2 Gatacre Avenue, Lane Cove.
- **Receiver 4** – Residential Receivers located northwest of the site 3-7 Gatacre Avenue, Lane Cove.

See Figure 1 for detailed sensitive receiver and monitoring locations.



Figure 1 – Aerial site Map with Nearest Sensitive Receivers and Noise Monitoring Locations

### 3 EXISTING ACOUSTIC ENVIRONMENT

The acoustic environment is categorised by moderate background noise levels during the day and evening and night time periods consistent with a urban environment.

Unattended noise monitoring conducted at site was conducted by this office in order to establish the existing background noise environment.

#### 3.1 NOISE DESCRIPTORS

Ambient noise constantly varies in level from moment to moment, so it is not possible to accurately determine prevailing noise conditions by measuring a single, instantaneous noise level.

To quantify ambient noise, a 15 minute measurement interval is typically utilised. Noise levels are monitored continuously during this period, and then statistical and integrating techniques are used to characterise the noise being measured.

The principal measurement parameters obtained from the data are:

**L<sub>eq</sub>** - represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period. **L<sub>eq</sub>** is important in the assessment of noise impact as it closely corresponds with how humans perceive the loudness of time-varying noise sources (such as traffic noise).

**L<sub>90</sub>** – This is commonly used as a measure of the background noise level as it represents the noise level heard in the typical, quiet periods during the measurement interval. The **L<sub>90</sub>** parameter is used to set noise emission criteria for potentially intrusive noise sources since the disturbance caused by a noise source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the **L<sub>90</sub>** level.

**L<sub>10</sub>** is used in some guidelines to measure noise produced by an intrusive noise source since it represents the average of the loudest noise levels produced at the source. Typically, this is used to assess noise from licenced venues.

**L<sub>max</sub>** is the highest noise level produced during a noise event, and is typically used to assess sleep arousal impacts from short term noise events during the night. It is also used to assess internal noise levels resulting from aircraft and railway ground vibration induced noise.

**L<sub>1</sub>** is sometimes used in place of **L<sub>max</sub>** to represent a typical noise level from a number of high level, short term noise events.

### 3.2 AMBIENT NOISE SURVEY

NSW EPA's Rating Background Noise Level (RBL) assessment procedure requires determination of background noise level for each day (the ABL) then the median of the individual days as set out for the entire monitoring period.

Appendix One presents the results of unattended noise monitoring previously conducted at the project site. Weather affected data was excluded from the assessment in line with Fact Sheet B of NPfI.

#### 3.2.1 Measurement Equipment

Unattended noise monitoring for background noise levels was conducted using one Acoustic Research Laboratories Pty Ltd noise logger. The logger was programmed to store 15-minute statistical noise levels throughout the monitoring period. The equipment was calibrated at the beginning of the measurement period using a Rion NC-74 calibrator; no significant drift was detected at the end of the measurement period. All measurements were taken on A-weighted fast response mode.

#### 3.2.2 Unattended Noise Measurements

NSW EPA's RBL assessment procedure requires determination of background noise levels for each day (the ABL) then the median of the individual days as set out for the entire monitoring period. Unattended noise monitoring was conducted from Friday the 1st of March to Monday the 11th of March 2024.

Appendix One provides the results of the unattended background noise monitoring. The processed Rating Background Noise Levels (lowest 10th percentile noise levels during operation time period) are presented in Table 1 below.

**Table 1 – Unattended Noise Monitor - Assessment Background Noise Levels**

| Date                                 | Assessment Background Noise Level dB(A) <sub>LA90</sub> |                       |                              |
|--------------------------------------|---------------------------------------------------------|-----------------------|------------------------------|
|                                      | Day<br>(7am-6pm)                                        | Evening<br>(6pm-10pm) | Night (10pm-7am<br>Next Day) |
| Friday 1 <sup>st</sup> March 2024    | -                                                       | -                     | 41                           |
| Saturday 2 <sup>nd</sup> March 2024  | 39                                                      | 44                    | 43                           |
| Sunday 3 <sup>rd</sup> March 2024    | 36                                                      | 41                    | 42                           |
| Monday 4 <sup>th</sup> March 2024    | 40                                                      | 46                    | 43                           |
| Tuesday 5 <sup>th</sup> March 2024   | 37                                                      | 42                    | 41                           |
| Wednesday 6 <sup>th</sup> March 2024 | 39                                                      | 42                    | 40                           |
| Thursday 7 <sup>th</sup> March 2024  | 38                                                      | 46                    | 41                           |
| Friday 8 <sup>th</sup> March 2024    | 38                                                      | 44                    | 41                           |
| Saturday 9 <sup>th</sup> March 2024  | 39                                                      | 43                    | 40                           |
| Sunday 10 <sup>th</sup> March 2024   | 39                                                      | 41                    | 41                           |
| Monday 11 <sup>th</sup> March 2024   | 39                                                      | -                     | -                            |
| <b>Median</b>                        | <b>43</b>                                               | <b>41</b>             | <b>39</b>                    |

*Note: Periods marked '-' have had more than 20% of data within the nominated period be affected by adverse weather and in accordance with Fact Sheets A and B of the NPfI, have been removed from the assessment.*

### 3.3 SUMMARISED BACKGROUND NOISE LEVELS

The following tables presents the summarised background noise levels for individual sensitive receivers maintained near the development site.

**Table 2 – Summarised Rating Background Noise Level**

| Receiver                | Time of day           | Rating Background Noise Level<br>dB(A) <sub>L<sub>A90</sub>(Period)</sub> |
|-------------------------|-----------------------|---------------------------------------------------------------------------|
| All Sensitive Receivers | Day<br>(7am-6pm)      | 43                                                                        |
|                         | Evening<br>(6pm-10pm) | 41                                                                        |
|                         | Night<br>(10pm-7am)   | 39                                                                        |

## 4 EXTERNAL NOISE INTRUSION ASSESSMENT

### 4.1 NOISE INTRUSION CRITERIA

A noise intrusion assessment has been conducted based off the requirements of the following acoustic noise criteria / standards.

- Lane Cove Council Development Control Plan (DCP) 2010
- NSW Department of Planning document – “*State Environmental Planning Policy (SEPP) (INFRASTRUCTURE) 2021*”; and
- NSW Department of Planning document – “*Development near Rail Corridors and Busy Roads – Interim Guidelines*” 2009.

#### 4.1.1 Lane Cove Council Development Control Plan 2010

Part B.7 of the Lane Cove Council Development Control Plan (DCP) 2010 stipulates the below regarding developments near major roads and rail corridors:

- Acoustic assessments for noise sensitive developments as defined in the Transport and Infrastructure SEPP may be required if located in the vicinity of a rail corridor or busy roads.*
- For residential and the residential part of any mixed use development, appropriate measures must be taken to ensure that the following LAeq levels are not exceeded:*
  - in any bedroom in the building: 35dB(A) at any time 10pm –7am.*
  - anywhere else in the building (other than a garage, kitchen, bathroom or hallway): 40dB(A) at any time.*
- Increase the separation between the road/rail noise sources and the noise sensitive area. As an indication, doubling the distance from the noise source to the receiver will normally reduce the noise levels by between 3dBA and 6dBA.*
- Sleeping areas and other habitable areas should be placed on the side of the building furthest from the source of noise (road or rail line). Conversely rooms which are less sensitive (laundries, bathrooms, storage rooms, corridors, stairwells, etc.) should be placed on the noisy side of the building to act as a noise buffer. An additional way of minimising the intrusion of noise is to minimise the number of doors and openable windows on the noisy side of the dwelling*
- Staggered townhouses, for example, can be arranged to shield most windows from traffic noise whilst allowing them to be opened for natural ventilation*
- Provide noise barriers through*
  - An existing feature, such as a natural slope or an elevated road*
  - A purpose designed feature such as a well designed solid boundary fence*
  - A purpose designed feature of the building, such as a partially enclosed carport.*
  - A purpose designed building which acts as a barrier block .*

