

67-75 Lords Road, Leichhardt

## Development Application Noise Assessment

Project ID	20220723.1
Document Title	Development Application Noise Assessment
Attention To	Platino Properties Pty Ltd

Revision	Date	Document Reference	Prepared By	Checked By	Approved By
0	28/06/2022	20220723.1/2806A/R0/CH	CHZZZ		GW
1	19/12/2023	20220723.1/1912A/R1/CHZZZ	LL		GW

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
<b>2</b>	<b>SITE DESCRIPTION .....</b>	<b>4</b>
<b>3</b>	<b>EXISTING ACOUSTIC ENVIRONMENT .....</b>	<b>7</b>
3.1	NOISE DESCRIPTORS .....	7
3.2	MEASUREMENT EQUIPMENT .....	7
3.3	MEASUREMENT LOCATIONS & PERIOD.....	8
3.4	MEASUREMENT RESULTS .....	8
<b>4</b>	<b>NOISE INTRUSION ASSESSMENT .....</b>	<b>10</b>
4.1	INTERNAL NOISE CRITERIA .....	10
4.1.1	Inner West Council (Leichhardt Council) DCP 2013 .....	10
4.1.2	State Environmental Planning Policy (Transport and Infrastructure) 2021.....	10
4.1.3	Australian Standard AS2107:2016 "Recommended design sound levels and reverberation times for building interiors" .....	11
4.1.4	AS2021:2015 – Aircraft Noise Intrusion – Building Siting and Construction .....	11
4.2	AIRCRAFT NOISE ASSESSMENT.....	12
4.2.1	Complying Constructions .....	12
4.3	LIGHT RAIL NOISE ASSESSMENT .....	14
4.4	LAMBERT PARK SPORTSFIELD .....	14
4.5	MECHANICAL VENTILATION .....	14
<b>5</b>	<b>NOISE EMISSION ASSESSMENT.....</b>	<b>15</b>
5.1	NOISE EMISSION CRITERIA.....	15
5.1.1	Inner West Council (Leichhardt Council) DCP 2013 .....	15
5.1.2	NSW EPA Noise Policy for Industry (NPfI) 2017 .....	15
5.2	SUMMARISED NOISE EMISSION CRITERIA .....	17
5.3	MECHANICAL PLANT .....	17
<b>6</b>	<b>CONCLUSION.....</b>	<b>18</b>
<b>APPENDIX A – UNATTENDED NOISE MONITORING DATA .....</b>		<b>19</b>
LOCATION M1 .....		20
LOCATION M2.....		29

## 1 INTRODUCTION

This report presents an acoustic assessment of potential noise impacts associated with the proposed mixed-use residential development to be at 67-75 Lords Road, Leichhardt.

The following will be addressed in this report:

- External noise intrusion assessment (primarily from rail and aircraft noise).
- Noise impacts from the adjacent Lambert Park Sportsfield.
- Noise emissions from mechanical plant servicing the development (in principle).

This report has been based on the Urban Design Report prepared by SJB Architecture (issue V8), dated 21<sup>st</sup> November 2023.

## 2 SITE DESCRIPTION

The proposed development is located at 67-75 Lords Road, Leichhardt and comprises of four mixed use residential buildings and one townhouse.

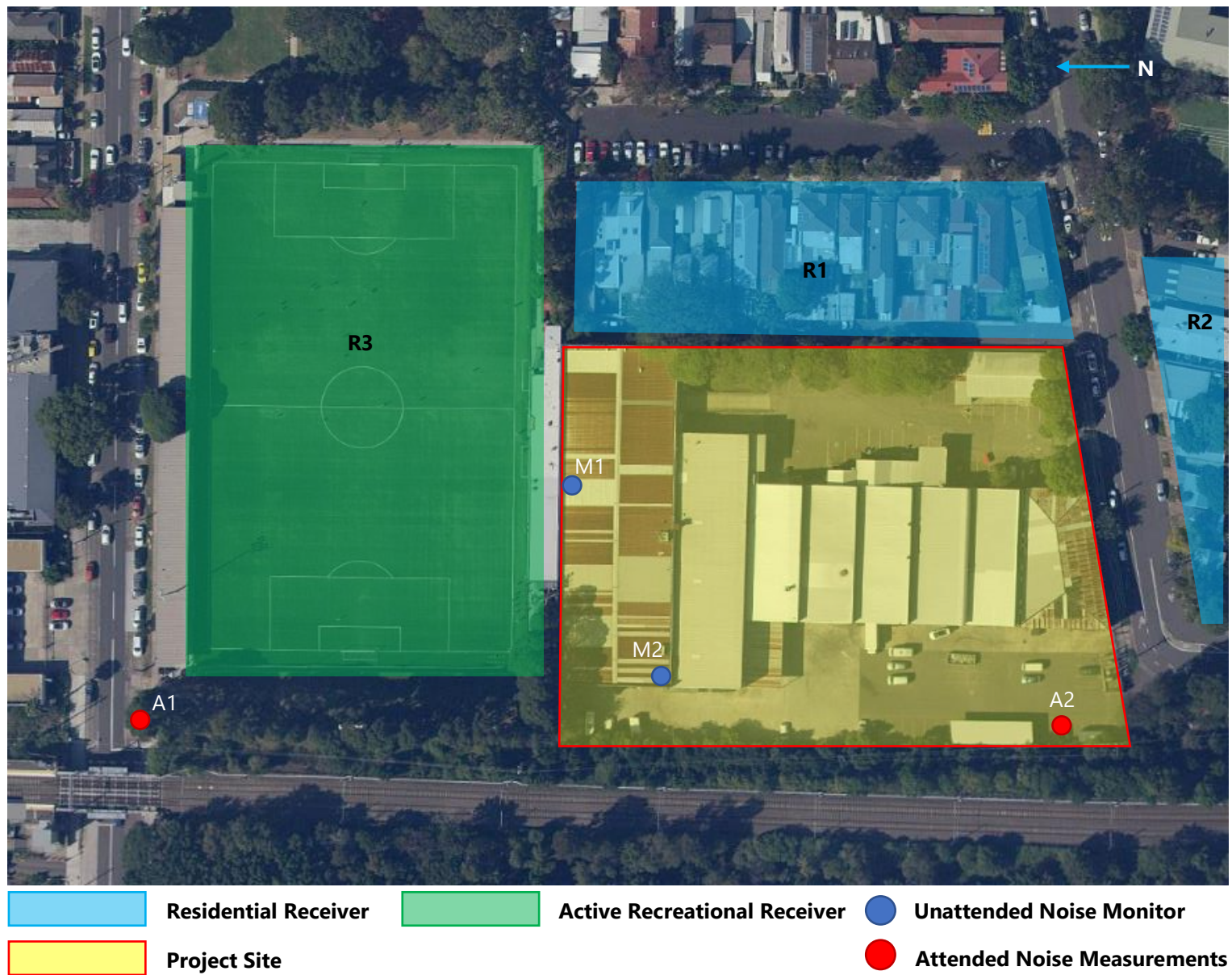
The predominant noise sources impacting the site are summarised as follows:

- Noise from Aircraft pass-bys
- Rail noise from the L1 Sydney light rail-line along the western boundary of the site
- Noise associated with the use of the APIA Leichhardt Tigers Football Club playing field (Lambert Park) that borders the north boundary of the proposed development.

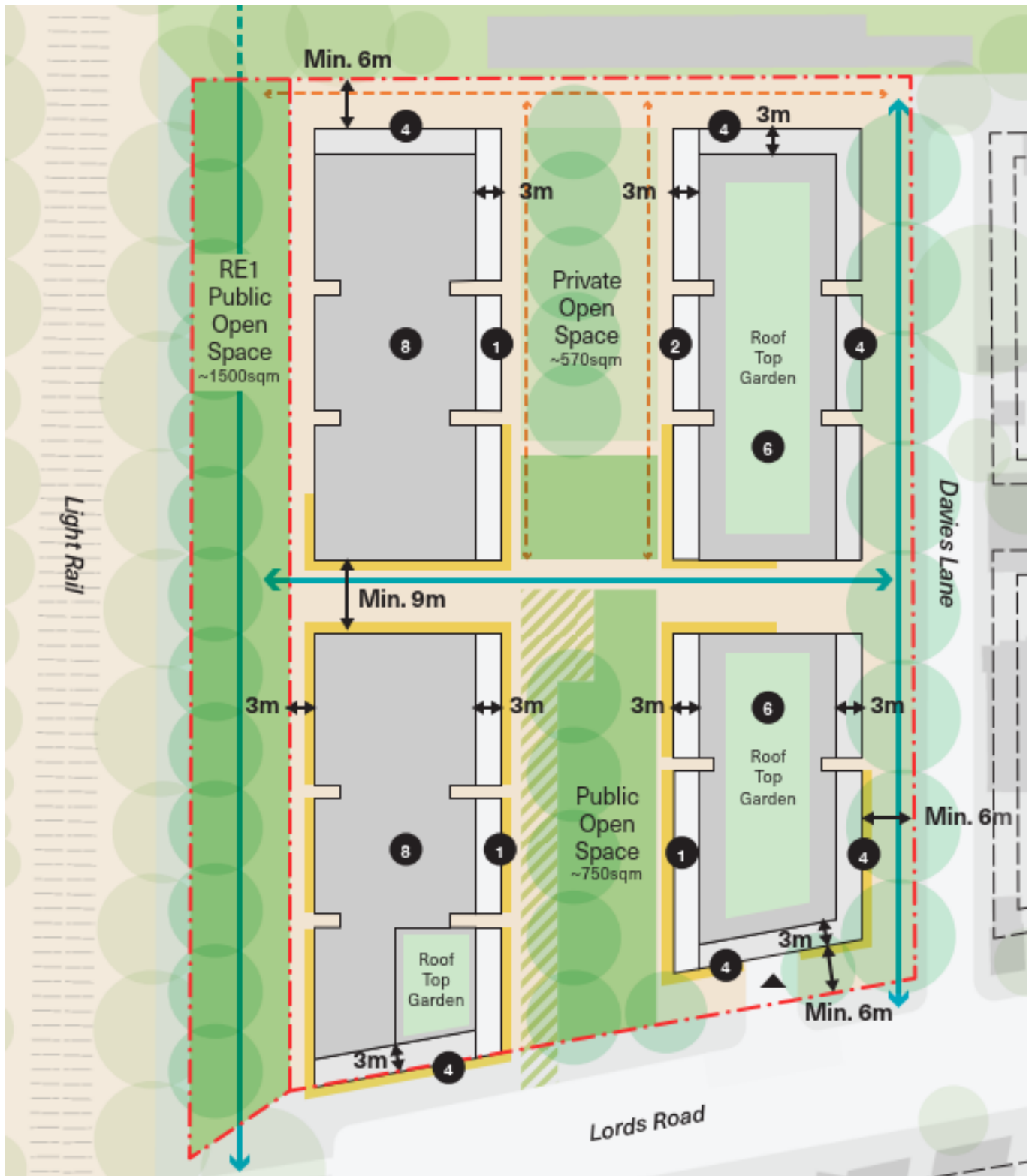
The nearest affected noise sensitive receivers near the site include the following:

- **Receiver R1** -- residential dwellings to the east along 2-28 Davies Street;
- **Receiver R2** - residential dwellings located across Lords Road to the south of the site at 17-27 Kegworth Street.
- **Receiver R3** – Active recreational area to the north at Lambert Park Sportsfield

Figure 1 below presents a site map, measurement locations and receiver locations.



**Figure 1 – Site Map, Measurement Locations and Surrounding Receivers (Source: SixMaps NSW)**



**Figure 2 – Updated Site Plans for Reference**  
**(Urban Design Report prepared by SJB Architecture)**

### 3 EXISTING ACOUSTIC ENVIRONMENT

Unattended noise monitoring and supplementary attended measurements were conducted on site by Acoustic Logic to establish the existing ambient noise levels which will be used as basis for this assessment.

#### 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 MEASUREMENT EQUIPMENT

Attended noise measurements were conducted using a Norsonic 140 sound level analyser, set to A-weighted fast response. The sound level analyser was calibrated before and after the measurements, no significant drift was noted.

Monitoring was conducted using two Acoustic Research Laboratories (ARL) NGARA noise loggers. The monitoring was continuous, with statistical noise levels recorded at 15-minute intervals throughout the monitoring period. Measurements were taken on "A" frequency weighting and fast time response.

All monitoring equipment used retains current calibration - either manufacturers' calibration or NATA certified calibration. The monitors were field calibrated at the beginning and the end of the measurement with no significant drift in calibration noted.

