
PACIFIC HIGHWAY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS OPERATIONAL NOISE MODELLING & ASSESSMENT

TG100-01F04 (REV 10) OPERATIONAL NOISE MODELLING ASSESSMENT REPORT

MARCH 2015

Prepared for:

Roads & Maritime Services

Attention: Mehrdad Doushabchizadeh



DOCUMENT CONTROL

Date	Revision History	Non-Issued Revision	Issued Revision	Prepared By (initials)	Instructed By (initials)	Reviewed & Authorised by (initials)
July 2013	Draft	0	1	BC	PK	PK
Oct 2013	Final	2, 3, 4	5	BC	PK	PK
Nov 2013	Final		6	BC	PK	PK
Jan 2015	Final		7	BC	PK	BC
Feb 2015	Minor Edit		8	BC	PK	BC
Feb 2015	Minor Edit		9	BC	PK	PK
Mar 2015	Minor Edit		10	BC	PK	PK

The work presented in this document was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian Standard / NZS ISO 9001.

This document is issued subject to review and authorisation by the Team Leader noted by the initials printed in the last column above. If no initials appear, this document shall be considered as preliminary or draft only and no reliance shall be placed upon it other than for information to be verified later.

This document is prepared for our Client's particular requirements which are based on a specific brief with limitations as agreed to with the Client. It is not intended for and should not be relied upon by a third party and no responsibility is undertaken to any third party without prior consent provided by Renzo Tonin & Associates. The information herein should not be reproduced, presented or reviewed except in full. Prior to passing on to a third party, the Client is to fully inform the third party of the specific brief and limitations associated with the commission.

The information contained herein is for the purpose of acoustics only. No claims are made and no liability is accepted in respect of design and construction issues falling outside of the specialist field of acoustics engineering including and not limited to structural integrity, fire rating, architectural buildability and fit-for-purpose, waterproofing and the like. Supplementary professional advice should be sought in respect of these issues.

CONTENTS

1	INTRODUCTION	6
2	ENVIRONMENTAL AND LEGAL OBLIGATIONS	7
2.1	Project Requirements	7
2.1.1	Ministers Conditions of Approval	7
2.1.2	Statement of Commitments	7
2.1.3	Scope of Work and Technical Criteria	7
2.1.4	Legislation, Policies and Guidelines	7
2.1.5	Environmental Assessment	8
2.2	Operational Noise Criteria	8
2.2.1	Target Noise Goals	10
2.2.2	Allowance Noise Goals	11
2.2.3	Acute Noise Levels	11
2.2.4	Maximum Noise Levels	11
3	REVIEW OF THE EIS NOISE MODEL	12
3.1	EIS Noise Model Comparison	12
4	EXISTING AMBIENT NOISE ENVIRONMENT	14
4.1	Traffic Noise Monitoring Methodology	14
4.1.1	Procedure and Noise Metrics	14
4.1.2	Instrumentation	15
4.1.3	Meteorology	15
4.1.4	Monitoring Locations	15
4.1.5	Maximum Noise Monitoring Methodology	17
4.2	Existing Noise Levels	23
4.2.1	L _{Aeq} Traffic Noise Levels	23
4.2.2	Background L _{A90} Noise Levels	23
4.2.3	Maximum Noise Levels	24
5	OPERATIONAL NOISE ASSESSMENT	26
5.1	Methodology and Outputs	26
5.2	Traffic Flow and Composition Summary	26
5.2.1	Existing Traffic Volumes	26
5.2.2	Future-Existing Traffic Volumes	27
5.2.3	Opening Year Traffic Volumes	27
5.2.4	Design Year Traffic Volumes	28
5.3	Noise Prediction Modelling	28
5.4	Mitigation Measures	31
5.4.1	Low Noise Pavements	31
5.5	Noise Model Validation	33

5.5.1	Roadside Measurements to Establish Pavement Corrections	33
5.5.2	Validation Methodology & Results	34
5.5.3	Discussion	37
5.5.3.1	Moderate Measured-Vs-Modelled Variations	37
5.5.4	Calibration Results	37
5.5.5	Risk Allowance / Safety Factor	38
6	ROAD TRAFFIC NOISE ASSESSMENT	39
6.1	Mitigated noise levels at noise sensitive locations (noise contours)	39
6.2	Mitigated predictions to individual properties	39
6.2.1	Sensitive Land Use Developments	40
7	SUMMARY OF NOISE MITIGATION MEASURES	41
7.1	Methodology for mitigation measures	41
7.1.1	Low noise pavements	41
7.1.2	Noise barriers	42
7.1.2.1	Modification of EIS Barriers	42
7.1.2.2	Nambucca River Bridge Barrier	43
7.1.3	At property treatment	44
7.1.4	Low-noise expansion joints on bridges/overpasses	45
7.2	At-road noise mitigation measures	45
7.3	At-property noise mitigation measures	45
8	CONCLUSION	50
	REFERENCE MATERIAL	51
	APPENDIX A - GLOSSARY OF ACOUSTIC TERMS & ABBREVIATIONS	52
	APPENDIX B - TRAFFIC VOLUME AND COMPOSITION DATA	58
	APPENDIX C - NOISE BARRIER LOCALITIES	59
	APPENDIX D - FUTURE EXISTING NOISE CONTOUR MAPS	60
	APPENDIX E - OPENING YEAR NOISE CONTOUR MAPS	61
	APPENDIX F - DESIGN YEAR NOISE CONTOUR MAPS	62
	APPENDIX G - SINGLE POINT RECEIVER PREDICTIONS	63
	APPENDIX H - LONG TERM NOISE MONITORING RESULTS	64
	APPENDIX I - MAXIMUM NOISE LEVEL ASSESSMENT	65
	APPENDIX J - EXISTING PACIFIC HIGHWAY PAVEMENT TYPE	66
	APPENDIX K - AT-PROPERTY TREATMENT FIGURES	67
	APPENDIX L - ENMM PRAC NOTE IV BARRIER ASSESSMENT – NAMBUCCA RIVER BRIDGE	68

List of Tables

Table 1 – Noise Criteria for Residential Receivers	10
Table 2 – Noise Criteria for Sensitive Land Use Developments	10
Table 3 - Comparison of Noise Modelling Input Parameters adopted in SKM’s EIS and in RT&A’s Operational Noise Study	12
Table 4 – Road Traffic Noise Monitoring Locations	16
Table 5 – Results of L_{eq} Traffic Noise Monitoring, dB(A)	23
Table 6 – Results of Background L_{A90} Noise Monitoring, dB(A)	23
Table 7 – Summary of Measured Maximum Noise Levels along Existing Pacific Highway & Predicted Design Year Maximum Noise Levels at Night (10pm-7am)	24
Table 8 – Road Traffic Survey Locations	27
Table 9 – Existing 2013 Traffic Volumes and Compositions along the Pacific Highway	27
Table 10 - Summary of Noise Modelling Inputs	29
Table 11 – Road Pavement Noise Corrections Relative to Dense Grade Asphalt	31
Table 12 – Road Pavement Surface of Proposed Upgrade & Existing Pacific Highway	32
Table 13 – Noise Barrier Locations of Proposed Upgrade	33
Table 14 – Validation Summary: Measured -V- Modelled Statistical Analysis	36
Table 15 - Calibration Factors Applied to Noise Models	38
Table 16 - Identified Sensitive Land Use Developments	40
Table 17 – Proposed Road Pavements and Noise Corrections for the Project Noise Model (Relative to Dense Graded Asphalt)	42
Table 18 – Road Pavement Surface of Proposed Upgrade	42
Table 19 – Modelled Noise Levels [dB(A)] versus Noise Barrier Heights [m]	43
Table 20 – Comparison of Properties for At-Property Treatment between RT&A Noise Study (inclusive of safety factor) and EIS	46

List of Figures

Figure 1 - Locality Map Showing Monitoring Locations	18
Figure 2 - Locality Map Showing Monitoring Locations	19
Figure 3 - Locality Map Showing Monitoring Locations	20
Figure 4 - Locality Map Showing Monitoring Locations	21
Figure 5 - Locality Map Showing Monitoring Locations	22

1 INTRODUCTION

The proposed upgrade of the Pacific Highway between Warrell Creek and Nambucca Heads is part of the Pacific Highway upgrade program being implemented by Roads and Maritime Services (RMS). The project is currently at the concept design stage and is approximately 20 kilometres in length, commencing just north of the intersection with Upper Warrell Rd near Warrell Creek to just north of the intersection with the Link Rd, north of Nambucca Heads.

Renzo Tonin & Associates (RT&A) was engaged to conduct a quantitative assessment of the proposed upgrade, involving the following:

- A review of the Environmental Impact Study ('EIS') noise model and methodology conducted by Sinclair Knight Mertz ('SKM') in January 2010.
- Undertaking long-term noise monitoring and concurrent monitoring of traffic volumes, vehicle classification and speeds at several locations along the project, to assist with noise model validation and calibration.
- Create a noise model and model the proposed Upgrade based on the concept design.
- Quantify the number of properties that would exceed the criteria, and compare with the findings presented in the EIS's Working Paper on noise.
- Prepare a report outlining the findings of the noise modelling and assessment.

This assessment identifies sensitive locations and assesses potential noise impacts against the project's noise criteria as presented in the noise policy relevant to this project, namely the NSW 'Environmental Criteria for Road Traffic Noise' (ECRTN) and the NSW 'Environmental Noise Management Manual' (ENMM).

The work documented in this report was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian Standard / NZS ISO 9001.

2 ENVIRONMENTAL AND LEGAL OBLIGATIONS

This section presents the operational noise and vibration requirements, legislation, guidelines, standards and past studies relevant and applicable to the project.

2.1 Project Requirements

Renzo Tonin & Associates (RT&A) has conducted an assessment of this project and prepared this report in accordance with the following:

- Minister's Conditions of Approval;
- RMS's Statement of Commitments (Submissions and Preferred Project Report);
- RMS's draft Scope of Works and Technical Criteria (SWTC);
- *Environmental Criteria for Road Traffic Noise (ECRTN)*, NSW EPA 1999;
- *Environmental Noise Management Manual (ENMM)*, RMS 2001; and
- Environmental Assessment – Warrell Creek to Urunga Upgrading the Pacific Highway, Working Paper 3 – Noise and Vibration Impact assessment (Sinclair Knight Merz, January 2010).

2.1.1 Ministers Conditions of Approval

This report considers the requirements of the Minister's Conditions of Approval (MCoA).

2.1.2 Statement of Commitments

This report considers the requirements in the Statement of Commitments from the environmental documents, namely 'Warrell Creek to Urunga Upgrading the Pacific Highway – Submissions and Preferred Project Report' (RMS, November 2010) [5].

2.1.3 Scope of Work and Technical Criteria

This report considers the requirements of the project's draft Scope of Works and Technical Criteria (SWTC). As part of this noise assessment, RT&A have provided advice separately to RMS regarding noise associated with the operational phase of this project, for it to supplement the SWTC.

2.1.4 Legislation, Policies and Guidelines

Key environmental legislation relating to the management of road traffic noise includes:

- Protection of the Environment Operations Act (1997);
- Environment Planning and Assessment Act (1979); and
- Local Government Act (1993).

The key references relevant to road traffic noise management include:

- *Environmental Criteria for Road Traffic Noise (ECRTN)*, NSW EPA, May 1999 [2];
- *Environmental Noise Management Manual (ENMM)*, NSW RMS, 2001 [4]; and

- Australian Road Research Board (ARRB) research Report ARR No.122, "An Evaluation of the U.K. DoE Traffic Noise Prediction Method", March 1983 (by Saunders, Samuels, Leach & Hall) [1]

2.1.5 Environmental Assessment

The Environmental Assessment of potential noise impacts as a result of the operation of the project is set out in 'Warrell Creek to Urunga Upgrading the Pacific Highway, Working Paper 3 – Noise and Vibration Impact assessment' (Sinclair Knight Merz, January 2010) [6].

2.2 Operational Noise Criteria

The Minister for Planning and Infrastructure's Project Approval Condition C12 requires a review of the operational noise mitigation measures proposed to be implemented for the project as identified in the documents listed under the Condition A1. In accordance with the Minister's Condition of Approval C12 (b) and C12 (c), this report reviews the suitability of the operational noise mitigation measures to achieve the criteria outlined in the Environmental Criteria for Road Traffic Noise (ECRTN, EPA 1999) and where necessary, additional feasible and reasonable noise mitigation measures are investigated to achieve the criteria outlined in the ECRTN.

Further to this, other environmental documents for the project (outlined in Section 2.1) have been taken into consideration in the development of operational noise mitigation measures. It is noted that the noise criteria applied in this study are consistent with the noise assessment criteria described in Section 3.1 of the Environmental Assessment's Working Paper on noise and vibration.

The ECRTN outlines the NSW Government's guidelines for road traffic noise assessment. Specific objectives of the ECRTN include establishment of criteria to define acceptable noise levels, methods for assessing and measuring noise impacts and identification of all strategies available to reduce traffic noise.

In accordance with the ECRTN, a number of factors should be considered in setting road traffic noise levels:

- Whether there is an existing road corridor and whether the road project is intended to increase traffic-carrying capacity substantially, or whether the traffic mix would be substantially changed. This situation generally provides less scope for reducing noise;
- Whether or not substantial changes to the road alignment are proposed, or whether the road is on a 'new' corridor. These road alignment changes provide the greatest opportunity to achieve optimum noise management;
- Whether the design/profile of a proposed road is to be altered substantially. In these cases there is also significant opportunity to consider noise reduction options (e.g. putting a large proportion of the road in a tunnel);

- Whether the criteria are being applied in relation to any redevelopment occurring adjacent to an established road. In these cases, there is opportunity to use the design of the redevelopment to control or reduce noise impact; and
- Whether the area affected is an urban or rural environment where existing noise levels will inevitably vary substantially, and where the response to additional noise will also vary.

All these factors have been considered in the development of the noise level criteria for the WC2NH (Warrell Creek to Nambucca Heads) project.

Under the ECRTN, the project is classed as a freeway or arterial road because it is a road that handles through traffic bound for another locality and has characteristically heavy and continuous traffic flows.

With the exception of a section of the route between Bald Hill Rd and Albert Drive and also the first 600 metres of the project (chainage 0 to chainage 600), the project is a 'new freeway / arterial road' because the upgrade is to be built in a new road corridor. However, receivers that have existing road traffic noise exposure have been assessed using the 'redevelopment' criteria, while receivers that are currently not exposed to traffic noise have been assessed using the 'new road' criteria.

Existing road traffic noise exposure is defined by the ENMM as '*...the prevailing noise level from the existing road alignment(s) under consideration is equal to or greater than 55dB(A) $L_{Aeq(15hr)}$ or 50dB(A) $L_{Aeq(9hr)}$* '. Traffic noise exposure should also be from the same direction before and after the project completion for this definition to apply and for the project to be assessed under noise goals relevant to a road redevelopment, rather than the goals that apply to new roads.

The approximate three (3) kilometre section between Bald Hill Rd and Albert Drive and the first 600 metres of the project is a 'road redevelopment' because the upgrade is required to facilitate an increase in the traffic carrying capacity of the Pacific Highway, and sensitive receivers are exposed to existing road traffic noise. For this section of the project receivers have been assessed using the 'redevelopment' criteria.

Therefore, according to the ECRTN, this project has essentially two (2) noise criteria categories for residential receivers with respect to Table 1 of the ECRTN:

- **Bald Hill Rd to Albert Drive Section & the first 600m of the project:**
 - Category 3** – Redevelopment of Existing Freeway / Arterial Road: receivers currently exposed to road traffic noise.
- **Warrell Creek to Nambucca Heads (excluding Bald Hill Rd to Albert Drive Section & the first 600m of the project):**
 - Category 1** – New Freeway or Arterial Road Corridor: receivers not currently exposed to road traffic noise; and
 - Category 3** – Redevelopment of Existing Freeway / Arterial Road: receivers currently exposed to road traffic noise.

The relevant noise criteria for this project are therefore summarised in Table 1 below.

Table 1 – Noise Criteria for Residential Receivers

Type of Development	Criteria		
	Day, dB(A)	Night, dB(A)	Where Criteria are Already Exceeded
1. New freeway or arterial road corridor	L _{Aeq(15hr)} 55	L _{Aeq(9hr)} 50	The new road should be designed so as not to increase existing noise levels by more than 0.5 dB.
3. Redevelopment of existing freeway/ arterial road	L _{Aeq(15hr)} 60	L _{Aeq(9hr)} 55	In all cases, the redevelopment should be designed so as not to increase existing noise levels by more than 2 dB.

Source: NSW Environmental Criteria for Road Traffic Noise (May 1999).

The ECRTN also sets guidelines for the assessment of traffic noise on sensitive land use developments.

Table 2 – Noise Criteria for Sensitive Land Use Developments

Type of Development	Criteria		
	Day, dB(A)	Night, dB(A)	Noise Mitigation Measures
Proposed school classrooms	L _{eq(1hr)} 40 ¹	-	To achieve internal noise criteria in the short-term, the most practicable mitigation measures are often related to building or facade treatments.
Existing school classroom	L _{eq(1hr)} 45 ¹	-	
Hospital wards	L _{eq(1hr)} 35 ¹	L _{eq(1hr)} 35 ¹	In the medium to longer term, strategies such as regulation of exhaust noise from in-service vehicles, limitations on exhaust brake use, and restricting access for sensitive areas or during sensitive times to low noise vehicles can be applied to mitigate noise impacts across the road system. Other measures include improved planning, design and construction of sensitive land use developments; reduced new vehicle emission standards; greater use of public transport; and alternative methods of freight haulage. These medium to long-term strategies apply equally to mitigating internal and external noise levels. Where existing levels of traffic noise exceed the criteria, all feasible and reasonable noise control measures should be evaluated and applied. Where this has been done and the internal or external criteria (as appropriate) cannot be achieved, the proposed road or land use development should be designed so as not to increase existing road traffic noise levels by more than 0.5dB(A) for new roads and 2dB(A) for redeveloped roads or land use development with potential to create additional traffic.
Places of worship	L _{eq(1hr)} 40 ¹	L _{eq(1hr)} 40 ¹	
Active recreation (e.g. golf courses)	L _{eq(15hr)} 60 ²	-	
Passive recreation and school playgrounds	L _{eq(15hr)} 55 ²	-	

Source: NSW Environmental Criteria for Road Traffic Noise (May 1999).

Notes:
1. Internal noise criteria
2. External noise criteria

The noise criteria described above are consistent with the Environmental Documents.

2.2.1 Target Noise Goals

The Target noise goals for this project are defined in Table 1 as follows for each type of noise sensitive receiver:

- New freeway or arterial road corridor (i.e. receivers newly affected by road noise):
 - Day – $L_{Aeq(15hr)}$ 55 dB(A)
 - Night – $L_{Aeq(9hr)}$ 50 dB(A)
- Redevelopment of existing freeway / arterial road (i.e. receivers currently affected by road noise):
 - Day – $L_{Aeq(15hr)}$ 60 dB(A)
 - Night – $L_{Aeq(9hr)}$ 55 dB(A)

2.2.2 Allowance Noise Goals

As per the ECRTN and ENMM, Allowance noise goals apply where existing (or future-existing) noise levels already exceed the ECRTN's Target noise goals, and all feasible and reasonable traffic management and noise reducing design opportunities have been incorporated into the road design. Allowance noise goals are set as follows:

- Redeveloped road category: 'Future-Existing' Noise Level + 2 dB(A)
- New road category: 'Future-Existing' Noise Level + 0.5 dB(A)

2.2.3 Acute Noise Levels

Acute noise levels are defined in the ENMM to be equivalent to or greater than $L_{Aeq(15hr)}$ 65 dB(A) during the day period and $L_{Aeq(9hr)}$ 60 dB(A) during the night period.

2.2.4 Maximum Noise Levels

Maximum noise levels generated by road traffic noise have the potential to cause disturbance to sleep. The conditions stipulated in the MCoA do not specifically require an assessment of maximum noise levels to be considered during the design of noise mitigation measures for sensitive receptors. Notwithstanding this, the ECRTN does require maximum noise levels during each hour of the night time period (10pm to 7am) to be assessed and reported to give an indication of the likelihood of awakening reactions.

The ECRTN does not include noise criteria for assessing maximum noise level events. This is primarily because research conducted to date in this field has not been definitive and the relationship between maximum noise levels, sleep disturbance and subsequent health effects is not currently well defined. Guidelines for assessing maximum noise levels are provided in Practice Note iii of the ENMM. The guidelines are to be used as a tool to help prioritise and rank mitigation strategies, but should not be used as a decisive criterion in itself and should not be used to aid in designing the degree of mitigation required.

The ENMM defines a "maximum noise event" as any pass-by for which:

- $L_{max} - L_{eq} \geq 15$ dB(A), where the L_{max} noise level is greater than 65 dB(A).

3 REVIEW OF THE EIS NOISE MODEL

3.1 EIS Noise Model Comparison

Table 3 below, presents a comparison between the modelling input parameters adopted in the EIS and this study.

Table 3 - Comparison of Noise Modelling Input Parameters adopted in SKM's EIS and in RT&A's Operational Noise Study

	SKM EIS	RT&A Study
Increased Receiver Locations	-	4 additional receivers that were not identified in the EIS (numbered with IDs 3000 & 5000 series)
Extent of Study Area	500m either side of the Upgrade and properties where predicted noise levels exceed 50 dB(A) $L_{Aeq(9hr)}$	A minimum 600m either side of the Upgrade and properties beyond this distance where they could potentially exceed 50 dB(A) $L_{Aeq(9hr)}$
Roads Modelled	No existing Pacific Highway or local roads	Pacific Highway and local roads included in the assessment. A significant proportion of traffic is located on the Pacific Highway.
Traffic Volumes and Mix	Traffic number forecasts for the years 2012 and 2022	Traffic forecasted for 4 years later - 2016 and 2026
Traffic Speed	110 km/h used throughout the assessment	Upgrade: 115km/h for day, 120km/h for night Interchange ramps: 80km/h Existing Pacific Highway: posted speeds Local roads: 60km/h (posted speeds)
Ground Topography	2m increments Overpasses and underpasses along the Upgrade were not cleaned up in the EIS noise model, resulting in elevation lines overlapping and leading to incorrect road string heights in affected areas	1m increments RT&A 'cleaned' topography anomalies in the data and removed overlapping elevation lines.
Buildings	Buildings not incorporated	Buildings from aerial photos and Google Maps Street View. Majority of residential buildings are modelled as single storey with receiver points at 1.5m above ground level, with the exception of a few identified double storey buildings which were modelled with additional receiver points at 4.5m above ground level.
Acoustic properties of the road pavement surfaces	Concrete (tyned) assumed for the whole alignment having a relative correction of +2.5dB(A) compared to DGA	<ul style="list-style-type: none"> • PCP for the Upgrade [+3 dB(A)] • DGA for interchange ramps [+0dB(A)] • DGA for the existing Pac Highway [+0dB(A)] and • Mix of 14/7mm & 14mm worn chip seal at noisier sections of existing Pacific Highway [average pavement correction over existing Pacific Highway +2.2dB(A) used only for validation of existing Pacific Highway] (see Section 5.5.1 of this report)

	SKM EIS	RT&A Study
	SMA used in two (2) sections, having a relative correction of -2dB(A) compared to DGA. It is not clear where this correction was applied but it is likely that it has been applied at the receiver.	SMA used for the same sections as the EIS with the exception of the southern section extending 800m further south than the EIS. SMA having a relative correction of -2dB(A) compared to DGA. This correction was applied at the source rather than at the receiver.
Noise Barriers	Noise Barriers adopted for 4 localities, as set out in Table 5.6 of the EIS.	Noise barriers of the same length and height as that indicated in Table 5.6 of the EIS have been adopted. Note, the Mattick Rd barrier has been broken into 2 sections to accommodate Mattick Rd.
Façade Correction	+2.5 dB(A)	+2.5 dB(A)
Australian condition corrections	-	Australian condition corrections of: -1.7dB(A) at 1m from façade -0.7dB(A) in free-field applied to Daytime model only +0.5 dB(A) for Night-time model based on RMS' empirical data on Pacific Highway
Source Height Corrections	The EIS noise model separates cars and trucks into, three heights for trucks and one height for cars, with both the truck tyre source height and the car source height placed at the same 0.5m height	0.5m for car exhausts/engines and car/truck tyre noise, 1.5m for truck engines and 3.6m for truck exhausts. Corrections for pavement noise were applied equally for each string.
Calibration	Did not appear to calibrate noise model	The following global calibration factors were applied to all properties for the Future-Existing (2016), Opening Year (2016) and Design Year (2026): +0.4 dB(A) for Daytime +0.6 dB(A) for Night-time

4 EXISTING AMBIENT NOISE ENVIRONMENT

In the Submissions Report, the Office of Environment & Heritage (OEH) indicated that the number of noise monitoring locations (eight) was low given the length of the Proposal, albeit that related to the full length of the project from Warrell Creek to Urunga. OEH also stated that additional noise monitoring, for the purpose of noise model calibration, would be required as part of a 'review of operational noise mitigation measures' that is generally required as part of the project approval.

Following the review of the Working Paper 'Noise and Vibration Impact Assessment' that formed part of the EIS, we concur with the OEH comments, in particular in relation to validation and calibration of the noise model. Consequently, additional road traffic noise monitoring was conducted and forms part of this study.

The main intent of the road traffic noise monitoring was to establish the existing road traffic noise levels at locations currently affected by road traffic noise from the Pacific Highway and to utilise these results to calibrate the noise model established for the project study area. Where possible, the preference was to select noise monitoring locations that provide road traffic noise levels to represent:

- areas affected by the road upgrade; and
- locations within close proximity to the road upgrade that are currently affected by noise from a road of a type similar to the proposed road upgrade (ie dual carriageway, 110 km/h speed limit).

4.1 Traffic Noise Monitoring Methodology

The long-term monitoring results, in combination with concurrent classified traffic counts and vehicle speed monitoring along the route, were used to verify and calibrate the road traffic noise model to local conditions. In addition, the measurement of maximum noise levels was conducted to provide an understanding of the magnitude and occurrence of existing maximum noise level events that have the potential to cause sleep disturbance.

4.1.1 Procedure and Noise Metrics

Noise monitoring was conducted in accordance with the NSW ECRTN and the RMS's ENMM, with guidance from Australian Standard 2702-1984 "Acoustic Methods of Measurement of Road Traffic Noise". Noise measurements were conducted 1m from the building facade most exposed to traffic noise, at a height of 1.5m above the most exposed floor level. Where physical constraints on site prevented the noise monitor from being set up near the facade, monitoring was conducted in the free-field, and a +2.5dB(A) facade correction was applied to the measured L_{Aeq} noise levels to convert the free-field measurement to an equivalent measurement at 1m from facade.

Noise monitoring was conducted to obtain L_{A90} , $L_{Aeq,15hr}$, $L_{Aeq,9hr}$ and L_{Amax} noise levels as a minimum on a continuous basis at 15-minute intervals within the duration of the overall noise survey period. While measurement results for all these indices are retained, the study primarily focuses on the L_{Aeq} and L_{Amax} results for traffic noise as these are the noise assessment indices embodied in the NSW 'Environmental Criteria for Road Traffic Noise'. The L_{A90} results were monitored to assist with establishing noise assessment criteria for any fixed facilities associated with the project and construction noise management levels for the benefit of the contractor.

4.1.2 Instrumentation

Long-term, unattended noise measurements were conducted using Renzo Tonin and Associates (RTA) Technology noise monitors (05 and 06 models), which comply with Australian Standard AS IEC 61672.1 2004 "Electroacoustics - Sound Level Meters" and are designated as Type 1 instruments suitable for field and laboratory use (05 and 06 RTA Technology monitors). A noise monitor consists of a sound level meter and a computer housed in a weather resistant enclosure. Ambient noise levels were recorded at a minimum rate of 10 samples per second. Every 15 minutes, the data is processed statistically and stored in memory.

The equipment was calibrated prior and subsequent to the measurement period using Brüel & Kjær Type 4230 / 4231 calibrators. No significant drift in calibration was observed in any noise monitor.

4.1.3 Meteorology

The Bureau of Meteorology (BOM) provided meteorological data from Kempsey Airport Automatic Weather Station (stn 059007), which is considered representative of the meteorological conditions affecting the site, for the duration of the noise monitoring period. The data was modified to allow for the height difference between the BOM weather station, where wind speed and direction is recorded at a height of 10m above ground level, and the microphone location, which is at 1.5m above ground level. The correction factor applied to the data was taken from *Australian Standard AS1170.2 1989 Section 4.2.5.1*.

Measurements affected by extraneous noise, wind (greater than 5m/s) or rain were excluded from the recorded data in accordance with Australian Standard *AS2702-1984 Acoustics - 'Methods for the Measurement of Road Traffic Noise'* and the NSW DECCW's noise monitoring policy.

4.1.4 Monitoring Locations

Noise monitoring was carried out at eleven (11) locations. Ten (10) locations were monitored during May and June 2013 and one (1) location was monitored during May 2012.

Table 4 below presents the details of the noise monitoring locations, including locations where L_{Amax} noise levels were measured. Figures 1 to 5 show the noise monitoring locations on aerial

maps. Noise monitoring locations are also presented in a Google Earth .kmz electronic file provided separately to this document.

Table 4 – Road Traffic Noise Monitoring Locations

No.	Receiver ID	Address	Noise Monitoring Position ¹	Instrument ID	L _{Amax} Monitoring	Monitoring Period
1	5	4201 Pacific Highway, Eungai Creek	Noise monitor located in the front yard in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx.20m	RTA06-005	Yes	20 May – 3 June 2013
2	111	40-56 Albert Dr, Donnellyville	Noise monitor located in the grass area to the west of the property in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx. 155m	RTA06-003	Yes	20 May – 3 June 2013
3	114	43 Albert Dr, Donnellyville	Noise monitor located in the front yard in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx.170m	RTA06-008	Yes	20 May – 3 June 2013
4	129	18a Albert Dr, Donnellyville	Noise monitor located in the grass area to the west of the property in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx. 60m	RTA05-002	Yes	20 May – 3 June 2013
5	130	11 Albert Dr, Donnellyville	Noise monitor located in the grass area to the north of the property in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx. 105m	RTA05-001	Yes	20 May – 3 June 2013
6	132	4723 Pacific Highway, Donnellyville	Noise monitor located in the front yard in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx.65m	RTA06-001	Yes	20 May – 3 June 2013
7	139	4 Scotts Head Rd, Way Way	Noise monitor located in the grass area to the east of the property in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx. 30m	RTA06-004	Yes	20 May – 3 June 2013
8	146	38 Kerr Dr, Macksville	Noise monitor located in the grass area to the south of the property in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx. 135m	RTA06-002	Yes	20 May – 3 June 2013
9	152	58 Harrimans Ln, Macksville	Noise monitor located in the grass area to the north east of the property in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx. 40m	RTA06-007	Yes	20 May – 3 June 2013
10	666	22 Letitia Cl, NTH Macksville	Noise monitor located in the grass area to the south of the property in the free field greater than 3.5m away from the dwelling. Distance to Pacific Highway approx. 110m	RTA05-008	Yes	20 May – 3 June 2013
11	3008	6858 Pacific Highway, Valla	Noise monitor located in the front yard, 1m from the western façade facing the existing Pacific Highway. Distance to Pacific Highway approx. 65m	RTA01-048	-	2 May – 15 May 2012

Notes: 1. Distances are from the nearest edge of the Pacific Highway carriageway.

4.1.5 Maximum Noise Monitoring Methodology

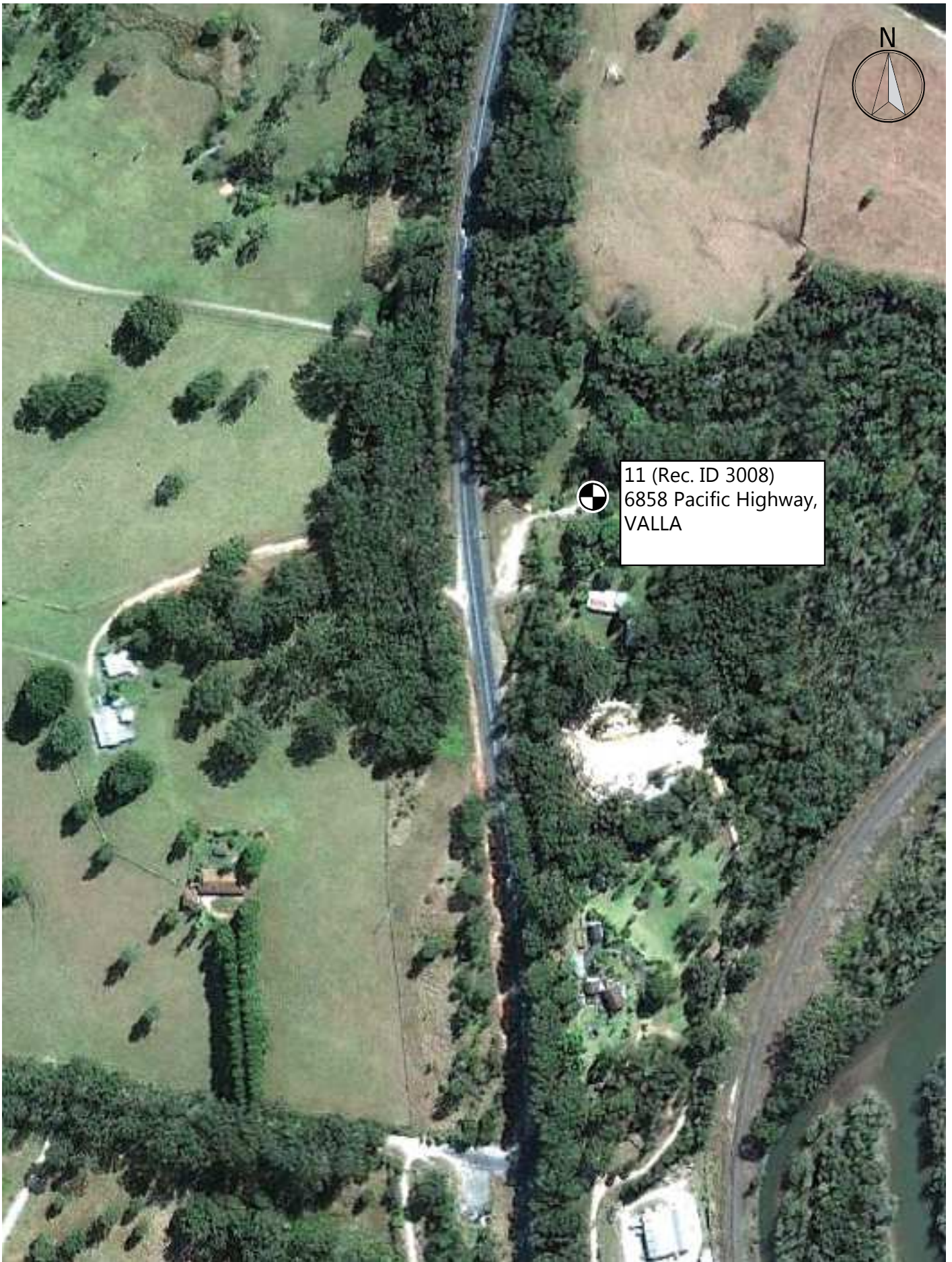
Maximum noise level (L_{Amax}) monitoring was carried out at ten (10) locations along the project route, as summarised in Table 4. L_{Amax} noise monitoring was conducted in accordance with the protocols presented in Practice Note iii of the ENMM.

Noise measurements were conducted at a height of 1.5m above the ground, between 10pm to 7am. Noise measurements were conducted using RTA Technology 05 and 06 model noise monitors, which comply with Australian Standard AS IEC 61672.1 2004 "Electroacoustics - Sound Level Meters" and are designated as a Type 1 instruments suitable for field and laboratory use. These automated noise monitors are capable of storing sound pressure levels for every one second period for the duration of the monitoring period.

The equipment was calibrated prior and subsequent to the measurement period using Brüel & Kjær Type 4230 / 4231 calibrators. No significant drift in calibration was observed in any noise monitor.

For the assessment of maximum noise levels from operational road traffic noise, the following aspects for the existing noise environment were measured:

- Maximum noise level for each passby. The L_{MAX} noise levels (individual) greater than 65 dB(A) and where $L_{MAX} - L_{eq1hr} > 15dB(A)$.
- Number of events >65 dB(A) per hour. The number and distribution of the $L_{MAX} - L_{eq1hr}$ from road traffic noise on an hourly basis between 10pm and 7am.
- Number of events $>L_{Aeq1hr}$ per hour.



11 (Rec. ID 3008)
6858 Pacific Highway,
VALLA



10 (Rec. ID 666)
22 Letitia Cl,
NTH MACKSVILLE

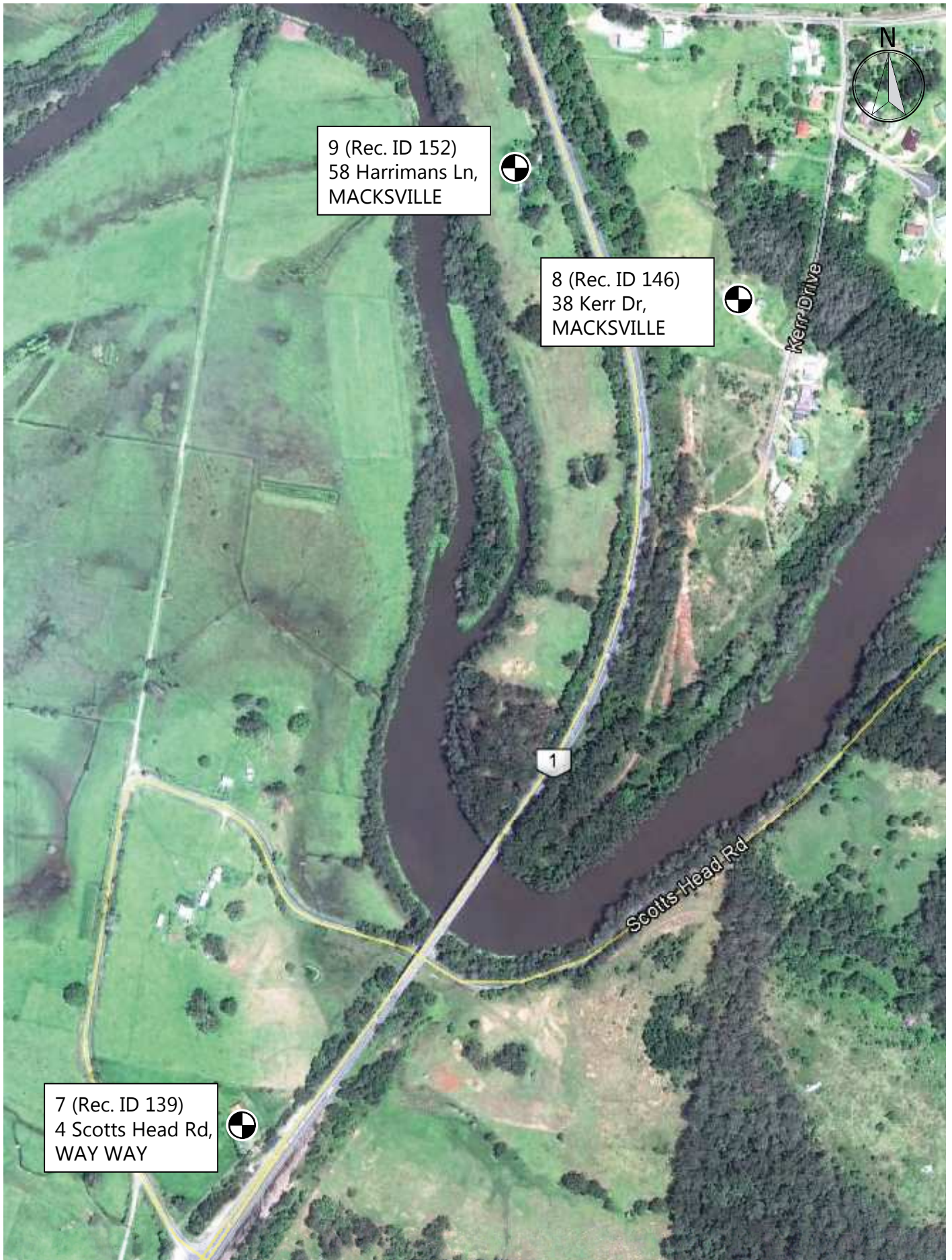
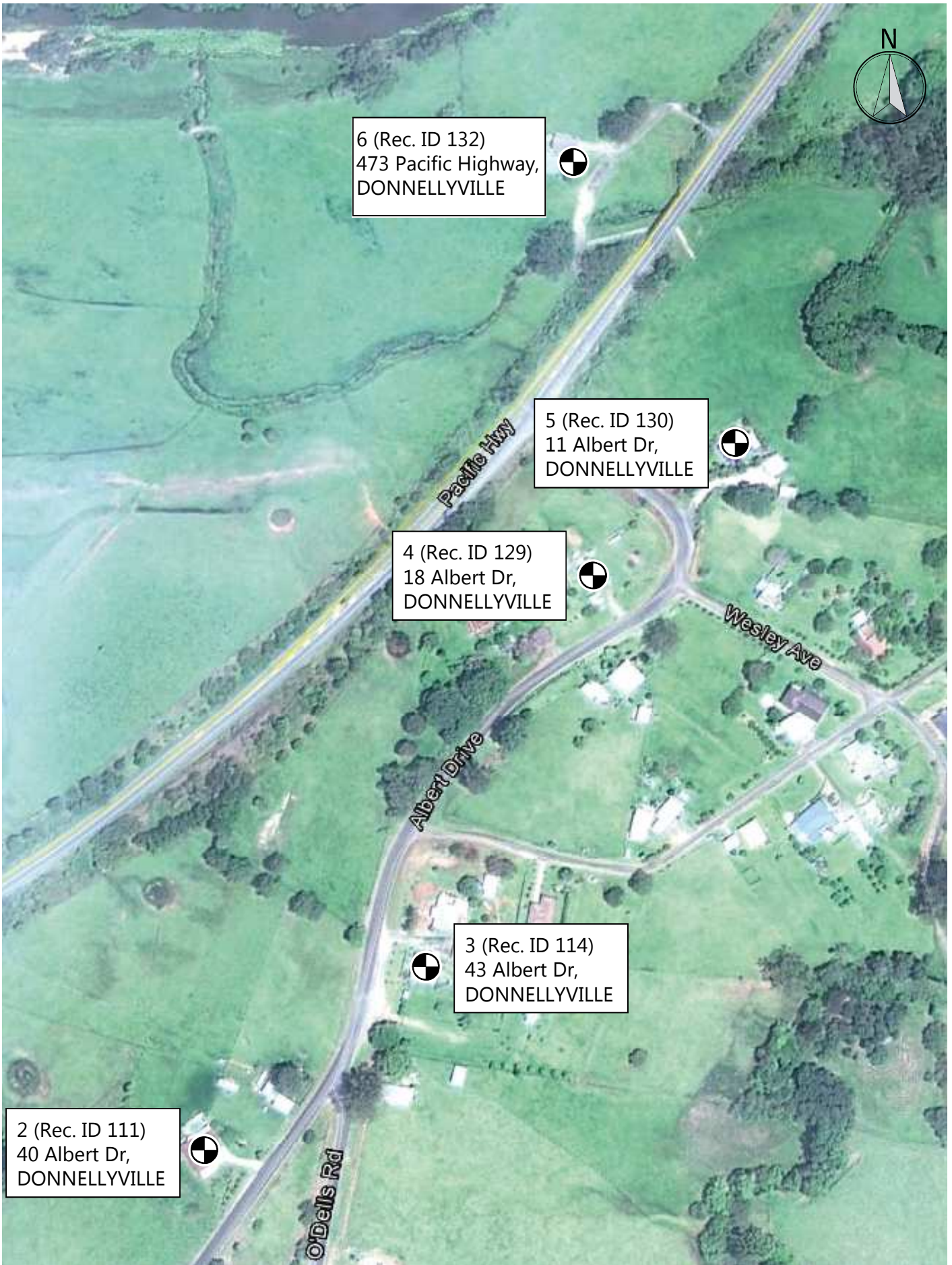
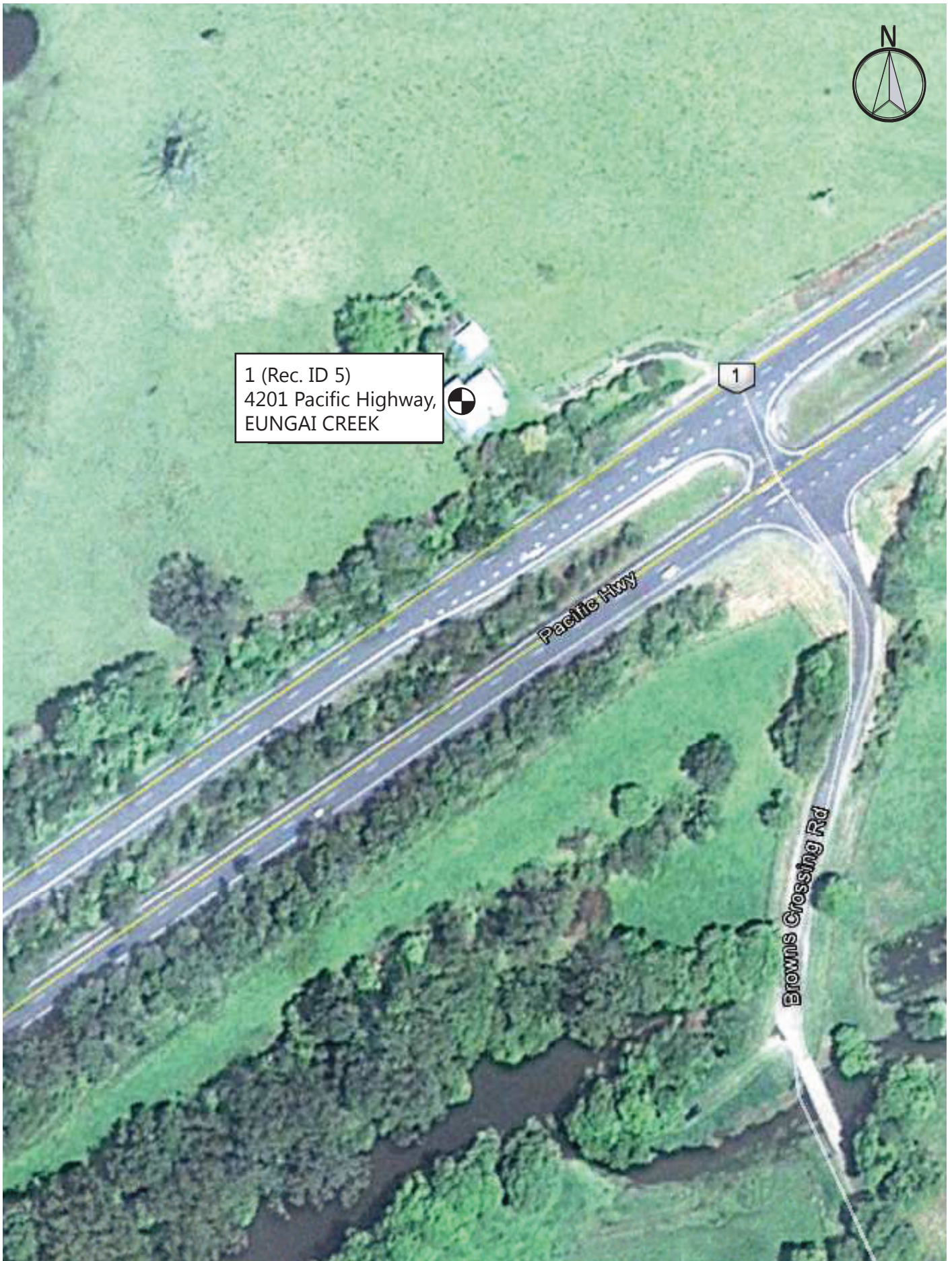


Figure 3
Long Term Noise Measurement Locations





4.2 Existing Noise Levels

4.2.1 L_{Aeq} Traffic Noise Levels

The existing noise levels measured along the Pacific Highway Upgrade route are summarised in Table 5 below. The noise levels presented below are the overall, noise levels for each relevant traffic noise descriptor. Detailed noise monitoring data are included in Appendix H of this report.

Table 5 – Results of L_{eq} Traffic Noise Monitoring, dB(A)

No	Receiver. ID	Address	Measured Noise Levels, dB(A)	
			Day L _{Aeq} (15hr)	Night L _{Aeq} (9hr)
1	5	4201 Pacific Highway, Eungai Creek	68	66
2	111	40 Albert Dr, Donnellyville	59	59
3	114	43 Albert Dr, Donnellyville	57	56
4	129	18a Albert Dr, Donnellyville	65	64
5	130	11 Albert Dr, Donnellyville	61	59
6	132	473 Pacific Highway, Donnellyville	63	63
7	139	4 Scotts Head Rd, Way Way	63	60
8	146	38 Kerr Dr, Macksville	51	50
9	152	58 Harrimans Ln, Macksville	62	59
10	666	22 Letitia Cl, NTH Macksville	65	64
11	3008	6858 Pacific Highway, Valla	64	63

Notes: 1. Free field locations have been corrected to account for facade reflections; ie. +2.5dB(A) to the monitored noise levels
2. Day L_{Aeq}(15hr) represents the period 7am to 10pm and Night L_{Aeq}(9hr) represents the period 10pm to 7am

4.2.2 Background L_{A90} Noise Levels

The existing noise levels measured along the Pacific Highway Upgrade route are summarised in Table 6 below. The noise levels presented below are the overall, noise levels for each relevant traffic noise descriptor. Detailed noise monitoring data are included in Appendix H of this report.

Table 6 – Results of Background L_{A90} Noise Monitoring, dB(A)

No	Receiver. ID	Address	Measured Noise Levels, dB(A)		
			Day	Evening	Night
1	5	4201 Pacific Highway, Eungai Creek	46	44	37
2	111	40 Albert Dr, Donnellyville	43	43	36
3	114	43 Albert Dr, Donnellyville	42	40	35
4	129	18a Albert Dr, Donnellyville	47	42	35
5	130	11 Albert Dr, Donnellyville	44	41	32
6	132	473 Pacific Highway, Donnellyville	46	41	35
7	139	4 Scotts Head Rd, Way Way	51	44	39

No	Receiver ID	Address	Measured Noise Levels, dB(A)		
			Day	Evening	Night
8	146	38 Kerr Dr, Macksville	40	36	34
9	152	58 Harrimans Ln, Macksville	46	40	33
10	666	22 Letitia Cl, NTH Macksville	49	43	41
11	3008	6858 Pacific Highway, Valla	48	41	33

- Notes:
1. Background L_{A90} noise levels are presented as Rating Background Levels (RBL)
 2. Day represents the period 7am to 6pm, Evening 6pm to 10pm and Night 10pm to 7am
 3. Background level recorded less than 30dB(A). Set to 30dB(A) in accordance with EPA guidelines

4.2.3 Maximum Noise Levels

The L_{Amax} noise level represents the loudness of the maximum noise events and can be used when assessing sleep arousal. As recommended in the ENMM, the L_{Amax} noise levels reported below are those that occur at night (between 10pm and 7am), and where the $L_{Amax} - L_{Aeq}$ is greater than 15 dB(A).

Table 7 below summarises the maximum noise level events measured at each monitoring location during the measurement period. Detailed daily results of the maximum noise level monitoring are provided in Appendix J.

Table 7 – Summary of Measured Maximum Noise Levels along Existing Pacific Highway & Predicted Design Year Maximum Noise Levels at Night (10pm-7am)

No	Receiver ID	Approx. Distance to Significant Noise sources ¹	Measured L_{Amax} Range, dB(A)	Measured No. of Events		Predicted L_{Amax} Range, dB(A)	Predicted No. of Events ²	
				Range per Hour	Range per Night		Range per Hour	Range per Night
1	5	Pacific Highway 25 m Rail Line 500 m	70-91	0-18	6-86	70-91	0-34	133-172
2	111	Pacific Highway 170 m Rail Line 350 m	66-77	0-9	2-32	68-79	0-14	3-51
3	114	Pacific Highway 160 m Rail Line 400 m	66-76	0-12	7-53	68-78	0-19	11-85
4	129	Pacific Highway 65 m Rail Line 400 m	68-81	0-18	1-53	73-86	0-29	2-85
5	130	Pacific Highway 100 m Rail Line 500 m	66-80	0-15	3-41	70-84	0-24	5-66
6	132	Pacific Highway 65 m Rail Line 400 m	68-86	0-12	9-54	68-86	0-19	14-86
7	139	Pacific Highway 40 m Rail Line 1 km	66-84	0-11	5-49	66-84	0-17	8-74
8	146	Pacific Highway 125 m Rail Line 1 km	65-77	0-12	1-24	67-79	0-18	2-36
9	152	Pacific Highway 50 m Rail Line 700 m	66-86	0-13	15-70	66-86	0-20	22-105
10	666	Pacific Highway 110 m Rail Line 2.5 km	69-78	0-12	0-53	69-78	0-19	0-85

- Note:
- 1 Acoustically significant noise sources that contribute to the existing L_{Amax} noise environment
 - 2 Based on project traffic growth

Measured L_{Amax} noise levels indicate that up to 18 events occur per hour at the monitoring locations and up to 86 events during a whole night period over the monitoring period. Heavy vehicle traffic volumes at the monitoring locations for the night period were on average 631 to 710 vehicles between 10pm and 7am.

The road design in the proximity of half of the locations within Table 7 is either remaining in the same location as the existing Pacific Highway and/or is moving further away, therefore design year maximum noise levels are not expected to increase. For the other half of the locations within Table 7, the road design will be moving closer, therefore design year maximum noise levels are expected to increase.

Receivers in close proximity to the road design, where the upgrade is to be built in a new road corridor, will be subjected to significant increases in maximum noise levels. Furthermore, increases to maximum noise levels are expected where sections of the road design are more elevated than the existing Pacific Highway and the acoustic benefits of intervening shielding between road and receiver are reduced. An increase in road gradient may also result in increases to the maximum noise levels.

In regard to maximum noise level events, on a whole the projected traffic growth for the project indicates that the number of maximum noise level events for the design year is expected to approximately double from current events. This is consistent with forecasted traffic growth.

5 OPERATIONAL NOISE ASSESSMENT

5.1 Methodology and Outputs

The EIS identified that the ECRTN night-time period, as opposed to the daytime period, was the defining period for any potential impacts. Regardless, modelling and results for this assessment are based on the daytime and night-time period. Furthermore, this study incorporates modelling and results for the following situations:

- **Future existing (2016)** – daytime and night-time predictions to individual properties and noise contours for night-time. Predictions are used to set 'Allowance' road traffic noise criteria (where existing traffic noise levels exceed the ECRTN's 'Target' noise goals);
- **Opening year (2016)** - daytime and night-time predictions to individual properties and noise contours; and
- **Design year (2026)** – daytime and night-time predictions to individual properties and noise contours.

The noise modelling output results are to be used for three main purposes:

1. To provide tendering contractors with an operational noise study update since the EIS, which encompasses all the operational amendments as outlined in Table 3 of this report;
2. To provide tendering contractors a set of noise contour envelopes (Day and Night) that will assist them in developing suitable at-road noise mitigation measures that will adequately constrain traffic noise emissions from the proposed Pacific Highway upgrade project; and
3. To provide tendering contractors an indication of the number and locations of properties that may be considered for at-property noise mitigation treatment.

5.2 Traffic Flow and Composition Summary

5.2.1 Existing Traffic Volumes

Classified traffic volume counting, classification of vehicles and vehicle speeds was undertaken concurrently with the noise monitoring by a traffic survey sub-contractor. Traffic count locations were selected to provide road traffic volume and classification data to represent each noise monitoring location. The traffic data allows noise levels to be modelled and compared to the monitored noise levels for validation and calibration of the computer noise model.

Four (4) traffic survey locations were selected. All four (4) locations were chosen to account for traffic movements along the existing Pacific Highway with three (3) used to capture movements along a single carriageway and one (1) used to capture movements among a dual carriageway.

Table 8 below summarises the locations identified for traffic monitoring. The locations are also presented in a Google Earth .kmz electronic file provided separately to this document.

Table 8 – Road Traffic Survey Locations

Reference No.	Traffic Counter Location	Nearest Noise Monitoring Position	Applicable Noise Monitoring Locations
Traffic 1	Pacific Highway (Dual Carriageway), Eungai Creek	100 m north of Upper Warrell Rd	5
Traffic 2	Pacific Highway (Single Carriageway), Donnellyville	200m north of railway overbridge/ 700 m south of Albert Dr	111, 114, 129, 130, 132
Traffic 3	Pacific Highway (Single Carriageway), Macksville	300 m north of Nambucca River bridge/ 1 km south of Bald Hill Rd	139, 146, 152
Traffic 4	Pacific Highway (Single Carriageway), NTH Macksville	550 m east of Old Coast Rd/ 250 m west of Nursery Rd	666

The results of the traffic survey are summarised in Table 9.

Table 9 – Existing 2013 Traffic Volumes and Compositions along the Pacific Highway

Reference No.	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
		Total Vehicles	Heavy Vehicles %	Speed ¹	Total Vehicles	Heavy Vehicles %	Speed ¹
Traffic 1	Northbound	3576	21.6	108	627	63.1	107
	Southbound	3625	20.0	102	530	59.7	101
Traffic 2	Northbound	3521	22.4	105	563	61.6	106
	Southbound	3572	19.6	99	497	57.4	100
Traffic 3	Northbound	4314	19.8	100	660	59.1	101
	Southbound	4258	16.1	97	520	53.1	99
Traffic 4	Northbound	5192	14.9	103	692	56.3	103
	Southbound	4988	15.3	95	583	48.3	99

- Notes:
1. Speed represents the 85th percentile speed monitored during the traffic survey
 2. Vehicle Classes are based on Austroads vehicle classifications. That is;
 - Light vehicles: passenger vehicles (cars, vans utilities, motorcycles etc).
 - Medium vehicles: two or three axles, two groups.
 - Heavy vehicles: three or more axles, more than two groups.
 3. Day and/or night periods with missing data are excluded from the data

5.2.2 Future-Existing Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by SMEC Australia. The projected average hourly traffic flow data for the year of project opening (2016) without the project going ahead, namely the 'future-existing' traffic data, is provided in Appendix B for the day and night periods.

