

# NORCAL STATION DEVELOPMENT PLAN

## STAGE 2

**56-74 Station Street Nunawading  
Acoustic Report Addressing DPO Requirements**

**Prepared for:**  
Norcal Station Development Pty Ltd

SLR Ref: 640.11143-R03  
Version No: -v1.0  
November 2021



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## BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Norcal Station Development Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

## DOCUMENT CONTROL

| Reference          | Date             | Prepared         | Checked | Authorised |
|--------------------|------------------|------------------|---------|------------|
| 640.11143-R03-v1.0 | 10 November 2021 | Jim Antonopoulos | DW      | JA         |
|                    |                  |                  |         |            |
|                    |                  |                  |         |            |
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# 1 Introduction

SLR Consulting Australia Pty Ltd (SLR) were retained by Norcal Station Development Pty Ltd to provide acoustic advice addressing the Development Plan Overlay (DPO) requirements for the site located at 56 & 58-74 Station Street, Nunawading (the Site).

Schedule 7 to the (DPO), Item 3.0 Requirements for development plan includes the following acoustical condition:

## *Acoustic Report*

*An Acoustic Report that identifies all potential adverse amenity impacts at all hours from the nearby roads, rail and other identifiable uses and how these are to be addressed.*

*If the report identifies that the proposed use and / or development may adversely be affected by noise, specific recommendations must be provided within the report for appropriate measures to ensure that the proposed use and or development is not adversely affected.*

SLR were involved in the Panel Hearing and undertook site inspections and investigations in 2015 in relation to noise impacts at the site. Our acoustic report / expert witness statement reference 640.11143-R1, dated 7 September 2015, includes details of site measurements and inspections undertaken at the time. This information, as well as supplementary noise logging undertaken in May 2016, have been used as the basis of this report.

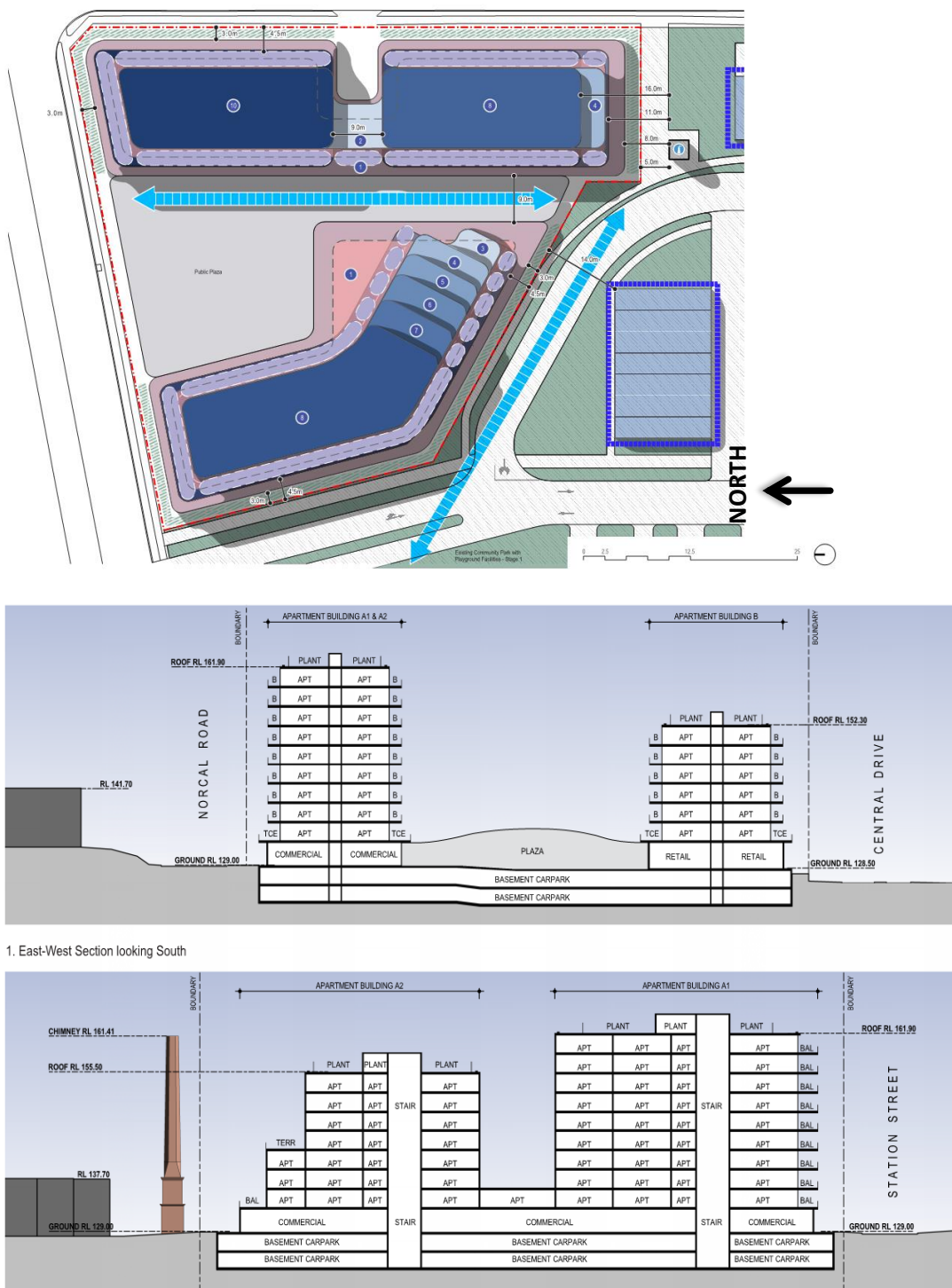
This report addresses Stage 2 of the Proposed Development Plan, which comprises 3 mixed used multi-storey buildings on the north-east corner of the site

# 2 Proposal

SLR have been provided with the latest development plan drawings prepared by Conrad Architects, revision A, dated October 2021.

The design for Stage 2 shows 3 general buildings, with ground level commercial and retail spaces and apartments on the floors above. The tallest building is shown to be 10 levels in height on the north east corner with the two other buildings up to 8 levels. Refer to **Figure 1** for a general overview.

**Figure 1 Proposed Site Overview and Sections (Source: Conrad Drawings)**



The Stage 2 development plan is envisaged to provide approximately:

- 170 - 210 dwellings of a variety of sizes, 310 – 440 beds
- 1500 - 1900m<sup>2</sup> of retail space
- 1700 - 1900m<sup>2</sup> of commercial space
- Basement carpark for 270 to 330 cars along with new pedestrian and bicycle links
- Landscaped public and private spaces
- Tree planting along Norcal Road, Station Street and terraces

### 3 Site Details and Surrounding Uses

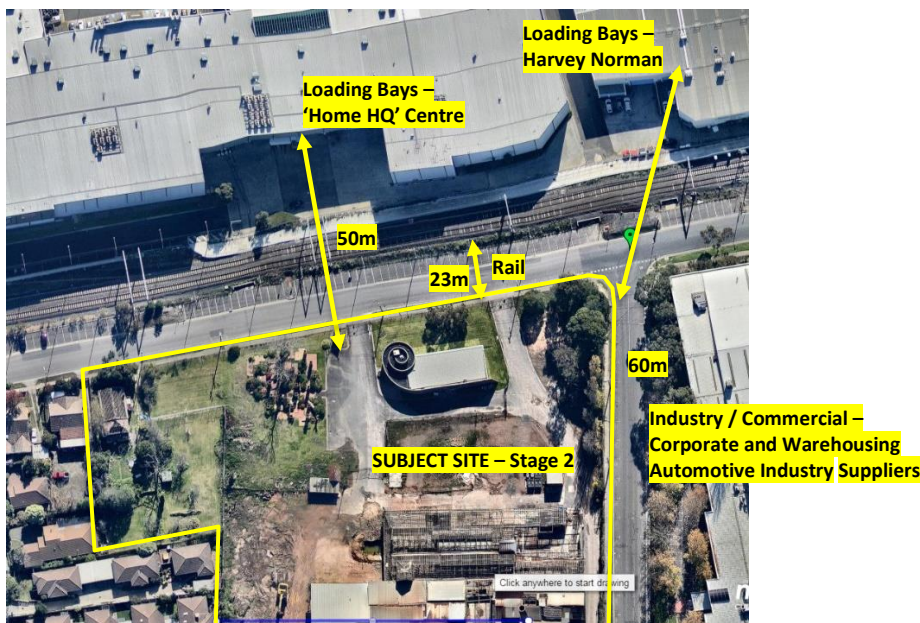
The subject site, previously the Nunawading brickworks site, is located on the corner of Station Street and Norcal Road, Nunawading.

The site has industrial and commercial uses in close proximity directly to the south and also to the east on the other side of Norcal Road. To the north, the site faces the Lilydale / Belgrave rail line, which is approximately 23 m from the site north boundary. Further north of the train line there are loading docks and back-of house areas of the nearby large retail stores which front Whitehorse Road. Residential uses are located to the west. Refer to aerial images below.

**Figure 2 General Site Aerial (Source: Google Maps)**

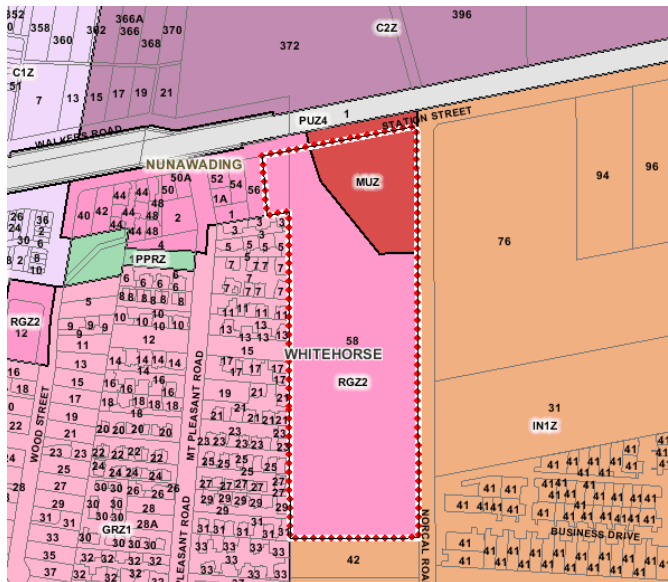


**Figure 3 Site Aerial – north end (source: Nearmaps)**



The site has been rezoned with the majority of the land now located in the RG22 zone, and the north east corner located in a MUZ zone. Stage 2 is located within the MUZ zone.

**Figure 4 Site Land Use Zoning Map (Source: State Government of Victoria)**



## 4 Noise Impacts to Site

Our site investigations and testing undertaken in 2015 (report 640.11143-R1) identified all the potential sources of noise impact to the site being:

- Rail noise to the north of the site, with the domestic train line within 25 m from the subject site northern boundary.
- Traffic noise from vehicles on Norcal Road and Station Street. These roads carry both domestic and commercial vehicle and truck/bus traffic (servicing local industry and commercial uses, and there is also a bus depot at the south end of Norcal Road).
- Commercial / industrial noise from existing operations. AW&F Sheetmetal, located directly to the south of the site, was identified as the only significant source of commercial noise impact to the site in our 2015 report. This only affected Stage 1 of the site (southern interface), and will provide no impact to Stage 2.
- Noise from all other commercial / industrial operations (including retail loading bays to the north, and the commercial uses to the east) were found to provide minimal impact to the site and produced noise levels that would be compliant with SEPP N-1 based (or the current EPA *Noise Protocol*) noise requirements.

We expect the rail and road noise as identified above are still the relevant sources of noise impact to Stage 2 of the site.

## 5 Assessment of Rail and Traffic Noise

### 5.1 North of Site – Rail and Traffic

#### Noise Levels

Extended noise logging was undertaken at two locations near the north boundary of the site in August 2015 in order to capture rail and traffic noise impacts. Refer to **Appendix B** (locations N1 and N2) for details of measurements and all measurement results.

The tested locations were approximately 15 m from the nearest traffic lane (30 m from nearest rail line). The nearest Stage 2 dwellings are estimated to be approximately 12 m from the nearest traffic lane (27 m from rail line).

Based on our analysis of data collected in 2015, we provide the following estimated noise levels at the nearest Stage 2 dwelling.

**Table 1 Measured train and traffic noise and Calculation to Stage 2 dwellings (free field)**

|                                        | Measured Noise Level Highest Day (6am to 10pm) | Measured Noise Level Highest Night (10pm to 6am) | Loudest Hour (6 am to 7 am and 7 am to 8 am) | Measured L <sub>Amax</sub> (L5 of all L <sub>Amax</sub> Events) |
|----------------------------------------|------------------------------------------------|--------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------|
| Results at Northern Boundary           | 64 dBA, Leq                                    | 57 dBA, Leq                                      | 66 dBA                                       | 78 dBA, L <sub>Amax</sub>                                       |
| Adjustment to Stage 2 nearest dwelling | +1 dB                                          | +1 dB                                            | +1 dB                                        | +2 dB                                                           |
| Calculated Noise Level to Stage 2      | 65 dBA, Leq                                    | 58 dBA, Leq                                      | 67 dBA                                       | 80 dBA, L <sub>Amax</sub>                                       |

It is noted that the above measurements were undertaken approximately 6 years ago. We would not expect any significant increase in traffic / rail movements in that period that would increase the above noise levels however, it would be prudent to quantify noise levels just before construction of the development to confirm the above noise levels and final façade design. Note that L<sub>max</sub> levels also do not change, regardless of any traffic / rail traffic increases.

#### Assessment

As rail and traffic provide a cumulative noise impact to the north of the site, it is appropriate to provide an assessment to address both noise sources.

Our assessment approach aims to achieve appropriate 'Leq' noise levels internally as well as appropriate L<sub>max</sub> targets for the short term rail and truck pass-by events (rail L<sub>max</sub> events are the dominant design driver).

The suggested design criteria for this project originally considered in 2015/2016 are summarised in the following table and are based on:

- Designing the Day / Night Leq averages to the mid-point of the range provided in Australian / New Zealand Standard AS/NZS 2107:2000 *“Design sound levels and reverberation times for building interiors”*. We also consider designing such that the loudest hour does not exceed the AS/NZS2107 maximum level. The site exhibited high noise levels from approximately 6 am to 8 am during peak train and traffic conditions and it is appropriate to consider this period for both bedrooms and living rooms.
- Designing single event Lmax levels based on our previous experience, previous VCAT decisions, and on the Association of Australian Acoustical Consultants (AAAC) draft guideline for Rail Noise and Vibration, 2010. The Lmax targets also align well with generally accepted sleep disturbance criteria (eg. NSW Road Noise Policy 2011).

Since the above, the Better Apartment Design Standards (BADS), were formally implemented into the Planning Scheme in March 2017 (Clause 58.04-3, Standard D16). The BADS is the first Victorian State document to nominate internal design targets for rail (and traffic) noise impacts. The Leq based targets nominated under BADS align with those originally considered by SLR in 2015/2016 and as such, compliance with these targets will be adopted for this project.

All nominated assessment targets are presented below and it is noted that the Lmax and Loudest hour targets are considered additional and beyond the normal planning requirements.

**Table 2 Design Targets for Road and Rail Traffic Noise**

| Type of occupancy / activity             | Recommended design sound level, Leq, dBA |                       |            |
|------------------------------------------|------------------------------------------|-----------------------|------------|
|                                          | Day or Night Average (BADS)              | Loudest Hour (SLR)    | Lmax (SLR) |
| Living rooms and bedrooms during the day | 40 dBA<br>Leq(16 hour)                   | 45 dBA<br>Leq(1 hour) | 60 dBA     |
| Sleeping areas at night                  | 35 dBA<br>Leq(8 hour)                    | 40 dBA<br>Leq(1 hour) | 50-55 dBA* |

\*NOTE: Up to 55 dBA is considered acceptable in the NSW Road Noise Policy.

Based on the results of measurements provided in **Table 1**, it can be observed that in order to achieve the internal design targets, noise reductions (from outside to inside) in the order of 25-30 dBA are required. This is considered a readily achievable outcome for Stage 2 with relatively low to moderate performance acoustic glazing.

The recommendations provided in **Section 6** provide the necessary acoustic treatments to achieve the above targets.

## 5.2 East of Site –Traffic

### Noise Levels

Noise logging was undertaken along the eastern boundary of the site from 30 May to 1 June 2016 to quantify traffic noise impacts from Norcal Road to the most exposed eastern townhouses.

The location of the noise logger was on a mound, set back 4 m from the site east boundary, and elevated approximately 3.6 m above road level. The logger microphone had full view of all traffic lanes and is representative of an east facing façade of the proposed development.

The results of the noise logging are attached in **Appendix B**, referred to as measurement location 'E1'.

The subject site had civil construction works occurring during the monitoring which commenced at approximately 7 am. As such, the period of interest was from 6 am to 7 am before the construction works commenced. This period was determined to be the noisiest on all measured days (even with construction works on the site during the rest of the day), due to the significant commercial vehicle traffic along Norcal road at this time (including buses and trucks servicing industrial area). In addition, this period exhibited the highest L<sub>max</sub> noise levels from truck pass bys. We have analysed the 5 loudest trucks in this period as part of the analysis. Results are as follows:

**Table 3 Measured traffic noise along Eastern Boundary (E1)**

|             | <b>Loudest Hour<br/>(6 am to 7 am)</b> | <b>Measured L<sub>Amax</sub><br/>5 loudest events (6<br/>am to 7 am)</b> |
|-------------|----------------------------------------|--------------------------------------------------------------------------|
| Location E1 | 64 dBA                                 | 79-83 dBA, L <sub>Amax</sub>                                             |

### Assessment

As per the northern interface, we recommend the following internal design levels for the eastern dwellings.

**Table 4 Design Targets for Road and Rail Traffic Noise**

| Type of occupancy / activity             | Recommended design sound level, L <sub>eq</sub> , dBA |                       |                        |
|------------------------------------------|-------------------------------------------------------|-----------------------|------------------------|
|                                          | <b>Day or Night Average<br/>(BADS)</b>                | <b>Loudest Hour</b>   | <b>L<sub>max</sub></b> |
| Living rooms and bedrooms during the day | 40 dBA<br>Leq(15 hour)                                | 45 dBA<br>Leq(1 hour) | 60 dBA                 |
| Sleeping areas at night                  | 35 dBA<br>Leq(9 hour)                                 | 40 dBA<br>Leq(1 hour) | 50-55 dBA*             |

\*NOTE: Up to 55 dBA is considered acceptable in the NSW Road Noise Policy.

Based on the results provided in **Table 3**, it can be observed that in order to achieve the internal design targets, noise reductions (from outside to inside) in the order of 30 dBA are required to achieve the L<sub>max</sub> targets to bedrooms. This is considered a readily achievable outcome with moderate performance acoustic glazing.

The recommendations provided in **Section 6** provide the necessary acoustic treatments to achieve the above targets.

## 6 Recommendations

The following sections provide preliminary acoustic treatments to the buildings in order to achieve the appropriate internal and external design targets for Stage 2 of the Development Plan. Refer also to **Appendix A**.

### 6.1 Glazing and Façade (Rail and Traffic Noise)

Based on the collected noise data (refer to **Section 5**), SLR have undertaken preliminary calculations to internal spaces of the proposed dwellings in order to determine appropriate façade treatments. The calculations take into account:

- Measured / calculated external noise levels (both Leq and Lmax levels).
- Orientation of building relative to noise source.
- Estimated area of exposed glazing (and walls) based on the preliminary apartment layout drawings.
- Type of room and its absorptive characteristics. We have assumed carpeted bedrooms and hard finished floors to living room areas.

#### 6.1.1 Glazing

It is understood that due to the energy / ESD design requirements for the development, all windows will be double glazed type insulation units. As such, SLR have provided double glazed unit options for all areas.

The following preliminary façade treatments are recommended to achieve the nominate Leq and Lmax criteria specified in **Section 5**.

**Table 5 Preliminary Required Glazing and Façade Treatments**

| Location                                                                                            | Recommended Glazing Types                                                          | Recommended Additional Information    |
|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------|
| North facing apartments – north end of site (Building A1 and B)<br>(including any corner apartment) | Living Rooms – <b>Type 1</b> (10.38/12/6)<br>Bedrooms – <b>Type 1</b> (10.38/12/6) | Refer to roof and façade advice below |
| East facing apartments - Norcal Road interface (Building A1 and A2)                                 | Living Rooms – <b>Type 2</b> (6.38/12/6)<br>Bedrooms – <b>Type 1</b> (10.38/12/6)  | Refer to roof and façade advice below |
| West facing apartments - Building A1                                                                | Living Rooms – <b>Type 2</b> (6.38/12/6)<br>Bedrooms – <b>Type 2</b> (6.38/12/6)   | Refer to roof and façade advice below |
| East facing apartments - Building B northern half                                                   | Living Rooms – <b>Type 2</b> (6.38/12/6)<br>Bedrooms – <b>Type 2</b> (6.38/12/6)   | Refer to roof and façade advice below |

| Location                                                                 | Recommended Glazing Types                                                        | Recommended Additional Information    |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------|
| East facing apartments - Building B southern half                        | Living Rooms – <b>Type 3</b> (6/12/6)<br>Bedrooms – <b>Type 3</b> (6/12/6)       | Refer to roof and façade advice below |
| West facing apartments - Building B<br>Nearest section to Station Street | Living Rooms – <b>Type 2</b> (6.38/12/6)<br>Bedrooms – <b>Type 2</b> (6.38/12/6) | Refer to roof and façade advice below |
| All other windows in development                                         | To architects / ESD / Glazing Code requirements                                  | No requirement                        |

**Table 6 Glazing Type Details**

| Type | Short description | Full Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Glazing rating |        |
|------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|
|      |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Rw             | Rw+Ctr |
| 1    | 10.38/12/6        | <ul style="list-style-type: none"> <li>Double thermal glazing consisting of 10.38 mm laminated glass, 12 mm airgap and 6 mm glass</li> <li>No sliding windows– awning / hinged windows only</li> <li>Sliding doors not to compromise acoustic performance– as a minimum, fin and brush seals to be installed, alternative acoustic rated seals (eg. Schlegel)</li> <li>Acoustic compression seals to all doors and openable windows.</li> <li>Frames not to degrade performance of windows.</li> </ul> | 39             | 34     |
| 2    | 6.38/12/6         | <ul style="list-style-type: none"> <li>Thermal double glazed unit comprising 6.38mm laminated glass, 12 mm air cavity and 6 mm float glass.</li> <li>Acoustic seals to all doors and openable windows.</li> <li>Frames not to degrade performance of windows.</li> </ul>                                                                                                                                                                                                                               | 34             | 32     |
| 3    | 6/12/6            | <ul style="list-style-type: none"> <li>Thermal double glazed unit comprising 6 mm glass, 12 mm air cavity and 6 mm float glass (glass to be standard or toughened as required)</li> <li>Acoustic seals to all doors and openable windows.</li> <li>Sliding doors not to compromise acoustic performance– as a minimum, fin and brush seals to be installed.</li> <li>Frames not to degrade performance of windows.</li> </ul>                                                                          | 33             | 28     |

#### Additional requirements for glazing:

Window frames are not to degrade the performance of windows. Frames are to be not less than 2 mm thick aluminium unless tests conducted in a NATA certified laboratory are provided demonstrating that the recommended acoustic ratings can be achieved with alternative products.

Sliding doors for dwellings should be designed such that there is no significant degradation in the sound isolation (Both  $R_w$  and  $R_w + C_{tr}$ ) due to perimeter sealing. To comply, the doors should either:

- Have been tested in a NATA certified acoustical laboratory, and the results of the tests provided to Norcal Station Development Pty Ltd prior to ordering of materials for manufacture, or
- Have been designed, or the design checked, by an acoustical consultant being employed by an Acoustical Consultant Company who is a Member or eligible for Membership of the AAAC.

If alternative glazing is offered, it will need to be demonstrated that the sound isolation at all 1/3 octave frequency bands is not less than for the nominated glazing.

The above recommendations are the minimum requirement for acoustics, and all glazing is also to conform to the relevant Codes.

### 6.1.2 Facades

As a preliminary approach, any walls within facades with nominated acoustic rated glazing shall have an acoustic rating not less than  $R_w = 45$  dB. This is readily achievable with any masonry or concrete panel construction, and also achievable with a range of lightweight wall systems.

### 6.1.3 Ventilation

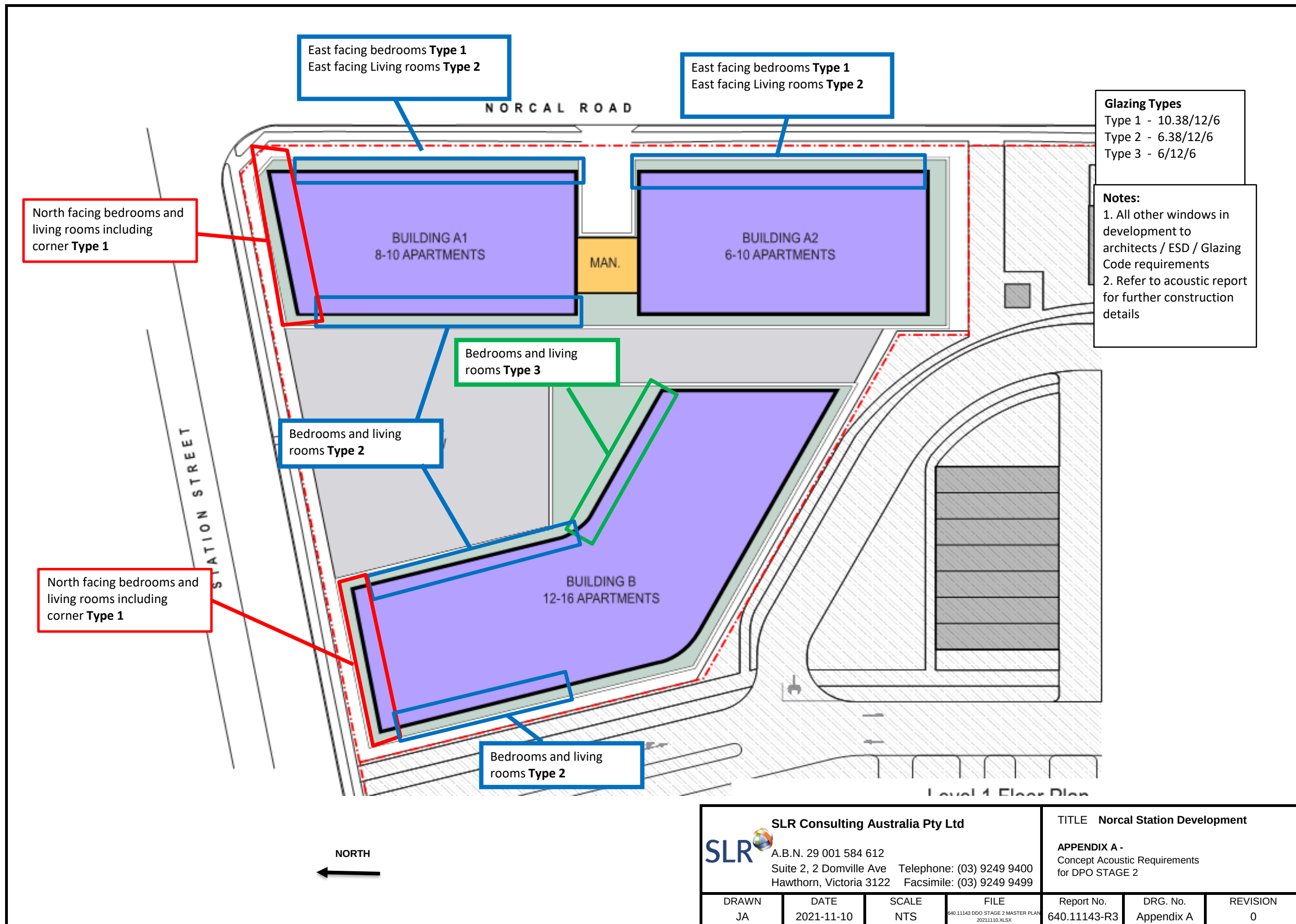
To ensure that the acoustic integrity of upgraded facades is maintained, ventilation penetrations in any façade that has an acoustic upgrade (as nominated above) should be avoided or reviewed as part of the design stage of the development.