#### 4.1.2 NSW Department of Planning and Environment document – ‘State Environmental Planning Policy (Transport and Infrastructure)’ (SEPP) 2022

*“This section applies to development for any of the following purposes that is on land in or adjacent to the road corridor for a freeway, a tollway or a transitway or any other road with an annual average daily traffic volume of more than 20,000 vehicles (based on the traffic volume data published on the website of TfNSW) and that the consent authority considers is likely to be adversely affected by road noise or vibration—*

- (a) residential accommodation,*
- (b) a place of public worship,*
- (c) a hospital,*
- (d) an educational establishment or centre-based childcare facility.*

*If the development is for the purposes of residential accommodation, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following  $L_{Aeq}$  levels are not exceeded—*

- (a) in any bedroom in the residential accommodation—35 dB(A) at any time between 10 pm and 7 am,*
- (b) anywhere else in the residential accommodation (other than a garage, kitchen, bathroom, or hallway)—40 dB(A) at any time.”*

#### 4.1.3 NSW Department of Planning – Development near Rail Corridors or Busy Roads – Interim Guideline

In conjunction with clause 102 of the *ISEPP 2007* which has since been superseded by the *SEPP 2021*, the development will need to ensure compliance with the *DNRCBR* guideline which states the following:

*“The following provides an overall summary of the assessment procedure to meet the requirements of clauses 87 and 102 of the Infrastructure SEPP [2.99 and 2.119 of the SEPP 2021]. The procedure covers noise at developments for both road and rail.*

*If the development is for the purposes of a building for residential use, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following  $L_{Aeq}$  levels are not exceeded:*

- (a) In any bedroom in the building – 35 dB(A) at any time between 10pm and 7am,*

*Anywhere else in the building (other than a garage, kitchen, bathroom, or hallway) – 40 dB(A) at any time.”*

#### 4.1.4 Summary of Noise Intrusion Criteria

The governing project criteria is presented in the table below based on requirements above.

**Table 3 – Summary of Internal Noise Level Criteria**

| Space/Activity Type | Internal Traffic Noise Criteria dB(A) $L_{eq}(\text{period})$ |
|---------------------|---------------------------------------------------------------|
| Bedroom             | 35dB(A) $L_{eq}(9\text{hour})$                                |
| Living Room         | 40dB(A) $L_{eq}(15\text{hour})$                               |

## 4.2 TRAFFIC NOISE MEASUREMENTS

As part of this investigation, traffic noise from Pacific Highway has been measured. The results of this measurement will be used to determine the treatments required to reduce noise levels to within the project acoustic objectives.

Noise level measurements were conducted at the site as detailed in Figure 1 above.

### 4.2.1 Attended Noise Measurements

Attended traffic noise measurements were conducted to measure road traffic noise levels at the site. Attended measurements were taken between 2pm and 3pm on Friday the 1<sup>st</sup> of March 2024. Measurements were taken using a Norsonic Type 140 precision sound level analyser, set to A-weighted fast response. The precision sound level analyser was calibrated before and after the measurements using a Norsonic 1251 precision sound level calibrator. No significant drift was recorded.

**Table 4 – Attended Traffic Noise Level Measurements**

| Measurement Location            | Time of Measurement                                  | Measured Noise Level<br>dB(A) <sub>Leq(Period)</sub> |
|---------------------------------|------------------------------------------------------|------------------------------------------------------|
| Pacific Highway<br>3m from curb | Friday 1 <sup>st</sup> March 2024<br>2.00pm – 3.00pm | 72                                                   |

## 4.3 SUMMARISED TRAFFIC NOISE LEVELS

The following noise levels for the site have been established based on long term noise monitoring of the development site.

**Table 5 – Traffic Noise Levels**

| Location        | Time of Day              | Summarised Traffic Noise<br>Levels – dB(A) <sub>Leq</sub> * |
|-----------------|--------------------------|-------------------------------------------------------------|
| Pacific Highway | Daytime<br>7am – 10pm    | 72dB(A) <sub>Leq (15hr)</sub>                               |
|                 | Night-time<br>10pm – 7am | 67dB(A) <sub>Leq (9hr)</sub>                                |

\*The daytime/night-time noise level difference has been determined based on the unattended noise monitoring data.

## 5 COMPLYING CONSTRUCTIONS

Traffic noise intrusion into the proposed development was assessed using the measured external noise levels reported above as a basis.

Calculations were performed, taking into account the orientation of windows; the total area of glazing; facade transmission loss; and room sound absorption characteristics. In this way the likely interior noise levels can be predicted. Acoustic treatment required to ensure compliance with the assessment criteria are detailed in this section.

Internal noise levels will primarily be a contribution of noise transfer through windows, doors and ceilings as these are relatively light building elements that offer less resistance to the transmission of sound. Noise transfer through the masonry elements will not be significant and need not be considered further.

### 5.1 GLAZED WINDOWS AND DOORS

The following constructions are recommended to comply with the project noise objectives. Aluminium framed/sliding glass doors and windows will be satisfactory provided they meet the following criteria. All external windows and doors listed are required to be fitted with Q-Ion type acoustic seals. **(Mohair Seals are unacceptable)**.

Thicker glazing may be required for structural, safety or other purposes. Where it is required to use thicker glazing than scheduled, this will also be acoustically acceptable.

The recommended constructions are listed in below.

**Table 6 – Recommended Glazing Thicknesses**

| Facade                                      | Level      | Space    | Glazing Construction | Acoustic Seals |
|---------------------------------------------|------------|----------|----------------------|----------------|
| Northern Façade<br>(Facing Pacific Highway) | All Levels | Living   | 10mm Float/Toughened | Yes            |
|                                             |            | Bedrooms | 6.38mm Laminated     |                |
| Eastern Façade<br>(Facing Alison Ave)       |            | Living   | 6.38mm Laminated     |                |
| Southern Façade                             |            | Bedrooms | 6mm Float/Toughened  |                |
|                                             |            | Living   |                      |                |
|                                             |            | Bedrooms |                      |                |
| Western Façade<br>(Facing Gatacre Ave)      |            | Living   | 6.38mm Laminated     |                |
|                                             |            | Bedrooms | 6mm Float/Toughened  |                |

It is recommended that only window systems having test results indicating compliance with the required ratings obtained in a certified laboratory be used where windows with acoustic seals have been recommended.

In addition to complying with the minimum scheduled glazing thickness, the  $R_w$  rating of the glazing fitted into open-able frames and fixed into the building opening should not be lower than the values listed in Table 7 below for all rooms. Where nominated, this will require the use of acoustic seals around the full perimeter of open-able frames and the frame will need to be sealed into the building opening using a flexible sealant.

**Table 7 - Minimum  $R_w$  of Glazing (with Acoustic Seals)**

| Glazing Assembly     | Minimum $R_w$ of Installed Window | Acoustic Seals |
|----------------------|-----------------------------------|----------------|
| 10mm Float/Toughened | 35                                | <b>Yes</b>     |
| 6.38mm Laminated     | 31                                |                |
| 6mm Float/Toughened  | 29                                |                |

## 5.2 EXTERNAL WALL CONSTRUCTION

Proposed wall construction is made from blockwork and masonry elements resulting in no additional acoustic treatments necessary. If any penetrations are required through the external lining of any systems for building services, all gaps should be filled with acoustic sealant to ensure compliance with internal noise requirements.

## 5.3 EXTERNAL ROOF / CEILING CONSTRUCTION

The proposed concrete slab roof is acoustically acceptable and does not require any additional treatments. All openings or penetrations in ceilings should be acoustically sealed.