5.2.3 Opening Year Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by SMEC Australia. The projected average hourly traffic flow data for the year of project opening (2016) with the project going ahead, namely the 'Opening Year' traffic data, is provided in Appendix B for the day and night periods.

5.2.4 Design Year Traffic Volumes

The noise predictions for the noise model have been based on traffic flow and composition data provided by SMEC Australia. The projected average hourly traffic flow data for 10 years after project opening (year 2026) is provided in Appendix B for the day and night periods.

5.3 Noise Prediction Modelling

For this project, noise modelling was undertaken using the noise modelling software package Cadna-A (v4.3). This noise modelling software package has been well validated and compared to other software packages over the years and is recognised and accepted by many government authorities and agencies, including both the RMS and the EPA. The Cadna-A road traffic noise model incorporates the following:

- the traffic noise prediction model method developed by the United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)" known as the CoRTN88 method;
- CoRTN88 adaptations for Australian conditions, as tested by the Australian Road Research Board; and
- modified method enabling accurate prediction of noise from high truck exhausts.

The CoRTN88 method predicts the $L_{A10,1hr}$ noise levels. A correction of -3dB(A) is applied to obtain the $L_{Aeq,1hr}$ noise levels. The $L_{Aeq,1hr}$ noise levels representing the day time period from 7am to 10pm is used to determine the daily $L_{Aeq,15hr}$ noise level. Similarly, the $L_{Aeq,1hr}$ noise levels representing the night time period from 10pm to 7am is used to derive the night time $L_{Aeq,9hr}$ noise level.

The noise prediction model takes into account:

- traffic volume and heavy vehicle forecasts
- vehicle speed
- road gradient
- location of the noise sources
- the differing source heights of cars and trucks (3-source heights used)
- ground reference levels of the road and receivers
- separation distances of the road to receivers
- ground type between the road and receivers
- angles of view of the road from the receiver's position
- attenuation from barriers (natural and purpose built) and cuttings
- reflections from barriers, cuttings, roadside structures etc.
- corrections for low-noise road pavements
- corrections for building facade reflections under Australian conditions

Details of assumptions used in the noise model for this assessment are presented in Table 10.

Table 10 - Summary of Noise Modelling Inputs

Parameters	Inputs
Traffic volumes and mix:	<p>'Existing' (2012) traffic count data measured concurrently with noise monitoring – see Table 9</p> <p>'Future-Existing' (2016) Provided by RMS – see Appendix B</p> <p>'Opening Year' (2016) Provided by RMS – see Appendix B</p> <p>'Design Year' (2026) Provided by RMS – see Appendix B</p> <p>Note that hourly traffic volumes are used for the purpose of noise modelling. These are obtained by dividing the traffic volumes for the representative period by the number of hours in that period. For example, daytime traffic volumes for the design model is divided by 15 to provide an equivalent hourly traffic volume for the day period (7am to 10pm). This is done because the CoRTN noise model predicts in either 18 hour or 1 hour periods, and the 1 hour period is most suited to the ECRTN's noise goals.</p>
Vehicle speed:	<p>Pacific Highway Proposed Upgrade (main carriageways):</p> <p>Day = 115km/h</p> <p>Night = 120km/h</p> <p>Existing Pacific Highway = as sign posted.</p> <p>For 'Existing' (2012) - traffic speed determined from 85th percentile speed in traffic count data – see Table 9</p> <p>Interchange Ramps = 80km/h</p> <p>Local Roads = 60km/h (as sign posted)</p>
Source height:	0.5m for car exhausts/engines and car/truck tyre noise, 1.5m for truck engines and 3.6m for truck exhausts
Ground topography at receiver and road:	Topographic data provided by the RMS (electronic). Land contours presented in 1m intervals.
Gradient of roadway	Preliminary Concept design drawings provided by RMS.
Angles of view from receiver	From aerial photos and drawings provided by the RMS.
Reflections from existing barriers, structures & cuttings on opposite side of road	Determined from review of drawings provided by the RMS.
L ₁₀ to L _{eq} correction:	-3dB
Road surface	<p>Corrections applied relevant to standard Dense Graded Asphalt (DGA):</p> <ul style="list-style-type: none"> • 0dB(A) for DGA • -2dB(A) for Stone Mastic Asphalt (SMA) • +3dB(A) for Concrete Pavement (CRCP or PCP) • +2.5dB(A) for mix of 14/7mm & 14mm worn chip seal at noisier sections of existing Pacific Highway [average pavement correction used only for validation of existing Pacific Highway] (see Section 5.5.1 of this report) <p>These corrections were applied equally for each source string in the model.</p>
Facade correction	+2.5dB(A), when modelling to 1m from building facades, in accordance with NSW ECRTN note iii (p12).

Parameters	Inputs
Australian conditions corrections:	-1.7 dB(A) for 'at 1m from facade' conditions -0.7 dB(A) for 'free field' conditions applied to Daytime model from the Australian Road Research Board (ARRB) Transport Research (Saunders et al 1983) and referred to in Austroads Research Report (ARR), "An Approach to the Validation of Road Traffic Noise Models" (2002). +0.5 dB(A) for Night-time model based on RMS' empirical data on Pac Highway
Calibration adjustment ¹ :	The following global calibration factors were applied to all properties for the Future-Existing (2016), Opening Year (2016) and Design Year (2026): +0.4 dB(A) for Daytime +0.6 dB(A) for Night-time
Safety Factor:	Further to discussions with RMS, for this assessment the following safety factor was applied to all properties for the Future-Existing (2016), Opening Year (2016) and Design Year (2026): 1.8 dB(A) for Daytime and Night-time
Air and ground absorption	As detailed within the CoRTN algorithms and their application in Cadna-A (v4.3). Ground absorption factor was set to 0.75 overall, with areas of heavy vegetation set to 1.0 and over water set to 0. The ground absorption factors applied to the model are found to validate well to noise monitoring results.
Noise sensitive receiver locations:	As per EIS noise model plus additional identified by RT&A.
Receiver heights:	1.5m above ground level for ground floor and 4.5m above ground level for 1st floor.
Buildings	Buildings from aerial photos and Google Maps Street View. Majority of residential buildings are modelled as single storey with receiver points at 1.5m above ground level, with the exception of a few identified double storey buildings which were modelled with additional receiver points at 4.5m above ground level.
Noise barriers:	Future-Existing (y2014): no noise barriers incorporated into assessment. Future (y2014 and y2024): as per the EIS (see Table 13).

Cadna-A noise model settings used:

Calculation method	Ray-tracing method adopted, as opposed to angle-scan method
Ground absorption factor	0.75 - overall 1.0 - for areas of heavy vegetation 0 - for water areas
Maximal search radius	4,000 for contours; 4,000 for individual predictions
For noise contour maps:	
Grid space =	20m
Height above ground =	1.5m
Grid Interpolation =	Not used

Notes: 1. Determined by comparing the monitored noise levels to the noise levels modelled using concurrent traffic data (ie calibration adjustment = monitored - modelled)

5.4 Mitigation Measures

There are a number of methods available to mitigate traffic noise from roads, including:

- Low-noise pavement surfaces;
- Roadside noise barriers (eg. earth mounds and/or walls); and
- At-property treatment (eg. architectural treatment to dwellings).

Both the ECRTN and the ENMM acknowledge and accept the use of these methods to mitigate traffic noise from road projects.

An investigation into noise impacts from the Project have already been undertaken as part of the EIS. The mitigation measures recommended in the EIS included location, length and height of noise barriers and the provision of a low noise pavement in areas and at-property treatments. As discussed with the RMS project team, the extent of low noise pavement and noise barriers have already been committed to the community so they have been incorporated into this assessment as a minimum starting point. Also it is noted that this assessment is not the final design assessment, which is to be carried out by the successful design and construct contractor who are required to further develop noise mitigation measures located within the project corridor.

5.4.1 Low Noise Pavements

The type of road surface can have a significant impact on traffic noise generated by pavement tyre/road interaction. The use of low-noise pavement can be used to assist in reducing noise levels along the noise sensitive areas of the route.

Table 3.1 of the ENMM, which is reproduced below, provides a comparison of the noise characteristics of varying pavement types relative to Dense Graded Asphalt (DGA).

**Table 11 – Road Pavement Noise Corrections Relative to Dense Grade Asphalt
(from RMS' Environmental Noise Management Manual, Table 3.1)**

Surface Type (regularly trafficked)	Noise Level Variation, dB(A)
	Traffic Noise
14mm chip seal	+ 4.0
Portland cement concrete: tyned and dragged	0 to + 3.0
Cold overlay	+ 2.0
Portland cement concrete: exposed aggregate	- 0.5 to - 3.0
Stone mastic asphalt	- 2.0 to - 3.5
Open graded asphaltic concrete	0 to - 4.5

It has been proposed that concrete and stone mastic asphalt (SMA) will be used for the main carriageways, and dense graded asphalt (DGA) on interchange ramps for the proposed upgrade, and the existing Pacific Highway was modelled as indicated in Table 12.

Table 12 – Road Pavement Surface of Proposed Upgrade & Existing Pacific Highway

Chainage*	Location	Pavement Surface Type
Proposed Upgrade		
	All road except for sections described below	Concrete
	Warrell Creek / Bald Hill Rd Interchange ramps	DGA
Start 2300 End 5400	Warrell Creek (approx. 3.1km in length)	SMA
Start 6600 End 11750	Northern abutment Bridge over Warrell Creek to Old Coast Road (approx. 5.15km length)	SMA
Existing Pacific Highway		
	All road	DGA

Note: * Obtained from Table 5.2 of the EIS

Table 12 presents the extent of the proposed upgrade's road surfaces. It is noted that the section of SMA extending from chainage 2300 to 5400 extends 800 metres further south than the equivalent section within the EIS which was proposed to extend from chainage 3100 to 5400.

5.4.2 Proposed Noise Barrier Designs

Noise barriers are most feasible where residences are closely grouped, where the barriers do not cause access difficulties to properties, and where they are visually acceptable.

As part of the EIS process, noise barriers were recommended to aid in reducing traffic noise levels.

Noise barriers used in the noise model are those recommended in the EIS, as these are considered a minimum starting point given RMS' commitments to the community. Notwithstanding this, a further assessment was carried out to determine if it is reasonable to raise the height or extent of noise barriers to assist in further reducing noise levels to impacted receivers. In accordance with the ENMM's Practice Note IV and in particular Practice Note IV (a) which aims to provide an acceptable balance between barrier heights and effectiveness, the consideration of increasing the height of the EIS noise barriers and adopting any additional noise barriers was evaluated and found to not be feasible for the Project. This analysis is presented in more detail in Section 7.1.2 of this report.

Traffic noise modelling was performed using the traffic noise model described in Section 5.3 and the noise barrier design presented in Annexure C. The noise modelling results in Annexures E and F show traffic noise levels as a result of the Project with the noise barrier design and low noise pavement mitigation measures implemented.

The same noise barriers adopted in the EIS were therefore adopted for this assessment. Detailed information for modelling inputs regarding road pavement and noise barriers for the proposed upgrade is respectively shown in Table 12 and Table 13 of this report.

Table 13 – Noise Barrier Locations of Proposed Upgrade

Chainage*	Location	Height Above Ground (m)
Start 4500 End 5000	Albert Drive to Donnellyville – Eastern side of Proposed Upgrade	4.5
Start 5000 End 5300	Donnellyville, adjacent to south bound lane – Eastern side of Proposed Upgrade	4.5
Start 7100 End 7450	Bald Hill Interchange, adjacent to South bound on ramp – Eastern side of Proposed Upgrade	4.0
Start 12325 End 12900	Mattick Road ramp – Eastern side of Proposed Upgrade	4.5

Note: * Obtained from Table 5.6 of the EIS Noise Working Paper

5.5 Noise Model Validation

5.5.1 Roadside Measurements to Establish Pavement Corrections

The existing Pacific Highway has a mixture of road pavements as shown in Appendix J of this report, and their condition and noise performance is unknown. Therefore, a series of short-term measurements were conducted at roadside at several locations and used to check the source levels that are assumed within the noise model to confirm that appropriate pavement corrections are applied.

Concurrent traffic counting was conducted during the attended noise measurements. The measurements were conducted at the start and end of the long-term noise monitoring period, at a distance of 10m from the edge of the outermost traffic lane.

Traffic noise levels were modelled at the same locations and compared to the measured traffic noise levels to determine if there are any variations between the two levels. Modelled noise levels using a DGA pavement correction, were found to be significantly lower than measured noise levels at the following three (3) locations along the project route:

- 100m east of the Pacific Highway / southern end of Old Coast Rd intersection;
- 100m west of the Pacific Highway / southern end of Old Coast Rd intersection; and
- Near the Pacific Highway / northern end of Albert Drive intersection.

Upon visual inspection the surface appeared coarse and worn and was considered to be noisier than DGA. At these areas the difference was found to be a nominal 4dB(A) higher than modelled.

Information obtained from RMS detailing the pavement types along each section on the existing Pacific Highway (see **Appendix J**), assisted in confirming that the noisier areas were influenced

by pavements noisier than DGA and that an appropriate pavement correction was justified and could be applied. Given that the measured pavement correction for these noisier pavement areas on the existing road was +4dB(A) and other areas were DGA so a 0dB(A) correction would apply, an average pavement correction of +2.2dB(A) over the existing Pacific Highway was calculated and found to be suitable to apply for the purpose of model validation. A +2.2dB(A) pavement correction accounts for the mix of different pavements which exist along the Pacific Highway and is considered suitable as an overall correction, given that the condition and actual performance of each section of pavement is unknown.

5.5.2 Validation Methodology & Results

The noise model was validated and calibrated using the long-term noise monitoring results and traffic count data obtained in May 2012 and May/June 2013 as presented in this report. Calibration adjustments were determined from the validation analysis and applied at all properties.

The modelled traffic noise levels for existing conditions were compared to the measured traffic noise levels to determine any variation between the two levels at each monitoring location. A statistical analysis of the results was then conducted to determine the 'difference' between the modelled and measured noise levels, and variations between the comparisons for the day and night periods. By further analysing the differences between the modelled and the measured noise levels across the monitoring locations, the 'standard deviation' is obtained, which indicates the degree of spread in the results.

Where, individual site differences (variations) greater than 2dB(A) occurred, further interrogation of the monitored data and a detailed review of the noise model and adjustments was undertaken to ensure that there are no modelling errors other than random errors. The monitoring parameters that were checked are:

- extraneous noise increasing the measured results,
- fauna noise (insects, frogs etc) at dusk and night increasing measured levels,
- predominant wind over the monitoring period blowing from road-to-logger increasing measured levels or from logger-to-road decreasing measured levels, and
- the possibility of Temperature Inversions (TIs) at night for noise monitors placed over 100m from the road during winter months.

The modelling parameters that are checked are:

- traffic volumes
- compositions
- speeds
- road surface types
- road gradients
- distances to receivers
- ground absorption, and

- shielding from existing buildings, barriers, cuttings etc

In consideration of the above interrogation process, Table 14 summarises the results of the traffic noise model validation process.

Table 14 – Validation Summary: Measured -V- Modelled Statistical Analysis

No	Rec. ID	Verification Locations	Distance to Pacific Highway	LAeq(15hr) Noise Level, dB(A)			LAeq(9hr) Noise Level, dB(A)			Day – Night#		
				Measured	Modelled	Variation	Measured	Modelled	Variation	Measured	Modelled	
1	5	4201 Pacific Highway, Eungai Creek	25	67.8	65.4	2.4	65.4	63.9	1.5	2.4	2.2	
2	111	40 Albert Dr, Donnellyville	170	58.7	59.7	-1	58.4	57.7	0.7	0.3	2.7	
3	114	43 Albert Dr, Donnellyville	160	56.9	57.3	-0.4	55.8	55.5	0.3	1.1	2.5	
4	129	18a Albert Dr, Donnellyville	65	64.4	65.5	-1.1	63.2	63.7	-0.5	1.2	2.5	
5	130	11 Albert Dr, Donnellyville	100	60.7	62.6	-1.9	59	60.6	-1.6	1.7	2.7	
6	132	473 Pacific Highway, Donnellyville	65	63.4	61.6	1.8	62.2	59.8	2.4	1.2	2.5	
7	139	4 Scotts Head Rd, Way Way	40	62.5	62.3	0.2	59.9	60.2	-0.3	2.6	2.8	
8	146	38 Kerr Dr, Macksville	125	51.3	52.2	-0.9	50.2	50.3	-0.1	1.1	2.6	
9	152	58 Harrimans Ln, Macksville	50	61.7	62.1	-0.4	59.2	60.2	-1.0	2.5	2.6	
10	666	22 Letitia Cl, NTH Macksville	110	65	62.3	2.7	63.2	60.1	3.1	1.8	2.9	
11	3008	6858 Pacific Highway, Valla	65	64.2	61.6	2.6	62.7	60.1	2.6	1.5	3.2	
Mean Differences						+0.4				+0.6		
Standard Deviation						1.7				1.6		

Note: Noise monitoring data found to be potentially influenced by noise sources other than Pacific Highway traffic noise, was discarded and not utilised in the model verification analysis.

The differences between Day and Night levels are consistent in that they show Day to be louder by 1-3dB(A) than Night, confirming that Night time is the determining period controlling the assessment for this Project.

5.5.3 Discussion

It is noted that during site inspections of the validation monitoring locations, traffic noise from the existing Pacific Highway was observed to be the most significant noise contributor to the acoustic environment at these locations. However, other non-traffic noise sources also contributed to the noise environment, in particular from fauna, train pass-bys, rural activity, and other neighbourhood activity noise sources. These were generally found to be more pronounced with increased distance from the Pacific Highway as traffic noise becomes less prominent and other ambient noise becomes more significant with increased distance from the highway.

It is noted that all model predictions have a tolerance or error margin and a statistical confidence that can be placed on the model in predicting noise levels in practice. The noise model validation tests presented in Table 14 above, show the model to predict results that fall within a reasonable level of the true noise levels in practice. According to the Australian Road Research Board (ARRB) research Report ARR No.122, "An Evaluation of the U.K. DoE Traffic Noise Prediction Method", March 1983 (by Saunders, Samuels, Leach & Hall), the accuracy of the CoRTN88 noise algorithms is generally expected to predict noise levels that are within:

- $\pm 1.8\text{dB(A)}$ in the free-field and $\pm 2.5\text{dB(A)}$ within 1m from façade, of the true noise levels in practice with a 84% confidence limit, and
- $\pm 3.6\text{dB(A)}$ in the free-field and $\pm 5.0\text{dB(A)}$ within 1m from façade, of the true noise levels in practice with a 95% confidence limit.

5.5.3.1 Moderate Measured-Vs-Modelled Variations

In consideration of the interrogation process outlined in Section 5.5.2, moderate variations equal to or greater than $\pm 2.5 \text{ dB(A)}$ were still found at two (2) locations for day and/or night. Possible reasons are provided below to explain why moderate variations were found at these locations:

- **No. 10: 22 Letitia Cl, North Macksville** - Measured noise levels were higher than modelled noise levels for day. These variations may partially be explained by the predominant wind over the monitoring period blowing from road-to-logger increasing measured levels. Also the variation may partially be explained by vegetation and topographical features which have not been fully accounted for in the model.
- **No. 11: 6858 Pacific Highway, Valla** - Measured noise levels were higher than modelled noise levels for day and night. These variations may partially be explained by the predominant wind over the monitoring period blowing from road-to-logger increasing measured levels.

5.5.4 Calibration Results

The results presented in Table 14 above provide a reasonable level of confidence in the noise model used for modelling traffic noise levels.

Table 15 below presents the overall mean differences found between measurement and modelling results. The mean differences are relatively small, 0.4 dB(A) for day and 0.6 dB(A) for night.

Modelling noise using a noise model that is calibrated against actual noise level measurements assists in improving the accuracy of noise predictions. However, given that the overall mean differences fall within +/-1dB(A), it is not normally considered necessary to calibrate a noise model to further improve its accuracy. However, following some further consideration of whether or not to apply these relatively small positive calibration factors to the project's noise model, it was considered appropriate to do so in order to meet the design team's objective of providing a conservative noise assessment wherever possible.

Table 15 - Calibration Factors Applied to Noise Models

Statistical Metrics	Day $L_{Aeq(15hr)}$ dB(A)	Night $L_{Aeq(9hr)}$ dB(A)
Calibration Factors (= mean difference of measured to modelled noise levels as per Table 14 of this report)	+0.4	+0.6

5.5.5 Risk Allowance / Safety Factor

In addition to the calibration factors described above and applied to the noise model, a risk allowance (or safety factor) of +1.8dB(A) was added to all predictions to reduce the risk of non-compliance. This factor was determined after reviewing the range of variations typically found between measurements and modelling results. This approach was considered appropriate in order to meet the design team's objective of providing a conservative noise assessment where possible, in order to minimise the risk of having to retrofit noise mitigation measures after project opening. The design team wanted to avoid this wherever possible.

6 ROAD TRAFFIC NOISE ASSESSMENT

6.1 Mitigated noise levels at noise sensitive locations (noise contours)

Future mitigated daytime (7am-10pm, 15hr) and night-time (10pm-7am, 9hr) traffic noise levels for the 'opening' year (2016) and 'design' year (2026, 10 years after completion of the project) have been predicted using the CoRTN88 traffic noise model. In addition, night-time (10pm-7am, 9hr) traffic noise levels for the 'future existing' year (2016) have also been predicted.

Appendix D presents the 'future existing' year 2016 noise level contours for night.

Appendix E presents the 'opening' year 2016 noise level contours for day and night

Appendix F presents the 'design' year 2026 noise level contours for day and night

The noise level contour predictions presented in this report are inclusive of the at-road noise mitigation measures set out in Section 5.4 of this report and inclusive of the safety factor.

6.2 Mitigated predictions to individual properties

Further to generating noise contours, road traffic noise levels were also modelled at the facades of 358 individual property dwellings. Appendix G of this report provides a listing of the facades of individual properties modelled.

Traffic noise levels were predicted for daytime (7am-10pm, 15hr) and night-time (10pm-7am, 9hr) for three cases:

- **Future existing (2016)** – Year of opening without the project,
- **Opening Year (2016)** – Year of opening, and
- **Design Year (2026)** - 10 years after opening.

These noise level predictions are tabulated in Appendix G of this report.

The noise predictions presented in Appendix G are inclusive of the at-road noise mitigation measures set out in Section 5.4 of this report and inclusive of the safety factor.

The applicable project noise goals have been based on the requirements of Practice Note I of the ENMM. Noise mitigation is required at a property if either:

- The predicted 'future' noise level exceeds the relevant 'target' criterion, and the noise level increase is greater than 2 dB (where the 'redevelopment' criteria apply) or 0.5 dB (where the 'new road' criteria apply).

or

- The predicted 'future' noise level is 'acute' [$L_{Aeq(15hr)} \geq 65$ dB(A) daytime; $L_{Aeq(9hr)} \geq 60$ dB(A) night-time].

The assessment outcomes at each individual receiver are shown in Appendix G.

6.2.1 Sensitive Land Use Developments

The sensitive land used developments identified in the vicinity of the project are stated below in Table 16.

Table 16 - Identified Sensitive Land Use Developments

Type of Development	Description	Comments
School	Nambucca Heads High School Centenary Parade, Nambucca Heads	Outside study area
School	Adventist School Dudley Street, Macksville (Identified as Hibiscus Christian School in the EIS),	550m from Upgrade
School	Macksville Public School, Wallace Street, Macksville	Outside study area
School	St Patrick's Primary School, Wallace Street, Macksville	Outside study area
School	Macksville High School, Boundary St, Macksville	Outside study area
Hospital	Macksville District Hospital, Boundary St, Macksville	Outside study area

Of the locations listed in Table 16, Adventist School is the only receiver located within the Study area. All the remaining receivers are currently located near the existing Pacific Highway and would experience reduction in noise from the highway as a result of the Upgrade. Furthermore, all of these receivers would comply with ENMM's acute criterion of $L_{Aeq(15hr)}$ 65 dB(A) during the day period and $L_{Aeq(9hr)}$ 60 dB(A) during the night period.

As indicated in Table 2 the predicted daytime noise levels at the Adventist School should be assessed against the internal noise level criterion of $L_{Aeq(1hr)}$ 45. It is generally accepted that most buildings provide a noise reduction of at least 10dB(A) when windows are left 20% open, without providing additional treatment. Therefore for a conservative assessment a minimum of 10dB(A) reduction from external noise levels to internal noise levels has been adopted.

The assessment outcome for the Adventist School is shown in Appendix G, which indicates, that the Adventist School complies with the ECRTN's criterion.

7 SUMMARY OF NOISE MITIGATION MEASURES

7.1 Methodology for mitigation measures

To achieve compliance with this project's noise goals, the following noise mitigation measures have been considered, including:

- Low-noise pavement surfaces.
- Roadside noise barriers: earth mounds and/or noise walls.
- At-Property treatment to buildings.

Both the ECRTN and the ENMM acknowledge and accept the use of these methods to mitigate traffic noise from road projects.

The ENMM gives guidance on appropriate treatment of dwellings affected by traffic noise. The manual suggests that if the affected residences are single, isolated residences or close groups of only two or three residences, then at-property treatment is very likely to be more cost effective than installing noise barriers. 'Low-noise' road pavement surfaces can only achieve relatively small reductions in noise levels and will not be suitable as the sole noise mitigation treatment for this project, although it is proposed to be used in conjunction with other treatments.

Given that the EIS has already investigated noise impacts and noise mitigation measures have already been committed to the community including noise barriers, low noise pavements in areas and at-property treatments, then as discussed with the RMS project team, these measures are incorporated into this assessment as a minimum starting point. Each of these measures however were further evaluated as part of this study to determine their suitability for this project as summarised below.

Also it is noted that this assessment is not final for the project, as the successful design and construct contractor is required to carry out a further assessment and further develop noise mitigation measures located within the project corridor.

7.1.1 Low noise pavements

With the general exception of motorcycles, for all vehicles in a reasonable state of maintenance, tyre/road interaction represents the main source of noise at constant speeds in excess of around 70-80 km/h. On roads with this type of speed, the type of road surface can have a significant impact on traffic noise generated by pavement tyre/road interaction. Table 17 below presents the proposed road pavements for the project and their noise corrections as applied to the noise model.

Table 17 – Proposed Road Pavements and Noise Corrections for the Project Noise Model (Relative to Dense Graded Asphalt)

Surface Type	Noise Level Reduction
	Traffic Noise
Concrete	+3
Stone Mastic Asphalt (SMA)	- 2
Dense Graded Asphalt	0

Of the two low noise pavement options, it has been proposed that concrete and stone mastic asphalt (SMA) will be used for the main carriageways, and dense graded asphalt (DGA) on interchange ramps as indicated in Table 18.

Table 18 – Road Pavement Surface of Proposed Upgrade

Chainage*	Location	Pavement Surface Type
	All road except for sections described below	Concrete
	Warrell Creek / Bald Hill Rd Interchange ramps	DGA
Start 2300 End 5400	Warrell Creek (approx. 3.1km in length)	SMA
Start 6600 End 11750	Northern abutment Bridge over Warrell Creek to Old Coast Road (approx. 5.15km length)	SMA

Note: * Obtained from Table 5.2 of the EIS

Table 18 presents the extent of the proposed road surfaces. It is noted that the section of SMA extending from chainage 2300 to 5400 extends 800 metres further south than the equivalent section within the EIS which was proposed to extend from chainage 3100 to 5400.

7.1.2 Noise barriers

Noise barriers can provide significant noise reduction benefits, typically in the order of 10-15 dB(A). Noise barriers are also most feasible where residences are closely grouped, where the barriers do not cause access difficulties to properties, and where they are visually acceptable.

As part of this assessment an in-depth investigation of proposed and potential noise barriers was undertaken to deliver the best available environmental outcome for residences in the projects' surrounds.

7.1.2.1 Modification of EIS Barriers

Given that the EIS has already investigated noise impacts and noise barriers have already been committed to the community, then as discussed with the RMS project team, these measures are incorporated into this assessment as a minimum starting point. Notwithstanding this, a further assessment was carried out to determine if it is feasible and reasonable to raise the height or extent of noise barriers to assist in further reducing noise levels to impacted receivers. The following was investigated, with the results summarised in Table 19.

- Increasing the EIS specified 4.5m high Mattick Rd noise barrier, on the eastern side of the main carriageway.
- Increasing the EIS specified 4.0m high Bald Hill Interchange noise barrier, on the eastern side of the main carriageway.
- A noise barrier at Donnellyville (between Rosewood Rd and Albert Drive), adjacent to south bound lane, as per the EIS and modified in extent for this study.

Table 19 – Modelled Noise Levels [dB(A)] versus Noise Barrier Heights [m]

Noise Barrier Location Description	Worst-affected Receiver ID	Noise Barrier Heights, m							
		0	3	4	4.5	5	6	7	8
Mattick Rd (as per EIS)	811	63	60	59	58	57	56	55	54
Bald Hill Interchange (as per EIS)	162	61	60	60	59	59	59	59	59
	155	59	57	56	56	55	55	54	54
Donnellyville (as per EIS)	130	63	59	58	58	57	57	57	57
	124	61	59	58	57	56	56	55	55
	111	59	58	58	57	56	56	55	55
Donnellyville (modified length of noise barrier for this study)	96	53	52	52	52	52	52	52	52
	88	53	52	52	52	52	51	51	51
	84	52	50	50	49	49	49	48	48

Notes: 1. Uncorrected raw noise model outputs presented only to show trend of noise reductions with increasing height of noise barriers

Practice Note IV (a) of the ENMM states that in order for a noise barrier to be viable and cost-effective a noise reduction (or insertion loss) of at least 5dB(A) should be achieved at the most affected residence. For noise barriers more than 3m high, the insertion loss must be more than 5dB(A); and for noise barriers 5m high or higher, the insertion loss must be at least 10dB(A) at the most affected residence.

The analysis conducted and summarised in Table 19 above shows that increasing noise barrier heights from the heights set out in the EIS and extending the Donnellyville barrier length, provides minimal benefits and the required insertion losses contained within Practice Note IV (a) were not achieved.

7.1.2.2 Nambucca River Bridge Barrier

Given that the EIS did not recommend a noise barrier along the western edge of the Nambucca River Bridge, it was considered appropriate by the RMS project team to investigate the feasibility and reasonableness of this in more detail as part of the further developed concept design. Therefore, a Practice Note IV(a) ENMM assessment was undertaken to determine whether or not a noise barrier at this location would be feasible and reasonable. As such, the Nambucca River Bridge noise barrier Practice Note IV(a) assessment is contained within Appendix L.

In summary, it was determined that a noise barrier along the western edge of the Nambucca River Bridge is not feasible and reasonable because the target barrier height was found to be in excess of 8m and was considered to be visually unacceptable and the noise barrier height of 2m was found to be most beneficial (eg assessed barrier), was found not to achieve the required minimum 5dB(A) insertions loss. In addition, the outputs of the barrier analysis determined that a 3.5m barrier might possibly be adopted for the project because it achieves the required minimum 5 dB(A) insertion loss. However, the design team concluded that the construction of any noise wall along the Nambucca River Bridge was not feasible due to both visual reasons and the high cost involved in building such a noise barrier on a bridge structure with a minimal benefit achieved in return.

As such in accordance with the ENMM's Practice Note IV, and in particular Practice Note IV (a), which aims to provide an acceptable balance between barrier heights and effectiveness, the consideration of increasing the height of the EIS noise barriers and adopting any additional noise barriers was evaluated and found to not be feasible and reasonable for the Project.

The analysis confirmed the most reasonable noise mitigation requirements, including the appropriate mix of at-road and at-residence treatment.

At the detailed design stage a further assessment shall be carried out to develop the height and/or extent of noise barriers further in order to meet RMS' Scope of Work and Technical Criteria requirements which set out noise contours and noise levels to be met at specific locations.

7.1.3 At property treatment

The ENMM states that all feasible and reasonable mitigation options should be explored in an endeavour to reduce noise levels to the target noise levels as set in the ECRTN. The target noise levels are external noise goals but building treatment in many cases is the most feasible and reasonable option available despite it only reducing noise levels inside a dwelling. Therefore, any building treatment should be designed to achieve the internal noise levels that would have been achieved had noise from the project complied with the ECRTN criteria externally.

According to the ENMM, building treatments (in no particular order) may comprise:

- Fresh air ventilation systems that allow existing windows and doors to be kept shut.
- Upgraded windows and glazing and solid core doors on the exposed facades of masonry structures only (these techniques are unlikely to produce any noticeable benefit for light frame structures with no acoustic insulation in the walls).
- Upgrading window and door seals.
- Sealing wall vents.
- External screen walls or property boundary fencing.

7.1.4 Low-noise expansion joints on bridges/overpasses

Furthermore, expansion joints on bridges / overpasses are to be selected from a range that minimise noise generation. Depending on the engineering requirements of the bridge / overpass structure (e.g. allowances for movement of the structure), a range of expansion joints are available that can provide acoustic benefits and will meet applicable specifications in accordance with RMS requirements.

7.2 At-road noise mitigation measures

For this study, the at-road noise mitigation measures comprised low noise pavement in certain areas and noise barriers, as detailed in Section 5.4 of this report. With the exception of a section of low noise pavement, near Donnellyville, being extended 800m further these at-road noise mitigation measures were consistent with the EIS. The successful contractor shall develop the concept design further to achieve the project's noise goals.

7.3 At-property noise mitigation measures

Inclusive of the at-road noise mitigation measures set out in Section 5.4 of this report and inclusive of the safety factor, 154 properties were identified in this study as exceeding the project's noise goals and requiring consideration for at-property treatment. This is compared to the EIS's 104 properties (excluding properties identified in the EIS for demolishing, acquisition etc) identified for at-property treatment. There are several reasons that explain the increase in number of at-property treatments, and the key reasons include:

- an update of assessment year and in turn an increase in traffic forecast volumes,
- increase in input modelling traffic speeds,
- inclusion of noise from existing Pacific Highway and local roads,
- an increase in the extent of the study area, and
- an inclusion of a safety factor to reduce the risk of non-compliance.

Table 20 presents the individual properties that require consideration for treatment. Table 20 qualifies the findings presented in Appendix G of this report and the outcomes of the EIS process. Appendix G is a precursor to Table 20 and should only be referred to for information purposes.

Table 20 presents a comparative review rather than an absolute assessment. Therefore any differences between this comparative review and the EIS will not affect potential treatments identified and committed to through the EIS process.

Appendix K presents maps showing the locations of properties that require consideration for at-property treatment.

Table 20 – Comparison of Properties for At-Property Treatment between RT&A Noise Study (inclusive of safety factor) and EIS

No.	Receiver ID	Receiver Address	RT&A Noise Study	EIS*
1	3**	427 Browns Crossing Rd, Eungai Creek 2441	o	
2	4	464 Browns Crossing Rd, Eungai Creek 2441	o	
3	5	4201 Pacific Highway, Eungai Creek 2441	o	o
4	6	75 Cockburns Lane, Warrell Creek 2447	o	o
5	8	4227 Pacific Highway, Congarinni 2447	o	o
6	10	73 Cockburns Lane, Warrell Creek 2447	o	o
7	11	4263 Pacific Highway, Congarinni 2447	o	
8	12	760 Upper Warrell Creek Rd, Congarinni 2447	o	
9	15	18 Cockburns Lane, Warrell Creek 2447	o	o
10	16	9 Cockburns Lane, Warrell Creek 2448	o	o
11	20	4332 Pacific Highway, Warrell Creek 2447	o	
12	24	174 Rosewood Rd, Warrell Creek 2447	o	
13	26**	167 Rosewood Rd, Warrell Creek 2447	o	
14	28	162 Rosewood Rd, Warrell Creek 2447	o	
15	29	180 Rosewood Rd, Warrell Creek 2447	o	o
16	31	4390 Pacific Highway, Warrell Creek 2447	o	o
17	34	131 Rosewood Rd, Warrell Creek 2447	o	
18	35	121 Rosewood Rd, Warrell Creek 2447	o	
19	40	4442 Pacific Highway, Warrell Creek 2447	o	
20	41**	4448 Pacific Highway, Warrell Creek 2447	o	
21	42**	4452 Pacific Highway, Warrell Creek 2447	o	
22	43**	4458 Pacific Highway, Warrell Creek 2447	o	
23	46	91 Rosewood Rd, Warrell Creek 2447	o	o
24	48	4478 Pacific Highway, Warrell Creek 2447	o	o
25	56	69 Rosewood Rd, Warrell Creek 2447	o	o
26	57	46 Rosewood Rd, Warrell Creek 2447	o	o
27	63	7 Sonnys Rd, Warrell Creek 2447	o	
28	65	1 Sonnys Rd, Warrell Creek 2447	o	
29	69	196 Albert Dr, Warrell Creek 2447	o	
30	71	194 Albert Dr, Warrell Creek 2447	o	
31	77	19 Rosewood Rd, Warrell Creek 2447	o	o
32	82	70 O'Dells Rd, Warrell Creek 2447	o	
33	83	183 Albert Dr, Warrell Creek 2447	o	
34	84	66 O'Dells Rd, Warrell Creek 2447	o	
35	86	57 O'Dells Rd, Warrell Creek 2447	o	o
36	88	62 O'Dells Rd, Warrell Creek 2447	o	o
37	89	153 Albert Dr, Warrell Creek 2447	o	o
38	92	3 Henrys Lane, Warrell Creek 2447	o	

39	94	46 O'Dells Rd, Warrell Creek 2447	o	o
40	96	36 O'Dells Rd, Warrell Creek 2447	o	o
41	98	124 Albert Dr, Warrell Creek 2447	o	o
42	103	73 Albert Dr, Warrell Creek 2447		o
43	111	40-56 Albert Dr, Donnellyville 2447		o
44	116	41 Albert Dr, Donnellyville 2447		o
45	132	4723 Pacific Highway, Donnellyville 2447	o	o
46	138	11 Scotts Head Rd, Way Way 2447	o	
47	139	4 Scotts Head Rd, Way Way 2447	o	o
48	140	72 Scotts Head Rd, Way Way 2447	o	o
49	141	51 Kerr Dr, Macksville 2447	o	
50	152*	58 Harrimans Lane, Macksville 2447	o	
51	156	7 Kerr Dr, Macksville 2447	o	o
52	157	8 Kerr Dr, Macksville 2447	o	o
53	162	54 Bald Hill Rd, Macksville 2447	o	o
54	172*	105 Bald Hill Rd, Macksville 2447	o	o
55	184	117 Bald Hill Rd, Macksville 2447	o	o
56	191	20 Wedgewood Dr, Macksville 2447	o	o
57	192	117 Bald Hill Rd, Macksville 2447	o	o
58	194	18 Wedgewood Dr, Macksville 2447	o	o
59	197	34 Wedgewood Dr, Macksville 2447	o	o
60	198	30 Wedgewood Dr, Macksville 2447	o	o
61	199	21 Wedgewood Dr, Macksville 2447	o	
62	201	36 Wedgewood Dr, Macksville 2447	o	o
63	203	25 Wedgewood Dr, Macksville 2447	o	
64	204	33 Wedgewood Dr, Macksville 2447	o	
65	205	35 Wedgewood Dr, Macksville 2447	o	o
66	207	3 Wedgewood Dr, Macksville 2447	o	
67	369	102 Gumma Rd, Gumma 2447	o	
68	373	72 Gumma Rd, Gumma 2447	o	o
69	375	70 Gumma Rd, Gumma 2447	o	o
70	379	60 Gumma Rd, Gumma 2447	o	o
71	381	56 Gumma Rd, Gumma 2447	o	o
72	385	50 Gumma Rd, Gumma 2447	o	o
73	388	38 Gumma Rd, Gumma 2447	o	o
74	389*	40 Gumma Rd, Gumma 2447	o	o
75	393	32 Gumma Rd, Gumma 2447	o	o
76	415	75 River St, Macksville 2447	o	o
77	416	74 River St, Macksville 2447	o	o
78	417	73 River St, Macksville 2447	o	o
79	419	72 River St, Macksville 2447	o	o
80	422	71 River St, Macksville 2447	o	o
81	423	70 River St, Macksville 2447	o	o

82	424	69 River St, Macksville 2447	o	o
83	425	68 River St, Macksville 2447	o	o
84	426	67 River St, Macksville 2447	o	o
85	428*	66 River St, Macksville 2447	o	o
86	430	65 River St, Macksville 2447	o	o
87	431	21 Dudley St, Macksville 2447	o	o
88	434	64 River St, Macksville 2447	o	o
89	436	63 River St, Macksville 2447	o	o
90	437*	62 River St, Macksville 2447	o	o
91	439*	61 River St, Macksville 2447	o	o
92	441	60 River St, Macksville 2447	o	o
93	445	59 River St, Macksville 2447	o	o
94	446	58 River St, Macksville 2447	o	o
95	447	57 River St, Macksville 2447	o	o
96	449	56 River St, Macksville 2447	o	
97	452	55 River St, Macksville 2447	o	
98	461	49 River St, Macksville 2447	o	
99	472	48 River St, Macksville 2447	o	
100	476	47 River St, Macksville 2447	o	
101	531	143 Nursery Rd, North Mackville 2447	o	
102	581	47 Nursery Rd, North Mackville 2447	o	o
103	597	11 Bellevue Dr, North Mackville 2447	o	o
104	600	12 Bellevue Dr, North Mackville 2447	o	
105	601	10 Bellevue Dr, North Mackville 2447	o	o
106	604	8 Bellevue Dr, North Mackville 2447	o	o
107	605	9 Bellevue Dr, North Mackville 2447	o	o
108	608	7 Bellevue Dr, North Mackville 2447	o	o
109	609*	5 Bellevue Dr, North Mackville 2447	o	o
110	610	13 Bellevue Dr, North Mackville 2447	o	
111	612	14 Bellevue Dr, North Mackville 2447	o	
112	613*	4 Bellevue Dr, North Mackville 2447	o	o
113	616	15 Bellevue Dr, North Mackville 2447	o	
114	617*	3 Bellevue Dr, North Mackville 2447	o	o
115	618	2 Bellevue Dr, North Mackville 2447	o	o
116	619	18 Bellevue Dr, North Mackville 2447	o	
117	624	1 Bellevue Dr, North Mackville 2447	o	o
118	639	24 Letitia Cl, North Mackville 2447	o	o
119	666	22 Letitia Cl, North Mackville 2447	o	o
120	701	26 Letitia Cl, North Mackville 2447	o	o
121	711	20 Letitia Cl, North Mackville 2447	o	o
122	729	32 Letitia Cl, North Mackville 2447	o	o
123	745	38 Letitia Cl, North Mackville 2447	o	
124	758	40 Letitia Cl, North Mackville 2447	o	

125	775	19 Letitia Cl, North Mackville 2447	o	o
126	780	35 Letitia Cl, North Mackville 2447	o	o
127	783	41 Letitia Cl, North Mackville 2447	o	o
128	785	49 Old Coast Rd, North Mackville 2447	o	o
129	786	51 Old Coast Rd, North Mackville 2447	o	o
130	788	53 Old Coast Rd, North Mackville 2447	o	o
131	790*	83 Old Coast Rd, North Mackville 2447	o	o
132	798	124 Old Coast Rd, North Mackville 2447	o	o
133	801	133 Old Coast Rd, North Mackville 2447	o	o
134	802	64 Mattick Rd, North Mackville 2447	o	
135	805	57 Mattick Rd, North Mackville 2447	o	
136	806	2 Mattick Rd, North Mackville 2447	o	o
137	807	49 Mattick Rd, North Mackville 2447	o	
138	808	40 Mattick Rd, North Mackville 2447	o	
139	809	28 Mattick Rd, North Mackville 2447	o	o
140	810	28 Mattick Rd, North Mackville 2447	o	o
141	811	18 Mattick Rd, North Mackville 2447	o	o
142	812	4 Mattick Rd, North Mackville 2447	o	o
143	813	35 Mattick Rd, North Mackville 2447	o	o
144	815	198 Old Coast Rd, North Mackville 2447	o	o
145	822	247 Old Coast Rd, North Mackville 2447	o	o
146	825	309 Old Coast Rd, North Mackville 2447	o	o
147	935	219 Florence Wilmont Dr, Nambucca Heads 2448	o	
148	964	7 Selection Rd, North Mackville 2447	o	o
149	966	459 Old Coast Rd, North Mackville 2447	o	o
150	974	469 Old Coast Rd, North Mackville 2447	o	o
151	1007	15 Siding Rd, North Mackville 2447	o	o
152	1107	18 Siding Rd, North Mackville 2447	o	o
153	1564*	1 Alexandra Dr, Nambucca Heads 2448	o	
154	3002	63 Mattick Rd, North Mackville 2447	o	
155	3004	77 Nursery Rd, North Mackville 2447	o	
156	3005	68 Gumma Rd, Gumma 2447	o	
157	5001	83 Bald Hill Rd, Macksville 2447	o	
Total			154	104[#]

Note:

* Double-storey buildings identified during this study. All buildings require on-site inspections to confirm their details during the detailed design phase of the project.

** These properties have not been identified for treatment in the EIS and for this study are not Acute and only marginally exceed the Target criteria [<1 dB(A)]. As such, eligibility for at-property treatment for these properties will be determined once post-opening noise monitoring has been undertaken.

This is the number of properties identified in the EIS for at-property treatment minus the properties being demolished, acquired by RMS etc.

Any differences between this comparative review and the EIS will not affect potential treatments identified during the EIS process.

8 CONCLUSION

Renzo Tonin & Associates have carried out a post-EIS operational noise study of the Warrell Creek to Nambucca Heads Pacific Highway upgrade project.

Chapter 2 sets out the relevant legislation, noise policies and noise criteria applicable to this project.

Chapter 3 reviews the EIS noise model and provides comments on amendments and updates pertaining to this noise study.

Chapter 4 outlines the existing traffic and ambient noise environment.

Chapter 5 outlines the noise modelling input parameters.

Chapter 6 of this report presents the modelling outcomes in terms of noise level predictions at all critical receiver locations and presents noise level contours.

Chapter 7 outlines the noise mitigation methodology and the mitigation measures adopted for this project.

The noise levels were assessed against the project's noise goals at each property, quantifying the extent of exceedances where they occur, and identifying the properties that require consideration for at-property treatments. These treatments are additional to the traffic noise mitigation measures proposed within the road corridor, comprising low-noise pavement (SMA) and noise barriers, as respectively defined in Section 5.4 of this report.

In summary, 154 properties were identified in this study as requiring consideration for at-property treatment compared to 104 in the EIS, which excludes properties identified in the EIS for demolishing, acquisition etc. The key reasons for the increase in number of at-property treatments include: an update of assessment year causing an increase in traffic forecast volumes; increase in input modelling traffic speeds; inclusion of noise from existing Pacific Highway and local roads, an increase in the extent of the study area and an inclusion of a safety factor to reduce the risk of non-compliance.

REFERENCE MATERIAL

1. Australian Road Research Board (ARRB) research Report ARR No.122, "An Evaluation of the U.K. DoE Traffic Noise Prediction Method", March 1983 (by Saunders, Samuels, Leach & Hall)
2. NSW EPA (ex OEH), *NSW Environmental Criteria for Road Traffic Noise* 1999
3. NSW EPA (ex OEH), *Road Noise Policy*, March 2011
4. NSW RMS (ex NSW RTA), *Environmental Noise Management Manual* 2001
5. NSW RMS (ex NSW RTA), *Warrell Creek to Urunga – Submissions and preferred project report*, November 2010
6. Sinclair Knight Mertz, *Warrell Creek to Urunga – Upgrading the Pacific Highway, Environmental Assessment Working Paper 3 – Noise and Vibration assessment* January 2010.
7. Standards Australia, AS1055.1-1997, *Acoustics – Description and Measurement of Environmental Noise*
8. Standards Australia, AS IEC 61672.1 2004 *Electroacoustics – Sound Level Meters Part 1: Specifications*

APPENDIX A - GLOSSARY OF ACOUSTIC TERMS & ABBREVIATIONS

The following is a brief description of the technical terms used to describe noise to assist in understanding the technical issues presented.

<i>Adverse Weather</i>	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
<i>Air-borne noise</i>	This refers to noise which is fundamentally transmitted by way of the air and can be attenuated by the use of barriers and walls placed physically between the noise and receiver.
<i>Alpha (α)</i>	The absorption coefficient of a material, usually measured for each octave or third-octave band and ranging between zero and one. For example, an alpha of 0.85 for an octave band means that 85% of the sound energy within that octave band is absorbed when it hits the material. Conversely, the more acoustically reflective a material is, the lower it's alpha is.
<i>Ambient Noise</i>	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
<i>Amenity</i>	Something that contributes to physical or material comfort.
<i>AS</i>	Australian Standard
<i>Assessment Period</i>	The period in a day over which assessments are made.
<i>Assessment Point</i>	A point at which noise measurements are taken or estimated.
<i>Audible Range</i>	The limits of frequency which are audible or heard as sound. The normal ear in young adults detects sound having frequencies in the region 20 Hz to 20 kHz, although it is possible for some people to detect frequencies outside these limits.
<i>A-weighting</i>	An adjustment made to sound level measurement, by means of an electronic filter, to approximate the response of the human ear.
<i>Background Noise</i>	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation, when extraneous noise is removed. It is described as the average of the minimum noise levels measured on a

sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety per cent of a sample period. This is represented as the **L₉₀** noise level (see below).

<i>Barrier - noise</i>	Any natural or artificial physical barrier to the propagation of noise (from a roadway), but generally referring to acoustically reflective or absorbent fences, walls or mounds (or combinations thereof) constructed beside a roadway.
<i>Berm</i>	This consists of earth or overburden to serve a specific purpose. For example, stabilising berms are used for stabilising purposes.
<i>Buffer</i>	An area of land between a roadway and a noise-sensitive land use, used as open space or for some other noise-tolerant land use.
<i>Bund</i>	A bund is an embankment or wall of brick, stone, concrete or other impervious material, which may form part or all of the perimeter of a compound and provides a barrier to serve a specific purpose.
<i>BS</i>	British Standard
<i>Construction</i>	All work in respect of the proposed upgrade other than that defined as pre-construction activity/work.
<i>CoRTN</i>	United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)"
<i>Decibels [dB]</i>	<p>10 times the logarithm (base 10) of the ratio of a given sound pressure to a reference pressure; used as a unit of sound. The following are examples of the decibel readings of every day steady or quasi-steady sounds:</p> <p>0dB the faintest sound we can hear 20dB quiet bedroom at night or recording studio 30dB quiet library or quiet location in the country 40dB living room 50dB typical office space or ambience in the city at night 60dB normal conversational speech 70dB a car passing by 80dB kerbside of a busy road 90dB truck passing by 100dB nightclub 110dB rock band or 2m from a jackhammer 120dB 70m from a jet aircraft 130dB threshold of pain 140dB 25m from a jet aircraft</p>

<i>dB(A)</i>	Unit used to measure 'A-weighted' sound pressure levels. The human ear is not as effective in hearing low frequency sounds as it is hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter.
<i>Diffraction</i>	The distortion around solid obstacles of waves travelling past.
<i>DIN</i>	German Standard
<i>EPA</i>	Environment Protection Authority
<i>Fluctuating Noise</i>	Noise that varies continuously and to an appreciable extent over the period of observation.
<i>Free-field</i>	An environment in which there are no acoustic reflective surfaces. Free field noise measurements are carried out outdoors at least 3.5m from any acoustic reflecting structures other than the ground.
<i>Frequency</i>	Of a periodic quantity: the time rate of repetition or the reciprocal of the period. It is also synonymous with pitch and is often used to describe the character of a sound. Frequency is measured in Hertz (Hz).
<i>Ground-borne noise</i>	Ground-borne noise propagating through the ground as vibration and then radiated by vibrating building elements such as wall and floor surfaces. This noise is normally noticeable only in areas that are well protected from airborne noise.
<i>Heavy Vehicle</i>	A truck, transporter or other vehicle with a gross weight above a specified level (for example: over 8 tonnes).
<i>Intermittent noise</i>	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
<i>Intrusive noise</i>	Refers to noise that intrudes above the background level by more than 5 dB(A).
<i>ISEPP</i>	State Environmental Planning Policy (Infrastructure), 2007.
<i>ISEPP Guideline</i>	Development Near Rail Corridors and Busy Roads - Interim Guideline, NSW Department of Planning, December 2008

<i>Loudness</i>	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on. That is, the sound of 85 dB is four times or 400% the loudness of a sound of 65 dB.
$L_{A(XX)}$	The $L_{A(XX)}$ refers to statistical indicators that represent the percentage of time that a noise level is exceeded. These levels are commonly the L_{A1} , L_{A10} , and the L_{A90} , and are graphed to show how these levels change over the course of a 24 hour period.
L_{max}	The maximum sound pressure level measured over a given period. When A-weighted, this is usually written as the L_{Amax} .
L_{min}	The minimum sound pressure level measured over a given period. When A-weighted, this is usually written as the L_{Amin} .
L_1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L_{10}	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
$L_{10(1hr)}$	The L_{10} level measured over a 1 hour period.
$L_{10(18hr)}$	The arithmetic average of the $L_{10(1hr)}$ levels for the 18 hour period between 6am and 12 midnight on a normal working day.
L_{90}	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L_{90} noise level expressed in units of dB(A).
L_{Aeq}	Equivalent sound pressure level – the steady sound level that, over a specified period of time, would produce the same energy equivalence as the fluctuating sound level actually occurring.
$L_{Aeq(1hr)}$	The L_{eq} noise level for a one-hour period. In the context of the EPA's Traffic Noise Policy it represents the highest tenth percentile hourly A-weighted L_{eq} during the period 7am to 10pm, or 10pm to 7am (whichever is relevant).
$L_{eq(8hr)}$	The continuous noise level during any one hour period between 10pm and 6am.
$L_{eq(9hr)}$	The L_{eq} noise level for the period 10pm to 7am.
$L_{eq(15hr)}$	The L_{eq} noise level for the period 7am to 10pm.

<i>L_{eq} (24hr)</i>	The equivalent continuous noise level during a 24 hour period, usually from midnight to midnight.
<i>Microphone</i>	An electro-acoustic transducer which receives an acoustic signal and delivers a corresponding electric signal.
<i>Noise</i>	Sound which a listener does not wish to hear.
<i>NCA</i>	Noise Catchment Area
<i>NRC</i>	The Noise Reduction Coefficient. It is the average of each absorption coefficient (α) for the 250Hz, 500Hz, 1kHz & 2kHz octave bands. These frequencies are chosen as they roughly correlate with the frequencies of the human voice.
<i>OEH</i>	Office of Environment and Heritage
<i>Pre-construction</i>	Work in respect of the proposed project that includes design, survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, minor clearing (except where threatened species, populations or ecological communities would be affected), establishing ancillary facilities such as site compounds, or other relevant activities determined to have minimal environmental impact (e.g. minor access roads).
<i>Reflection</i>	Sound wave changed in direction of propagation due to a solid object obscuring its path
<i>Reverberation Time</i>	<p>The amount of time (in seconds) it takes for a noise signal within a confined space to decay by 60dB. The longer the reverberation time (usually denoted as RT_{60}), the more echoic a room. Longer reverberation times generally promote higher overall noise levels within spaces.</p> <p>Often the reverberation time is measured as the mid-frequency RT_{60}, being the average reverberation time for the 250, 500, 1k & 2kHz octave bands. These frequencies correspond with those for the NRC so that sensible calculations may be undertaken.</p>
<i>RMS</i>	Root Mean Squared
<i>Sabine</i>	<p>A measure of acoustic absorption. It is the product of the material's Coefficient of Absorption (α) and the surface area of the material (m^2). For example, a material with $\alpha = 0.65$ and a surface area of $8.2m^2$ would have $0.65 \times 8.2 = 5.33$ Sabine.</p> <p>Sabine is usually calculated for each individual octave (or third-</p>

	octave). However the same calculations may be undertaken (for indicative purposes) using the NRC of a material rather than alpha.
<i>SEL</i>	Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
<i>Sound</i>	A fluctuation of air pressure which is propagated as a wave through air.
<i>Sound Absorption</i>	The ability of a material to absorb sound energy through its conversion into thermal energy.
<i>Sound Level Meter</i>	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
<i>Sound Pressure Level</i>	The level of noise, usually expressed in dB(A), as measured by a standard sound level meter with a pressure microphone. The sound pressure level in dB(A) gives a close indication of the subjective loudness of the noise
<i>Sound Power Level</i>	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power.
<i>Spoil</i>	Soil or materials arising from excavation activities.
<i>Structure-borne noise</i>	Vibration propagating through solid structures in the form of compressional or bending waves, heard as sound.
<i>Tonal noise</i>	Containing a prominent frequency and characterised by a definite pitch.
<i>Transmission</i>	The amount of noise passing from one room or area to another, usually passing through an object. For example, if on one side of a wall is 100dB of noise and other the other only 65dB, it is said that the transmission loss of the wall is 35dB. As an alternative to (but still synonymous with) transmission loss, the weighted noise reduction index (R_w) is often used.

APPENDIX B - TRAFFIC VOLUME AND COMPOSITION DATA

FUTURE-EXISTING TRAFFIC VOLUMES

The noise predictions for the noise model have been based on traffic flow and composition data provided by SMEC Australia. The projected average hourly traffic flow data for the year of project opening (2016) without the project going ahead, namely the 'future-existing' traffic data, is provided in Table B1 for the day and night periods.