## 7 Conclusion

SLR have reviewed the provided Development Plan for Stage 2 of the proposed development at 56-74 Station Street Nunawading, and assessed potential noise impacts to the site.

Stage 2 of the site is primarily exposed to road traffic and rail noise impacts from the north and road traffic noise along Norcal Road to the east.

We have quantified the noise impacts to the site from rail and traffic, and assessed these to appropriate internal design standards (including AS/NZS2107, BADS and sleep disturbance criteria). The rail and traffic impacts are considered to be moderate at the most exposed locations, and we have provided conceptual façade acoustic treatments to address these in **Section 6.1**. These requirements can generally be adopted conceptually for the development, but should be reviewed once final apartment designs and layouts are confirmed, during the town planning stage.



## Noise Monitoring and Measurement Details and Results

This Appendix provides all details of noise measurements undertaken on the site, as well as the full results of noise monitoring presented in tabular and graphical format.

### 1 Noise Monitoring

The tested locations and descriptions were as follows:

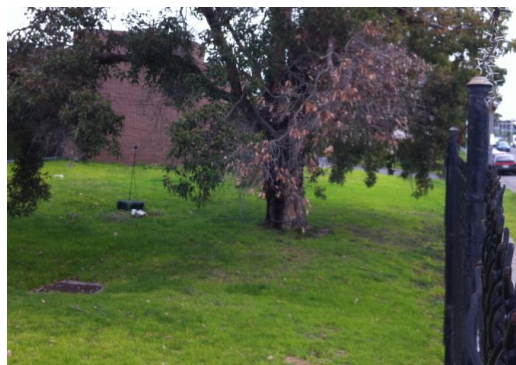
| Reference | Location                                                                                            | Duration and details                                                | Equipment and Serial Nos. |
|-----------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------|
| <b>N1</b> | 6.2 m from north boundary (western location, on paved area, directly opposite loading dock)         | 10 to 13 August 2015, traffic noise from Station Street, rail noise | ARL Ngara S/N 878048      |
| <b>N2</b> | 6.2 m from north boundary (Central location)                                                        | 14 to 18 August 2015, traffic noise from Station Street, rail noise | ARL Ngara S/N 878048      |
| <b>S1</b> | 6.4 m from South boundary, 40 m west of Norcal Road, opposite first evap.cooler unit                | 10 to 13 August 2015, general ambient noise and AW&F Sheetmetal     | ARL Ngara S/N 878086      |
| <b>S2</b> | 4 m from south boundary (west end), between last 2 evap.cooler units.                               | 13 to 18 August 2015, general ambient noise and AW&F Sheetmetal     | ARL Ngara S/N 878086      |
| <b>E1</b> | 4 m from eastern site boundary (approx. 100m from south boundary. Elevated approx.3.6 m above road. | 30 May to 1 June 2016, traffic noise                                | ARL Ngara S/N 878086      |

NOTE: All noise logging instrumentation was calibration checked before and after measurements with a reference calibrator, Rion NC-74 S/N 34546617. There was no significant drift in calibration before and after measurements.

**N1**



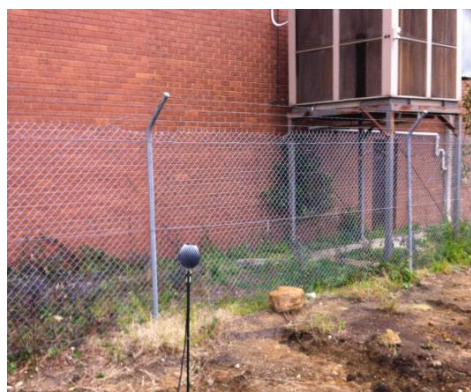
**N2**



**S1**

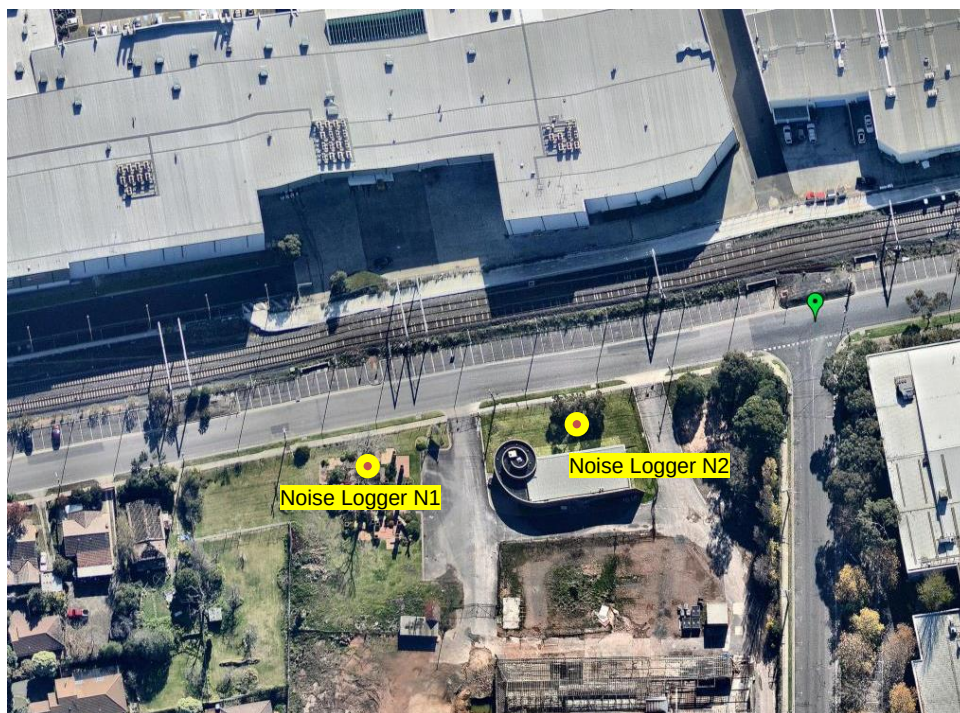


**S2**



## Noise Monitoring and Measurement Details and Results

E1

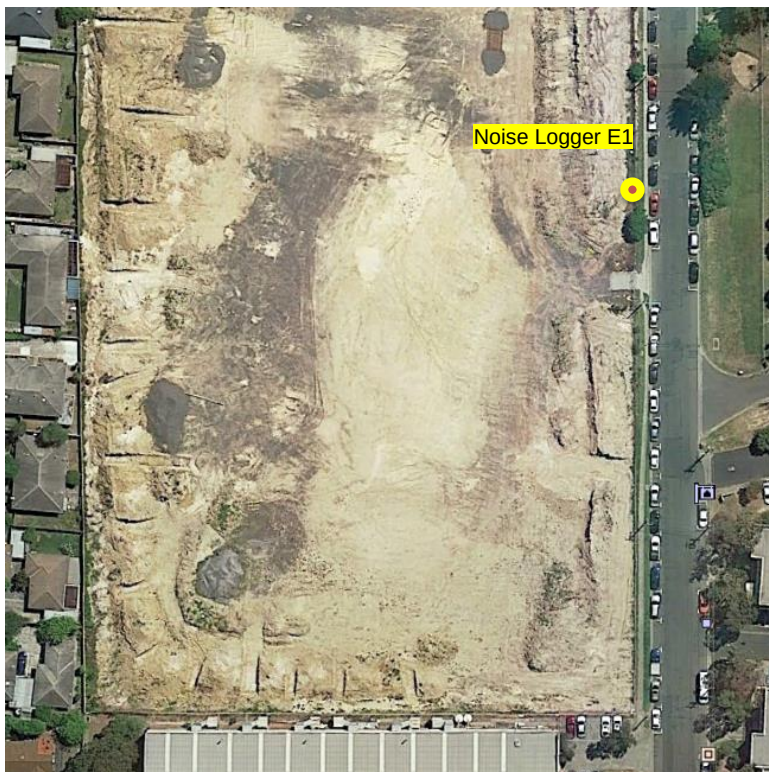
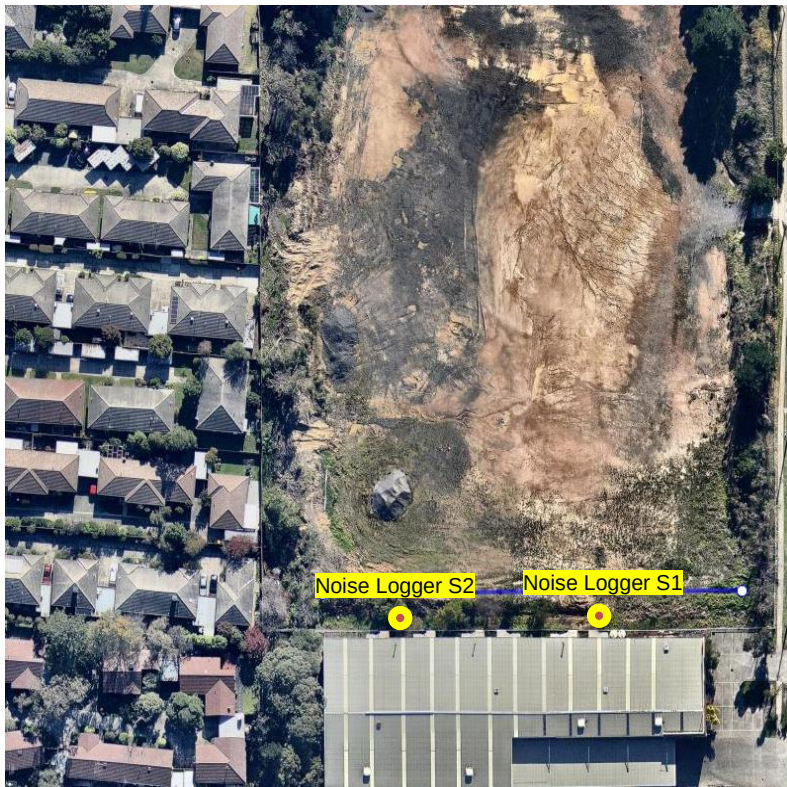


## Appendix B

Report 640.11143-R3

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### Noise Monitoring and Measurement Details and Results



## Noise Monitoring and Measurement Details and Results

**2 Attended Measurements**

All attended measurements presented or discussed in this report were undertaken with a Rion NA-28 1/3 Octave Band Analyser S/N 30642027. The instrument was calibration checked before and after measurements with a reference calibrator, Rion NC-74 S/N 34546617. There was no significant drift in calibration before and after measurements.



## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Job Number: 640.11143

Location: 56-74 Station St Nunawading

Microphone position: N1 - 5.7m from north boundary

Initial calibration: 93.8 dBA

Final calibration: 93.7 dBA

Initials JA

## APPENDIX B

| Hour                                 | Sound Pressure Level, dB(A) |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|--------------------------------------|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                      | Mon, 10-08-2015             |                 |                 | Tue, 11-08-2015 |                 |                 | Wed, 12-08-2015 |                 |                 | Thu, 13-08-2015 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|                                      | L <sub>10</sub>             | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> |
| 00:00 to 01:00                       |                             |                 |                 | 42.0            | 34.7            | 54.1            | 54.9            | 43.7            | 54.8            | 46.7            | 37.5            | 54.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 01:00 to 02:00                       |                             |                 |                 | 38.4            | 33.2            | 46.3            | 47.8            | 37.7            | 48.9            | 41.4            | 35.9            | 47.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 02:00 to 03:00                       |                             |                 |                 | 39.2            | 32.6            | 48.0            | 43.8            | 35.9            | 44.6            | 39.6            | 34.0            | 46.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 03:00 to 04:00                       |                             |                 |                 | 40.0            | 34.2            | 47.2            | 44.0            | 35.5            | 50.2            | 40.1            | 35.5            | 49.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 04:00 to 05:00                       |                             |                 |                 | 44.3            | 38.2            | 56.0            | 48.4            | 39.0            | 56.6            | 49.2            | 36.9            | 56.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 05:00 to 06:00                       |                             |                 |                 | 59.6            | 42.6            | 58.9            | 59.9            | 44.2            | 59.6            | 59.0            | 41.6            | 58.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 06:00 to 07:00                       |                             |                 |                 | 67.0            | 47.2            | 63.9            | 66.6            | 45.7            | 63.5            | 67.3            | 46.7            | 63.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 07:00 to 08:00                       |                             |                 |                 | 66.0            | 50.6            | 63.3            | 65.5            | 48.7            | 62.9            | 67.7            | 52.6            | 64.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 08:00 to 09:00                       |                             |                 |                 | 67.1            | 52.4            | 64.3            | 66.0            | 48.3            | 63.1            | 66.3            | 52.9            | 63.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 09:00 to 10:00                       |                             |                 |                 | 67.2            | 52.2            | 63.9            | 65.6            | 48.6            | 63.3            | 67.8            | 52.8            | 63.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 10:00 to 11:00                       |                             |                 |                 | 63.9            | 50.4            | 61.0            | 65.3            | 48.3            | 62.0            | 65.1            | 54.5            | 62.8            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 11:00 to 12:00                       |                             |                 |                 | 64.5            | 52.0            | 62.0            | 65.1            | 49.6            | 65.4            | 63.8            | 52.2            | 60.8            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 12:00 to 13:00                       |                             |                 |                 | 65.8            | 53.8            | 63.2            | 65.9            | 52.7            | 63.7            | 65.4            | 54.0            | 62.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 13:00 to 14:00                       |                             |                 |                 | 64.9            | 51.6            | 62.0            | 64.2            | 49.1            | 61.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 14:00 to 15:00                       |                             |                 |                 | 65.4            | 51.8            | 62.6            | 65.6            | 51.4            | 63.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 15:00 to 16:00                       | 68.5                        | 52.1            | 74.0            | 64.4            | 51.9            | 62.2            | 65.5            | 51.9            | 63.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 16:00 to 17:00                       | 66.9                        | 52.3            | 64.0            | 65.0            | 50.7            | 62.5            | 65.9            | 52.2            | 63.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 17:00 to 18:00                       | 67.4                        | 50.8            | 63.7            | 66.6            | 50.1            | 63.3            | 67.3            | 52.6            | 64.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 18:00 to 19:00                       | 66.0                        | 47.0            | 62.4            | 65.6            | 48.8            | 61.3            | 65.7            | 48.4            | 62.5            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 19:00 to 20:00                       | 65.0                        | 45.1            | 61.7            | 65.6            | 47.6            | 62.0            | 68.3            | 50.8            | 63.6            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 20:00 to 21:00                       | 58.4                        | 42.3            | 59.2            | 61.1            | 45.7            | 60.6            | 63.0            | 48.8            | 60.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 21:00 to 22:00                       | 59.4                        | 40.8            | 59.6            | 57.5            | 45.2            | 59.5            | 63.4            | 48.4            | 60.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 22:00 to 23:00                       | 53.4                        | 40.9            | 57.3            | 55.6            | 45.2            | 57.8            | 64.5            | 47.2            | 60.3            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 23:00 to 24:00                       | 46.4                        | 38.8            | 56.3            | 55.5            | 44.3            | 57.2            | 55.1            | 43.3            | 59.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>10</sub> (18h), ar.av. 6-24h  |                             |                 |                 | 63.8            |                 |                 | 64.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (16h), log av. 6-22h |                             |                 |                 |                 |                 | 62.5            |                 |                 | 63.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (8h), log av. 22-6h  |                             |                 | 55.0            |                 |                 | 55.8            |                 |                 | 56.5            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (24h), log av. 0-24h |                             |                 |                 |                 |                 | 61.2            |                 |                 | 61.8            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>90</sub> Day                  |                             |                 |                 |                 | 51.6            |                 |                 | 50.3            |                 |                 | 53.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>90</sub> Evening              |                             | 43.8            |                 |                 | 46.8            |                 |                 | 49.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>90</sub> Night                |                             | 38.0            |                 |                 | 41.2            |                 |                 | 39.8            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Wind @0900h, km/h                    | 22 km/h NNE                 |                 |                 | 15 km/h N       |                 |                 | 9 km/h NNE      |                 |                 | 9 km/h W        |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Wind @1500h, km/h                    | 19 km/h N                   |                 |                 | 20 km/h NNW     |                 |                 | 9 km/h WSW      |                 |                 | 11 km/h SW      |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |

NOTE: Weather data from Scoresby AWS

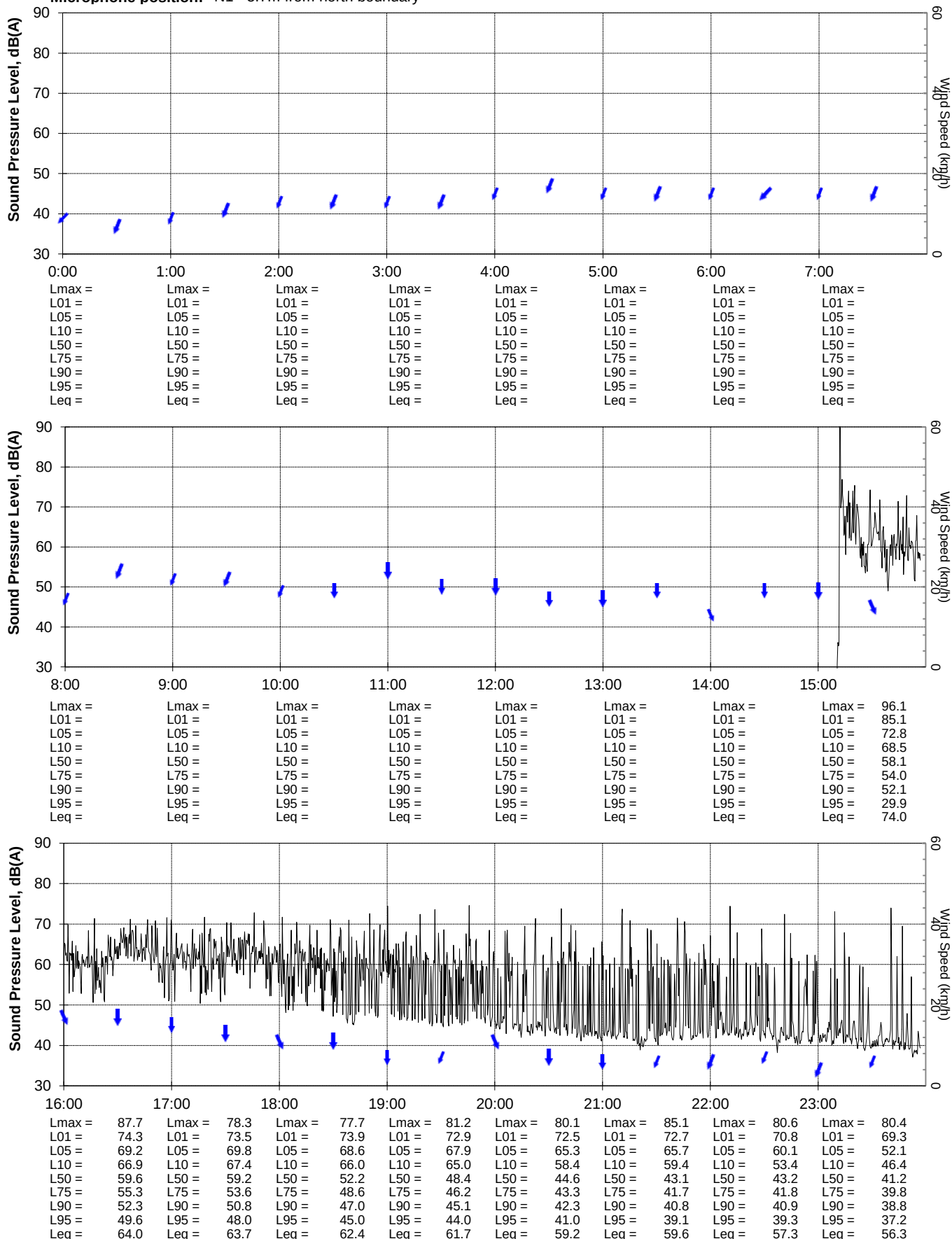
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Monday  
10 Aug 2015

Microphone position: N1 - 5.7m from north boundary



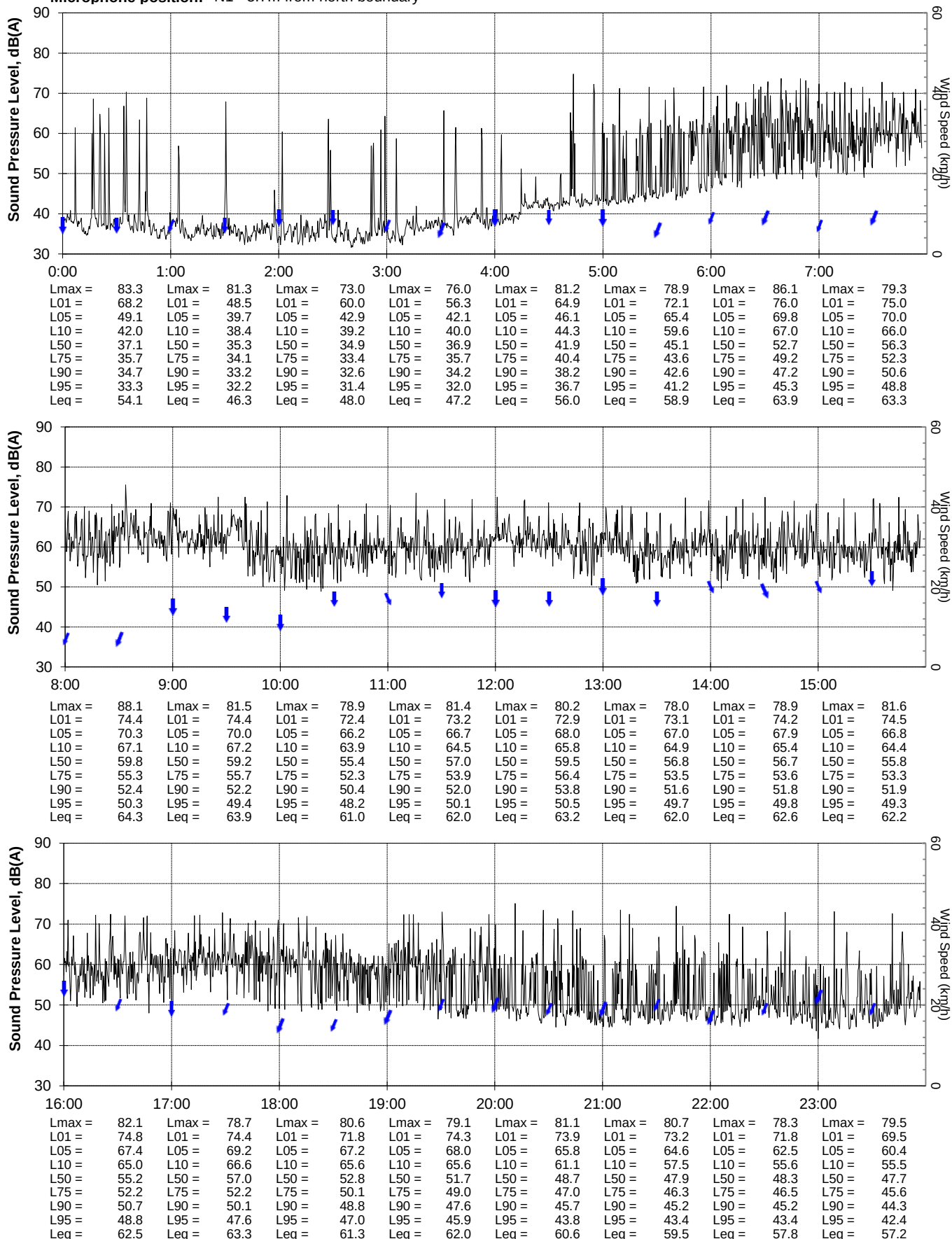
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Tuesday  
11 Aug 2015

Microphone position: N1 - 5.7m from north boundary



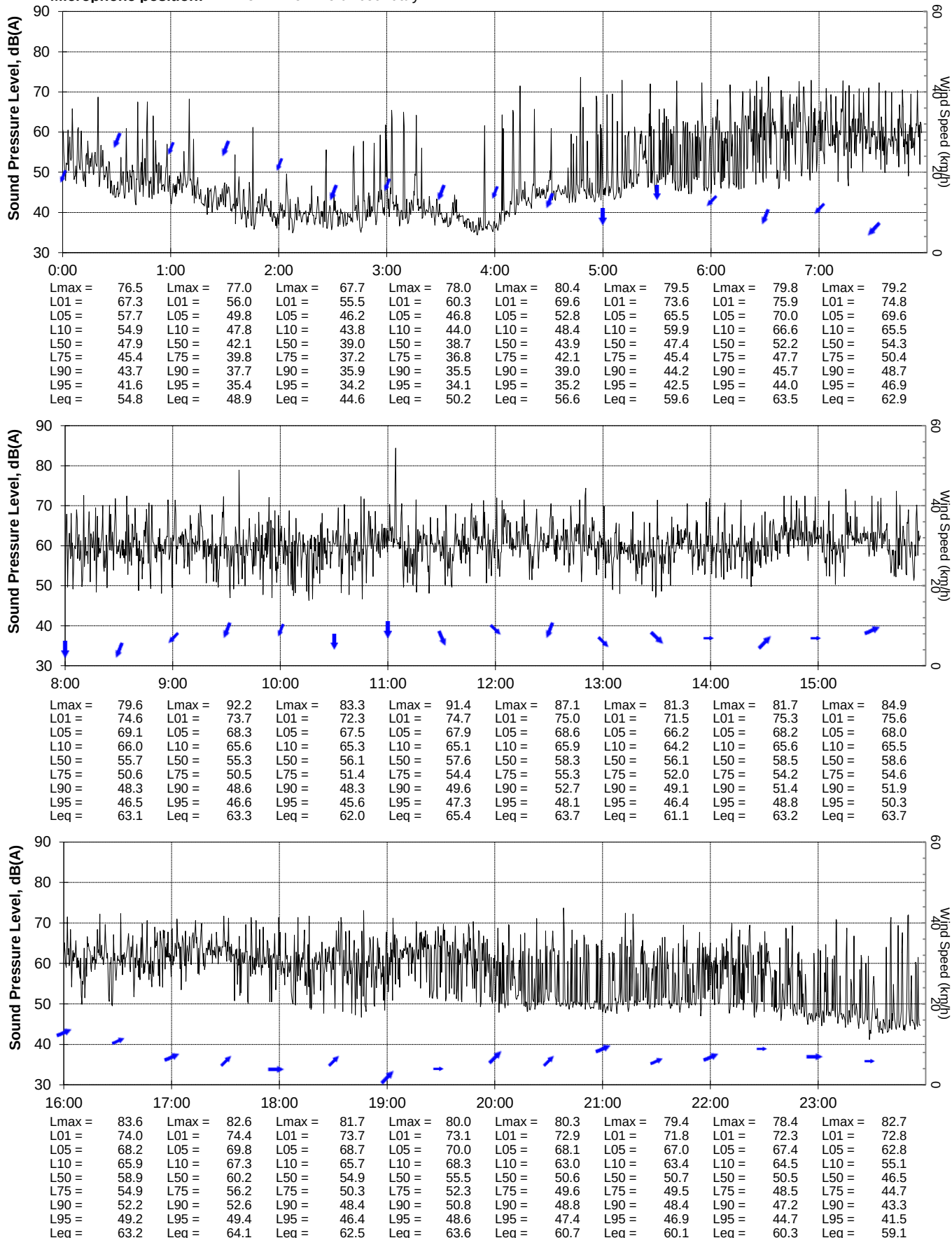
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Wednesday  
12 Aug 2015