## 5.4 VENTILATION ASSESSMENT

With respect to natural ventilation of the dwelling, the NSW Department of Planning document "Development near Rail Corridors and Busy Roads - Interim Guideline" dictates that:

*"If internal noise levels with windows or doors open exceed the criteria by more than 10dB(A), the design of the ventilation for these rooms should be such that occupants can leave windows closed, if they so desire, and also to meet the ventilation requirements of the Building Code of Australia."*

With windows open, the allowable internal noise goal is permitted to be 10dB(A) higher than when the windows are closed (i.e. – allowable level in bedrooms becomes 45dB(A), and 50dB(A) in living rooms). With windows open to 5% of floor area;

- Apartments with direct line of sight to Pacific Highway are likely to exceed the windows open threshold.
- Apartments screened or offset to the Pacific Highway are likely to meet the window open threshold.

Where windows open noise levels are likely to be exceeded, considerations should be given to a supplementary or alternative source of ventilation. Confirmation on the ventilation requirements for specific apartments should be confirmed as part of the detailed design phase of the development.

Any supplementary fresh air (ventilation system or other) required should be acoustically designed to ensure that the acoustic performance of the acoustic treatments outlined above is not reduced and does not exceed the EPA or Council criteria for noise emission to nearby properties (where mechanically assisted solutions are implemented).

## 6 NOISE EMISSIONS ASSESSMENT

Noise emissions from the site should be assessed to ensure that amenity of nearby land uses is not adversely affected. The primary potential noise sources use of the site will be operational noise from mechanical equipment that services the site.

Noise emissions will be assessed to the following criteria:

- Lane Cove Council Development Control Plan (DCP) 2010
- NSW Department of Environment and Heritage, Environmental Protection Authority document – 'Noise Policy for Industry (NPfI) 2017'.

### 6.1 NOISE EMISSION CRITERIA

#### 6.1.1 Lane Cove Council Development Control Plan (DCP) 2010

Part C Section 1.8.2 stipulates the below regarding Visual and Acoustic Privacy for residential developments.

*d) The noise generated by mechanical equipment of any sort must not exceed the background noise level by more than 5dB (A) when measured in or on the lot adjacent to the equipment. Where sound levels are exceeded, sound proofing measures will be required.*

Further reference is made to the NSW EPA Noise Policy for Industry (2017).

#### 6.1.2 NSW EPA Noise Policy for Industry (NPfI) 2017

The EPA NPfI has two criteria which are both require to be satisfied, namely intrusiveness and amenity. The NPI sets out acceptable noise levels for various localities. The policy indicates four categories to assess the appropriate noise levels at a site. They are rural, suburban, urban and urban/industrial interface. Under the policy the nearest residential receivers would be assessed against the urban criteria.

Noise levels are to be assessed at the property boundary or nearby dwelling or at the balcony or façade of an apartment.

##### 6.1.2.1 Intrusiveness Criterion

The guideline is intended to limit the audibility of noise emissions at residential receivers and requires that noise emissions measured using the  $L_{eq}$  descriptor not exceed the background noise level by more than 5dB(A). Where applicable, the intrusive noise level should be penalised (increased) to account for any annoying characteristics such as tonality.

Background noise levels adopted are presented in Section 3.3. Noise emissions from the site should comply with the noise levels presented below when measured at nearby property boundary.

**Table 8 - Project Intrusiveness Criterion**

| Time of day         | Rating background noise level (dB[A]) | Project Intrusiveness Noise Level ( $L_{eq}$ (15min) dB[A]) |
|---------------------|---------------------------------------|-------------------------------------------------------------|
| Day (7am – 6pm)     | 43                                    | 48                                                          |
| Evening (6pm- 10pm) | 41                                    | 46                                                          |
| Night (10pm -7am)   | 39                                    | 44                                                          |

### 6.1.2.2 Project Amenity Criterion

The guideline is intended to limit the absolute noise level from all noise sources to a level that is consistent with the general environment.

The EPA's NPfI sets out acceptable noise levels for various localities. The recommended noise amenity area is based upon the measured background noise levels at the sensitive receiver. Based on the measured background noise levels shown below, the Noise Policy for Industry suggests the adoption of the 'urban' categorisation.

The NPfI requires project amenity noise levels to be calculated in the following manner;

$$L_{Aeq,15min} = \text{Recommended Amenity Noise Level} - 5 \text{ dB(A)} + 3 \text{ dB(A)}$$

The amenity levels appropriate for the receivers surrounding the project site are presented in Table 9.

**Table 9– EPA NPfI Amenity Noise Levels**

| Type of Receiver    | Time of day        | Recommended Noise Level<br>dB(A) <sub>Leq(period)</sub> | Project Amenity Noise Levels<br>dB(A) <sub>Leq(15min)</sub> |
|---------------------|--------------------|---------------------------------------------------------|-------------------------------------------------------------|
| Residential – urban | Day (7am-6pm)      | 60                                                      | 58                                                          |
|                     | Evening (6pm-10pm) | 50                                                      | 48                                                          |
|                     | Night (10pm-7am)   | 45                                                      | 43                                                          |
| Commercial premises | When in use        | 65                                                      | 63                                                          |

The NSW EPA Noise Policy for Industry (2017) defines;

- Day as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- Evening as the period from 6pm to 10pm.
- Night as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

## 6.2 SUMMARY OF NOISE EMISSION CRITERIA

The noise emission criteria for the surrounding sensitive receivers is summarised below.

**Table 10 – Summarised External Noise Emission Criteria**

| Receiver Type | Time of Day        | Rating background noise level<br>dB(A) <sub>L90</sub> | Project Intrusiveness Noise Level<br>( <sub>L</sub> A <sub>eq,15min</sub> dB[A]) | Project Amenity Noise Level<br>dB(A) <sub>Leq(15 min)</sub> |
|---------------|--------------------|-------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------|
| Residential   | Day (7am-6pm)      | 43                                                    | <b>48</b>                                                                        | 58                                                          |
|               | Evening (6pm-10pm) | 41                                                    | <b>46</b>                                                                        | 48                                                          |
|               | Night (10pm-7am)   | 39                                                    | 44                                                                               | <b>43</b>                                                   |
| Commercial    | When in use        | -                                                     | -                                                                                | <b>63</b>                                                   |

Adopted noise emission criteria are shown in **bold**.

### 6.3 MECHANICAL PLANT

Detailed plant selection and location has not been undertaken at this stage. Satisfactory levels will be achievable through appropriate plant selection, location and if necessary, standard acoustic treatments such as duct lining, acoustic silencers, and enclosures.

Noise emissions from all mechanical services to the closest residential receiver shall comply with the requirements of Section 6.2.

Detailed acoustic review shall be undertaken at CC stage to determine acoustic treatments to control noise emissions to satisfactory levels.

## 7 CONCLUSION

This report presents an acoustic assessment of potential traffic noise impacts associated with the proposed residential development to be located at 1 Gatacre Ave & 1-5 Allison Ave, Lane Cove. Based on the information provided above, we conclude the following:

Provided that the treatment set out in Section 5 of this report are implemented, internal noise levels shall comply with the requirements of the following documents:

- Lane Cove Council Development Control Plan (DCP) 2010
- NSW Department of Planning document – *“State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021”*; and
- NSW Department of Planning document – *“Development near Rail Corridors and Busy Roads – Interim Guidelines” 2009*.

External noise emissions criteria have been setup in this report to satisfy the requirements from the following documents:

- Lane Cove Council Development Control Plan (DCP) 2010
- NSW Department of Environment and Heritage, Environmental Protection Authority document – *‘Noise Policy for Industry (NPfI) 2017’*.