Table B1 – Projected Average Hourly Traffic Flow Data, 'Future-Existing' Situation (year 2016)

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
Existing Pacific Highway	South of southern end of Upper Warrell Rd	NB	328	15	100	124	48	100
		SB	299	17	100	119	51	100
	Upper Warrell Rd to southern end of Albert Rd	NB	305	15	70/100	112	47	70/100
		SB	279	17	70/100	109	50	70/100
	Southern end of Albert Rd to Northern end of Albert Rd	NB	299	15	100	110	46	100
		SB	269	16	100	104	50	100
	Northern end of Albert Drive to Scotts Head Rd	NB	309	14	100	113	46	100
		SB	287	16	100	110	49	100
	Scotts Head Rd to Bald Hill Rd	NB	339	13	100	120	43	100
		SB	329	13	100	119	44	100
	Ball Hill Rd to northern end of Upper Warrell Rd	NB	341	13	100	120	43	100
		SB	331	13	100	119	44	100
	Northern end of Upper Warrell Rd to Ferry St	NB	365	12	50/100	128	42	50/100
		SB	369	12	50/100	130	42	50/100
	Ferry St to Old Coast Rd	NB	395	11	50/70/100	134	40	50/70/100
		SB	393	11	50/70/100	131	37	50/70/100
	Old Coast Rd to Nursery Rd	NB	395	11	100	134	40	100
		SB	393	11	100	131	37	100
	Nursery Rd to Riverside Drive	NB	395	11	60/80/100	134	40	60/80/100
		SB	393	11	60/80/100	131	37	60/80/100
Riverside Drive to Link Rd	NB	278	15	60/100	104	48	60/100	
	SB	359	12	60/100	123	41	60/100	
North of Link Rd	NB	355	13	100	126	42	100	
	SB	392	12	100	133	40	100	
Local Roads	Upper Warrell Rd (southern end, where it meets Pacific Highway)	Combined	42	37	60	24	73	60
	Albert Drive (western side of Main Carriageway)	Combined	16	25	60	8	71	60
	Albert Drive (eastern side of Main Carriageway)	Combined	27	29	60	13	67	60
	Scotts Head Rd (near Main Carriageway)	Combined	223	38	60	131	75	60

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
	Bald Hill Rd (eastern side of Main Carriageway)	Combined	10	40	60	6	80	60
	Upper Warrell Rd (northern end where it meets Pacific Highway)	Combined	148	44	60	96	80	60
	Gumma Rd (western side of Main Carriageway)	Combined	53	41	60	32	76	60
	Gumma Rd (eastern side of Main Carriageway)	Combined	53	41	60	32	76	60
	Ferry St	Combined	91	40	60	57	78	60
	Rodeo Drive south of Wirrimbi Rd Intersection	Combined	5	29	60	2	50	60
	Wirrimbi Rd	Combined	5	29	60	2	50	60
	Old Coast Rd (eastern side of Main Carriageway)	Combined	5	57	60	3	67	60
	Old Coast Rd (western side of Main Carriageway, north of Wirrimbi Rd Intersection)	Combined	5	57	60	3	67	60
	Old Coast Rd (south of Bellwood Rd Intersection)	Combined	5	57	60	3	67	60

Note

Vehicle Classes are based on Austroads vehicle classifications. That is;

- Light vehicles: passenger vehicles (cars, vans utilities, motorcycles etc).*
- Medium vehicles: two or three axles, two groups.*
- Heavy vehicles: three or more axles, more than two groups.*

OPENING YEAR TRAFFIC VOLUMES

The noise predictions for the noise model have been based on traffic flow and composition data provided by SMEC Australia. The projected average hourly traffic flow data for the year of project opening (2016) with the project going ahead, namely the 'Opening Year' traffic data, is provided in Table B2 for the day and night periods.

Table B2 – Projected Average Hourly Traffic Flow Data, 'Opening Year' Situation (year 2016)

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
Main Carriageway	South of Upper Warrell Creek Interchange	NB	328	15	115	124	48	120
		SB	299	17	115	119	51	120
	Upper Warrell Creek Interchange (between Off and On ramps)	NB	305	15	115	112	47	120
		SB	254	17	115	100	51	120
	Upper Warrell Creek Interchange to Bald Hill Interchange	NB	276	16	115	106	48	120
		SB	221	18	115	91	54	120
	Bald Hill Interchange (between Off and On ramps)	NB	210	17	115	83	52	120
		SB	141	19	115	59	55	120
	North of Bald Hill Interchange	NB	289	15	115	109	48	120
		SB	289	13	115	106	44	120
Existing Pacific Highway	South of southern end of Upper Warrell Rd	NB	328	15	100	124	48	100
		SB	299	17	100	119	51	100
	Upper Warrell Rd to Albert Rd (new)	NB	28	5	70/100	9	25	70/100
		SB	33	8	70/100	9	25	70/100
	Albert Drive (new) to Scotts Head Rd	NB	34	4	100	9	13	100
		SB	41	5	100	11	20	100
	Scotts Head Rd to Bald Hill Rd	NB	107	18	100	42	53	100
		SB	126	15	100	47	48	100
	Ball Hill Rd to northern end of Upper Warrell Rd	NB	180	6	100	52	26	100
		SB	144	10	100	47	36	100
	Northern end of Upper Warrell Rd to Ferry St	NB	158	8	50/100	48	28	50/100
		SB	159	11	50/100	53	38	50/100
	Ferry St to Old Coast Rd	NB	111	1	50/70/100	27	4	50/70/100
		SB	105	3	50/70/100	27	13	50/70/100
	Old Coast Rd to Nursery Rd	NB	111	1	100	27	4	100
		SB	105	3	100	27	13	100
	Nursery Rd to Riverside Drive	NB	111	1	60/80/100	27	4	60/80/100
		SB	105	3	60/80/100	27	13	60/80/100
	Riverside Drive to Link Rd	NB	71	1	60/100	18	6	60/100
		SB	27	8	60/100	8	29	60/100
North of Link Rd	NB	168	4	100	47	19	100	

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
		SB	201	6	100	60	26	100
Upper Warrell Creek Interchange	Northbound Off-ramp	NB	29	5	80	9	25	80
	Southbound Off-ramp	SB	4	17	80	2	50	80
	Southbound On-ramp	SB	33	6	80	11	30	80
Bald Hill Interchange	Northbound Off-ramp	NB	67	11	80	23	38	80
	Northbound On-ramp	NB	78	10	80	27	38	80
	Southbound Off-ramp	SB	148	8	80	47	31	80
	Southbound On-ramp	SB	81	17	80	32	52	80
Local Roads	Upper Warrell Rd (southern end, where it meets Pacific Highway)	Combined	63	54	60	47	86	60
	Albert Drive (western side of Main Carriageway)	Combined	41	37	60	24	77	60
	Albert Drive (eastern side of Main Carriageway)	Combined	1	50	60	2	50	60
	Scotts Head Rd (near Main Carriageway)	Combined	223	38	60	132	76	60
	Bald Hill Rd (western side of Main Carriageway)	Combined	193	54	60	144	85	60
	Bald Hill Rd (eastern side of Main Carriageway)	Combined	10	40	60	6	80	60
	Upper Warrell Rd (northern end where it meets Pacific Highway)	Combined	97	56	60	74	87	60
	Gumma Rd (western side of Main Carriageway)	Combined	53	41	60	32	76	60
	Gumma Rd (eastern side of Main Carriageway)	Combined	53	41	60	32	76	60
	Ferry St	Combined	94	40	60	58	77	60
	Rodeo Drive south of Wirrimbi Rd Intersection	Combined	2	33	60	2	50	60
	Wirrimbi Rd	Combined	2	33	60	2	50	60
	Old Coast Rd (eastern side of Main Carriageway)	Combined	2	33	60	2	50	60
	Old Coast Rd (western side of Main Carriageway, north of Wirrimbi Rd Intersection)	Combined	2	33	60	2	50	60
	Old Coast Rd (south of Bellwood Rd Intersection)	Combined	2	33	60	2	50	60

Note Vehicle Classes are based on Austroads vehicle classifications. That is;
 Light vehicles: passenger vehicles (cars, vans utilities, motorcycles etc).
 Medium vehicles: two or three axles, two groups.
 Heavy vehicles: three or more axles, more than two groups.

DESIGN YEAR TRAFFIC VOLUMES

The noise predictions for the noise model have been based on traffic flow and composition data provided by SMEC Australia. The projected average hourly traffic flow data for 10 years after project opening (year 2026) is provided in Table B3 for the day and night periods.

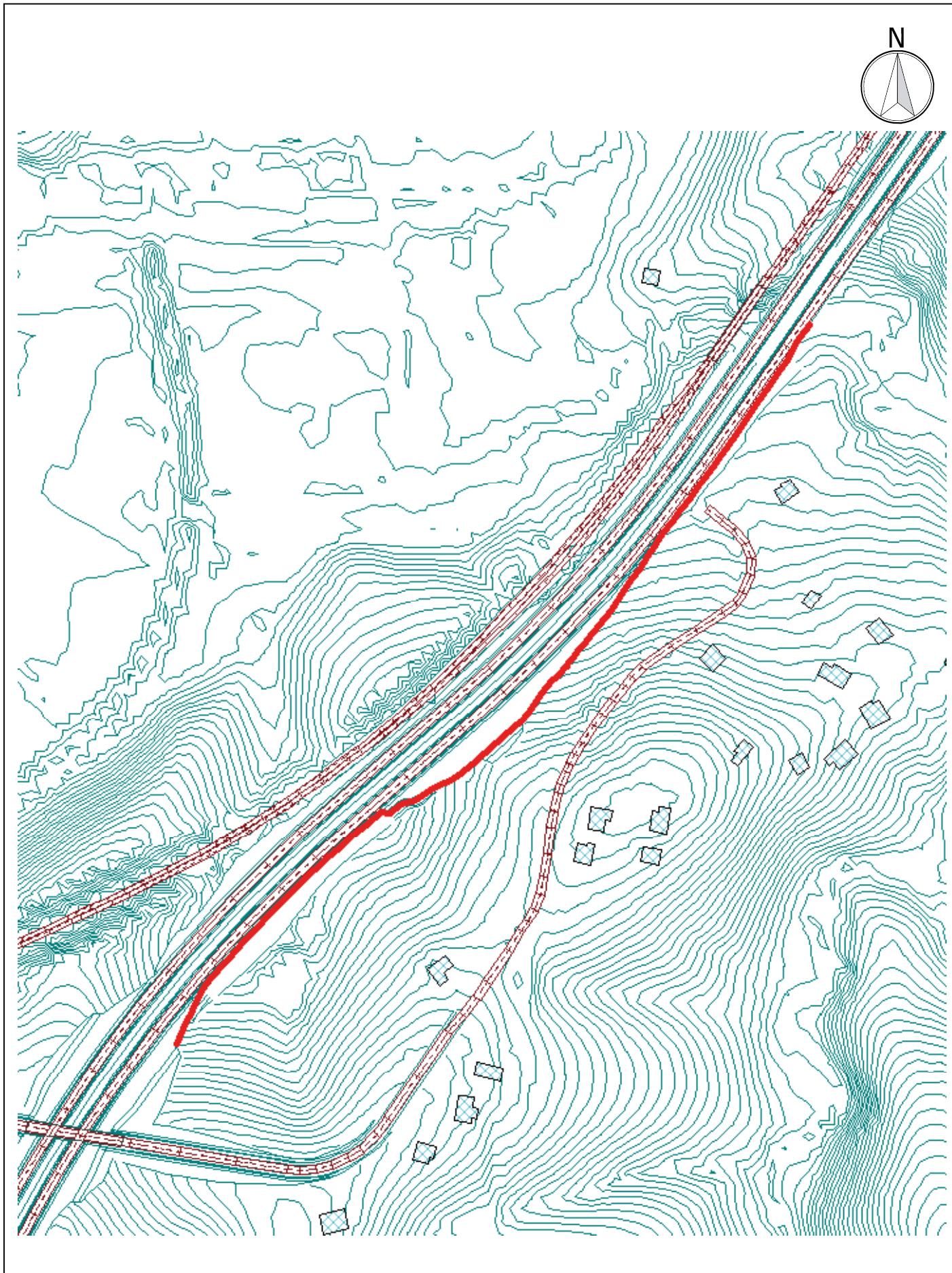
Table B3 – Projected Average Hourly Traffic Flow Data, 'Design' Situation (year 2026)

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)			
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed	
Main Carriageway	South of Upper Warrell Creek Interchange	NB	396	16	115	152	49	120	
		SB	354	18	115	143	53	120	
	Upper Warrell Creek Interchange (between Off and On ramps)	NB	346	15	115	129	47	120	
		SB	282	17	115	112	51	120	
	Upper Warrell Creek Interchange to Bald Hill Interchange	NB	310	16	115	119	49	120	
		SB	248	19	115	101	54	120	
	Bald Hill Interchange (between Off and On ramps)	NB	241	17	115	93	50	120	
		SB	163	19	115	68	56	120	
	North of Bald Hill Interchange	NB	355	15	115	133	48	120	
		SB	365	13	115	129	43	120	
	Existing Pacific Highway	South of southern end of Upper Warrell Rd	NB	396	16	100	152	49	100
			SB	354	18	100	143	53	100
Upper Warrell Rd to Albert Rd (new)		NB	37	4	70/100	10	22	70/100	
		SB	35	8	70/100	10	22	70/100	
Albert Drive (new) to Scotts Head Rd		NB	42	3	100	12	18	100	
		SB	43	5	100	12	18	100	
Scotts Head Rd to Bald Hill Rd		NB	137	18	100	56	52	100	
		SB	155	15	100	59	47	100	
Ball Hill Rd to northern end of Upper Warrell Rd		NB	227	6	100	67	25	100	
		SB	172	10	100	57	35	100	
Northern end of Upper Warrell Rd to Ferry St		NB	199	7	50/100	60	28	50/100	
		SB	187	10	50/100	61	35	50/100	
Ferry St to Old Coast Rd		NB	101	1	50/70/100	24	5	50/70/100	
		SB	90	2	50/70/100	22	10	50/70/100	
Old Coast Rd to Nursery Rd		NB	101	1	100	24	5	100	
		SB	90	2	100	22	10	100	
Nursery Rd to Riverside Drive		NB	101	1	60/80/100	24	5	60/80/100	
		SB	90	2	60/80/100	22	10	60/80/100	
Riverside Drive to Link Rd		NB	75	1	60/100	18	6	60/100	
		SB	81	2	60/100	21	11	60/100	
North of Link Rd	NB	195	4	100	53	19	100		
	SB	224	6	100	66	25	100		

Location	Section	Direction	Day – 7am to 10pm (15hr)			Night – 10pm to 7am (9hr)		
			Total Vehicles	Heavy Vehicles %	Speed	Total Vehicles	Heavy Vehicles %	Speed
Upper Warrell Creek Interchange	Northbound Off-ramp	NB	36	4	80	11	20	80
	Southbound Off-ramp	SB	4	17	80	2	50	80
	Southbound On-ramp	SB	35	6	80	11	30	80
Bald Hill Interchange	Northbound Off-ramp	NB	70	13	80	26	43	80
	Northbound On-ramp	NB	114	12	80	40	42	80
	Southbound Off-ramp	SB	201	8	80	62	30	80
	Southbound On-ramp	SB	85	17	80	34	52	80
Local Roads	Upper Warrell Rd (southern end, where it meets Pacific Highway)	Combined	134	47	60	91	82	60
	Albert Drive (western side of Main Carriageway)	Combined	45	37	60	27	75	60
	Albert Drive (eastern side of Main Carriageway)	Combined	1	50	60	2	50	60
	Scotts Head Rd (near Main Carriageway)	Combined	281	38	60	168	75	60
	Bald Hill Rd (western side of Main Carriageway)	Combined	237	60	60	190	88	60
	Bald Hill Rd (eastern side of Main Carriageway)	Combined	11	38	60	7	83	60
	Upper Warrell Rd (northern end where it meets Pacific Highway)	Combined	192	49	60	133	83	60
	Gumma Rd (western side of Main Carriageway)	Combined	57	40	60	36	78	60
	Gumma Rd (eastern side of Main Carriageway)	Combined	57	40	60	36	78	60
	Ferry St	Combined	103	40	60	63	77	60
	Rodeo Drive south of Wirrimbi Rd Intersection	Combined	2	33	60	2	50	60
	Wirrimbi Rd	Combined	2	33	60	2	50	60
	Old Coast Rd (eastern side of Main Carriageway)	Combined	1	50	60	2	50	60
	Old Coast Rd (western side of Main Carriageway, north of Wirrimbi Rd Intersection)	Combined	1	50	60	2	50	60
Old Coast Rd (south of Bellwood Rd Intersection)	Combined	1	50	60	2	50	60	

Note Vehicle Classes are based on Austroads vehicle classifications. That is;
 Light vehicles: passenger vehicles (cars, vans utilities, motorcycles etc).
 Medium vehicles: two or three axles, two groups.
 Heavy vehicles: three or more axles, more than two groups.

APPENDIX C - NOISE BARRIER LOCALITIES



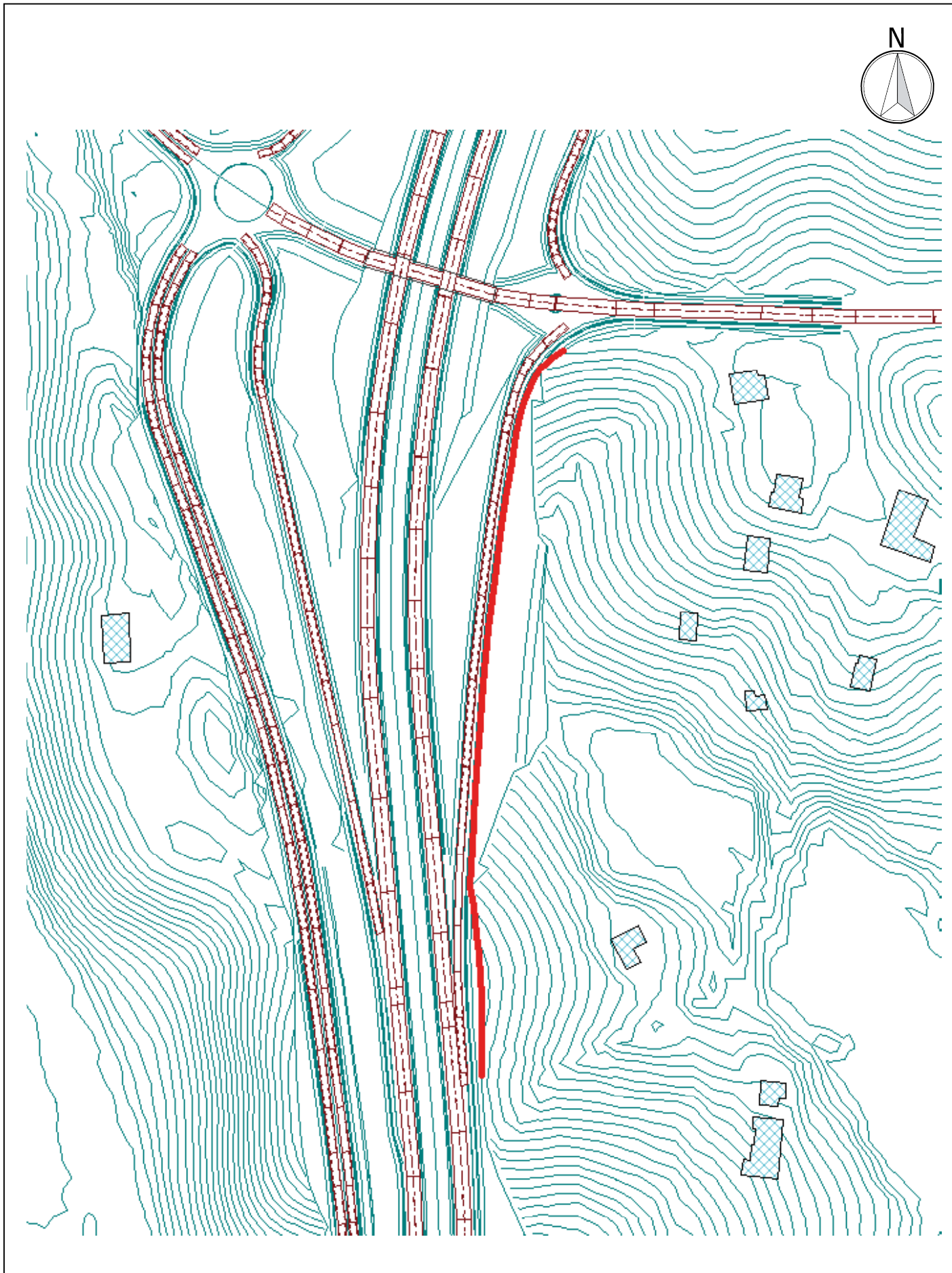


Figure 11
Bald Hill Interchange Noise Barrier (chainage 7100 - 7450)

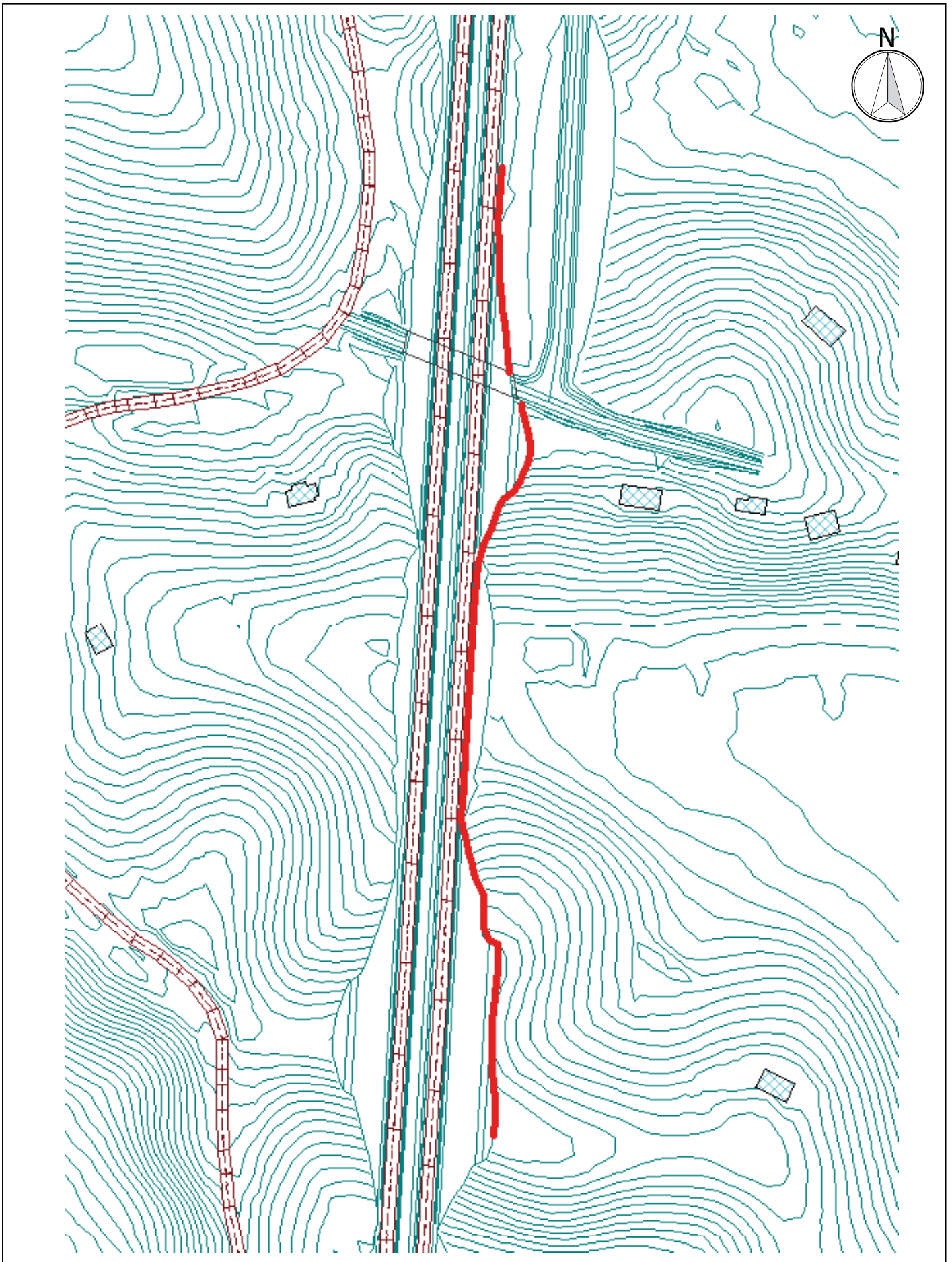
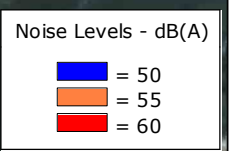
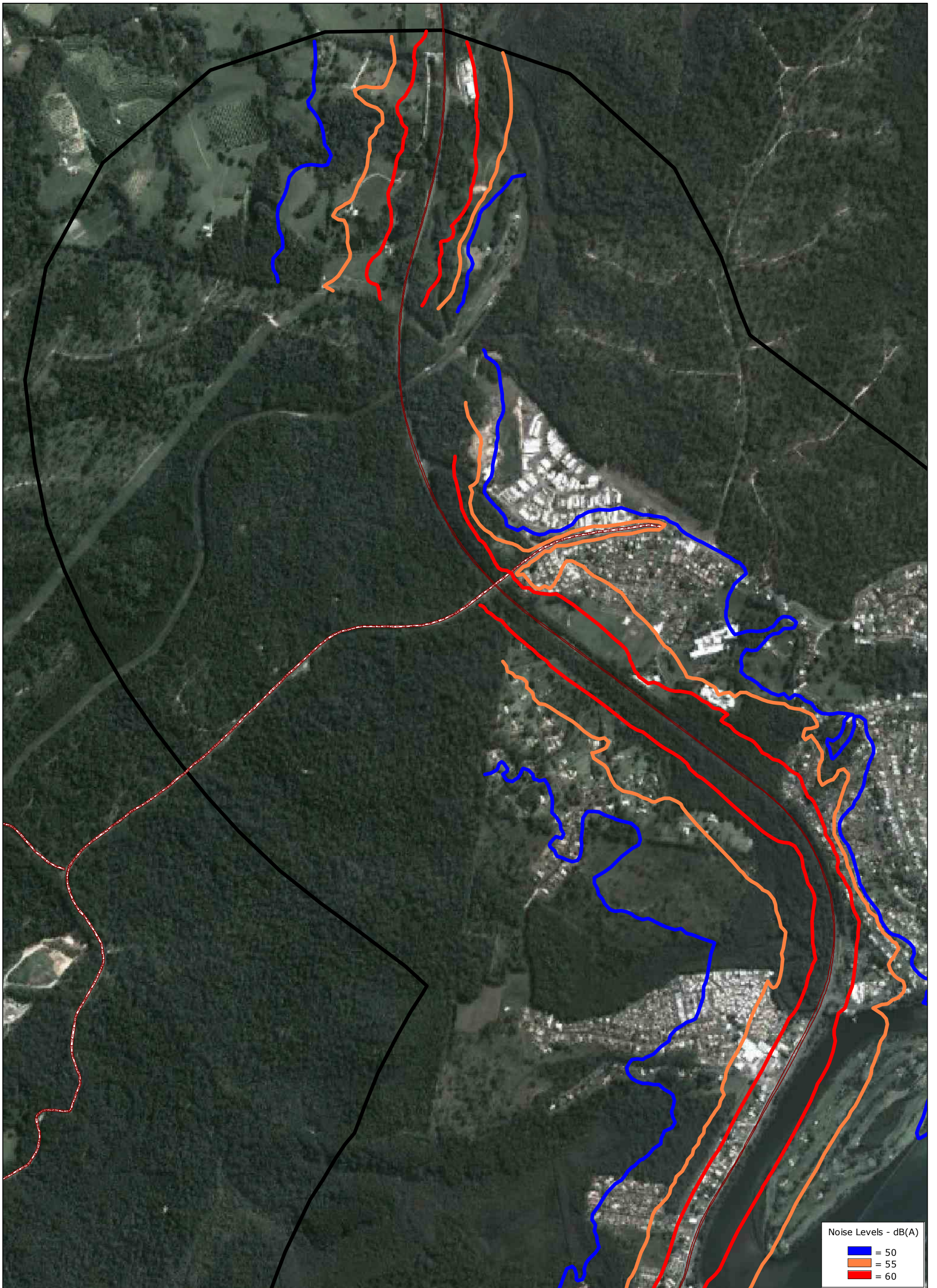


Figure 12
 Mattick Road Ramp Noise Barrier (chainage 12325 - 12900)

APPENDIX D - FUTURE EXISTING NOISE CONTOUR MAPS



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Including 1.8 dB(A) Safety Factor
 Section 1



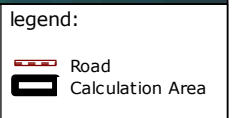
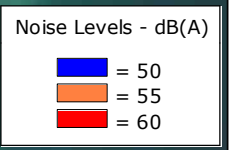
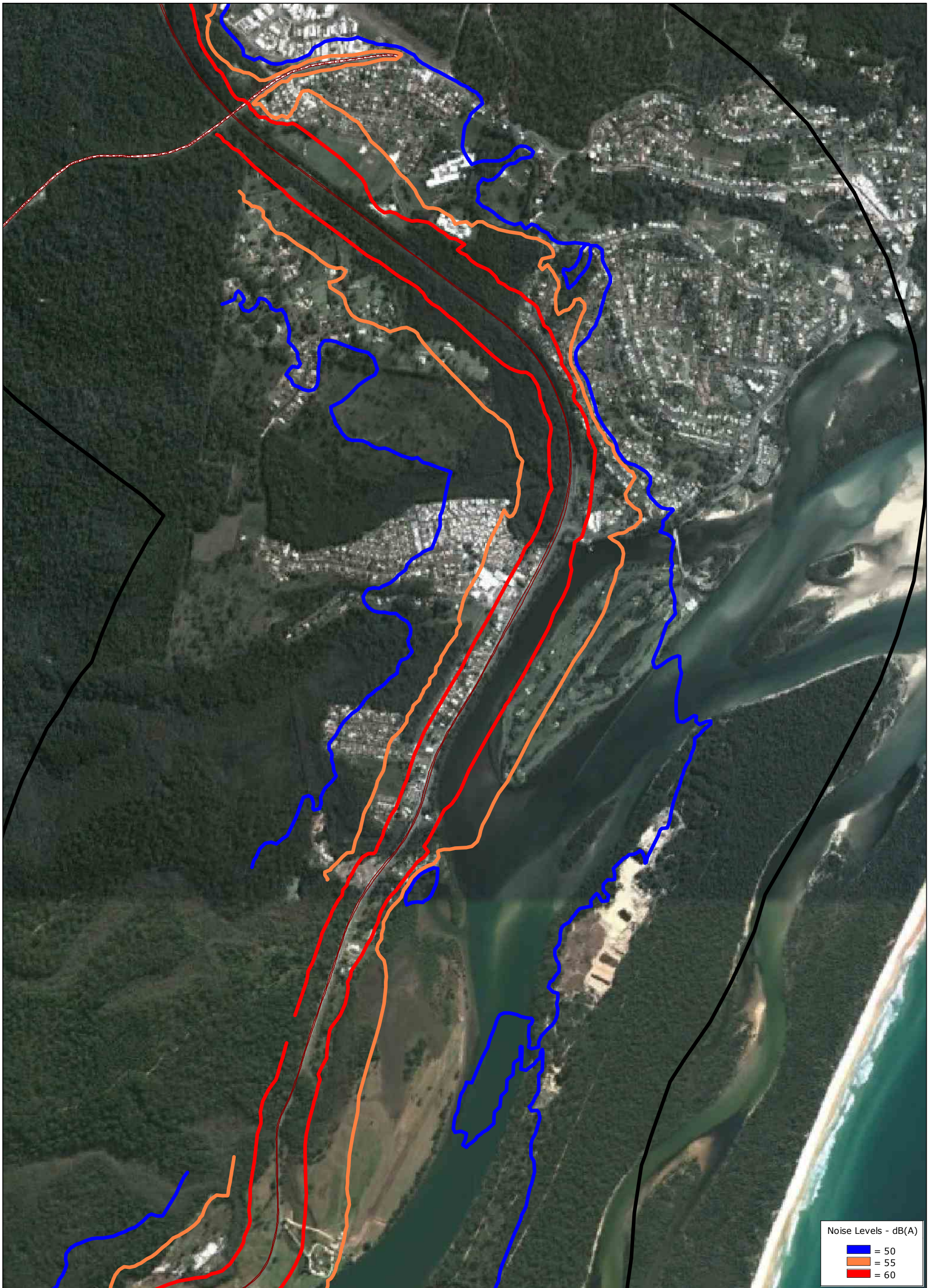
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P29 (rev 3) Gr# CA01_14_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Including 1.8 dB(A) Safety Factor
 Section 2

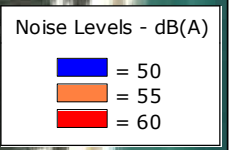
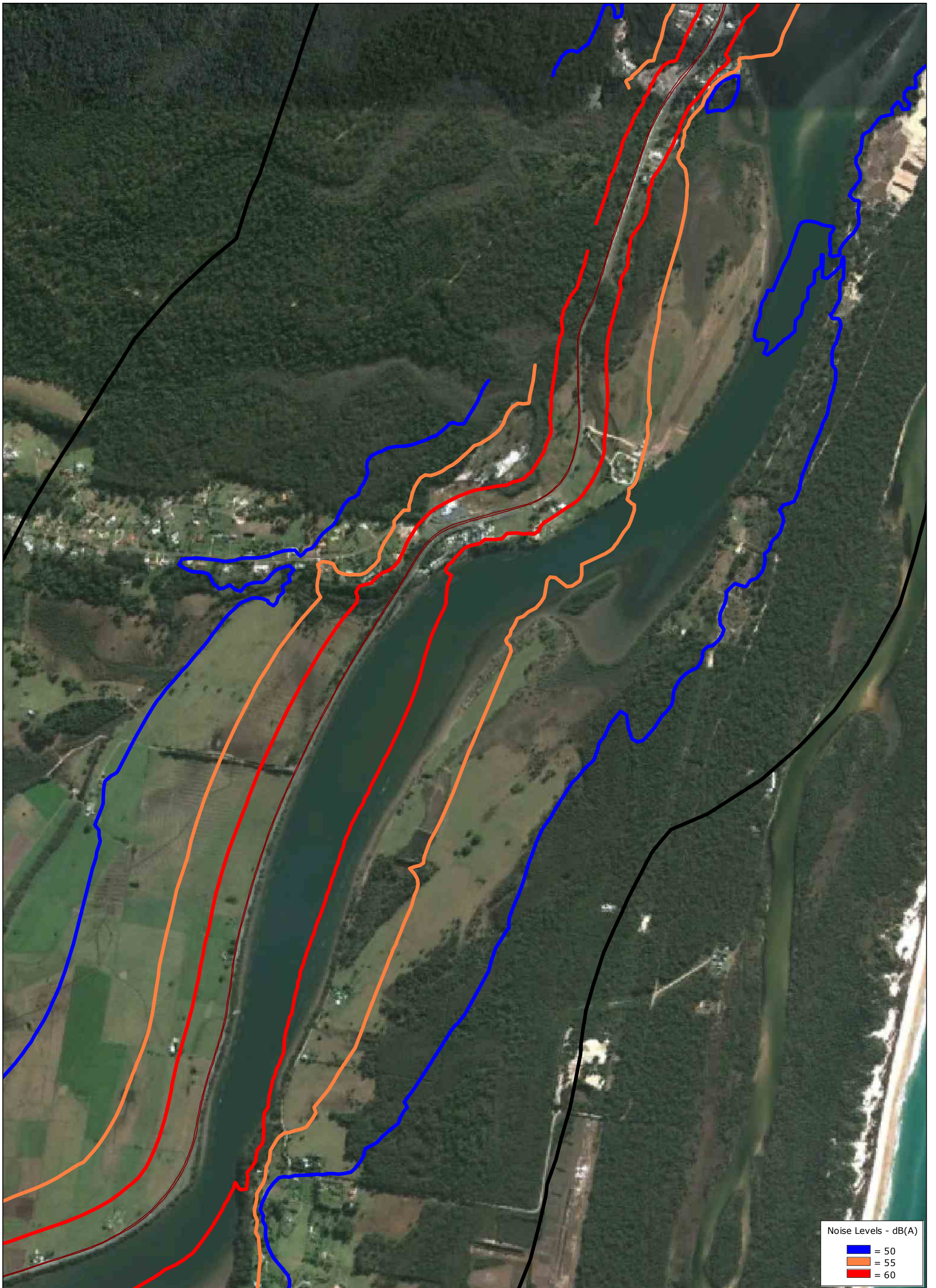


Reference: TG100-01_CA01_P30 (rev 3) Gr# CA01_14_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Including 1.8 dB(A) Safety Factor
 Section 3



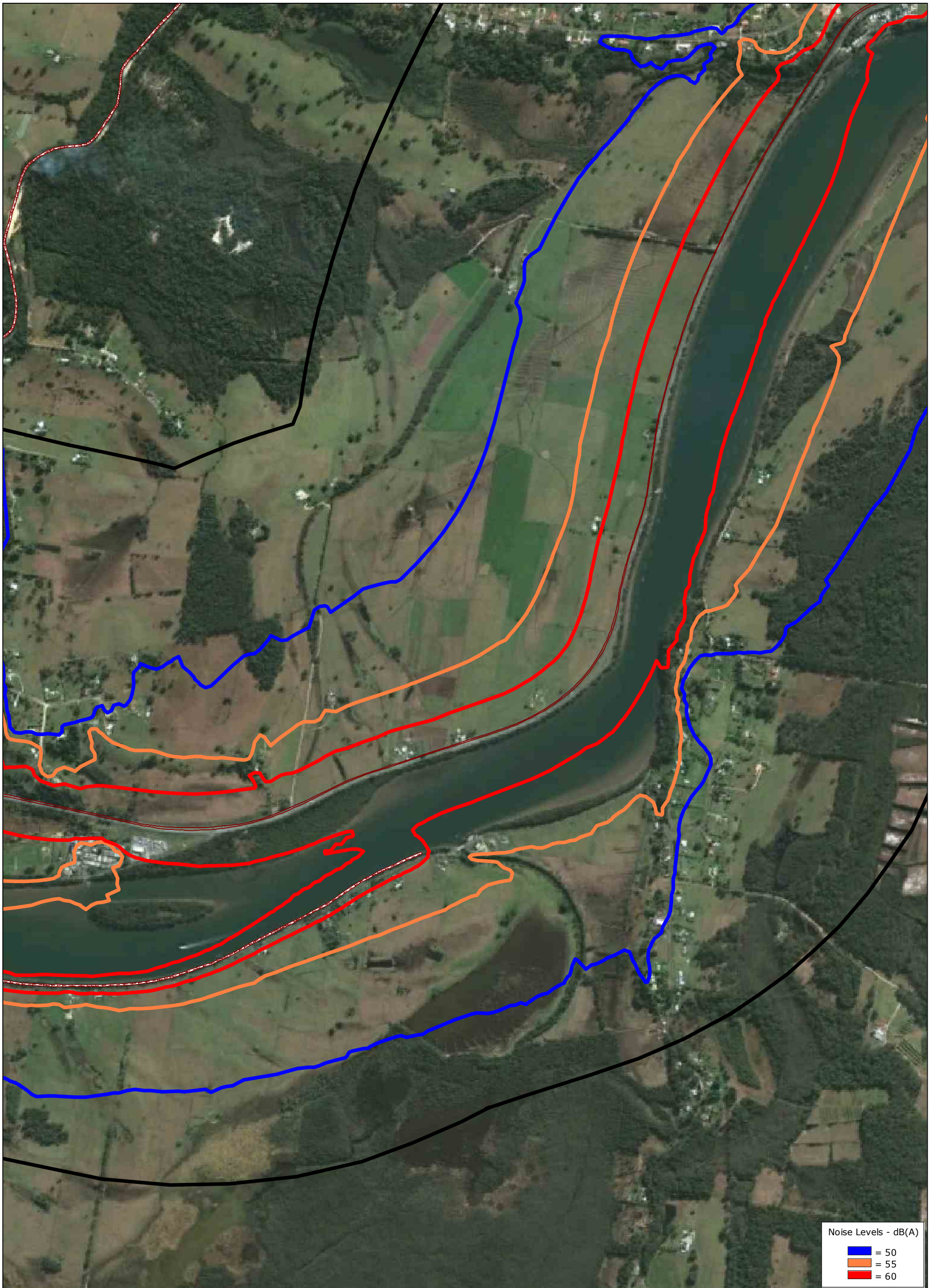
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P31 (rev 3) Gr# CA01_14_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Noise Levels - dB(A)

- █ = 50
- █ = 55
- █ = 60

legend:

- Road Calculation Area

RENZO TONIN & ASSOCIATES
Inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Including 1.8 dB(A) Safety Factor
 Section 4

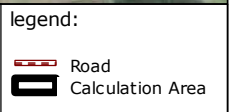
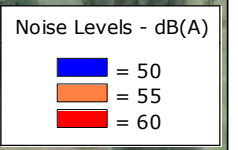
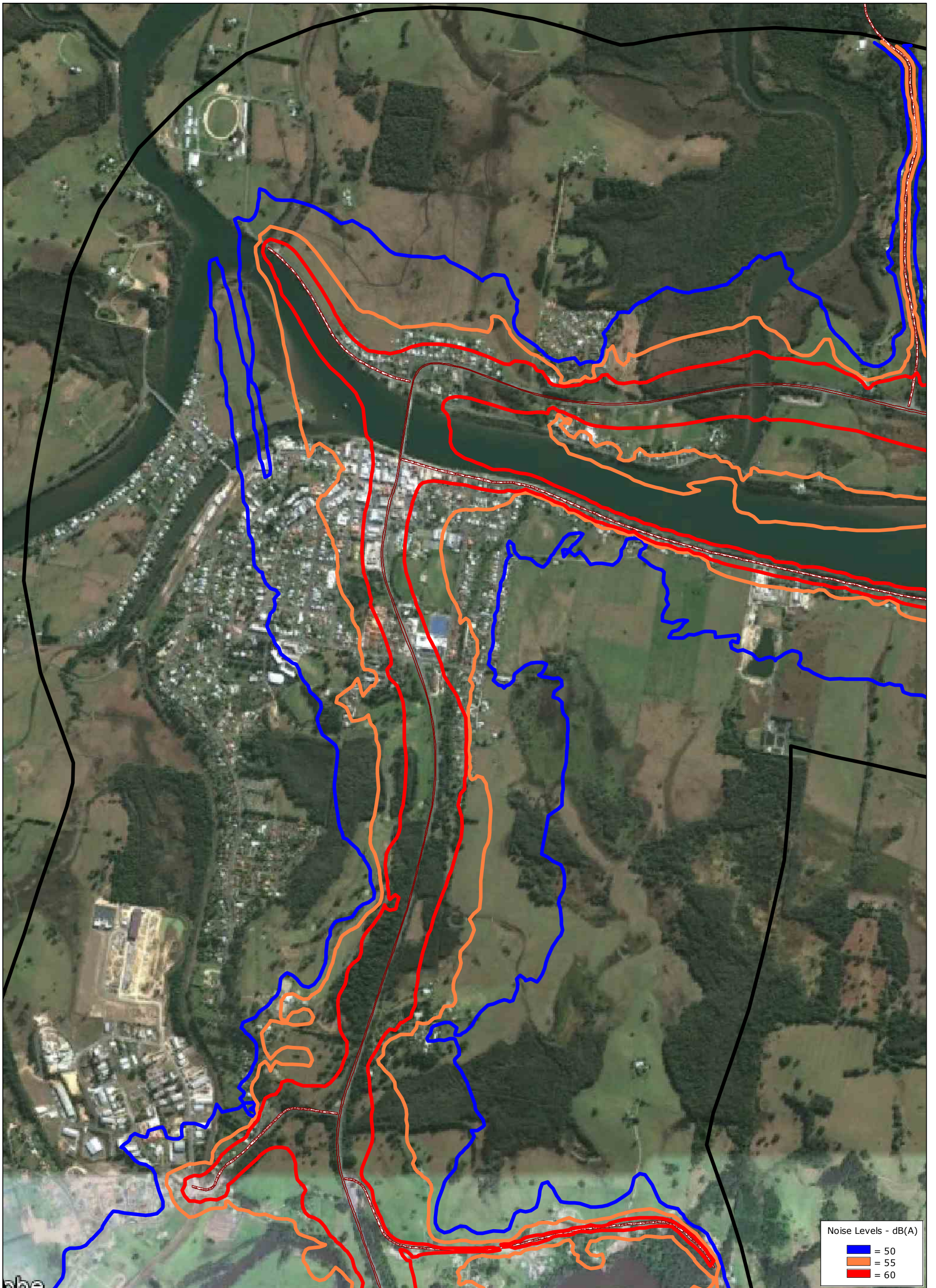


Reference: TG100-01_CA01_P32 (rev 3) Gr# CA01_14_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
Inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

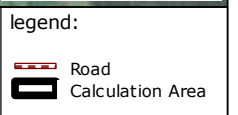
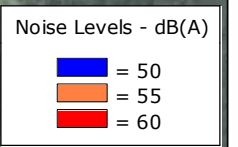
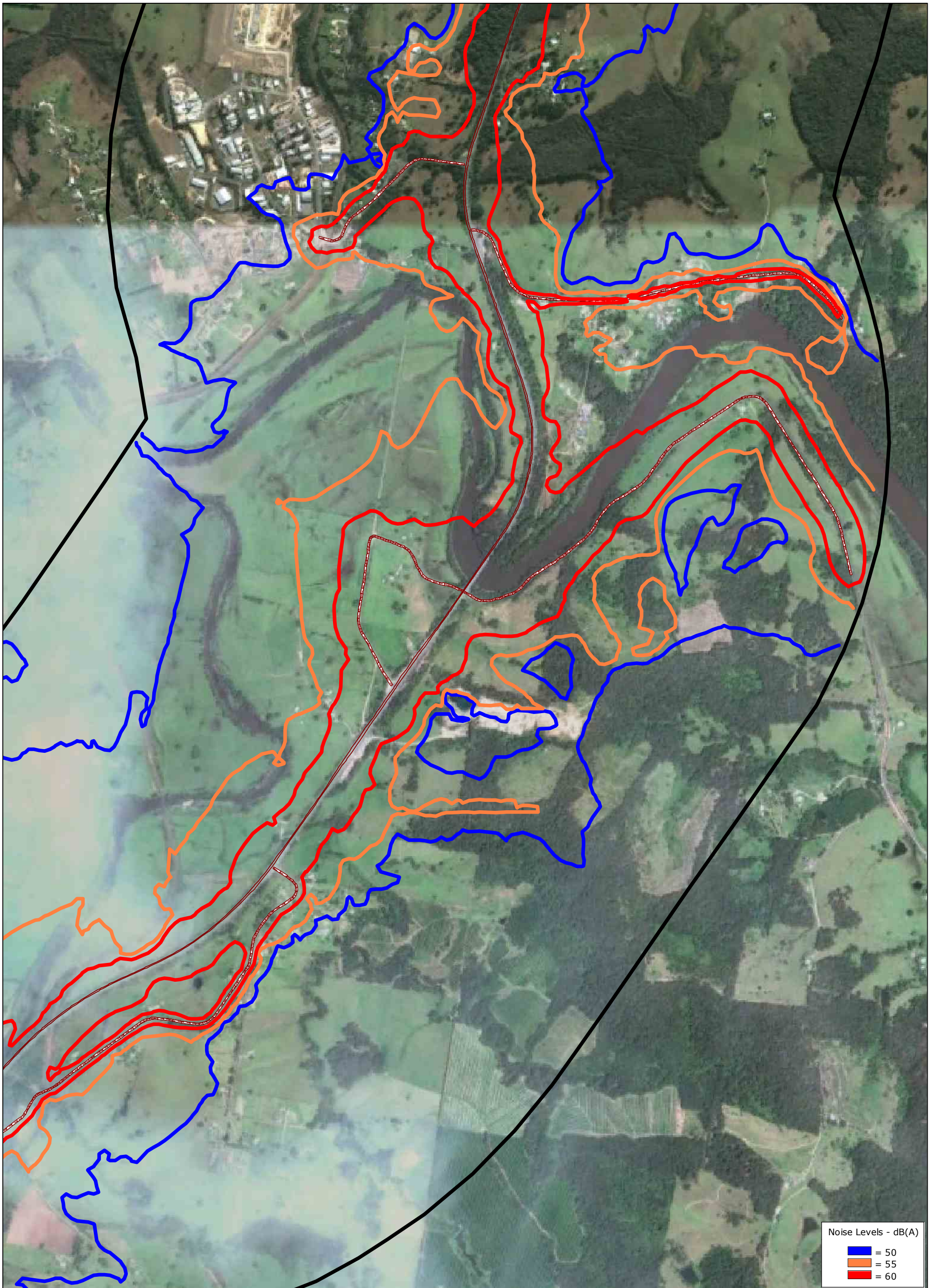
Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Including 1.8 dB(A) Safety Factor
 Section 5

Reference: TG100-01_CA01_P33 (rev 3) Gr# CA01_14_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
Inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

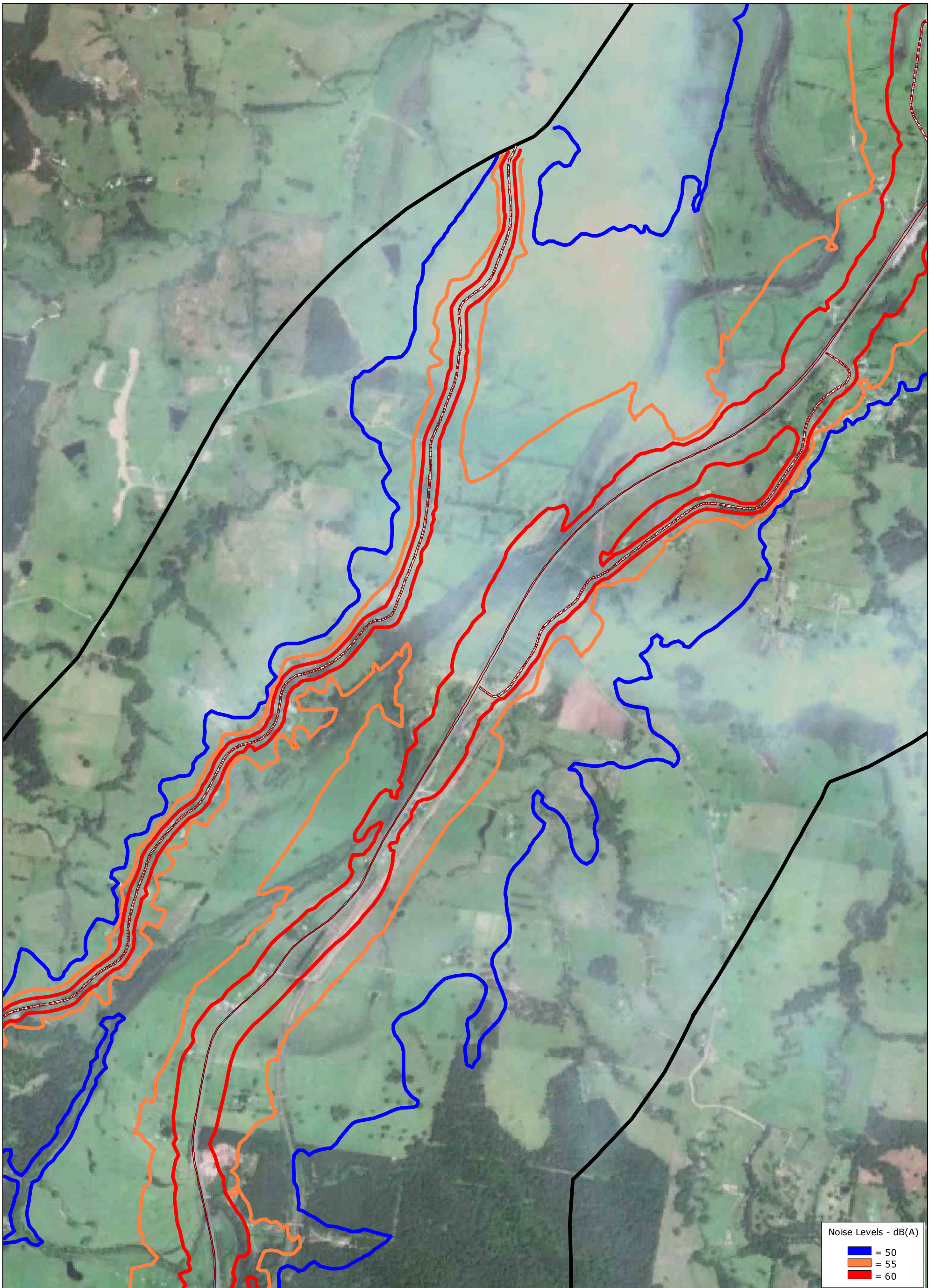
Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Including 1.8 dB(A) Safety Factor
 Section 6

Reference: TG100-01_CA01_P34 (rev 3) Gr# CA01_14_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Noise Levels - dB(A)

- █ = 50
- █ = 55
- █ = 60



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Including 1.8 dB(A) Safety Factor
 Section 7



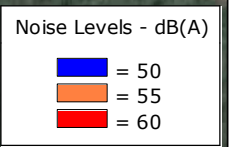
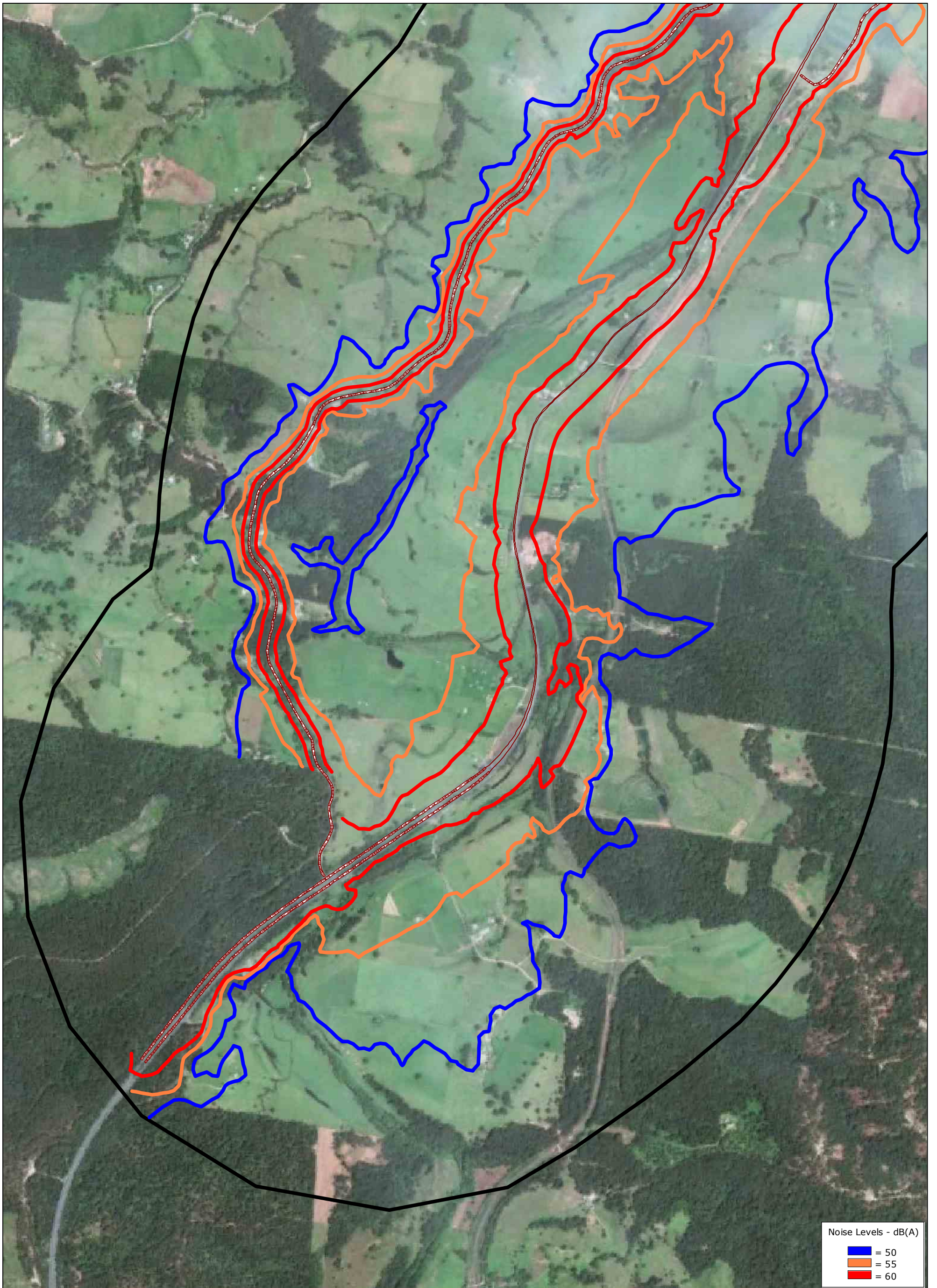
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P35 (rev 3) Gr# CA01_14_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Future Existing - 2016
 Including 1.8 dB(A) Safety Factor
 Section 8



legend:
 Road
 Calculation Area

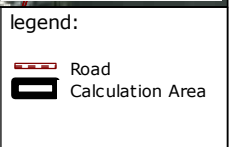
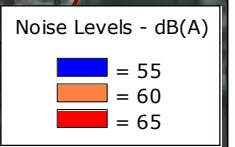
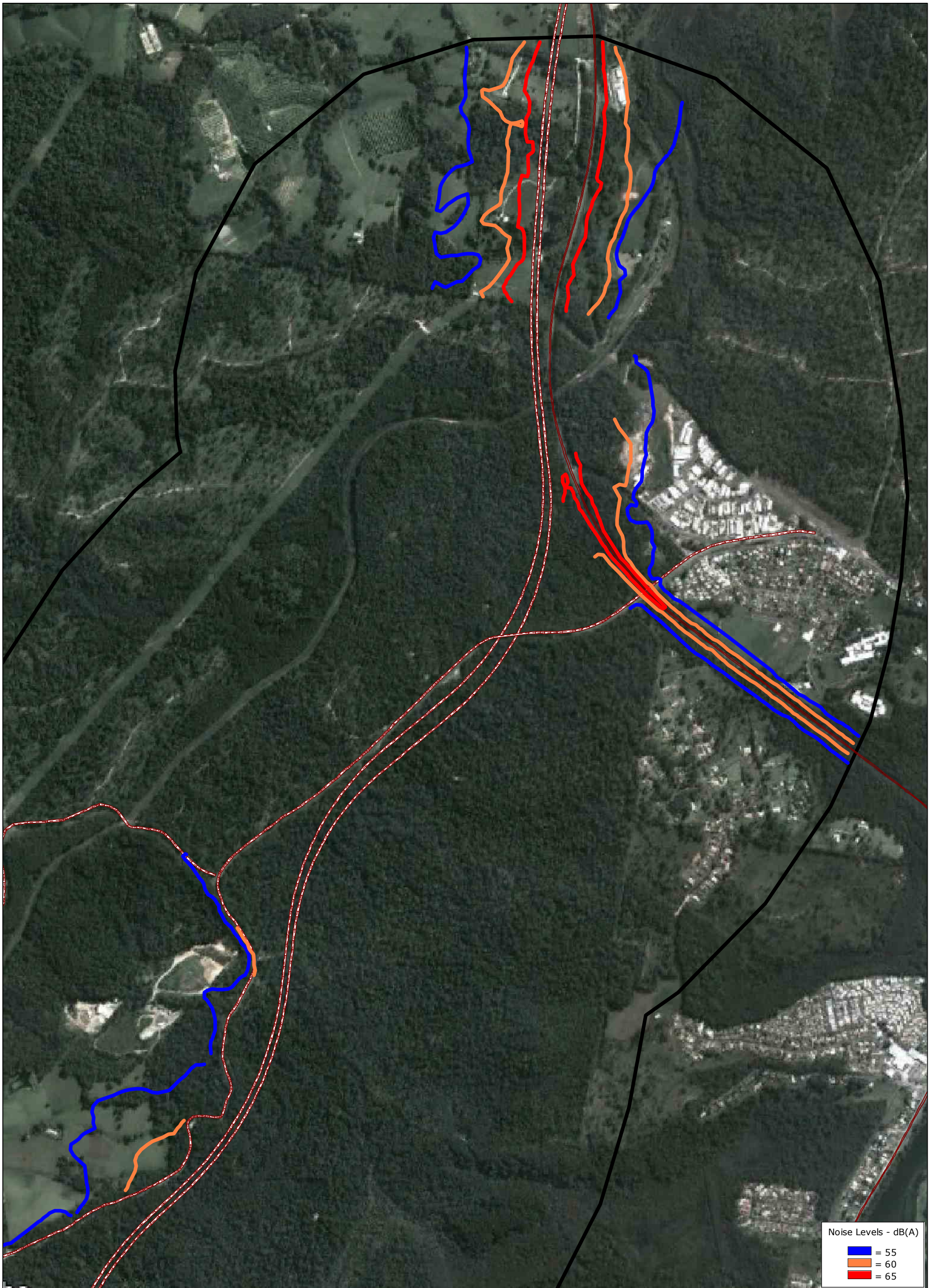
Reference: TG100-01_CA01_P36 (rev 3) Gr# CA01_14_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3