Microphone position: N1 - 5.7m from north boundary



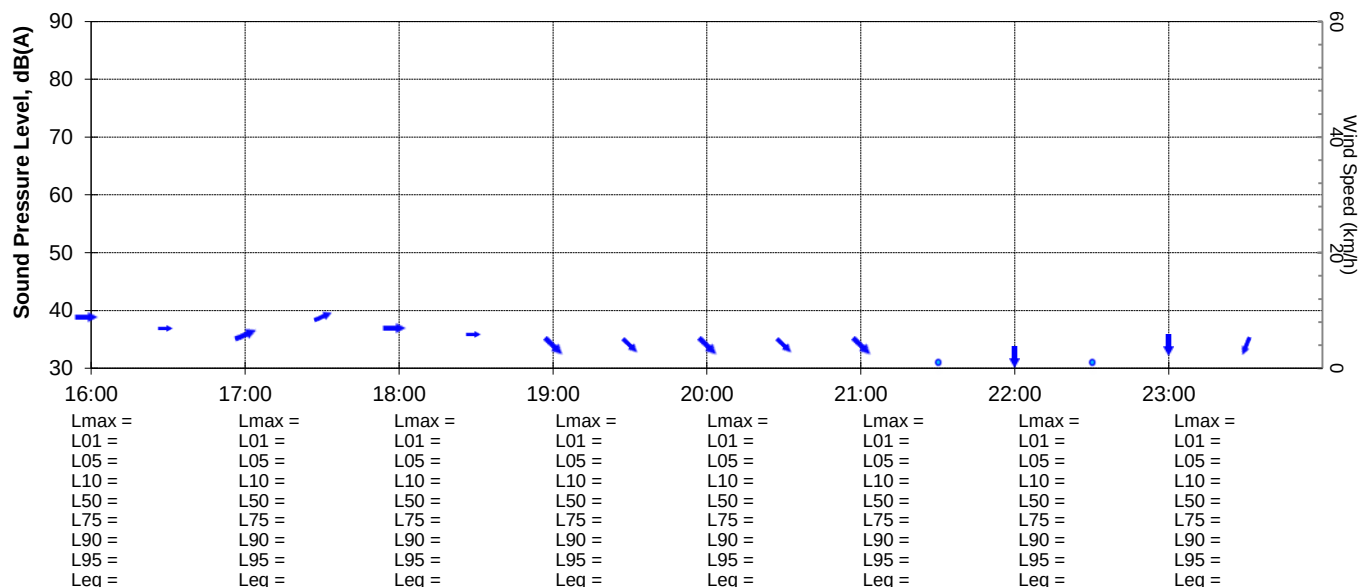
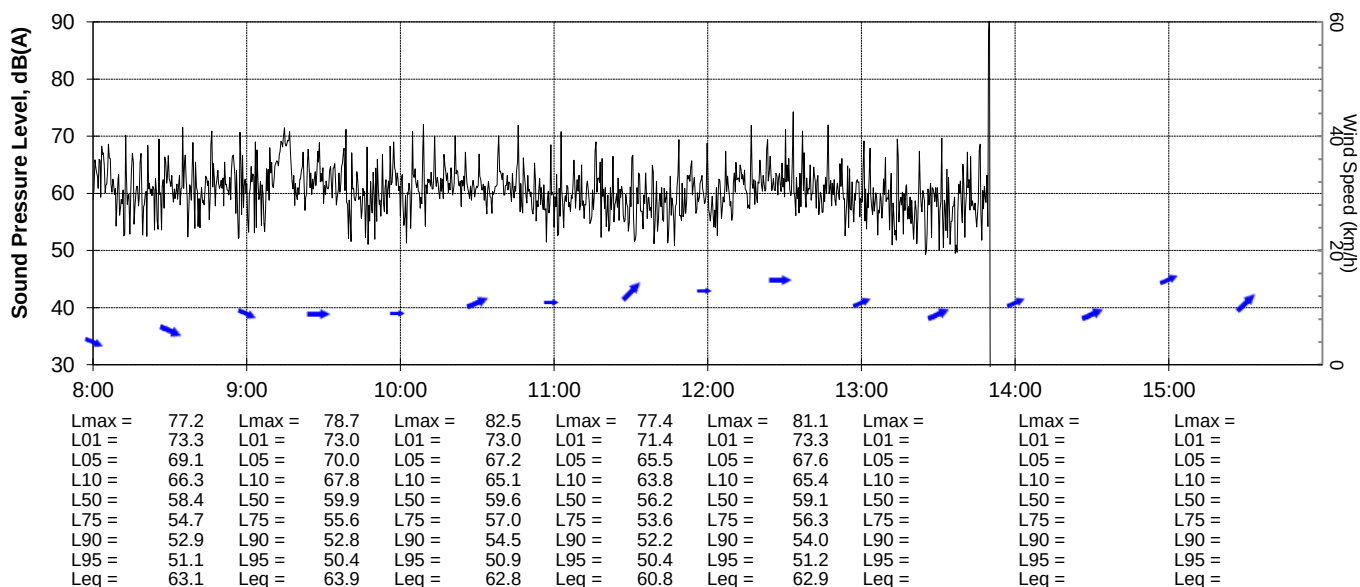
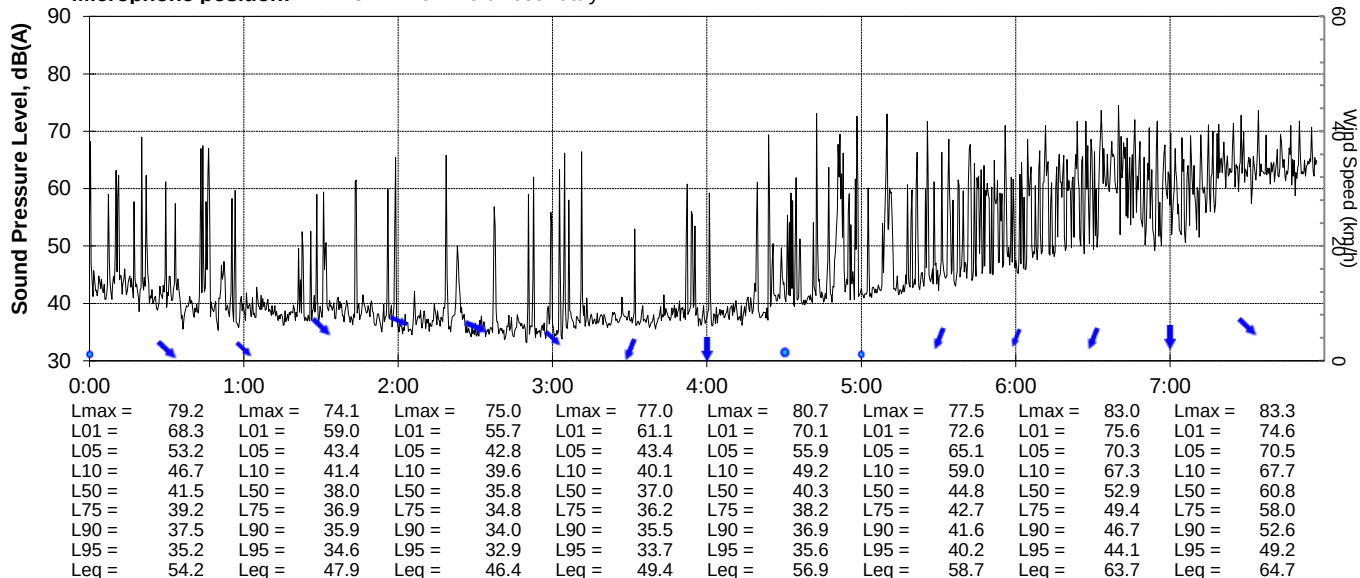
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Thursday  
13 Aug 2015

Microphone position: N1 - 5.7m from north boundary





## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Job Number: 640.11143

Location: 56-74 Station St Nunawading

Microphone position: N2 - 6.2m from north boundary (Central)

Initial calibration: 93.8 dBA

Final calibration: 93.6 dBA

Initials JA

## APPENDIX B

| Hour                                 | Sound Pressure Level, dB(A) |                 |                 |                          |                 |                 |                 |                 |                 |                      |                 |                 |                      |                 |                 |                 |                 |                 |
|--------------------------------------|-----------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|-----------------|-----------------|----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                      | Fri, 14-08-2015             |                 |                 | Sat, 15-08-2015          |                 |                 | Sun, 16-08-2015 |                 |                 | Mon, 17-08-2015      |                 |                 | Tue, 18-08-2015      |                 |                 |                 |                 |                 |
|                                      | L <sub>10</sub>             | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub>          | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub>      | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub>      | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> |
| 00:00 to 01:00                       |                             |                 |                 | 48.8                     | 37.8            | 57.8            | 51.1            | 43.2            | 57.1            | 45.5                 | 39.0            | 51.6            | 46.6                 | 36.2            | 54.0            |                 |                 |                 |
| 01:00 to 02:00                       |                             |                 |                 | 46.9                     | 37.5            | 54.6            | 48.4            | 41.5            | 53.7            | 42.8                 | 36.7            | 44.6            | 43.1                 | 37.2            | 51.7            |                 |                 |                 |
| 02:00 to 03:00                       |                             |                 |                 | 40.6                     | 34.8            | 46.8            | 45.9            | 40.1            | 45.4            | 45.8                 | 37.2            | 43.5            | 48.1                 | 39.6            | 53.8            |                 |                 |                 |
| 03:00 to 04:00                       |                             |                 |                 | 38.7                     | 33.7            | 48.1            | 47.1            | 39.6            | 48.3            | 53.5                 | 43.9            | 52.9            | 45.1                 | 39.2            | 52.1            |                 |                 |                 |
| 04:00 to 05:00                       |                             |                 |                 | 40.6                     | 36.7            | 54.0            | 53.6            | 40.2            | 52.1            | 53.1                 | 45.0            | 59.0            | 50.9                 | 38.4            | 58.4            |                 |                 |                 |
| 05:00 to 06:00                       |                             |                 |                 | 48.3                     | 37.7            | 57.7            | 52.2            | 42.0            | 52.8            | 61.6                 | 44.9            | 61.3            | 62.9                 | 42.0            | 61.5            |                 |                 |                 |
| 06:00 to 07:00                       |                             |                 |                 | 53.4                     | 40.6            | 58.4            | 50.6            | 44.0            | 53.8            | 68.0                 | 48.9            | 65.6            | 67.9                 | 47.3            | 64.8            |                 |                 |                 |
| 07:00 to 08:00                       |                             |                 |                 | 61.9                     | 45.1            | 61.4            | 52.2            | 46.3            | 58.2            | 67.5                 | 52.4            | 65.8            | 68.6                 | 50.2            | 65.9            |                 |                 |                 |
| 08:00 to 09:00                       |                             |                 |                 | 64.1                     | 47.7            | 62.1            | 58.5            | 46.8            | 58.7            | 68.1                 | 52.6            | 65.7            | 68.4                 | 51.6            | 65.5            |                 |                 |                 |
| 09:00 to 10:00                       |                             |                 |                 | 66.1                     | 47.9            | 63.4            | 62.4            | 49.2            | 61.2            | 67.3                 | 53.1            | 64.3            | 67.0                 | 51.2            | 64.5            |                 |                 |                 |
| 10:00 to 11:00                       |                             |                 |                 | 65.1                     | 47.7            | 64.0            | 64.2            | 48.0            | 63.8            | 66.6                 | 50.3            | 63.5            | 65.1                 | 49.9            | 63.2            |                 |                 |                 |
| 11:00 to 12:00                       |                             |                 |                 | 66.6                     | 48.4            | 64.6            | 64.4            | 47.7            | 64.2            | 64.8                 | 50.4            | 62.3            | 64.6                 | 48.8            | 62.8            |                 |                 |                 |
| 12:00 to 13:00                       |                             |                 |                 | 66.6                     | 48.7            | 65.1            | 65.4            | 48.3            | 63.9            | 65.4                 | 52.3            | 63.4            | 65.0                 | 48.5            | 63.1            |                 |                 |                 |
| 13:00 to 14:00                       |                             |                 |                 | 66.3                     | 45.6            | 64.5            | 64.1            | 48.0            | 63.5            | 65.2                 | 50.8            | 62.8            | 64.0                 | 47.9            | 62.0            |                 |                 |                 |
| 14:00 to 15:00                       | 67.9                        | 31.4            | 79.2            | 65.7                     | 45.2            | 64.1            | 64.6            | 48.2            | 63.9            | 66.1                 | 51.2            | 64.4            | 65.5                 | 48.6            | 64.4            |                 |                 |                 |
| 15:00 to 16:00                       | 66.4                        | 49.8            | 65.1            | 65.3                     | 44.9            | 63.8            | 63.8            | 48.1            | 63.2            | 65.8                 | 50.9            | 64.4            |                      |                 |                 |                 |                 |                 |
| 16:00 to 17:00                       | 66.4                        | 49.6            | 65.0            | 65.6                     | 43.9            | 64.2            | 64.4            | 47.5            | 63.7            | 66.0                 | 50.3            | 64.3            |                      |                 |                 |                 |                 |                 |
| 17:00 to 18:00                       | 66.4                        | 49.3            | 64.8            | 64.9                     | 44.4            | 63.7            | 64.4            | 45.9            | 63.9            | 66.5                 | 49.8            | 64.4            |                      |                 |                 |                 |                 |                 |
| 18:00 to 19:00                       | 66.4                        | 46.9            | 65.1            | 64.2                     | 45.4            | 63.1            | 63.1            | 45.0            | 63.2            | 67.3                 | 49.1            | 64.5            |                      |                 |                 |                 |                 |                 |
| 19:00 to 20:00                       | 64.9                        | 45.4            | 62.6            | 62.8                     | 43.8            | 61.9            | 57.9            | 44.3            | 61.6            | 65.5                 | 46.4            | 63.6            |                      |                 |                 |                 |                 |                 |
| 20:00 to 21:00                       | 62.7                        | 46.1            | 62.3            | 55.5                     | 43.9            | 60.0            | 54.8            | 44.5            | 59.4            | 61.4                 | 45.3            | 62.1            |                      |                 |                 |                 |                 |                 |
| 21:00 to 22:00                       | 63.4                        | 44.0            | 61.4            | 57.2                     | 43.7            | 63.1            | 54.6            | 45.0            | 59.0            | 60.5                 | 43.8            | 60.7            |                      |                 |                 |                 |                 |                 |
| 22:00 to 23:00                       | 55.9                        | 42.3            | 59.8            | 56.1                     | 43.6            | 60.4            | 53.4            | 43.1            | 58.8            | 55.8                 | 42.2            | 59.5            |                      |                 |                 |                 |                 |                 |
| 23:00 to 24:00                       | 52.0                        | 38.8            | 59.0            | 53.5                     | 43.4            | 59.6            | 50.9            | 41.9            | 58.7            | 49.1                 | 38.3            | 58.5            |                      |                 |                 |                 |                 |                 |
| L <sub>10</sub> (18h), ar.av. 6-24h  |                             |                 |                 | 62.3                     |                 |                 | 59.7            |                 |                 | 64.3                 |                 |                 |                      |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (16h), log av. 6-22h |                             |                 |                 |                          |                 | 63.3            |                 |                 | 62.3            |                      |                 | 64.1            |                      |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (8h), log av. 22-6h  |                             |                 | 56.5            |                          |                 | 56.0            |                 |                 | 57.0            |                      |                 | 57.5            |                      |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (24h), log av. 0-24h |                             |                 |                 |                          |                 | 62.0            |                 |                 | 61.0            |                      |                 | 62.7            |                      |                 |                 |                 |                 |                 |
| L <sub>90</sub> Day                  |                             |                 |                 |                          | 47.6            |                 |                 |                 |                 |                      | 51.3            |                 |                      | 49.6            |                 |                 |                 |                 |
| L <sub>90</sub> Evening              |                             | 45.6            |                 |                          | 44.5            |                 |                 | 46.9            |                 |                      | 46.2            |                 |                      |                 |                 |                 |                 |                 |
| L <sub>90</sub> Night                |                             | 37.8            |                 |                          | 42.0            |                 |                 | 42.3            |                 |                      | 40.0            |                 |                      |                 |                 |                 |                 |                 |
| Wind @0900h, km/h                    | W 9                         |                 |                 | NW2 light rain overnight |                 |                 | NNE 6           |                 |                 | SSW 7 rain overnight |                 |                 | WNW7, rain overnight |                 |                 |                 |                 |                 |
| Wind @1500h, km/h                    | W 4                         |                 |                 | WNW 2                    |                 |                 | NNW 7           |                 |                 | WSW 17, some rain    |                 |                 | W 2                  |                 |                 |                 |                 |                 |

NOTE: Weather data from Scoresby AWS

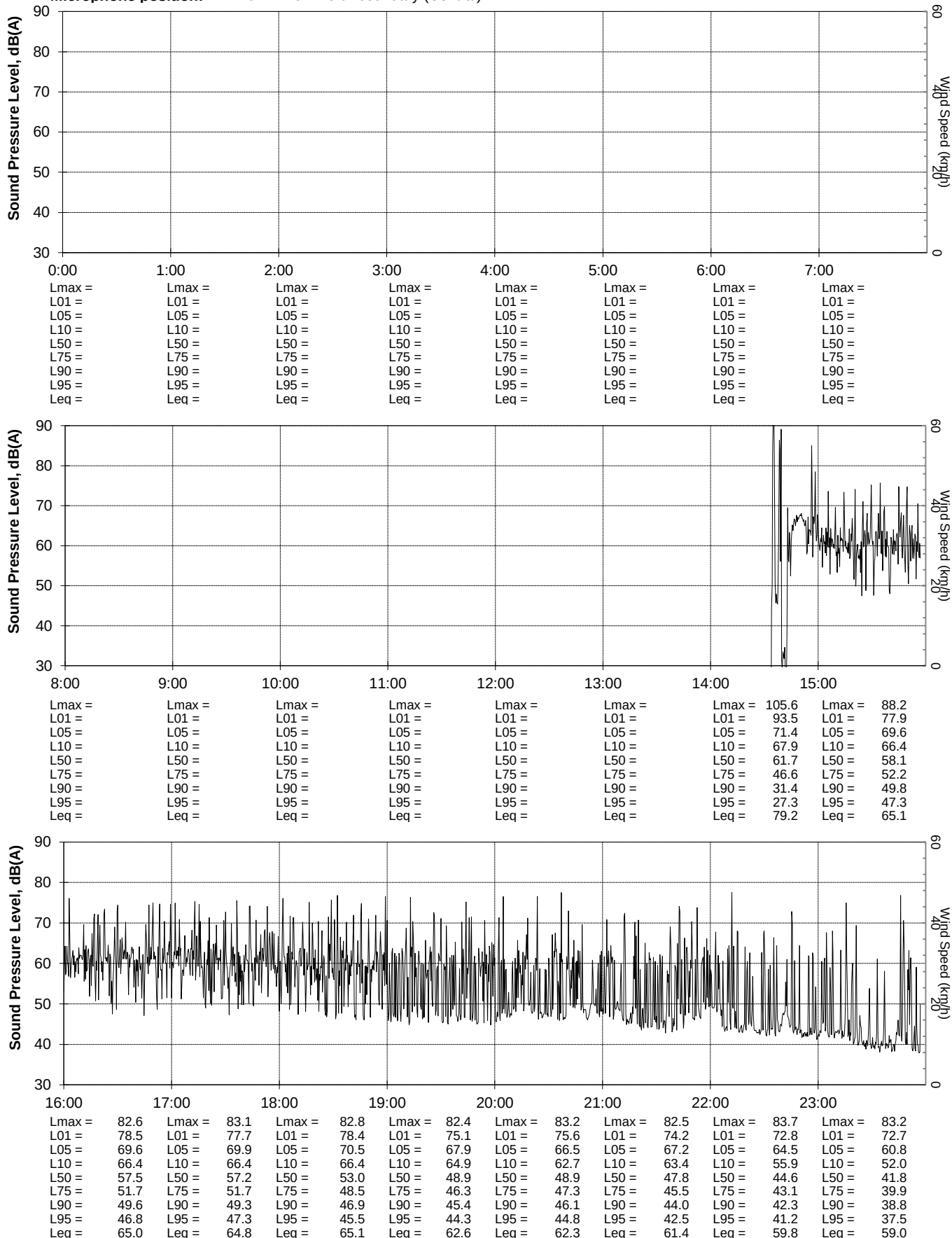
**Results of Noise Monitoring**

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Friday  
14 Aug 2015

Microphone position: N2 - 6.2m from north boundary (Central)



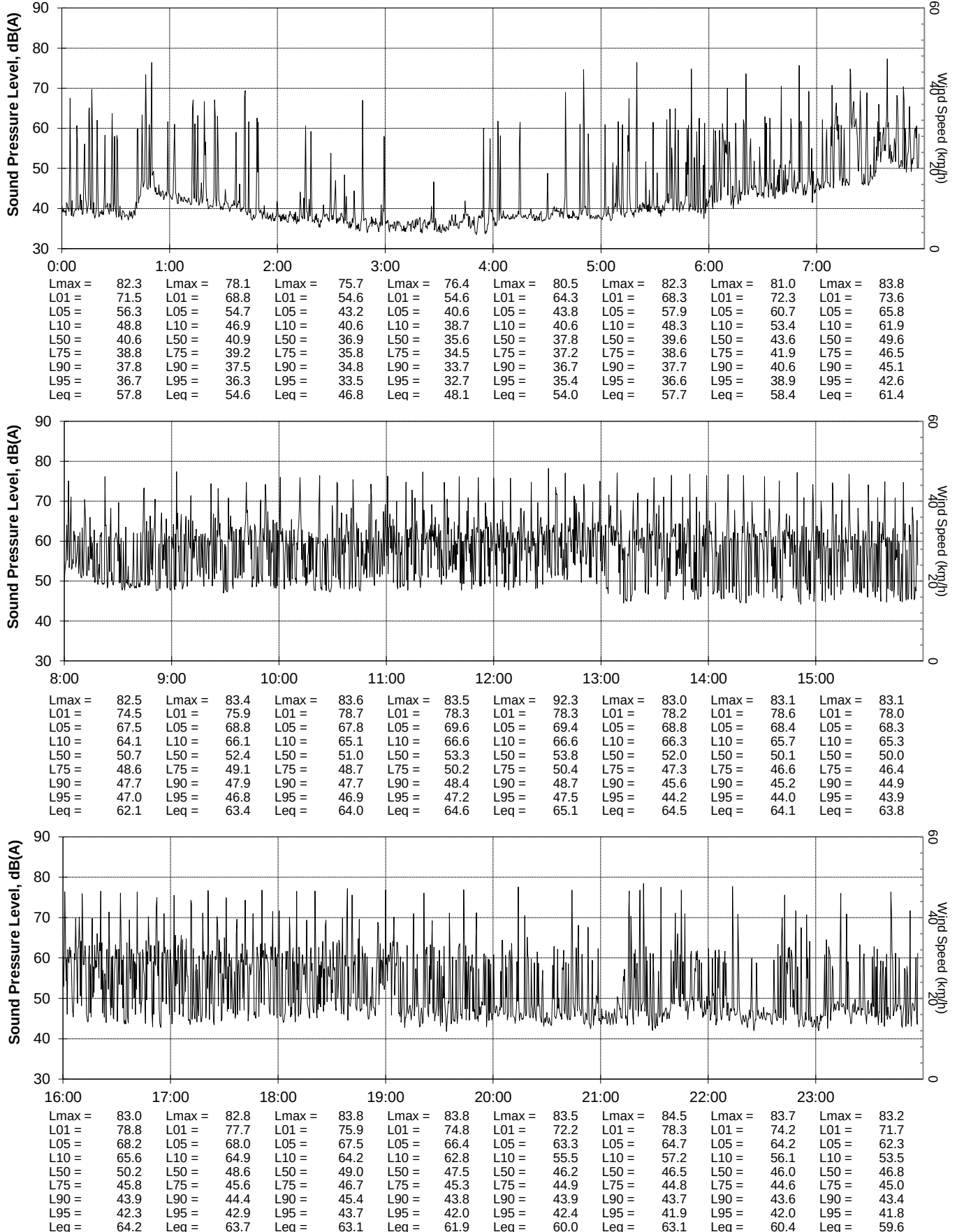
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Saturday  
15 Aug 2015

Microphone position: N2 - 6.2m from north boundary (Central)