Unattended noise monitoring data is presented in Appendix A.



### 3.3 MEASUREMENT LOCATIONS & PERIOD

**M1** – One Unattended noise monitor was installed along the northern boundary of the existing two-storey warehouse, as shown in Figure1.

**M2** – One Unattended noise monitor was installed along the western boundary of the existing two-storey warehouse, as shown in Figure1. The monitor had a full view of the adjacent light rail. Noise levels measured at this location have been conservatively adopted for surrounding residential to the south and further to the east.

Long term noise monitoring was conducted on site from Monday 6<sup>th</sup> June 2022 – Tuesday 14<sup>th</sup> June 2022 (Location A) and Monday 6<sup>th</sup> June 2022 – Wednesday 15<sup>th</sup> June 2022 (Location B).

**A1 and A2** - Attended measurements were conducted at the location of the nearest noise sources (adjacent to Lambert Park Sportsfield and light-rail) to determine the spectral characteristics of noise sources impacting the site. The location of all on-site measurements is shown in figure 1 and distances from noise sources are presented in Table 4 below.

Attended noise measurements were taken on Tuesday 28<sup>th</sup> June 2022 between 11:00am and 12:00pm.

### 3.4 MEASUREMENT RESULTS

Results from attended and unattended measurements are presented in the following tables.

**Table 1 –Rating Background Noise Level Summary**

Location	Time of Day	Measured Rating Background Noise Level dB(A)L <sub>90(period)</sub>
<b>M1</b> (refer to Figure 1 for detailed location)	Day (7am – 6pm)	49
	Evening (6pm – 10pm)	46
	Night (10pm – 7am)	40
<b>M2</b> (refer to Figure 1 for detailed location)	Day (7am – 6pm)	<b>47</b>
	Evening (6pm – 10pm)	<b>46</b>
	Night (10pm – 7am)	<b>39</b>



**Table 2 – Summarised Traffic Noise Levels**

Location	Time	Traffic Noise Level dB(A)
M1	Day (7am-10pm)	57 $L_{eq}$ , 15 hour
	Night (10pm-7am)	52 $L_{eq}$ , 9 hour

**Table 3 – Summarised Light Rail Noise Levels**

Location	Time	Light Rail Noise Level dB(A)
M2	Day (7am-10pm)	57 $L_{eq}$ , 15 hour
	Night (10pm-7am)	52 $L_{eq}$ , 9 hour

**Table 4 – Attended Noise Measurement Summary**

Location	Time	Measured Noise Level dB(A) $L_{eq}$
A1 3m from the kerb	28/06/2022 11:00am – 11:15am	71
A2 20m from the railway	28/06/2022 11:30am – 11:45am	61

## 4 NOISE INTRUSION ASSESSMENT

The predominant noise sources impacting the site are as follows:

- Noise from Aircraft pass-bys
- Rail noise from the L1 Sydney light rail-line along the western boundary of the site
- Noise associated with the use of the APIA Leichhardt Tigers Football Club playing field (Lambert Park) that borders the north boundary of the proposed development.

### 4.1 INTERNAL NOISE CRITERIA

The following documents were used to determine the project criteria for noise intrusion into the development:

- Inner West Council (Leichhardt Council) Development Control Plan (DCP) 2013
- State Environmental Planning Policy (Transport and Infrastructure) 2021
- NSW Department of Planning – *“Development near Rail Corridors and Busy Roads –Interim Guideline”*.
- AS2107 – 2016 Acoustics – *“Recommended design sound level and reverberation times for building interiors”*
- AS2021:2015 – *“Aircraft Noise Intrusion – Building Siting and Construction”*

The standards and the application of the criteria is presented in the following sections.

#### 4.1.1 Inner West Council (Leichhardt Council) DCP 2013

Section C3.12 – Acoustic Privacy, contained in the Inner West Council (Leichhardt Council) DCP 2013 has the following controls regarding external noise impacts on residential development.

#### C3.12 ACOUSTIC PRIVACY

- C2 Buildings that are exposed to high levels of external noise are designed and constructed in accordance with AS3671 – *Acoustics – Road Traffic Noise Intrusion*, AS2107:2016 – *Recommended Design Sound Levels and Reverberation Times for Building Interiors*, and AS2021-2015 – *Acoustics – Aircraft Noise Intrusion – Building siting and construction*.

#### 4.1.2 State Environmental Planning Policy (Transport and Infrastructure) 2021

As the development is located adjacent to a rail-line the provisions of the State Environmental Planning Policy (SEPP) 2021, applies at this site. This policy states the following:

##### ***“2.99 Impact of rail noise or vibration on non-rail development***

*(1) This section applies to development for any of the following purposes that is on land in or adjacent to a rail corridor and that the consent authority considers is likely to be adversely affected by rail noise or vibration—*

*(a) residential accommodation,*

*(b) a place of public worship,*

- (c) a hospital,
  - (d) an educational establishment or centre-based child care facility.
- (2) Before determining a development application for development to which this section applies, the consent authority must take into consideration any guidelines that are issued by the Secretary for the purposes of this section and published in the Gazette.
- (3) 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 LAeq levels are not exceeded—
- (a) in any bedroom in the residential accommodation—35 dB(A) at any time between 10.00 pm and 7.00 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 Australian Standard AS2107:2016 "Recommended design sound levels and reverberation times for building interiors"

Australian Standard 2107:2016 – "Recommended Design Sound Levels and Reverberation Times for Building Interiors", will be used to establish the internal noise levels for the residential areas of the development for noise impacts from the playing field, in addition to the non-habitable areas of the development and the ground floor commercial tenancies.

**Table 5 – Recommended Design Sound Levels for Residential & Commercial Spaces**

Space /Activity Type	Recommended Maximum Design Sound Level dB(A) <sub>Leq</sub>
Sleeping Areas	35 to 40
Living Areas	40 to 45
Apartment Common Areas (e.g. foyer, lift lobby etc.)	50
Small Retail Stores	Less than 50

#### 4.1.4 AS2021:2015 – Aircraft Noise Intrusion – Building Siting and Construction

The acceptability of Aircraft Noise exposure is assessed using Australian Standard AS2021:2015 'Acoustics– Aircraft noise intrusion–Building siting and construction'.

The standard sets criteria for allowable levels of aircraft noise exposure depending on the proposed land use for the site being assessed.

The acceptability of a site in terms of aircraft noise exposure is assessed using the Australian Noise Exposure Forecast System (ANEF). Three basic parameters influence perception of aircraft noise: the frequency of aircraft movements overhead, the noise level and duration of individual aircraft movements, and the time of the day in which they occur. ANEF was developed to provide a rating system that reflects actual human response to these factors so that the noise exposure of a particular location can be readily assessed.

The project site is located close to the ANEF 20 contour, based on the Sydney Airport 2039 ANEF contour map. Therefore, the proposed site must be assessed to ensure that internal noise levels are limited to those recommended in AS2021.

AS2021:2015 stipulates the internal noise levels listed in the table below for residential buildings. These levels will be used to assess aircraft noise intrusion into the residential levels of the development.

**Table 6 – Aircraft Noise Levels Inside Residential & Commercial Buildings**

<b>Space /Activity Type</b>	<b>Recommended Design Sound Level dB(A)<math>L_{max}</math></b>
Sleeping areas, dedicated lounges	50dB(A) $L_{max}$
Other habitable spaces	55dB(A) $L_{max}$
Bathrooms, toilets, laundries	60dB(A) $L_{max}$
Private Offices	55dB(A) $L_{max}$
Open Offices	65dB(A) $L_{max}$
Shops, Supermarkets and Showrooms	75dB(A) $L_{max}$

## 4.2 AIRCRAFT NOISE ASSESSMENT

Aircraft noise levels at the site were determined using AS2021-2015. The Standard gives aircraft noise levels for aircraft landing and taking off for locations near airports. The location of the runways was obtained from the Sydney Airport ANEF 2039.

Based on the distance from the site to the runways, the flight path, and the site elevation, AS2021 predicts that the loudest typical aircraft movement will be from an A380 aircraft departing on the Main Runway. The noise level at the site as indicated by the standard is 79dB(A). This noise level will be used to predict the resultant internal noise levels.

### 4.2.1 Complying Constructions

Internal noise levels will primarily be a result of noise transfer through the windows and doors as these are relatively light building elements that offer less resistance to the transmission of sound. Noise transfer through any masonry elements will not be significant and need not be considered further. **Any lightweight constructions will need to be reviewed and assessed at a later stage prior to construction.**

#### 4.2.1.1 Glazed Windows

A preliminary review of noise intrusion from all external noise sources has revealed that compliance with acoustic guidelines is achievable with mostly single glazed windows with acoustic seals. Exact glazing thicknesses and acoustic treatments are to be determined after window sizing and room layouts are finalised in the detailed design phase of the project. All recommendations are based on noise levels measured on site. Noise levels have been adjusted based on distances from any major noise source, any barrier effects from objects in the direct path of the sound source and the orientation of the building façade with respect to the sound source.

**Table 4.4 – Typical Glazing Construction Recommendations – Residential Areas**

<b>Facade</b>	<b>Room</b>	<b>Glazing requirements</b>
Any	Bedrooms	<p><b><u>Option 1:</u></b> Single layer of heavy-weight laminated glazing with acoustic seals</p> <p><b><u>Option 2:</u></b> Wintergarden balconies with single layer of medium-weight laminated glazing to “internal” windows and single layer medium weight glazing to external façade.</p>
	Living Rooms	
	Common Areas / Corridors	Light to medium weight single glazed windows with acoustic seals

**Table 4.5 – Typical Glazing Construction Recommendations – Commercial Areas**

<b>Façade</b>	<b>Room</b>	<b>Glazing requirements</b>
Any	Open Offices	Light to medium weight single glazed windows with acoustic seals
	Showrooms	
	Private Offices	Medium to heavy weight single glazed windows with acoustic seals

The glazing thicknesses recommended are those needed to satisfy acoustic requirements and do not consider other requirements such as structural, safety or other considerations.

#### 4.2.1.2 External Walls and Roof/Ceiling Construction

Noise intrusion through the concrete/masonry elements will be acoustically acceptable without further acoustic treatment.

**Where any light-weight wall or roof/ceiling systems are proposed, these are to be reviewed and at a later stage prior to construction by a suitable qualified acoustic consultant.**

### 4.3 LIGHT RAIL NOISE ASSESSMENT

Façade noise levels due to light rail operations have been predicted from the attended and long-term monitoring results. The most affected façade would experience noise levels of 61dB(A)<sub>Leq,15hr</sub> and 56dB(A)<sub>Leq,9hr</sub>.

The constructions needed to control aircraft noise are also expected to achieve noise levels within the dwellings as required by the SEPP 2021.

### 4.4 LAMBERT PARK SPORTSFIELD

Noise intrusion from the use of the Sportsfield have been conservatively assessed based on sound power level data held by this office for venues of similar size and activities. Based on these noise levels, the constructions needed to control aircraft noise (with windows closed) are expected to also achieve noise levels within the buildings to comply with the recommended internal levels presented in AS2107-2016. Therefore, additional façade noise treatment is not needed to control noise impacts from Lambert Park.

### 4.5 MECHANICAL VENTILATION

AS2021:2015 requires the installation of ventilation or air conditioning system where aircraft noise exposure exceeds ANEF 20. As internal noise levels cannot be achieved with windows open it is required that all areas are to have an alternative outside air supply system or air conditioning be installed. These should be in accordance with AS1668.2 requirements.

Any mechanical ventilation system that is installed should be acoustically designed such that the acoustic performance of the recommended constructions is not reduced by any duct or pipe penetrating the wall/ceiling/roof. Noise emitted to the property boundaries by any ventilation system shall comply with relevant council requirements as well as any regulatory and statutory authorities.

## 5 NOISE EMISSION ASSESSMENT

Noise emissions from the site should be assessed to ensure that the amenity of nearby land users are not adversely affected.

An assessment of mechanical plant has been undertaken (in principle), as detailed below.

### 5.1 NOISE EMISSION CRITERIA

Noise emissions from the site must comply with the provisions of the NSW Environmental Protection Authority (EPA) Noise Policy for Industry and the Protection of the Environment Operations Act in addition to the local council DCP.

All noise emission criteria applicable at the site is presented in the following sections.

#### 5.1.1 Inner West Council (Leichhardt Council) DCP 2013

Section C3.12 – Acoustic Privacy, contained in the Inner West Council (Leichhardt Council) DCP 2013 has the following controls regarding noise emissions from new development.