APPENDIX E - OPENING YEAR NOISE CONTOUR MAPS



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

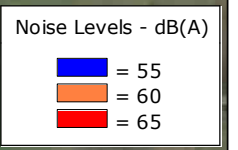
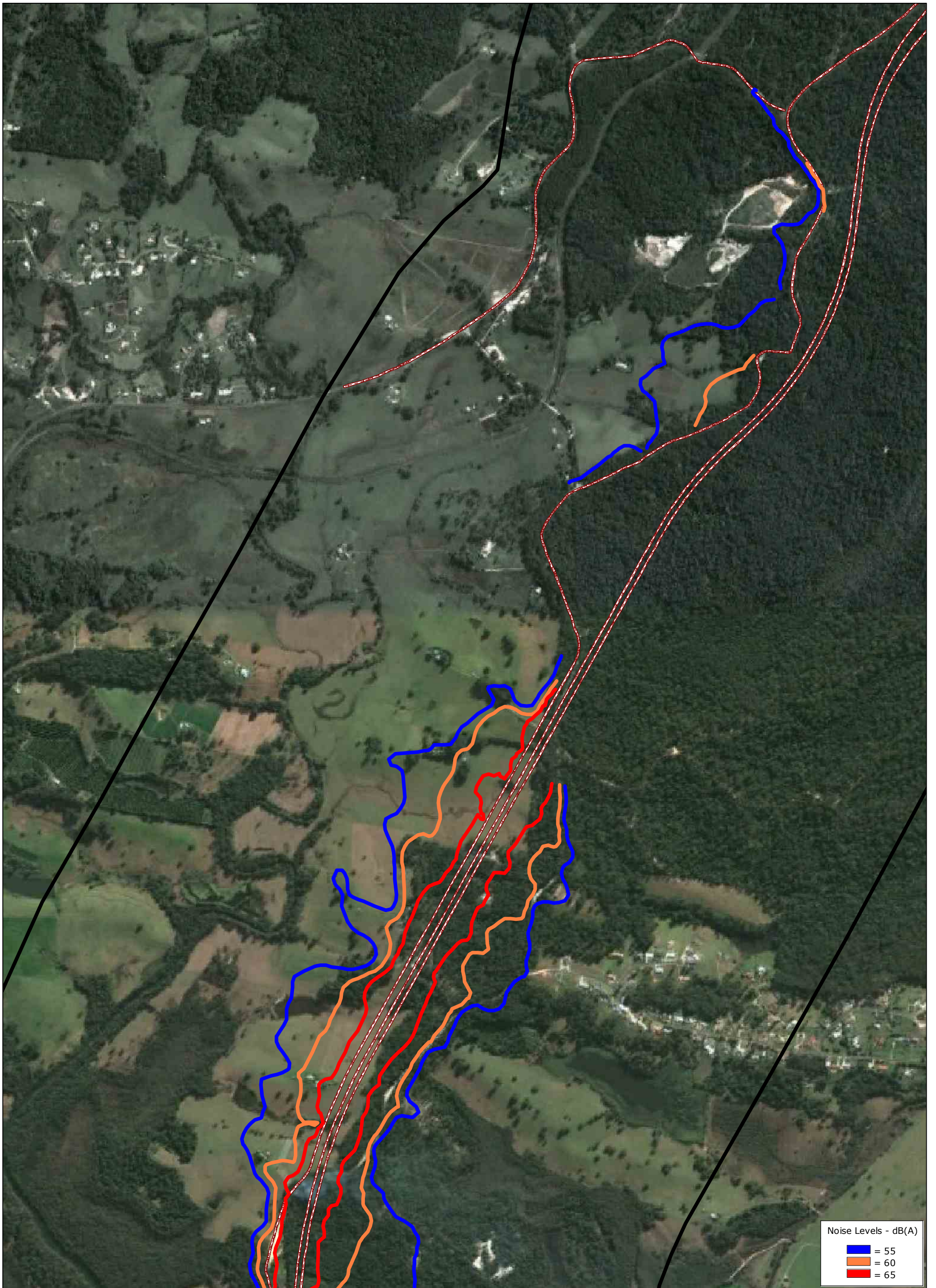
Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 1

Reference: TG100-01_CA01_P01 (rev 3) Gr# CA01_13_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 2



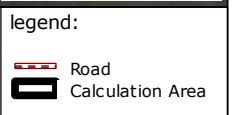
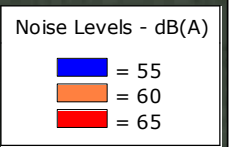
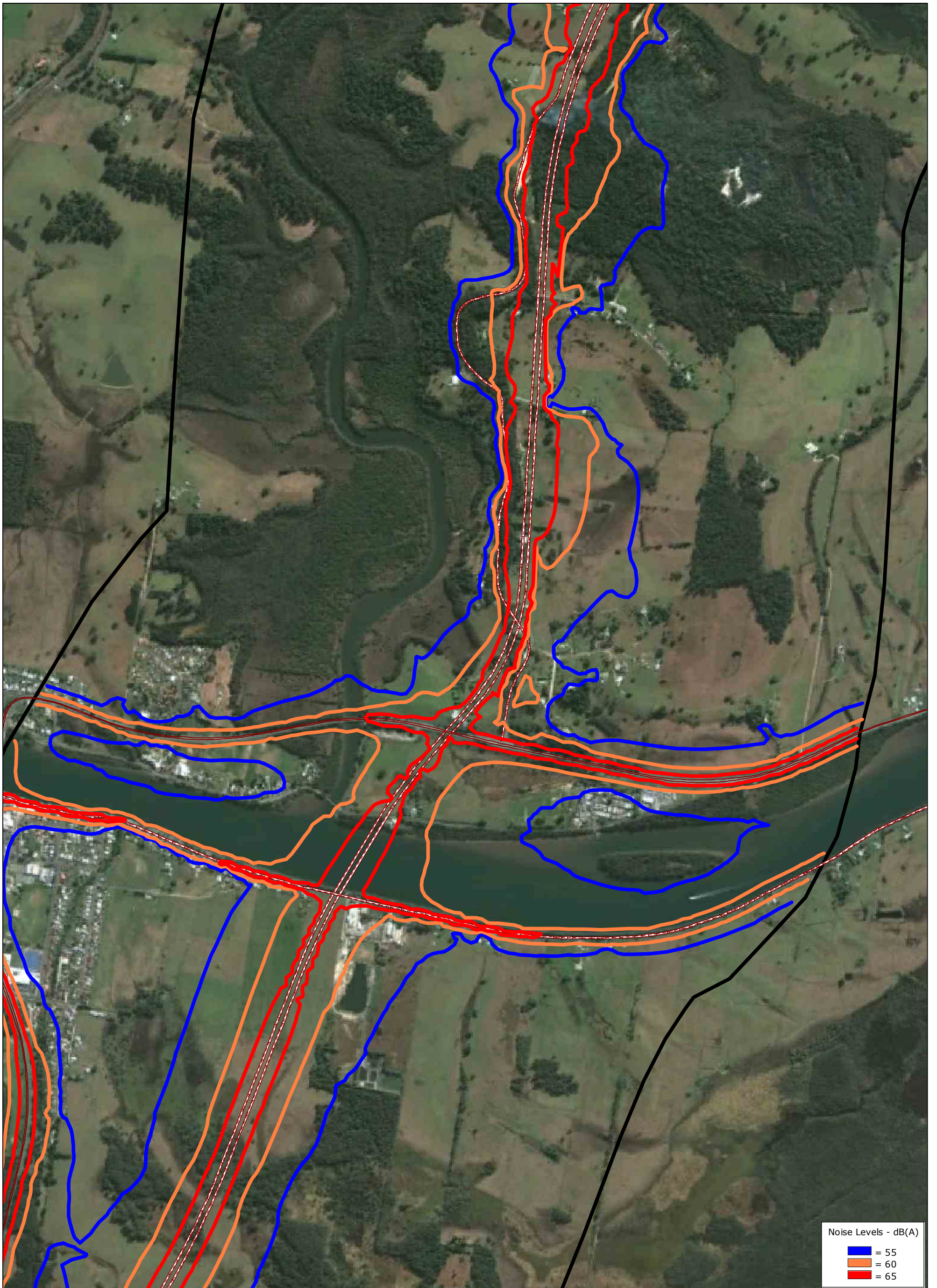
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P02 (rev 3) Gr# CA01_13_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

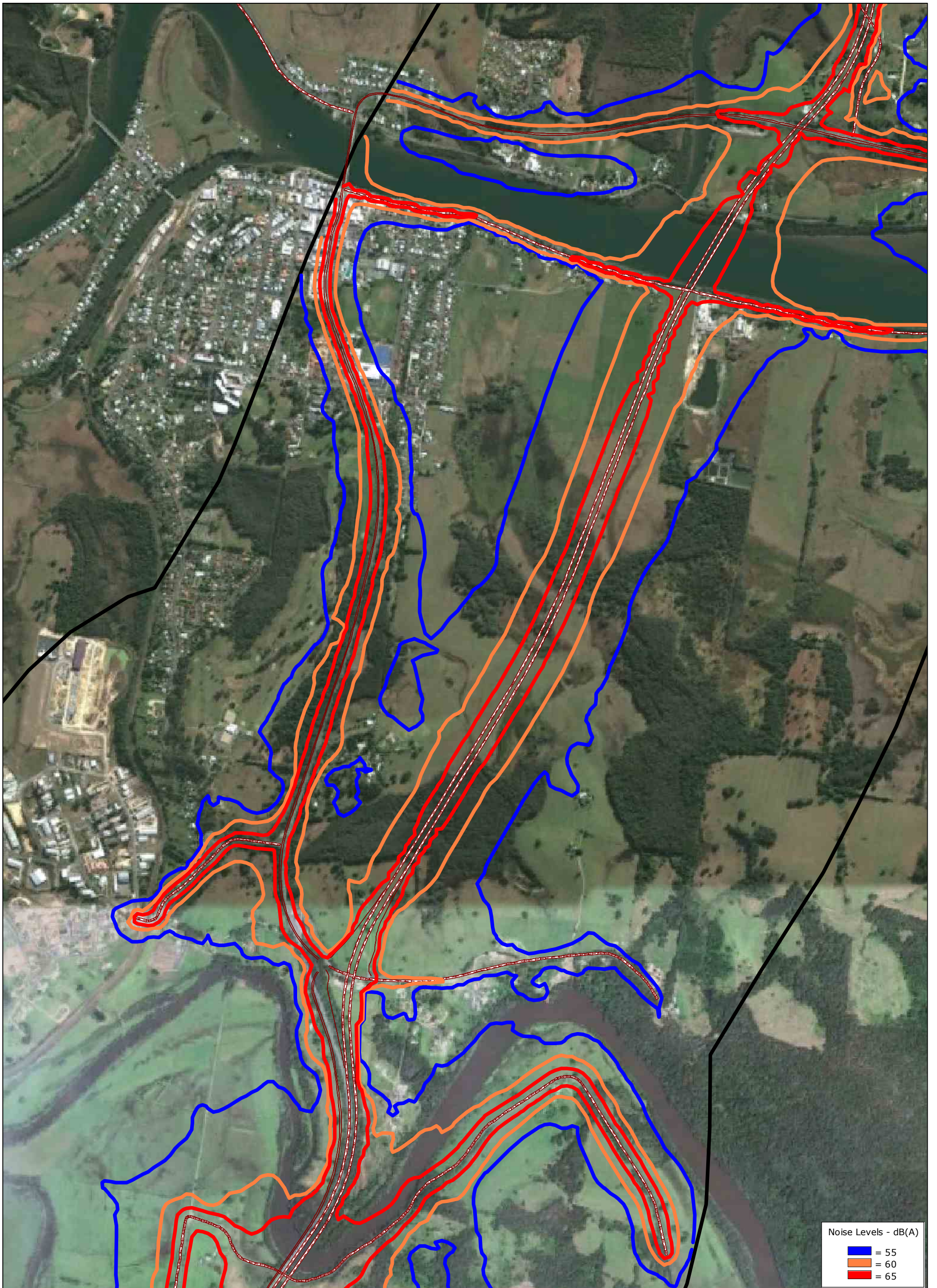
Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 3

Reference: TG100-01_CA01_P03 (rev 3) Gr# CA01_13_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Noise Levels - dB(A)

- █ = 55
- █ = 60
- █ = 65

legend:

- Road
- Calculation Area

RENZO TONIN & ASSOCIATES
Inspired to achieve

Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 4

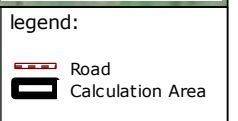
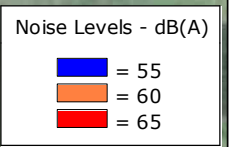
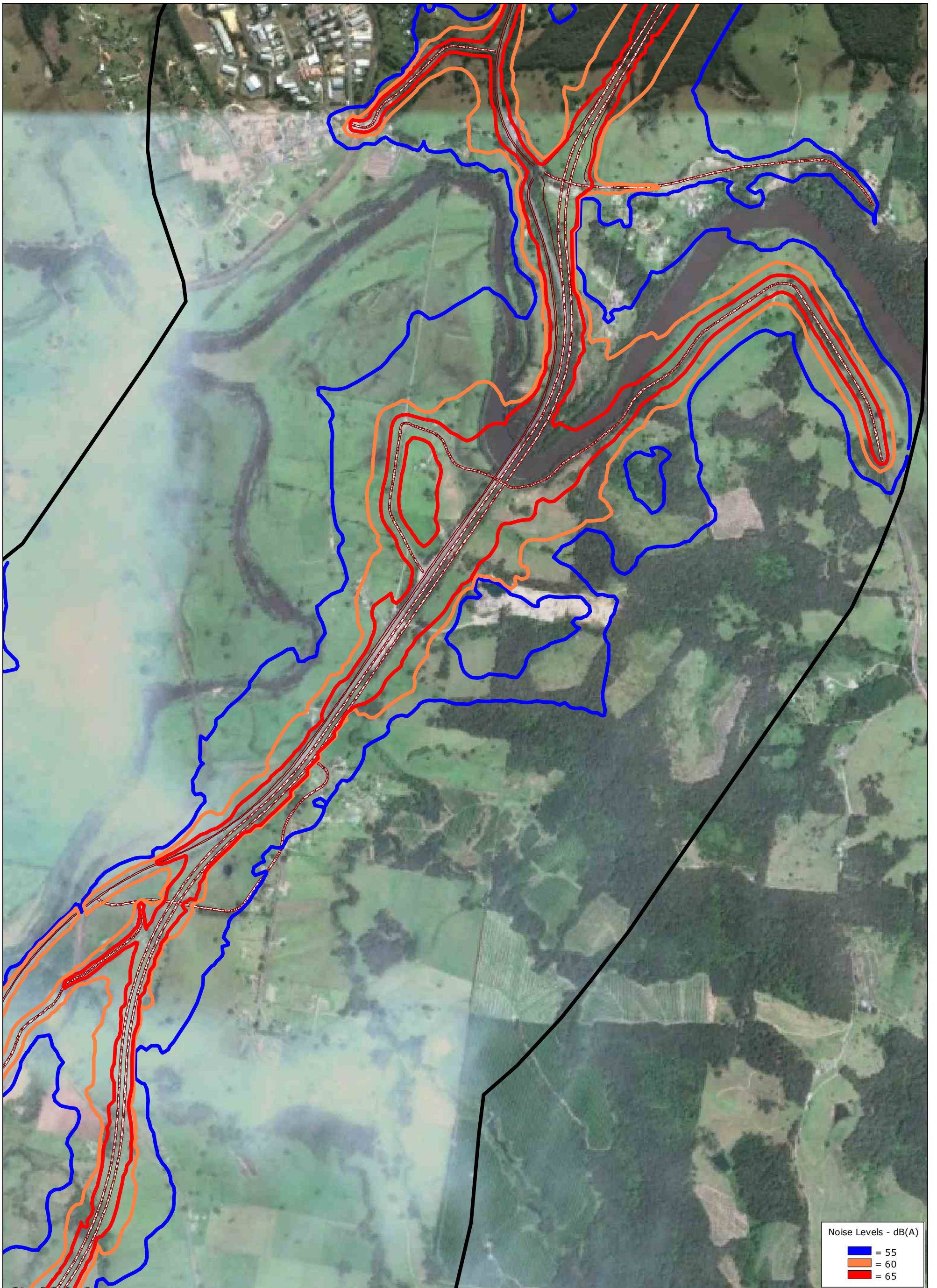


Reference: TG100-01_CA01_P04 (rev 3) Gr# CA01_13_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

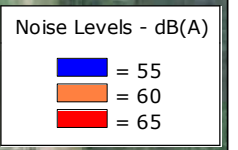
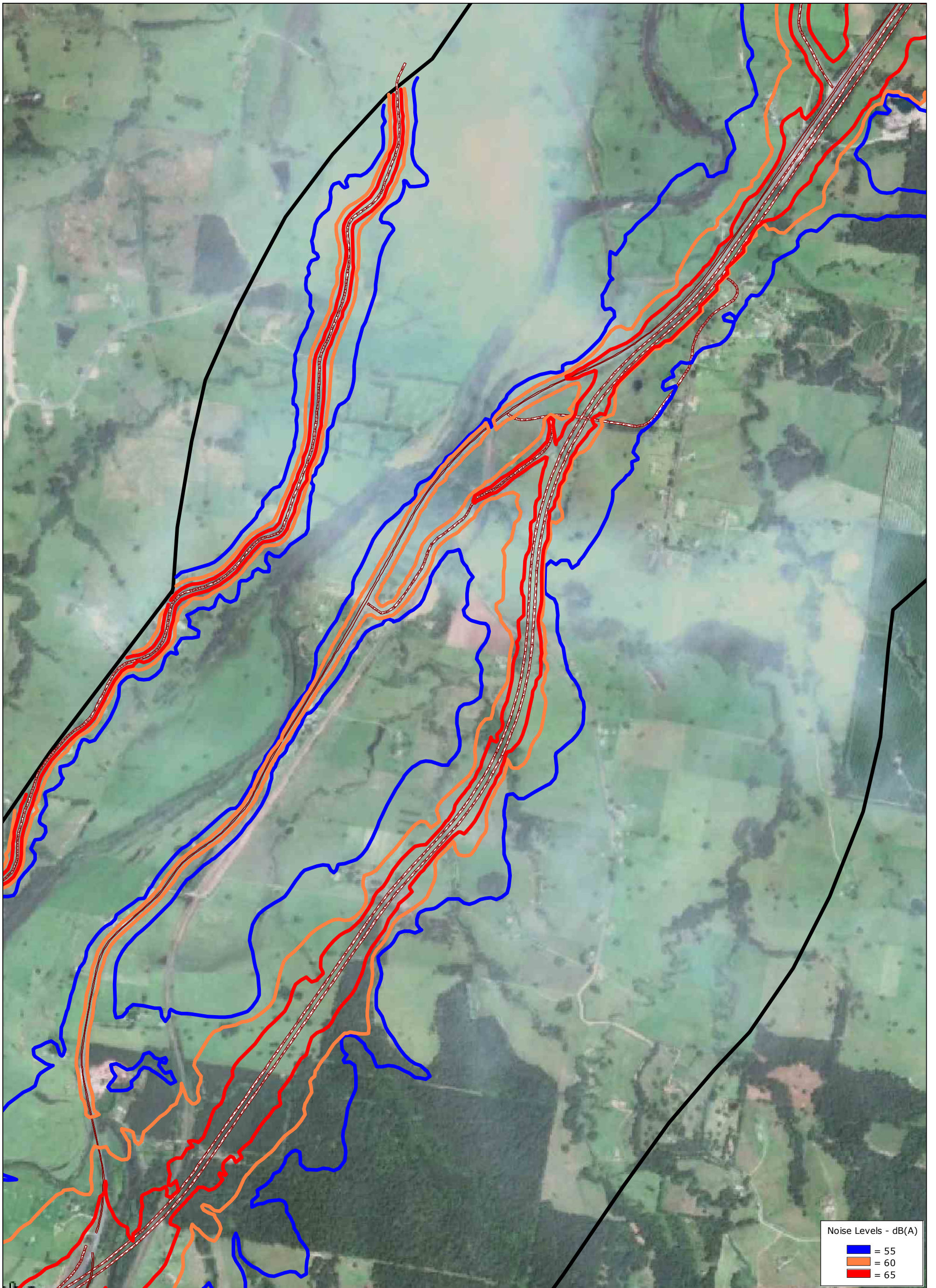
Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 5

Reference: TG100-01_CA01_P05 (rev 3) Gr# CA01_13_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 6



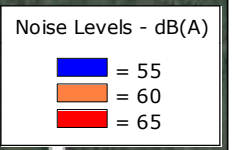
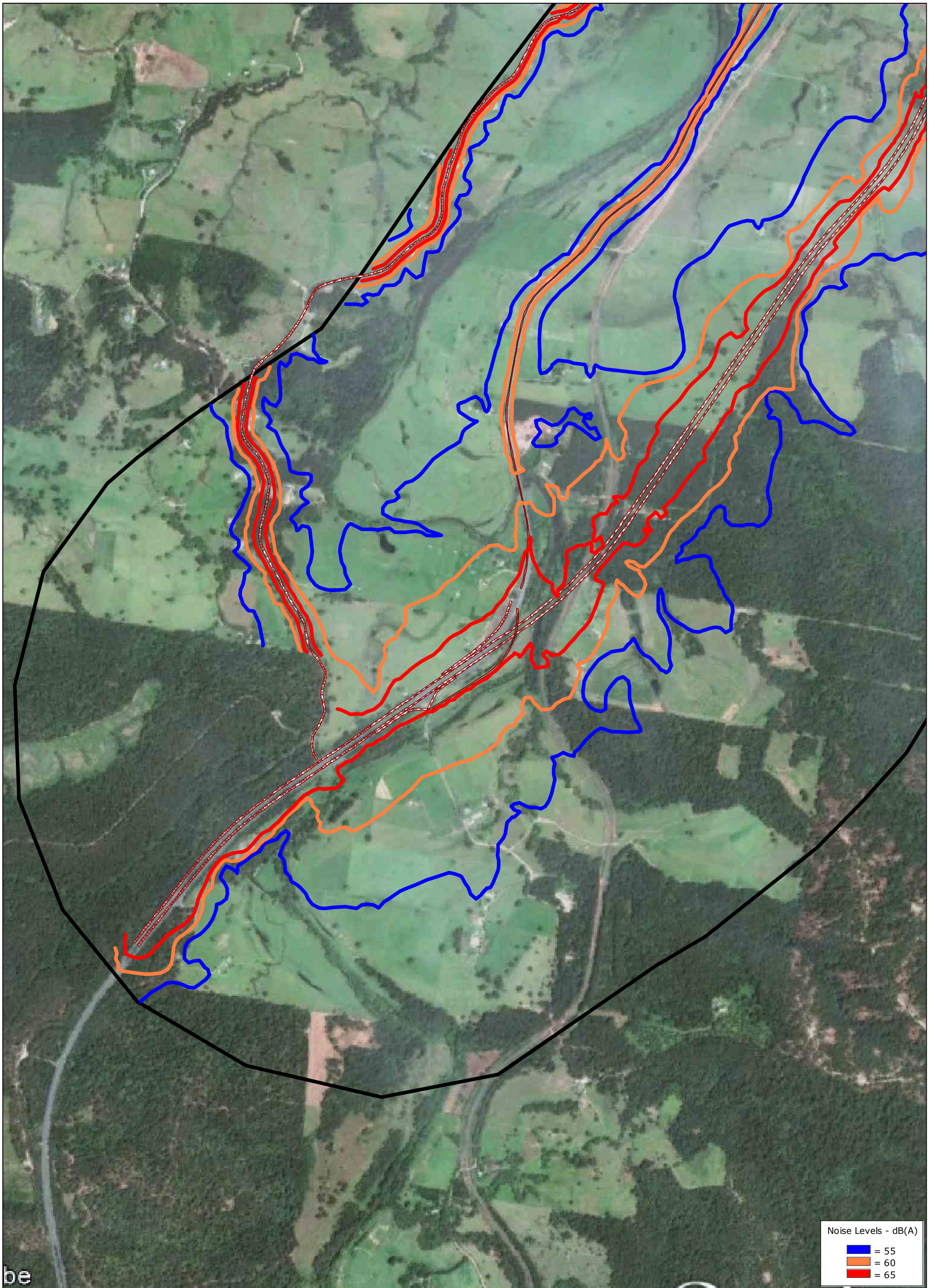
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P06 (rev 3) Gr# CA01_13_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



be



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 7



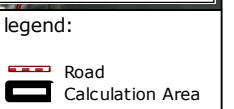
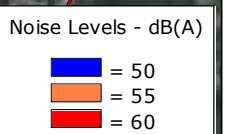
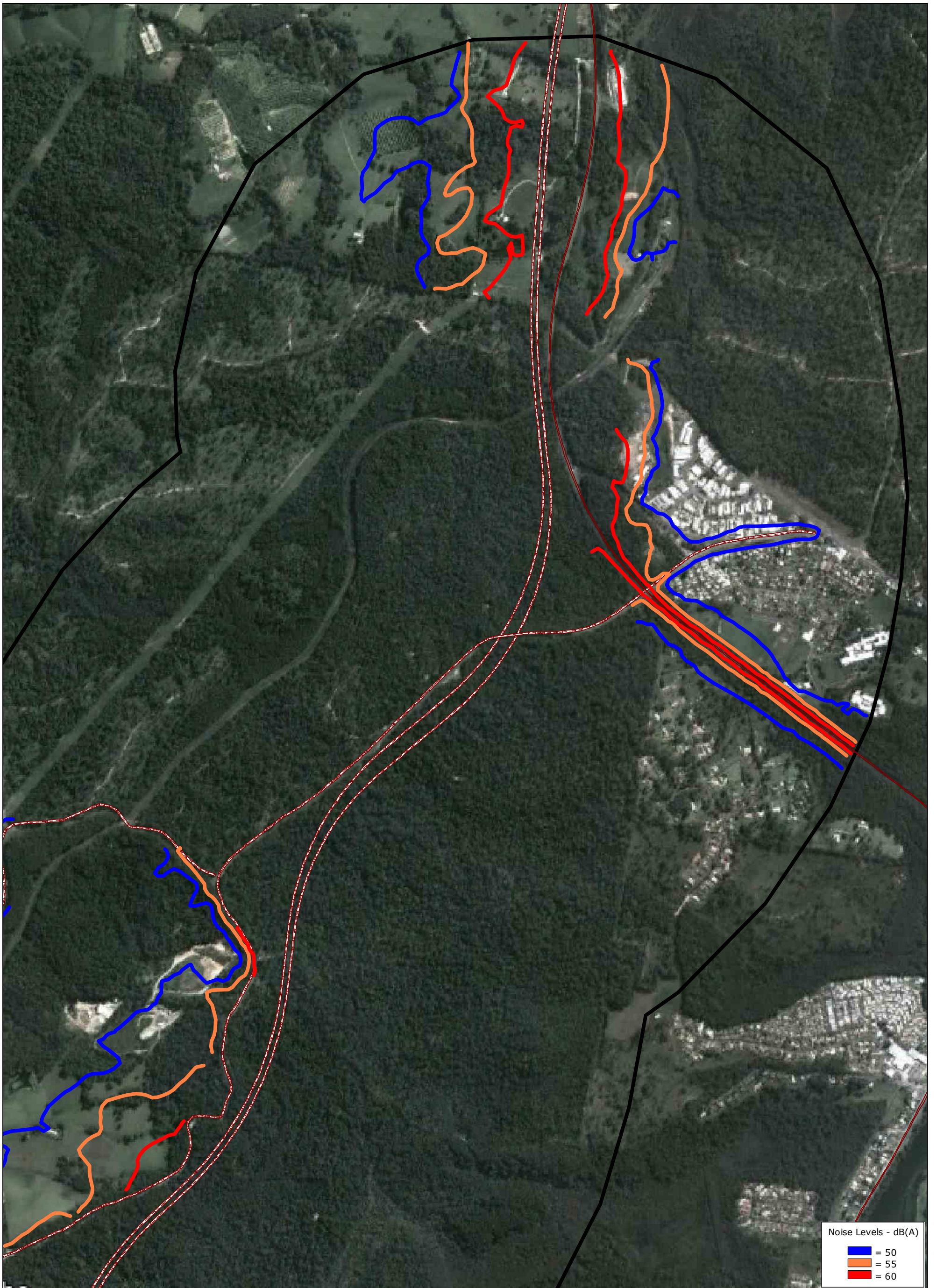
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P07 (rev 3) Gr# CA01_13_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

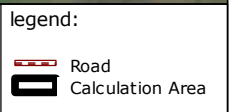
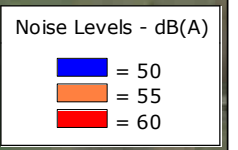
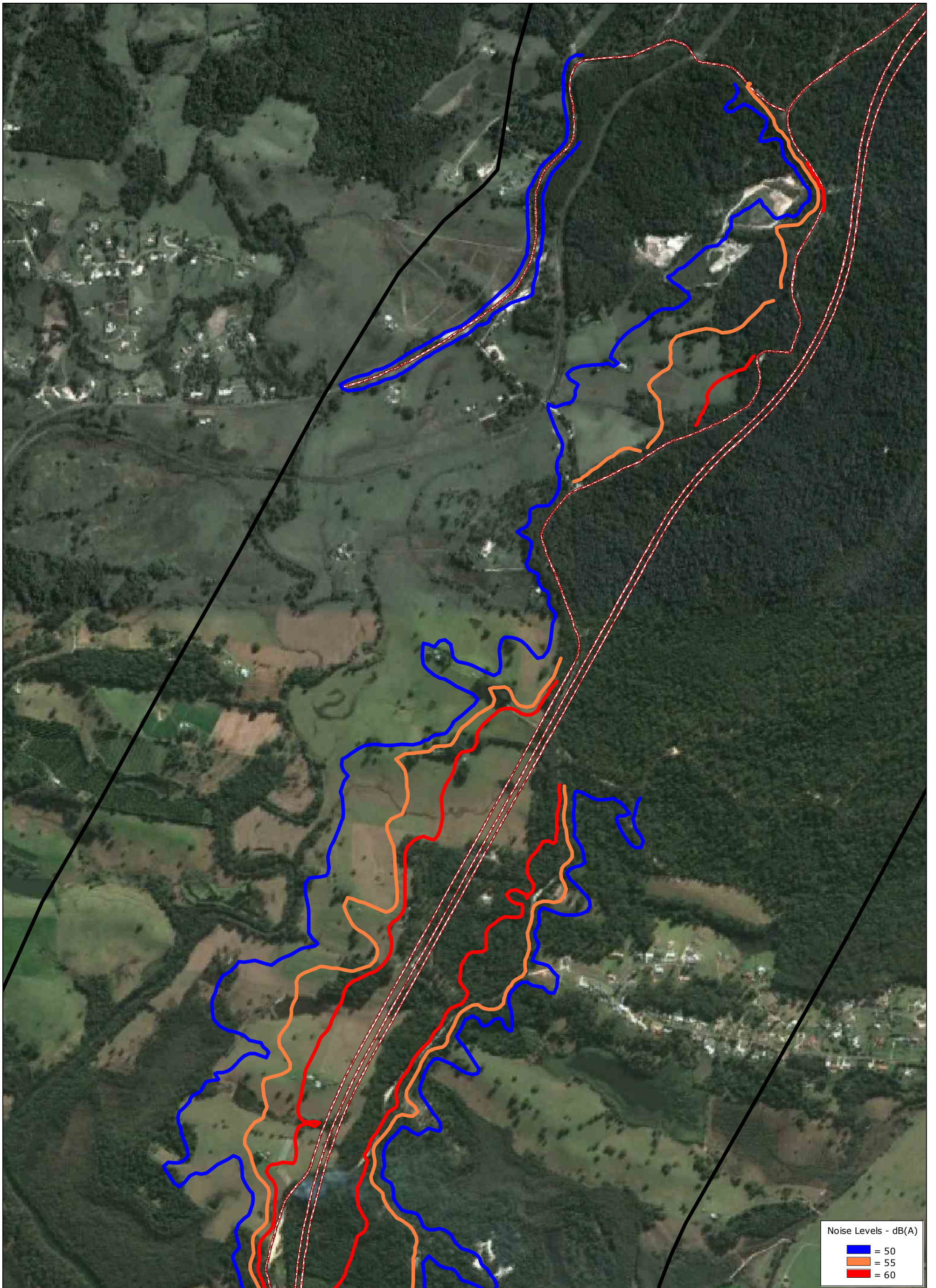
Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 1

Reference: TG100-01_CA01_P08 (rev 3) Gr# CA01_12_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 2

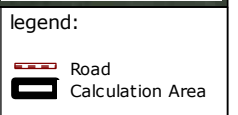
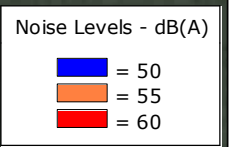
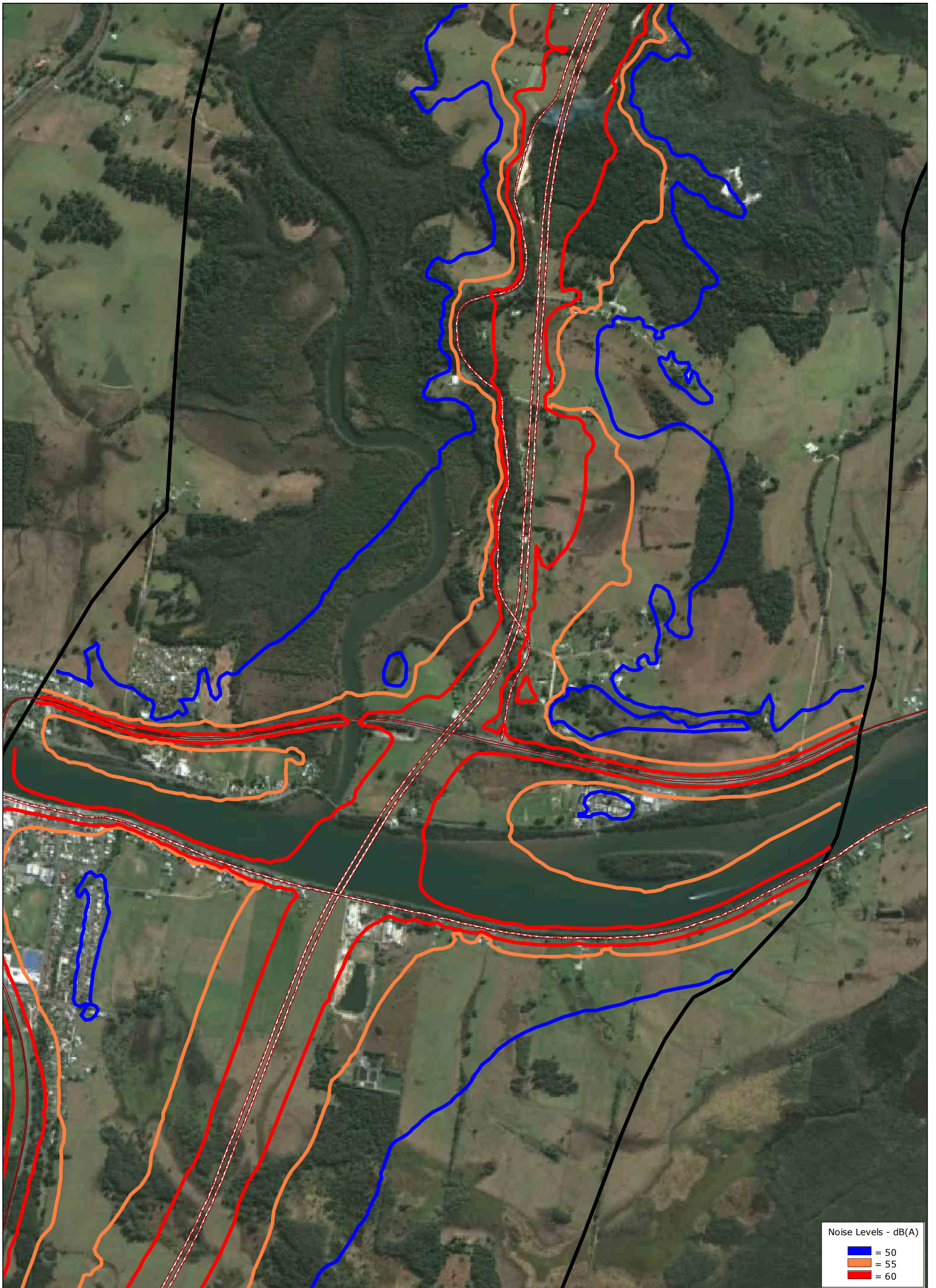


Reference: TG100-01_CA01_P09 (rev 3) Gr# CA01_12_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

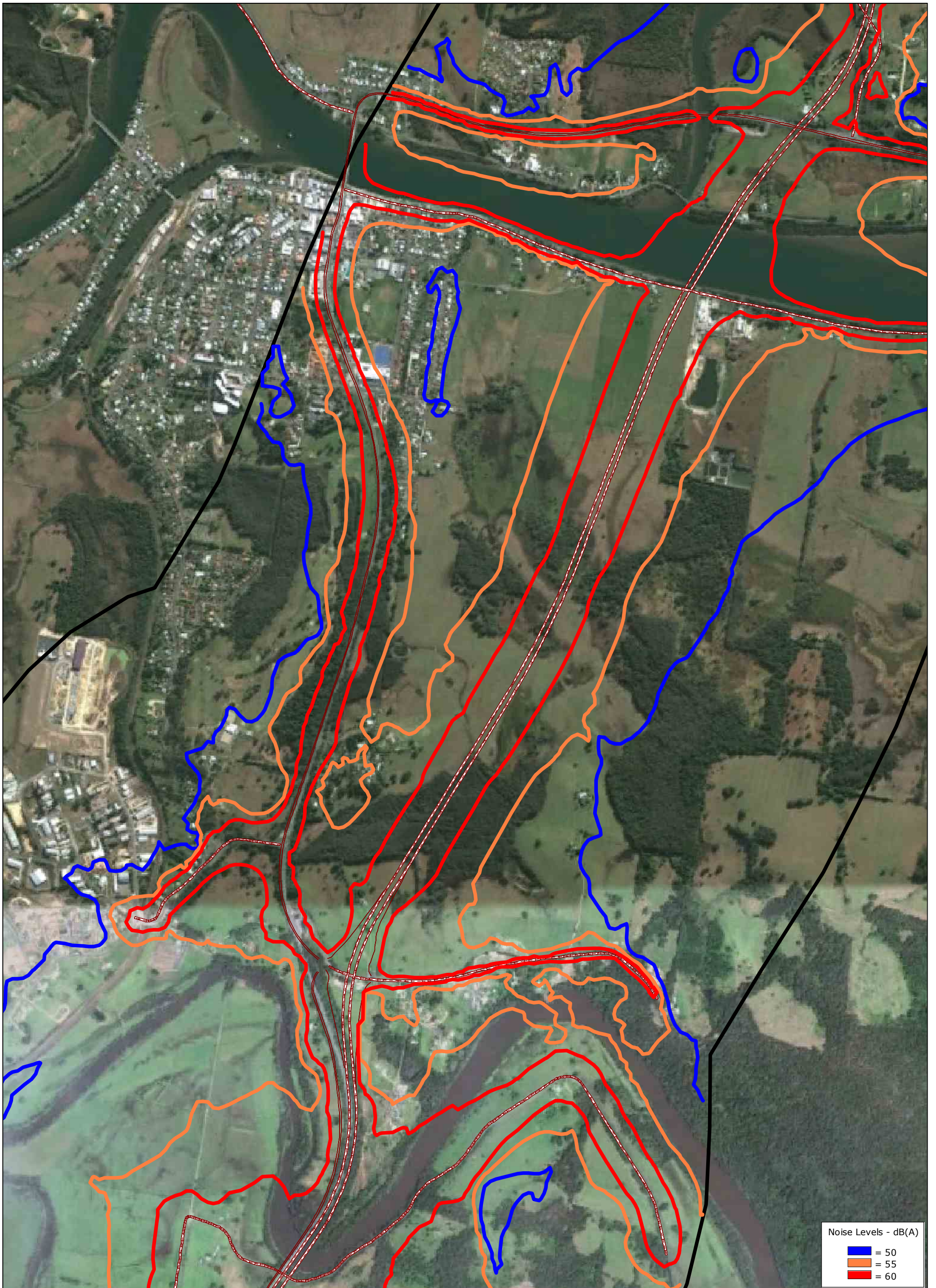
Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 3

Reference: TG100-01_CA01_P10 (rev 3) Gr# CA01_12_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Noise Levels - dB(A)

- █ = 50
- █ = 55
- █ = 60

legend:

- Road
- Calculation Area



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

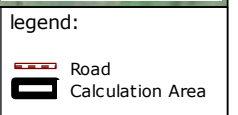
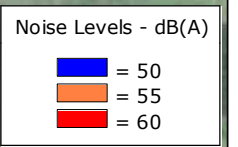
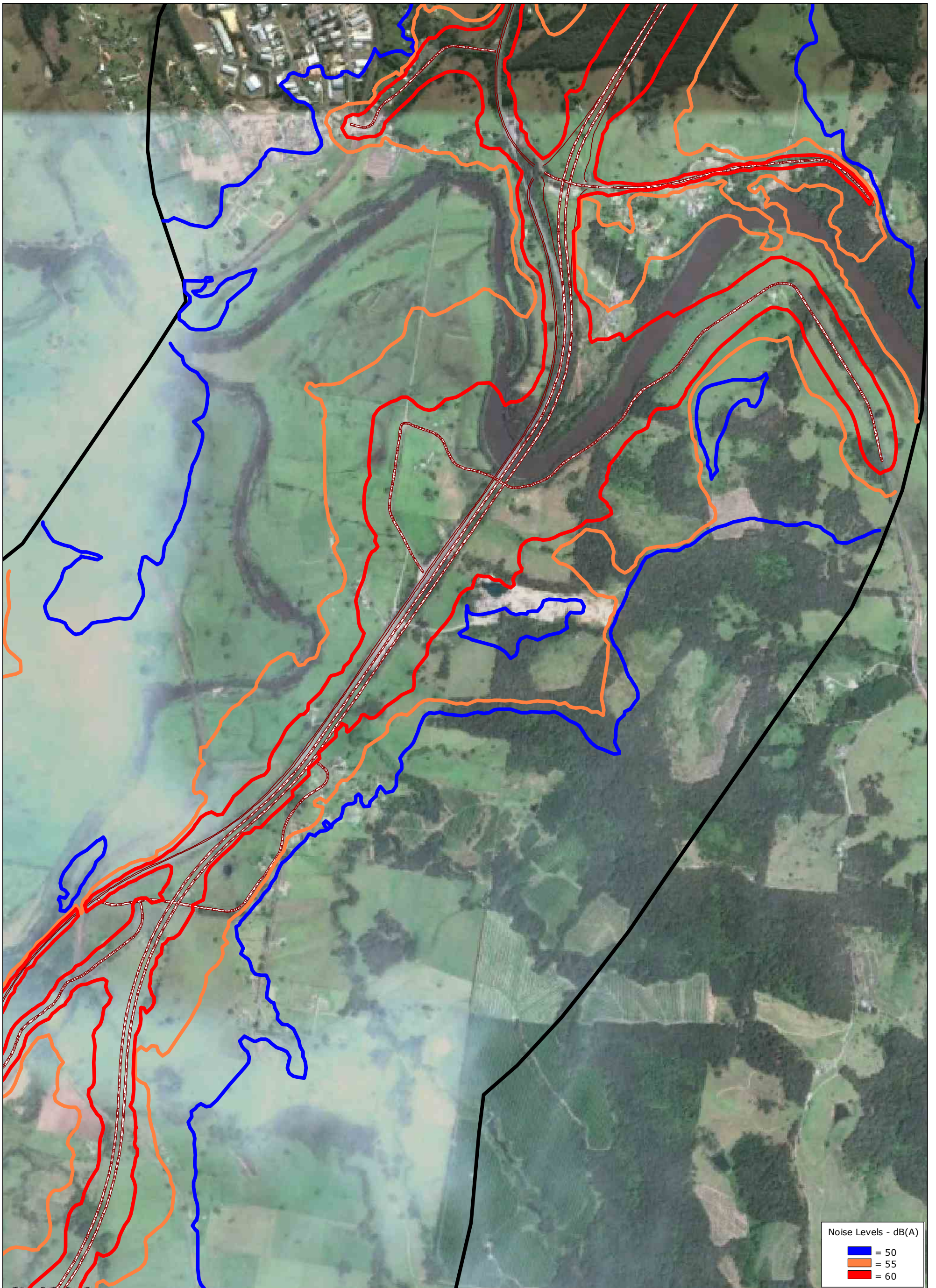
Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 4

Reference: TG100-01_CA01_P11 (rev 3) Gr# CA01_12_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

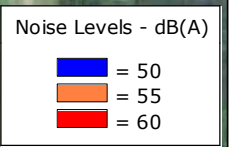
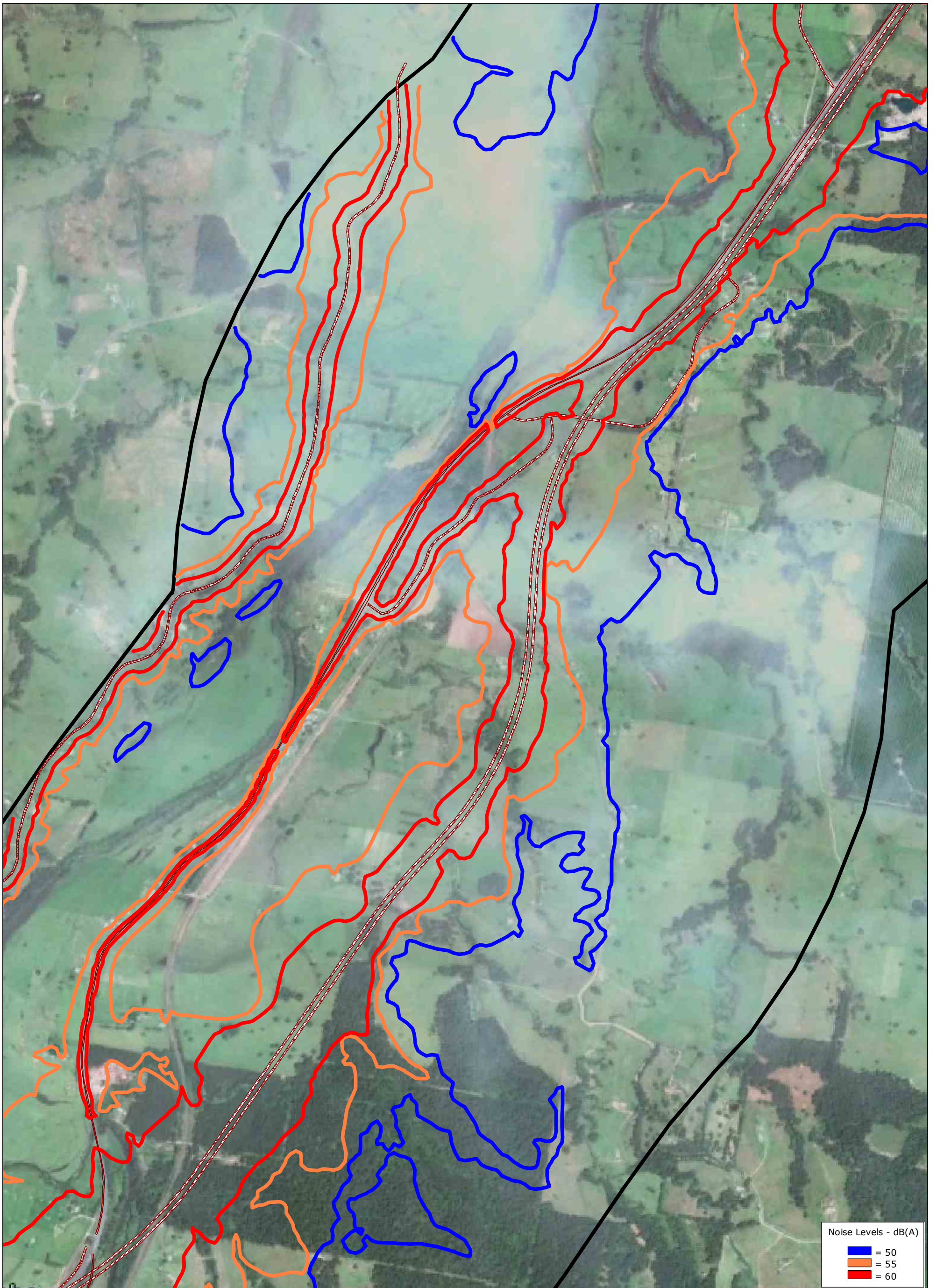
Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 5

Reference: TG100-01_CA01_P12 (rev 3) Gr# CA01_12_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 6



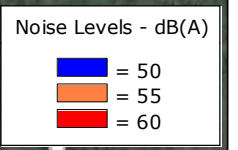
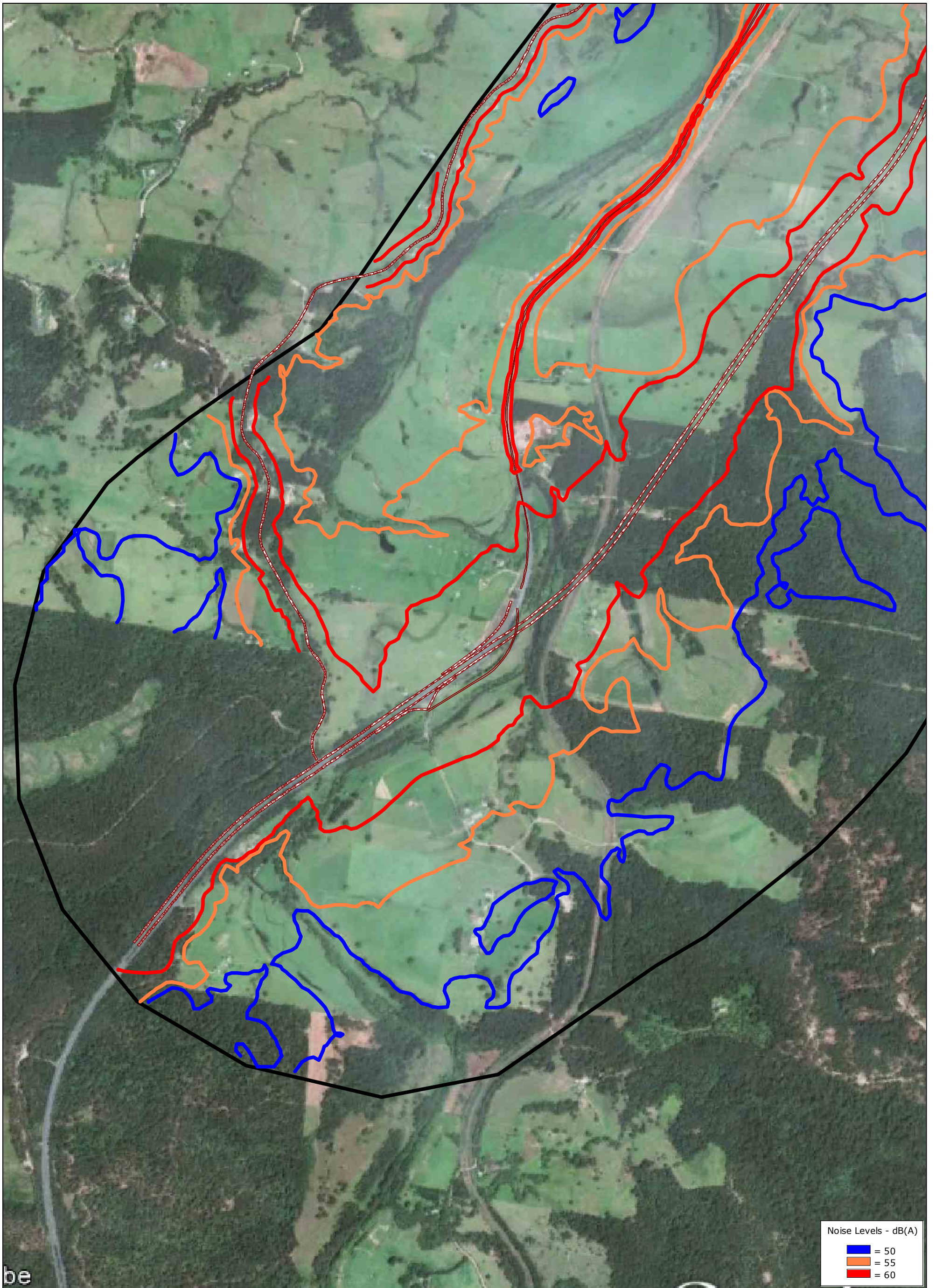
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P13 (rev 3) Gr# CA01_12_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



be



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Opening Year - 2016
 Including 1.8 dB(A) Safety Factor
 Section 7



legend:
 Road
 Calculation Area

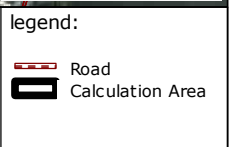
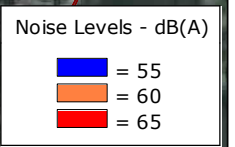
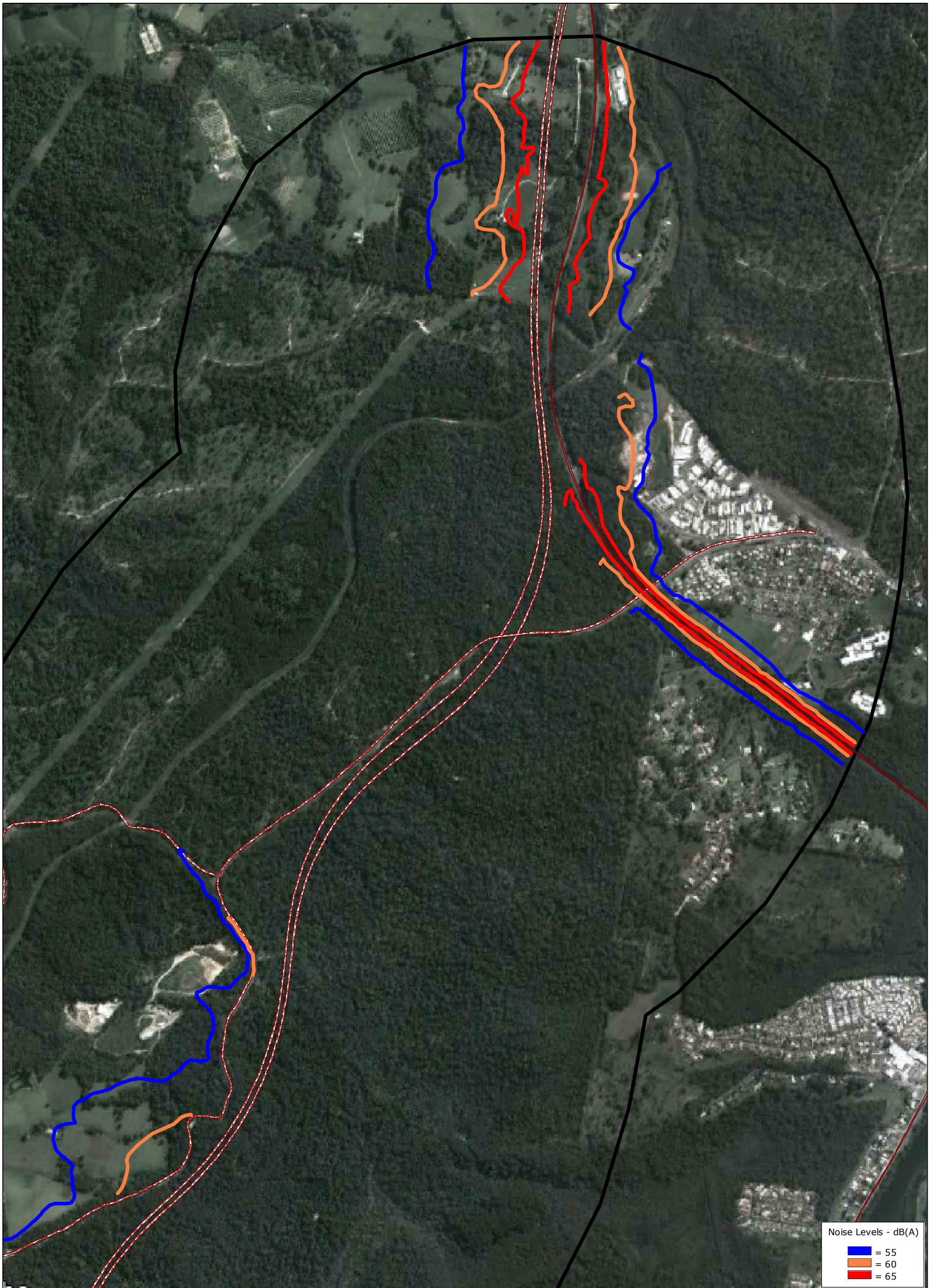
Reference: TG100-01_CA01_P14 (rev 3) Gr# CA01_12_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3