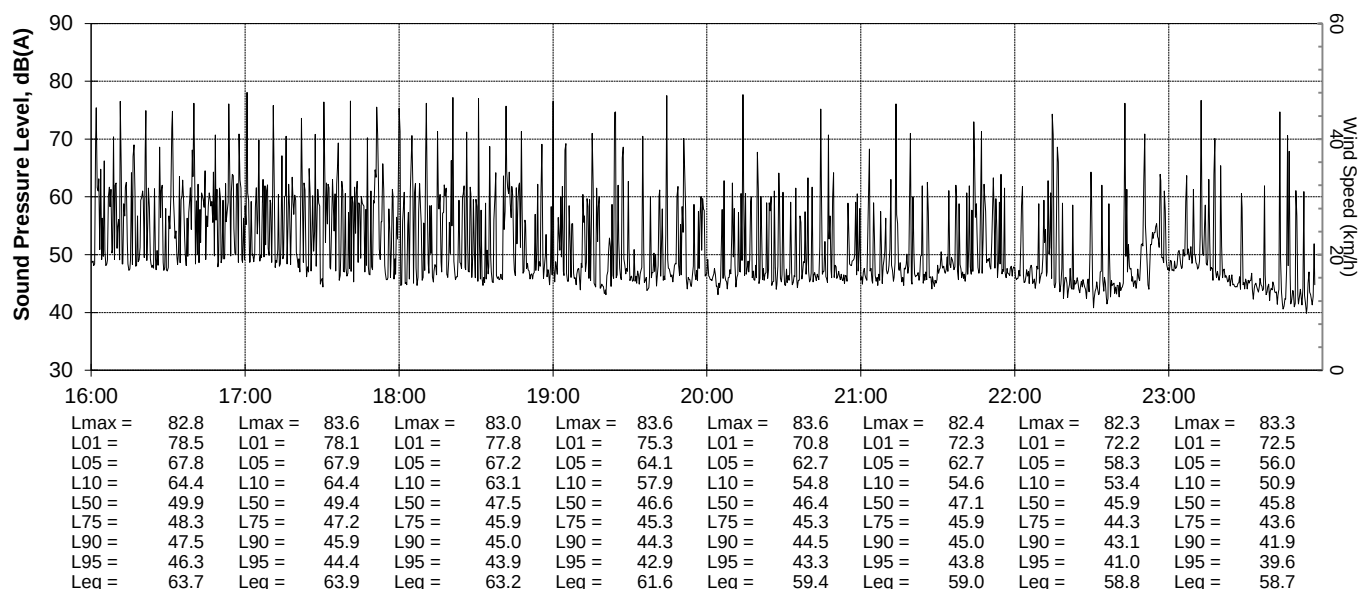
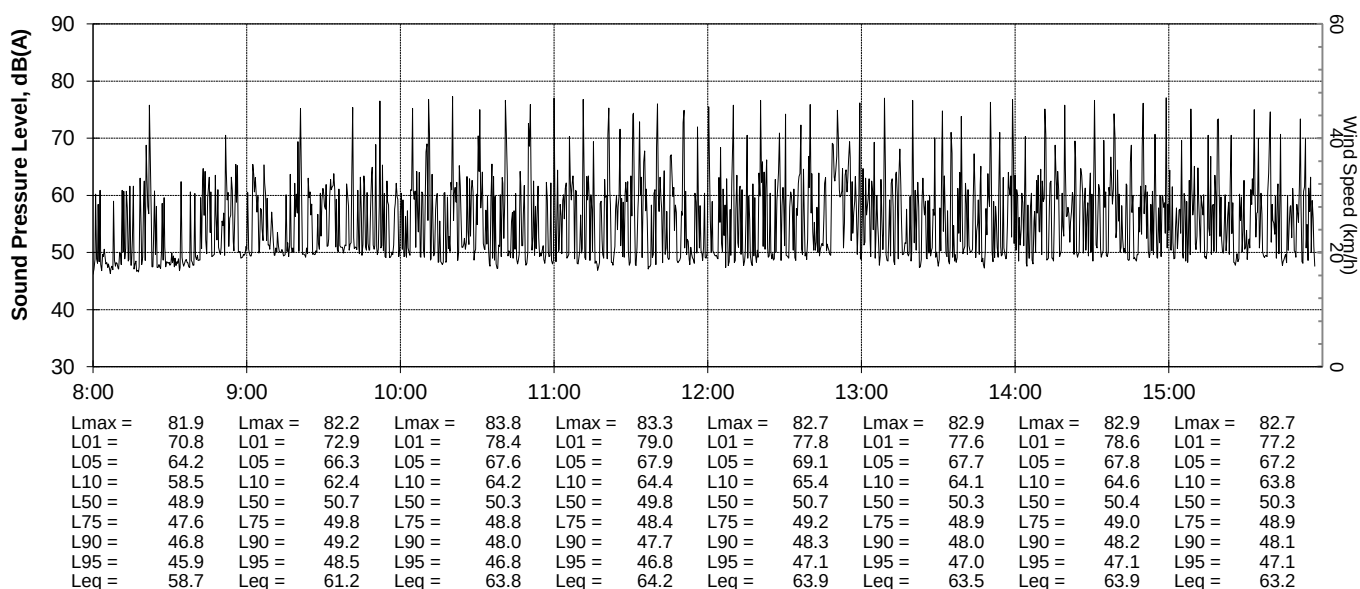
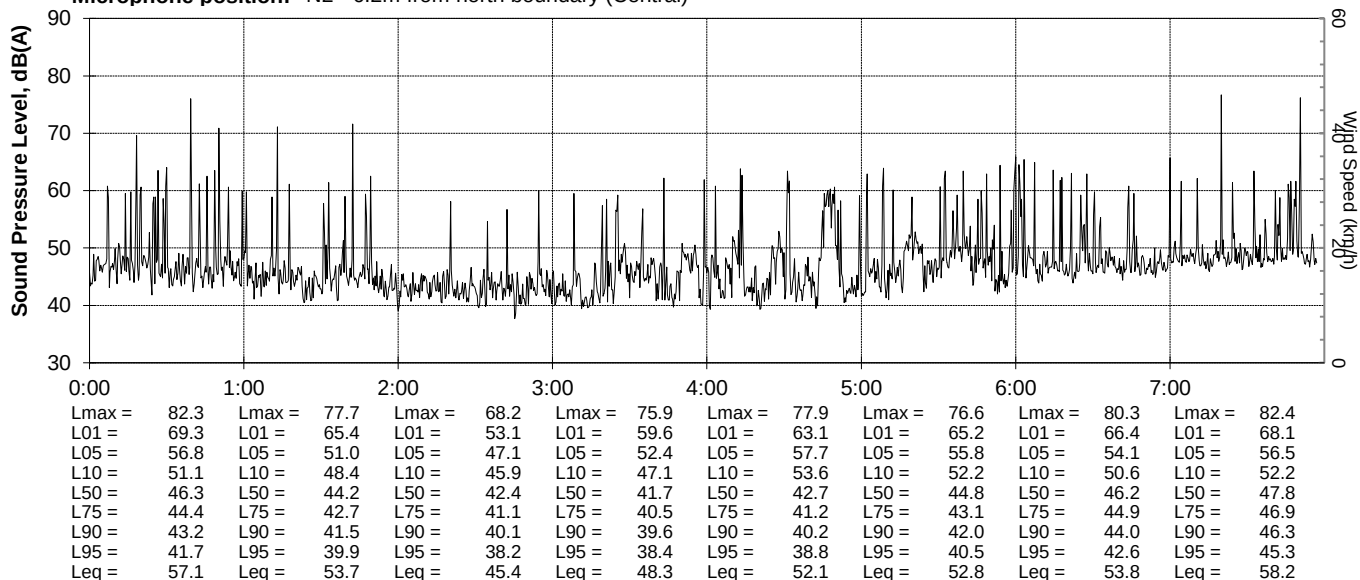
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Sunday  
16 Aug 2015

Microphone position: N2 - 6.2m from north boundary (Central)



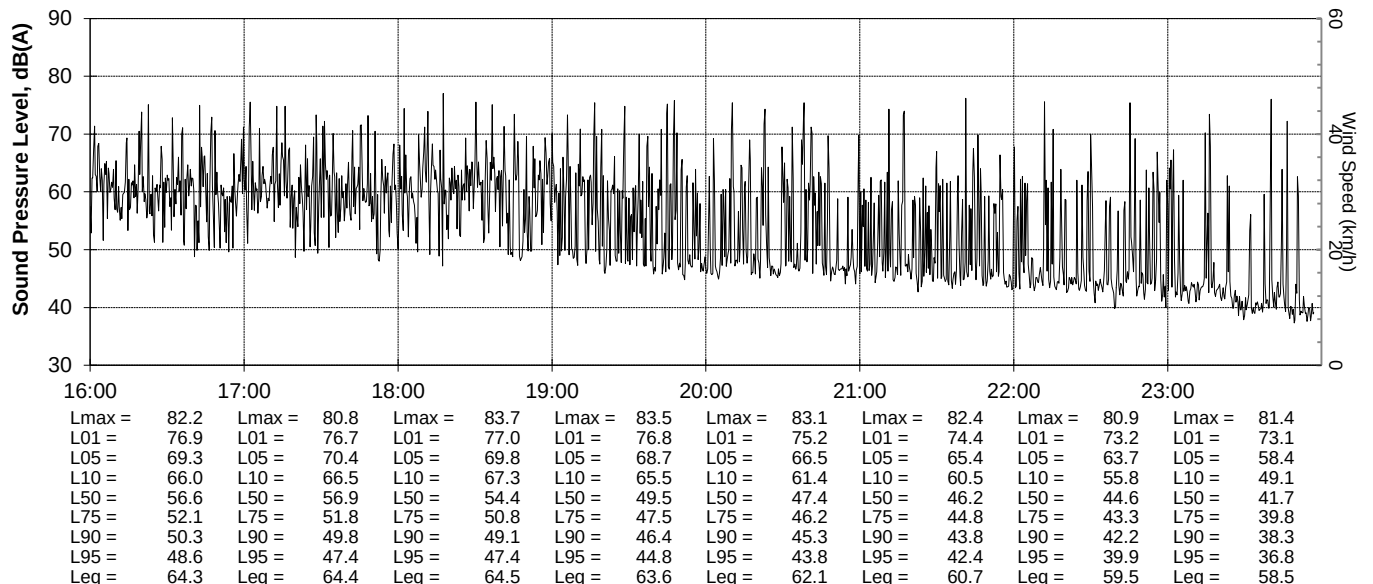
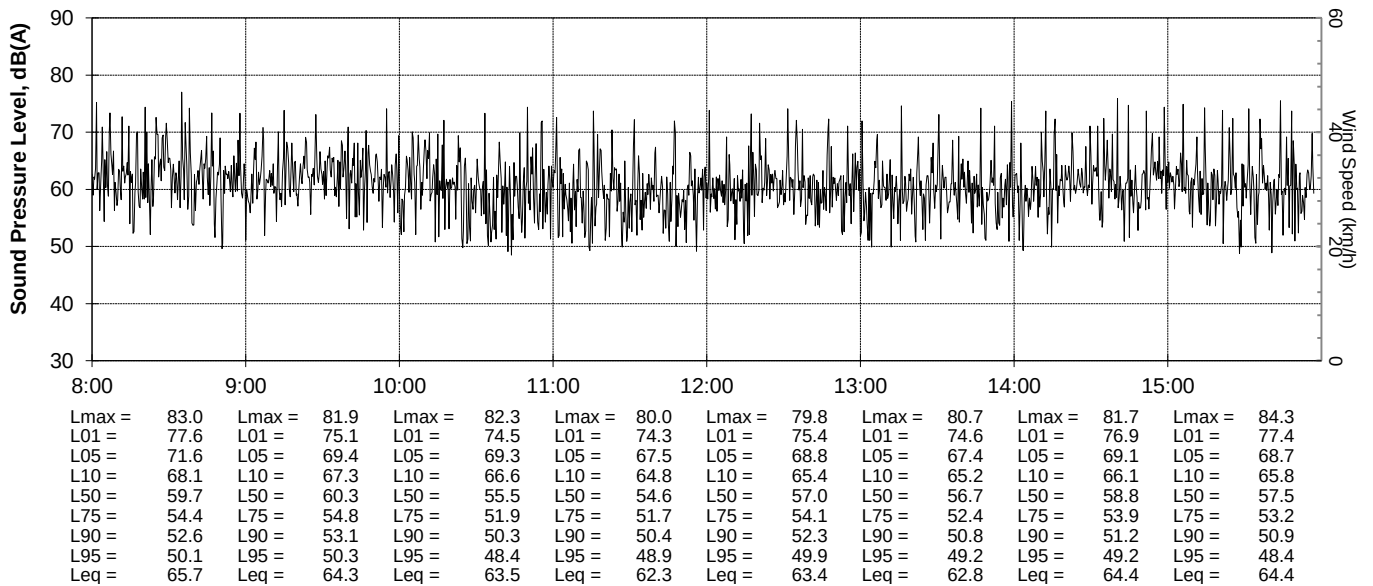
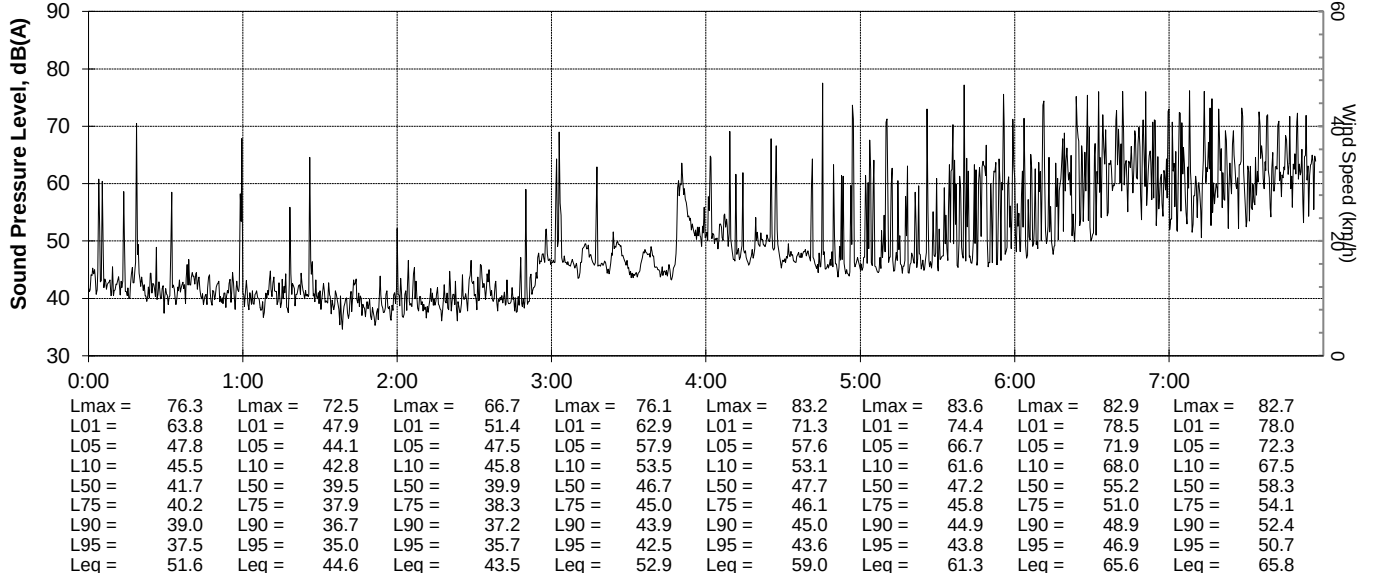
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Monday  
17 Aug 2015

Microphone position: N2 - 6.2m from north boundary (Central)



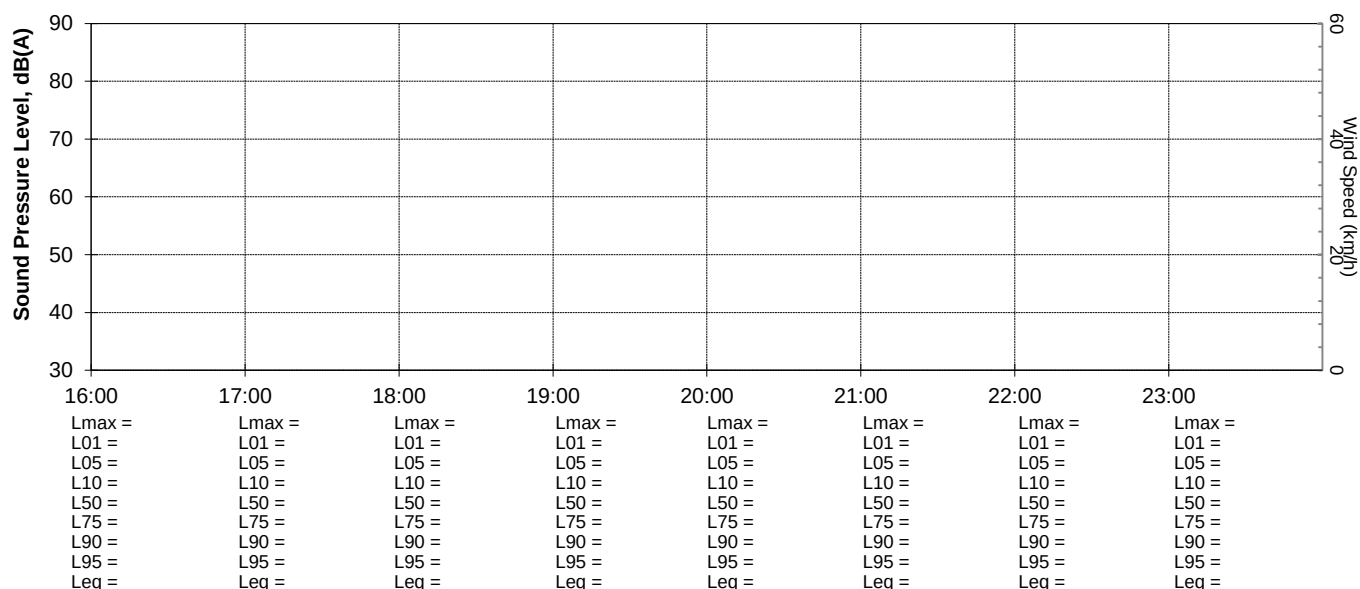
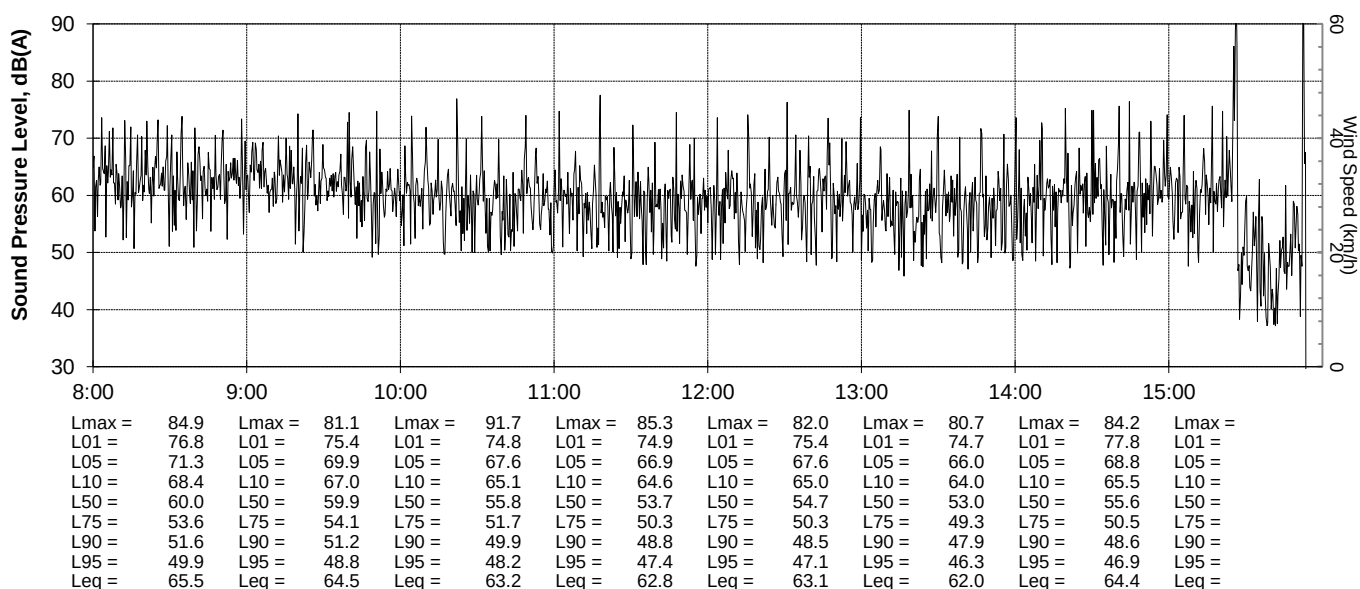
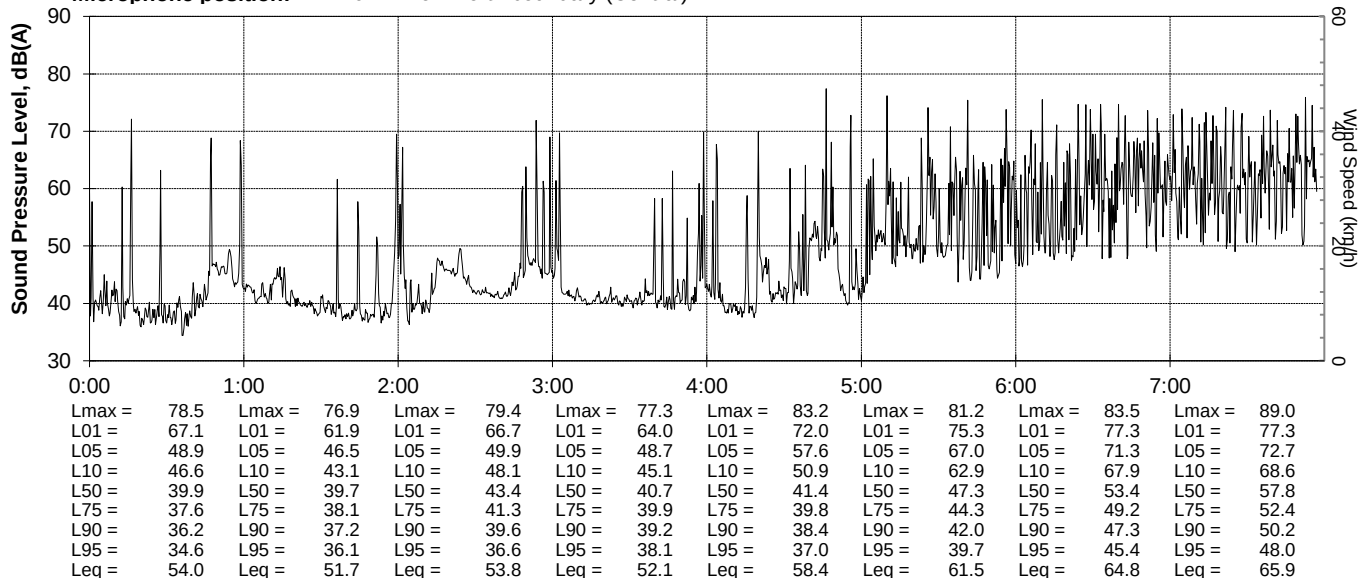
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Tuesday  
18 Aug 2015

Microphone position: N2 - 6.2m from north boundary (Central)





## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Job Number: 640.11143

Location: 56-74 Station St Nunawading

Microphone position: S1 - 6.4m from S boundary, 40m from Norcal Rd

Initial calibration: 93.9 dBA

Final calibration: 93.7 dBA

Initials JA

## APPENDIX B

| Hour                                 | Sound Pressure Level, dB(A) |                 |                 |                 |                 |                 |                     |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|--------------------------------------|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                      | Mon, 10-08-2015             |                 |                 | Tue, 11-08-2015 |                 |                 | Wed, 12-08-2015     |                 |                 | Thu, 13-08-2015 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|                                      | L <sub>10</sub>             | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub>     | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> |
| 00:00 to 01:00                       |                             |                 |                 | 45.7            | 40.6            | 44.2            | 53.6                | 46.0            | 51.0            | 43.6            | 37.5            | 41.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 01:00 to 02:00                       |                             |                 |                 | 43.1            | 38.9            | 41.5            | 47.3                | 40.7            | 45.0            | 41.6            | 35.9            | 39.6            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 02:00 to 03:00                       |                             |                 |                 | 43.2            | 38.3            | 42.4            | 44.3                | 39.3            | 43.0            | 41.3            | 34.9            | 40.3            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 03:00 to 04:00                       |                             |                 |                 | 44.3            | 39.1            | 42.9            | 43.9                | 38.2            | 41.8            | 41.2            | 35.5            | 39.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 04:00 to 05:00                       |                             |                 |                 | 46.9            | 42.4            | 45.7            | 47.0                | 41.3            | 45.7            | 44.4            | 37.3            | 43.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 05:00 to 06:00                       |                             |                 |                 | 51.7            | 45.3            | 49.9            | 51.4                | 44.4            | 49.4            | 49.0            | 42.6            | 47.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 06:00 to 07:00                       |                             |                 |                 | 55.9            | 51.1            | 54.1            | 54.9                | 48.0            | 52.3            | 54.0            | 48.2            | 51.8            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 07:00 to 08:00                       |                             |                 |                 | 57.3            | 53.3            | 55.7            | 54.9                | 49.8            | 53.1            | 55.3            | 49.9            | 53.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 08:00 to 09:00                       |                             |                 |                 | 57.4            | 52.9            | 56.2            | 54.7                | 49.7            | 52.6            | 53.5            | 49.2            | 51.8            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 09:00 to 10:00                       |                             |                 |                 | 57.8            | 52.0            | 56.5            | 53.3                | 47.9            | 51.3            | 54.9            | 47.9            | 52.5            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 10:00 to 11:00                       |                             |                 |                 | 55.7            | 51.3            | 53.9            | 53.2                | 47.8            | 51.6            | 53.9            | 48.3            | 52.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 11:00 to 12:00                       |                             |                 |                 | 57.4            | 51.9            | 55.3            | 54.2                | 47.5            | 53.4            | 52.8            | 47.4            | 51.6            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 12:00 to 13:00                       |                             |                 |                 | 57.7            | 53.1            | 56.3            | 54.2                | 47.0            | 52.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 13:00 to 14:00                       |                             |                 |                 | 57.8            | 52.1            | 55.7            | 51.7                | 45.3            | 50.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 14:00 to 15:00                       |                             |                 |                 | 58.2            | 52.6            | 56.0            | 51.9                | 45.6            | 49.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 15:00 to 16:00                       |                             |                 |                 | 56.7            | 52.1            | 55.0            | 51.4                | 45.8            | 50.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 16:00 to 17:00                       | 60.1                        | 52.6            | 74.6            | 56.4            | 51.3            | 54.9            | 52.2                | 45.9            | 50.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 17:00 to 18:00                       | 57.3                        | 51.8            | 55.2            | 56.4            | 51.0            | 54.6            | 52.7                | 44.8            | 50.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 18:00 to 19:00                       | 54.8                        | 51.1            | 53.3            | 53.9            | 50.1            | 52.5            | 49.5                | 43.2            | 47.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 19:00 to 20:00                       | 53.0                        | 48.5            | 51.6            | 53.7            | 49.0            | 52.0            | 58.1                | 49.0            | 54.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 20:00 to 21:00                       | 50.7                        | 47.3            | 49.6            | 52.3            | 47.8            | 50.9            | 60.1                | 47.5            | 55.5            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 21:00 to 22:00                       | 51.1                        | 47.8            | 50.1            | 52.6            | 48.2            | 51.1            | 50.6                | 46.9            | 49.5            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 22:00 to 23:00                       | 50.4                        | 45.9            | 48.9            | 51.9            | 47.2            | 50.3            | 49.1                | 44.0            | 47.6            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 23:00 to 24:00                       | 48.9                        | 44.0            | 47.3            | 52.6            | 45.7            | 50.2            | 46.5                | 41.4            | 45.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>10</sub> (18h), ar.av. 6-24h  |                             |                 |                 | 55.7            |                 |                 | 53.0                |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (15h), log av. 7-22h |                             |                 |                 |                 |                 | 54.8            |                     |                 | 52.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (9h), log av. 22-7h  |                             |                 | 48.2            |                 |                 | 48.9            |                     |                 | 46.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (24h), log av. 0-24h |                             |                 |                 |                 |                 | 53.4            |                     |                 | 50.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>90</sub> Day - lowest hour    |                             |                 |                 |                 | 51.0            |                 |                     | 44.8            |                 |                 | 47.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>90</sub> Evening 10-11pm      |                             | 45.9            |                 |                 | 47.2            |                 |                     | 44.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>90</sub> Night 10pm-5am       |                             | 41.3            |                 |                 | 42.6            |                 |                     | 38.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Wind @0900h, km/h                    | NNE 22                      |                 |                 | N 15            |                 |                 | NNE 9               |                 |                 | W 9             |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Wind @1500h, km/h                    | N 19                        |                 |                 | NNW 20          |                 |                 | WSW9, rain from 7pm |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |