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

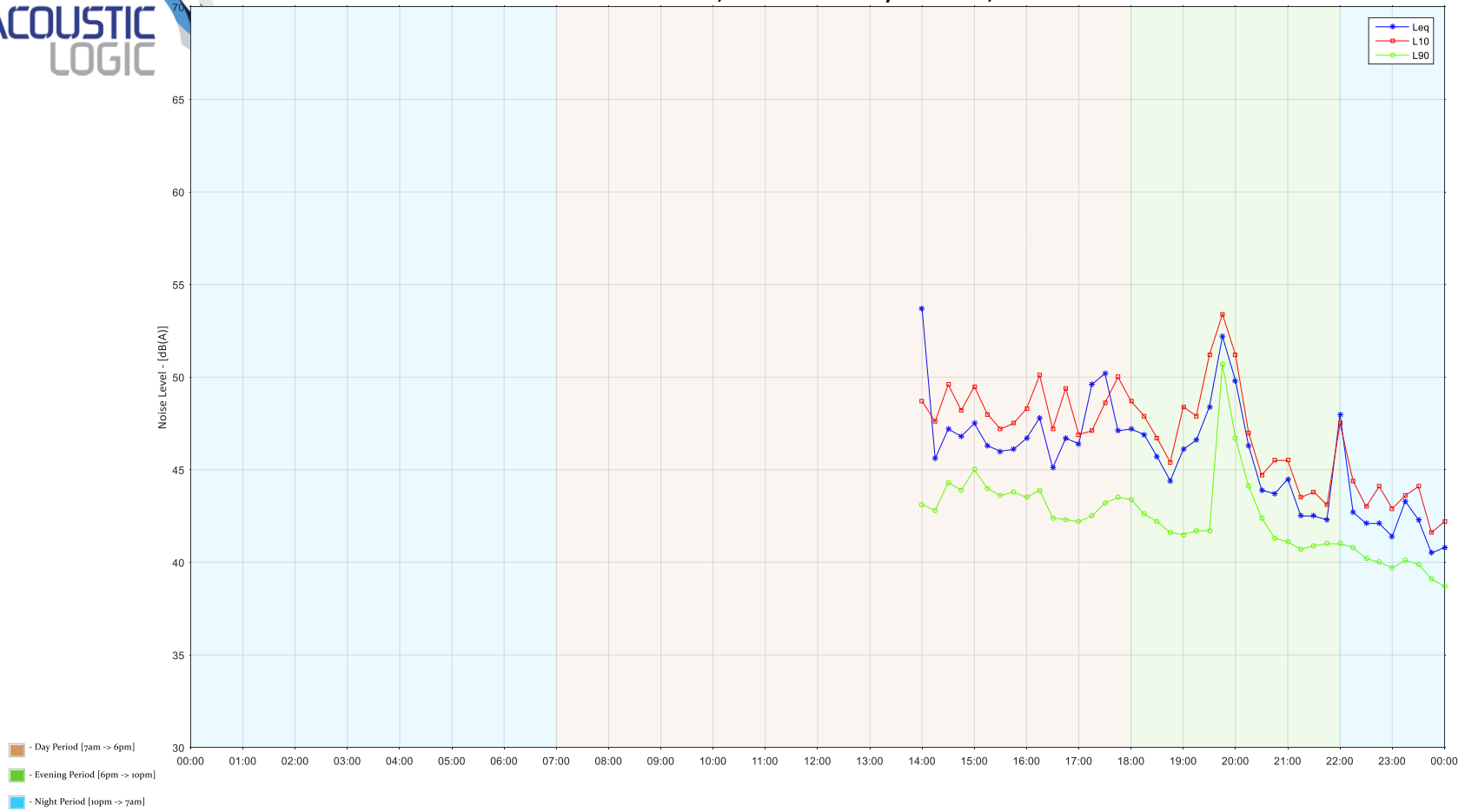
Yours faithfully,



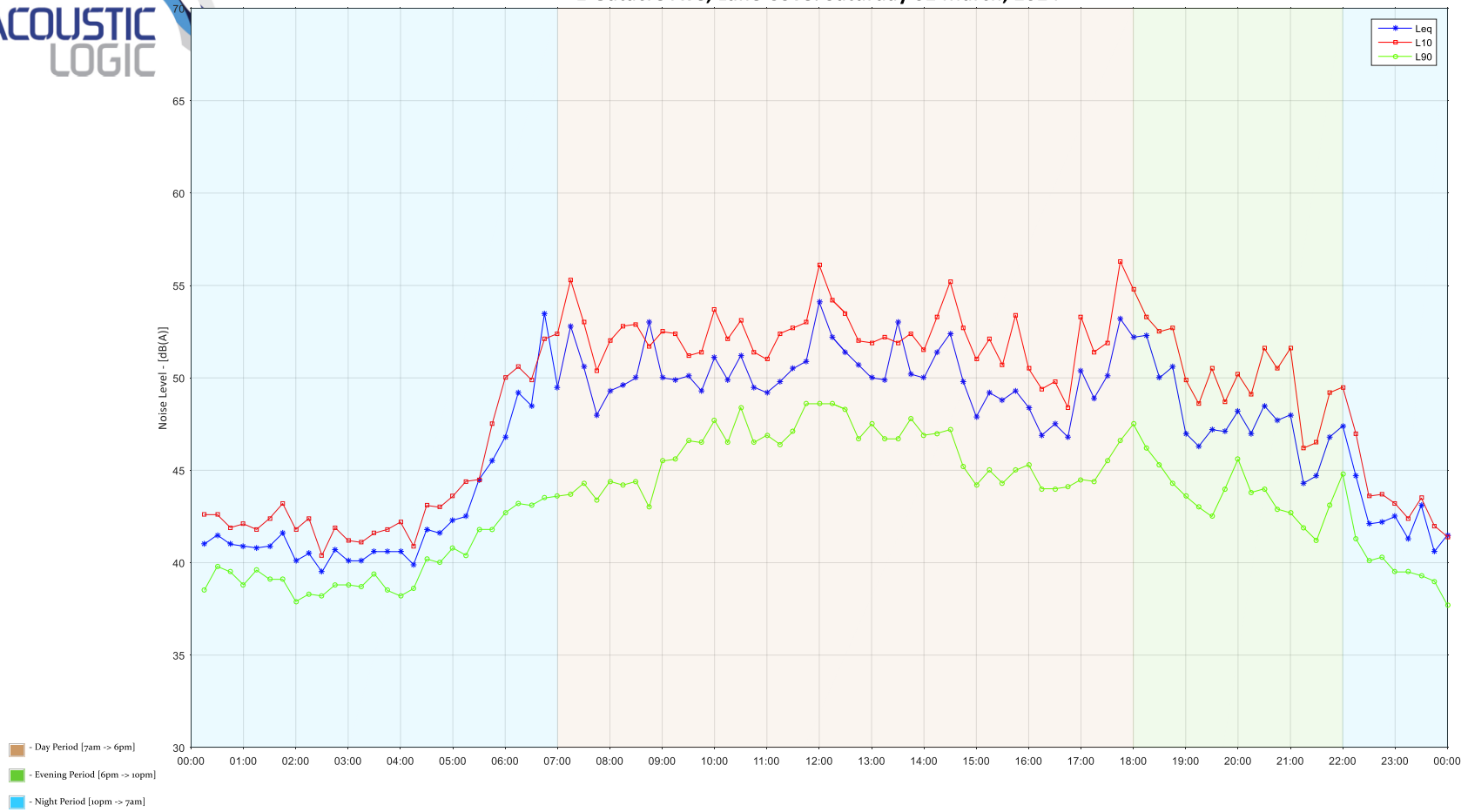
Acoustic Logic Pty Ltd  
Justine Wade