APPENDIX F - DESIGN YEAR NOISE CONTOUR MAPS



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 1

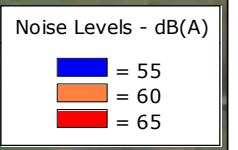
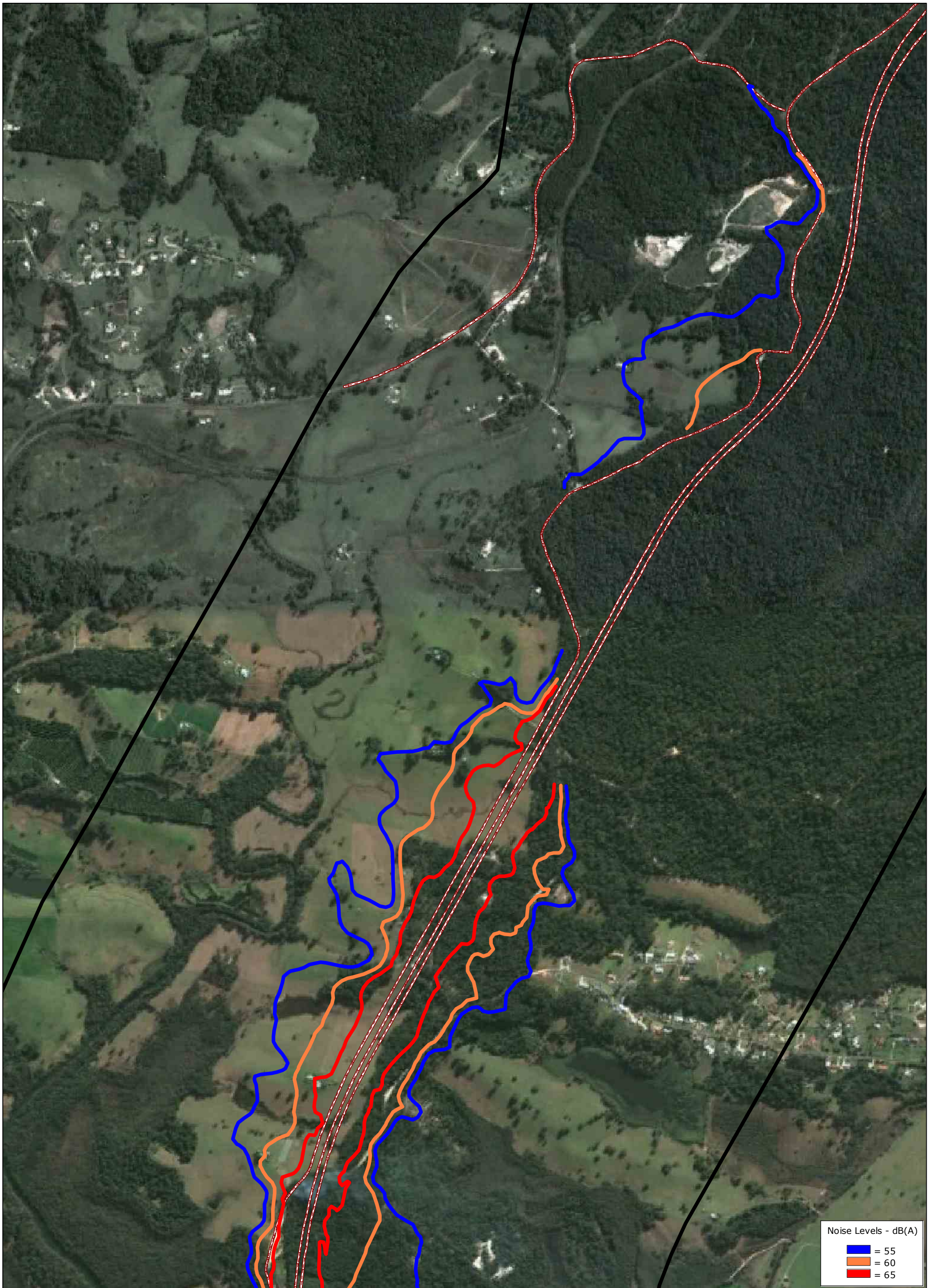


Reference: TG100-01_CA01_P15 (rev 3) Gr# CA01_11_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 2



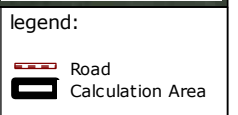
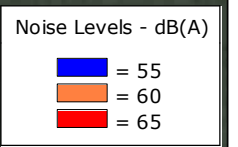
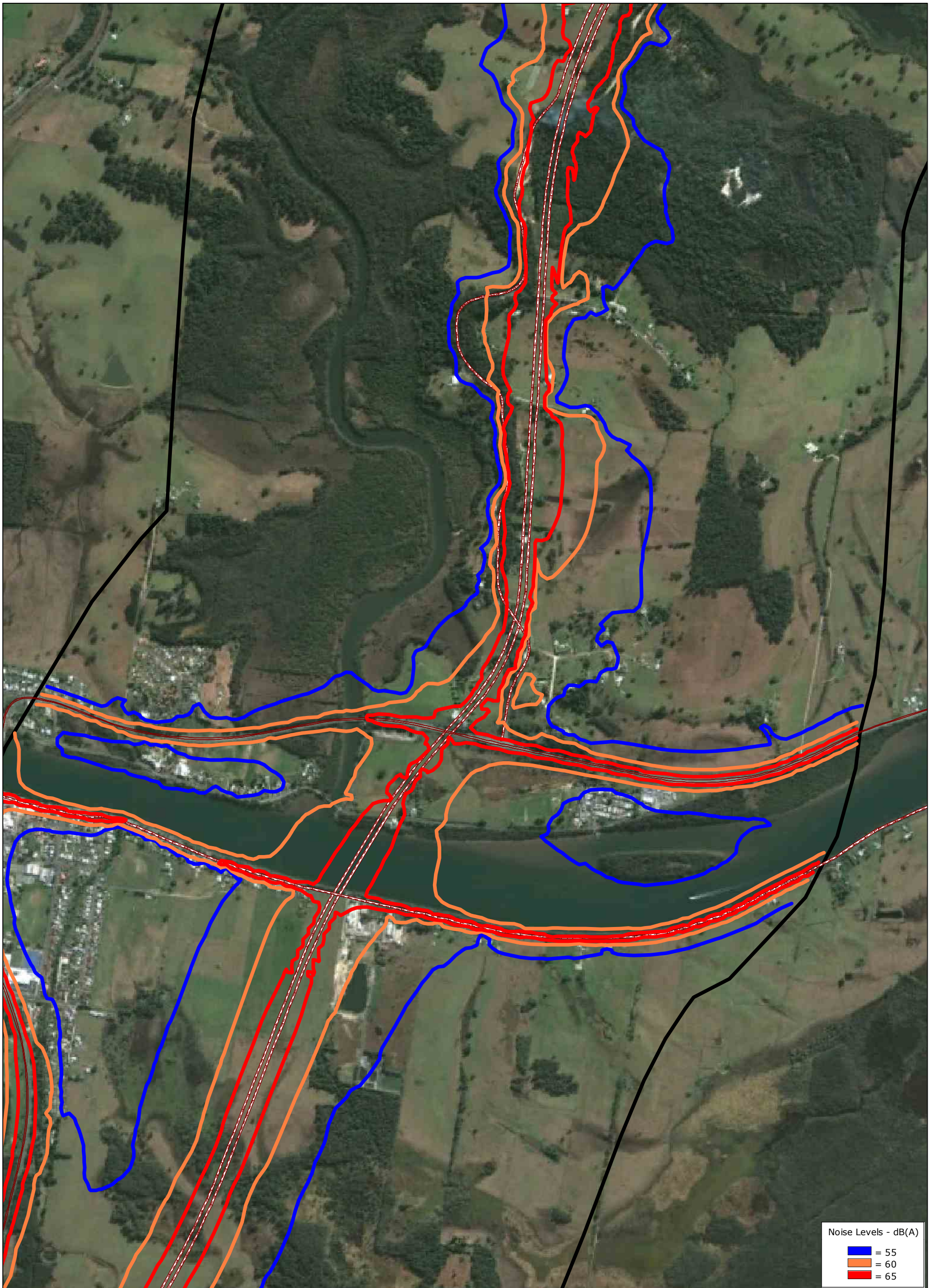
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P16 (rev 3) Gr# CA01_11_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

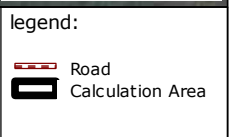
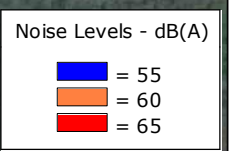
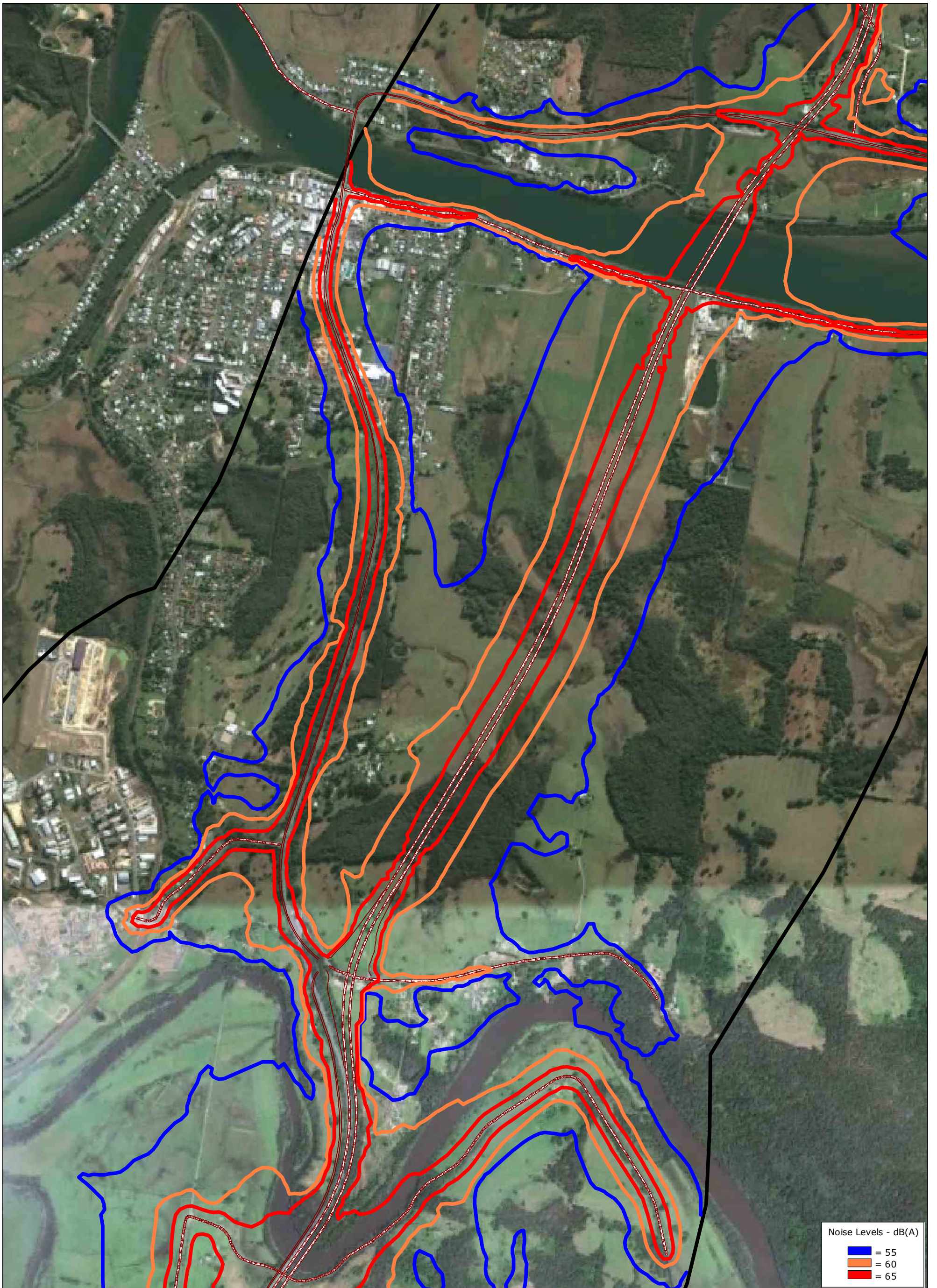
Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 3

Reference: TG100-01_CA01_P17 (rev 3) Gr# CA01_11_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 4

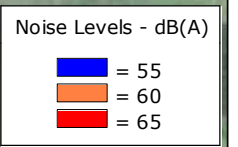
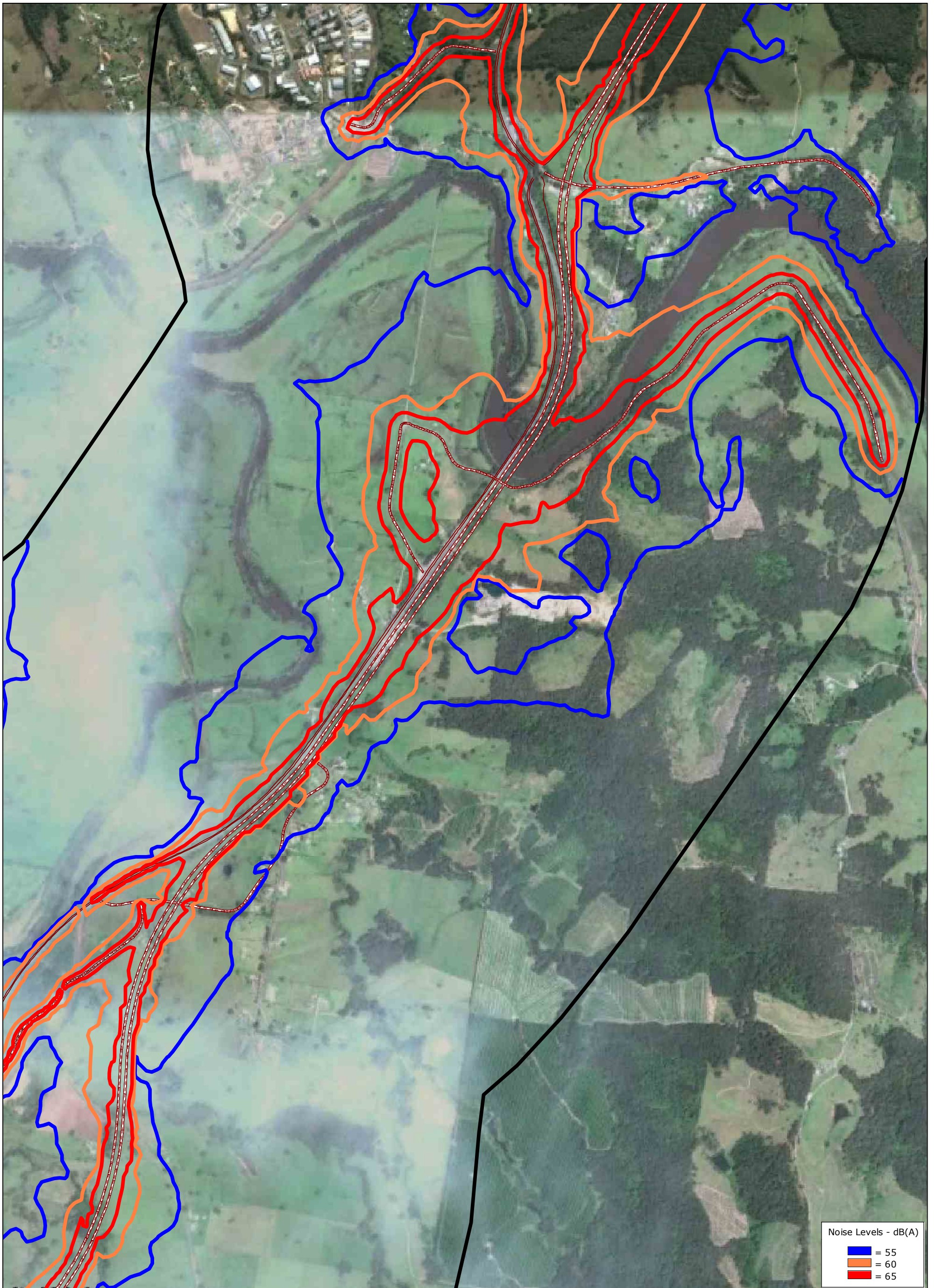


Reference: TG100-01_CA01_P18 (rev 3) Gr# CA01_11_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 5



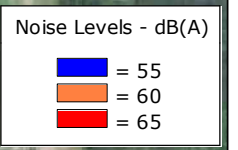
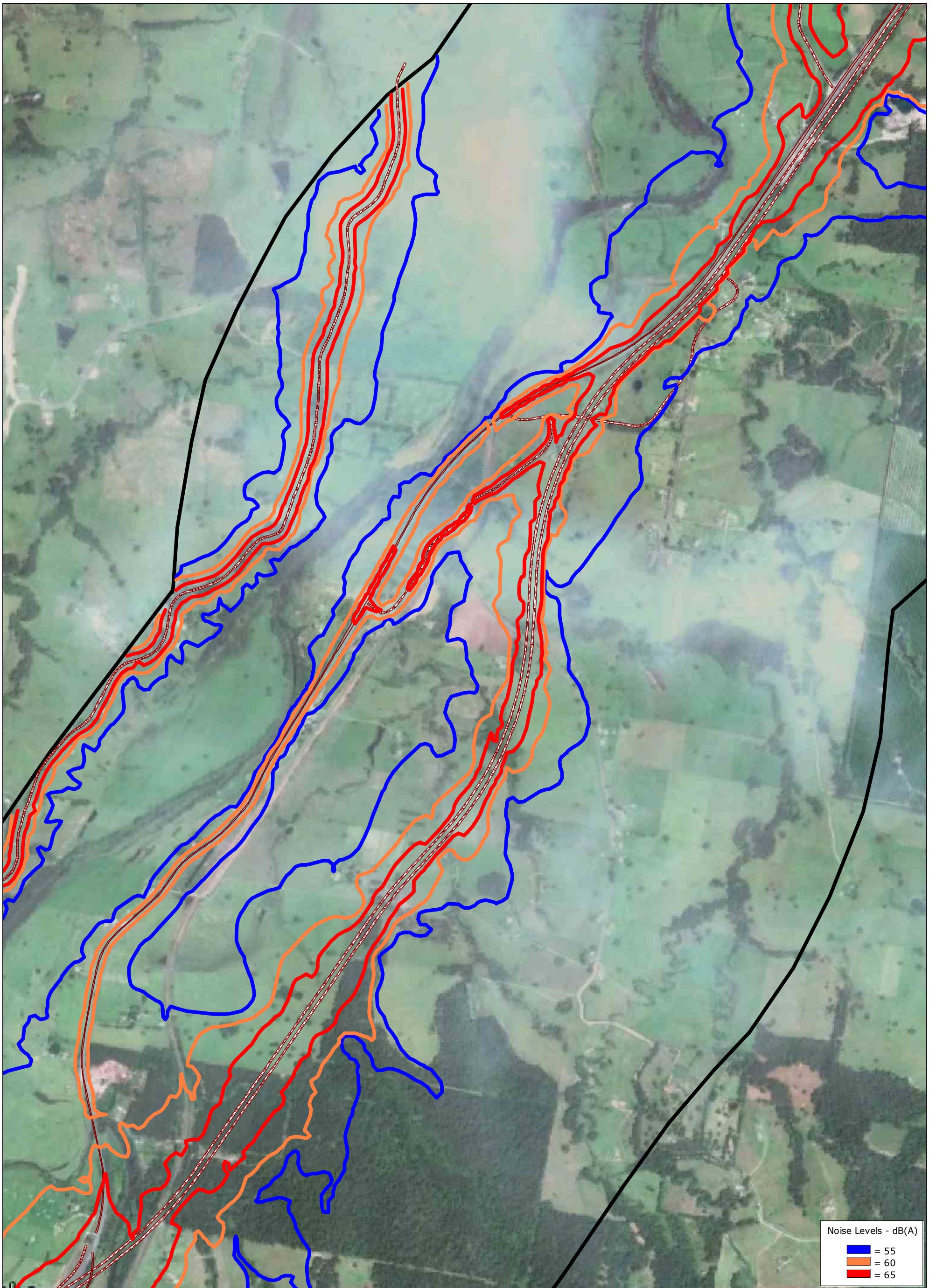
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P19 (rev 3) Gr# CA01_11_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 6



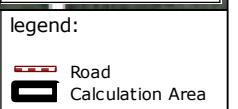
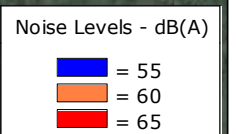
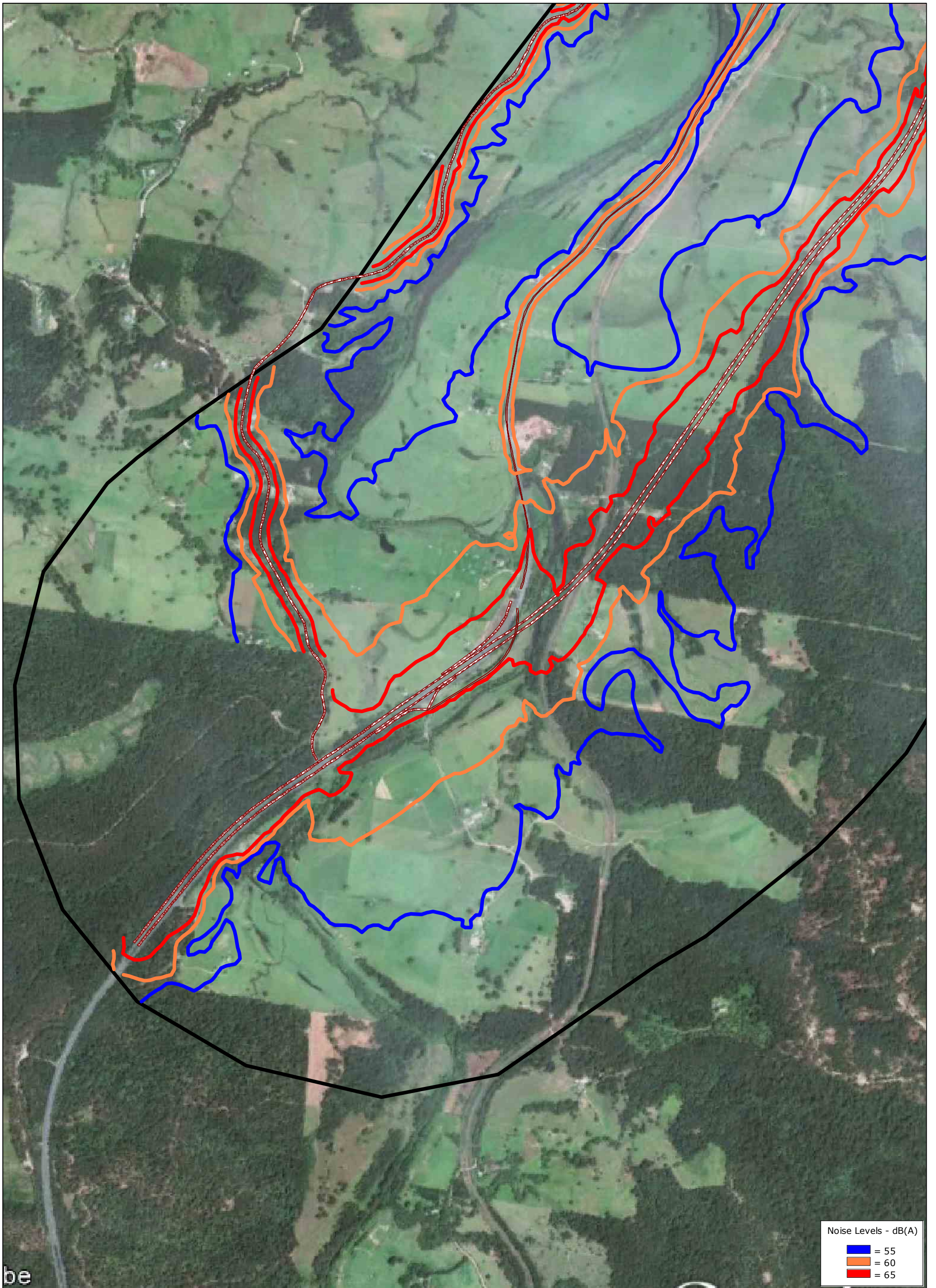
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P20 (rev 3) Gr# CA01_11_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



be



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (15hr) Daytime at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 7

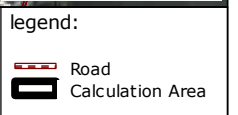
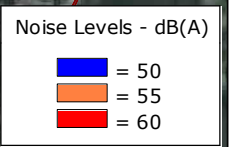
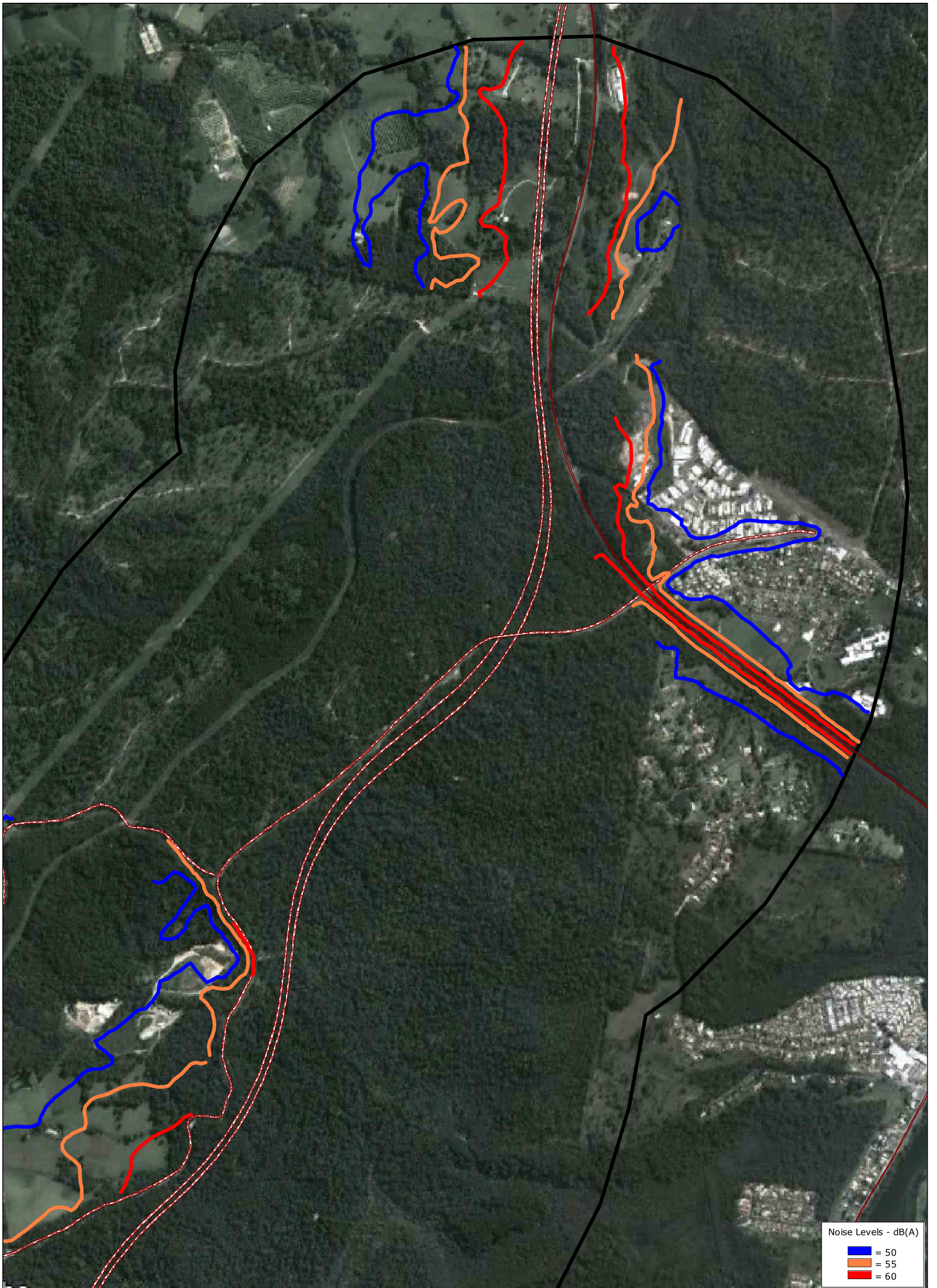


Reference: TG100-01_CA01_P21 (rev 3) Gr# CA01_11_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

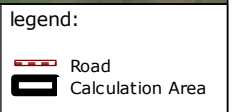
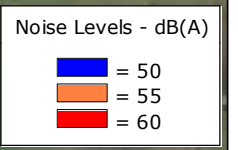
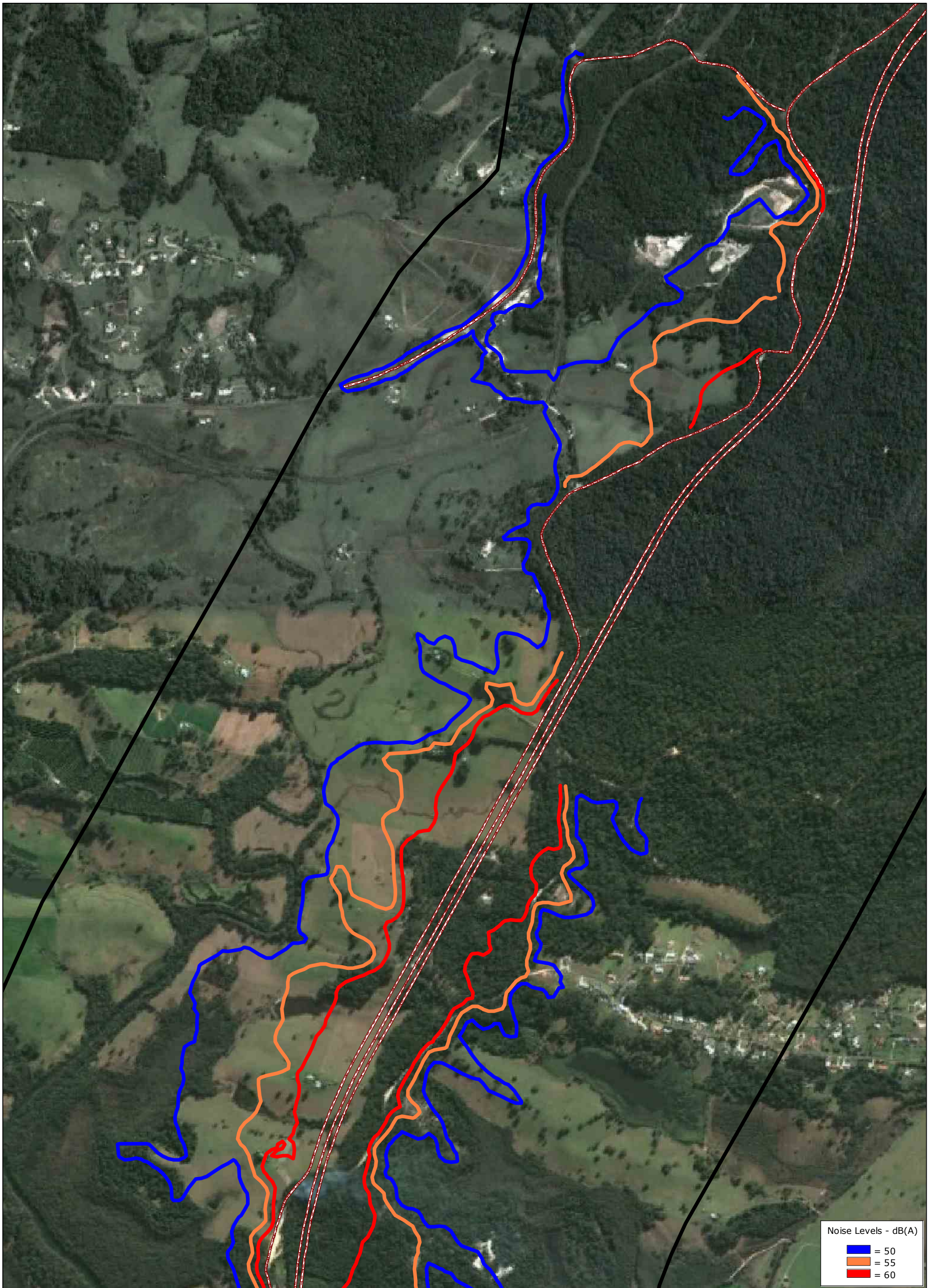
Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 1

Reference: TG100-01_CA01_P22 (rev 3) Gr# CA01_10_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 2

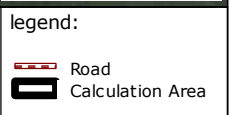
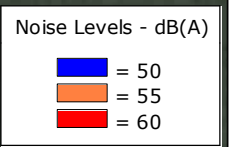
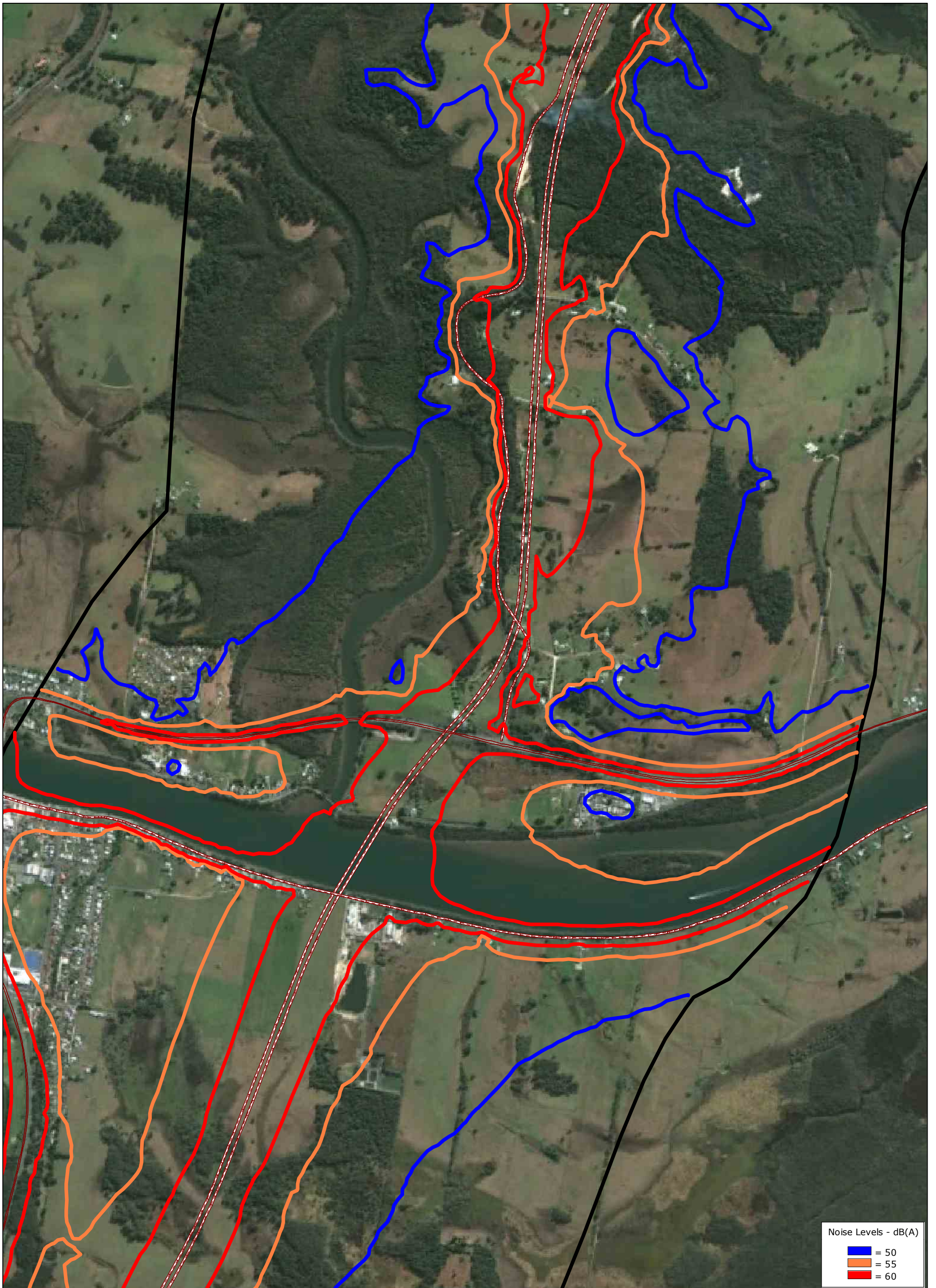


Reference: TG100-01_CA01_P23 (rev 3) Gr# CA01_10_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 3

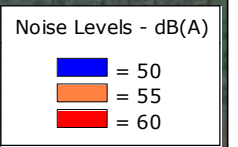
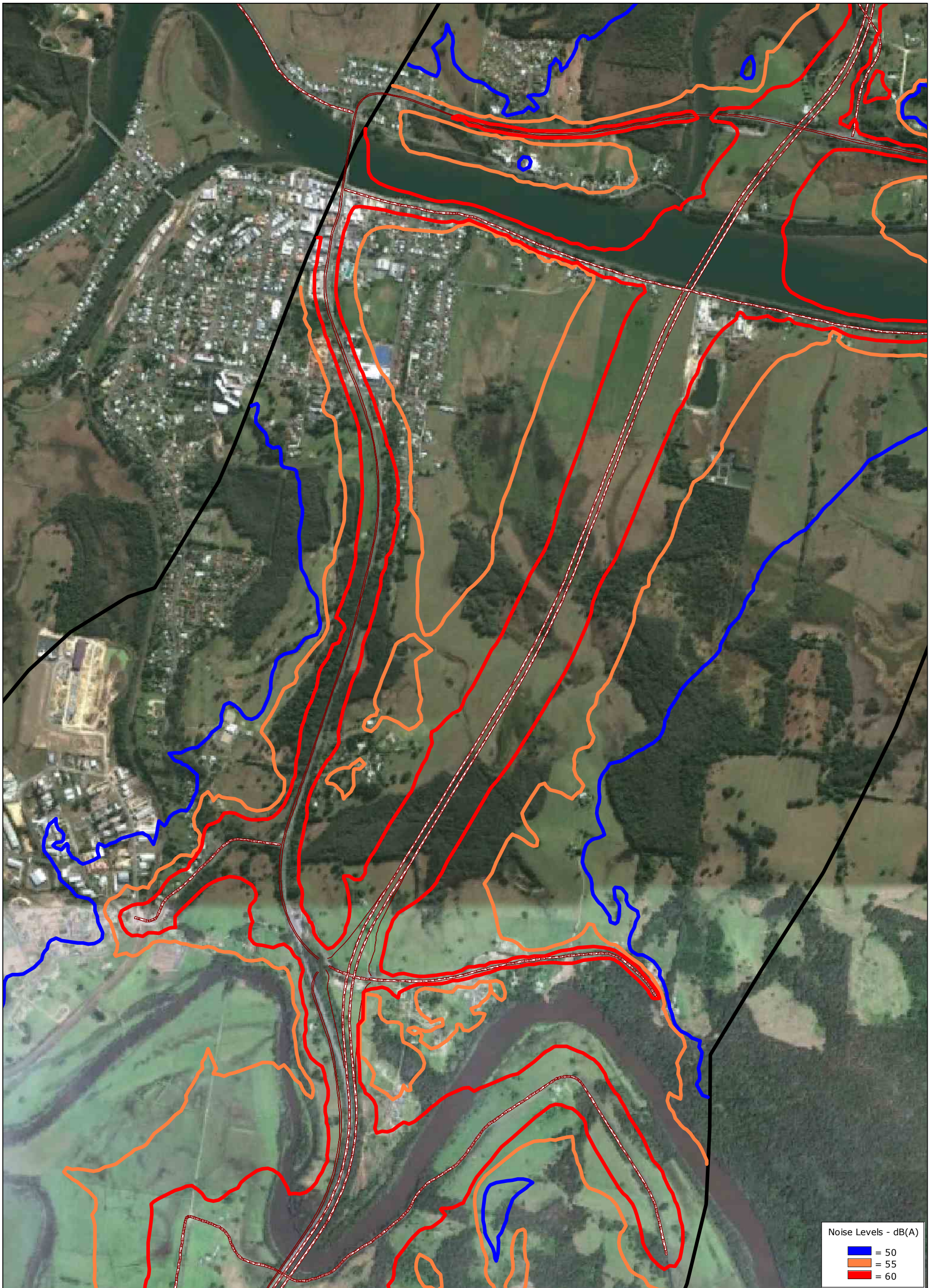


Reference: TG100-01_CA01_P24 (rev 3) Gr# CA01_10_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 4



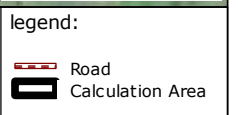
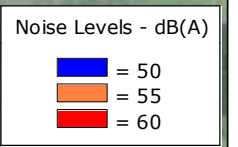
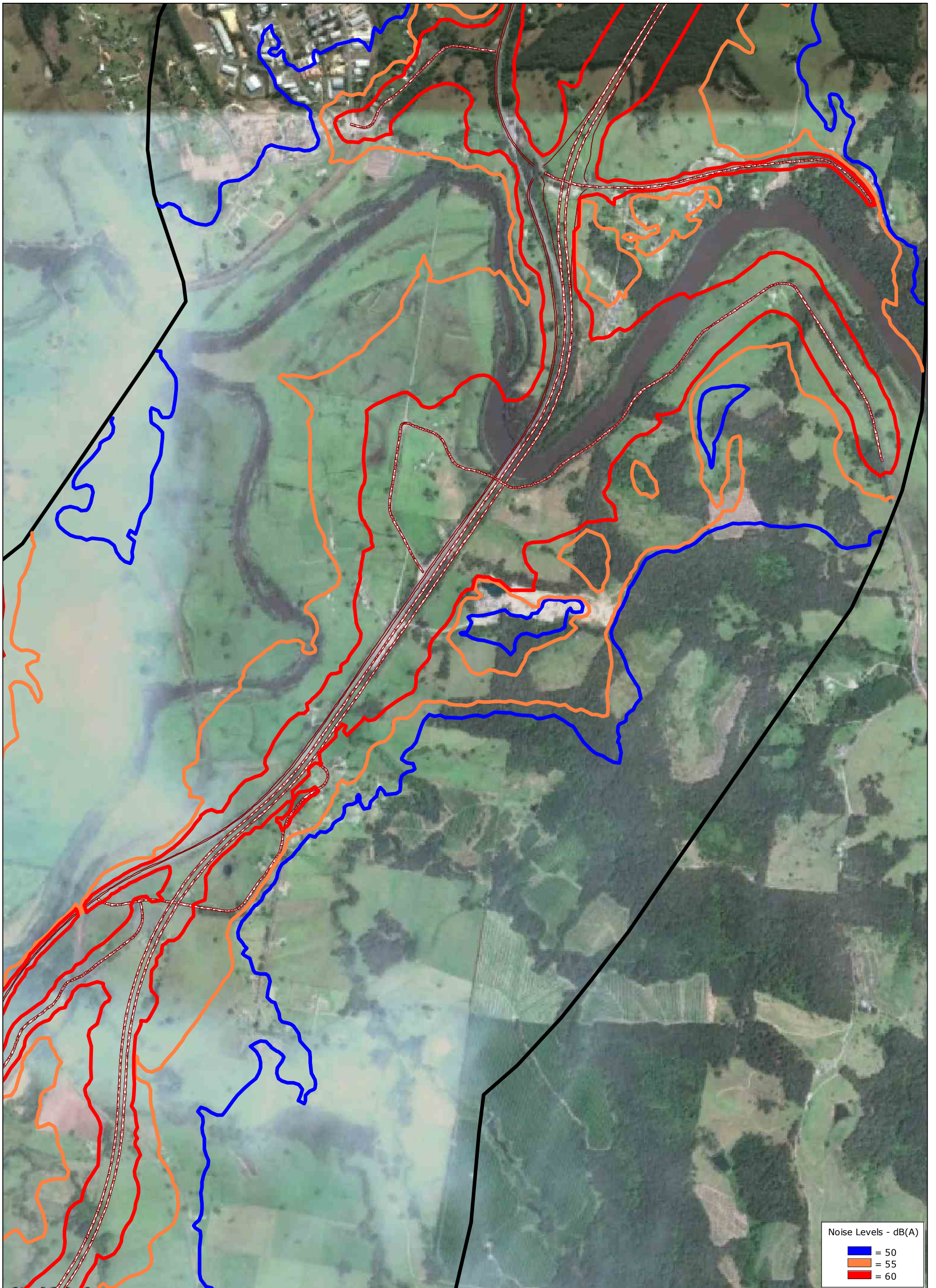
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P25 (rev 3) Gr# CA01_10_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



RENZO TONIN & ASSOCIATES
inspired to achieve

Project:
PACIFIC HWY UPGRADE - WARRELL CREEK TO NAMBUCCA HEADS

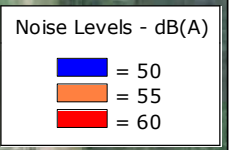
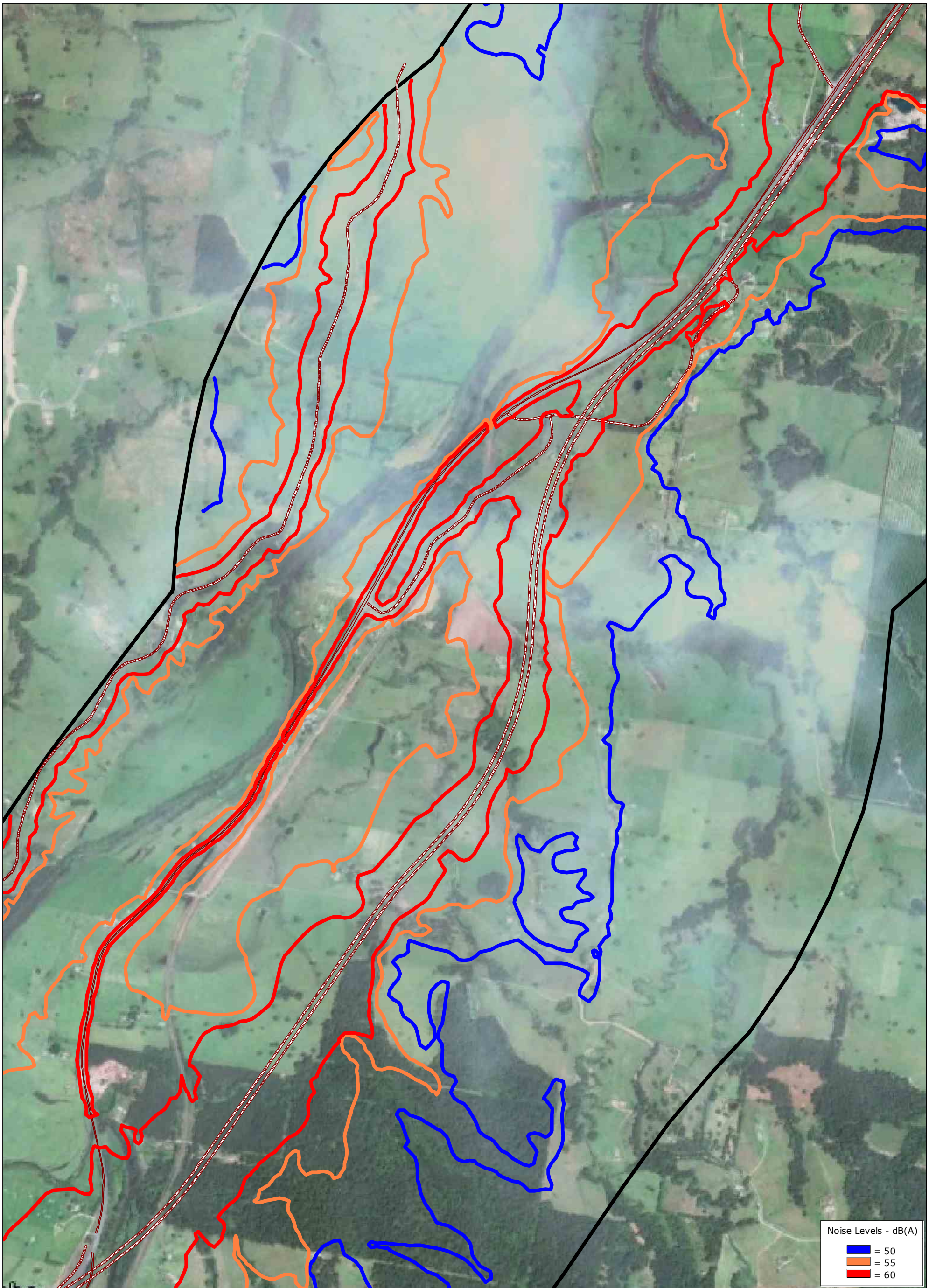
Client: Roads and Maritime Services

Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 5

Date: 22/10/2013

Scale: 1: 13000 A3

Reference: TG100-01_CA01_P26 (rev 3) Gr# CA01_10_C2



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 6



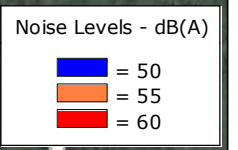
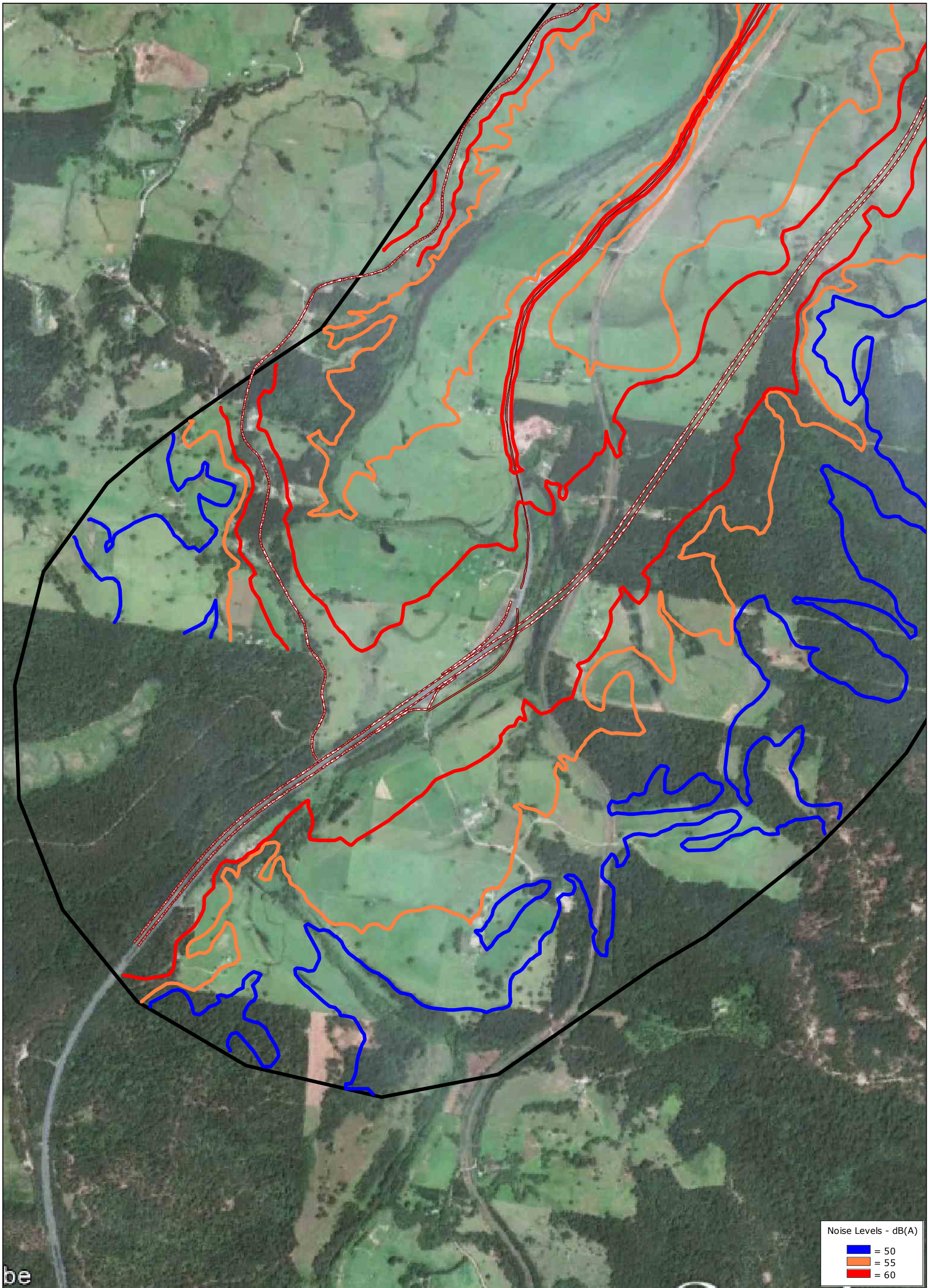
legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P27 (rev 3) Gr# CA01_10_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3



be



Project:
**PACIFIC HWY UPGRADE -
 WARRELL CREEK TO
 NAMBUCCA HEADS**

Description:
 LAeq (9hr) Night-time at 1.5m height
 Design Year - 2026
 Including 1.8 dB(A) Safety Factor
 Section 7



legend:
 Road
 Calculation Area

Reference: TG100-01_CA01_P28 (rev 3) Gr# CA01_10_C2

Client: Roads and Maritime Services

Date: 22/10/2013

Scale: 1: 13000 A3

APPENDIX G - SINGLE POINT RECEIVER PREDICTIONS

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required		
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night	
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			Day
11	Ground	N	60	59	58	57	58	58	60	55	61.5	61.2	65	60	No	YES	No	No	No	No	No	No	No
11	Ground	E	62	61	62	62	62	62	60	55	63.7	63.3	65	60	YES	YES	No	No	No	YES	No	YES	
11	Ground	S	59	59	61	61	62	61	60	55	61.0	60.5	65	60	YES	YES	YES	YES	No	YES	YES	YES	
12	Ground	NE	56	56	59	59	61	62	60	55	-	58.0	65	60	YES	YES	No	YES	No	YES	YES	YES	
12	Ground	NW	45	45	47	48	50	51	60	55	-	-	65	60	No	No	No	No	No	No	No	No	
12	Ground	SW	49	50	53	53	55	56	60	55	-	-	65	60	No	YES	No	No	No	No	No	YES	
12	Ground	SE	56	56	59	60	61	62	60	55	-	58.1	65	60	YES	YES	No	YES	No	YES	YES	YES	
13	Ground	SE	51	51	54	54	55	56	60	55	-	-	65	60	No	YES	No	No	No	No	No	YES	
13	Ground	NE	49	49	52	53	54	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No	
13	Ground	NW	41	42	45	45	47	48	60	55	-	-	65	60	No	No	No	No	No	No	No	No	
13	Ground	SW	48	48	52	52	53	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No	
15	Ground	W	58	58	58	58	58	58	60	55	-	59.6	65	60	No	YES	No	No	No	No	No	No	
15	Ground	S	58	57	61	61	62	61	60	55	-	59.2	65	60	YES	YES	No	YES	No	YES	YES	YES	
15	Ground	E	44	44	61	60	61	61	55	50	-	-	65	60	YES	YES	No	No	No	YES	YES	YES	
15	Ground	N	51	51	54	54	55	55	60	55	-	-	65	60	No	No	No	No	No	No	No	No	
15	Ground	N	54	54	55	55	55	55	60	55	-	55.8	65	60	No	No	No	No	No	No	No	No	
15	Ground	W	59	58	58	58	59	58	60	55	60.6	60.3	65	60	No	YES	No	No	No	No	No	No	
15	Ground	S	58	57	59	58	59	59	60	55	-	59.1	65	60	No	YES	No	No	No	No	No	No	
16	Ground	SW	59	59	57	57	58	58	60	55	61.2	61.0	65	60	No	YES	No	No	No	No	No	No	
16	Ground	SE	53	53	58	57	58	58	55	50	-	53.5	65	60	YES	YES	No	YES	No	No	YES	YES	
16	Ground	NE	54	54	53	53	54	54	60	55	-	56.2	65	60	No	No	No	No	No	No	No	No	
16	Ground	NW	60	59	52	51	53	52	60	55	61.5	61.3	65	60	No	No	No	No	No	No	No	No	
19	Ground	E	63	63	56	56	57	56	60	55	64.5	64.5	65	60	No	YES	No	No	No	No	No	No	
19	Ground	S	59	59	55	55	56	56	60	55	60.7	60.6	65	60	No	YES	No	No	No	No	No	No	
19	Ground	W	49	49	50	50	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES	
19	Ground	N	60	60	52	52	53	53	60	55	61.8	61.8	65	60	No	No	No	No	No	No	No	No	
20	Ground	E	51	51	53	53	53	53	55	50	-	51.7	65	60	No	YES	No	YES	No	No	No	YES	
20	Ground	N	57	56	51	50	52	52	60	55	-	58.4	65	60	No	No	No	No	No	No	No	No	
20	Ground	W	59	59	53	53	54	54	60	55	60.7	60.5	65	60	No	No	No	No	No	No	No	No	
20	Ground	S	56	56	55	54	55	55	60	55	-	57.5	65	60	No	No	No	No	No	No	No	No	
23	Ground	S	60	60	53	53	54	54	60	55	61.6	61.6	65	60	No	No	No	No	No	No	No	No	
23	Ground	E	63	63	54	54	55	54	60	55	64.6	64.5	65	60	No	No	No	No	No	No	No	No	
23	Ground	N	59	59	52	52	53	53	60	55	61.2	61.2	65	60	No	No	No	No	No	No	No	No	
23	Ground	W	49	49	50	50	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES	
24	Ground	E	35	35	39	39	40	39	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
24	Ground	N	45	45	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
24	Ground	W	47	47	52	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES	
24	Ground	S	44	44	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
26	Ground	N	45	45	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
26	Ground	W	46	46	50	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES	
26	Ground	S	43	43	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
26	Ground	E	36	35	39	39	40	39	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
27	Ground	S	63	63	55	54	55	55	60	55	65.2	65.2	65	60	No	No	No	No	No	No	No	No	
27	Ground	E	64	64	55	54	55	54	60	55	65.6	65.6	65	60	No	No	No	No	No	No	No	No	
27	Ground	N	58	58	51	51	53	53	60	55	60.3	60.2	65	60	No	No	No	No	No	No	No	No	
27	Ground	W	58	58	51	51	53	53	60	55	-	59.8	65	60	No	No	No	No	No	No	No	No	
28	Ground	S	43	42	48	48	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
28	Ground	E	37	37	41	41	41	41	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
28	Ground	N	45	44	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No	
28	Ground	N	46	46	50	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES	
28	Ground	W	47	47	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES	