#### C3.12 ACOUSTIC PRIVACY

- C6 Electrical, mechanical or hydraulic plant achieves a maximum noise level of 5dB(A) above background sound levels at the boundary of the site.

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

The EPA NPfI has two criteria which both are required to be satisfied, namely intrusiveness and amenity. The NPfI sets out acceptable noise levels for various localities. The policy indicates four categories to assess the appropriate noise level 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.

##### 5.1.2.1 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 3.4. Noise emissions from the site should comply with the noise levels presented below when measured at nearby property boundary.

**Table 7 - NPfI Intrusiveness Criteria**

Receiver	Time of day	Background Noise Level dB(A) $L_{90}$	Intrusiveness Criteria Background +5dB(A)
Residential	Day	47	52
	Evening	46	51
	Night	39	44



### 5.1.2.2 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 detailed in Section 3.4, 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 site are presented in Table 8.

**Table 8 - NPFI Project Amenity Noise Levels**

Type of Receiver	Time of day	Recommended Noise Level dB(A) $L_{eq}(\text{period})$	Project Amenity Noise Level dB(A) $L_{eq}(15 \text{ minute})$
Residential – urban	Day	55	53
	Evening	45	43
	Night	40	38
Active Recreational Area	When in use	55	53

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

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

### 5.1.2.3 Sleep Arousal Criteria

The Noise Policy for Industry recommends the following noise limits to mitigate sleeping disturbance:

*Where the subject development / premises night -time noise levels at a residential location exceed:*

- $L_{eq,15min}$  40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or
- $L_{Fmax}$  52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater,

*a detailed maximum noise level even assessment should be undertaken.*

**Table 9 - Sleep Arousal Criteria for Residential Receivers**

Receiver	Rating Background Noise Level (Night) dB(A) $L_{90}$	Emergence Level
Residential Receivers Night (10pm – 7am)	39 dB(A) $L_{90}$	44 dB(A) $L_{eq, 15min}$ ; 54 dB(A) $L_{Fmax}$

## 5.2 SUMMARISED NOISE EMISSION CRITERIA

Applicable noise emission project trigger levels are bolded in the table below.

**Table 10 – Summarised Noise Emission Criteria for Surrounding Receivers**

Receiver	Time Period	Assessment Background Noise Level dB(A) $L_{90}$	Project Amenity Criteria dB(A) $L_{eq}$	Inner West Council (Leichhardt) DCP 2013 & Intrusiveness Criteria (BG + 5 dB(A) $L_{eq}(15min)$ )	NPfI Criteria for Sleep Disturbance
Residential	Day	47	53	<b>52</b>	N/A
	Evening	46	<b>43</b>	51	N/A
	Night	39	<b>38</b>	44	44 dB(A) $L_{eq, 15min}$ ; 54 dB(A) $L_{Fmax}$
Active Recreational Area	When in use	N/A	<b>53</b>	N/A	N/A

## 5.3 MECHANICAL PLANT

Detailed plant selection has not been undertaken at this stage, as plant specifications have not been determined. Detailed acoustic review should be undertaken at CC stage to determine acoustic treatments to control noise emissions to satisfactory levels.

Satisfactory levels will be achievable through appropriate plant selection and location and, if necessary, standard acoustic treatments such as duct lining, acoustic silencers and enclosures.

Noise emissions from all services plant to the closest residential receiver should comply with the noise emission criteria in Section 5.2.

## 6 CONCLUSION

This report presents our acoustic assessment for the proposed mixed-use residential development located at 67-75 Lords Road, Leichhardt.

- External noise intrusion impacts on future occupants of the development have been assessed in accordance with the Inner West Council (Leichhardt Council) DCP 2013 and the requirements of the NSW Department of Planning "*Development near Rail Corridors and Busy Roads – Interim Guideline*".
- Aircraft noise intrusion has been assessed against the provisions contained in AS 2021–2015 "*Aircraft Noise Intrusion – Building Siting and Construction*". It is concluded that compliance with all requirements with the adoption of typical envelope treatments.
- Noise impacts from other significant noise sources surrounding the site have been assessed. It is concluded that the internal noise criteria can be readily achieved using typical envelope treatments.
- Noise emission objectives for the proposed development have been determined based on on-site noise logging and noise emission guidelines presented in the Inner West Council (Leichhardt Council) DCP 2013, including the noise emission criteria of the NSW EPA Noise Policy for Industry and the Protection of the Environment Operations Act. All noise emission criteria are presented in section 5.2.
- A detailed examination of building constructions and treatment to noise emission sources should be undertaken during the detailed design stage and appropriate measures incorporated into the design to comply with all recommended criteria.

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

Yours faithfully,

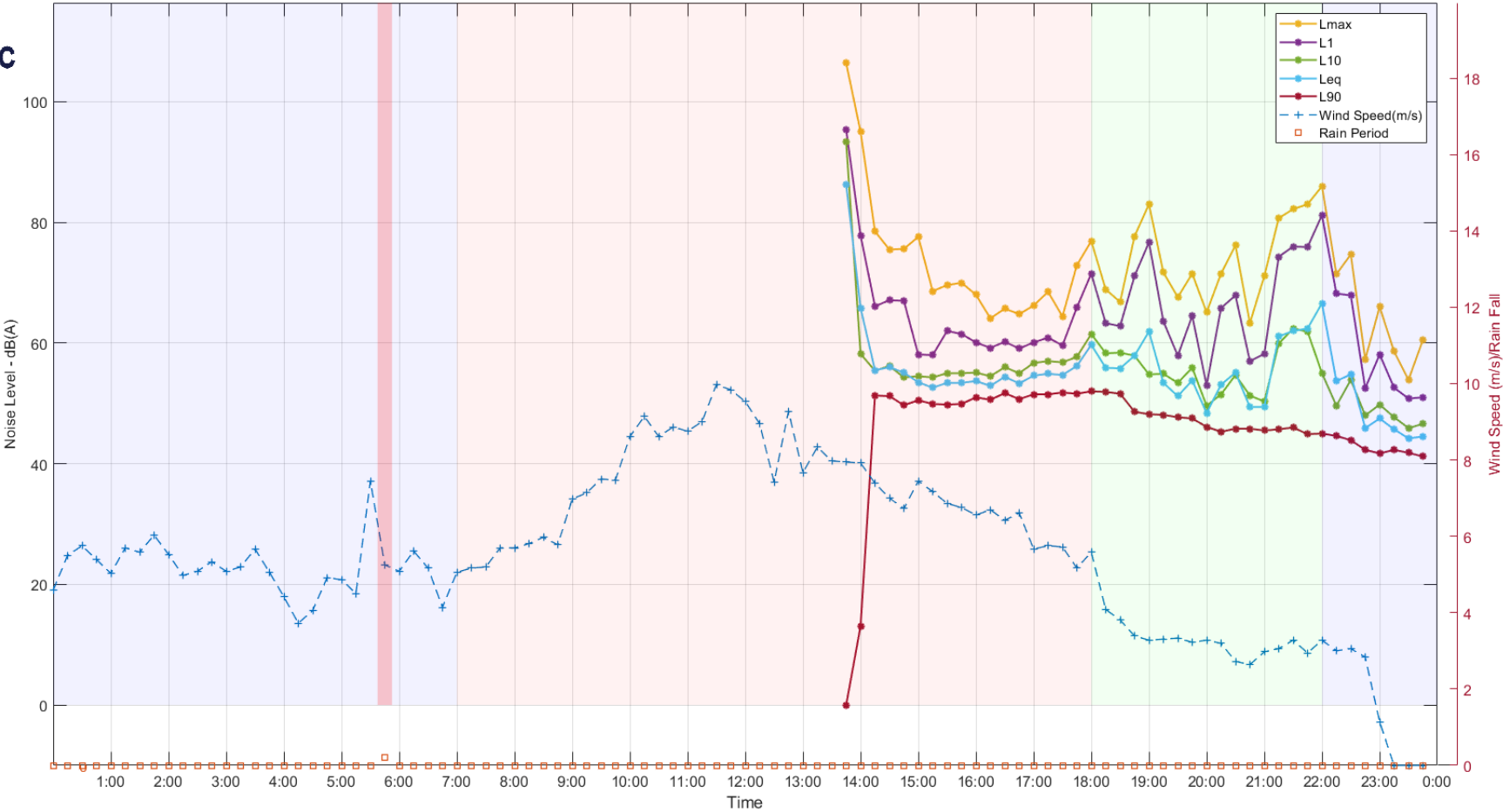


Acoustic Logic Pty Ltd  
Carl Hemsworth

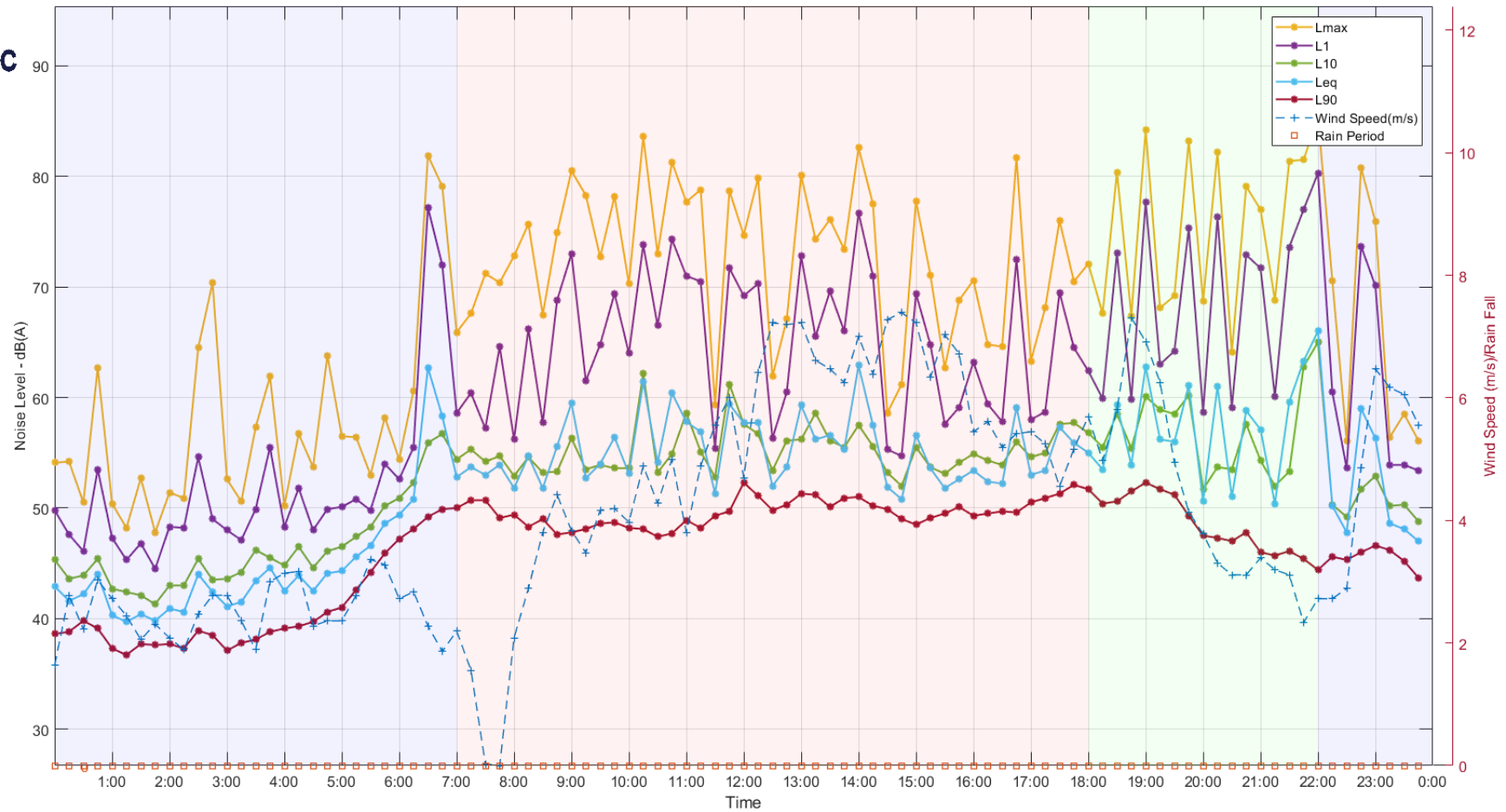
**APPENDIX A – UNATTENDED NOISE MONITORING DATA**