**UNATTENDED MONITORING CHARTS**

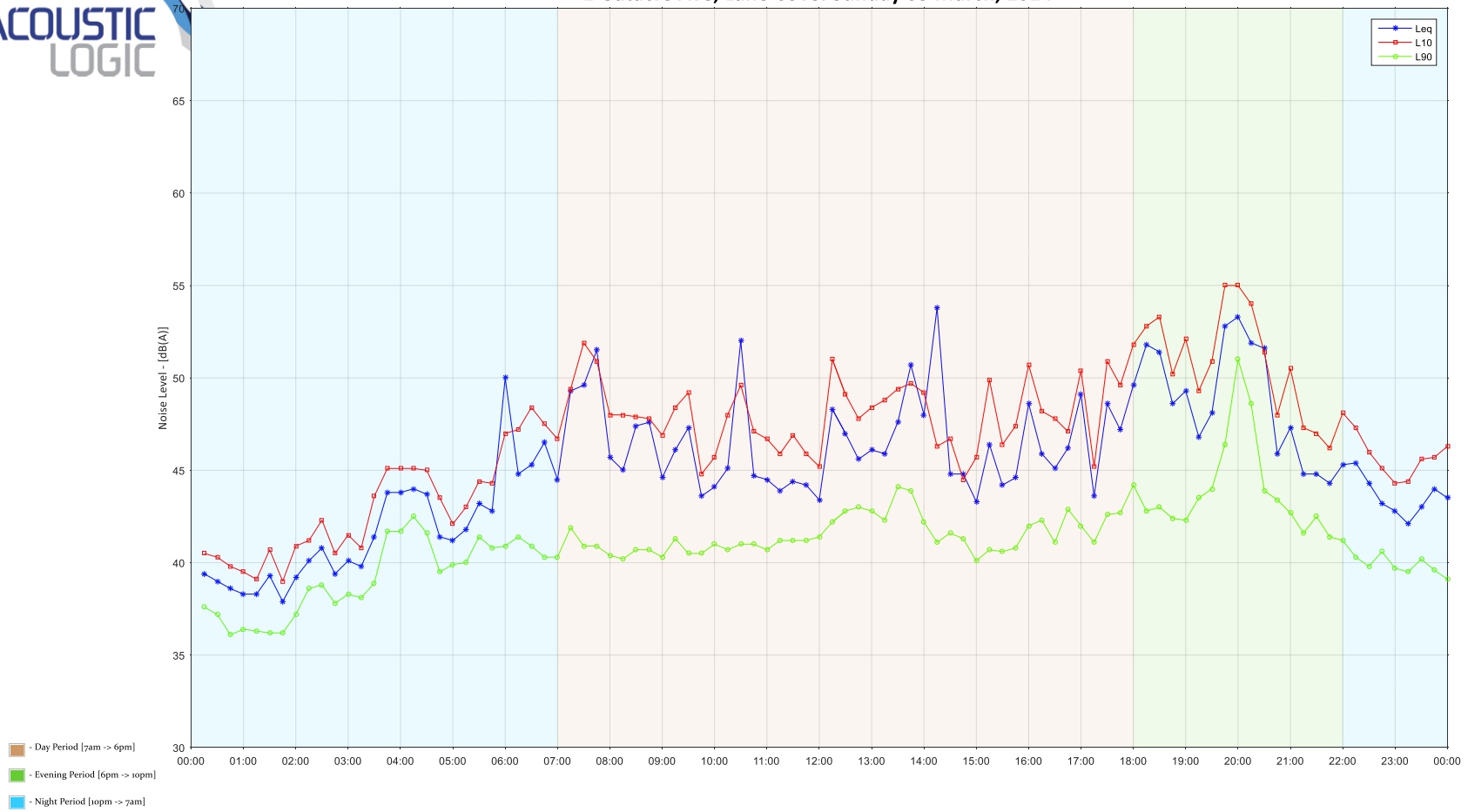
# 1 Gatacre Ave, Lane Cove: Friday 01 March, 2024



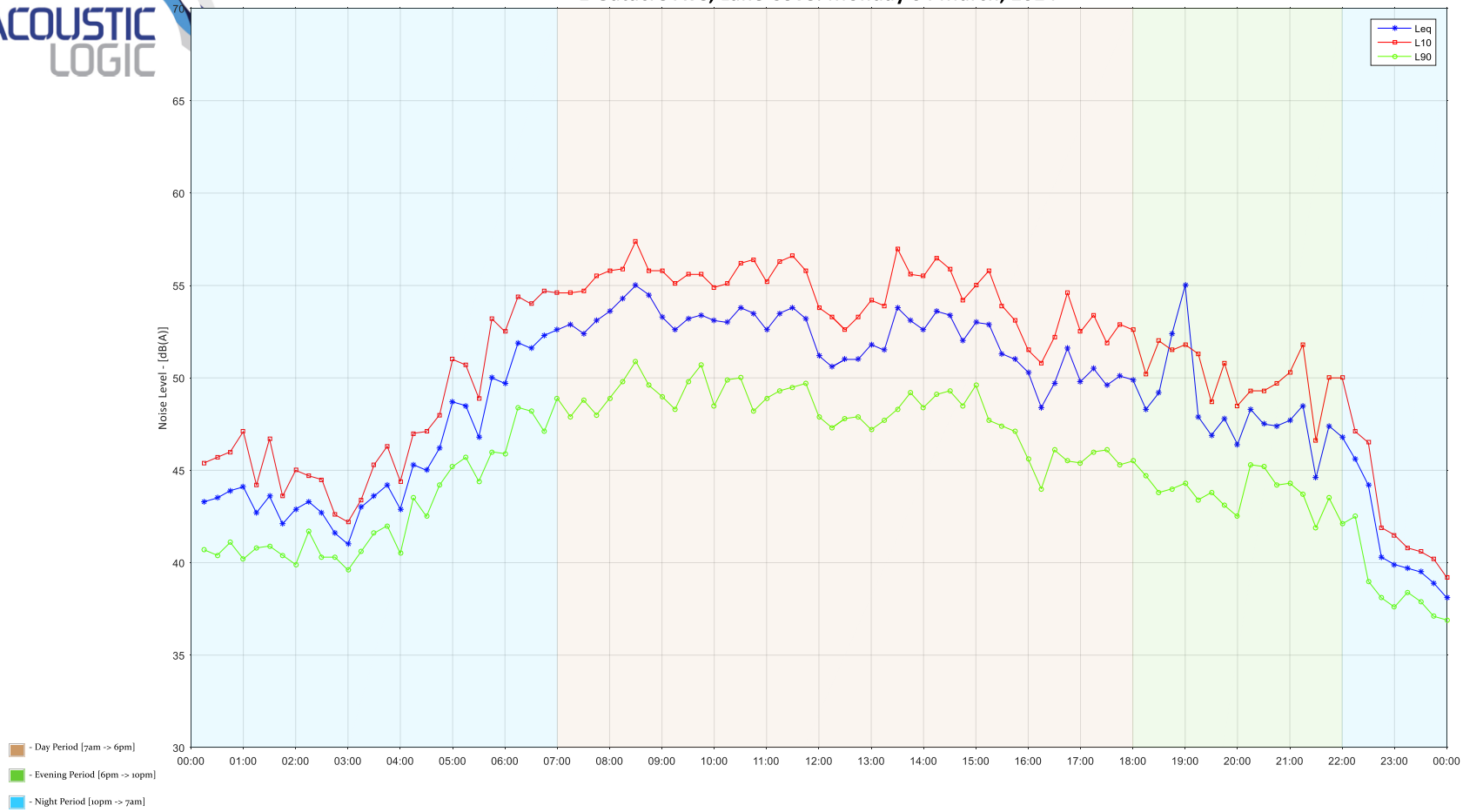
# 1 Gatacre Ave, Lane Cove: Saturday 02 March, 2024