NOTE: Weather data from Scoresby AWS

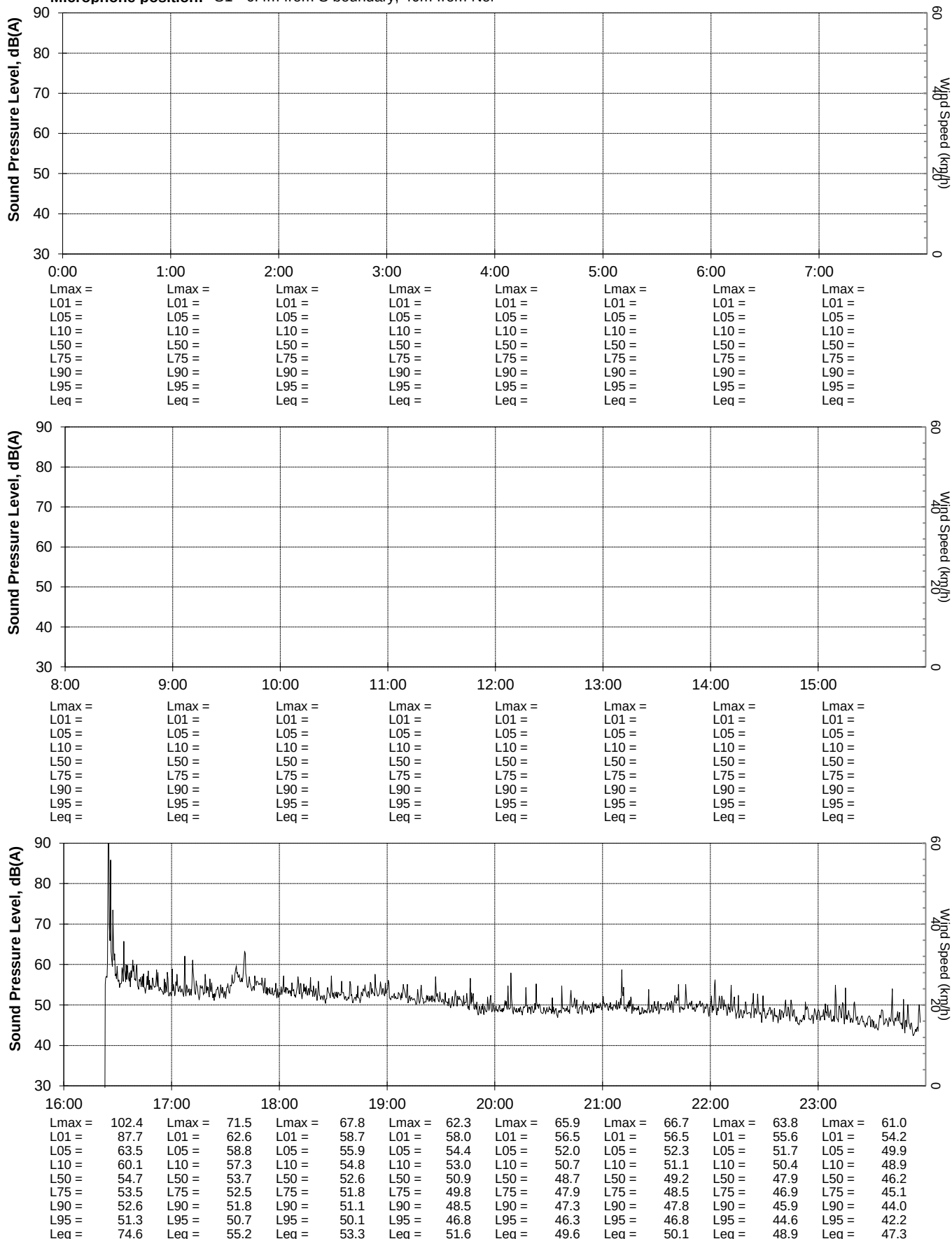
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Monday  
10 Aug 2015

Microphone position: S1 - 6.4m from S boundary, 40m from Noi



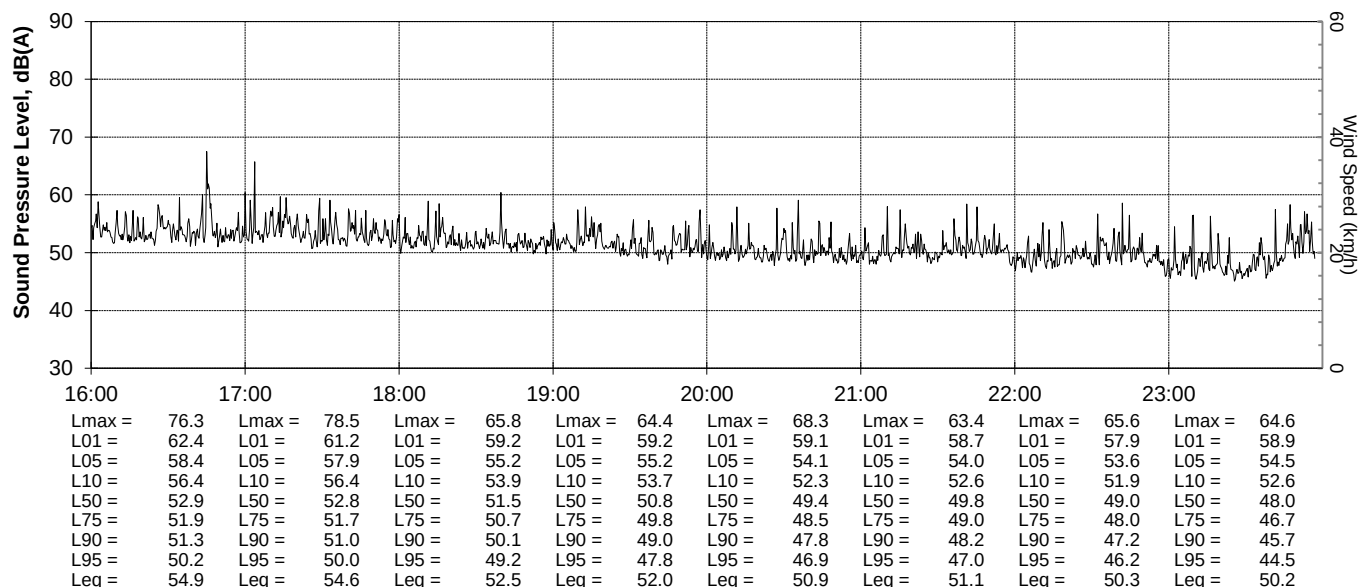
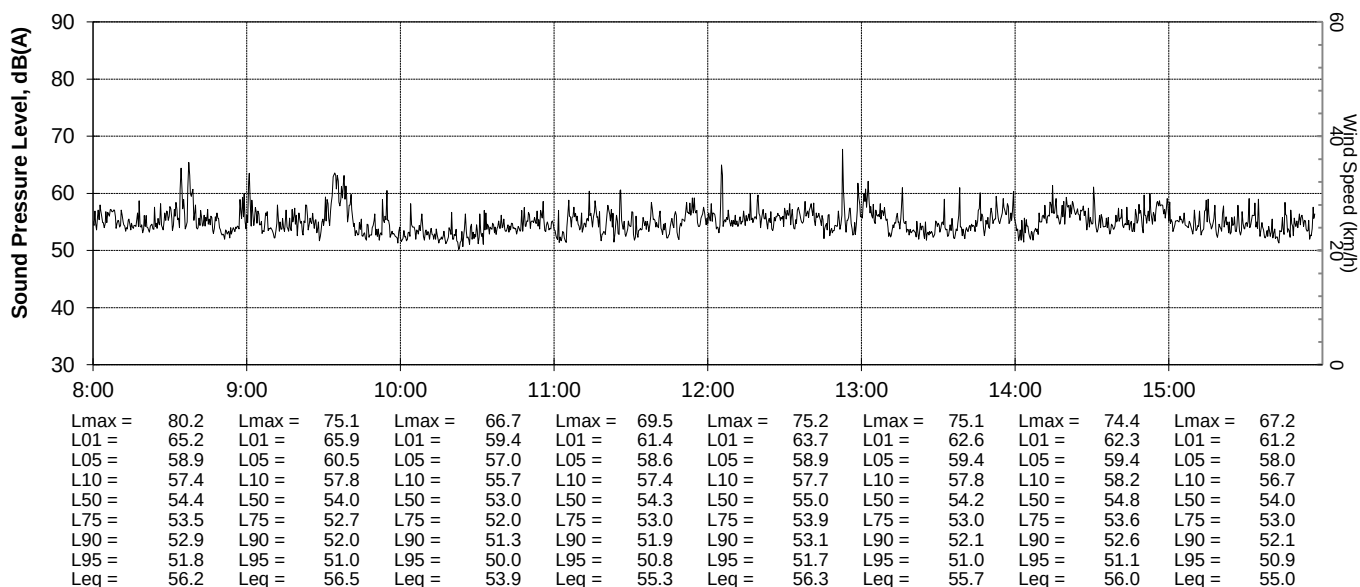
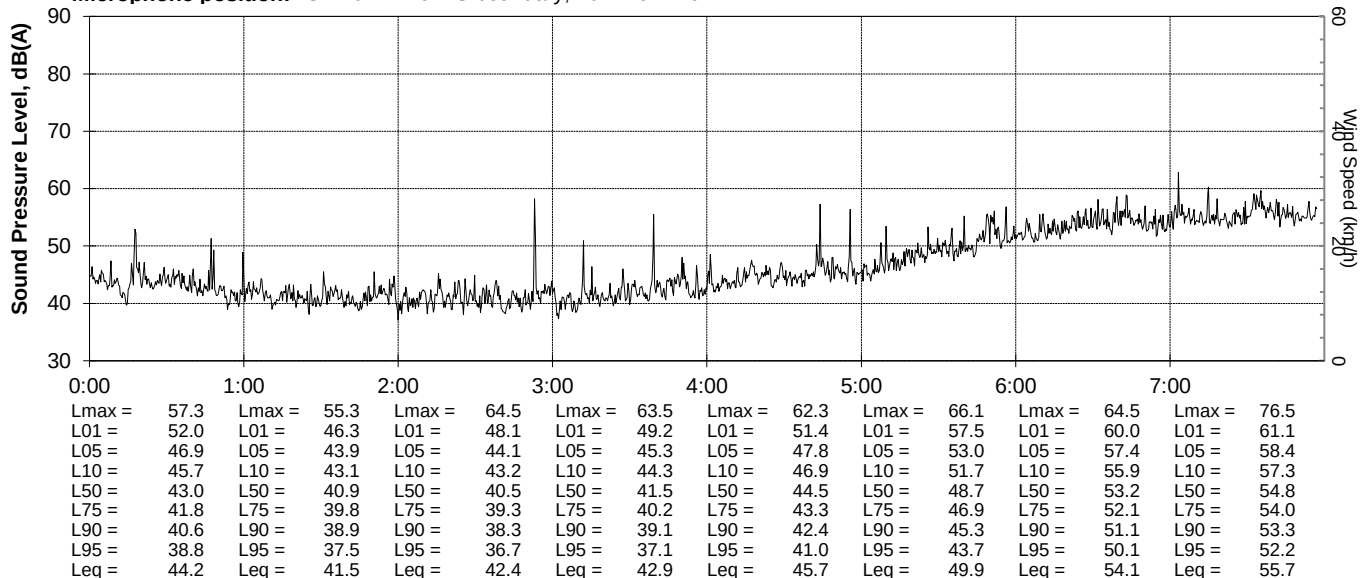
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Tuesday  
11 Aug 2015

Microphone position: S1 - 6.4m from S boundary, 40m from Noi



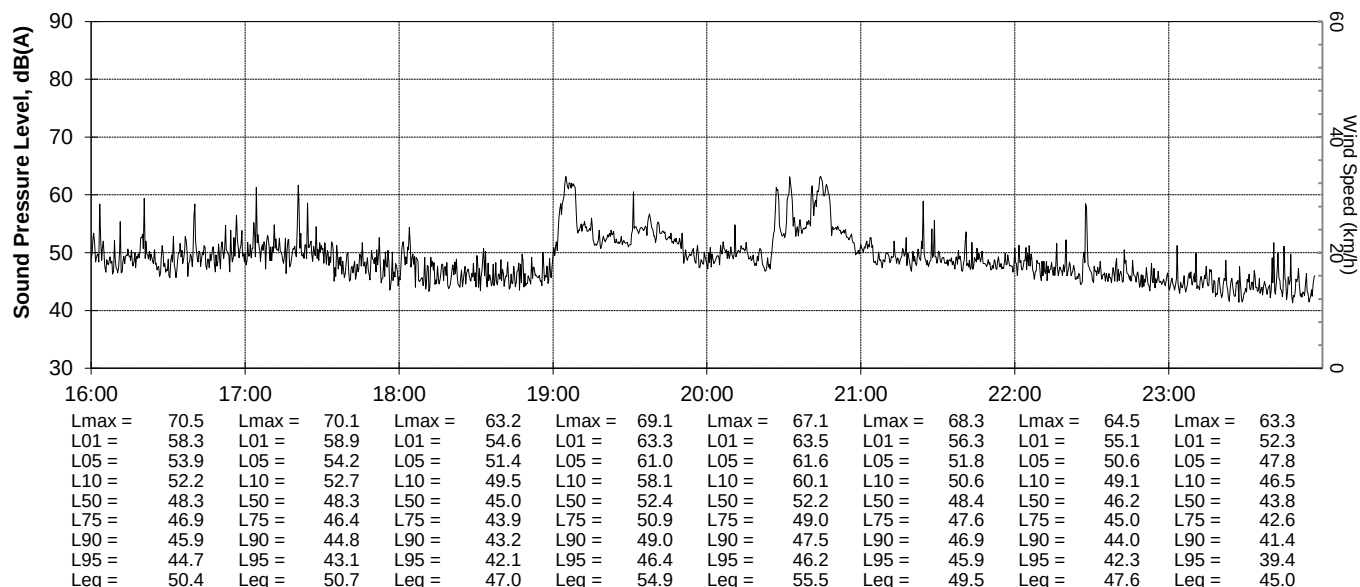
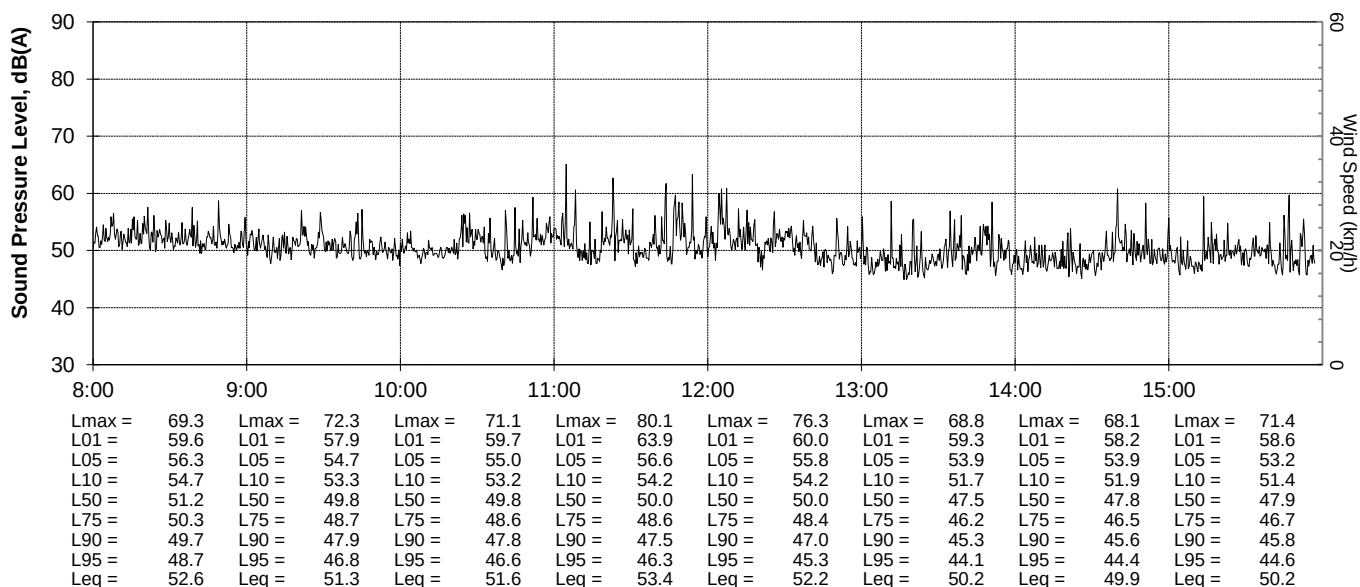
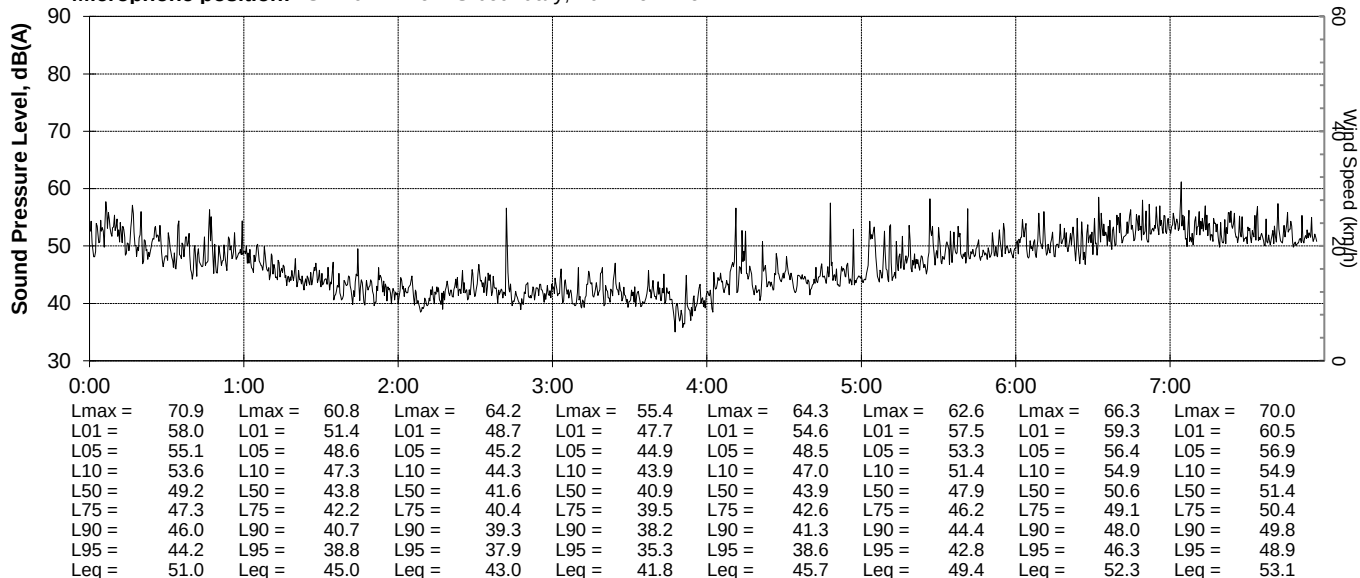
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Wednesday  
12 Aug 2015

Microphone position: S1 - 6.4m from S boundary, 40m from Noi



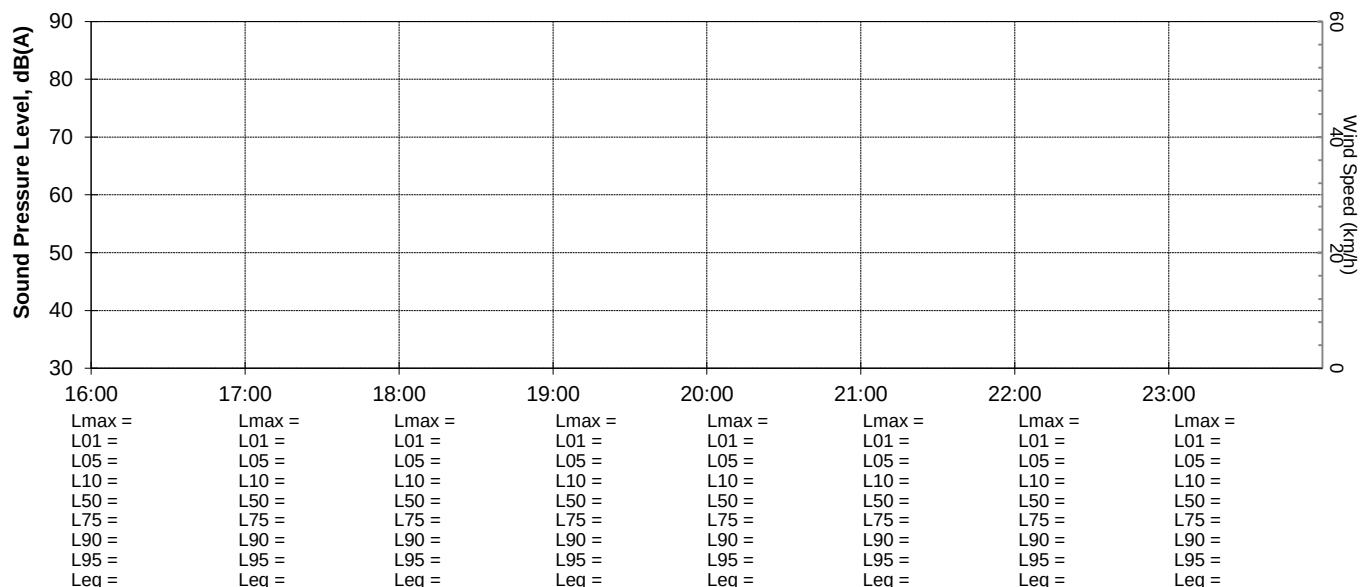
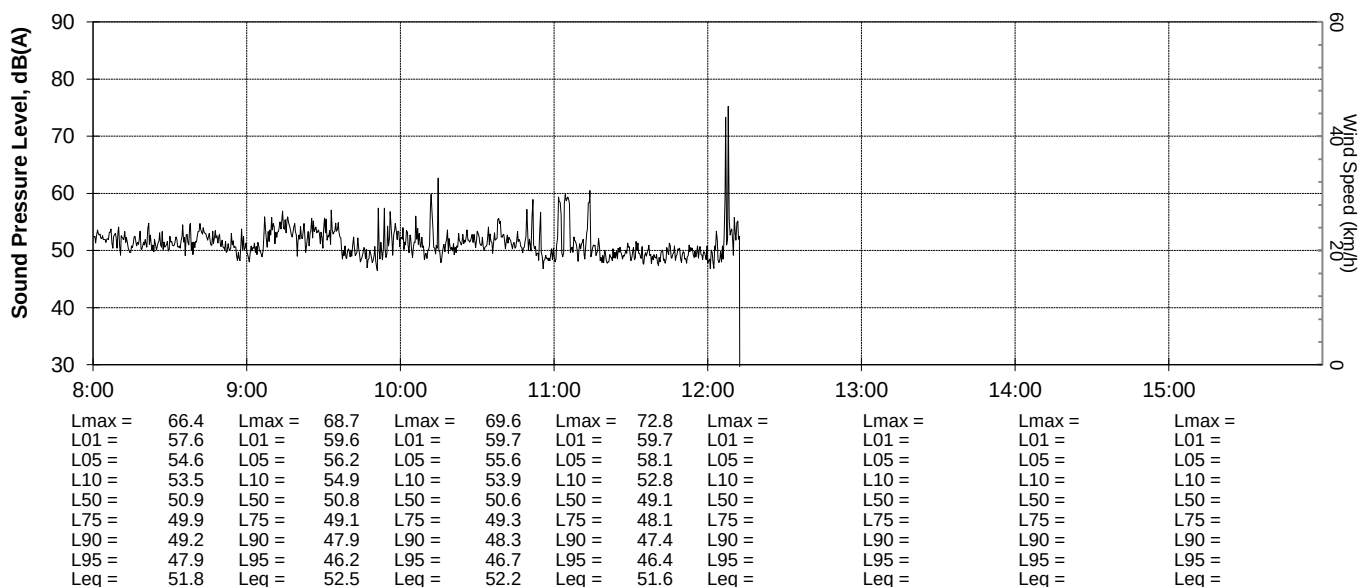
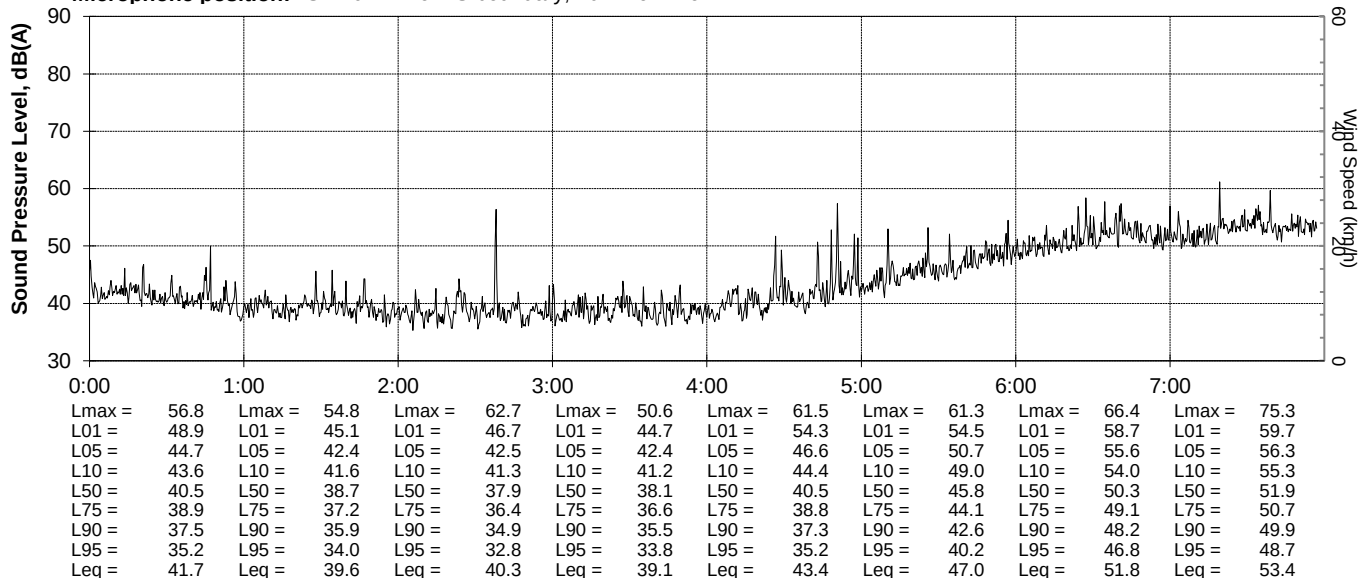
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Thursday  
13 Aug 2015

Microphone position: S1 - 6.4m from S boundary, 40m from Noi





## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Job Number: 640.11143

Location: 56-74 Station St Nunawading

Microphone position: S2 - 4m from south boundary (west end)