LOCATION M1

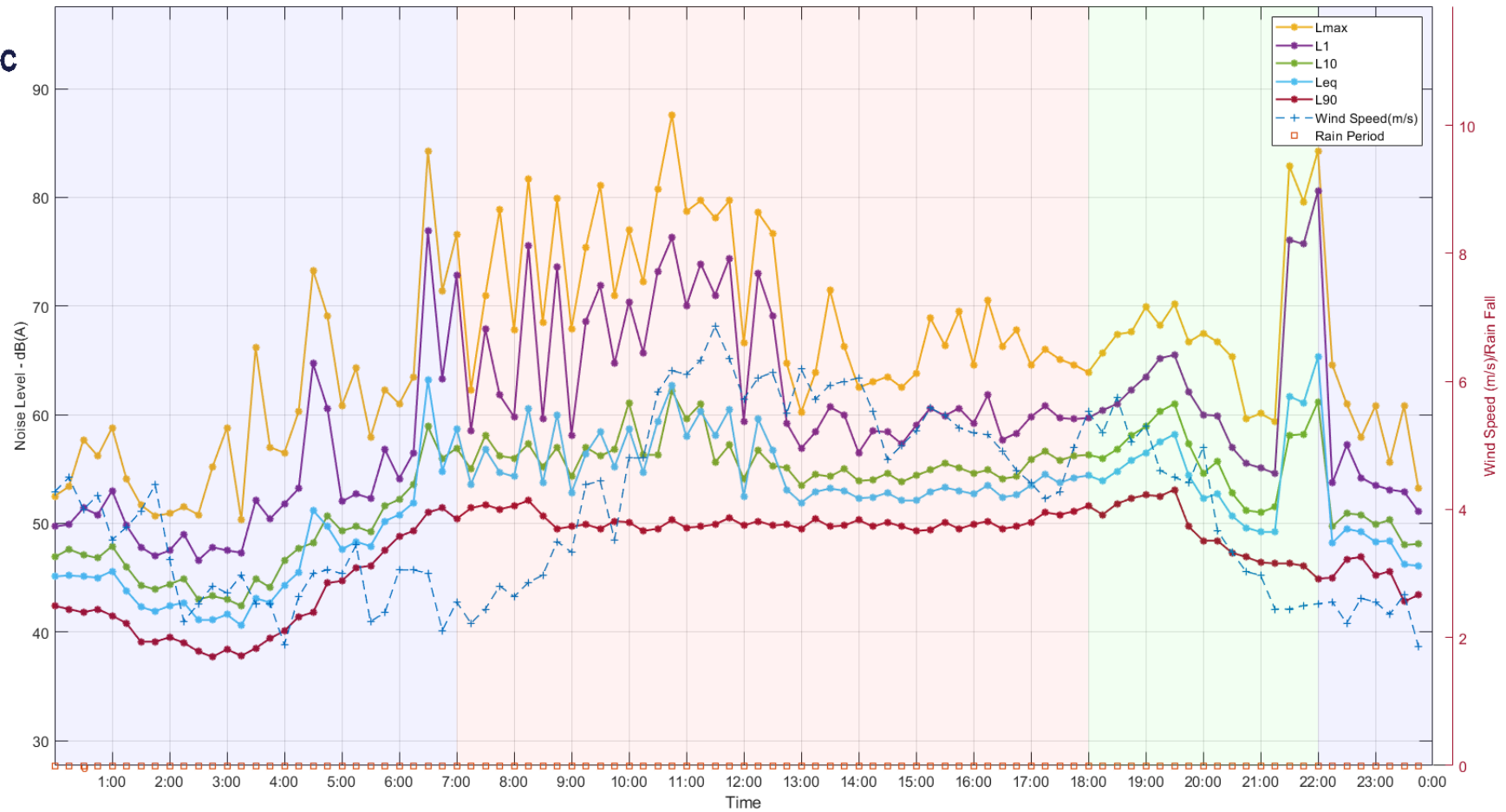
67-75 Lords Road, Leichhardt, Field  
6/06/2022