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required		
									Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria				
			Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day
29	Ground	NE	45	45	50	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
29	Ground	NW	46	46	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
29	Ground	NW	46	46	53	53	54	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
29	Ground	SW	45	44	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
29	Ground	NW	46	45	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
29	Ground	SW	42	42	51	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
29	Ground	SE	37	37	43	43	44	43	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
29	Ground	SW	39	38	45	45	46	45	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
29	Ground	SE	35	34	41	40	41	41	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
29	Ground	NE	36	36	41	41	42	42	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
29	Ground	SE	35	35	41	40	41	41	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
30	Ground	SW	64	64	55	54	55	55	60	55	66.2	66.1	65	60	No	No	No	No	No	No	No	No	No
30	Ground	SE	68	68	57	56	58	57	60	55	69.9	69.9	65	60	No	YES	No	No	No	No	No	No	No
30	Ground	NE	64	64	54	53	55	54	60	55	65.8	65.8	65	60	No	No	No	No	No	No	No	No	No
30	Ground	NW	51	51	48	49	50	51	60	55	-	-	65	60	No	No	No	No	No	No	No	No	No
31	Ground	NE	51	51	52	52	52	52	60	55	-	-	65	60	No	No	No	No	No	No	No	No	No
31	Ground	SE	40	40	57	57	57	57	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES	YES
31	Ground	SE	40	40	57	57	58	58	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES	YES
31	Ground	SW	51	51	57	57	58	58	60	55	-	-	65	60	No	YES	No	No	No	No	No	No	YES
31	Ground	NW	53	53	52	52	53	53	60	55	-	55.2	65	60	No	No	No	No	No	No	No	No	No
31	Ground	NW	53	53	52	52	53	53	60	55	-	55.2	65	60	No	No	No	No	No	No	No	No	No
33	Ground	SE	67	67	57	56	57	56	60	55	69.0	69.0	65	60	No	YES	No	No	No	No	No	No	No
33	Ground	NE	61	61	52	52	53	52	60	55	63.2	63.2	65	60	No	No	No	No	No	No	No	No	No
33	Ground	NW	57	57	49	50	51	51	60	55	-	58.9	65	60	No	No	No	No	No	No	No	No	No
33	Ground	SW	65	64	55	54	56	55	60	55	66.5	66.4	65	60	No	No	No	No	No	No	No	No	No
34	Ground	W	48	48	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
34	Ground	S	44	44	49	49	50	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
34	Ground	E	37	37	40	40	40	40	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
34	Ground	N	46	45	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
34	Ground	NE	45	45	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
34	Ground	N	47	47	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
35	Ground	W	48	47	51	51	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
35	Ground	S	43	43	47	47	48	47	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
35	Ground	E	37	36	40	39	40	40	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
35	Ground	N	38	38	41	41	42	41	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
35	Ground	E	37	36	40	40	40	40	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
35	Ground	N	46	46	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No	No
35	Ground	W	48	47	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
37	Ground	SE	70	70	59	58	59	58	60	55	71.7	71.6	65	60	No	YES	No	No	No	No	No	No	No
37	Ground	SW	66	66	56	55	56	55	60	55	67.5	67.5	65	60	No	No	No	No	No	No	No	No	No
37	Ground	NW	59	58	50	49	51	51	60	55	60.5	60.4	65	60	No	No	No	No	No	No	No	No	No
37	Ground	NE	65	65	54	53	55	54	60	55	66.6	66.6	65	60	No	No	No	No	No	No	No	No	No
38	Ground	S	68	68	57	56	58	57	60	55	69.9	69.8	65	60	No	YES	No	No	No	No	No	No	No
38	Ground	E	73	72	61	60	62	60	60	55	74.5	74.4	65	60	YES	YES	No	No	No	No	No	No	No
38	Ground	N	67	67	56	55	57	55	60	55	69.0	68.9	65	60	No	No	No	No	No	No	No	No	No
38	Ground	W	57	57	49	49	51	51	60	55	-	59.0	65	60	No	No	No	No	No	No	No	No	No
40	Ground	NE	63	63	53	52	54	53	60	55	65.2	65.2	65	60	No	No	No	No	No	No	No	No	No
40	Ground	NW	69	69	58	57	59	57	60	55	71.3	71.3	65	60	No	YES	No	No	No	No	No	No	No
40	Ground	SW	65	65	55	54	56	55	60	55	66.8	66.9	65	60	No	No	No	No	No	No	No	No	No
40	Ground	SE	50	50	51	51	52	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	No	YES
41	Ground	W	71	71	60	58	60	58	60	55	72.8	72.8	65	60	No	YES	No	No	No	No	No	No	No

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
53	Ground	E	57	57	50	49	51	50	55	50	57.3	57.2	65	60	No	No	No	No	No	No	No	No
53	Ground	N	68	68	57	56	58	56	60	55	70.1	70.0	65	60	No	YES	No	No	No	No	No	No
53	Ground	W	70	70	59	57	59	58	60	55	71.7	71.6	65	60	No	YES	No	No	No	No	No	No
54	Ground	S	51	51	49	49	50	49	55	50	-	51.7	65	60	No	No	No	No	No	No	No	No
54	Ground	E	59	59	52	51	52	52	60	55	61.1	60.9	65	60	No	No	No	No	No	No	No	No
54	Ground	N	65	65	55	54	56	54	60	55	67.2	67.0	65	60	No	No	No	No	No	No	No	No
54	Ground	W	66	66	55	54	56	55	60	55	67.9	67.8	65	60	No	No	No	No	No	No	No	No
56	Ground	S	45	45	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
56	Ground	E	39	38	43	42	43	43	55	50	-	-	65	60	No	No	No	No	No	No	No	No
56	Ground	N	49	48	54	54	55	55	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
56	Ground	W	50	50	55	55	56	56	55	50	-	50.1	65	60	YES	YES	No	YES	No	No	YES	YES
57	Ground	E	44	43	56	56	56	56	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
57	Ground	N	52	51	54	54	55	55	60	55	-	-	65	60	No	No	No	No	No	No	No	No
57	Ground	W	53	52	51	51	52	52	60	55	-	-	65	60	No	No	No	No	No	No	No	No
57	Ground	S	49	48	55	55	55	55	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
58	Ground	NE	62	62	53	52	54	53	60	55	63.9	63.5	65	60	No	No	No	No	No	No	No	No
58	Ground	NW	66	66	56	55	57	55	60	55	68.4	68.0	65	60	No	No	No	No	No	No	No	No
58	Ground	SW	64	63	54	53	55	54	60	55	65.7	65.3	65	60	No	No	No	No	No	No	No	No
58	Ground	SE	57	56	51	51	52	51	55	50	57.2	56.9	65	60	No	YES	No	No	No	No	No	No
58	Ground	NE	58	57	51	50	52	51	55	50	58.0	57.6	65	60	No	YES	No	No	No	No	No	No
62	Ground	NW	64	64	55	54	56	55	60	55	66.0	65.7	65	60	No	No	No	No	No	No	No	No
62	Ground	SW	61	60	52	52	53	53	60	55	62.6	62.2	65	60	No	No	No	No	No	No	No	No
62	Ground	SE	50	50	50	49	50	50	55	50	-	50.2	65	60	No	No	No	No	No	No	No	No
62	Ground	NE	60	60	53	53	54	54	60	55	62.3	61.9	65	60	No	No	No	No	No	No	No	No
62	Ground	NW	64	63	55	54	56	55	60	55	65.5	65.1	65	60	No	No	No	No	No	No	No	No
63	Ground	NE	58	58	53	53	53	53	60	55	60.3	60.0	65	60	No	No	No	No	No	No	No	No
63	Ground	NW	61	60	53	52	54	53	60	55	62.6	62.2	65	60	No	No	No	No	No	No	No	No
63	Ground	SW	56	55	50	50	51	51	60	55	-	57.3	65	60	No	No	No	No	No	No	No	No
63	Ground	SE	50	50	51	51	52	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
65	Ground	NW	60	60	60	61	61	62	60	55	62.1	62.2	65	60	YES	YES	No	No	No	YES	No	YES
65	Ground	NW	62	62	61	62	61	62	60	55	63.6	63.6	65	60	YES	YES	No	No	No	YES	No	YES
65	Ground	NW	62	62	59	60	60	61	60	55	63.8	63.7	65	60	No	YES	No	No	No	YES	No	YES
65	Ground	SW	60	59	53	53	54	54	60	55	61.5	61.2	65	60	No	No	No	No	No	No	No	No
65	Ground	SE	49	48	51	51	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
65	Ground	SE	48	47	51	51	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
65	Ground	NE	56	56	57	58	58	58	60	55	-	57.9	65	60	No	YES	No	YES	No	No	No	YES
69	Ground	SE	58	59	61	62	61	62	55	50	58.4	59.0	65	60	YES	YES	YES	YES	No	YES	YES	YES
69	Ground	NE	59	59	58	58	58	59	60	55	61.4	61.3	65	60	No	YES	No	No	No	No	No	No
69	Ground	NW	63	63	55	55	56	56	60	55	65.4	65.0	65	60	No	YES	No	No	No	No	No	No
69	Ground	SW	63	63	60	60	60	61	60	55	64.9	64.8	65	60	No	YES	No	No	No	YES	No	YES
69	Ground	SE	58	59	60	61	60	61	55	50	58.6	59.0	65	60	YES	YES	YES	YES	No	YES	YES	YES
71	Ground	SW	60	60	57	58	58	58	60	55	62.1	61.9	65	60	No	YES	No	No	No	No	No	No
71	Ground	SE	56	57	61	62	61	62	55	50	56.2	57.3	65	60	YES	YES	YES	YES	No	YES	YES	YES
71	Ground	NE	59	59	57	58	58	58	60	55	60.8	60.7	65	60	No	YES	No	No	No	No	No	No
71	Ground	NW	63	62	54	53	55	54	60	55	64.8	64.3	65	60	No	No	No	No	No	No	No	No
75	Ground	SW	55	55	55	56	56	56	55	50	55.5	55.5	65	60	YES	YES	YES	YES	No	No	YES	YES
75	Ground	SE	57	57	58	59	59	59	55	50	57.6	57.7	65	60	YES	YES	YES	YES	No	No	YES	YES
75	Ground	NE	62	61	56	57	57	57	60	55	63.6	63.1	65	60	No	YES	No	No	No	No	No	No
75	Ground	NW	65	64	55	54	56	55	60	55	66.6	66.1	65	60	No	No	No	No	No	No	No	No
75	Ground	SW	61	61	54	55	55	55	60	55	63.0	62.7	65	60	No	No	No	No	No	No	No	No
75	Ground	SE	54	54	55	56	56	57	55	50	-	54.4	65	60	YES	YES	No	YES	No	No	YES	YES

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
77	Ground	NE	51	51	56	56	57	57	55	50	-	51.1	65	60	YES	YES	No	YES	No	No	YES	YES
77	Ground	NW	55	55	54	54	55	55	60	55	-	56.9	65	60	No	No	No	No	No	No	No	No
77	Ground	SW	54	54	51	51	52	52	60	55	-	55.8	65	60	No	No	No	No	No	No	No	No
77	Ground	SE	48	48	56	56	56	56	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
77	Ground	NE	43	43	56	56	57	57	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
77	Ground	SE	42	42	56	56	57	57	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
78	Ground	N	48	47	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No
78	Ground	W	48	47	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
78	Ground	S	44	43	45	45	46	46	55	50	-	-	65	60	No	No	No	No	No	No	No	No
78	Ground	E	42	42	42	42	43	43	55	50	-	-	65	60	No	No	No	No	No	No	No	No
80	Ground	E	37	37	39	39	40	39	55	50	-	-	65	60	No	No	No	No	No	No	No	No
80	Ground	N	44	44	45	45	46	46	55	50	-	-	65	60	No	No	No	No	No	No	No	No
80	Ground	W	47	47	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
80	Ground	S	46	46	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
82	Ground	E	38	38	40	39	40	40	55	50	-	-	65	60	No	No	No	No	No	No	No	No
82	Ground	N	46	45	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No
82	Ground	N	46	45	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No
82	Ground	W	48	48	50	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
82	Ground	S	47	46	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
83	Ground	NW	63	63	63	65	64	65	60	55	64.5	64.7	65	60	YES	YES	No	YES	No	YES	No	YES
83	Ground	SW	58	58	59	60	59	60	60	55	-	60.1	65	60	No	YES	No	No	No	YES	No	YES
83	Ground	SE	50	49	53	54	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
83	Ground	NE	60	60	59	60	60	60	60	55	61.9	61.7	65	60	No	YES	No	No	No	YES	No	YES
84	Ground	E	39	38	40	40	41	41	55	50	-	-	65	60	No	No	No	No	No	No	No	No
84	Ground	N	48	47	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
84	Ground	W	50	49	52	52	52	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
84	Ground	S	48	47	49	50	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
86	Ground	E	41	41	43	43	44	43	55	50	-	-	65	60	No	No	No	No	No	No	No	No
86	Ground	N	47	47	48	48	48	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
86	Ground	NW	50	50	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
86	Ground	W	49	49	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
86	Ground	S	49	48	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
88	Ground	E	39	39	41	41	41	41	55	50	-	-	65	60	No	No	No	No	No	No	No	No
88	Ground	N	48	47	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
88	Ground	W	50	50	53	53	54	54	55	50	-	50.1	65	60	No	YES	No	YES	No	No	No	YES
88	Ground	S	48	47	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
89	Ground	SW	58	58	56	57	57	57	60	55	60.1	59.8	65	60	No	YES	No	No	No	No	No	No
89	Ground	SE	47	47	54	54	55	55	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
89	Ground	NE	58	58	58	59	59	59	60	55	-	59.9	65	60	No	YES	No	No	No	No	No	No
89	Ground	NW	61	61	61	62	61	62	60	55	63.3	63.2	65	60	YES	YES	No	No	No	YES	No	YES
92	Ground	N	47	46	46	46	47	47	55	50	-	-	65	60	No	No	No	No	No	No	No	No
92	Ground	W	49	49	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
92	Ground	W	50	49	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
92	Ground	S	49	49	52	52	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
92	Ground	S	48	48	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
92	Ground	E	38	38	39	39	40	40	55	50	-	-	65	60	No	No	No	No	No	No	No	No
92	Ground	E	43	42	43	43	44	44	55	50	-	-	65	60	No	No	No	No	No	No	No	No
92	Ground	E	43	42	43	43	44	44	55	50	-	-	65	60	No	No	No	No	No	No	No	No
94	Ground	N	48	48	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No
94	Ground	W	51	50	53	53	53	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
94	Ground	S	49	48	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
158	Ground	W	52	52	52	52	53	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
158	Ground	S	54	54	54	54	55	55	60	55	-	56.4	65	60	No	No	No	No	No	No	No	No
158	Ground	E	51	52	51	52	52	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
158	Ground	E	51	52	51	52	52	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
159	Ground	NW	47	47	47	47	48	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No
159	Ground	SW	50	51	50	51	51	52	60	55	-	-	65	60	No	No	No	No	No	No	No	No
159	Ground	NW	47	48	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
159	Ground	SW	53	54	55	56	56	56	60	55	-	56.1	65	60	No	YES	No	YES	No	No	No	YES
159	Ground	SE	53	54	55	56	56	57	60	55	-	56.2	65	60	No	YES	No	YES	No	No	No	YES
159	Ground	SE	53	54	53	54	54	55	60	55	-	55.8	65	60	No	No	No	No	No	No	No	No
159	Ground	NE	44	44	45	45	45	46	55	50	-	-	65	60	No	No	No	No	No	No	No	No
159	Ground	NW	45	46	46	46	47	47	55	50	-	-	65	60	No	No	No	No	No	No	No	No
159	Ground	NW	47	47	47	47	47	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No
160	Ground	E	50	51	51	51	51	52	60	55	-	-	65	60	No	No	No	No	No	No	No	No
160	Ground	N	47	48	48	49	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
160	Ground	W	52	52	52	52	53	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
160	Ground	S	53	53	53	53	54	54	60	55	-	55.3	65	60	No	No	No	No	No	No	No	No
160	First	E	53	53	53	54	54	55	60	55	-	55.3	65	60	No	No	No	No	No	No	No	No
160	First	N	51	51	52	52	52	53	55	50	-	51.4	65	60	No	YES	No	YES	No	No	No	YES
160	First	W	53	53	53	54	54	54	60	55	-	55.1	65	60	No	No	No	No	No	No	No	No
160	First	S	54	54	54	55	55	56	60	55	-	56.4	65	60	No	YES	No	No	No	No	No	No
161	Ground	NW	49	49	48	49	49	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
161	Ground	W	48	48	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
161	Ground	S	48	48	48	48	48	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
161	Ground	S	51	51	51	52	52	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
161	Ground	E	51	52	51	52	52	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
161	Ground	E	53	53	53	54	54	54	60	55	-	55.4	65	60	No	No	No	No	No	No	No	No
161	Ground	N	49	49	49	50	49	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
161	Ground	N	49	49	49	50	49	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
161	Ground	W	49	49	49	49	49	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
162	Ground	S	56	55	55	55	56	56	60	55	-	57.4	65	60	No	YES	No	No	No	No	No	No
162	Ground	E	51	52	55	55	56	56	60	55	-	-	65	60	No	YES	No	No	No	No	No	YES
162	Ground	N	55	55	59	59	60	60	60	55	-	57.3	65	60	No	YES	No	YES	No	YES	No	YES
162	Ground	W	57	57	59	60	60	61	60	55	-	58.9	65	60	No	YES	No	YES	No	YES	No	YES
163	Ground	N	53	54	54	55	54	55	55	50	-	54.3	65	60	No	YES	No	YES	No	No	No	YES
163	Ground	W	52	52	53	53	53	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
163	Ground	S	51	51	51	51	51	52	60	55	-	-	65	60	No	No	No	No	No	No	No	No
163	Ground	E	52	53	52	53	53	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
163	Ground	E	51	52	52	53	53	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
164	Ground	N	52	53	53	54	54	55	60	55	-	-	65	60	No	No	No	No	No	No	No	No
164	Ground	N	52	53	53	54	54	55	60	55	-	-	65	60	No	No	No	No	No	No	No	No
164	Ground	W	53	54	54	55	55	56	60	55	-	55.6	65	60	No	YES	No	No	No	No	No	No
164	Ground	W	53	53	53	54	54	55	60	55	-	-	65	60	No	No	No	No	No	No	No	No
164	Ground	S	53	53	53	53	54	54	60	55	-	55.1	65	60	No	No	No	No	No	No	No	No
164	Ground	E	51	52	51	52	52	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
164	Ground	S	51	52	51	52	52	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
164	Ground	E	52	53	53	53	54	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
164	Ground	N	48	49	50	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
164	Ground	E	48	49	50	50	50	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
164	First	N	55	55	57	57	57	58	60	55	-	57.1	65	60	No	YES	No	YES	No	No	No	YES
164	First	N	55	55	57	57	57	58	60	55	-	57.0	65	60	No	YES	No	YES	No	No	No	YES

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
164	First	W	55	55	57	57	57	58	60	55	-	57.1	65	60	No	YES	No	YES	No	No	No	YES
164	First	W	54	54	55	56	56	57	60	55	-	56.4	65	60	No	YES	No	YES	No	No	No	YES
164	First	S	54	54	55	55	55	56	60	55	-	56.4	65	60	No	YES	No	No	No	No	No	No
164	First	E	54	54	54	55	55	56	60	55	-	56.0	65	60	No	YES	No	No	No	No	No	No
164	First	S	54	54	54	55	55	56	60	55	-	56.2	65	60	No	YES	No	No	No	No	No	No
164	First	E	55	55	56	56	57	57	60	55	-	57.0	65	60	No	YES	No	No	No	No	No	No
164	First	N	53	53	55	55	55	56	55	50	-	53.4	65	60	No	YES	No	YES	No	No	No	YES
164	First	E	53	53	55	55	55	56	55	50	-	53.6	65	60	No	YES	No	YES	No	No	No	YES
166	Ground	NE	49	49	50	50	50	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
166	Ground	NW	51	51	54	54	54	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
166	Ground	SW	55	55	56	56	57	57	60	55	-	57.3	65	60	No	YES	No	No	No	No	No	No
166	Ground	S	55	55	56	56	57	57	60	55	-	57.2	65	60	No	YES	No	No	No	No	No	No
166	Ground	SE	55	55	56	56	57	57	60	55	-	57.3	65	60	No	YES	No	No	No	No	No	No
166	Ground	E	53	54	53	54	54	55	60	55	-	55.7	65	60	No	No	No	No	No	No	No	No
166	Ground	NE	49	49	50	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
166	Ground	N	49	49	50	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
167	Ground	NE	52	52	52	52	53	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
167	Ground	N	49	50	49	50	50	51	55	50	-	50.1	65	60	No	YES	No	YES	No	No	No	YES
167	Ground	NW	49	50	49	50	50	51	55	50	-	50.1	65	60	No	YES	No	YES	No	No	No	YES
167	Ground	SW	54	55	56	56	56	57	60	55	-	56.9	65	60	No	YES	No	YES	No	No	No	YES
167	Ground	SE	54	54	55	56	56	57	60	55	-	56.4	65	60	No	YES	No	YES	No	No	No	YES
168	Ground	N	57	57	57	58	58	59	55	50	57.1	57.9	65	60	YES	YES	YES	YES	No	No	YES	YES
168	Ground	W	55	55	55	56	56	57	60	55	-	57.2	65	60	No	YES	No	No	No	No	No	No
168	Ground	W	53	53	53	54	54	55	60	55	-	55.3	65	60	No	No	No	No	No	No	No	No
168	Ground	S	53	54	54	54	55	55	60	55	-	56.0	65	60	No	No	No	No	No	No	No	No
168	Ground	S	53	54	53	54	54	55	60	55	-	55.5	65	60	No	No	No	No	No	No	No	No
168	Ground	E	55	56	55	56	56	57	60	55	-	57.5	65	60	No	YES	No	No	No	No	No	No
171	Ground	E	56	55	54	54	55	55	60	55	-	57.3	65	60	No	No	No	No	No	No	No	No
171	Ground	N	55	55	53	53	55	55	60	55	-	57.0	65	60	No	No	No	No	No	No	No	No
171	Ground	W	52	53	52	53	54	55	60	55	-	55.1	65	60	No	No	No	No	No	No	No	No
171	Ground	S	53	53	52	52	53	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
172	Ground	W	52	52	55	55	56	56	60	55	-	-	65	60	No	YES	No	No	No	No	No	YES
172	Ground	S	54	55	55	56	56	56	60	55	-	56.6	65	60	No	YES	No	No	No	No	No	No
172	Ground	E	53	53	54	54	54	55	60	55	-	55.3	65	60	No	No	No	No	No	No	No	No
172	Ground	N	48	48	53	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
172	Ground	N	50	50	54	54	55	55	55	50	-	50.6	65	60	No	YES	No	YES	No	No	No	YES
172	First	W	53	53	56	56	57	56	60	55	-	55.1	65	60	No	YES	No	YES	No	No	No	YES
172	First	S	55	56	56	57	57	58	60	55	-	57.5	65	60	No	YES	No	No	No	No	No	No
172	First	E	54	54	55	55	56	56	60	55	-	56.3	65	60	No	YES	No	No	No	No	No	No
172	First	N	51	51	54	54	55	55	55	50	-	51.3	65	60	No	YES	No	YES	No	No	No	YES
172	First	N	52	52	55	55	56	56	55	50	-	52.1	65	60	YES	YES	No	YES	No	No	YES	YES
173	Ground	NE	62	61	59	58	60	59	60	55	63.8	63.1	65	60	No	YES	No	No	No	No	No	No
173	Ground	NW	60	59	57	56	58	58	60	55	61.6	61.1	65	60	No	YES	No	No	No	No	No	No
173	Ground	NE	59	59	57	56	58	57	60	55	61.4	60.8	65	60	No	YES	No	No	No	No	No	No
173	Ground	NW	59	59	57	56	58	57	60	55	61.3	60.8	65	60	No	YES	No	No	No	No	No	No
173	Ground	SW	54	54	53	54	55	55	60	55	-	56.0	65	60	No	No	No	No	No	No	No	No
173	Ground	SW	54	54	53	53	54	54	60	55	-	56.1	65	60	No	No	No	No	No	No	No	No
173	Ground	SW	54	54	53	54	54	55	60	55	-	56.2	65	60	No	No	No	No	No	No	No	No
173	Ground	SE	60	59	58	58	59	58	60	55	62.1	61.4	65	60	No	YES	No	No	No	No	No	No
174	Ground	NE	59	60	58	59	60	61	60	55	60.9	61.7	65	60	No	YES	No	No	No	YES	No	YES
174	Ground	NW	58	59	57	59	60	61	60	55	60.2	61.3	65	60	No	YES	No	No	No	YES	No	YES

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
205	Ground	SW	56	55	55	54	56	55	60	55	-	57.2	65	60	No	No	No	No	No	No	No	No
205	Ground	SE	48	48	53	53	54	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
205	Ground	SW	50	50	53	52	53	53	55	50	-	50.3	65	60	No	YES	No	YES	No	No	No	YES
205	Ground	SW	53	53	55	54	56	55	60	55	-	-	65	60	No	No	No	No	No	No	No	No
207	Ground	S	56	55	52	51	53	52	60	55	-	57.2	65	60	No	No	No	No	No	No	No	No
207	Ground	E	45	44	45	44	46	45	55	50	-	-	65	60	No	No	No	No	No	No	No	No
207	Ground	S	48	47	46	45	47	46	55	50	-	-	65	60	No	No	No	No	No	No	No	No
207	Ground	E	51	50	51	51	52	51	55	50	-	50.3	65	60	No	YES	No	YES	No	No	No	YES
207	Ground	N	58	58	56	54	56	55	60	55	60.4	59.6	65	60	No	No	No	No	No	No	No	No
207	Ground	W	61	60	57	55	57	56	60	55	62.5	61.7	65	60	No	YES	No	No	No	No	No	No
207	Ground	W	59	58	55	54	56	54	60	55	61.0	60.2	65	60	No	No	No	No	No	No	No	No
369	Ground	N	64	65	64	65	64	65	60	55	66.0	66.7	65	60	YES	YES	No	No	No	YES	No	YES
369	Ground	W	58	58	58	59	58	59	60	55	-	60.4	65	60	No	YES	No	No	No	No	No	No
369	Ground	S	44	44	46	46	47	47	55	50	-	-	65	60	No	No	No	No	No	No	No	No
369	Ground	E	58	59	57	58	58	59	60	55	60.2	60.7	65	60	No	YES	No	No	No	No	No	No
373	Ground	S	45	44	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
373	Ground	E	58	58	57	58	57	58	60	55	-	60.2	65	60	No	YES	No	No	No	No	No	No
373	Ground	N	61	61	61	61	61	62	60	55	62.7	63.3	65	60	YES	YES	No	No	No	YES	No	YES
373	Ground	W	54	54	54	54	54	55	60	55	-	55.9	65	60	No	No	No	No	No	No	No	No
375	Ground	E	44	44	44	44	44	45	55	50	-	-	65	60	No	No	No	No	No	No	No	No
375	Ground	S	44	44	46	46	47	47	55	50	-	-	65	60	No	No	No	No	No	No	No	No
375	Ground	E	58	59	58	58	58	59	60	55	60.4	60.9	65	60	No	YES	No	No	No	No	No	No
375	Ground	N	63	63	62	63	63	64	60	55	64.5	65.1	65	60	YES	YES	No	No	No	YES	No	YES
375	Ground	W	51	51	50	51	50	51	60	55	-	-	65	60	No	No	No	No	No	No	No	No
375	Ground	S	45	45	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
379	Ground	W	56	56	57	57	57	58	60	55	-	58.3	65	60	No	YES	No	No	No	No	No	No
379	Ground	S	45	45	50	49	51	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
379	Ground	E	58	58	57	58	57	58	60	55	-	60.2	65	60	No	YES	No	No	No	No	No	No
379	Ground	N	61	62	61	62	61	62	60	55	62.9	63.5	65	60	YES	YES	No	No	No	YES	No	YES
381	Ground	W	57	57	58	58	59	59	60	55	-	59.2	65	60	No	YES	No	No	No	No	No	No
381	Ground	S	47	47	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
381	Ground	E	55	56	55	55	55	56	60	55	-	57.6	65	60	No	YES	No	No	No	No	No	No
381	Ground	N	61	62	61	62	61	62	60	55	62.9	63.5	65	60	YES	YES	No	No	No	YES	No	YES
385	Ground	N	65	65	65	65	65	66	60	55	66.5	67.2	65	60	YES	YES	No	No	YES	YES	YES	YES
385	Ground	E	59	60	59	59	59	60	60	55	61.1	61.7	65	60	No	YES	No	No	No	YES	No	YES
385	Ground	S	50	51	53	53	54	54	55	50	-	51.3	65	60	No	YES	No	YES	No	No	No	YES
385	Ground	W	59	60	60	61	61	61	60	55	61.0	61.6	65	60	YES	YES	No	No	No	YES	No	YES
388	Ground	W	54	55	58	58	59	59	60	55	-	56.5	65	60	No	YES	No	YES	No	No	No	YES
388	Ground	N	58	59	60	60	60	61	60	55	60.4	60.8	65	60	No	YES	No	No	No	YES	No	YES
388	Ground	E	54	54	53	54	54	54	60	55	-	55.8	65	60	No	No	No	No	No	No	No	No
388	Ground	S	47	48	54	53	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
389	Ground	N	60	61	61	61	61	62	60	55	62.0	62.5	65	60	YES	YES	No	No	No	YES	No	YES
389	Ground	E	57	57	56	57	57	57	60	55	-	59.1	65	60	No	YES	No	No	No	No	No	No
389	Ground	S	46	46	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
389	Ground	W	57	57	59	59	60	60	60	55	-	59.1	65	60	No	YES	No	YES	No	No	No	YES
389	First	N	61	62	62	62	62	63	60	55	63.2	63.7	65	60	YES	YES	No	No	No	YES	No	YES
389	First	E	58	59	58	59	59	59	60	55	60.2	60.6	65	60	No	YES	No	No	No	No	No	No
389	First	S	52	52	55	55	56	56	55	50	-	52.7	65	60	YES	YES	No	YES	No	No	YES	YES
389	First	W	58	59	60	60	61	61	60	55	60.2	60.7	65	60	YES	YES	YES	YES	No	YES	YES	YES
393	Ground	E	57	57	57	57	57	58	60	55	-	59.3	65	60	No	YES	No	No	No	No	No	No
393	Ground	S	46	47	55	55	56	56	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
393	Ground	W	56	57	61	61	62	62	60	55	-	59.0	65	60	YES	YES	No	YES	No	YES	YES	YES
393	Ground	N	61	62	62	63	63	63	60	55	62.9	63.6	65	60	YES	YES	No	No	No	YES	No	YES
415	Ground	W	54	55	55	56	56	56	60	55	-	56.8	65	60	No	YES	No	No	No	No	No	No
415	Ground	S	45	45	56	55	56	56	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
415	Ground	S	49	49	59	59	60	60	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
415	Ground	E	59	59	63	63	64	64	60	55	60.7	61.3	65	60	YES	YES	YES	YES	No	YES	YES	YES
415	Ground	N	65	66	66	66	66	67	60	55	66.8	67.6	65	60	YES	YES	No	No	YES	YES	YES	YES
416	Ground	N	65	66	65	66	66	67	60	55	66.8	67.6	65	60	YES	YES	No	No	YES	YES	YES	YES
416	Ground	W	57	58	58	58	58	59	60	55	-	59.8	65	60	No	YES	No	No	No	No	No	No
416	Ground	S	46	46	54	54	55	55	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
416	Ground	W	47	47	53	53	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
416	Ground	S	46	46	55	55	56	56	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
416	Ground	W	47	47	53	53	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
416	Ground	S	49	50	59	58	59	59	55	50	-	50.3	65	60	YES	YES	No	YES	No	No	YES	YES
416	Ground	E	52	53	55	55	55	56	60	55	-	-	65	60	No	YES	No	No	No	No	No	YES
417	Ground	W	55	56	56	56	56	57	60	55	-	57.7	65	60	No	YES	No	No	No	No	No	No
417	Ground	S	47	46	57	56	58	57	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
417	Ground	E	57	58	59	60	60	60	60	55	-	60.0	65	60	No	YES	No	YES	No	YES	No	YES
417	Ground	N	65	66	66	66	66	67	60	55	67.2	67.9	65	60	YES	YES	No	No	YES	YES	YES	YES
417	Ground	N	63	64	63	64	64	64	60	55	64.8	65.5	65	60	YES	YES	No	No	No	YES	No	YES
419	Ground	N	64	65	65	65	65	66	60	55	66.1	66.8	65	60	YES	YES	No	No	No	YES	No	YES
419	Ground	W	49	50	51	52	52	52	55	50	-	50.3	65	60	No	YES	No	YES	No	No	No	YES
419	Ground	S	47	47	57	57	58	57	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
419	Ground	E	56	57	58	59	59	59	60	55	-	58.7	65	60	No	YES	No	YES	No	No	No	YES
422	Ground	N	64	65	65	65	65	66	60	55	66.1	66.8	65	60	YES	YES	No	No	No	YES	No	YES
422	Ground	E	51	52	52	52	52	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
422	Ground	S	47	47	56	55	57	56	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
422	Ground	W	55	56	56	56	56	57	60	55	-	57.5	65	60	No	YES	No	No	No	No	No	No
422	Ground	N	65	66	66	66	66	67	60	55	67.1	67.9	65	60	YES	YES	No	No	YES	YES	YES	YES
423	Ground	N	64	65	64	65	65	66	60	55	66.1	66.8	65	60	YES	YES	No	No	No	YES	No	YES
423	Ground	E	56	56	57	57	57	58	60	55	-	58.1	65	60	No	YES	No	No	No	No	No	No
423	Ground	S	47	46	55	55	56	56	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
423	Ground	W	50	50	51	51	52	52	60	55	-	-	65	60	No	No	No	No	No	No	No	No
424	Ground	N	64	65	65	65	65	66	60	55	66.2	66.9	65	60	YES	YES	No	No	No	YES	No	YES
424	Ground	W	52	52	52	53	53	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
424	Ground	S	47	47	55	55	56	56	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
424	Ground	E	49	50	50	51	51	51	55	50	-	50.1	65	60	No	YES	No	YES	No	No	No	YES
425	Ground	W	55	56	55	56	56	56	60	55	-	57.6	65	60	No	YES	No	No	No	No	No	No
425	Ground	S	47	47	54	53	55	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
425	Ground	E	56	57	56	57	57	57	60	55	-	58.8	65	60	No	YES	No	No	No	No	No	No
425	Ground	N	65	66	65	66	65	66	60	55	66.9	67.6	65	60	YES	YES	No	No	YES	YES	YES	YES
426	Ground	S	47	47	54	54	55	55	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
426	Ground	E	57	58	58	58	58	59	60	55	-	59.9	65	60	No	YES	No	No	No	No	No	No
426	Ground	N	65	66	65	66	65	66	60	55	66.8	67.5	65	60	YES	YES	No	No	YES	YES	YES	YES
426	Ground	W	55	55	55	56	55	56	60	55	-	57.3	65	60	No	YES	No	No	No	No	No	No
428	Ground	W	47	47	50	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
428	Ground	S	47	47	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
428	Ground	W	55	55	55	55	55	56	60	55	-	57.2	65	60	No	YES	No	No	No	No	No	No
428	Ground	N	63	63	63	64	63	64	60	55	64.7	65.4	65	60	YES	YES	No	No	No	YES	No	YES
428	Ground	E	53	53	54	54	55	55	60	55	-	55.4	65	60	No	No	No	No	No	No	No	No
428	Ground	S	47	47	54	54	55	55	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
786	Ground	SW	50	49	54	53	55	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
788	Ground	SE	51	50	57	56	57	57	55	50	-	50.3	65	60	YES	YES	No	YES	No	No	YES	YES
788	Ground	NE	48	47	56	56	57	57	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
788	Ground	E	49	48	56	56	57	57	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
788	Ground	N	47	46	55	55	56	55	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
788	Ground	W	48	48	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
788	Ground	SW	49	49	53	53	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
790	Ground	E	52	51	61	61	62	62	60	55	-	-	65	60	YES	YES	No	No	No	YES	YES	YES
790	Ground	N	47	46	58	58	59	58	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
790	Ground	W	47	46	51	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
790	Ground	S	50	50	58	57	58	58	55	50	-	50.1	65	60	YES	YES	No	YES	No	No	YES	YES
790	Ground	E	51	50	60	60	61	61	60	55	-	-	65	60	YES	YES	No	No	No	YES	YES	YES
790	First	E	53	52	62	62	63	63	60	55	-	-	65	60	YES	YES	No	No	No	YES	YES	YES
790	First	N	50	49	60	60	61	61	55	50	-	-	65	60	YES	YES	No	No	No	YES	YES	YES
790	First	W	49	48	57	56	58	57	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
790	First	S	51	51	60	60	61	60	55	50	-	51.0	65	60	YES	YES	No	YES	No	YES	YES	YES
790	First	E	53	52	62	62	63	62	60	55	-	-	65	60	YES	YES	No	No	No	YES	YES	YES
798	Ground	NW	42	41	54	54	55	55	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
798	Ground	SW	46	45	53	53	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
798	Ground	SE	47	45	49	48	50	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
798	Ground	NE	44	43	51	51	52	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
801	Ground	E	47	46	54	53	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
801	Ground	N	44	43	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
801	Ground	W	44	43	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
801	Ground	S	47	46	53	52	54	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
802	Ground	W	43	42	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
802	Ground	S	47	46	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
802	Ground	E	47	46	45	43	45	44	55	50	-	-	65	60	No	No	No	No	No	No	No	No
802	Ground	N	43	42	50	49	51	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
805	Ground	NW	39	38	51	51	52	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
805	Ground	SW	44	43	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
805	Ground	SE	45	44	45	44	46	45	55	50	-	-	65	60	No	No	No	No	No	No	No	No
805	Ground	NE	43	42	50	49	51	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
806	Ground	NW	42	41	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
806	Ground	SW	43	42	48	47	49	48	55	50	-	-	65	60	No	No	No	No	No	No	No	No
806	Ground	SE	44	43	59	59	60	60	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
806	Ground	NE	44	43	59	59	60	60	55	50	-	-	65	60	YES	YES	No	No	No	No	YES	YES
807	Ground	SW	42	41	48	48	49	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
807	Ground	SE	44	43	45	44	46	45	55	50	-	-	65	60	No	No	No	No	No	No	No	No
807	Ground	NE	43	41	50	49	51	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
807	Ground	NW	38	37	51	50	52	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
808	Ground	N	42	41	50	50	51	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
808	Ground	W	40	39	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
808	Ground	S	45	44	51	50	51	51	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
808	Ground	E	45	44	46	45	47	46	55	50	-	-	65	60	No	No	No	No	No	No	No	No
809	Ground	W	42	41	54	54	55	55	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
809	Ground	N	40	39	53	53	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
809	Ground	E	45	44	52	51	53	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
809	Ground	S	46	45	52	52	53	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
810	Ground	E	45	44	49	48	50	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
810	Ground	N	42	41	52	52	53	53	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES

Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
1621	Ground	W	53	52	50	50	51	51	60	55	-	-	65	60	No	No	No	No	No	No	No	No
1621	Ground	S	54	53	47	46	48	46	60	55	-	-	65	60	No	No	No	No	No	No	No	No
1621	Ground	E	54	53	47	47	48	47	60	55	-	-	65	60	No	No	No	No	No	No	No	No
1621	Ground	N	53	52	50	51	51	51	60	55	-	-	65	60	No	No	No	No	No	No	No	No
1622	Ground	N	52	51	50	51	50	51	60	55	-	-	65	60	No	No	No	No	No	No	No	No
1622	Ground	W	52	51	49	49	50	50	60	55	-	-	65	60	No	No	No	No	No	No	No	No
1622	Ground	SE	44	44	43	42	43	43	55	50	-	-	65	60	No	No	No	No	No	No	No	No
1622	Ground	NE	52	51	47	47	47	47	60	55	-	-	65	60	No	No	No	No	No	No	No	No
3002	Ground	SW	44	43	49	49	50	50	55	50	-	-	65	60	No	No	No	No	No	No	No	No
3002	Ground	SE	46	45	47	46	48	47	55	50	-	-	65	60	No	No	No	No	No	No	No	No
3002	Ground	NE	45	43	49	48	50	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
3002	Ground	NW	39	38	51	51	52	52	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
3004	Ground	S	50	50	61	61	62	61	55	50	-	50.2	65	60	YES	YES	No	YES	No	YES	YES	YES
3004	Ground	W	50	50	61	61	62	62	55	50	-	50.8	65	60	YES	YES	No	YES	No	YES	YES	YES
3004	Ground	S	50	51	61	60	62	61	55	50	-	51.1	65	60	YES	YES	No	YES	No	YES	YES	YES
3004	Ground	E	54	53	55	55	56	56	60	55	-	55.2	65	60	No	YES	No	YES	No	No	No	YES
3004	Ground	N	56	55	61	61	62	62	60	55	-	56.7	65	60	YES	YES	No	YES	No	YES	YES	YES
3004	Ground	W	54	53	63	63	64	64	60	55	-	-	65	60	YES	YES	No	No	No	YES	YES	YES
3005	Ground	N	63	64	63	64	64	65	60	55	65.3	66.0	65	60	YES	YES	No	No	No	YES	No	YES
3005	Ground	W	58	59	59	59	59	60	60	55	-	60.5	65	60	No	YES	No	No	No	No	No	No
3005	Ground	S	44	44	49	49	50	49	55	50	-	-	65	60	No	No	No	No	No	No	No	No
3005	Ground	E	52	53	52	52	52	53	60	55	-	-	65	60	No	No	No	No	No	No	No	No
3005	Ground	E	58	59	58	58	58	59	60	55	60.1	60.6	65	60	No	YES	No	No	No	No	No	No
3005	Ground	N	62	63	62	63	63	64	60	55	64.4	65.0	65	60	YES	YES	No	No	No	YES	No	YES
5001	Ground	N	50	49	53	53	54	54	55	50	-	-	65	60	No	YES	No	No	No	No	No	YES
5001	Ground	E	53	53	53	54	54	55	60	55	-	55.3	65	60	No	No	No	No	No	No	No	No
5001	Ground	S	56	56	56	57	57	58	60	55	-	58.3	65	60	No	YES	No	No	No	No	No	No
5001	Ground	W	54	54	55	56	56	57	60	55	-	56.4	65	60	No	YES	No	YES	No	No	No	YES
5002	Ground	W	50	49	53	53	54	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
5002	Ground	S	39	38	43	43	44	44	60	55	-	-	65	60	No	No	No	No	No	No	No	No
5002	Ground	E	45	44	48	47	48	48	60	55	-	-	65	60	No	No	No	No	No	No	No	No
5002	Ground	N	49	48	53	53	54	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
5002	Ground	W	49	49	53	53	54	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
5002	Ground	N	49	49	53	53	54	54	60	55	-	-	65	60	No	No	No	No	No	No	No	No
Adventist School Building 1	Ground	N	50	50	49	49	50	50	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 1	Ground	E	47	47	51	50	51	51	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 1	Ground	S	47	47	49	48	50	49	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 1	Ground	W	49	49	47	47	48	48	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 1	Ground	N	48	48	46	46	47	47	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 1	Ground	W	48	49	46	46	47	47	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 2	Ground	N	48	48	49	48	49	49	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 2	Ground	W	48	48	47	47	48	48	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 2	Ground	S	48	48	51	50	52	51	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Adventist School Building 2	Ground	E	49	48	51	51	52	52	55	-	-	-	65	-	No	-	-	-	No	-	No	-
Macksville District Hospital	Ground	W	51	51	47	47	48	47	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	S	55	54	52	51	52	51	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	S	55	55	52	51	53	52	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	S	57	56	53	52	54	53	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	E	59	59	56	55	57	56	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	N	51	51	48	48	49	48	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	E	48	48	46	45	46	46	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No

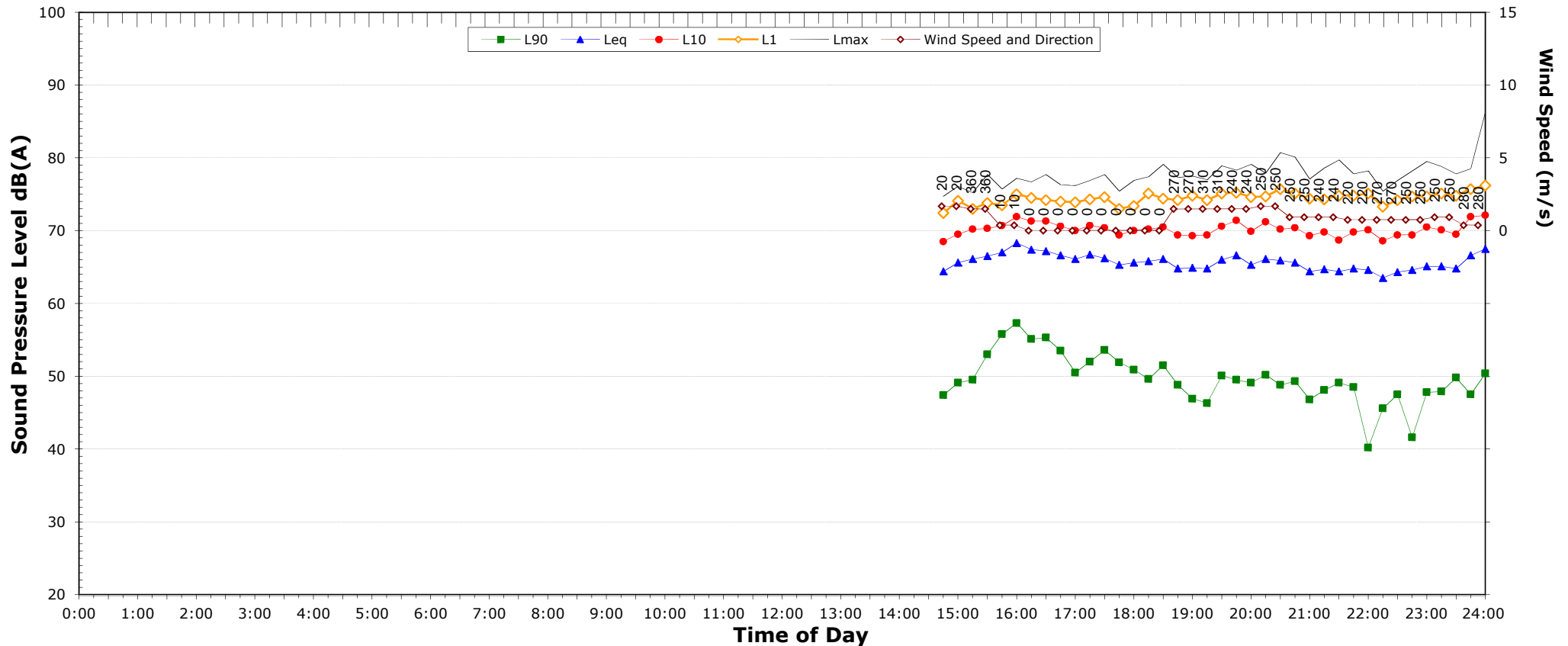
Receiver No.	Floor Level	Direction	2016 Future Existing (without Project) Noise Level		2016 Opening Year (with Project) Noise Level		2026 Future (with Project) Noise Level		Target						Exceedances						At-Property Treatment Required	
			Day	Night	Day	Night	Day	Night	Target Criteria		Allowance Criteria		Acute Criteria		Target Criteria		Allowance Criteria		Acute Criteria		Day	Night
									Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
Macksville District Hospital	Ground	S	52	52	49	48	50	49	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	E	60	60	56	56	57	56	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	N	58	57	54	53	55	54	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	N	57	57	53	53	54	53	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	N	56	56	53	52	53	53	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	W	51	51	47	47	48	47	45	45	-	-	65	60	YES	YES	-	-	No	No	No	No
Macksville District Hospital	Ground	S	41	40	39	38	40	39	45	45	-	-	65	60	No	No	-	-	No	No	No	No
Macksville District Hospital	Ground	W	38	38	36	35	37	36	45	45	-	-	65	60	No	No	-	-	No	No	No	No
Macksville District Hospital	Ground	N	40	40	38	37	39	38	45	45	-	-	65	60	No	No	-	-	No	No	No	No
Macksville District Hospital	Ground	N	41	41	40	40	41	40	45	45	-	-	65	60	No	No	-	-	No	No	No	No

APPENDIX H - LONG TERM NOISE MONITORING RESULTS

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Monday, 20 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	46.3	39.6
Leq	-	65.4	64.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax- Leq ≥ 15dB(A)

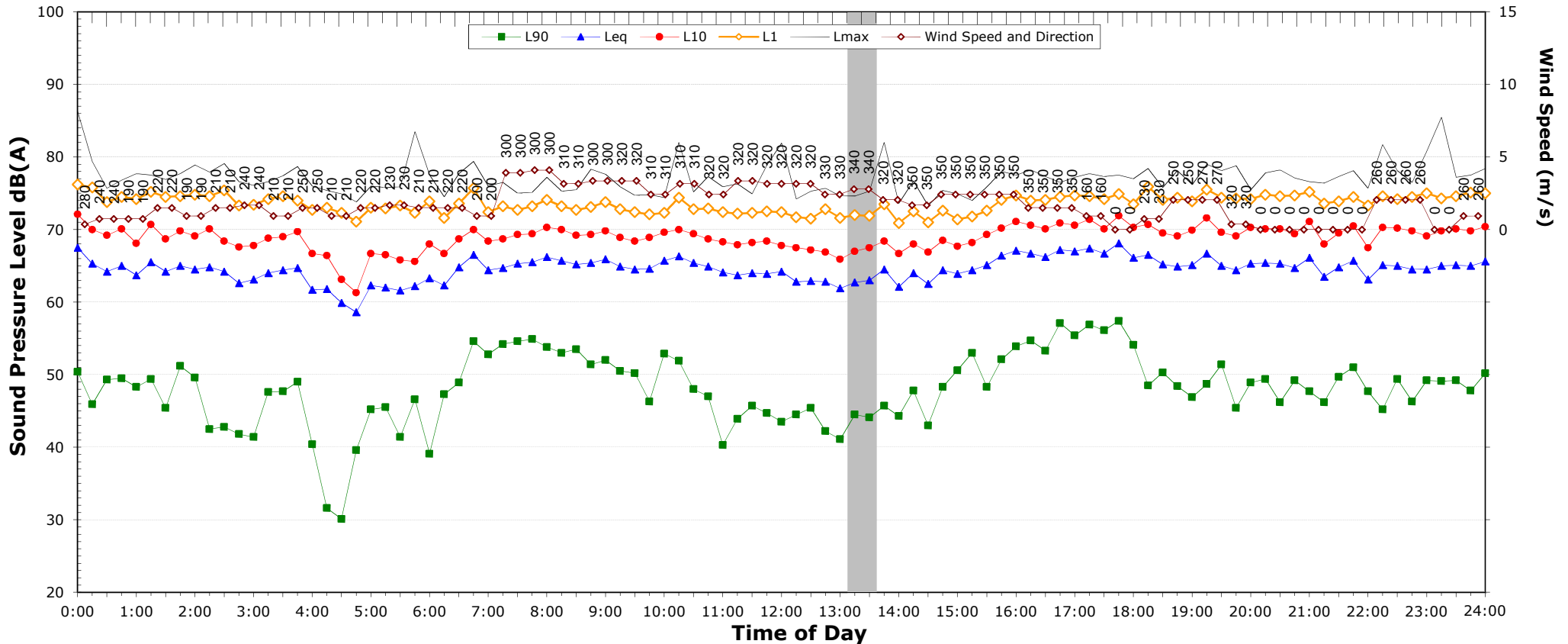
NSW Road Noise Policy (1m from facade)			(see note 3)
Descriptor	Day	Night ²	
	7am-10pm	10pm-7am	
L _{eq} 15 hr and L _{eq} 9 hr	0.0	66.7	
L _{eq} 1hr upper 10 percentile	69.6	68.6	
L _{eq} 1hr lower 10 percentile	67.1	63.4	

Night Time Maximum Noise Levels				(see note 4)
Lmax (Range)	76.0	to	86.3	
Lmax - Leq (Range)	15.1	to	21.2	

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Tuesday, 21 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.5	46.2	37.4
Leq	65.3	65.2	63.7

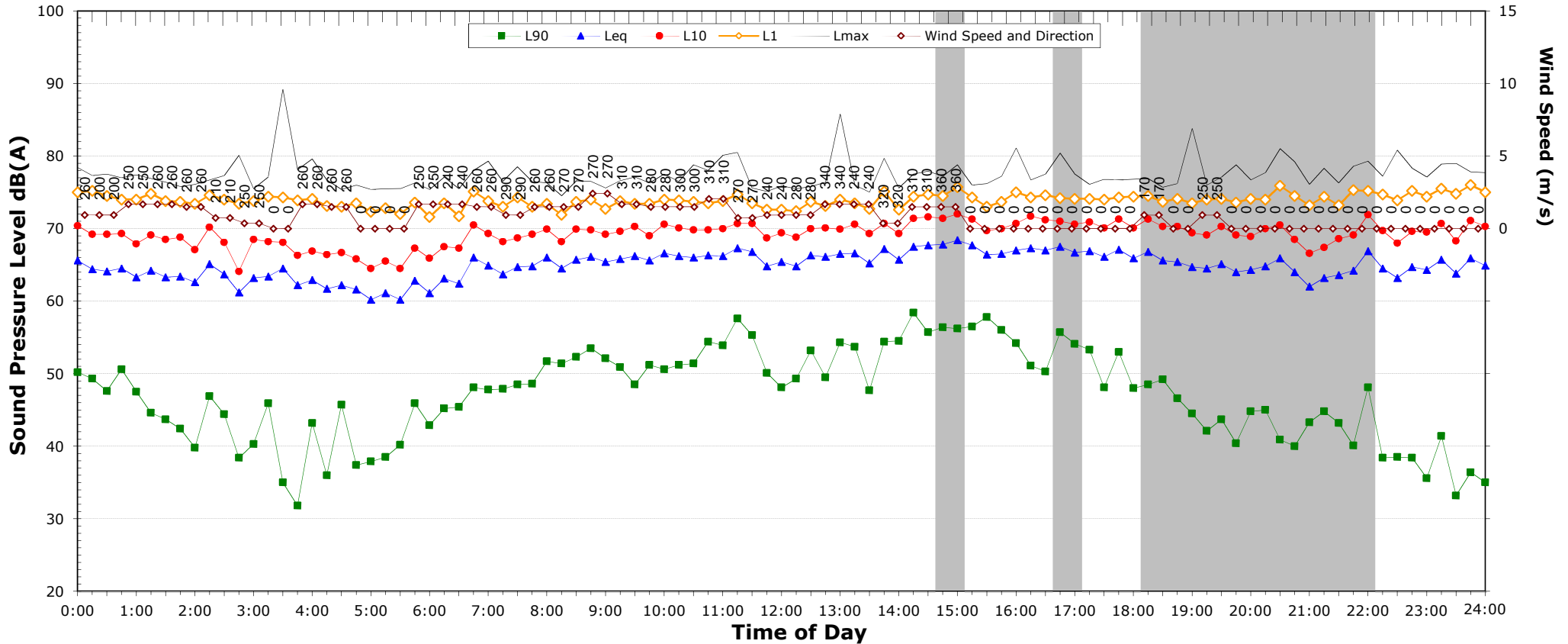
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.7	66.2
L _{eq} 1hr upper 10 percentile	69.5	67.7
L _{eq} 1hr lower 10 percentile	65.6	63.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	76.7	to	89.2
Lmax - Leq (Range)	15.2	to	25.9

EXISTING AMBIENT NOISE LEVELS
ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441
Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.1	-	33.2
Leq	66.2	-	63.8

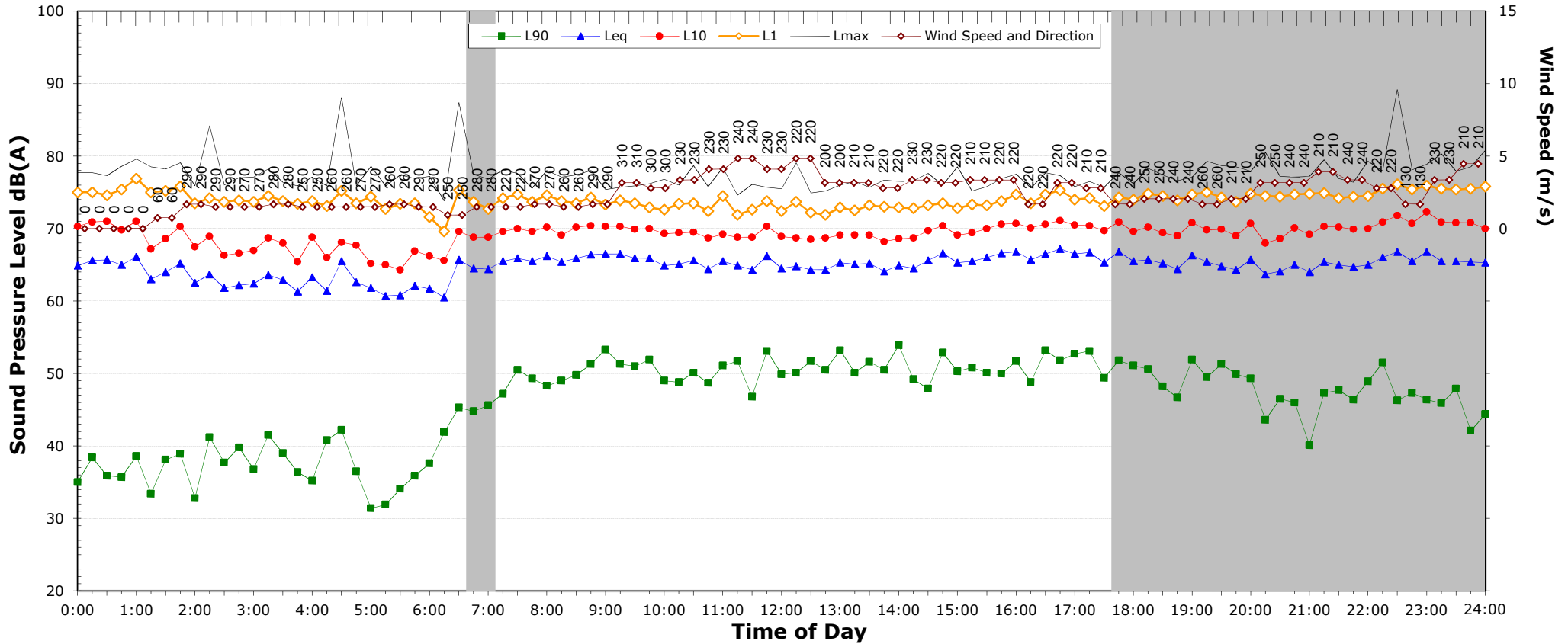
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax- Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	66.3
L _{eq} 1hr upper 10 percentile	70.1	68.1
L _{eq} 1hr lower 10 percentile	67.4	63.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	77.4	to 88.1
Lmax - Leq (Range)	15.3	to 24.9