Initial calibration: 93.9 dBA

Final calibration: 93.8 dBA

Initials JA

## APPENDIX B

| Hour                                 | Sound Pressure Level, dB(A) |                 |                 |                 |                 |                 |                          |                 |                 |                 |                 |                 |                      |                 |                 |                      |                 |                 |  |
|--------------------------------------|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|-----------------|-----------------|----------------------|-----------------|-----------------|--|
|                                      | Thu, 13-08-2015             |                 |                 | Fri, 14-08-2015 |                 |                 | Sat, 15-08-2015          |                 |                 | Sun, 16-08-2015 |                 |                 | Mon, 17-08-2015      |                 |                 | Tue, 18-08-2015      |                 |                 |  |
|                                      | L <sub>10</sub>             | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub>          | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub>      | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub>      | L <sub>90</sub> | L <sub>eq</sub> |  |
| 00:00 to 01:00                       |                             |                 |                 | 41.2            | 36.9            | 39.7            | 54.0                     | 37.9            | 48.9            | 46.2            | 41.4            | 44.7            | 44.2                 | 39.2            | 42.6            | 49.8                 | 30.3            | 44.8            |  |
| 01:00 to 02:00                       |                             |                 |                 | 38.4            | 34.5            | 36.9            | 47.1                     | 37.8            | 43.7            | 44.9            | 40.9            | 43.9            | 42.5                 | 37.2            | 40.8            | 44.0                 | 36.8            | 41.4            |  |
| 02:00 to 03:00                       |                             |                 |                 | 38.8            | 33.9            | 36.9            | 40.3                     | 31.5            | 37.5            | 43.8            | 39.4            | 42.0            | 45.5                 | 37.6            | 42.4            | 53.9                 | 36.7            | 50.3            |  |
| 03:00 to 04:00                       |                             |                 |                 | 37.9            | 33.4            | 36.1            | 35.3                     | 26.8            | 32.9            | 43.8            | 38.7            | 41.7            | 55.4                 | 45.4            | 51.6            | 47.5                 | 37.9            | 43.7            |  |
| 04:00 to 05:00                       |                             |                 |                 | 40.6            | 34.8            | 38.9            | 34.7                     | 25.9            | 31.7            | 44.3            | 39.3            | 42.4            | 54.7                 | 45.7            | 52.1            | 39.6                 | 33.7            | 37.9            |  |
| 05:00 to 06:00                       |                             |                 |                 | 43.4            | 35.0            | 40.8            | 42.5                     | 31.3            | 40.0            | 46.0            | 40.4            | 44.6            | 47.2                 | 43.0            | 45.6            | 48.1                 | 36.6            | 43.8            |  |
| 06:00 to 07:00                       |                             |                 |                 | 50.0            | 43.7            | 47.7            | 46.6                     | 36.4            | 46.6            | 48.5            | 43.4            | 46.7            | 52.3                 | 47.1            | 51.9            | 50.5                 | 45.1            | 50.8            |  |
| 07:00 to 08:00                       |                             |                 |                 | 50.7            | 44.9            | 50.2            | 48.2                     | 37.2            | 47.5            | 49.8            | 45.2            | 48.6            | 52.6                 | 48.0            | 50.9            | 54.7                 | 45.1            | 51.2            |  |
| 08:00 to 09:00                       |                             |                 |                 | 50.2            | 45.5            | 49.0            | 49.2                     | 36.6            | 51.1            | 49.2            | 45.2            | 47.9            | 50.9                 | 44.2            | 49.4            | 54.0                 | 45.7            | 50.9            |  |
| 09:00 to 10:00                       |                             |                 |                 | 50.6            | 45.4            | 49.0            | 47.8                     | 38.4            | 49.6            | 49.3            | 45.0            | 50.4            | 56.0                 | 45.0            | 53.1            | 50.0                 | 43.8            | 50.4            |  |
| 10:00 to 11:00                       |                             |                 |                 | 49.9            | 45.4            | 48.9            | 47.1                     | 38.5            | 45.7            | 46.5            | 41.6            | 45.4            | 55.1                 | 45.4            | 53.4            | 52.4                 | 43.5            | 53.6            |  |
| 11:00 to 12:00                       |                             |                 |                 | 48.9            | 44.5            | 48.2            | 48.0                     | 38.4            | 48.1            | 46.2            | 40.5            | 44.9            | 53.5                 | 43.7            | 50.7            | 48.6                 | 42.6            | 46.4            |  |
| 12:00 to 13:00                       | 57.7                        | 44.8            | 79.5            | 48.9            | 44.8            | 47.4            | 48.7                     | 36.2            | 51.8            | 48.5            | 41.7            | 52.5            | 49.3                 | 43.3            | 48.5            | 47.5                 | 42.0            | 45.6            |  |
| 13:00 to 14:00                       | 48.9                        | 43.5            | 47.1            | 50.1            | 44.1            | 52.3            | 44.2                     | 32.7            | 44.2            | 47.2            | 40.9            | 46.6            | 48.7                 | 43.5            | 46.9            | 47.9                 | 41.4            | 46.9            |  |
| 14:00 to 15:00                       | 49.7                        | 44.1            | 47.7            | 47.5            | 41.9            | 47.2            | 43.9                     | 32.8            | 44.5            | 46.8            | 41.4            | 44.9            | 47.6                 | 42.4            | 48.4            | 47.9                 | 41.3            | 50.0            |  |
| 15:00 to 16:00                       | 48.7                        | 42.1            | 46.9            | 49.8            | 42.1            | 48.0            | 43.3                     | 32.6            | 45.3            | 46.7            | 41.7            | 47.5            | 48.6                 | 42.9            | 47.5            |                      |                 |                 |  |
| 16:00 to 17:00                       | 49.3                        | 42.4            | 50.2            | 48.5            | 41.9            | 46.8            | 45.8                     | 32.8            | 44.1            | 49.1            | 43.4            | 47.6            | 49.0                 | 42.8            | 47.5            |                      |                 |                 |  |
| 17:00 to 18:00                       | 49.3                        | 43.5            | 48.3            | 48.7            | 42.1            | 48.2            | 45.4                     | 31.0            | 43.4            | 50.1            | 45.1            | 48.4            | 49.3                 | 42.0            | 55.4            |                      |                 |                 |  |
| 18:00 to 19:00                       | 45.5                        | 41.0            | 44.6            | 46.7            | 41.0            | 44.8            | 41.8                     | 31.5            | 39.4            | 48.4            | 44.3            | 47.6            | 54.0                 | 41.8            | 50.1            |                      |                 |                 |  |
| 19:00 to 20:00                       | 45.9                        | 41.0            | 44.1            | 45.7            | 40.7            | 43.7            | 40.5                     | 32.0            | 37.9            | 47.3            | 43.7            | 46.5            | 46.0                 | 41.0            | 44.5            |                      |                 |                 |  |
| 20:00 to 21:00                       | 44.6                        | 40.5            | 43.1            | 54.2            | 40.8            | 49.8            | 40.6                     | 35.1            | 40.4            | 47.7            | 44.0            | 46.5            | 45.9                 | 40.9            | 44.6            |                      |                 |                 |  |
| 21:00 to 22:00                       | 46.5                        | 42.1            | 45.2            | 55.1            | 46.1            | 51.3            | 43.9                     | 37.5            | 43.6            | 48.9            | 44.4            | 47.4            | 45.7                 | 40.9            | 45.3            |                      |                 |                 |  |
| 22:00 to 23:00                       | 43.4                        | 39.9            | 42.1            | 52.1            | 45.9            | 49.8            | 45.1                     | 40.2            | 44.0            | 49.6            | 42.7            | 47.9            | 42.2                 | 35.7            | 40.8            |                      |                 |                 |  |
| 23:00 to 24:00                       | 42.9                        | 39.6            | 42.0            | 45.0            | 39.5            | 43.9            | 46.6                     | 43.3            | 45.7            | 50.4            | 41.9            | 47.5            | 39.2                 | 31.9            | 36.7            |                      |                 |                 |  |
| L <sub>10</sub> (18h), ar.av. 6-24h  |                             |                 |                 | 49.6            |                 |                 | 45.4                     |                 |                 | 48.3            |                 |                 | 49.2                 |                 |                 |                      |                 |                 |  |
| L <sub>eq</sub> (15h), log av. 7-22h |                             |                 |                 |                 |                 | 48.8            |                          |                 | 46.8            |                 |                 | 48.0            |                      |                 | 50.3            |                      |                 |                 |  |
| L <sub>eq</sub> (9h), log av. 22-7h  |                             |                 | 41.7            |                 |                 | 45.0            |                          |                 | 44.3            |                 |                 | 48.7            |                      |                 | 45.8            |                      |                 |                 |  |
| L <sub>eq</sub> (24h), log av. 0-24h |                             |                 |                 |                 |                 | 47.6            |                          |                 | 45.9            |                 |                 | 47.1            |                      |                 | 49.5            |                      |                 |                 |  |
| 90 Day - lowest hour                 |                             | 42.1            |                 |                 | 41.9            |                 |                          | 37.6            | *               |                 |                 |                 |                      | 42.0            |                 |                      | 41.3            |                 |  |
| 90 Evening 10-11pm                   |                             | 39.9            |                 |                 | 45.9            |                 |                          | 33.1            | *               |                 | 43.2            | *               |                      | 35.7            |                 |                      |                 |                 |  |
| 90 Night 10pm-5am                    |                             | 36.1            |                 |                 | 35.0            |                 |                          | 40.8            |                 |                 | 41.4            |                 |                      | 34.7            |                 |                      |                 |                 |  |
| Wind @0900h, km/h                    | W 9                         |                 |                 | W 9             |                 |                 | NW2 light rain overnight |                 |                 | NNE 6           |                 |                 | SSW 7 rain overnight |                 |                 | WNW7, rain overnight |                 |                 |  |
| Wind @1500h, km/h                    | SW 11                       |                 |                 | W 4             |                 |                 | WNW 2                    |                 |                 | NNW 7           |                 |                 | WSW 17, some rain    |                 |                 | W 2                  |                 |                 |  |

\*NOTE: for the Saturday and Sunday the normal arithmetic averaging of the entire interval was used rather than the modified weekday ranges

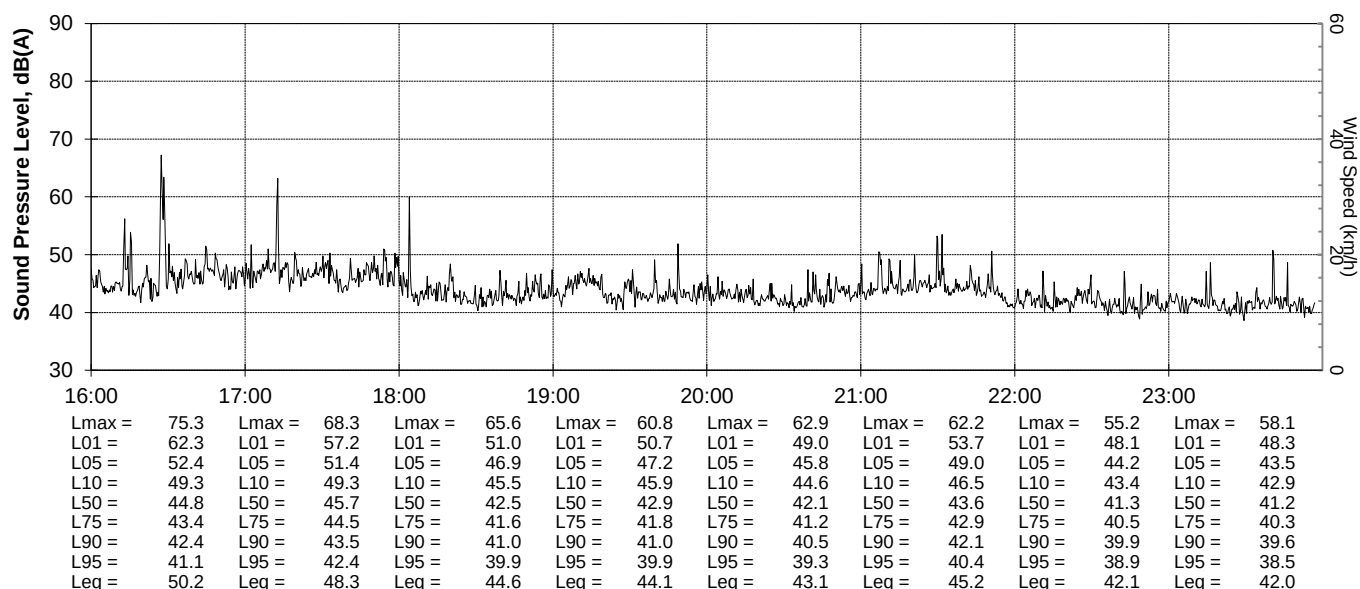
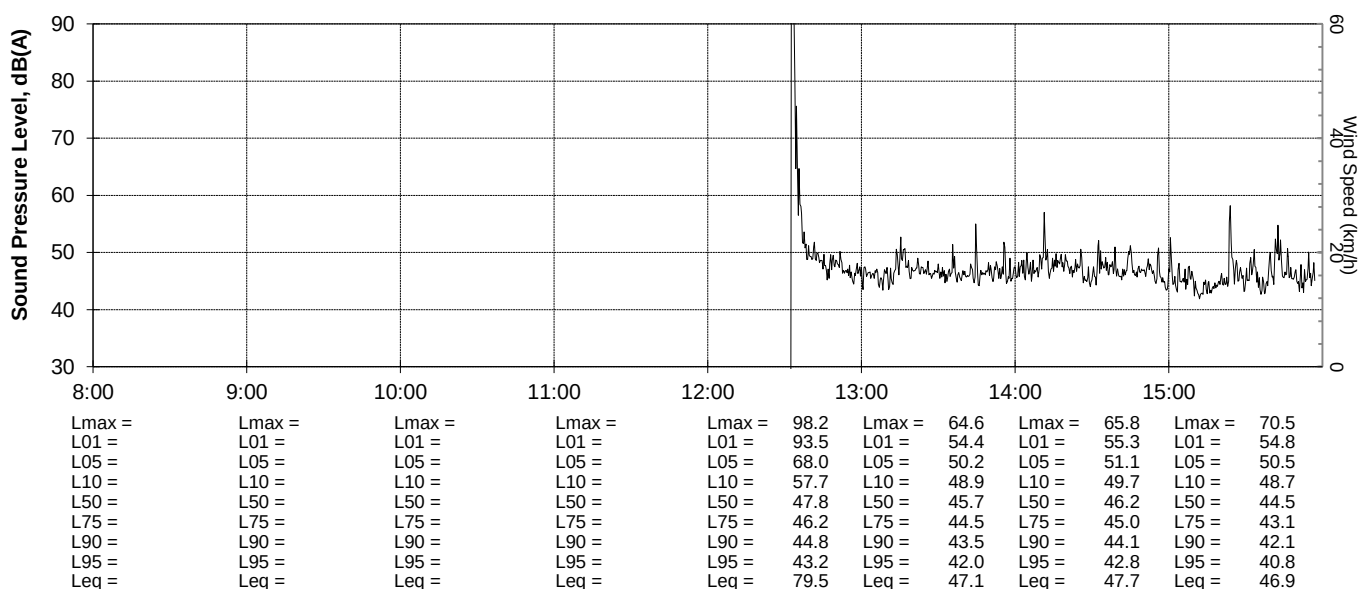
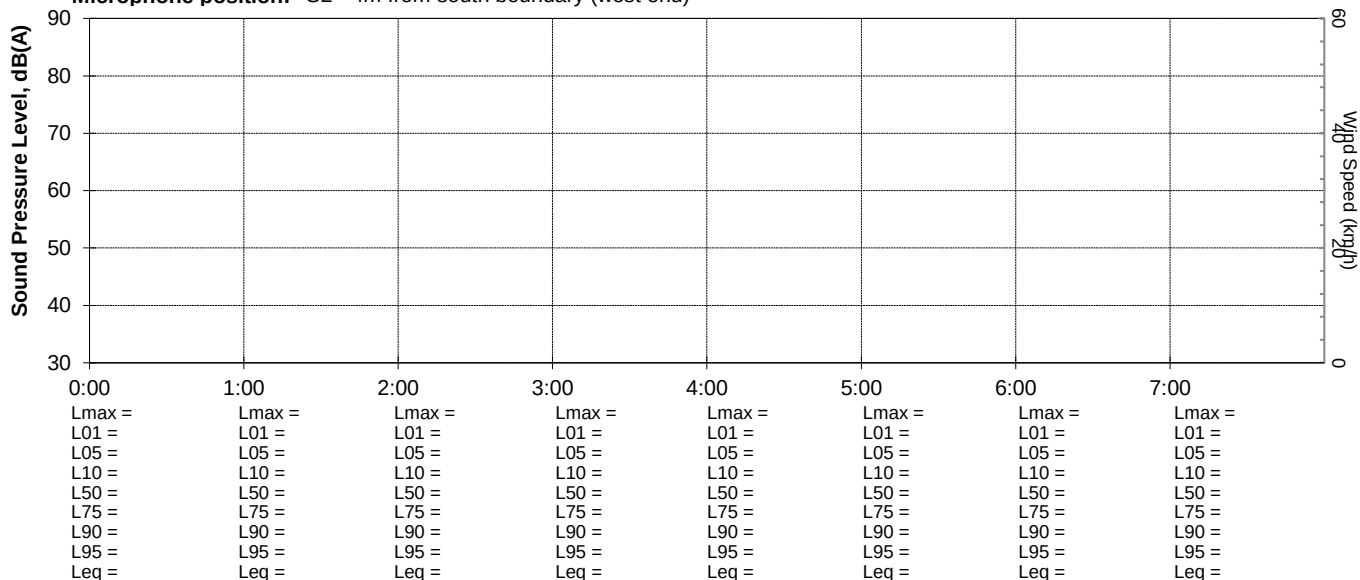
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Thursday  
13 Aug 2015

Microphone position: S2 - 4m from south boundary (west end)



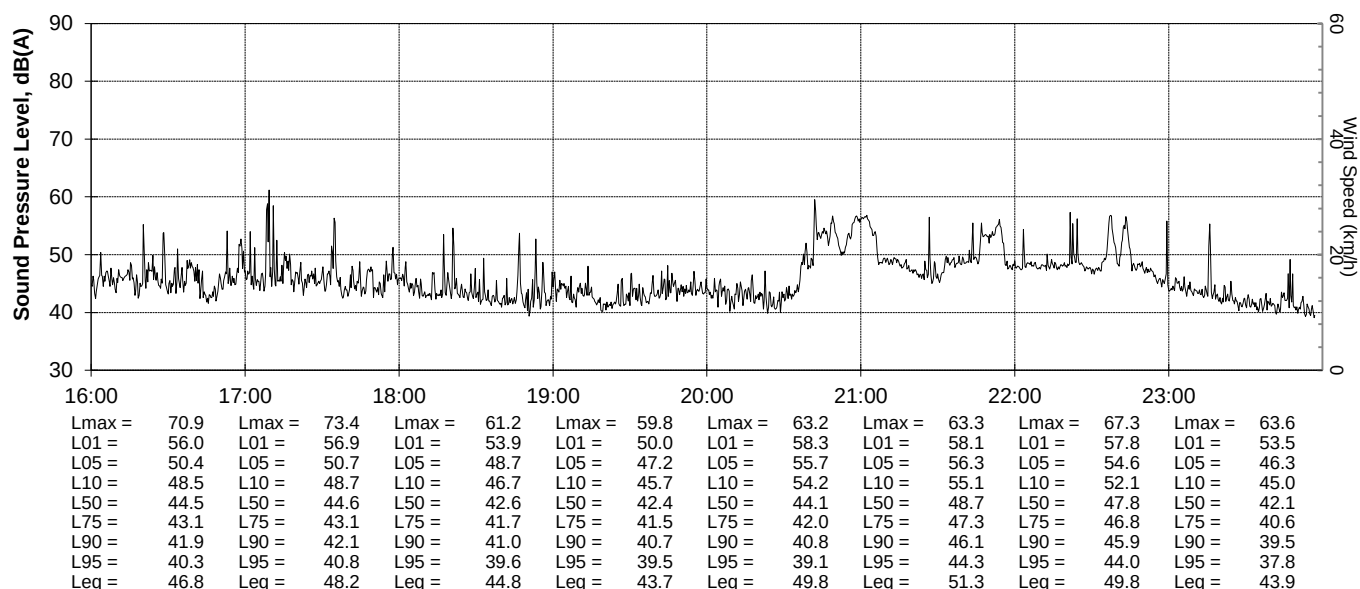
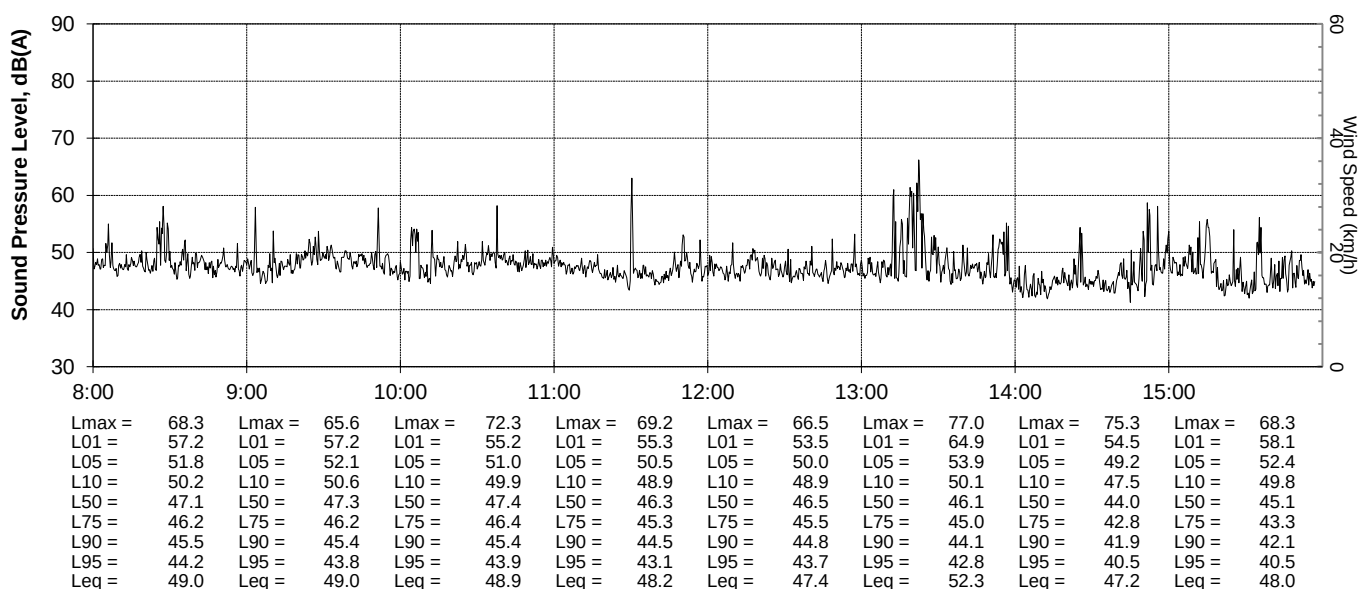
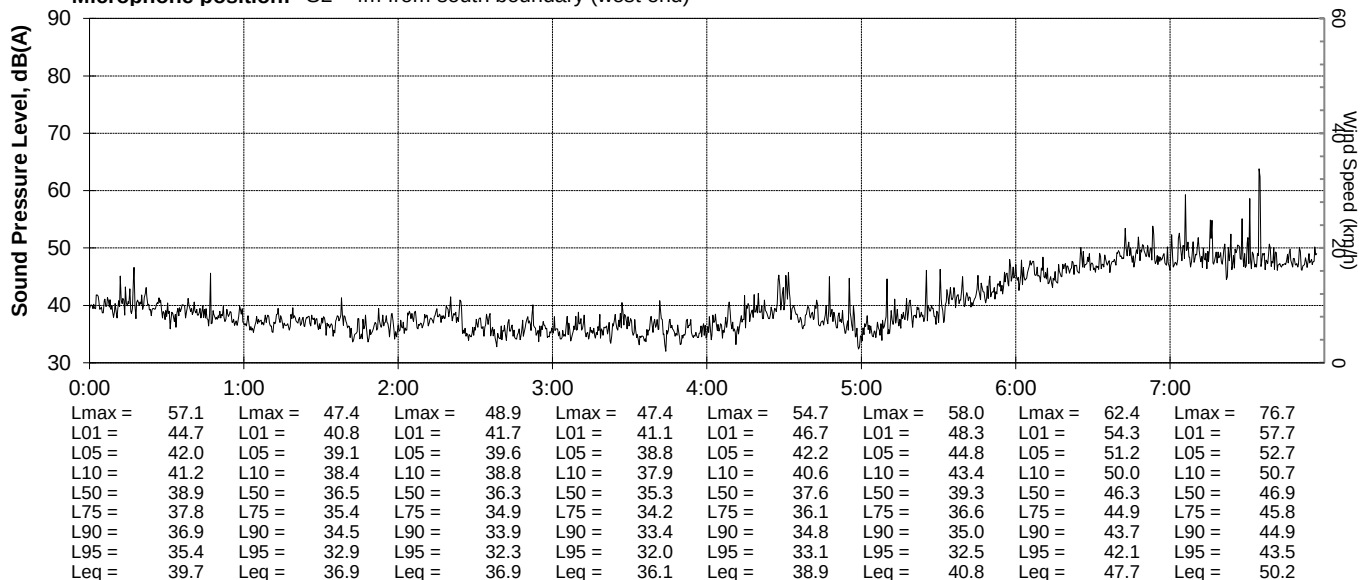
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Friday  
14 Aug 2015

Microphone position: S2 - 4m from south boundary (west end)



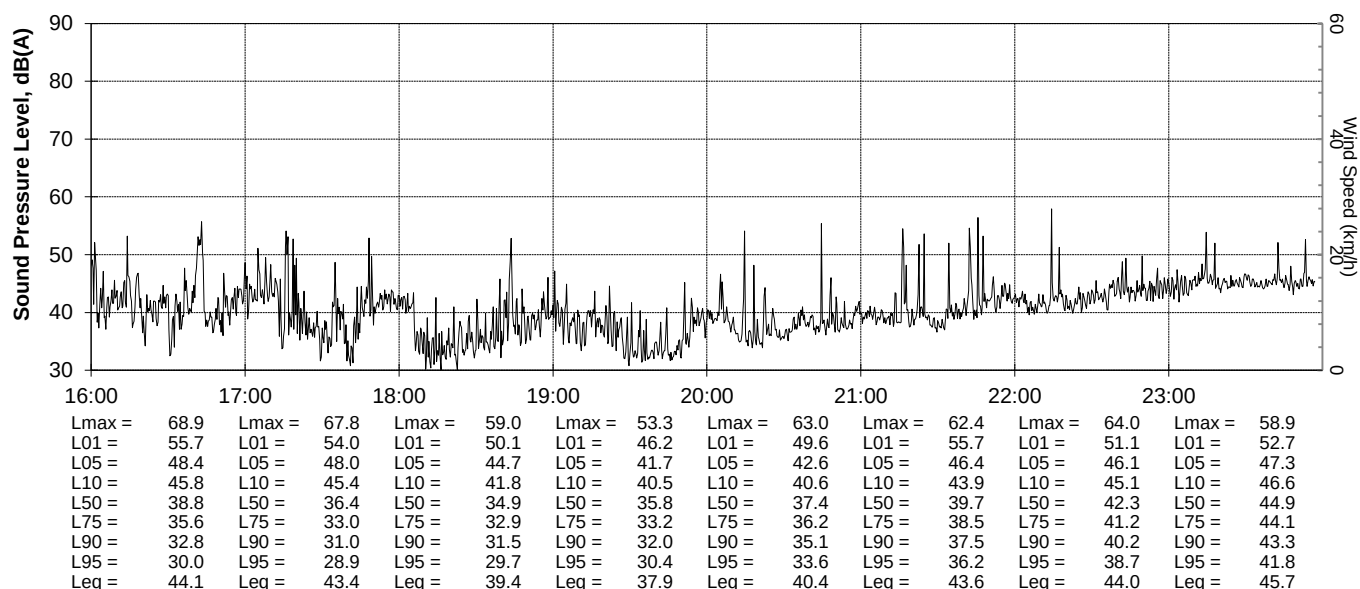
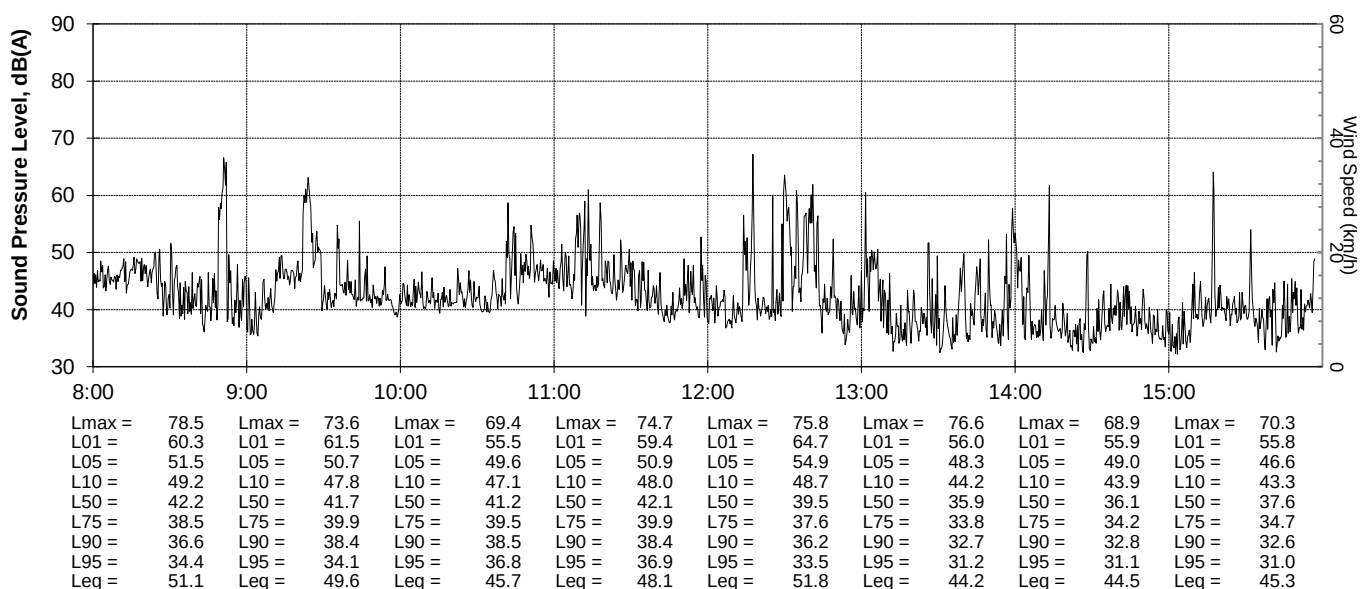
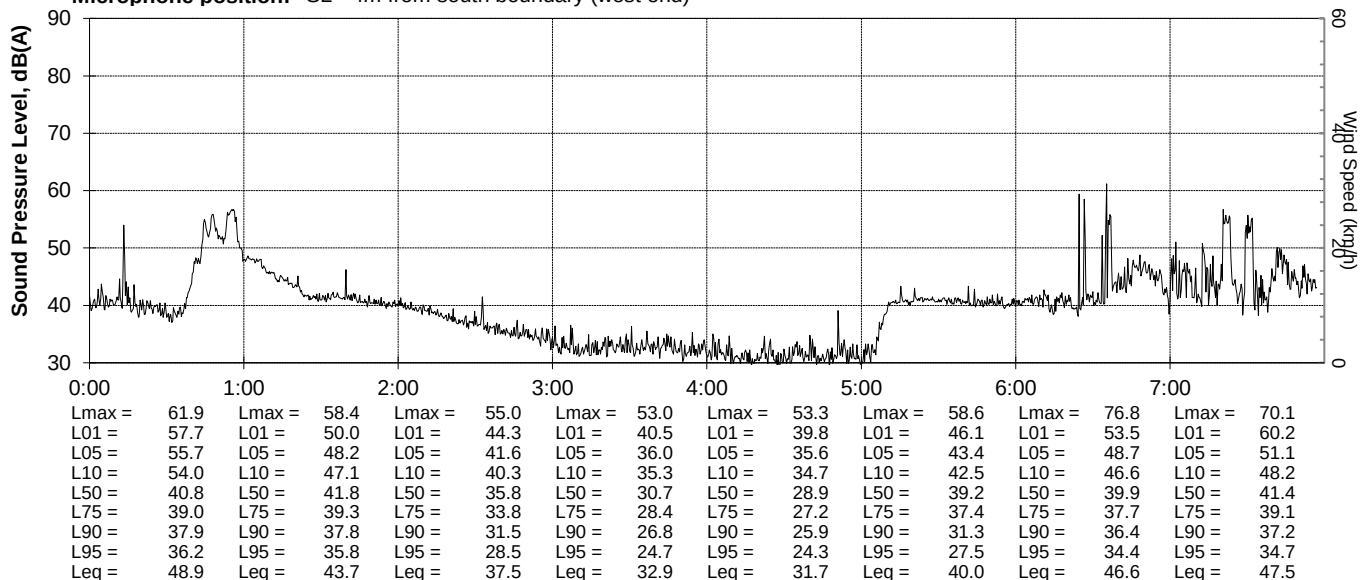
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Saturday  
15 Aug 2015