**67-75 Lords Road, Leichhardt, Field**  
**7/06/2022**

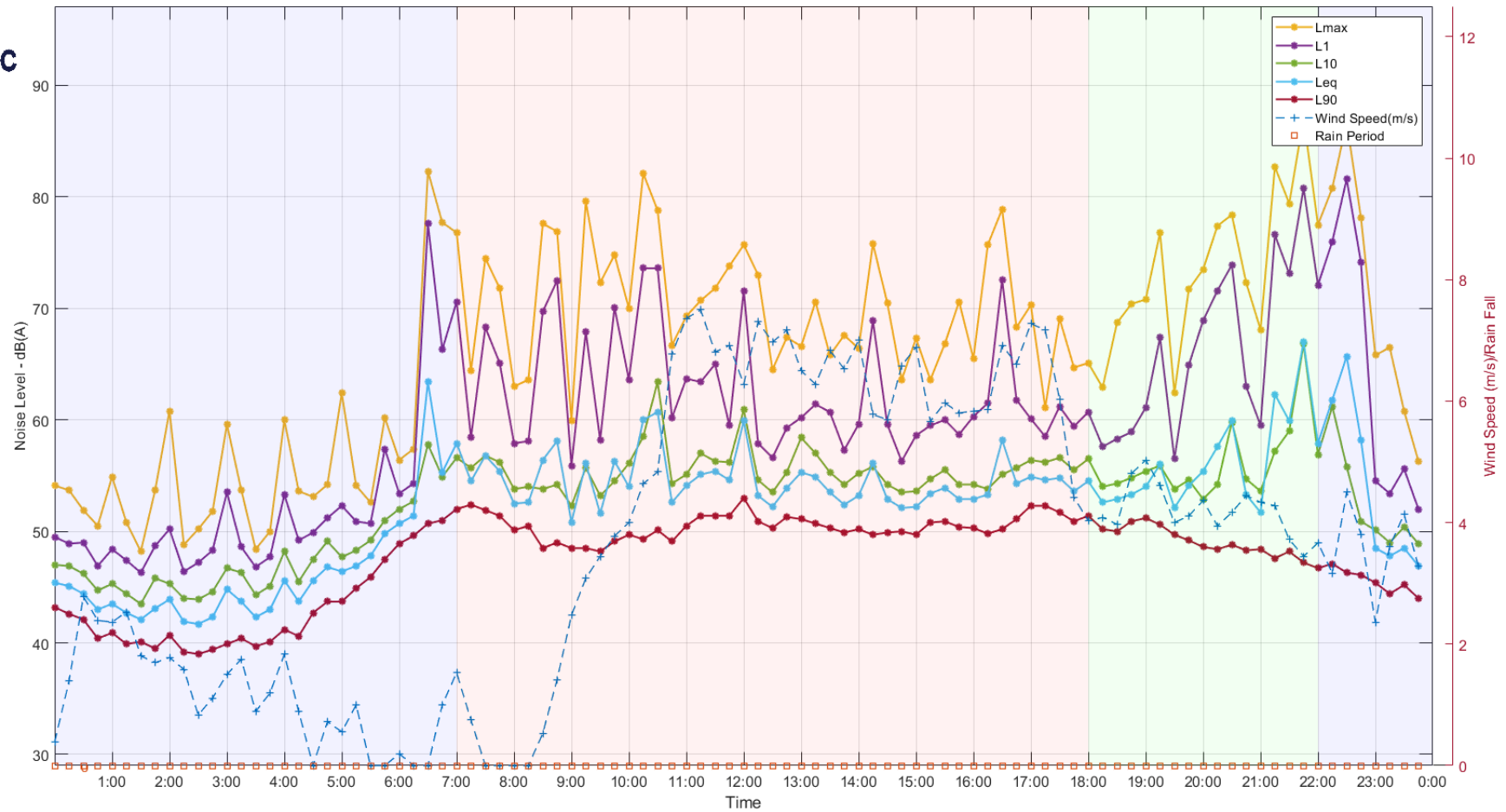


67-75 Lords Road, Leichhardt, Field  
8/06/2022

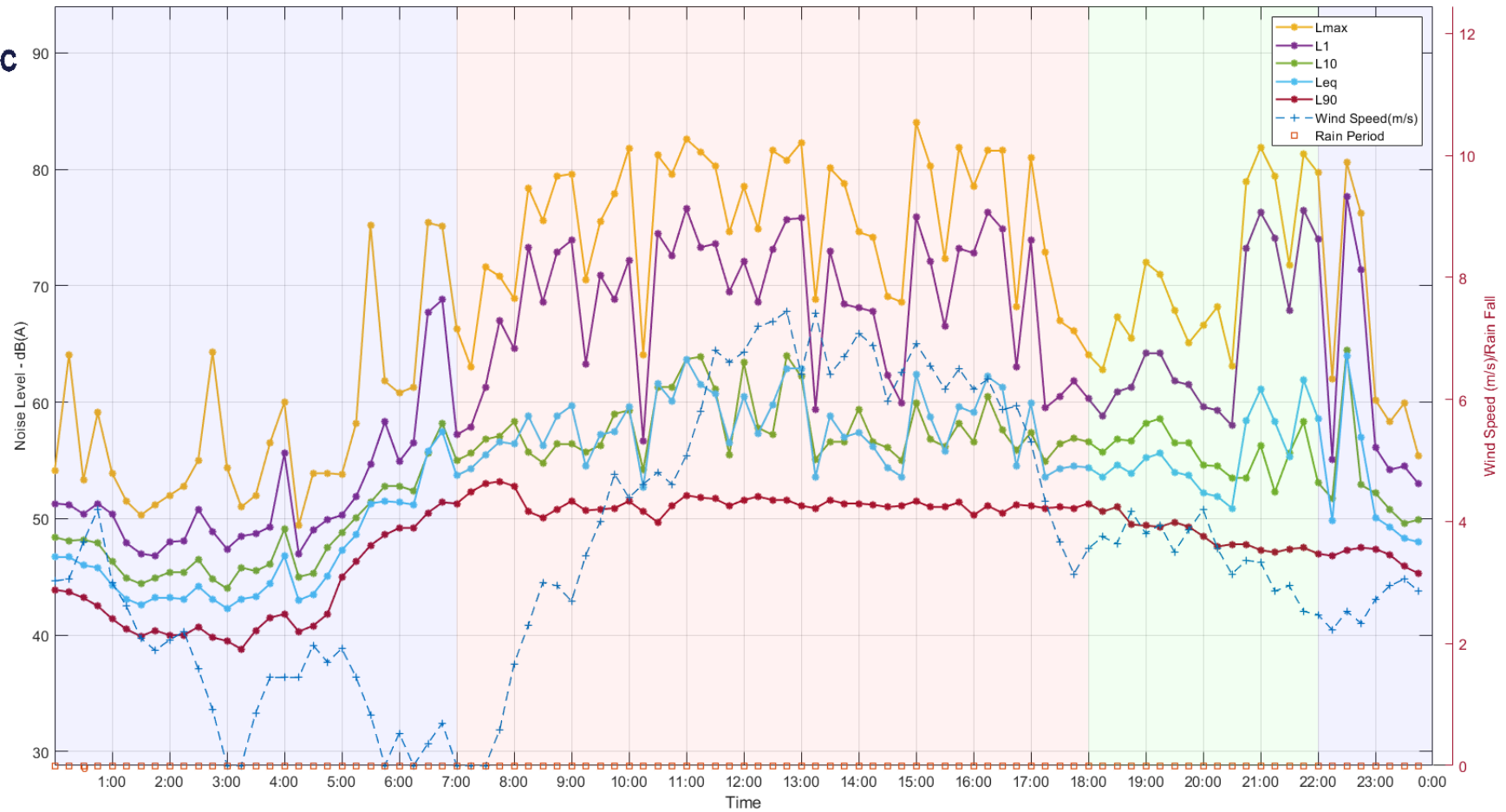




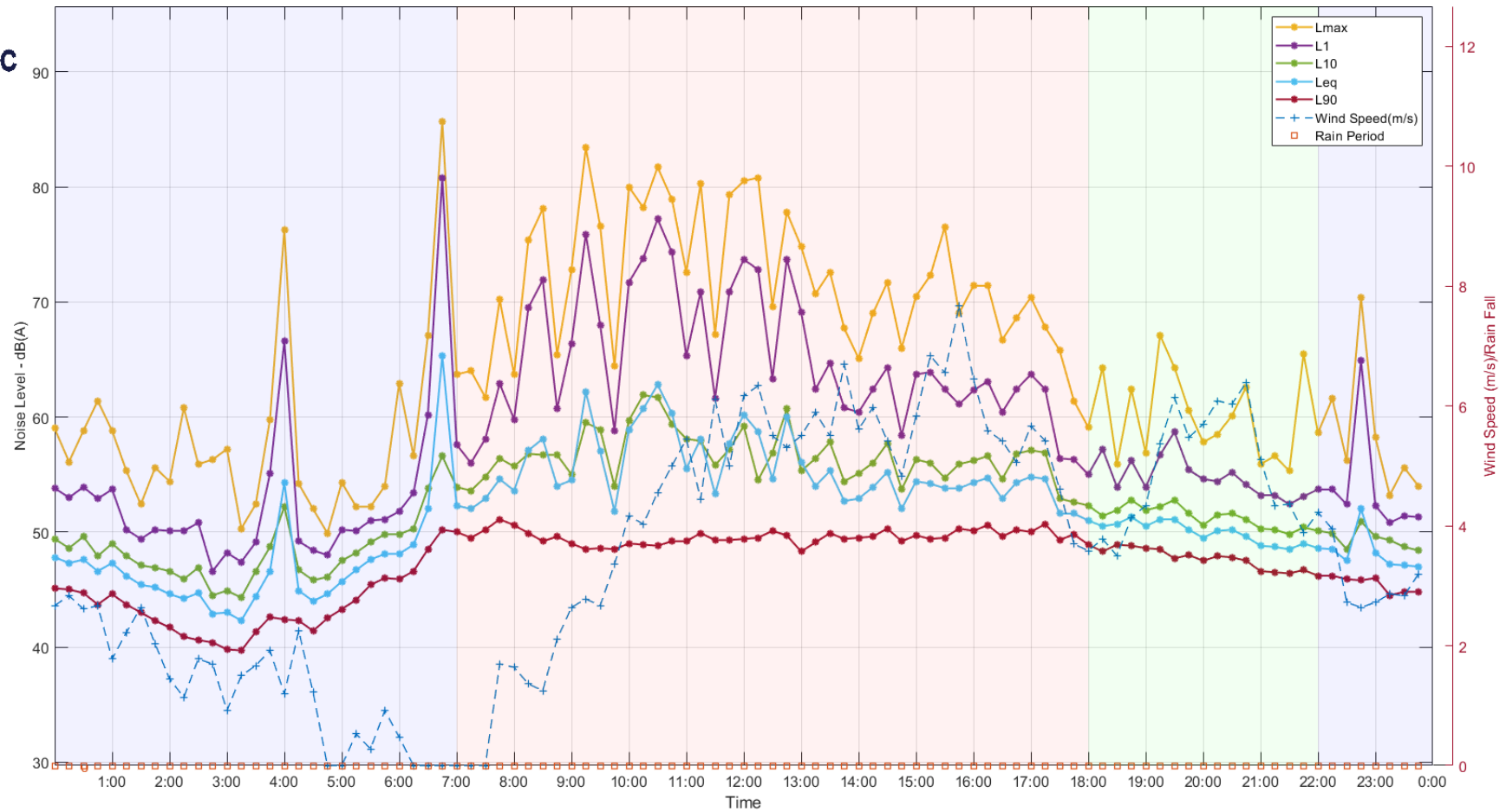
67-75 Lords Road, Leichhardt, Field  
9/06/2022



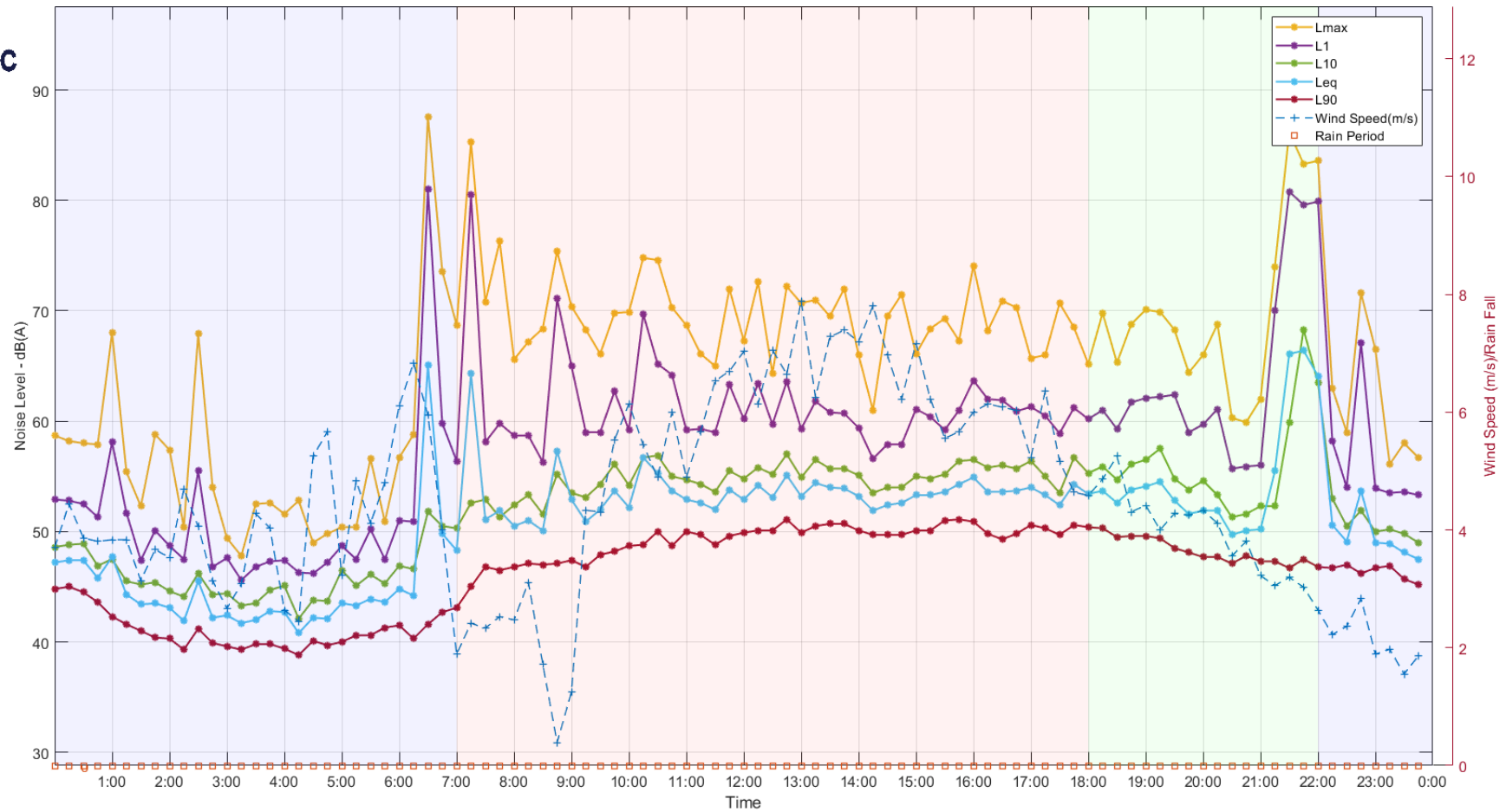
**67-75 Lords Road, Leichhardt, Field**  
**10/06/2022**