EXISTING AMBIENT NOISE LEVELS
ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441
Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.7	-	-
Leq	65.6	-	-

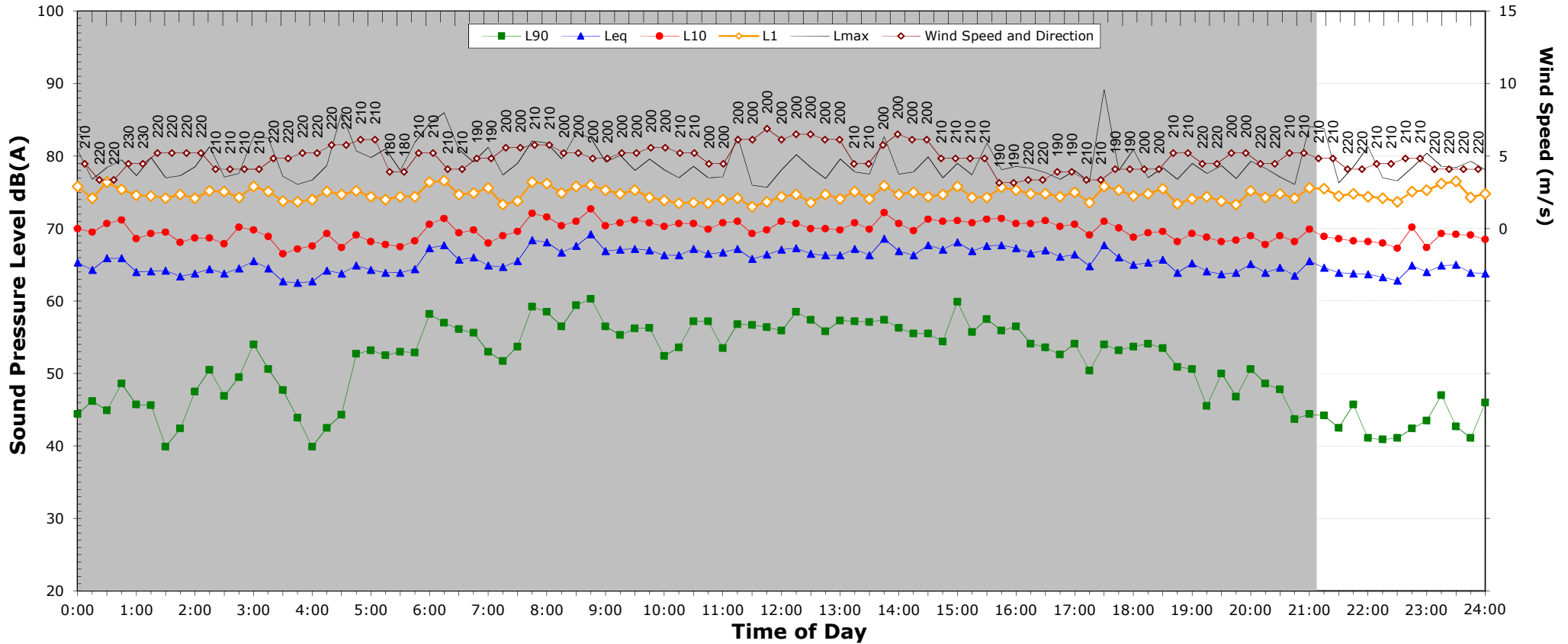
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	69.0	-
L _{eq} 1hr lower 10 percentile	67.2	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS
ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441
Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	37.7
Leq	-	-	62.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

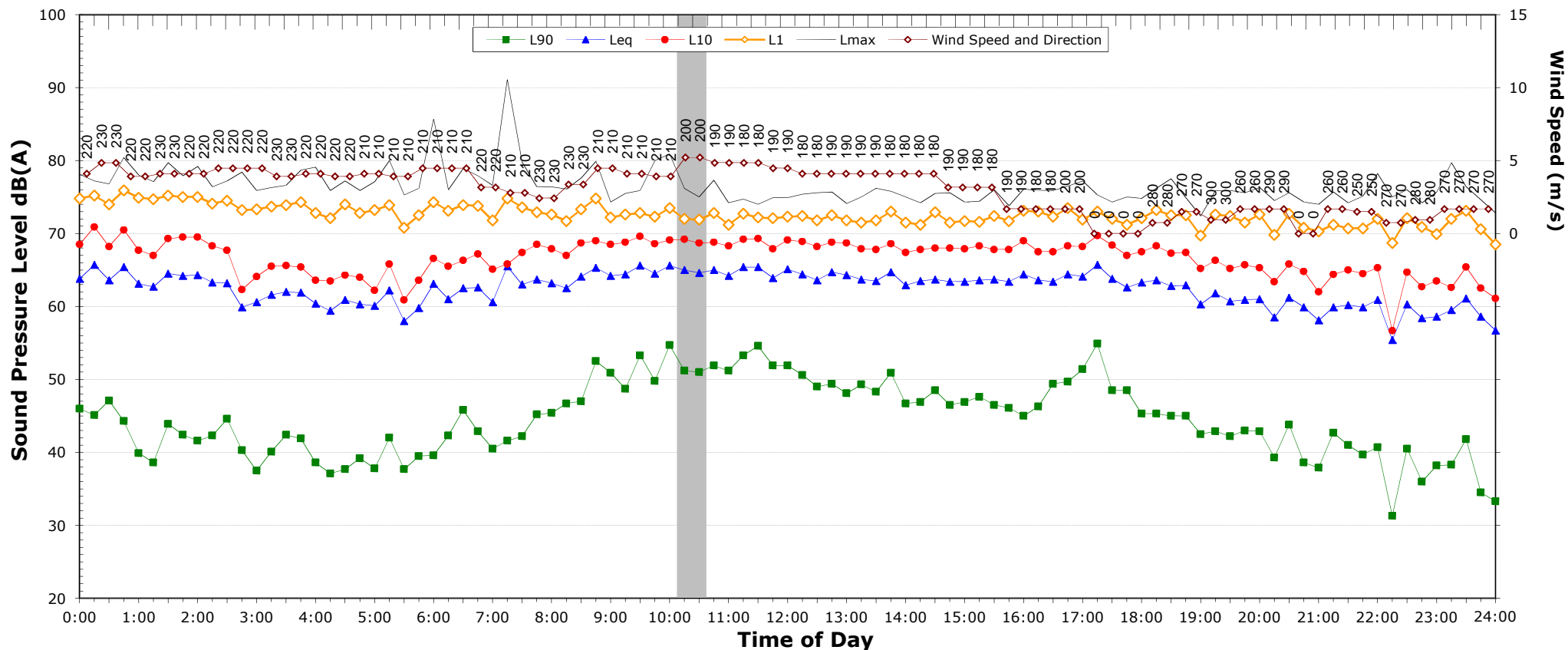
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	65.4
L _{eq} 1hr upper 10 percentile	66.5	67.1
L _{eq} 1hr lower 10 percentile	66.5	62.7

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	77.2	to 85.7
Lmax - Leq (Range)	15.7	to 24.5

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.3	38.6	28.0
Leq	64.2	61.0	58.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

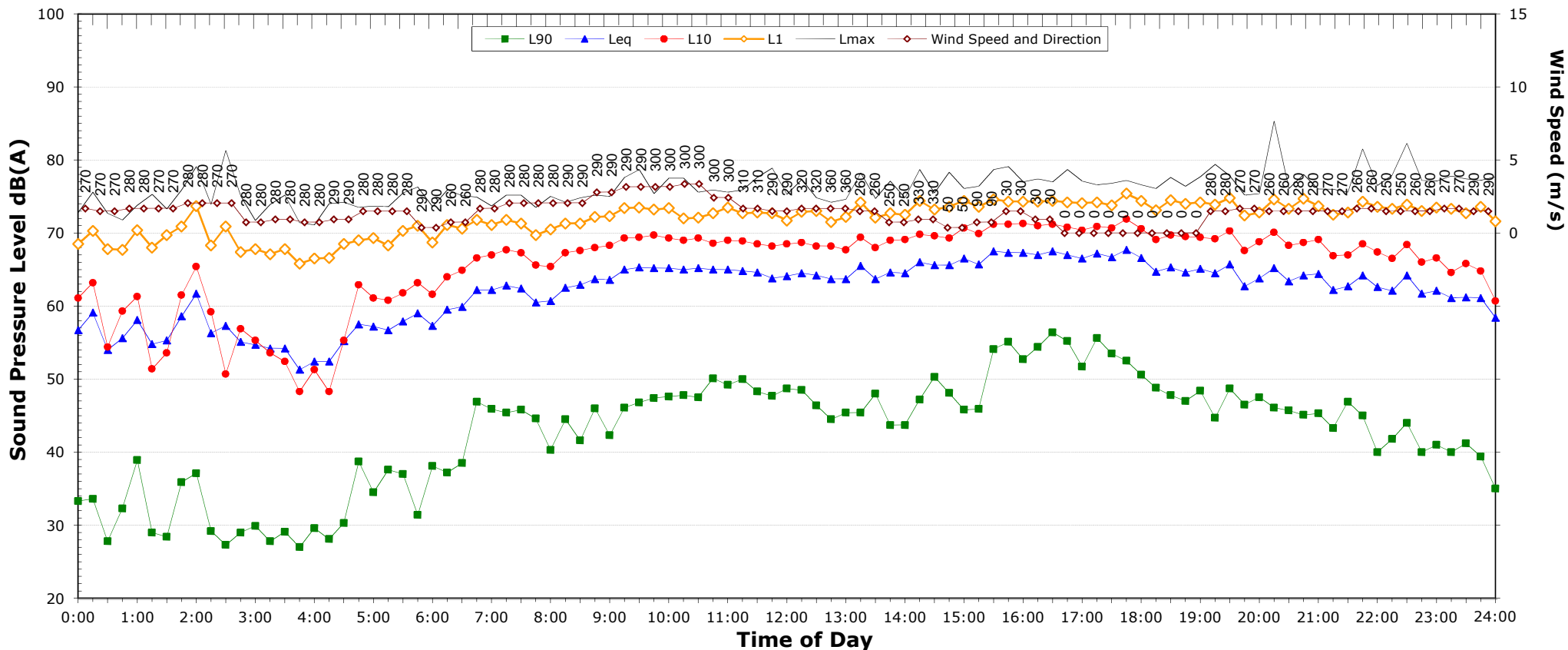
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	66.0	61.1
L _{eq} 1hr upper 10 percentile	67.5	63.6
L _{eq} 1hr lower 10 percentile	62.4	55.7

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	74.2	to 81.3
Lmax - Leq (Range)	17.5	to 25.3

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.1	43.3	31.3
Leq	65.5	64.2	60.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax- Leq ≥ 15dB(A)

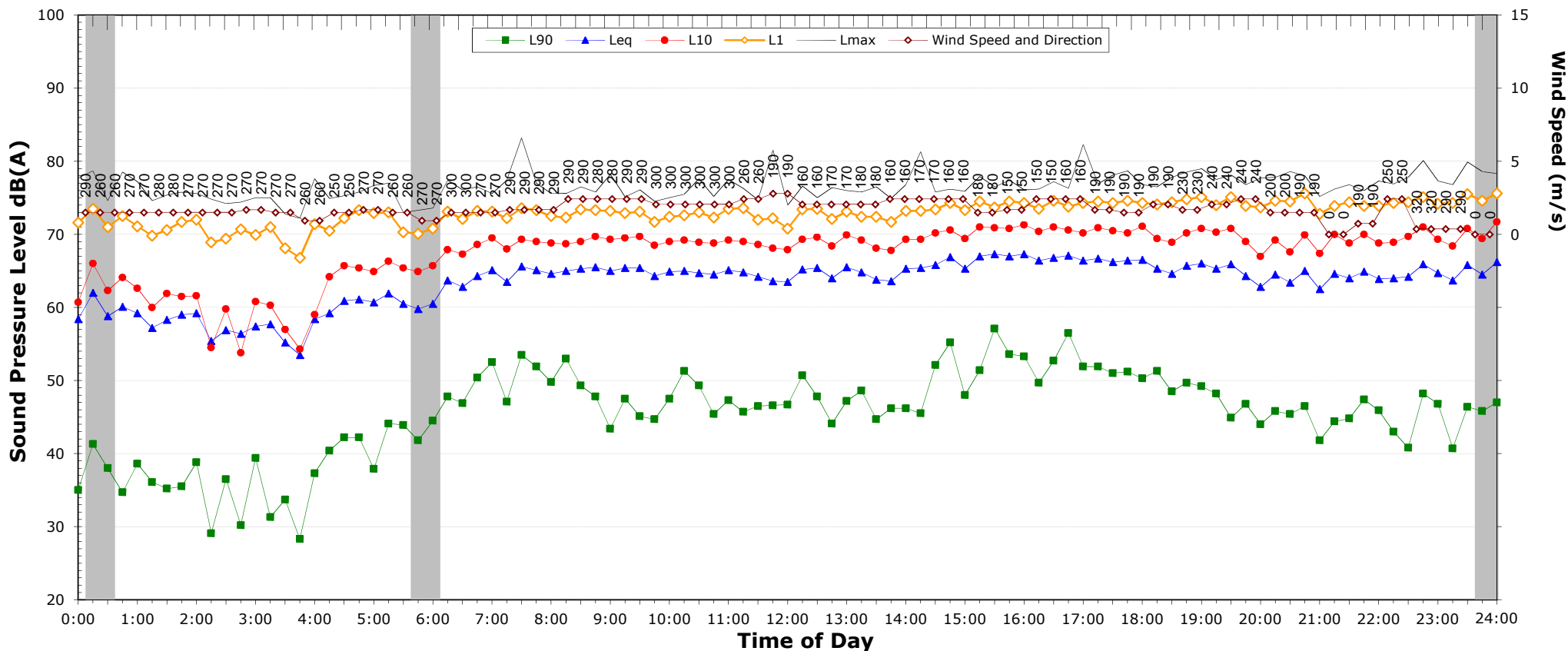
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.5	63.2
L _{eq} 1hr upper 10 percentile	69.5	66.6
L _{eq} 1hr lower 10 percentile	64.9	59.1

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	75.0	to 82.3
Lmax - Leq (Range)	15.7	to 21.0

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.1	44.0	-
Leq	65.5	64.7	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

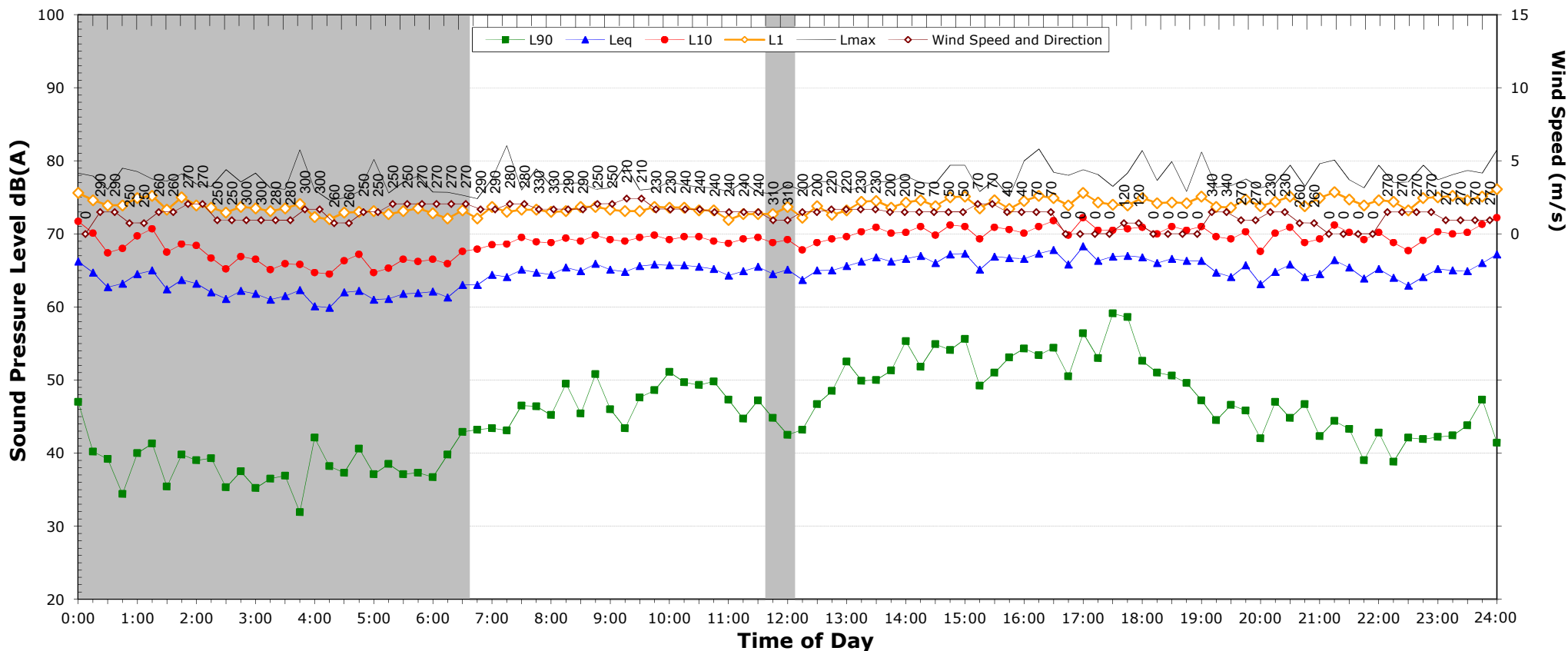
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	67.8	0.0
L _{eq} 1hr upper 10 percentile	69.4	67.4
L _{eq} 1hr lower 10 percentile	66.5	66.3

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	79.9	to 80.1
Lmax - Leq (Range)	15.0	to 15.3

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.2	42.0	36.5
Leq	66.0	65.3	63.7

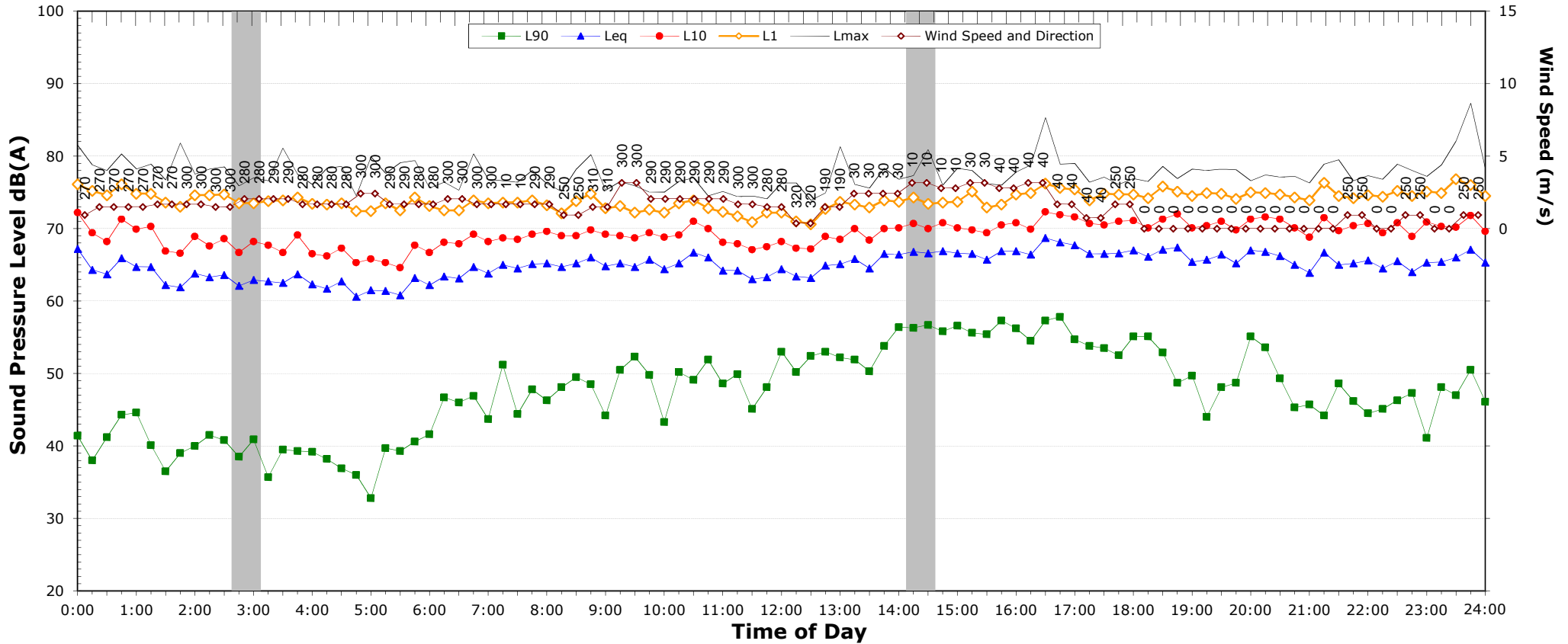
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	68.3	66.2
L _{eq} 1hr upper 10 percentile	69.7	68.4
L _{eq} 1hr lower 10 percentile	67.0	64.2

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	78.5	to 81.8
Lmax - Leq (Range)	15.0	to 18.5

EXISTING AMBIENT NOISE LEVELS
ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441
Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.3	44.2	38.8
Leq	65.8	66.0	64.1

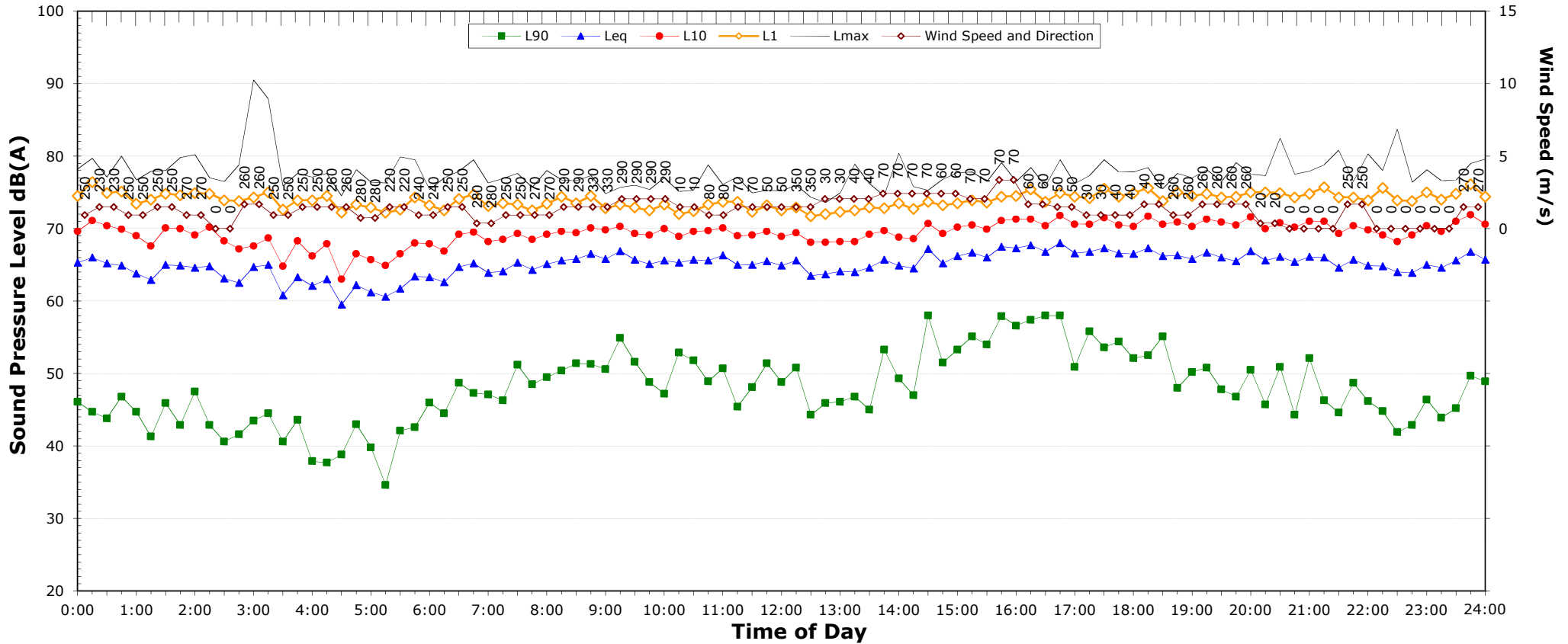
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	68.3	66.6
L _{eq} 1hr upper 10 percentile	69.8	68.5
L _{eq} 1hr lower 10 percentile	66.5	64.2

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	78.1	to 90.5
Lmax - Leq (Range)	15.3	to 26.6

EXISTING AMBIENT NOISE LEVELS
ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441
Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.1	44.6	37.8
Leq	65.9	66.0	64.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

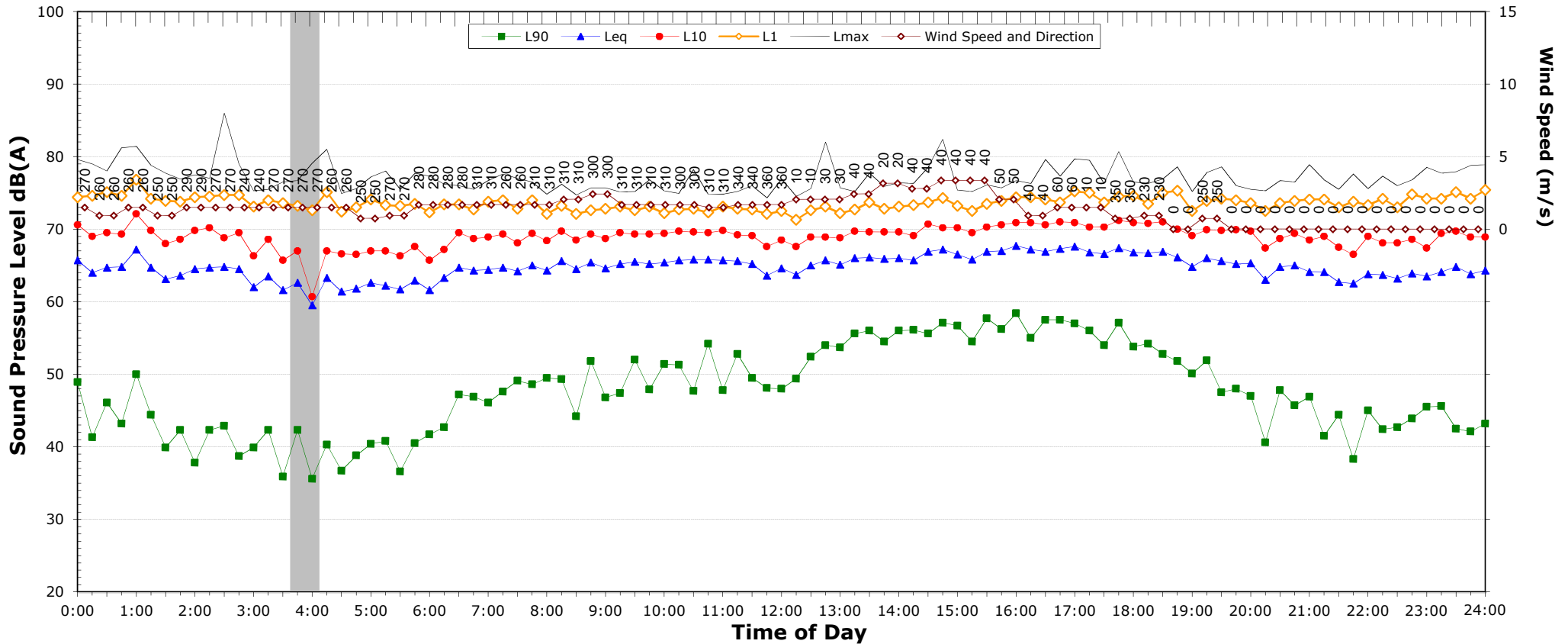
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	68.4	66.6
L _{eq} 1hr upper 10 percentile	69.6	68.2
L _{eq} 1hr lower 10 percentile	67.0	64.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	78.0	to 86.0
Lmax - Leq (Range)	15.9	to 21.9

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.7	40.6	35.0
Leq	65.9	65.0	62.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

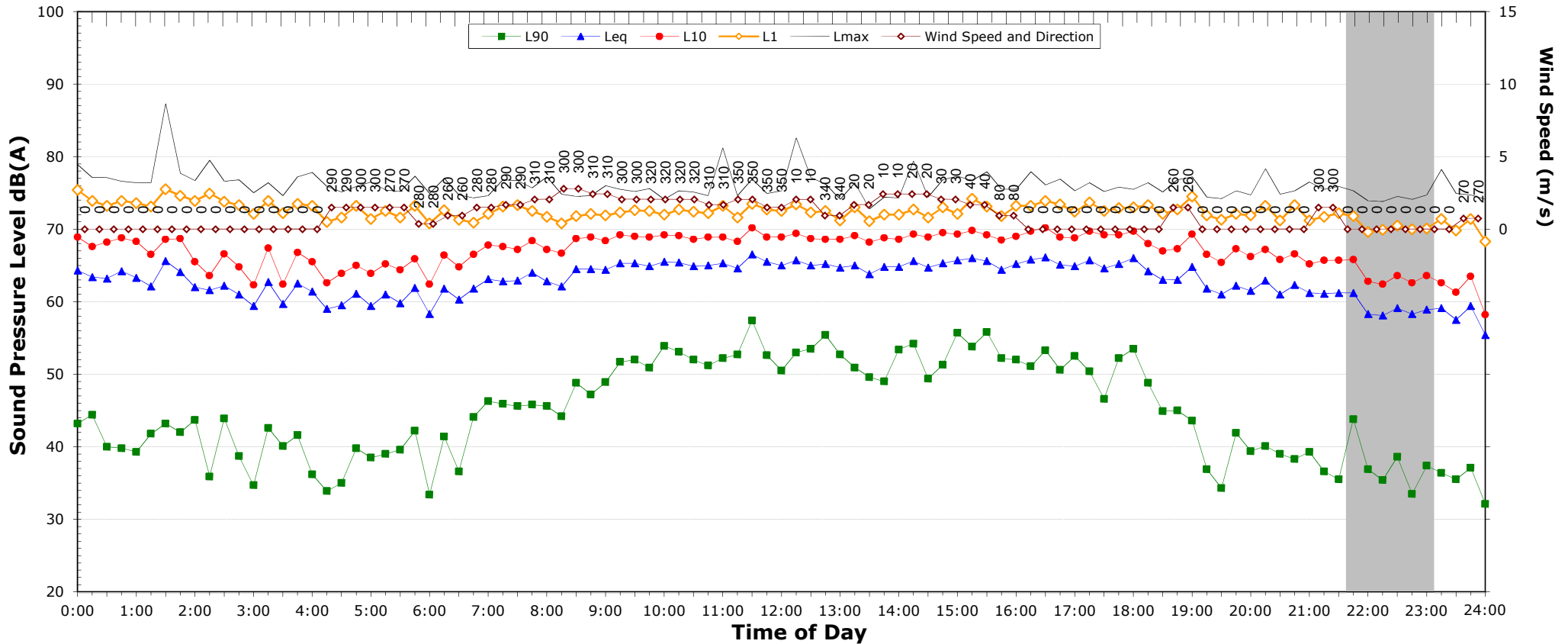
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	68.2	65.0
L _{eq} 1hr upper 10 percentile	69.6	66.8
L _{eq} 1hr lower 10 percentile	66.3	62.3

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	76.5	to 87.3
Lmax - Leq (Range)	15.1	to 23.6

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.9	35.5	-
Leq	65.0	62.4	-

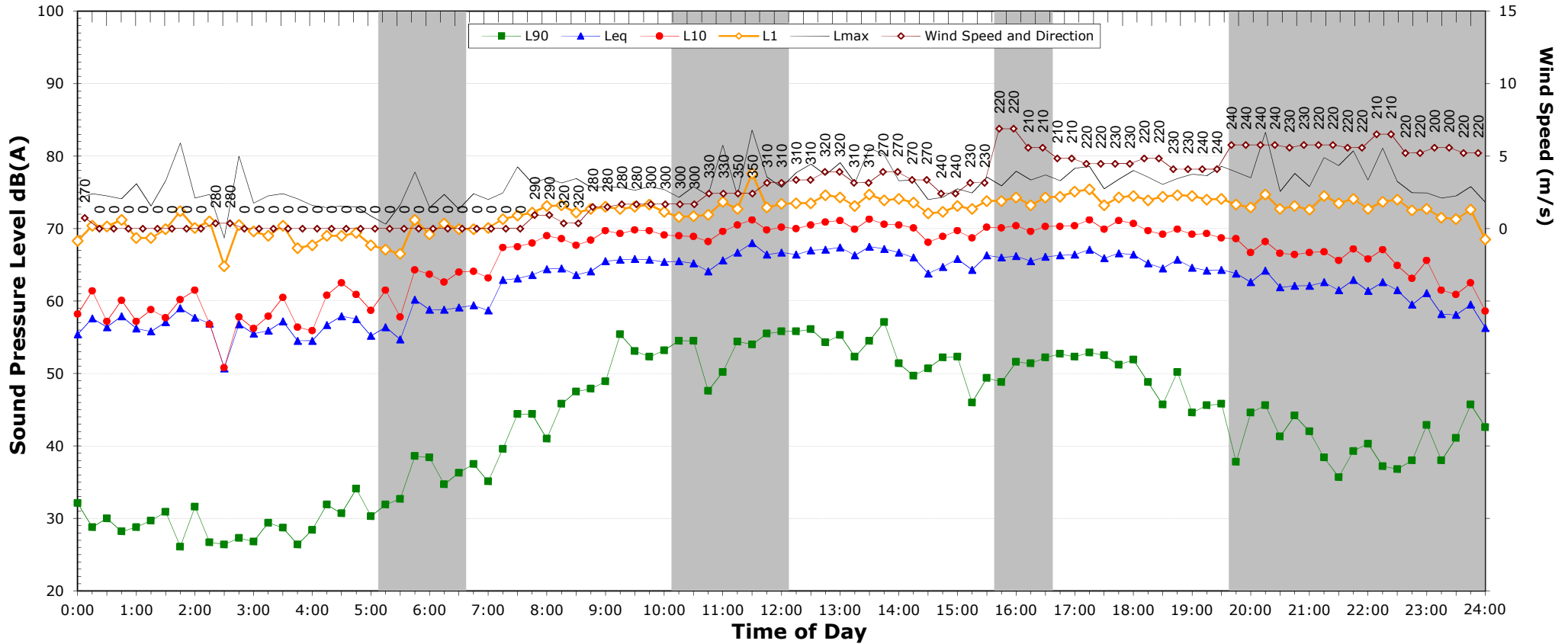
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	68.0	61.6
L _{eq} 1hr lower 10 percentile	63.9	58.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.1	to	81.8
Lmax - Leq (Range)	15.7	to	24.4

EXISTING AMBIENT NOISE LEVELS
ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441
Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

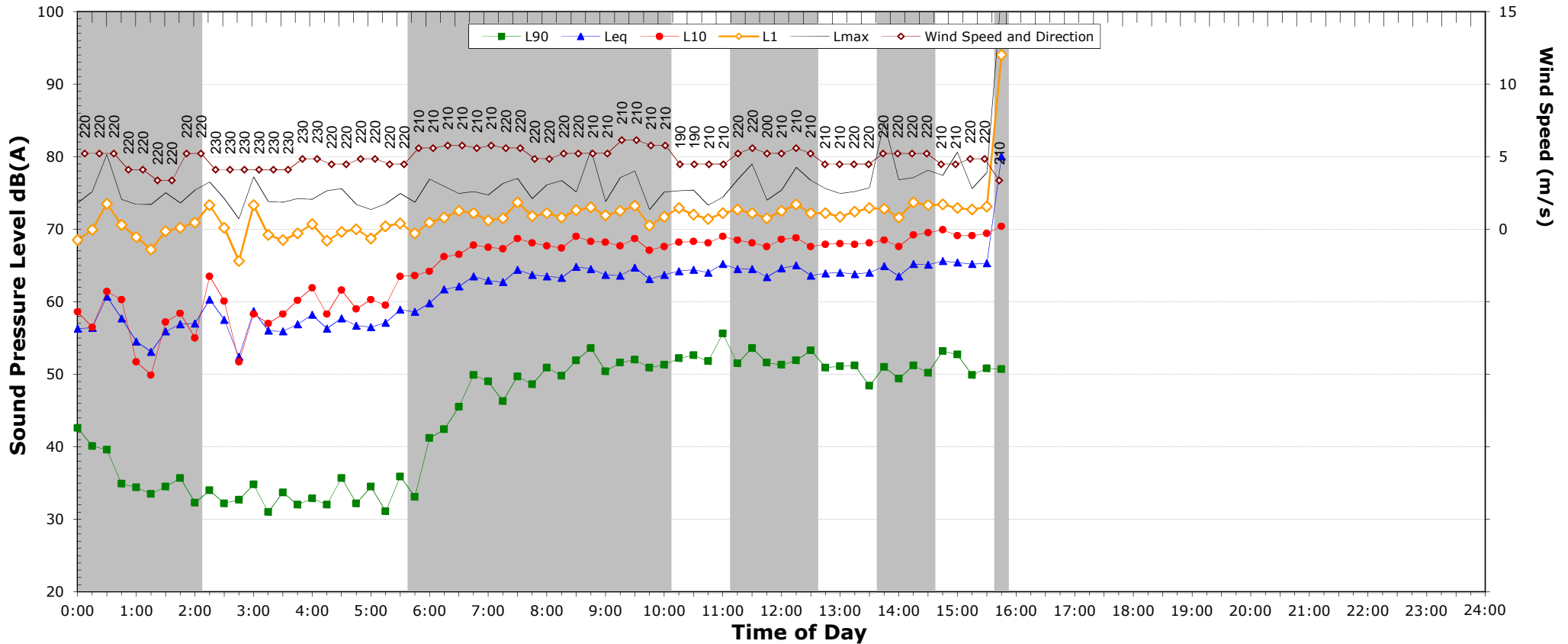
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	69.5	60.6
L _{eq} 1hr lower 10 percentile	66.1	59.3

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	74.2	to 77.2
Lmax - Leq (Range)	16.8	to 19.2

EXISTING AMBIENT NOISE LEVELS

ID 5 - 4201 Pacific Highway, EUNGAI CREEK, 2441

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

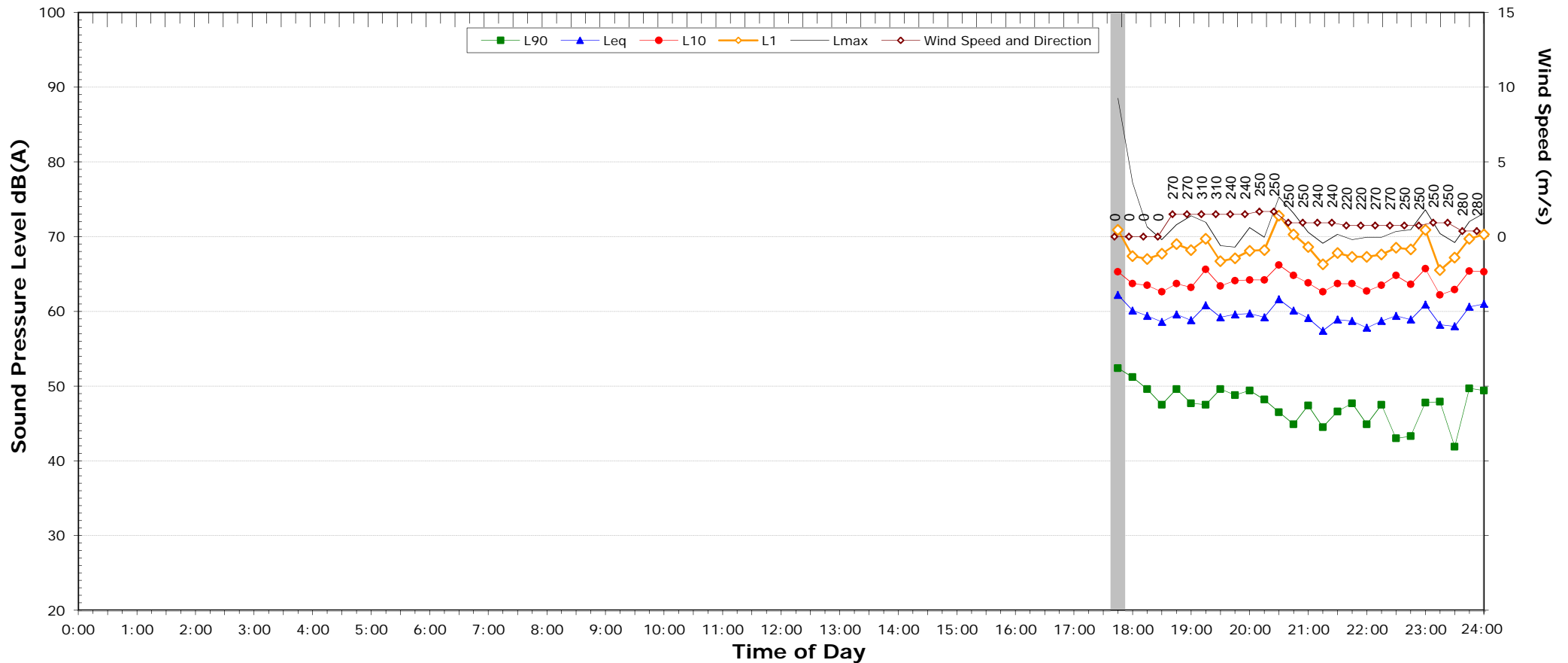
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	68.0	-
L _{eq} 1hr lower 10 percentile	66.4	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS
ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447
Monday, 20 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	44.9	35.1
Leq	-	59.4	58.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

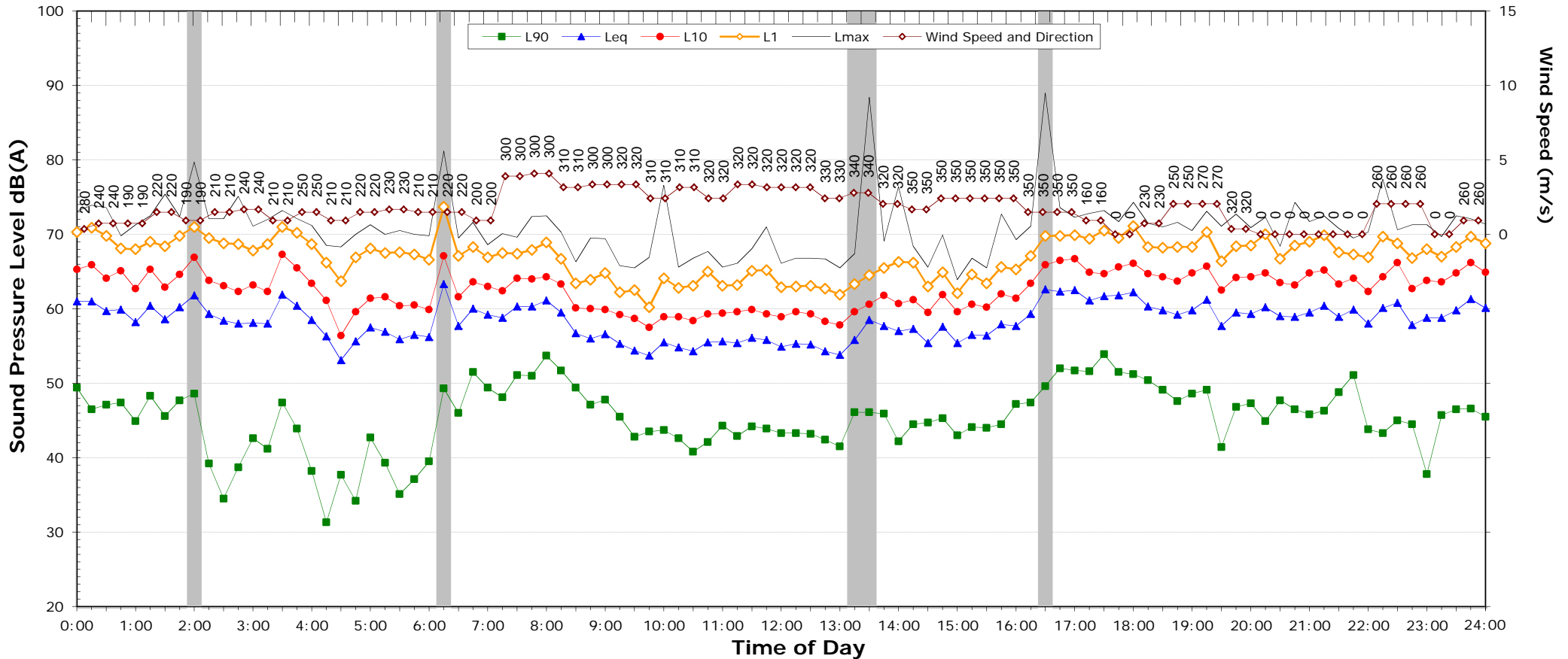
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	61.4
L _{eq} 1hr upper 10 percentile	62.6	62.5
L _{eq} 1hr lower 10 percentile	60.7	58.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.3	to	75.4
Lmax - Leq (Range)	15.4	to	16.6

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Tuesday, 21 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.4	43.8	31.5
Leq	58.1	59.6	58.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

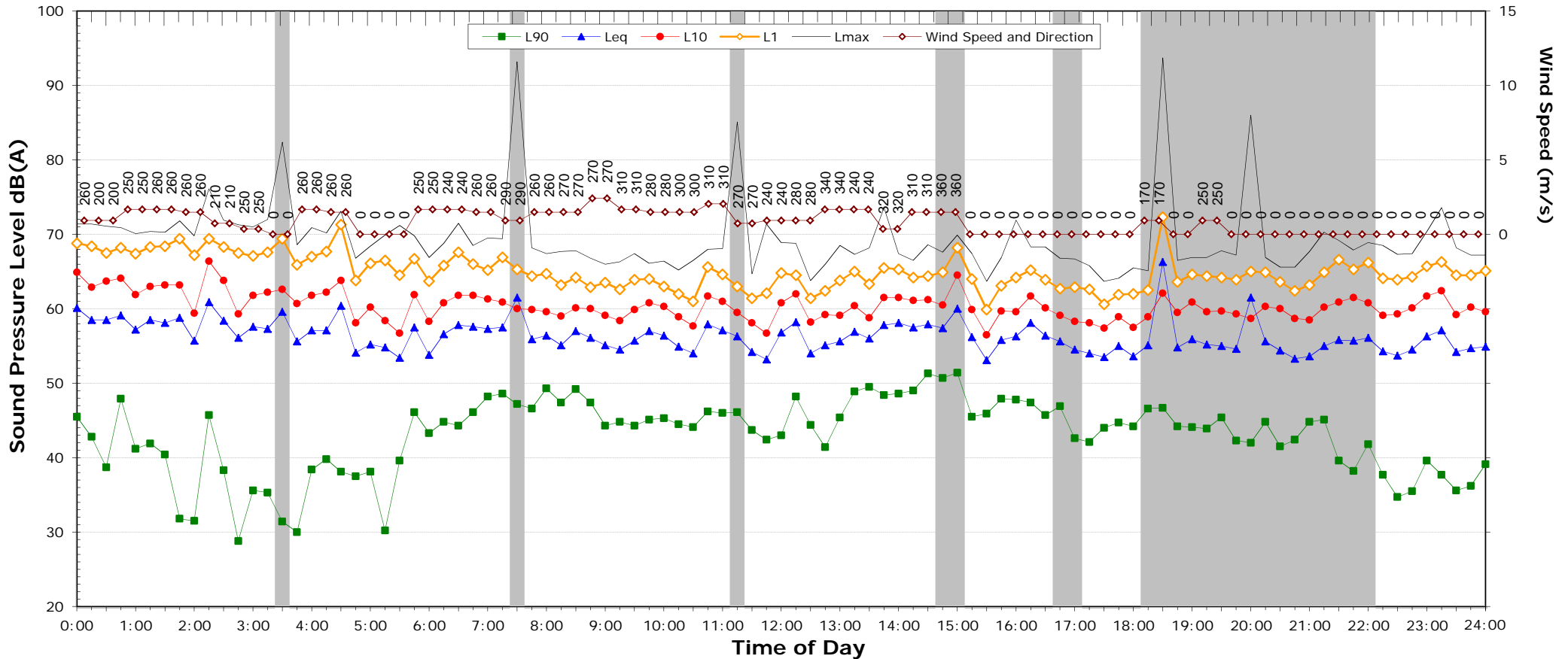
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.1	60.7
L _{eq} 1hr upper 10 percentile	64.2	62.6
L _{eq} 1hr lower 10 percentile	57.2	57.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.2	to	77.4
Lmax - Leq (Range)	15.3	to	17.9

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.0	-	34.9
Leq	56.1	-	55.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

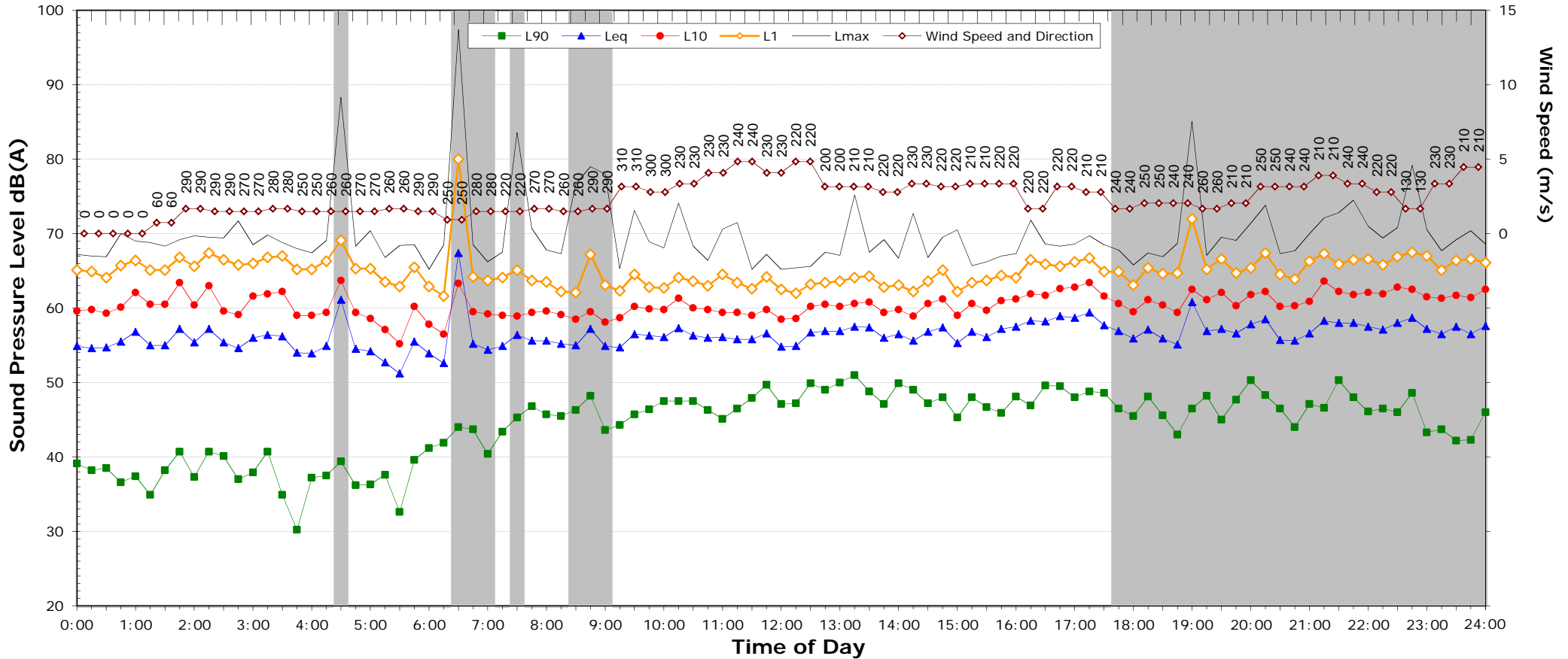
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	57.6
L _{eq} 1hr upper 10 percentile	60.2	58.4
L _{eq} 1hr lower 10 percentile	56.7	55.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.5	to	73.6
Lmax - Leq (Range)	15.6	to	18.2

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.3	-	-
Leq	56.7	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

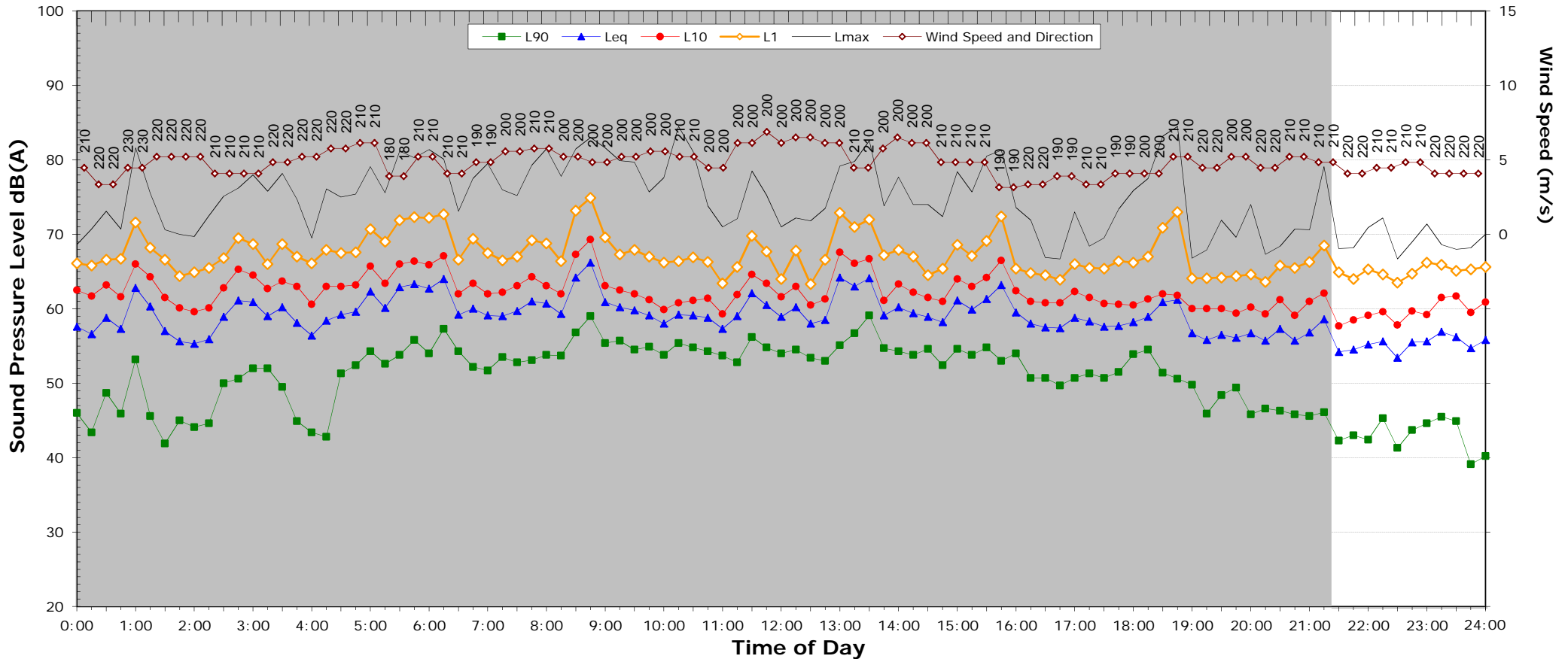
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	61.1	-
L _{eq} 1hr lower 10 percentile	57.7	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	38.5
Leq	-	-	55.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