Microphone position: S2 - 4m from south boundary (west end)



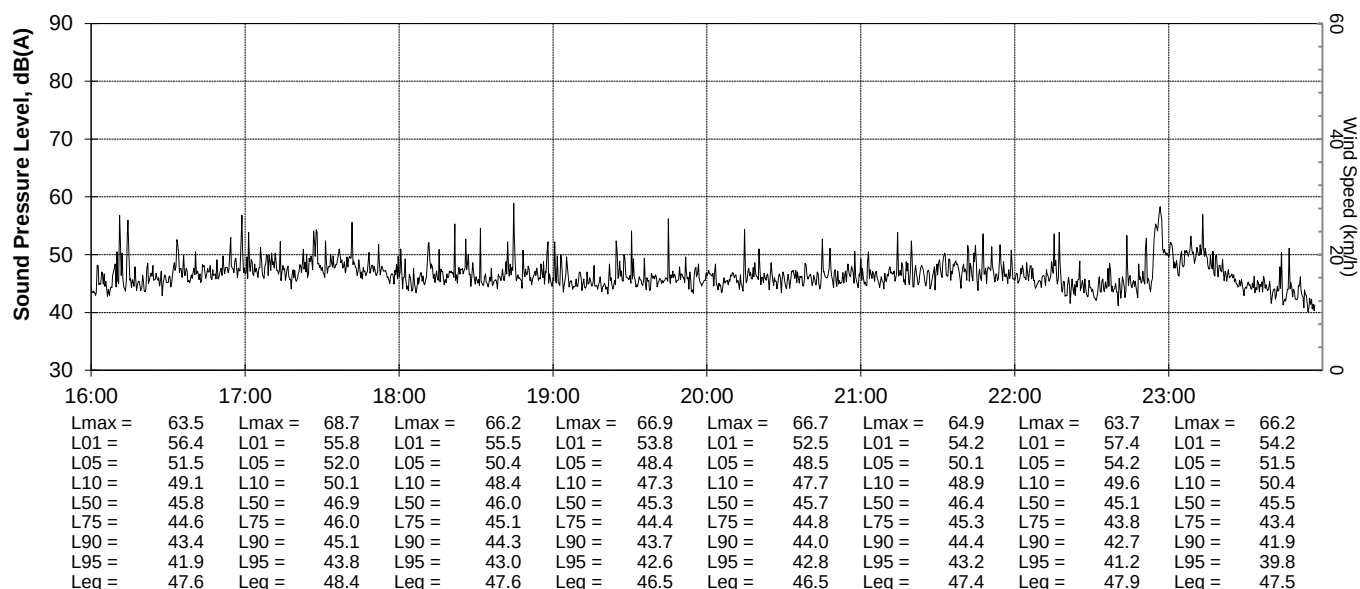
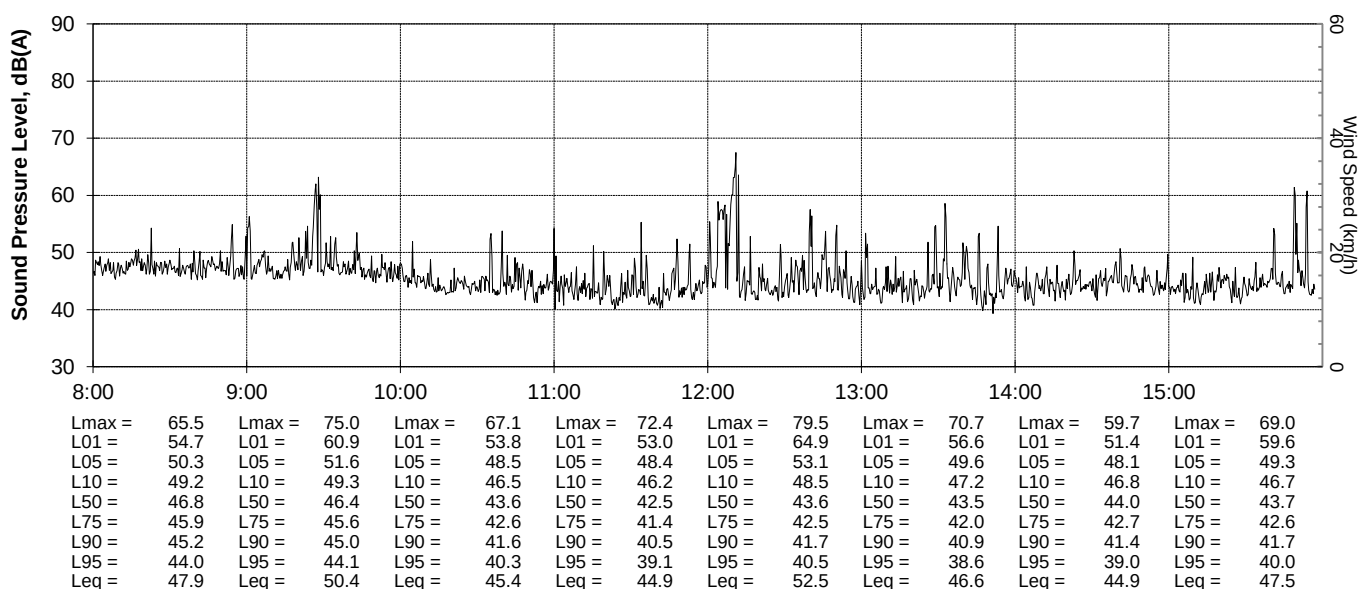
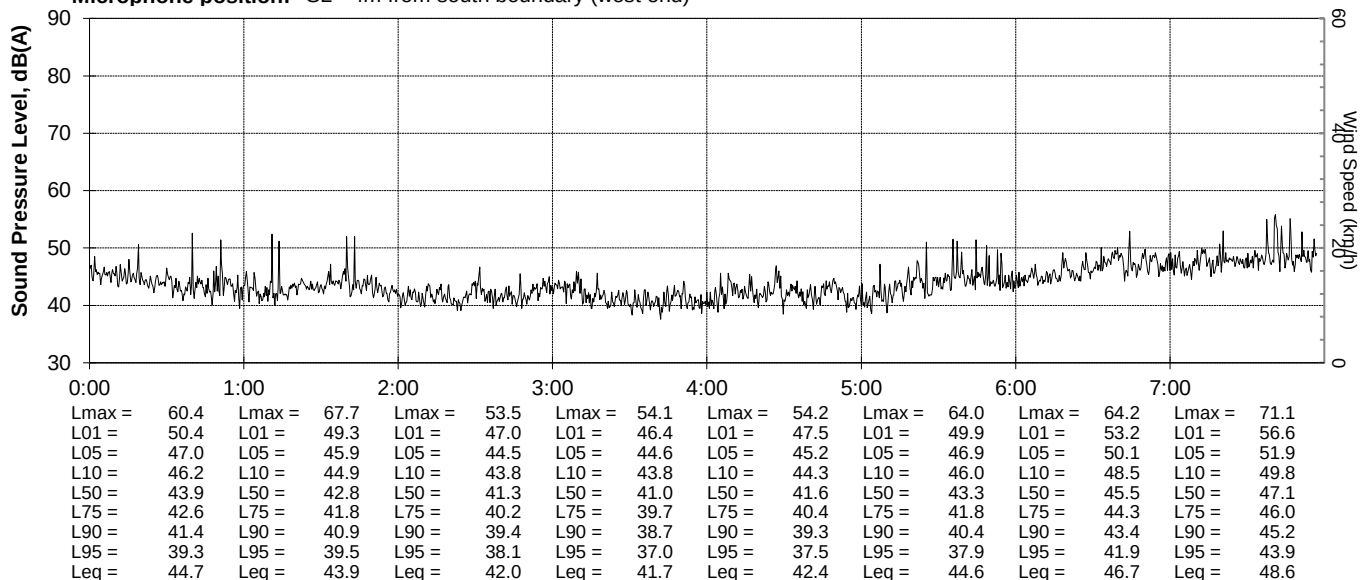
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Sunday  
16 Aug 2015

Microphone position: S2 - 4m from south boundary (west end)



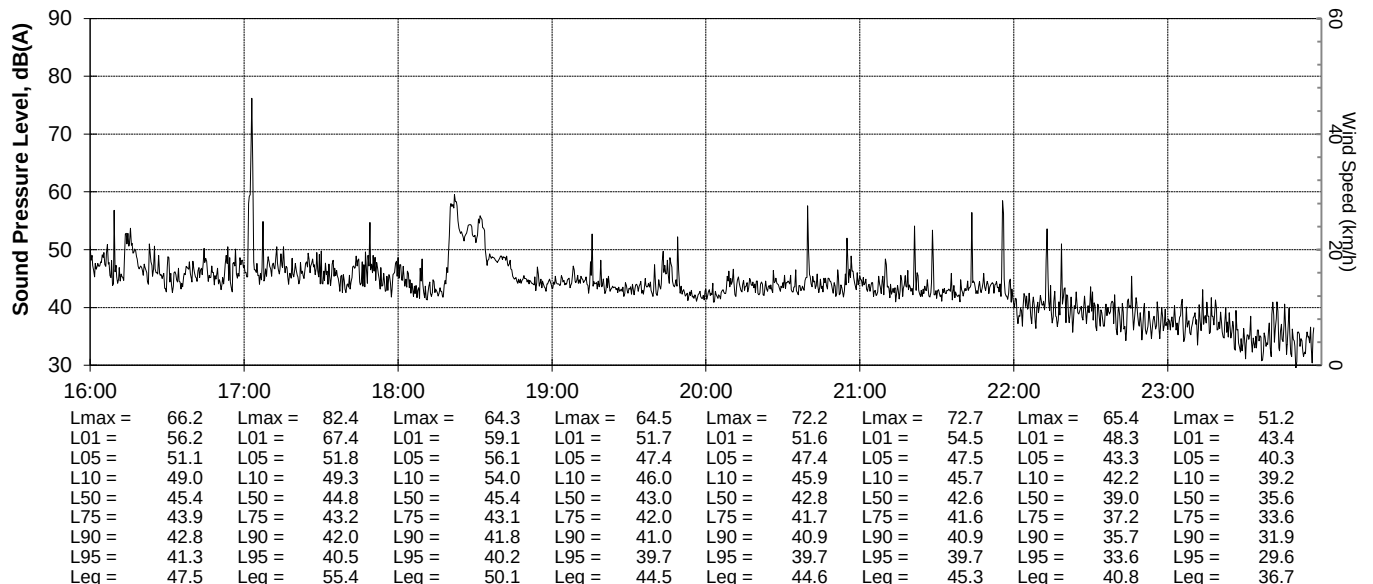
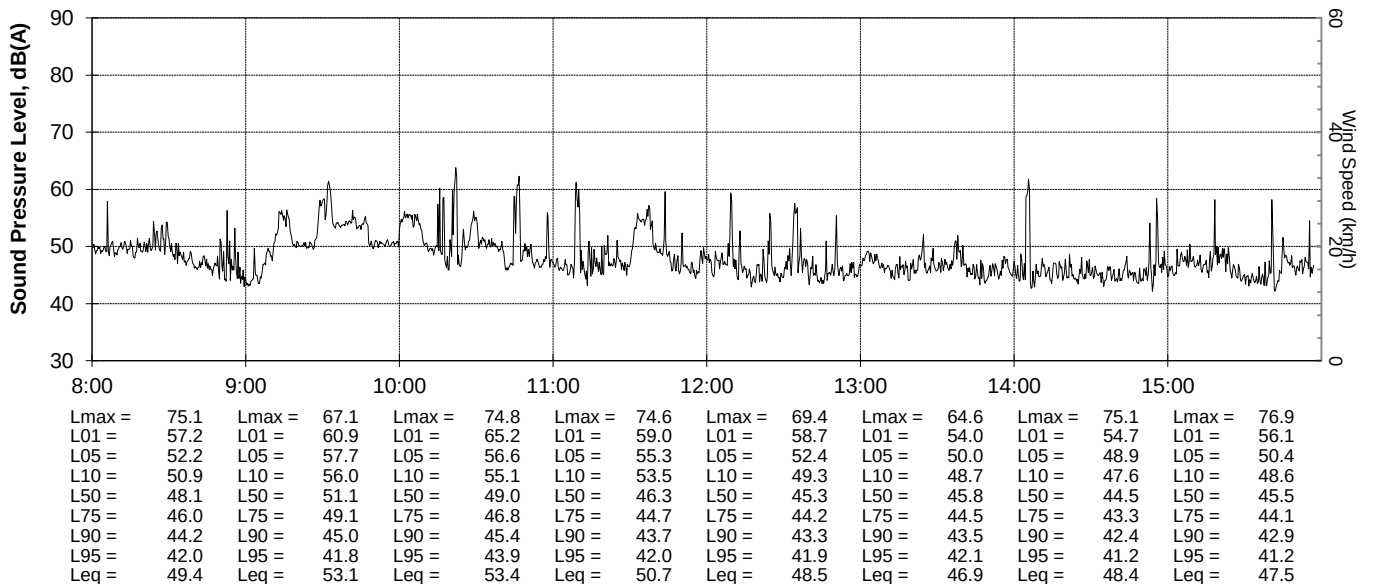
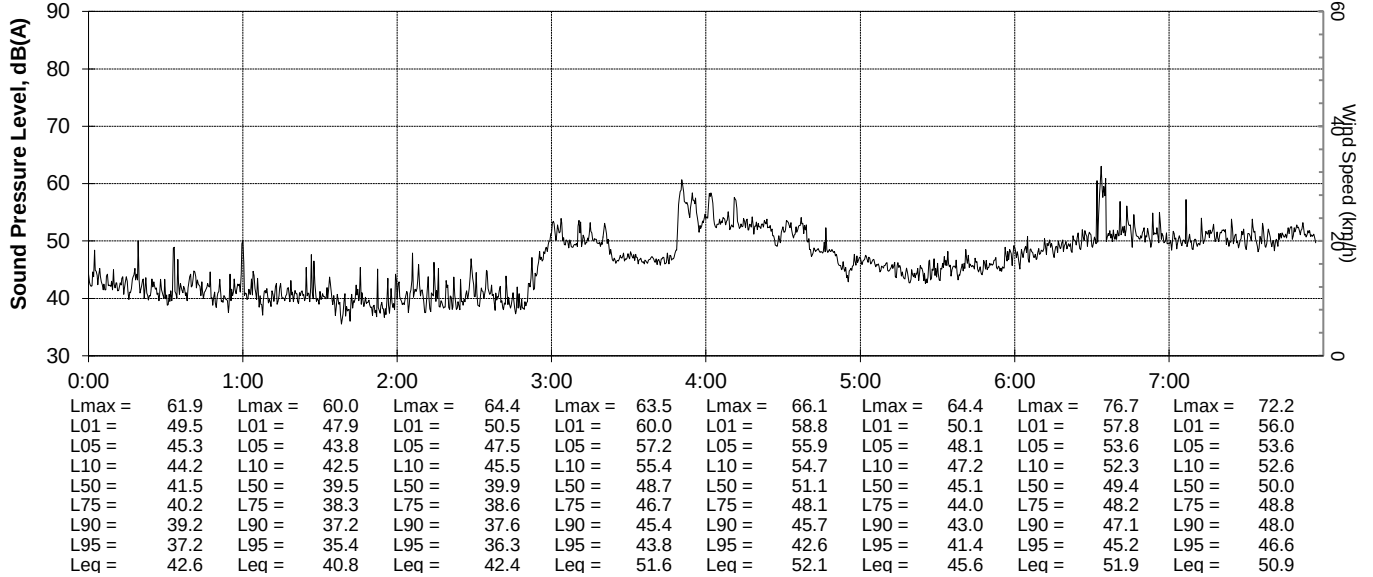
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Monday  
17 Aug 2015

Microphone position: S2 - 4m from south boundary (west end)



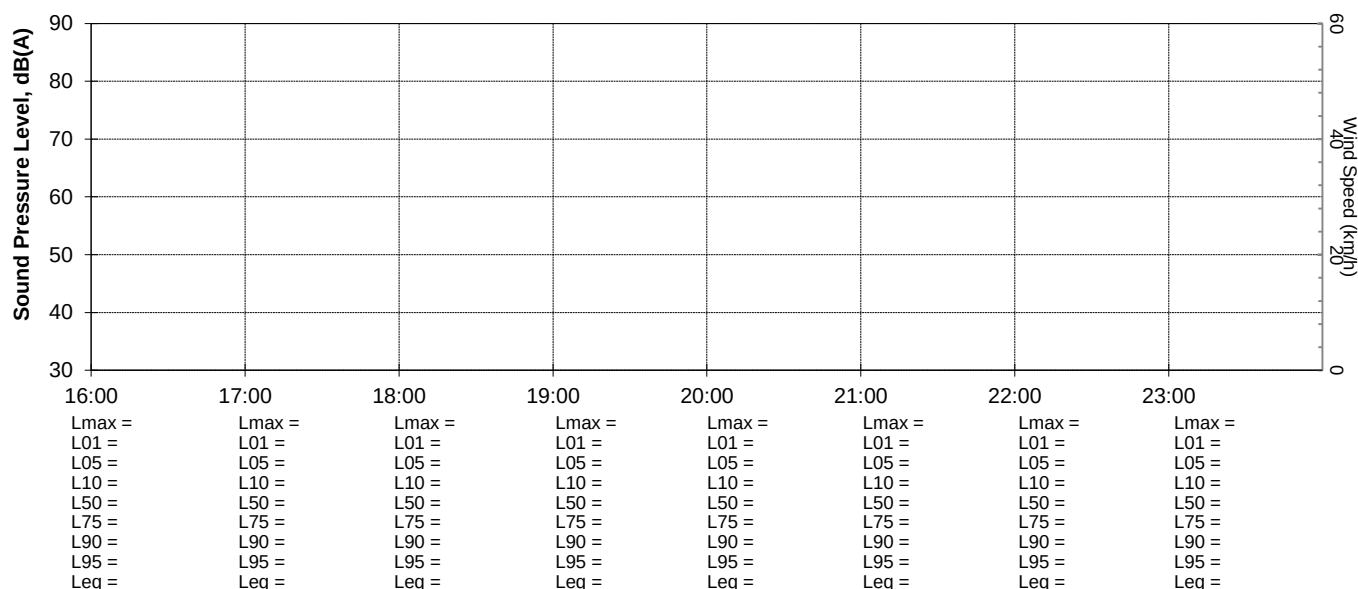
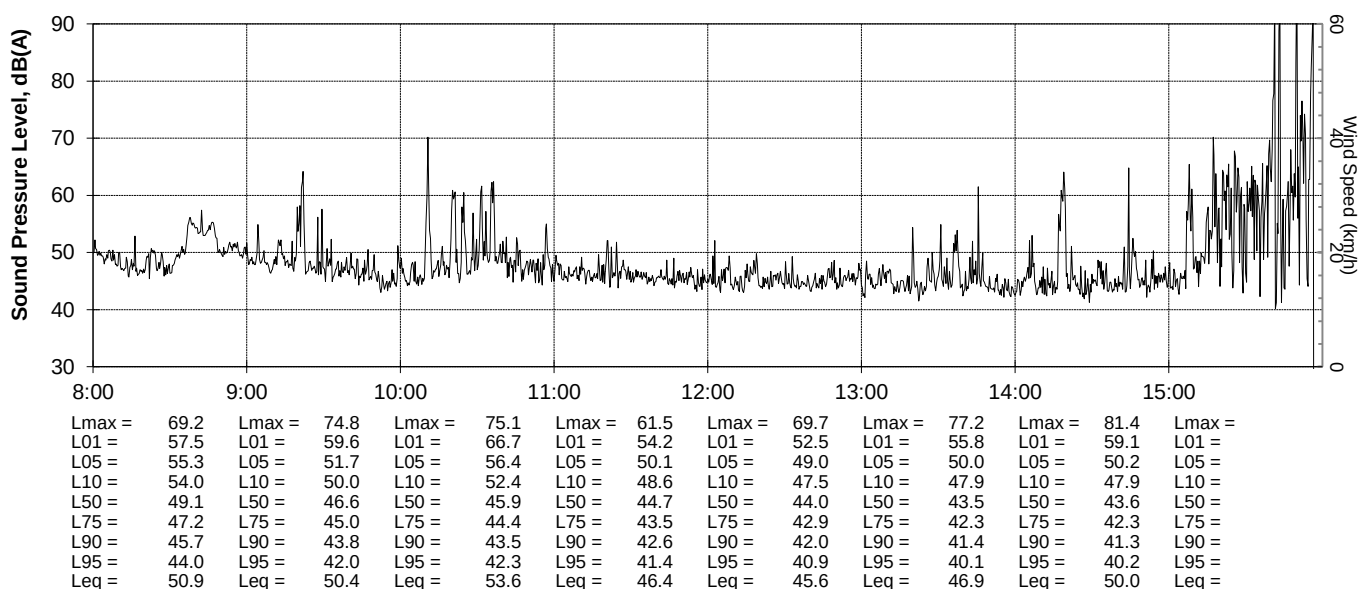
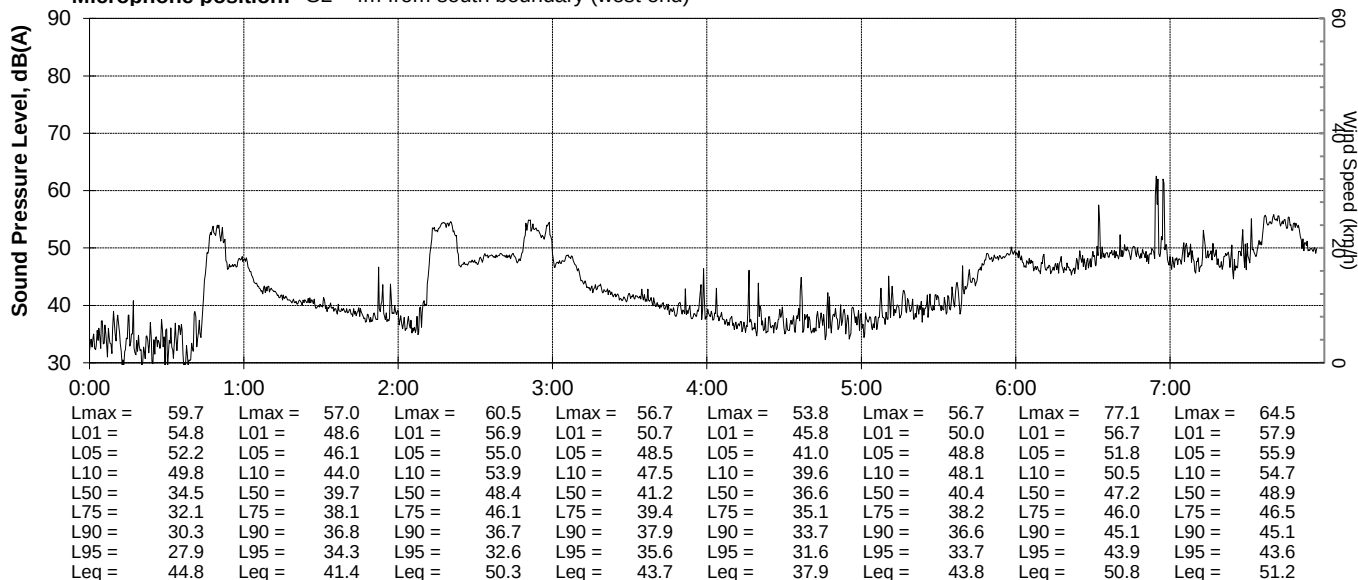
## Results of Noise Monitoring

Client: Norcal Station Dev. Pty Ltd

Location 56-74 Station St Nunawading

Date: Tuesday  
18 Aug 2015

Microphone position: S2 - 4m from south boundary (west end)





## Results of Noise Monitoring

SLR Consulting Australia Pty Ltd  
6/131 Bulleen Rd  
Balwyn North VIC 3104  
640.11143-R2  
APPENDIX B

Client: Norcal Station Dev.