67-75 Lords Road, Leichhardt, Field  
11/06/2022

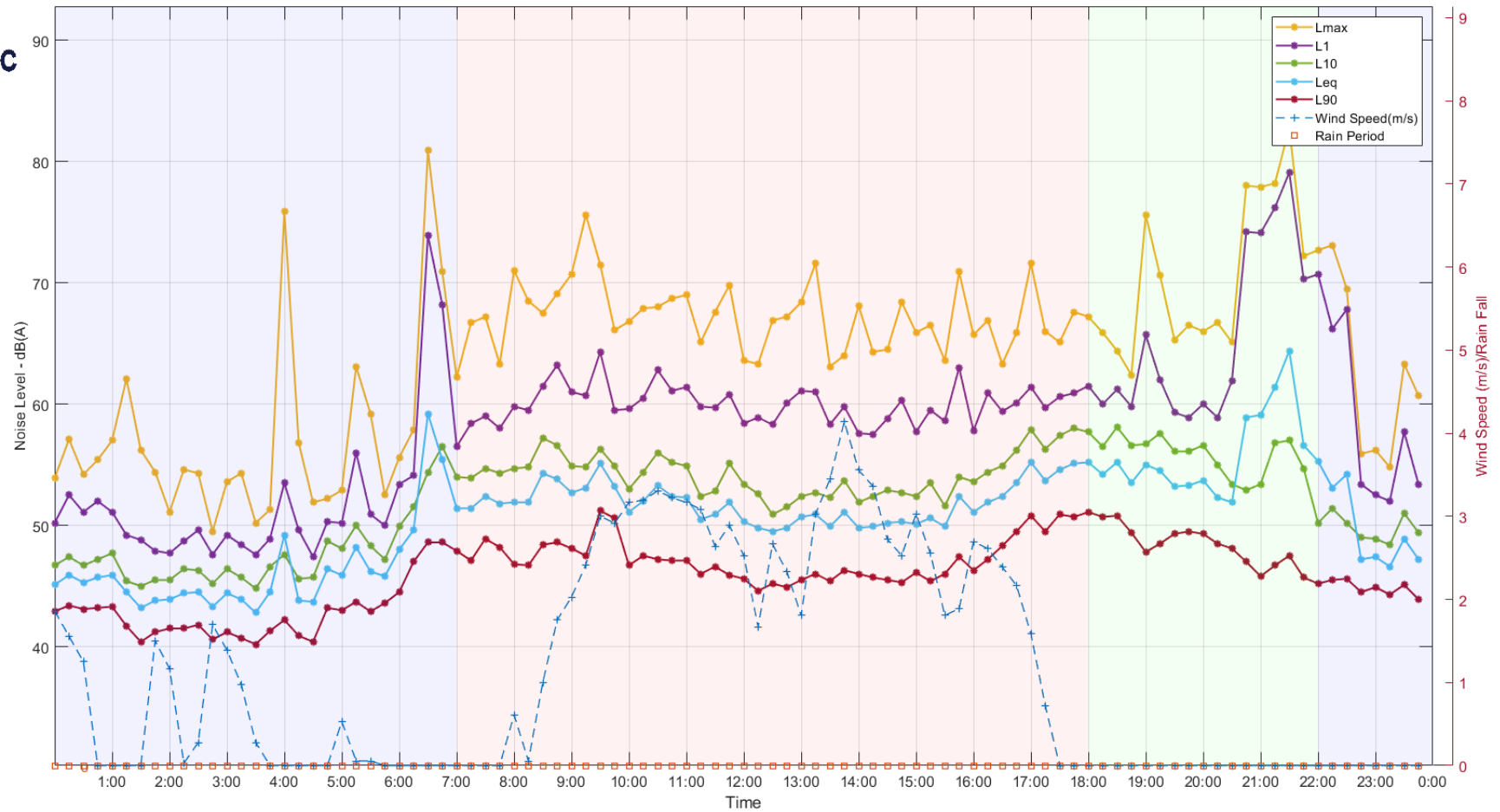


**67-75 Lords Road, Leichhardt, Field**  
**12/06/2022**



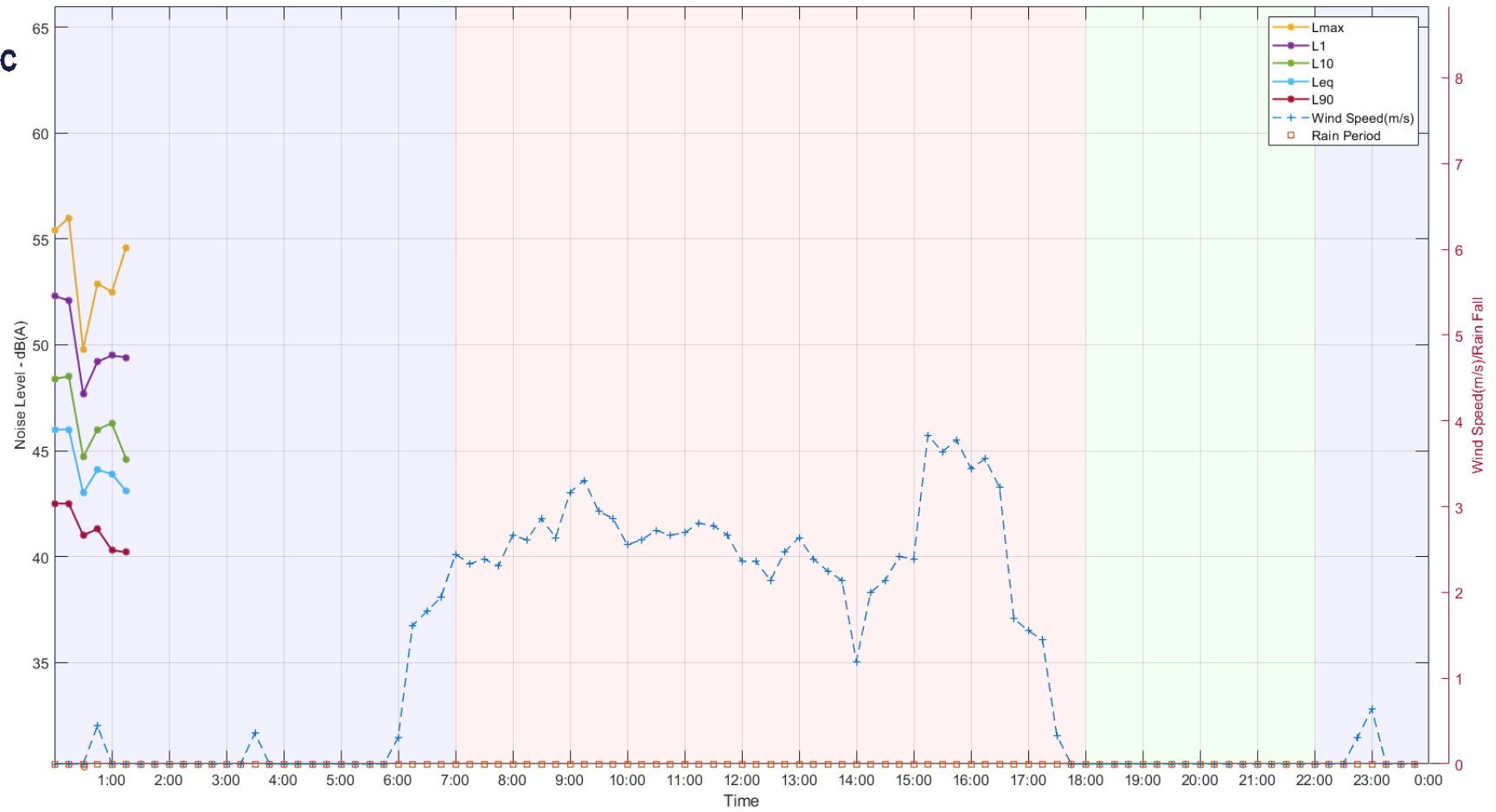


67-75 Lords Road, Leichhardt, Field  
13/06/2022

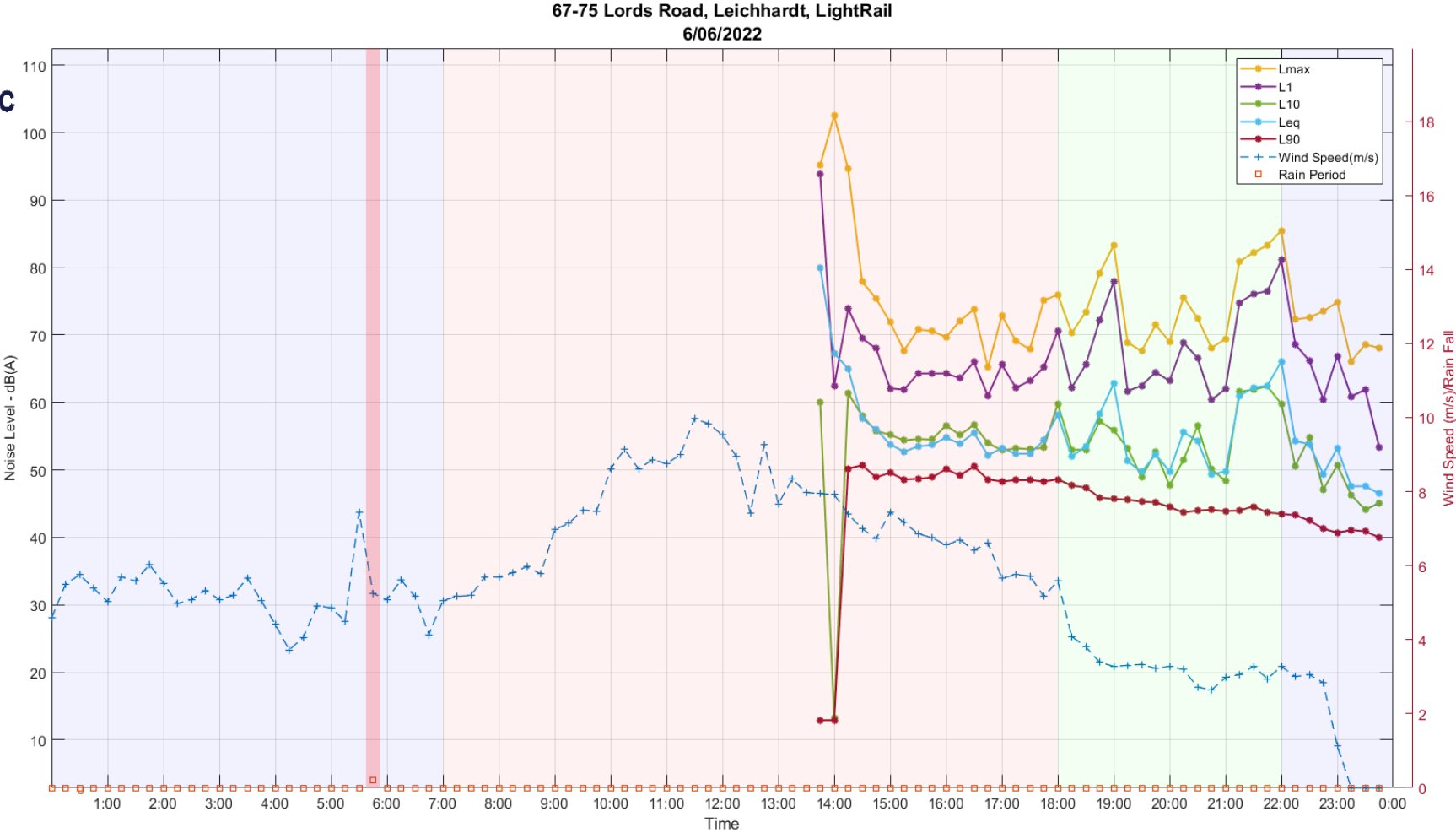




67-75 Lords Road, Leichhardt, Field  
14/06/2022

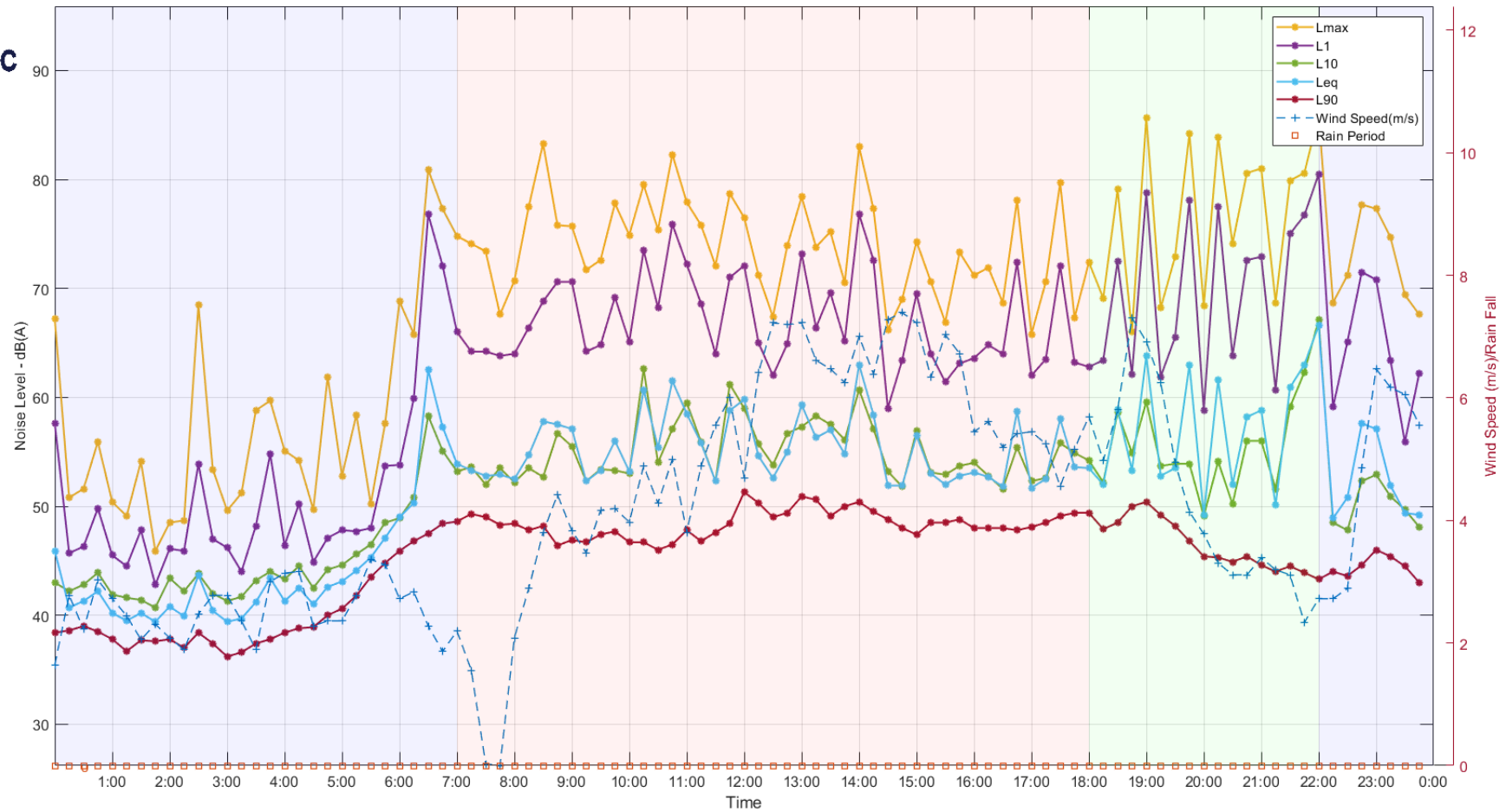