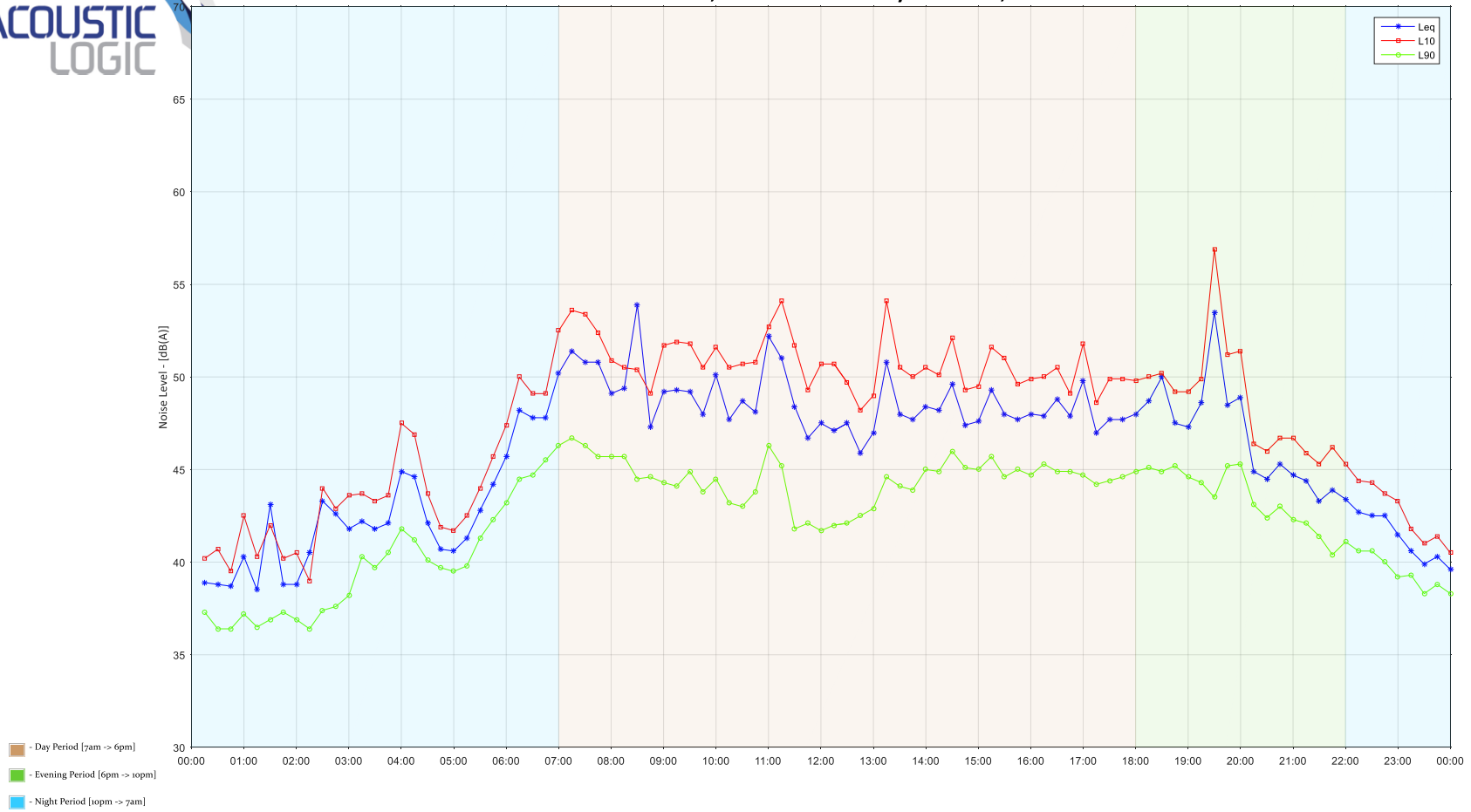
# 1 Gatacre Ave, Lane Cove: Sunday 03 March, 2024



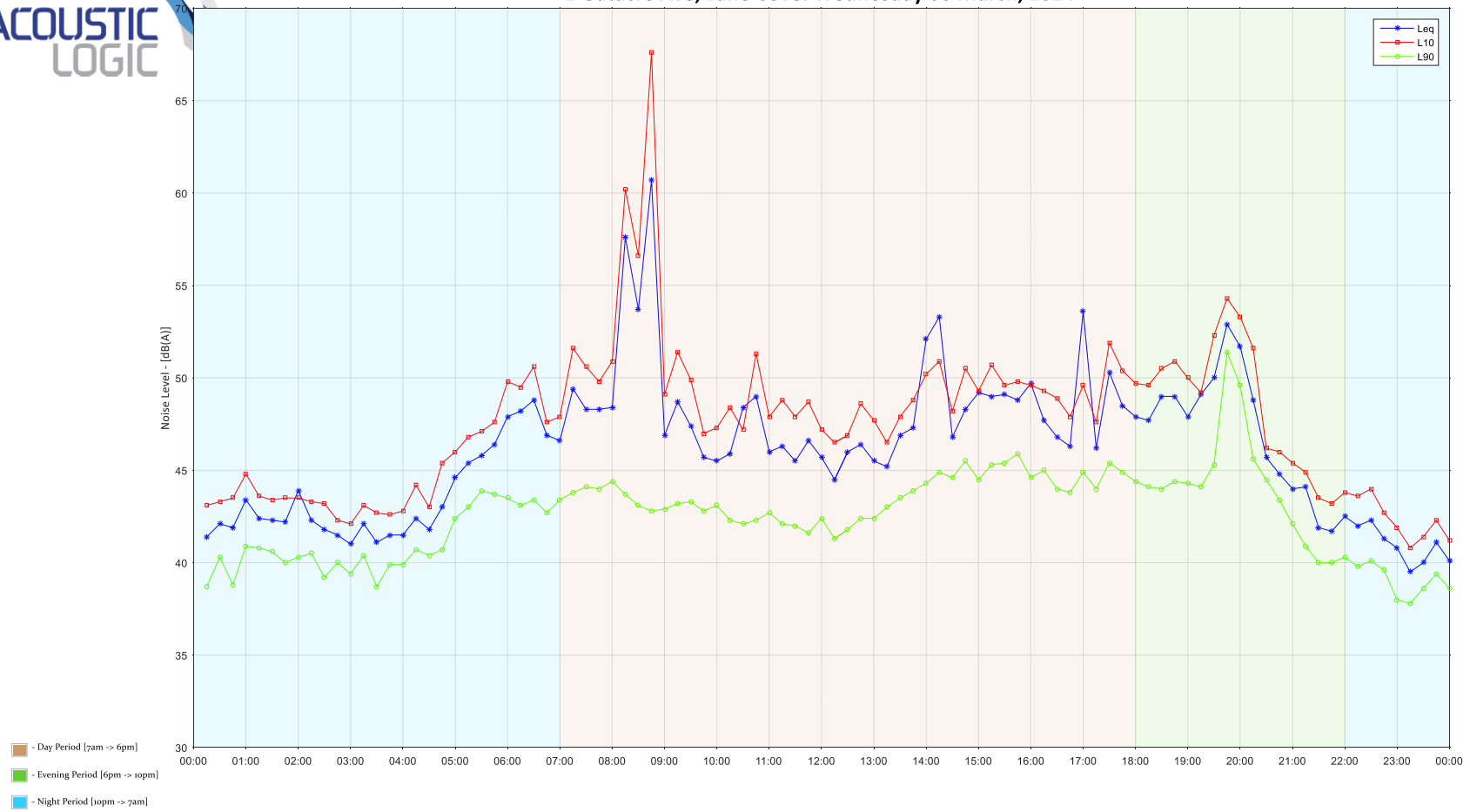
# 1 Gatacre Ave, Lane Cove: Monday 04 March, 2024