Job Number: 640.11143

Location: 3.6m above road level, 4m from site east boundary

Microphone position: E1 East

Initials: JA

Initial calibration: 94.2 dBA

Final calibration: 94 dBA

| Hour                                 | Sound Pressure Level, dB(A) |                 |                 |                     |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|--------------------------------------|-----------------------------|-----------------|-----------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                      | Mon, 30-05-2016             |                 |                 | Tue, 31-05-2016     |                 |                 | Wed, 01-06-2016 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|                                      | L <sub>10</sub>             | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub>     | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> |
| 00:00 to 01:00                       |                             |                 |                 | 46.2                | 41.3            | 50.3            | 45.9            | 42.0            | 46.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 01:00 to 02:00                       |                             |                 |                 | 47.0                | 42.7            | 47.3            | 44.4            | 39.7            | 45.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 02:00 to 03:00                       |                             |                 |                 | 46.2                | 40.9            | 48.0            | 44.8            | 39.4            | 45.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 03:00 to 04:00                       |                             |                 |                 | 45.9                | 40.6            | 49.9            | 45.7            | 41.3            | 49.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 04:00 to 05:00                       |                             |                 |                 | 46.9                | 42.4            | 52.0            | 49.1            | 43.3            | 53.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 05:00 to 06:00                       |                             |                 |                 | 57.6                | 44.9            | 56.9            | 59.8            | 46.2            | 59.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 06:00 to 07:00                       |                             |                 |                 | 67.5                | 51.2            | 63.7            | 67.2            | 51.4            | 63.3            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 07:00 to 08:00                       |                             |                 |                 | 66.7                | 54.1            | 63.2            | 66.5            | 55.9            | 63.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 08:00 to 09:00                       |                             |                 |                 | 65.3                | 52.9            | 61.0            | 65.1            | 55.3            | 61.5            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 09:00 to 10:00                       |                             |                 |                 | 65.8                | 53.2            | 62.1            | 66.1            | 54.1            | 61.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 10:00 to 11:00                       |                             |                 |                 | 63.5                | 49.5            | 59.8            | 63.1            | 52.4            | 59.7            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 11:00 to 12:00                       | 65.7                        | 49.1            | 83.7*           | 61.2                | 46.2            | 57.7            | 63.7            | 48.3            | 59.8            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 12:00 to 13:00                       | 63.8                        | 48.8            | 59.5            | 64.2                | 49.8            | 60.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 13:00 to 14:00                       | 64.3                        | 48.7            | 59.9            | 64.3                | 51.3            | 60.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 14:00 to 15:00                       | 64.4                        | 44.6            | 60.0            | 64.3                | 46.9            | 60.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 15:00 to 16:00                       | 63.9                        | 44.7            | 59.5            | 63.8                | 44.5            | 59.4            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 16:00 to 17:00                       | 65.0                        | 44.9            | 60.8            | 64.8                | 46.1            | 60.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 17:00 to 18:00                       | 66.0                        | 48.1            | 62.0            | 66.0                | 48.6            | 62.6            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 18:00 to 19:00                       | 62.0                        | 43.8            | 58.5            | 62.2                | 45.2            | 59.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 19:00 to 20:00                       | 59.4                        | 42.2            | 56.8            | 56.3                | 44.3            | 55.5            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 20:00 to 21:00                       | 56.3                        | 44.0            | 55.8            | 54.4                | 43.6            | 54.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 21:00 to 22:00                       | 57.2                        | 45.3            | 57.0            | 53.8                | 45.4            | 55.9            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 22:00 to 23:00                       | 53.5                        | 45.7            | 55.4            | 52.2                | 45.2            | 53.8            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 23:00 to 24:00                       | 48.0                        | 43.1            | 49.2            | 48.4                | 44.1            | 50.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L10(18h), ar. av. 6-24h              |                             |                 |                 | 61.4                |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (15h)• log av. 7-22h |                             |                 |                 |                     |                 | 60.1            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (9h)• log av. 22-7h  |                             |                 | 56.2            |                     |                 | 56.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L <sub>eq</sub> (24h), log av. 0-24h |                             |                 |                 |                     |                 | 59.0            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L90 Day                              |                             |                 |                 |                     | 49.4            |                 |                 | 53.2            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L90 Evening                          |                             | 43.8            |                 |                     | 44.6            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| L90 Night                            |                             | 43.6            |                 |                     | 43.6            |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Wind @0900h, km/h                    |                             |                 |                 | 4 E, dry            |                 |                 | CALM, dry       |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Wind @1500h, km/h                    | 7 ESE, dry                  |                 |                 | 7 ENE, light shower |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |

NOTE: Weather data from Viewbank AWS (BOM)

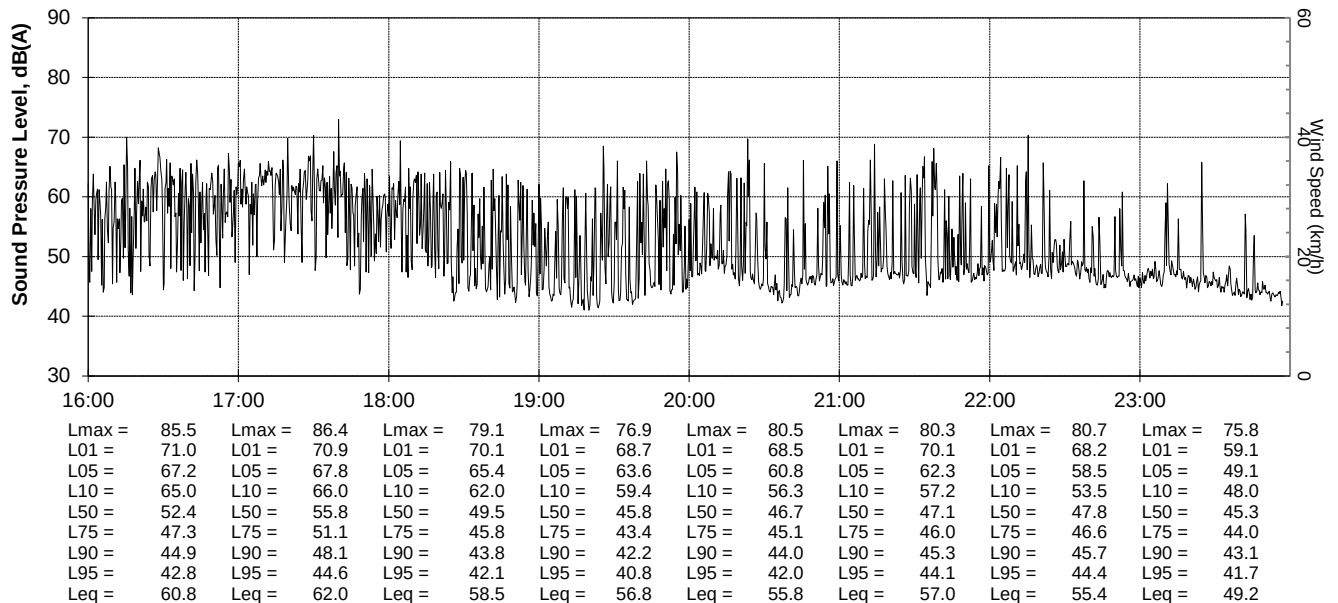
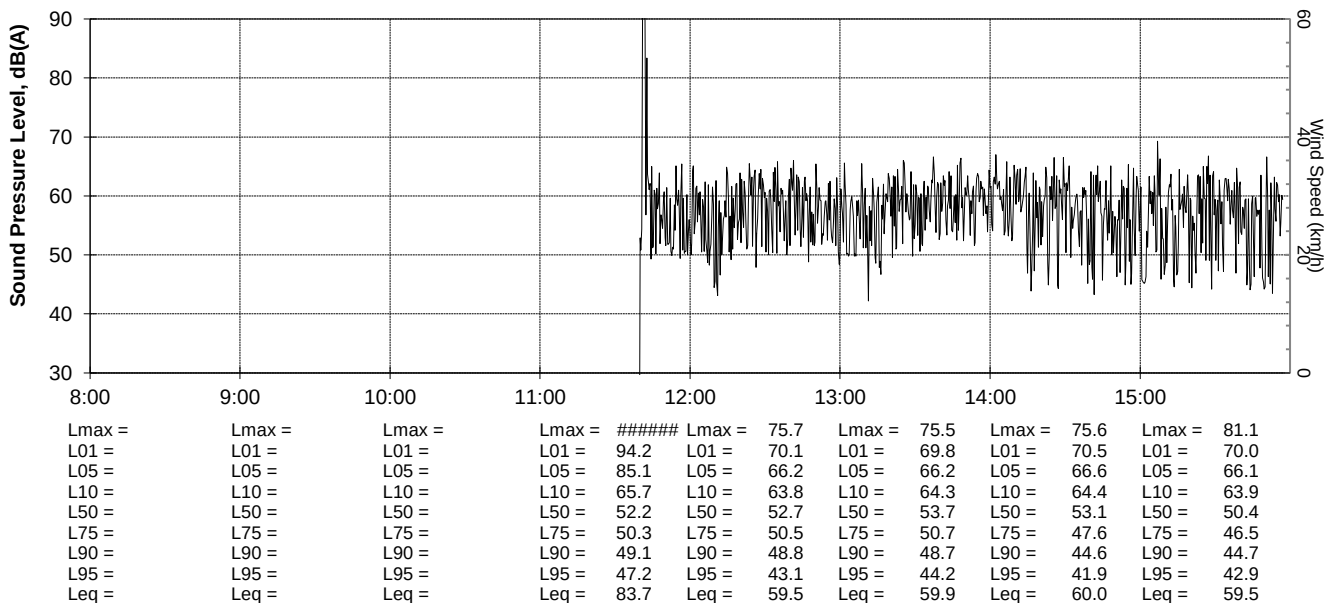
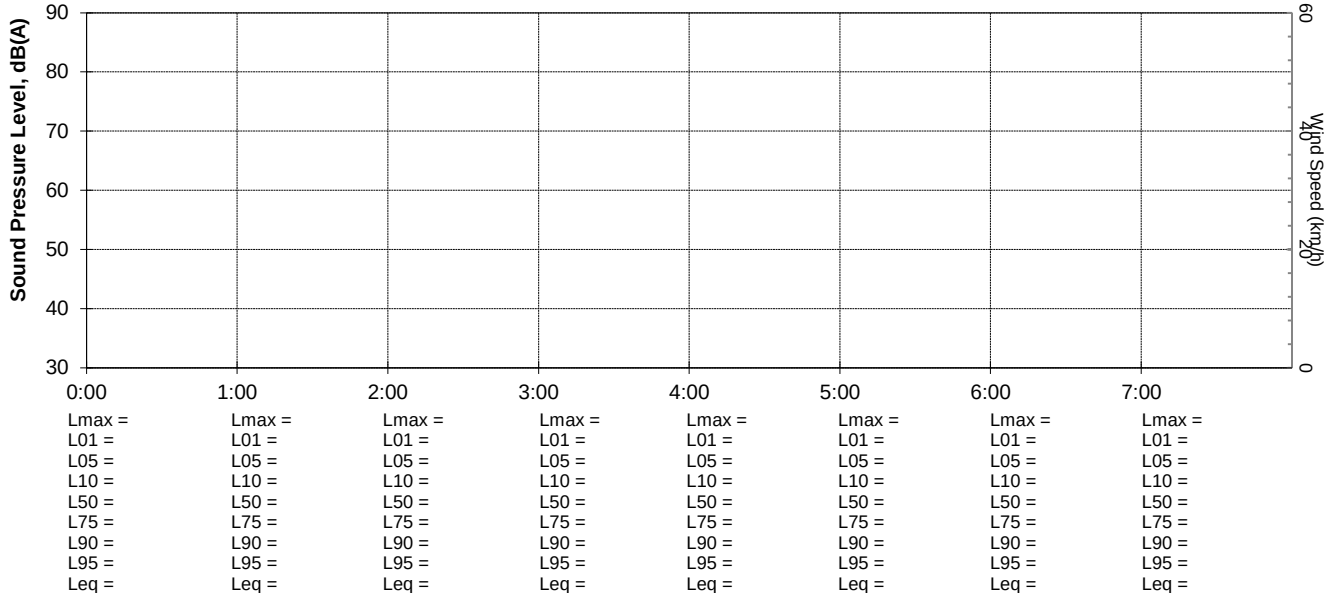
**Results of Noise Monitoring**

Client: Norcal Station Dev.

Location 3.6m above road level, 4m from site east boundary

Date: Monday  
30 May 2016

Microphone position: E1 East



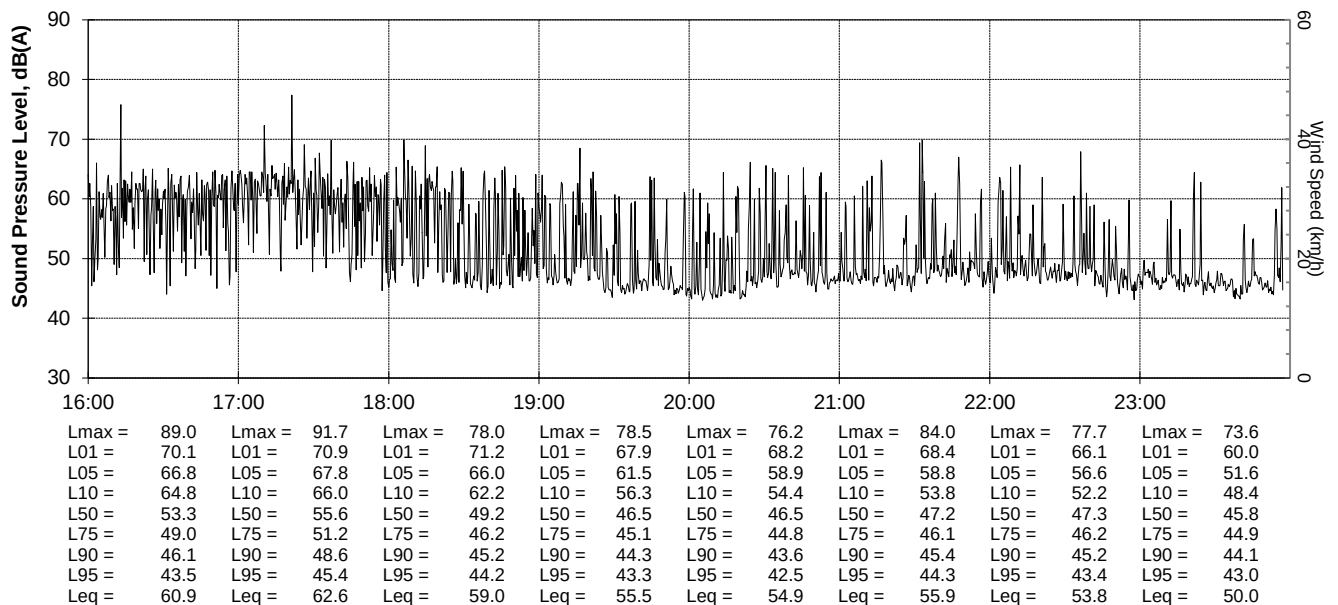
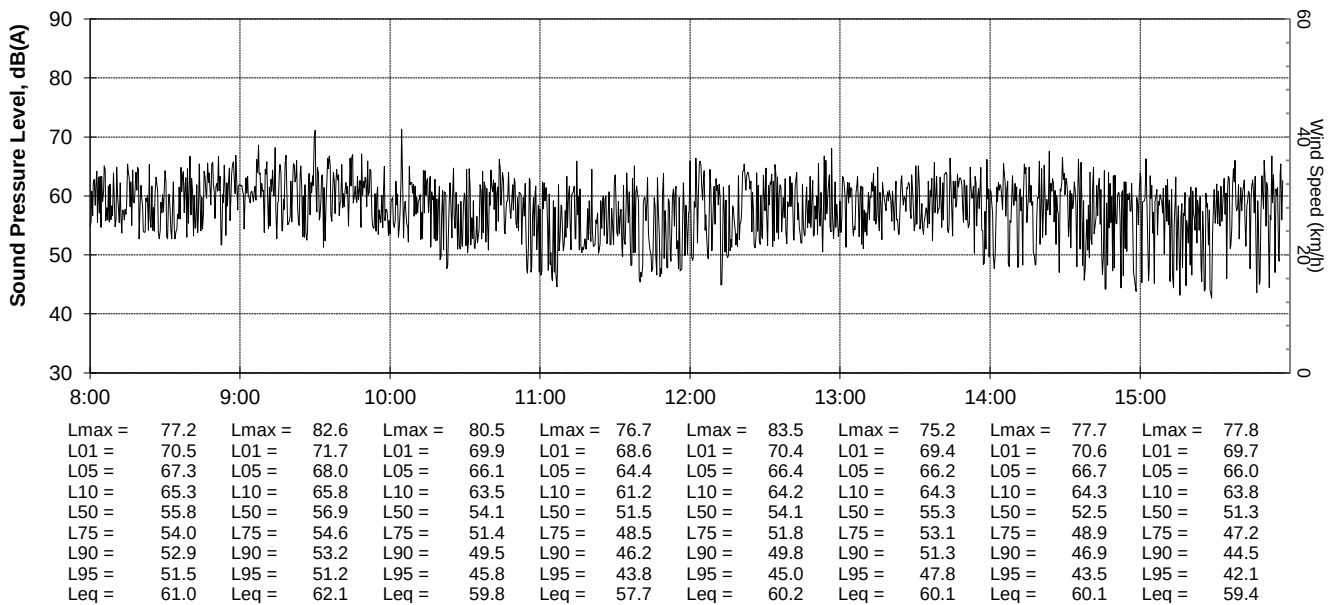
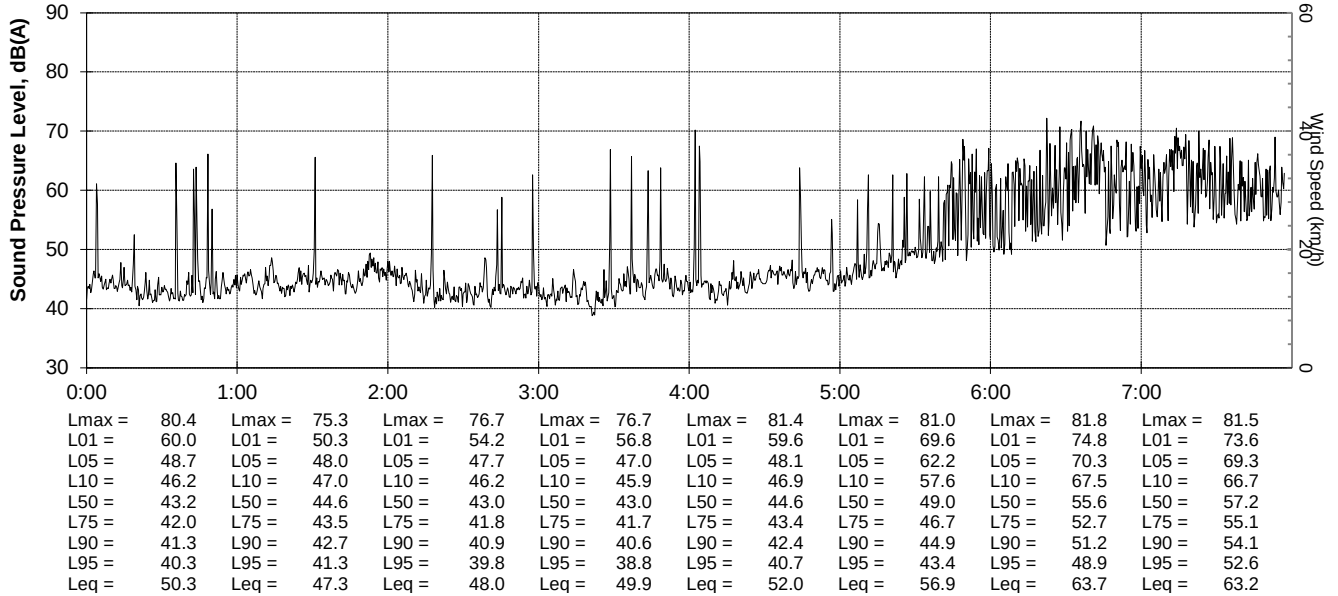
### Results of Noise Monitoring

Client: Norcal Station Dev.

Location 3.6m above road level, 4m from site east boundary

Date: Tuesday  
31 May 2016

Microphone position: E1 East



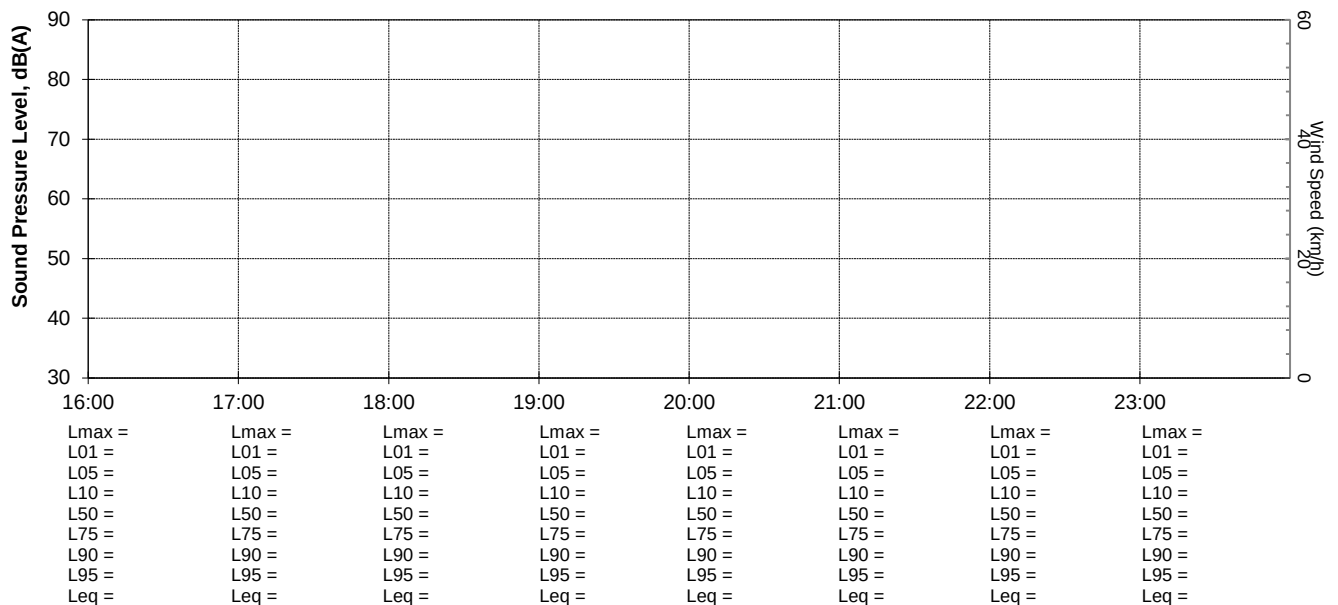
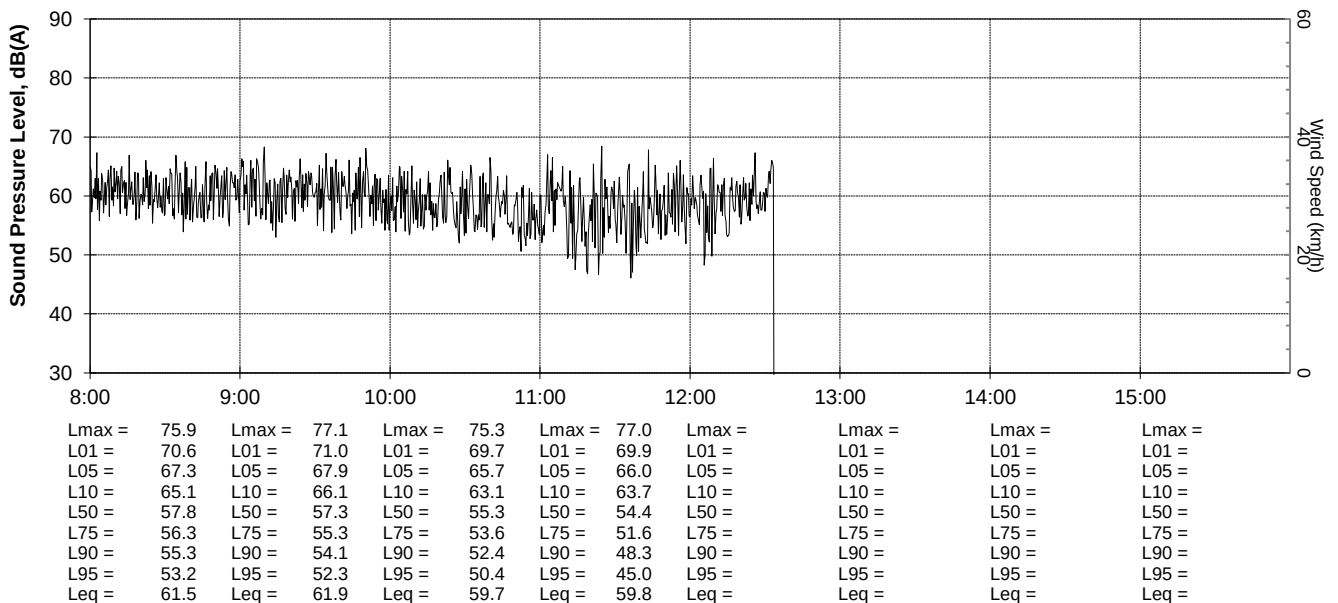
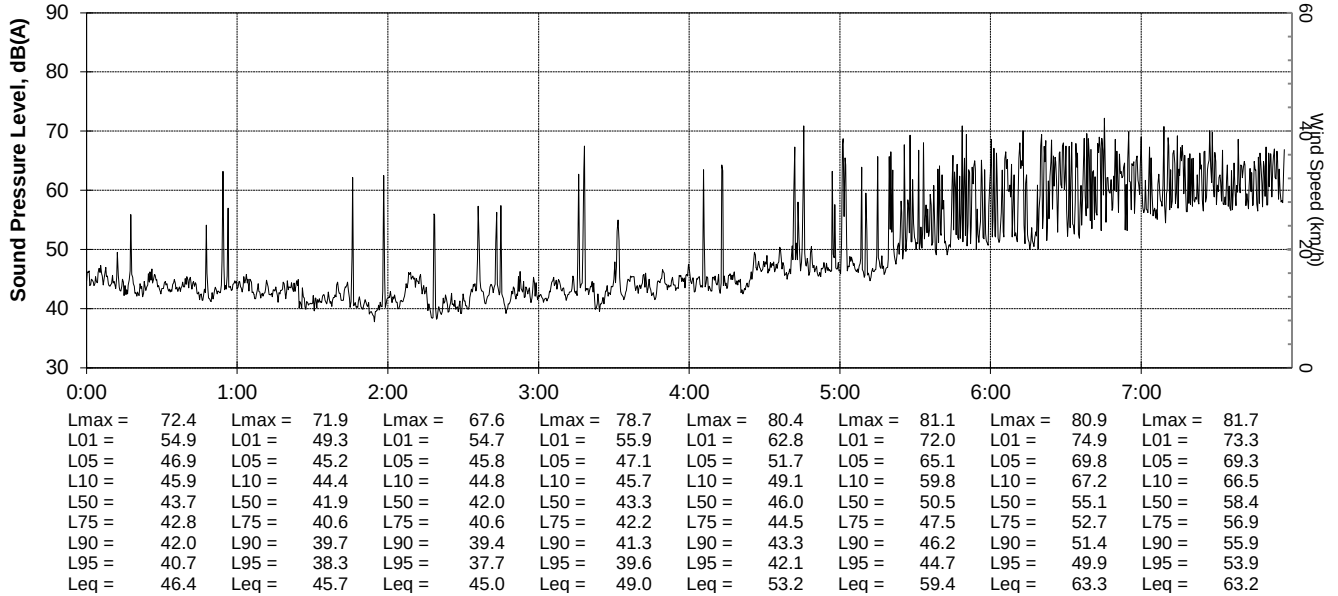
### Results of Noise Monitoring

Client: Norcal Station Dev.

Location 3.6m above road level, 4m from site east boundary

Date: Wednesday  
01 Jun 2016

Microphone position: E1 East



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