LOCATION M2

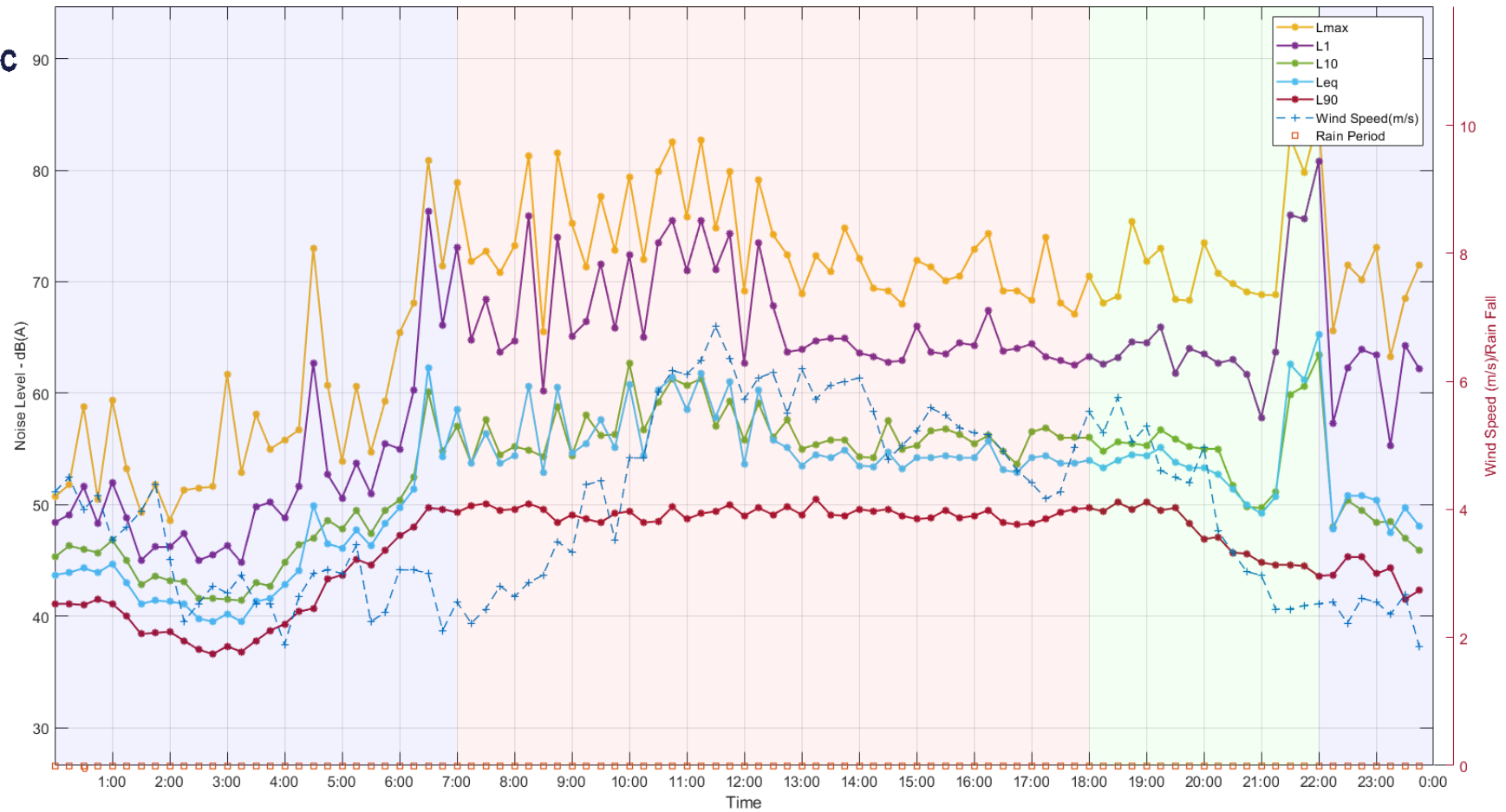




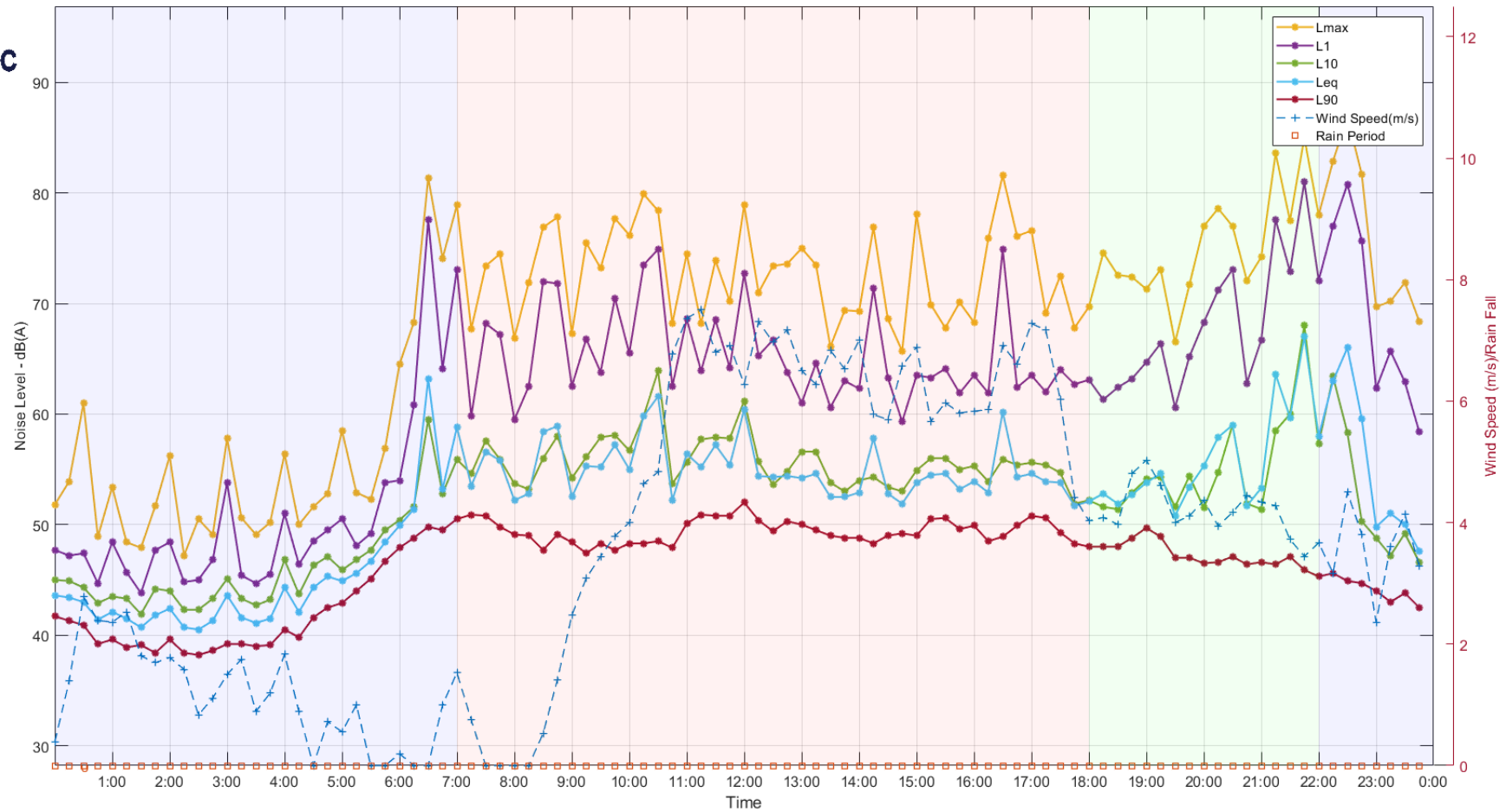
67-75 Lords Road, Leichhardt, LightRail  
7/06/2022



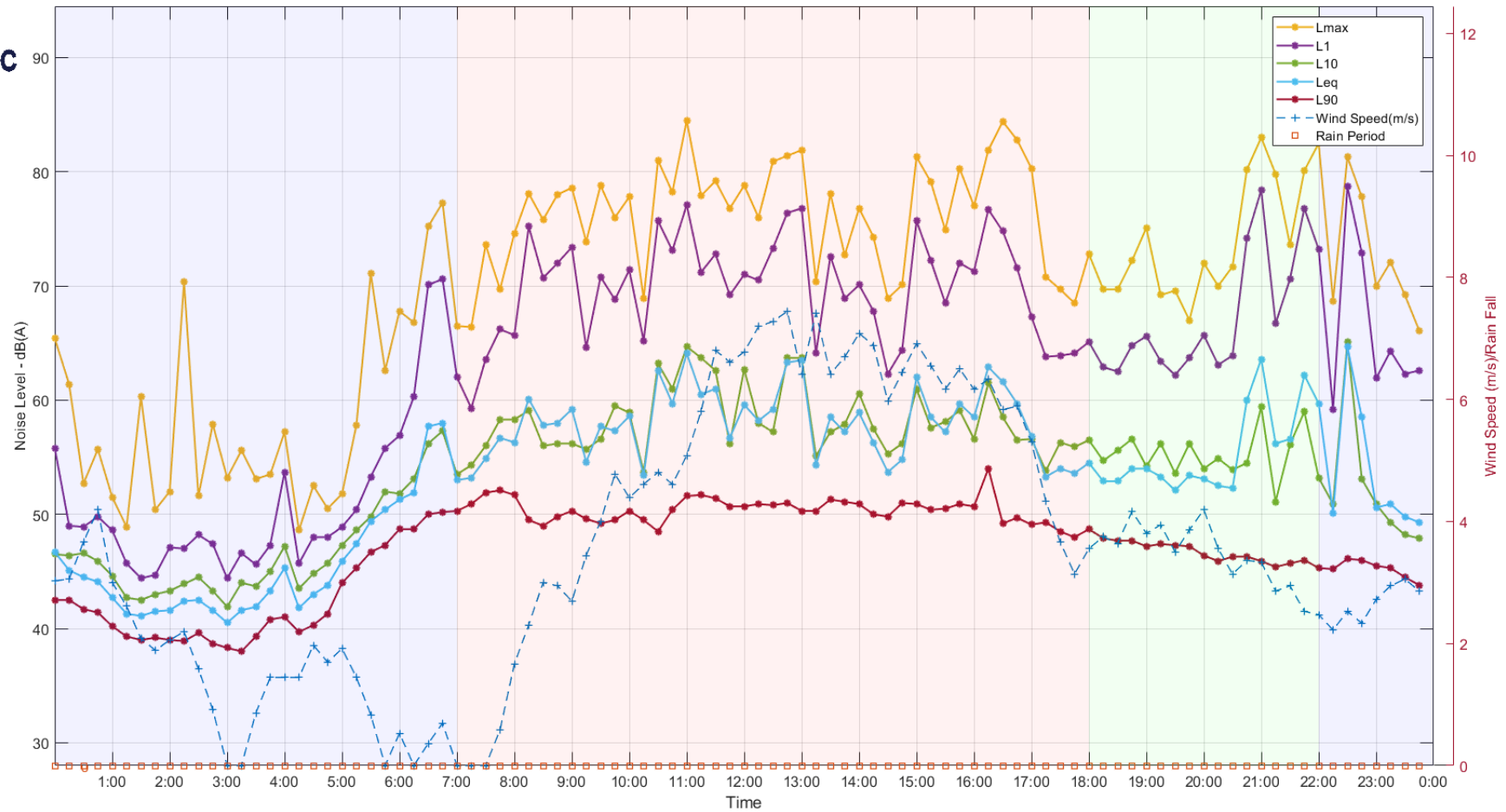
**67-75 Lords Road, Leichhardt, LightRail  
8/06/2022**



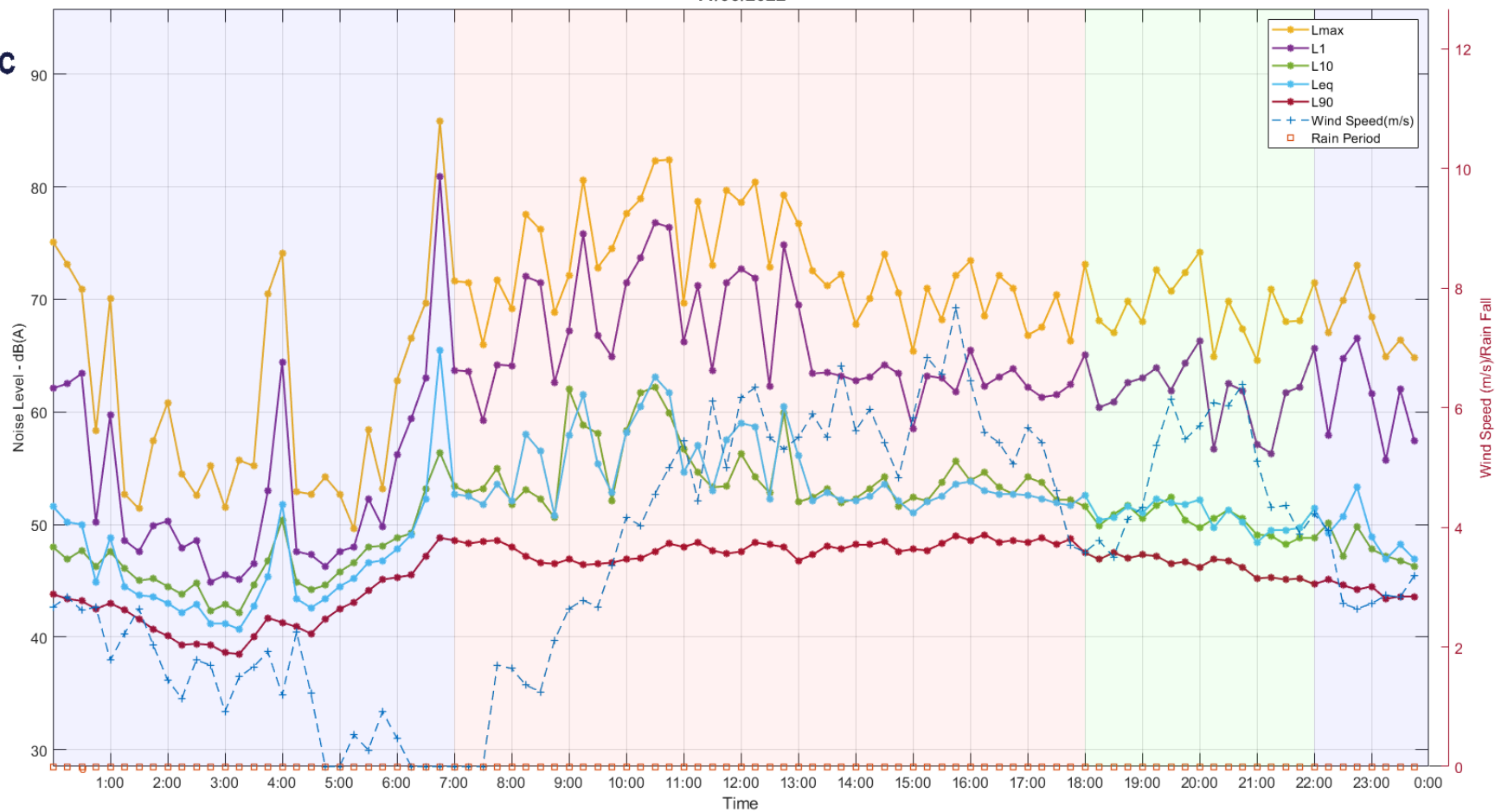
67-75 Lords Road, Leichhardt, LightRail  
9/06/2022