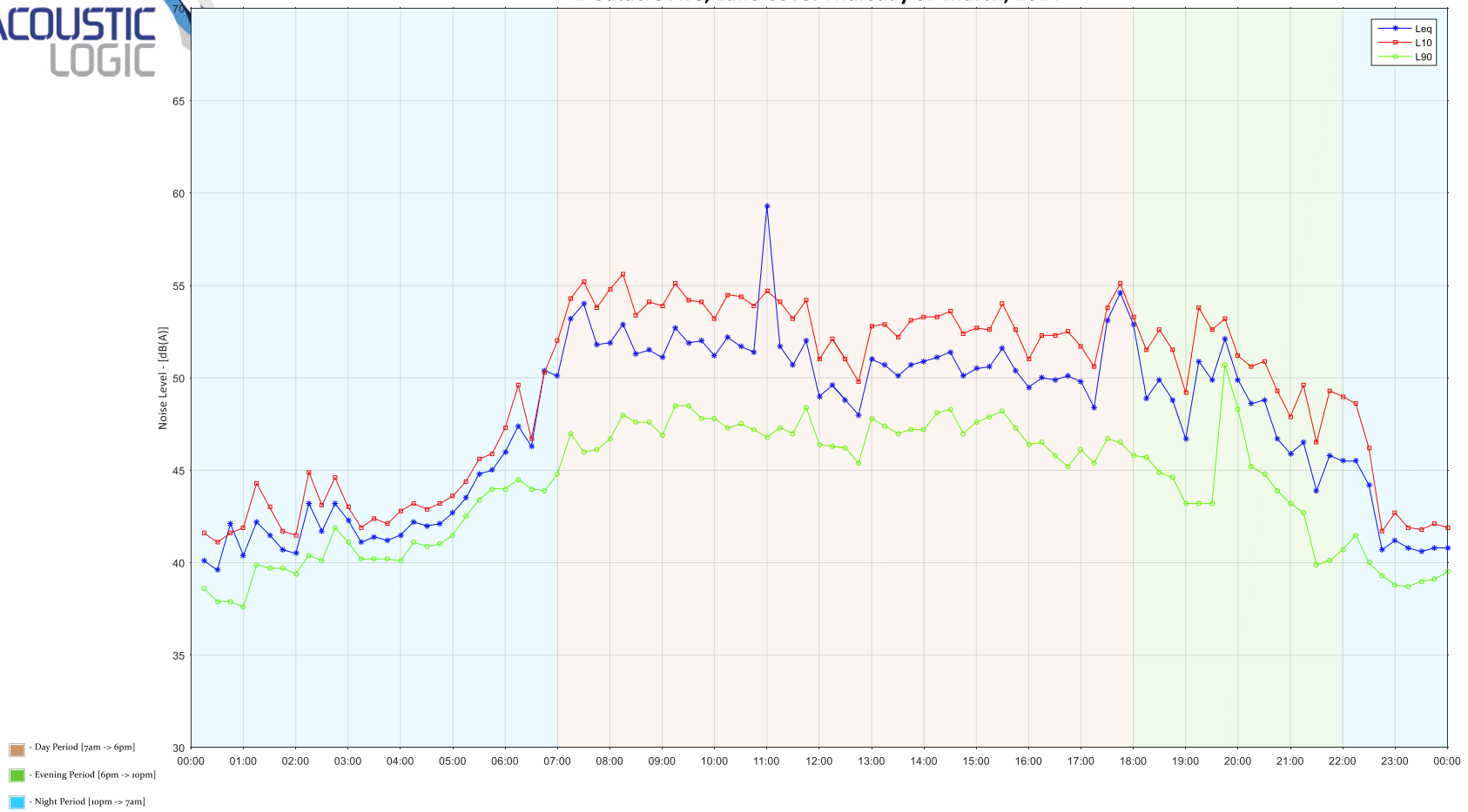
# 1 Gatacre Ave, Lane Cove: Tuesday 05 March, 2024



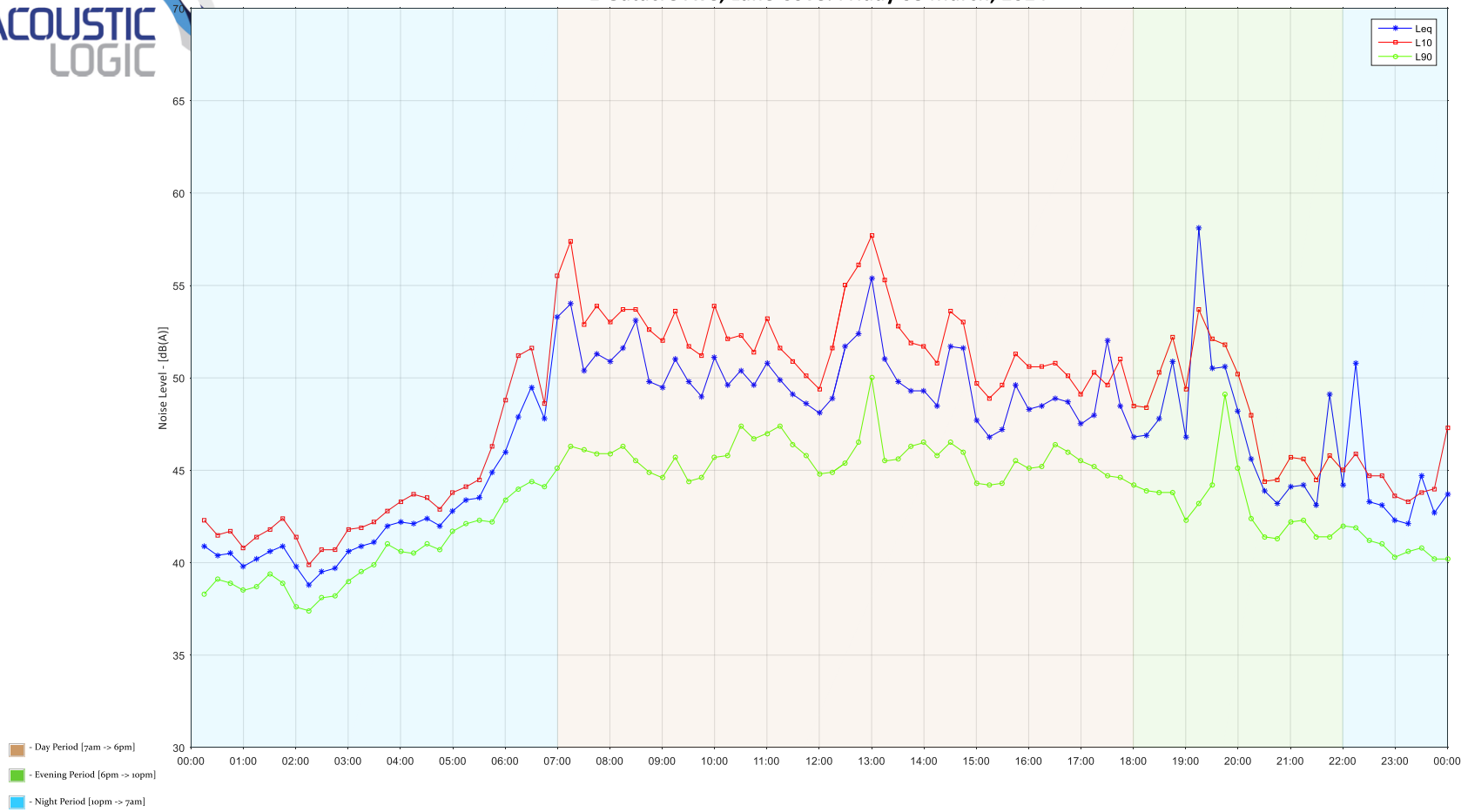
# 1 Gatacre Ave, Lane Cove: Wednesday 06 March, 2024



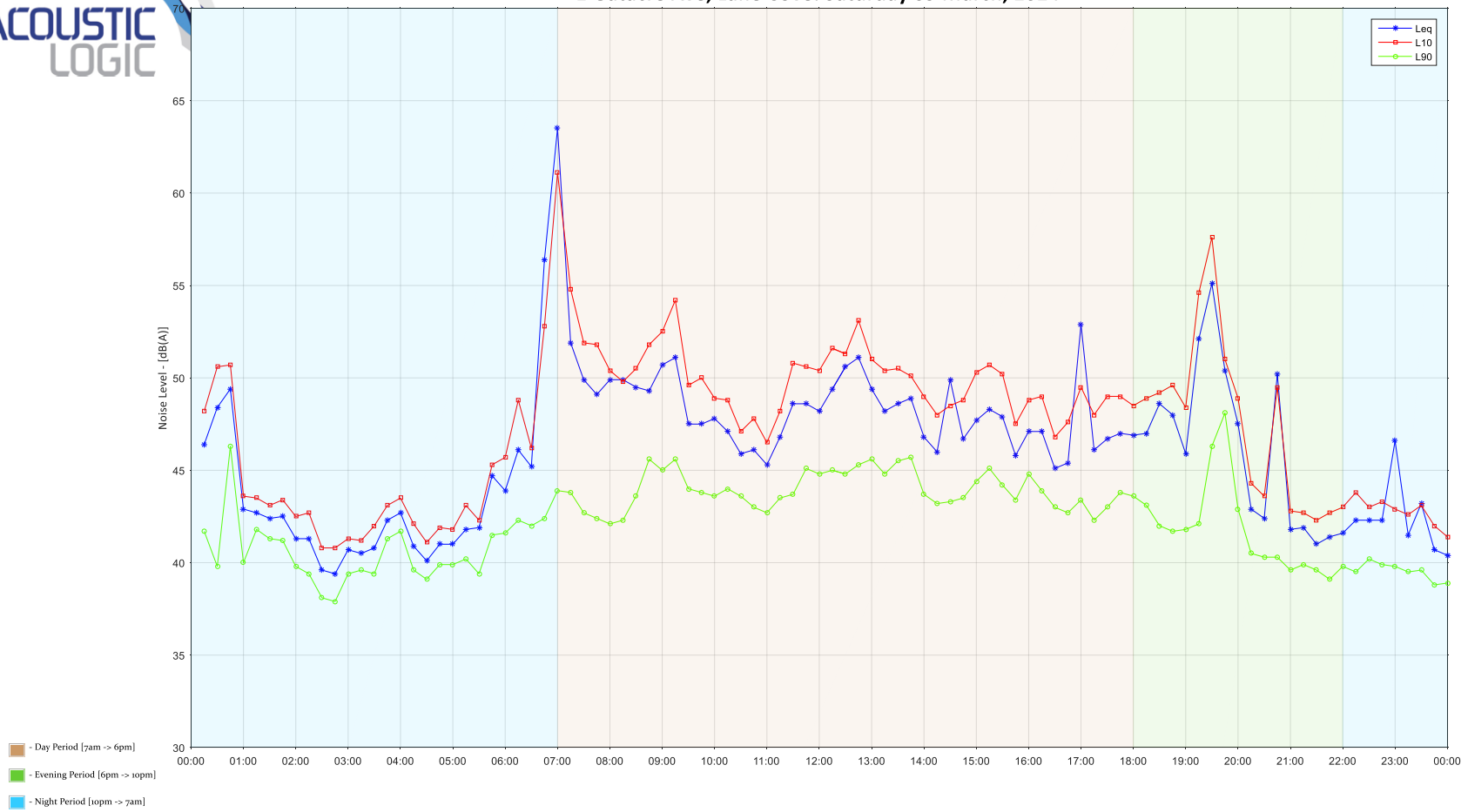
# 1 Gatacre Ave, Lane Cove: Thursday 07 March, 2024



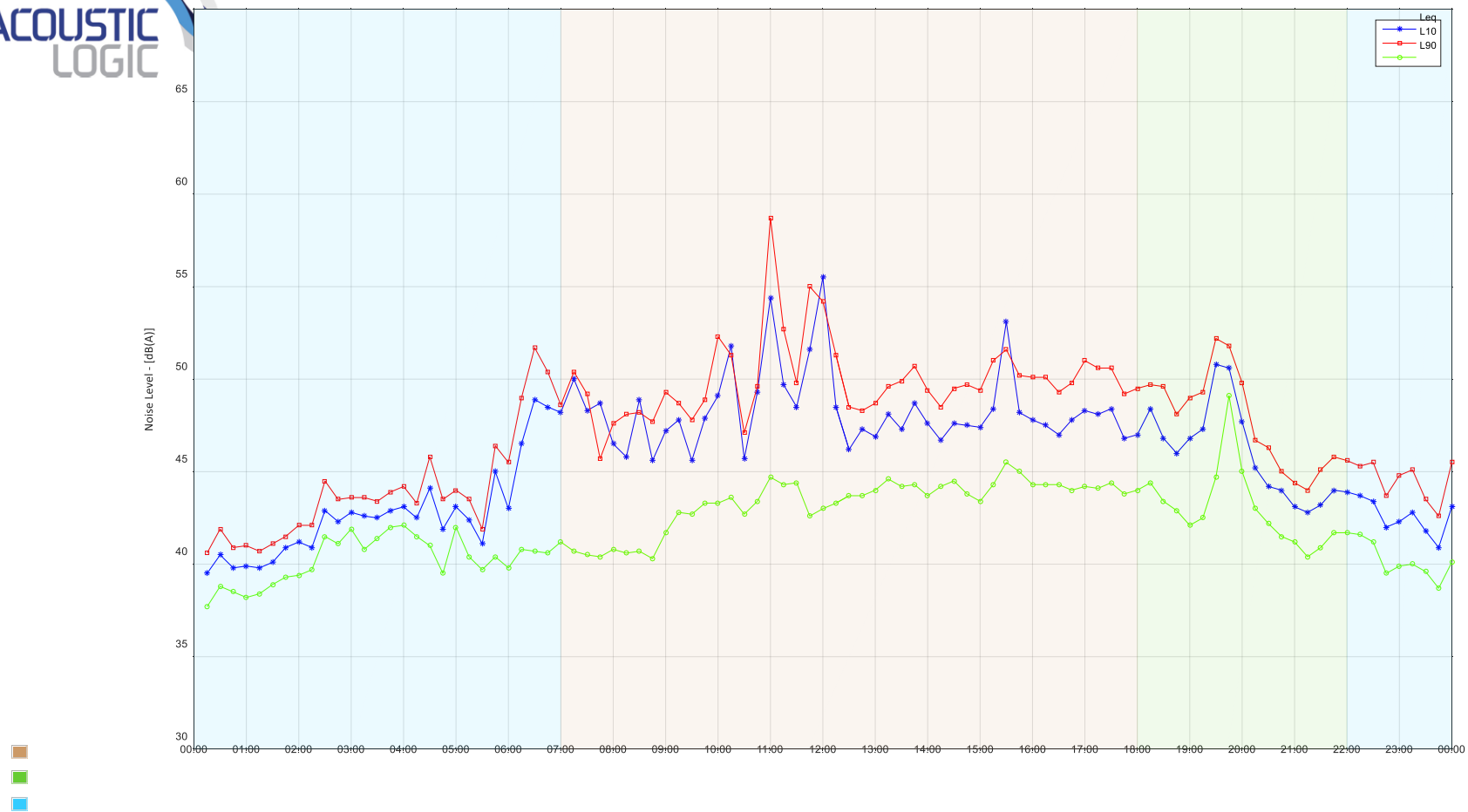
# 1 Gatacre Ave, Lane Cove: Friday 08 March, 2024



# 1 Gatacre Ave, Lane Cove: Saturday 09 March, 2024



# 1 Gatacre Ave, Lane Cove: Sunday 10 March, 2024



# 1 Gatacre Ave, Lane Cove: Monday 11 March, 2024