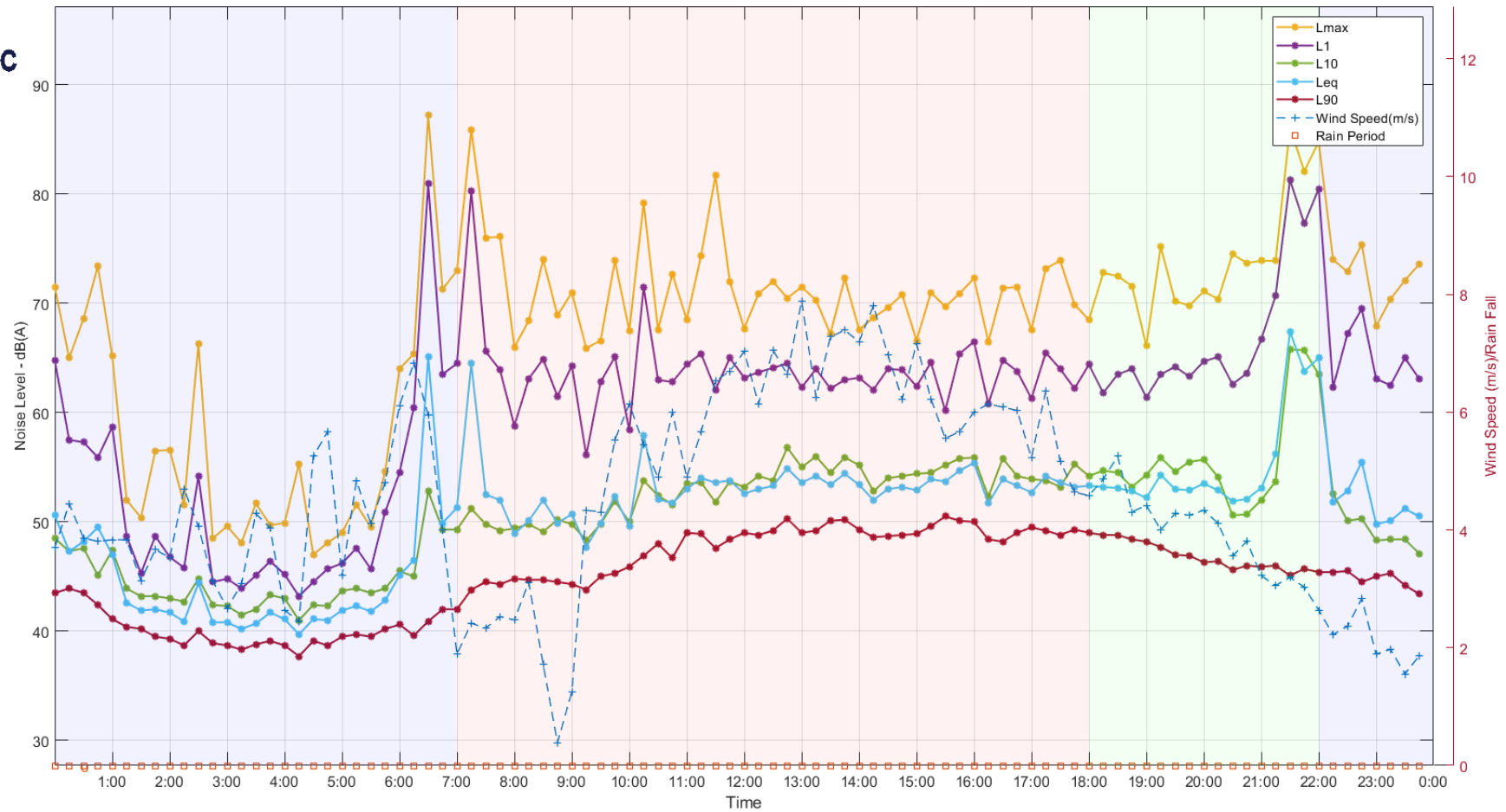
67-75 Lords Road, Leichhardt, LightRail  
10/06/2022



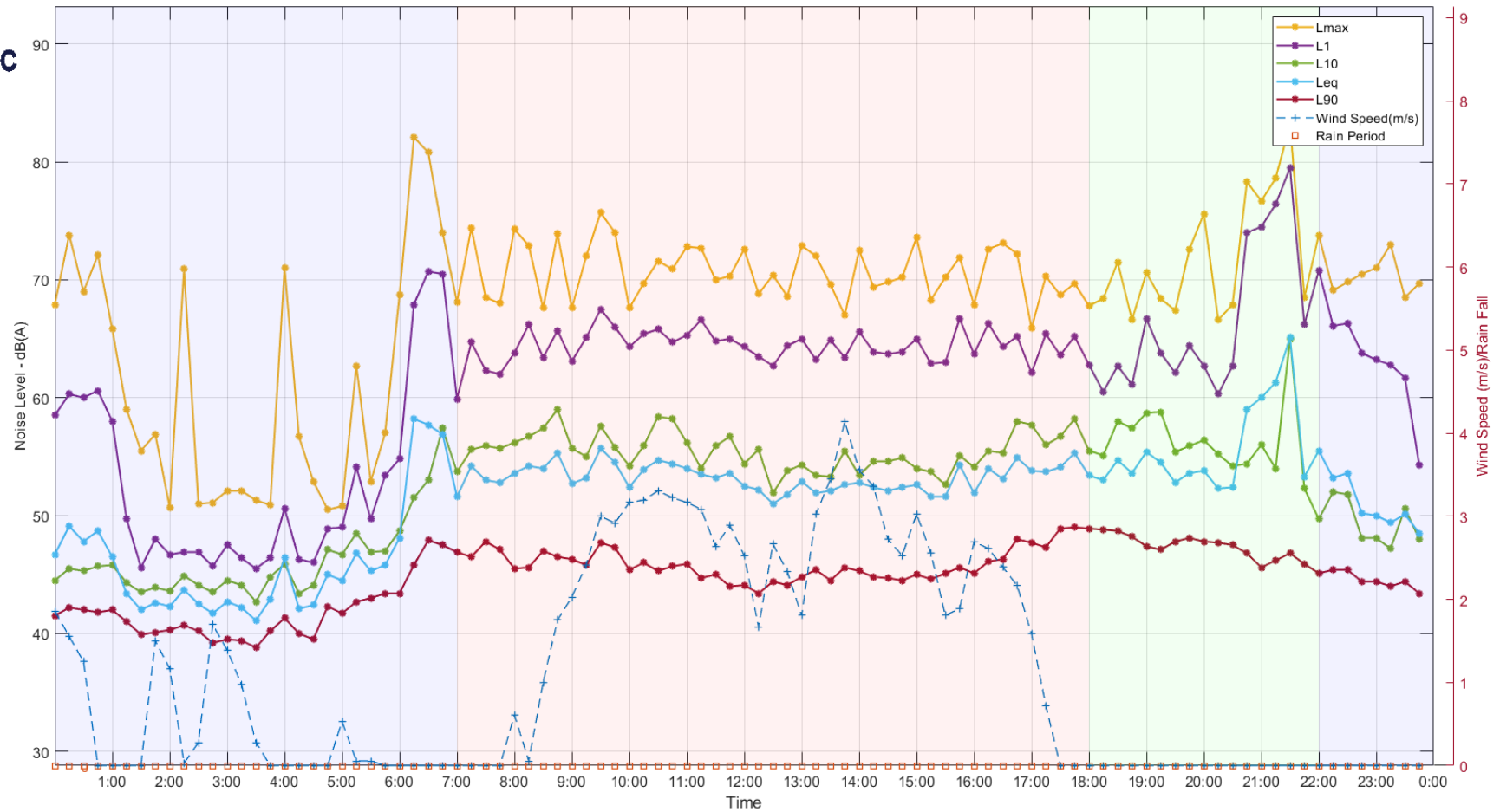
67-75 Lords Road, Leichhardt, LightRail  
11/06/2022



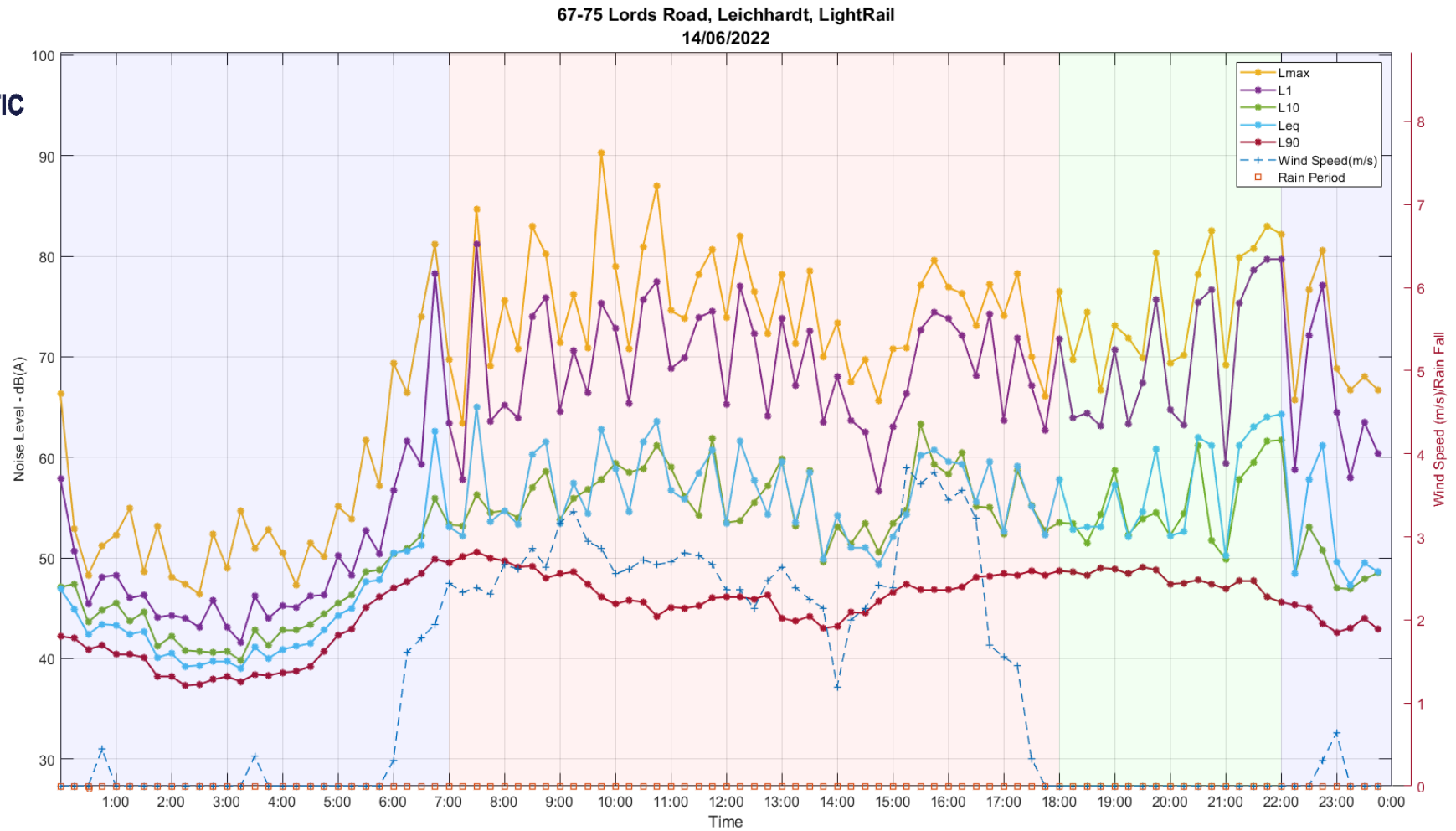
67-75 Lords Road, Leichhardt, LightRail  
12/06/2022



67-75 Lords Road, Leichhardt, LightRail  
13/06/2022







**67-75 Lords Road, Leichhardt, LightRail**  
**15/06/2022**