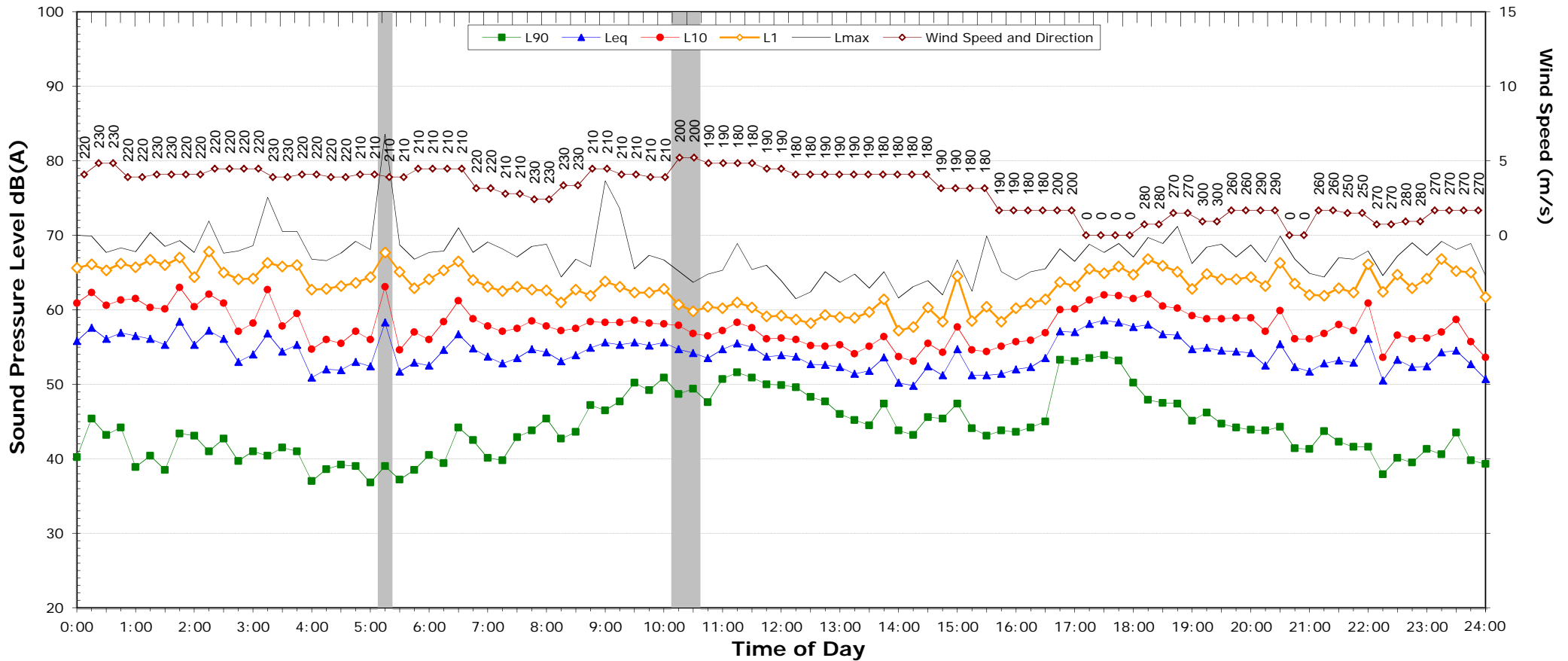
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	57.7
L _{eq} 1hr upper 10 percentile	57.2	59.3
L _{eq} 1hr lower 10 percentile	57.2	54.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.7	to	75.1
Lmax - Leq (Range)	15.9	to	20.3

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.2	41.4	36.0
Leq	54.5	54.8	52.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

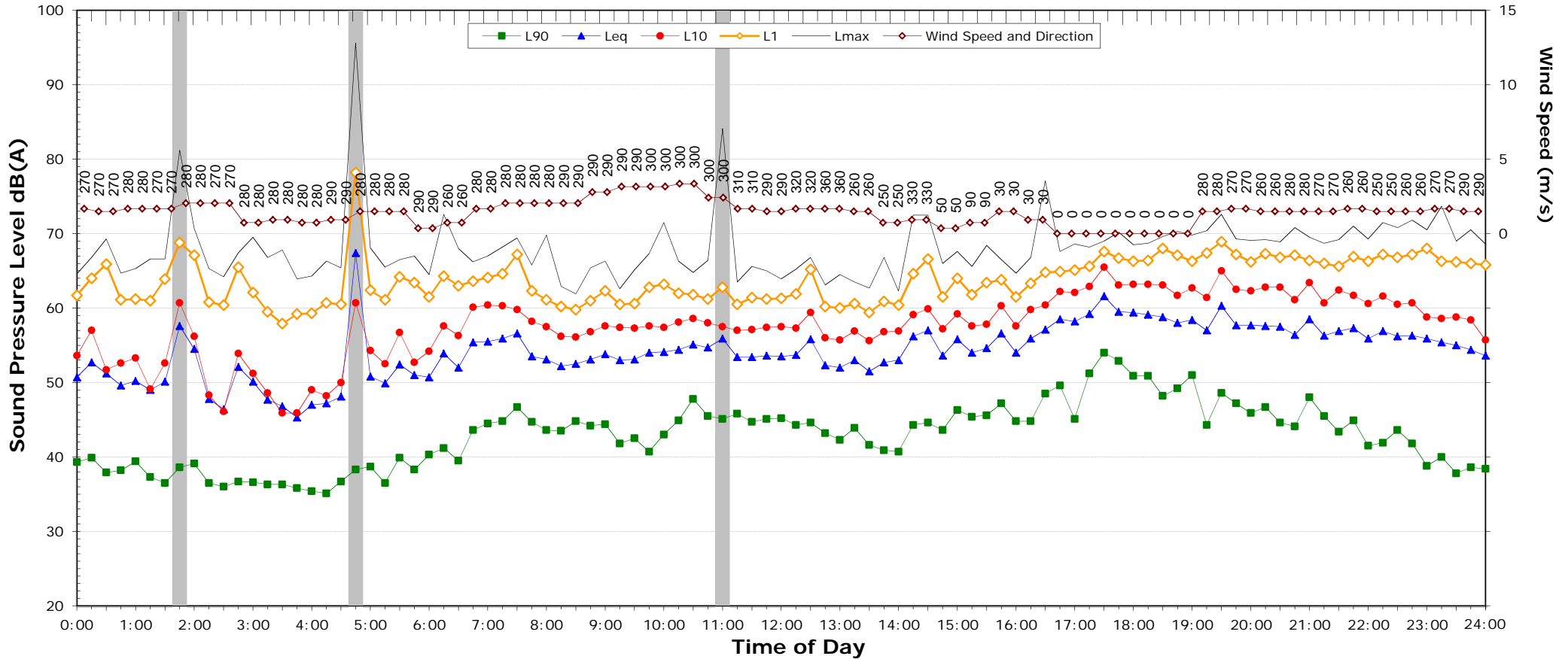
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.1	54.6
L _{eq} 1hr upper 10 percentile	60.0	56.9
L _{eq} 1hr lower 10 percentile	54.2	49.3

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	67.0	to	72.6
L _{max} - Leq (Range)	15.9	to	21.0

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.6	43.4	35.9
Leq	55.6	57.9	54.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

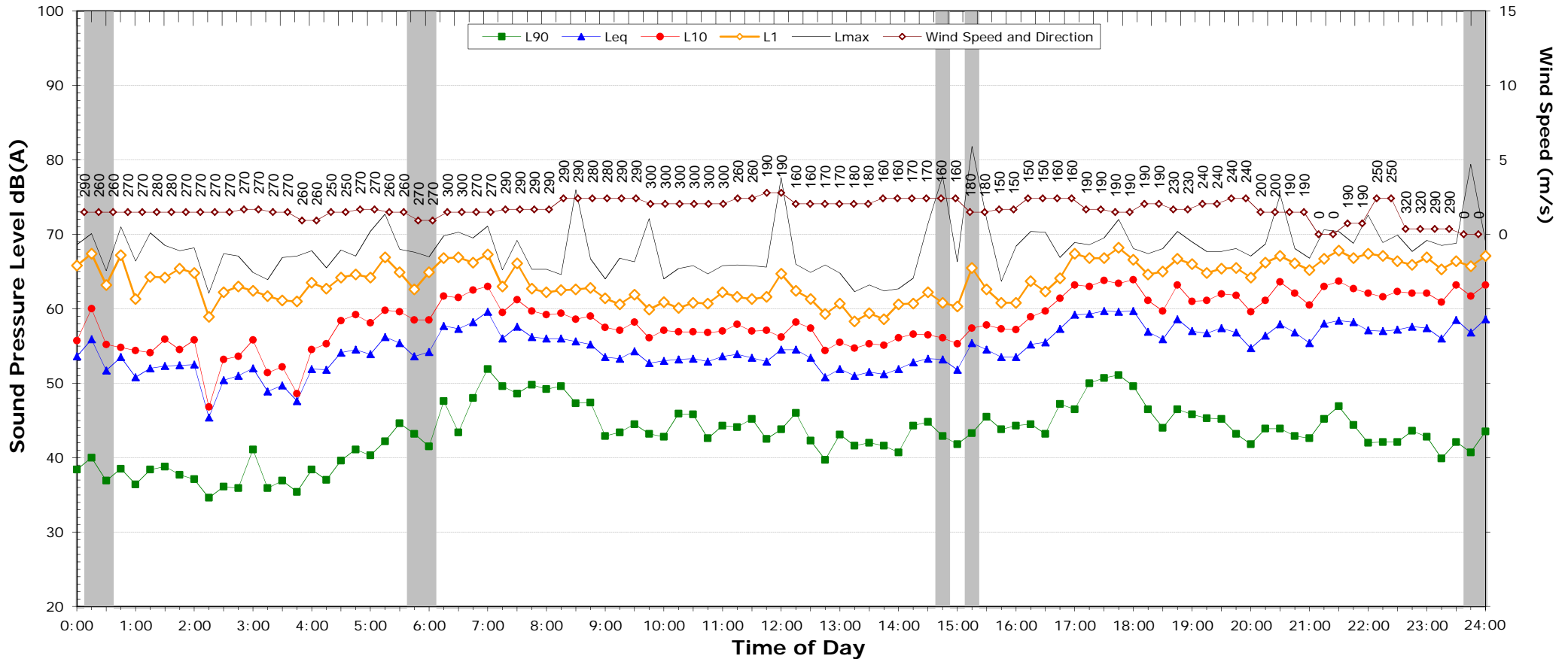
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.8	57.1
L _{eq} 1hr upper 10 percentile	61.9	60.8
L _{eq} 1hr lower 10 percentile	55.3	52.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	67.4	to	73.7
Lmax - Leq (Range)	15.5	to	19.0

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.8	42.0	-
Leq	55.2	57.1	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

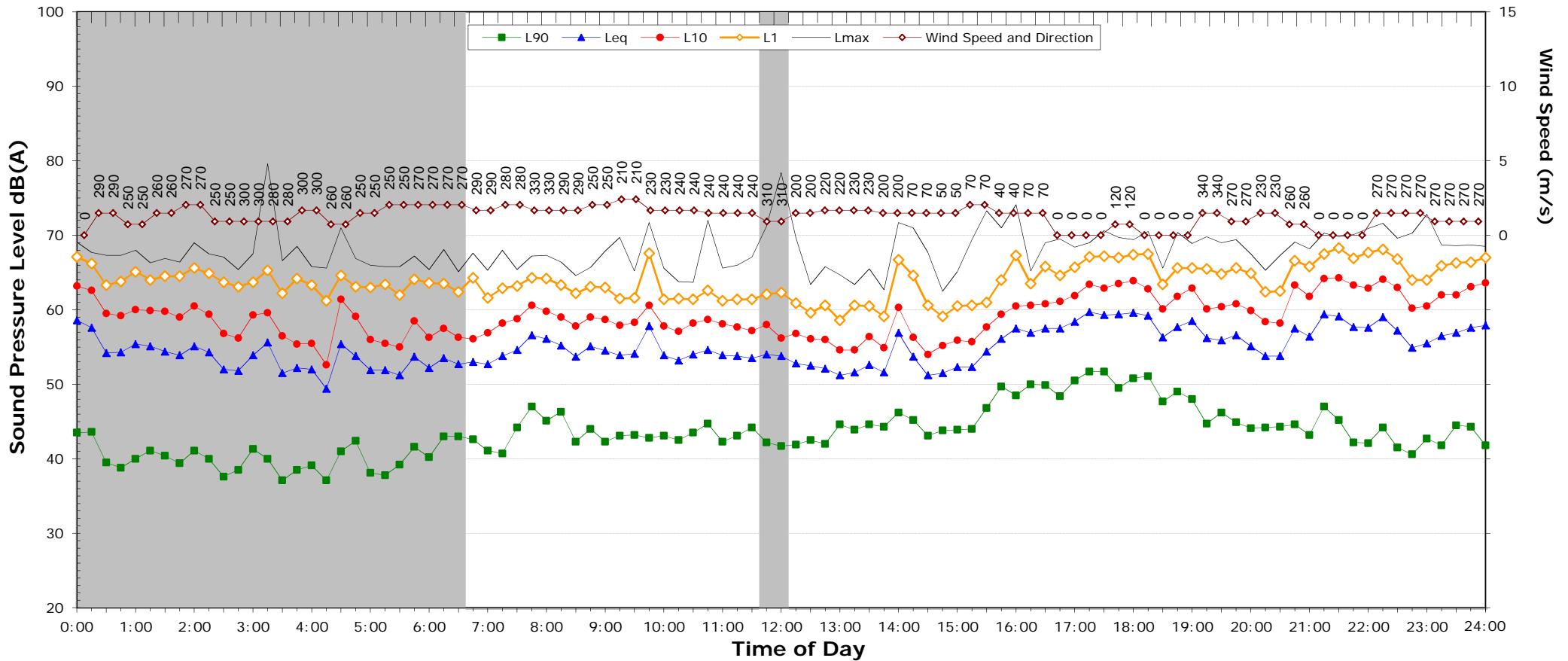
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.4	0.0
L _{eq} 1hr upper 10 percentile	61.3	59.9
L _{eq} 1hr lower 10 percentile	54.6	55.4

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.3	42.2	-
Leq	55.5	57.2	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

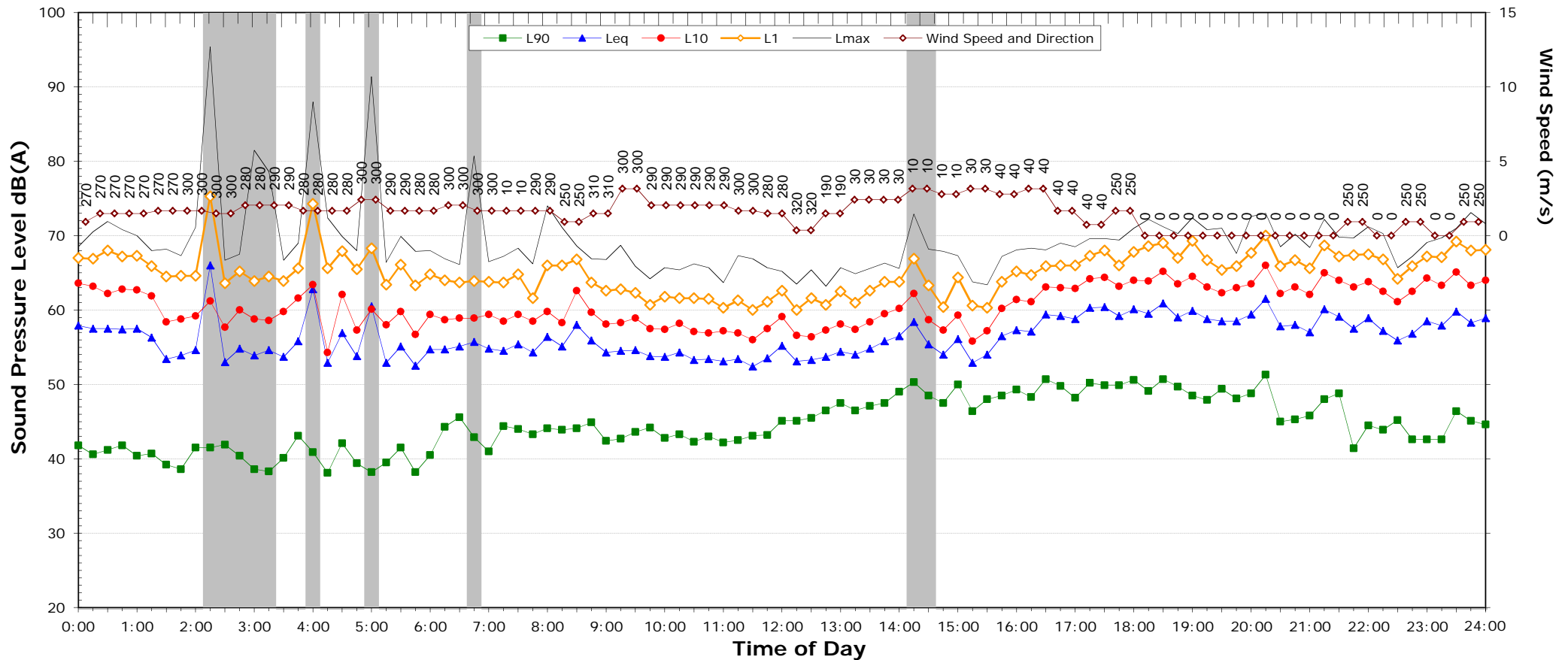
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.6	58.4
L _{eq} 1hr upper 10 percentile	61.5	60.0
L _{eq} 1hr lower 10 percentile	54.7	56.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	69.9	to	72.8
Lmax - Leq (Range)	15.8	to	17.5

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.7	44.5	39.1
Leq	56.1	59.2	56.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

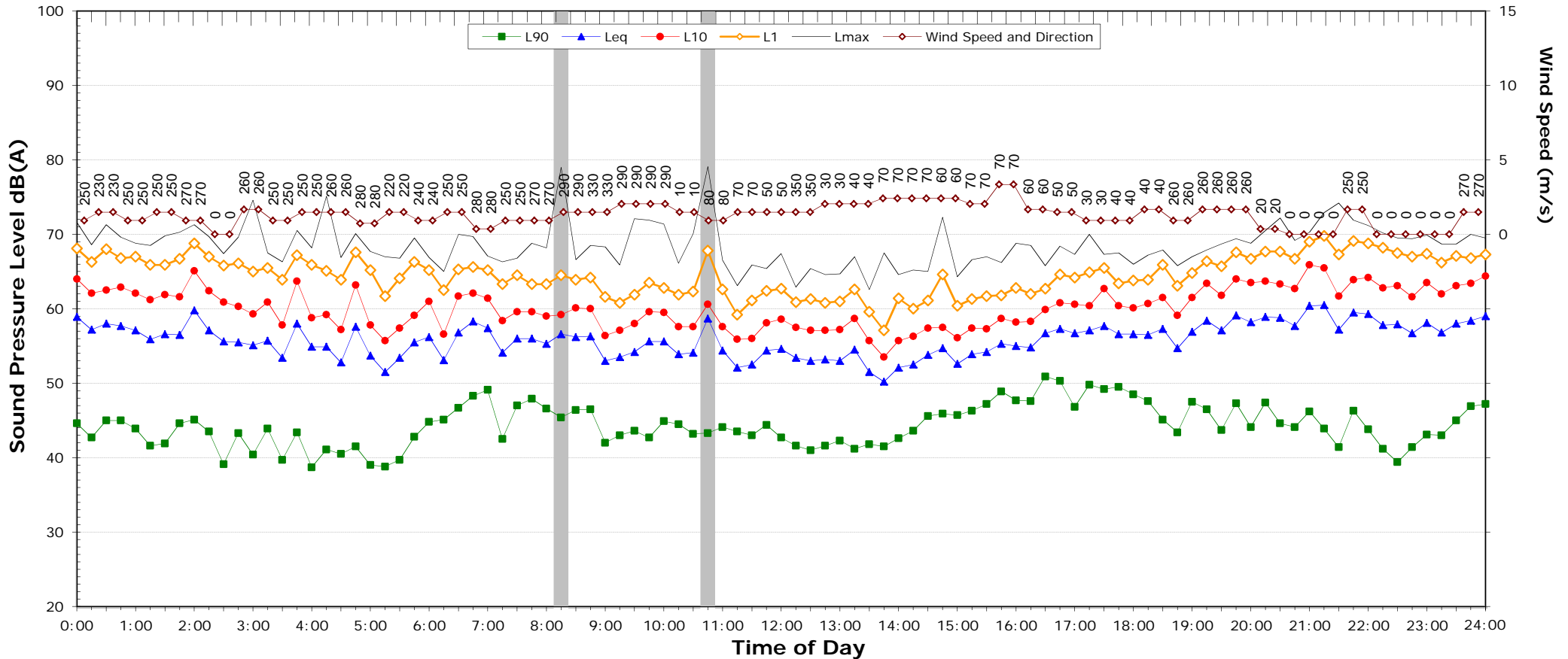
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.7	59.3
L _{eq} 1hr upper 10 percentile	62.5	61.3
L _{eq} 1hr lower 10 percentile	56.1	57.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.6	to	75.1
Lmax - Leq (Range)	18.7	to	19.9

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.6	43.4	39.1
Leq	54.8	58.4	56.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

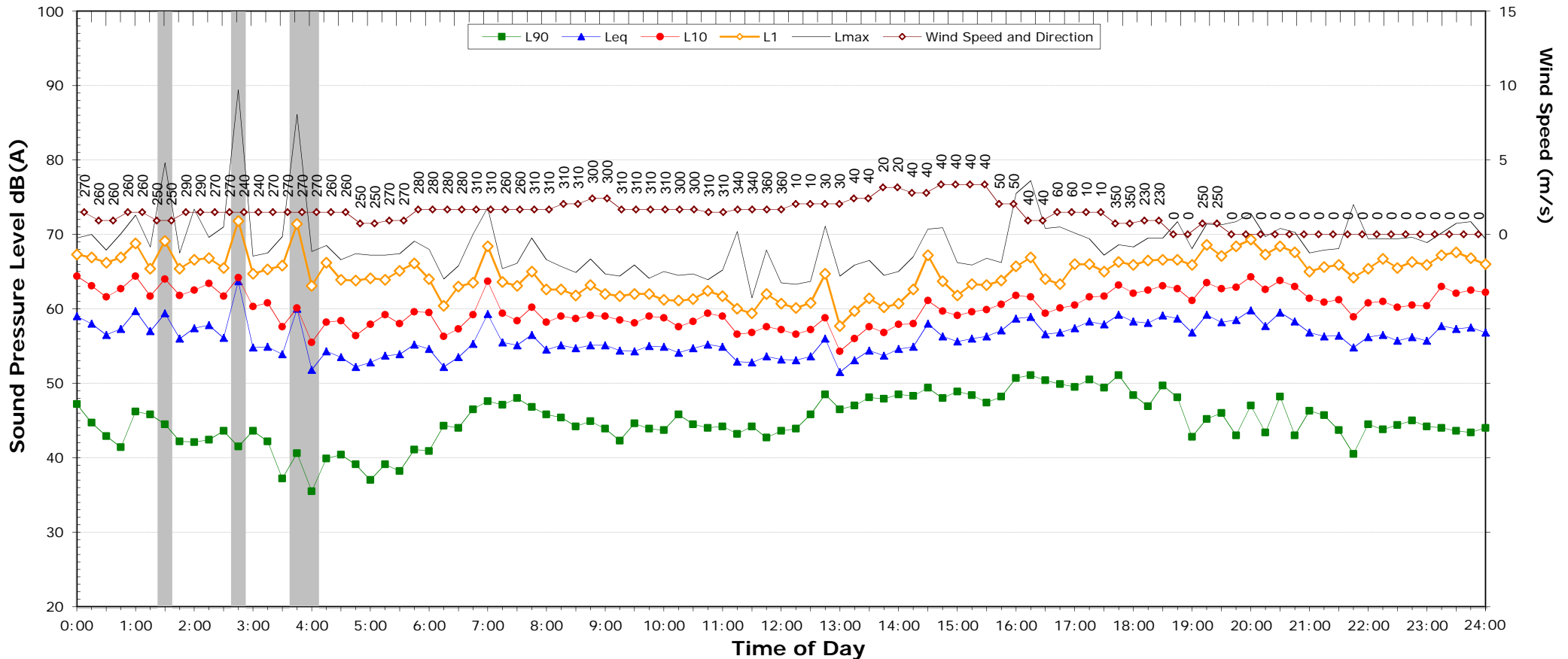
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	58.6	59.0
L _{eq} 1hr upper 10 percentile	61.7	60.6
L _{eq} 1hr lower 10 percentile	55.3	55.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.5	to	73.6
Lmax - Leq (Range)	15.2	to	17.6

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.7	42.8	38.6
Leq	55.8	58.0	56.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

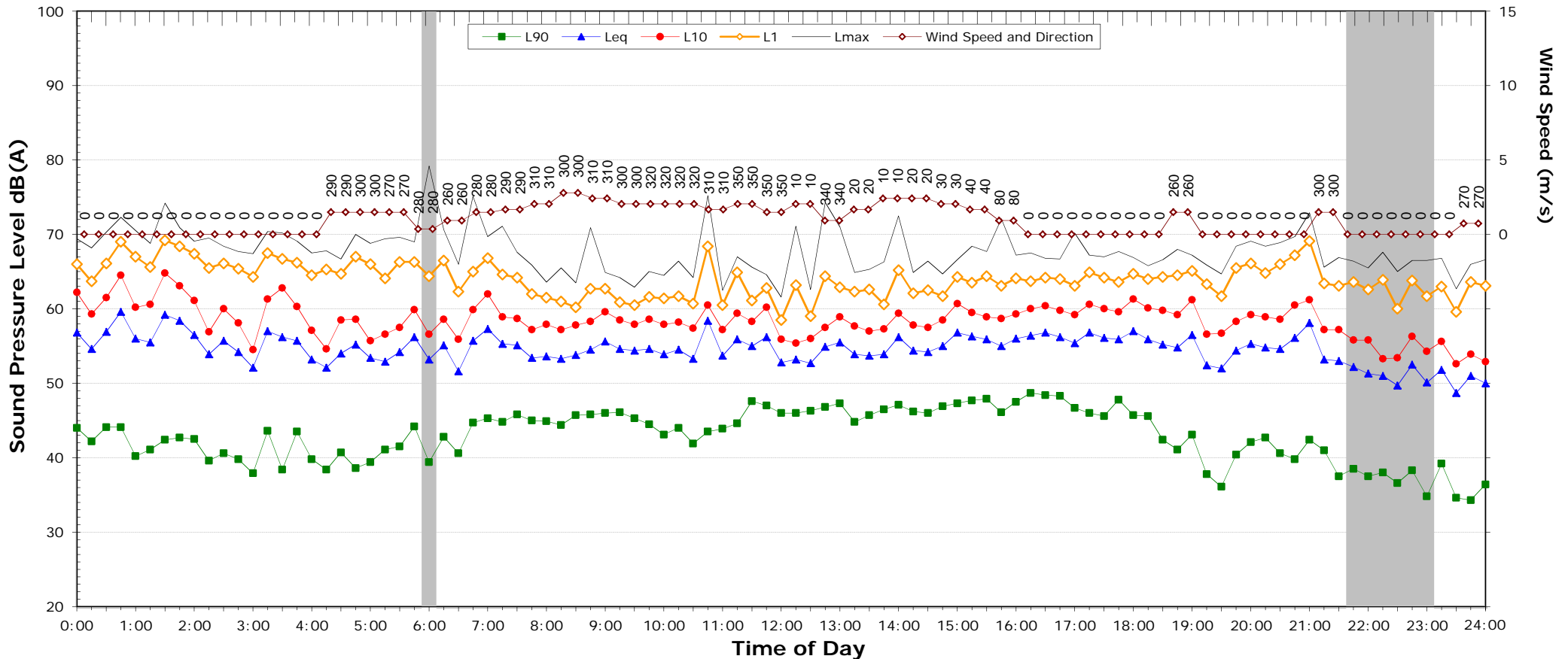
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.0	58.5
L _{eq} 1hr upper 10 percentile	61.2	60.1
L _{eq} 1hr lower 10 percentile	56.0	56.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	69.5	to	75.1
Lmax - Leq (Range)	15.1	to	19.7

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.0	37.5	-
Leq	55.2	55.0	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

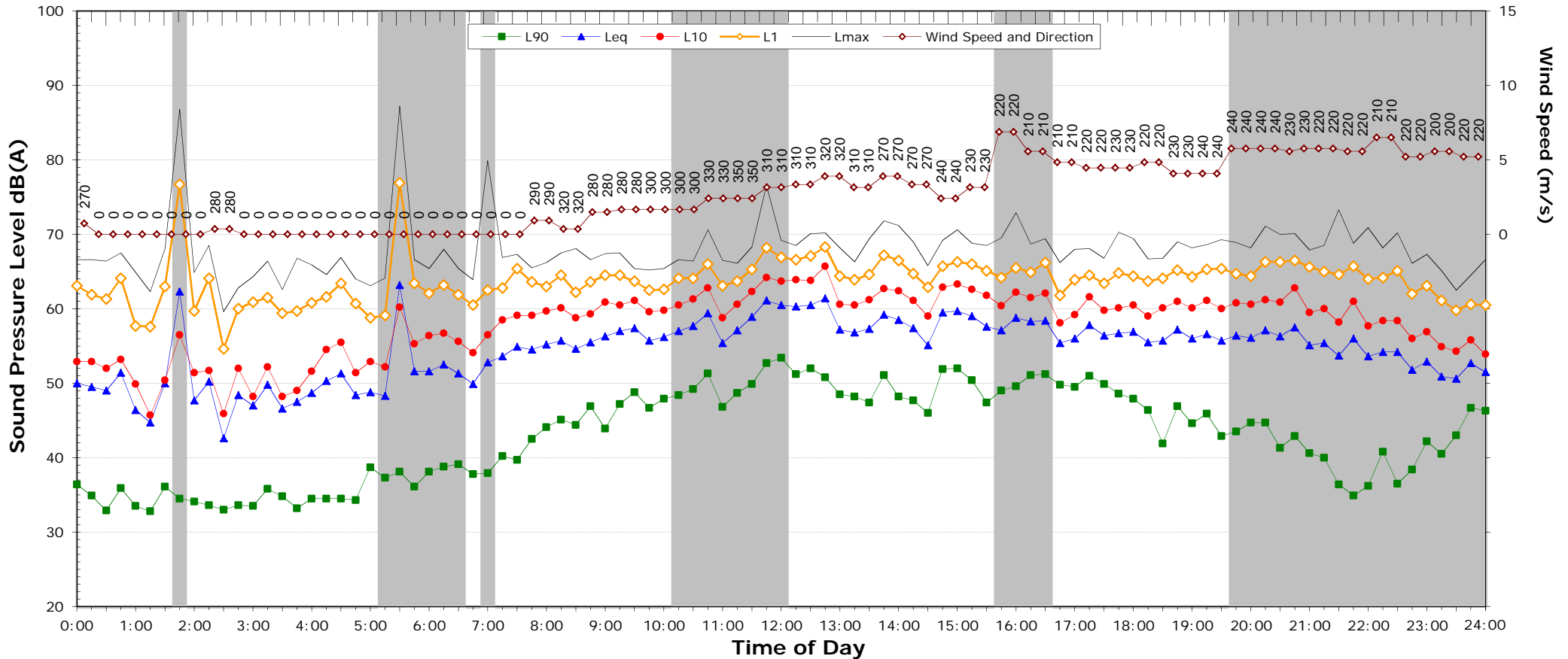
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	58.9	53.0
L _{eq} 1hr lower 10 percentile	55.9	50.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.8	to	68.5
Lmax - Leq (Range)	16.3	to	20.7

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

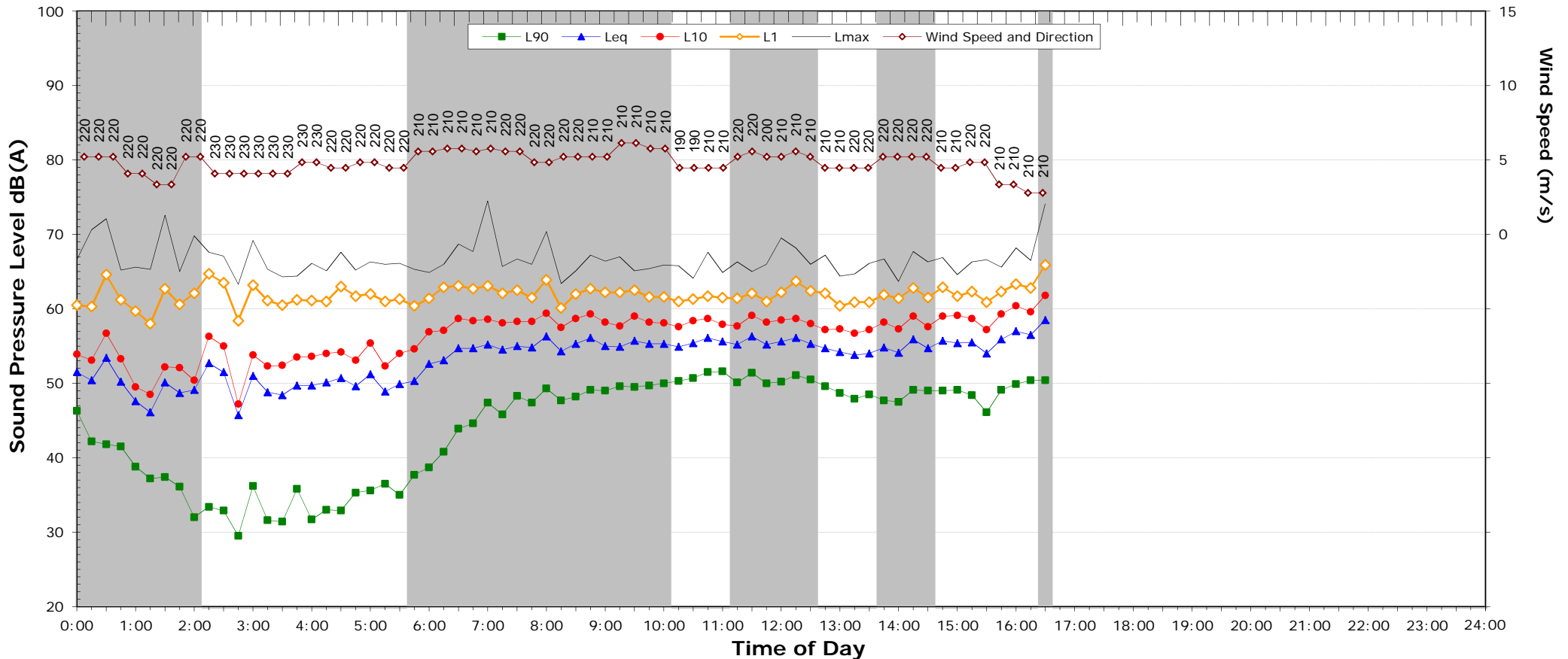
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	62.5	53.4
L _{eq} 1hr lower 10 percentile	57.2	51.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.1	to	69.2
Lmax - Leq (Range)	16.7	to	18.3

EXISTING AMBIENT NOISE LEVELS

ID 111 - 40-56 Albert Dr, DONNELLYVILLE, 2447

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

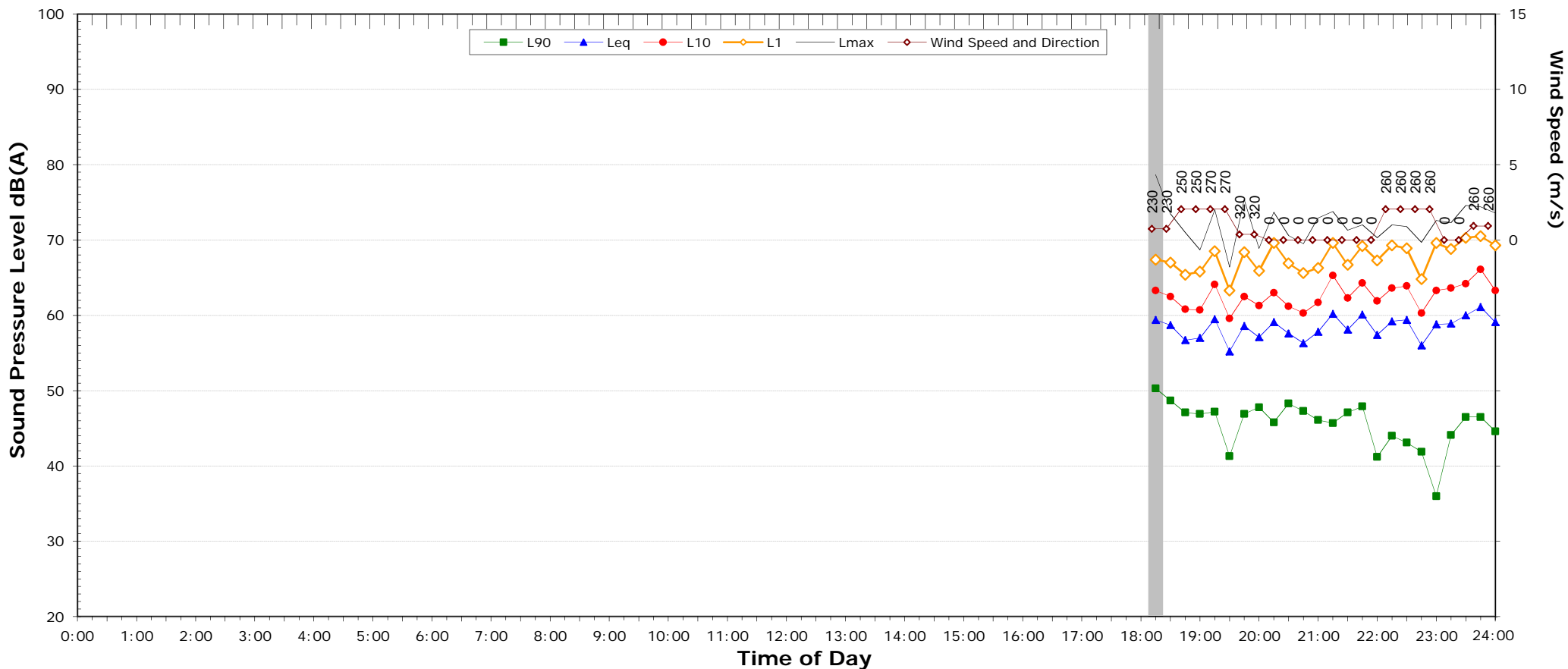
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	59.0	-
L _{eq} 1hr lower 10 percentile	56.4	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Tuesday, 21 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	41.3	32.5
Leq	-	58.2	57.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

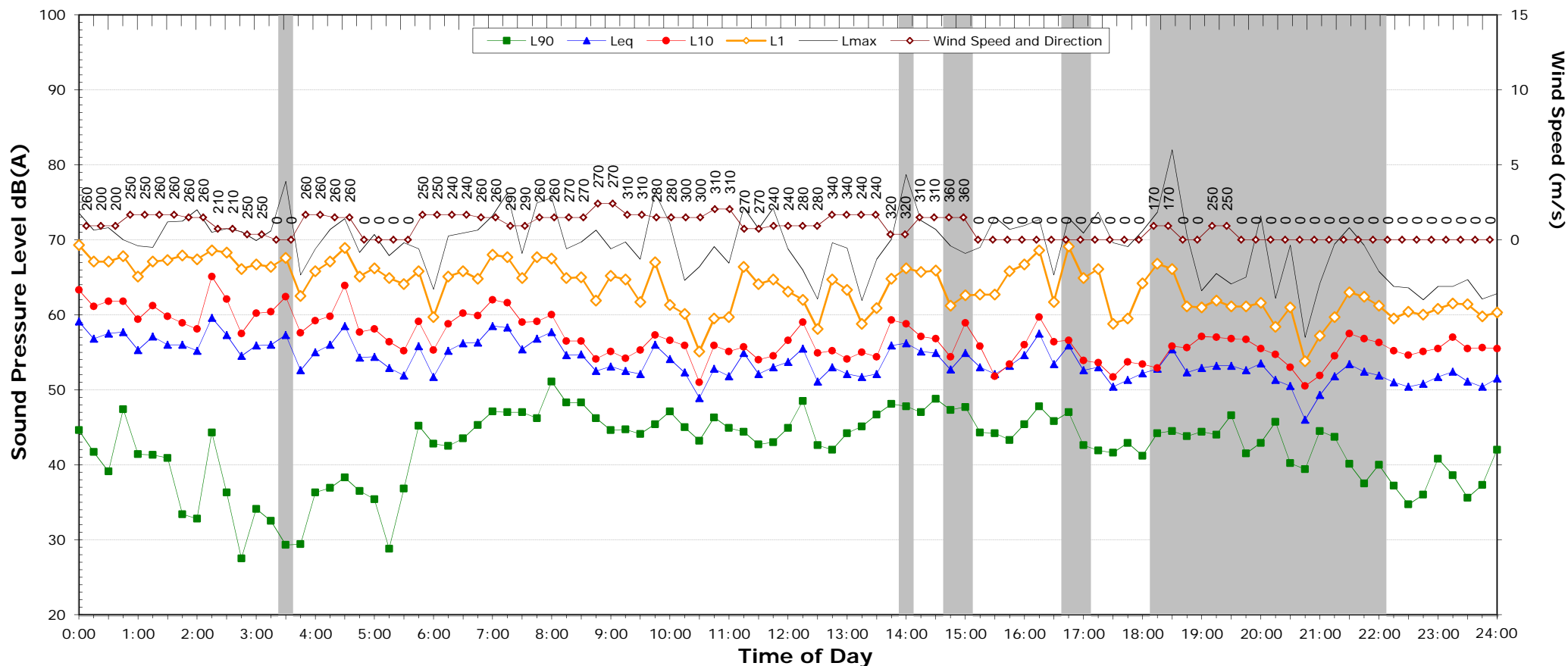
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	59.6
L _{eq} 1hr upper 10 percentile	61.6	62.4
L _{eq} 1hr lower 10 percentile	60.1	55.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	69.6	to	74.0
Lmax - Leq (Range)	16.2	to	17.9

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.0	-	34.7
Leq	54.1	-	52.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

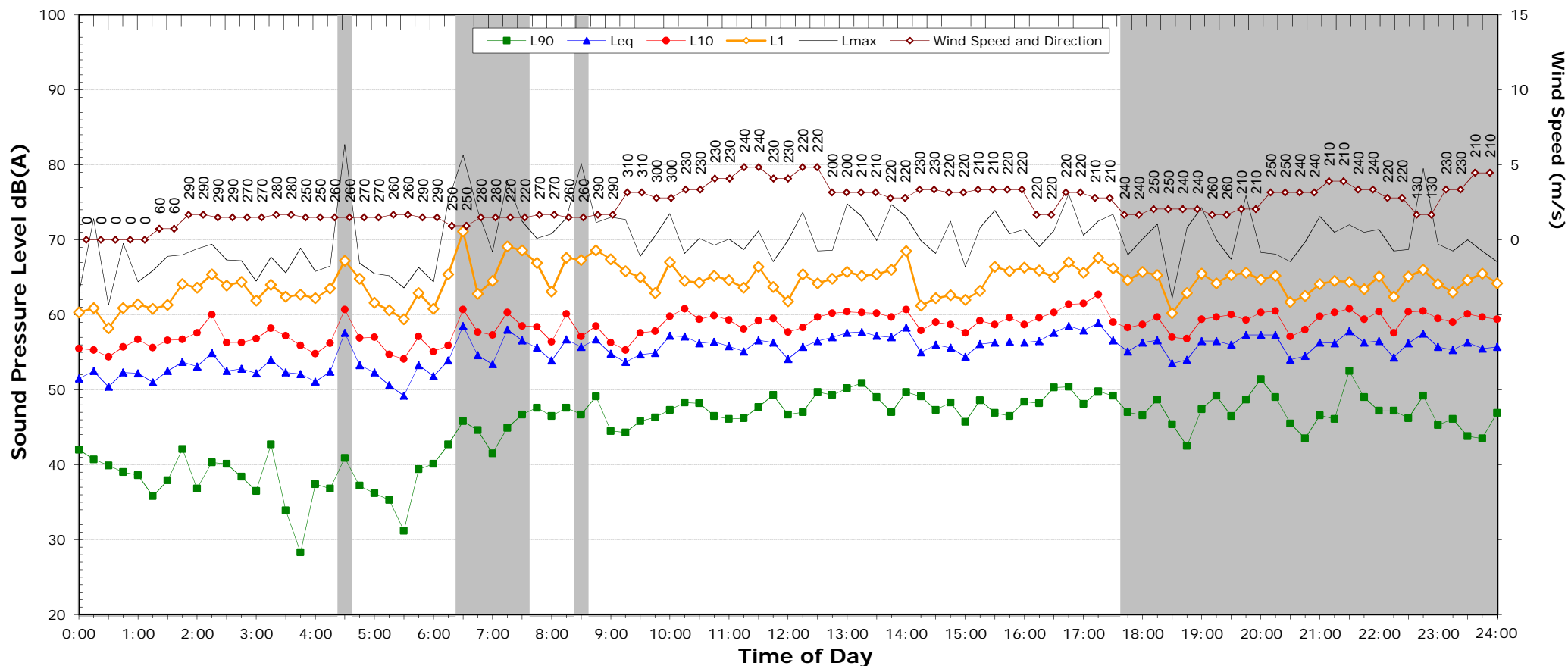
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	54.7
L _{eq} 1hr upper 10 percentile	59.6	56.4
L _{eq} 1hr lower 10 percentile	54.2	53.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.8	to	75.2
Lmax - Leq (Range)	16.1	to	21.3

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.8	-	-
Leq	56.5	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

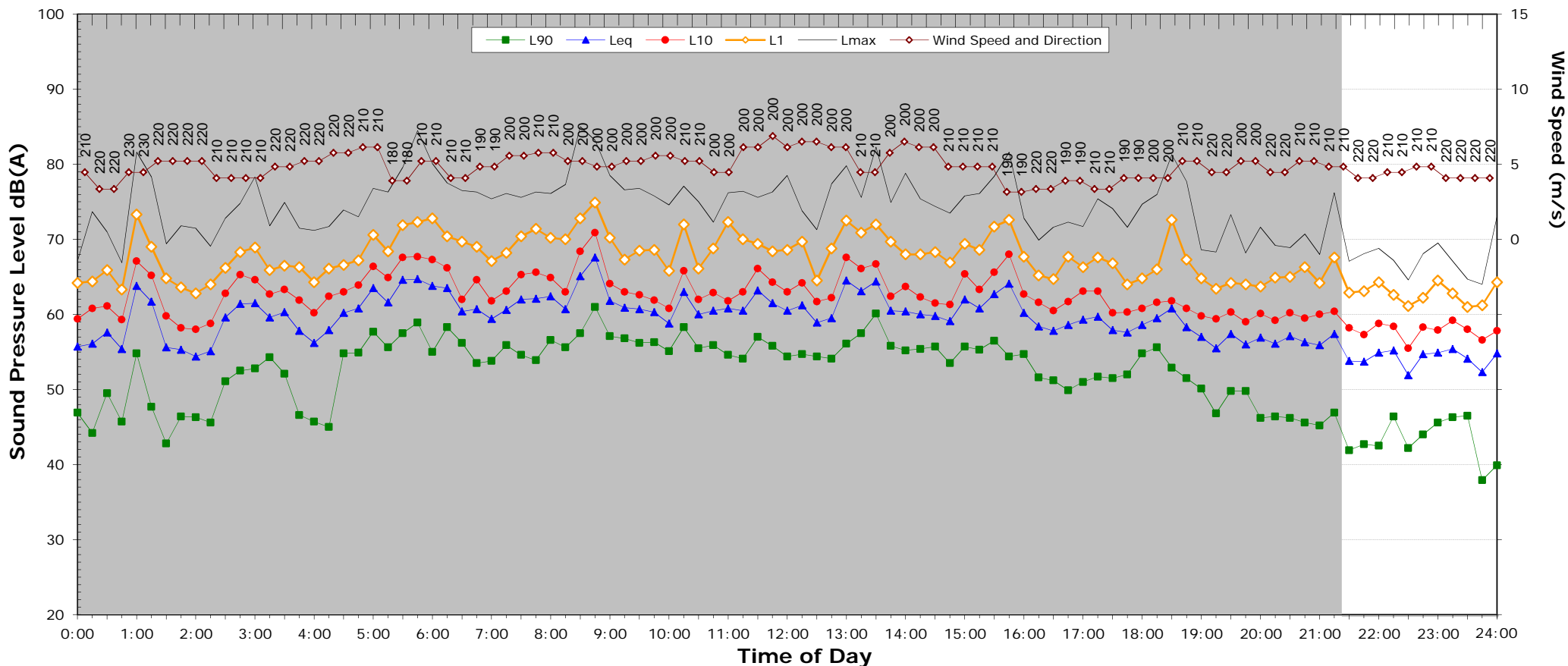
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	60.4	-
L _{eq} 1hr lower 10 percentile	57.4	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	37.8
Leq	-	-	53.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

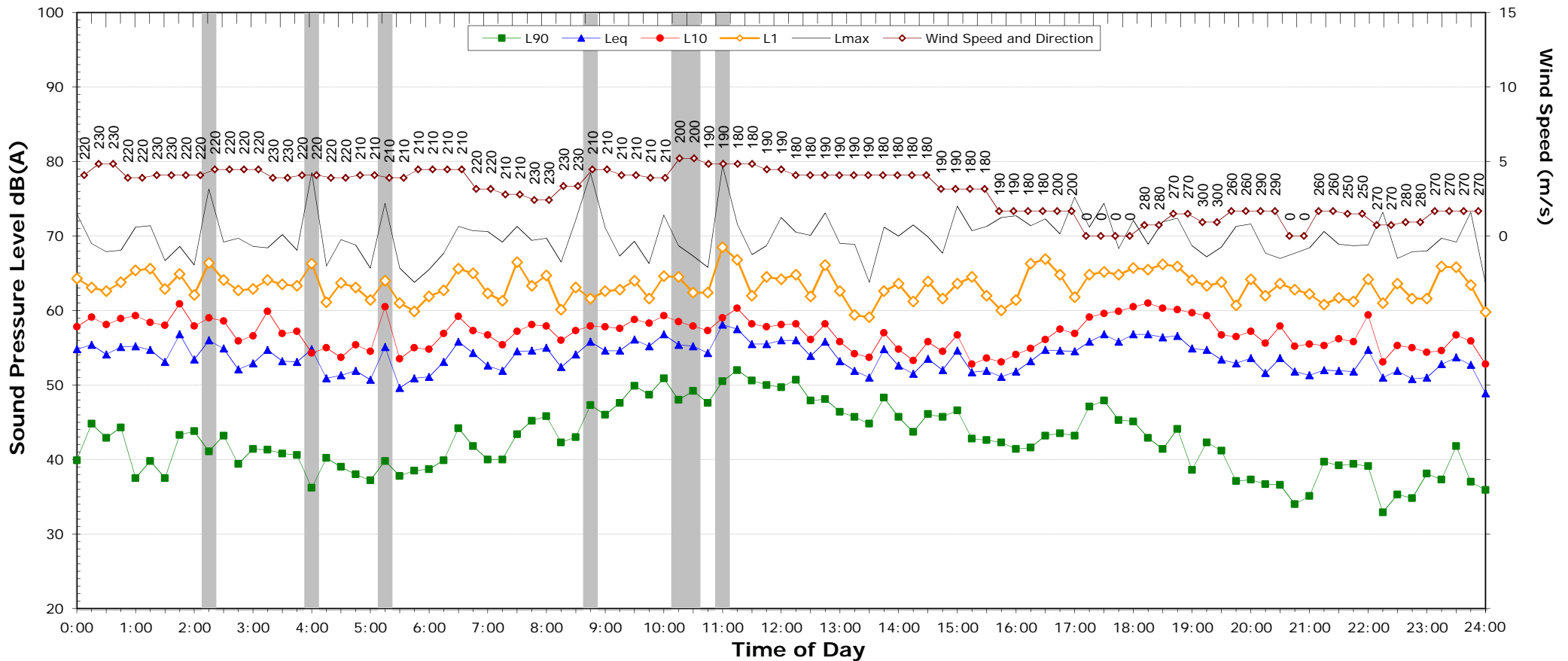
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	56.3
L _{eq} 1hr upper 10 percentile	56.7	57.5
L _{eq} 1hr lower 10 percentile	56.7	53.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	65.7	to	73.0
Lmax - Leq (Range)	15.1	to	18.7

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.3	35.1	32.2
Leq	54.5	54.0	51.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

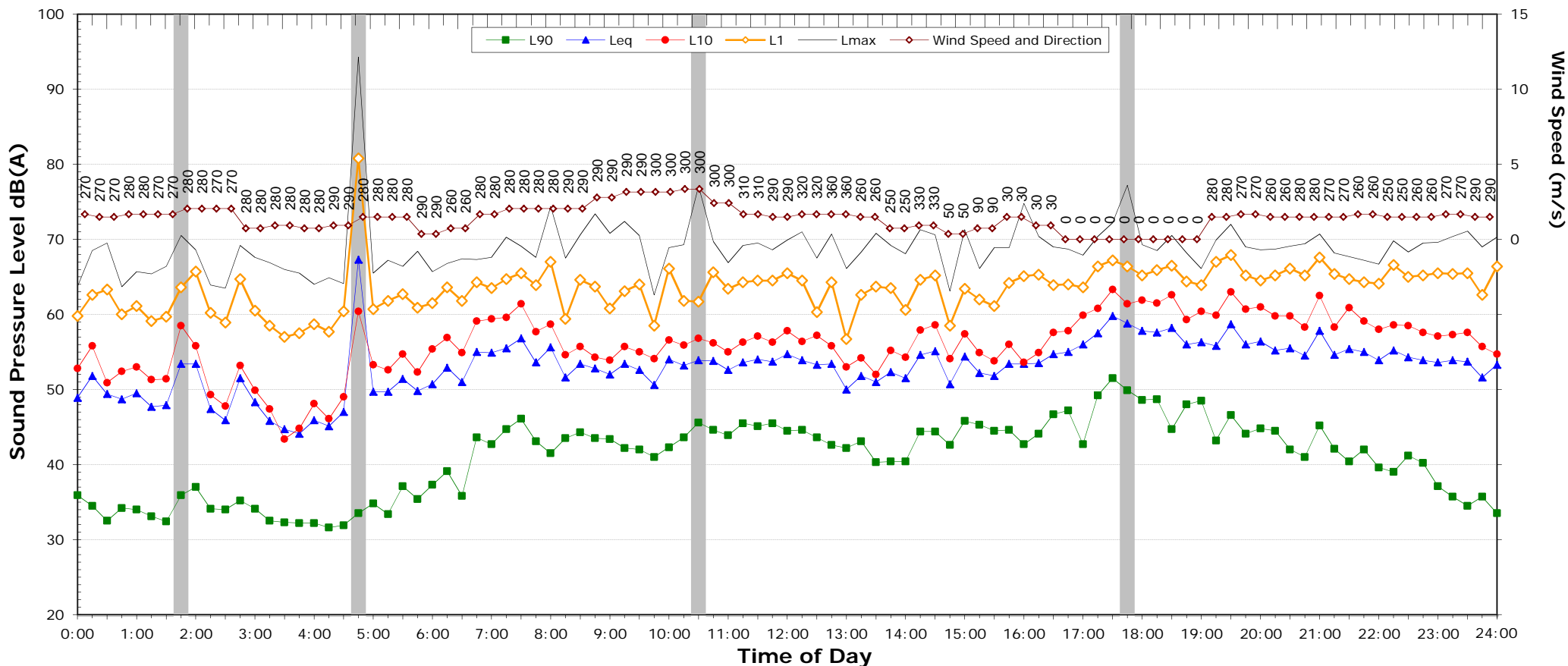
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.9	54.0
L _{eq} 1hr upper 10 percentile	58.8	56.2
L _{eq} 1hr lower 10 percentile	54.4	47.7

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.5	to	73.2
L _{max} - Leq (Range)	17.8	to	22.0

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.0	40.4	-
Leq	54.0	56.3	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

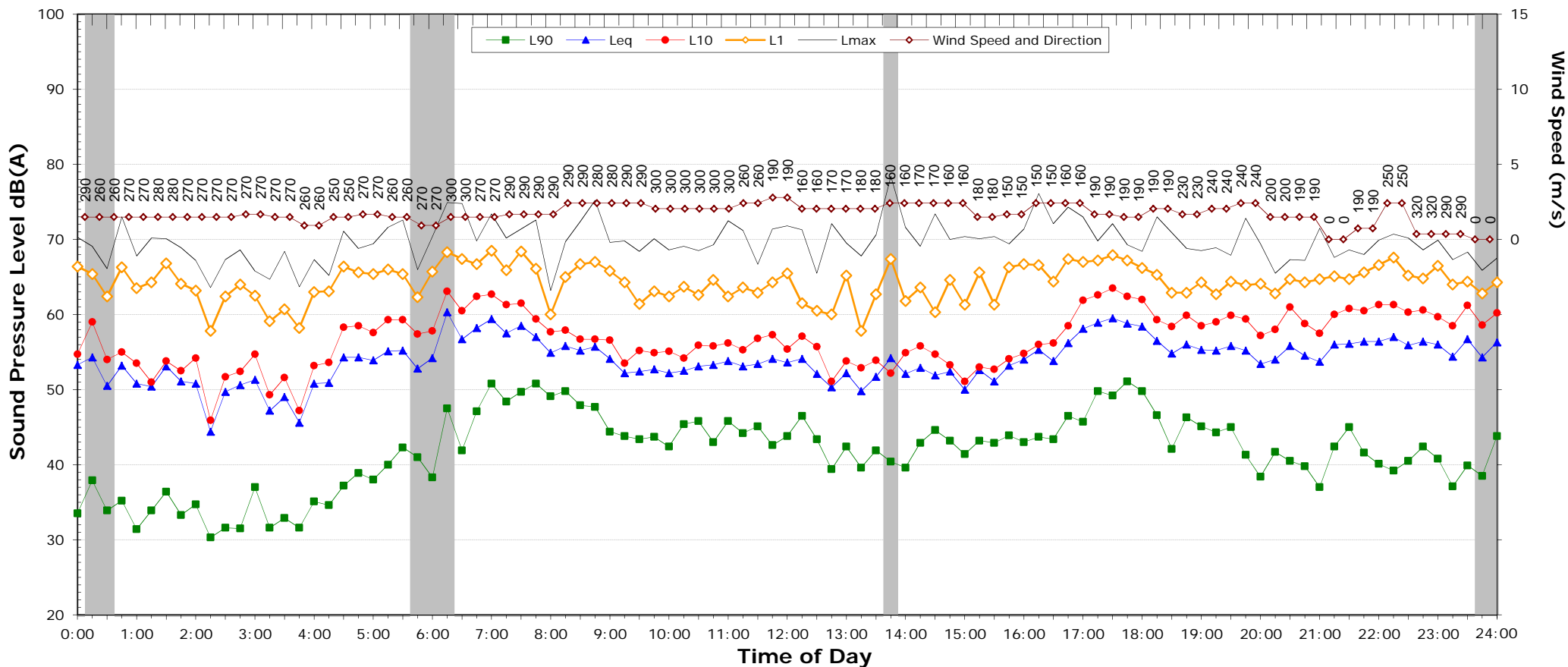
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.4	56.1
L _{eq} 1hr upper 10 percentile	60.4	60.7
L _{eq} 1hr lower 10 percentile	54.6	51.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.4	to	74.8
Lmax - Leq (Range)	15.5	to	20.8

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.9	38.4	-
Leq	54.8	55.4	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

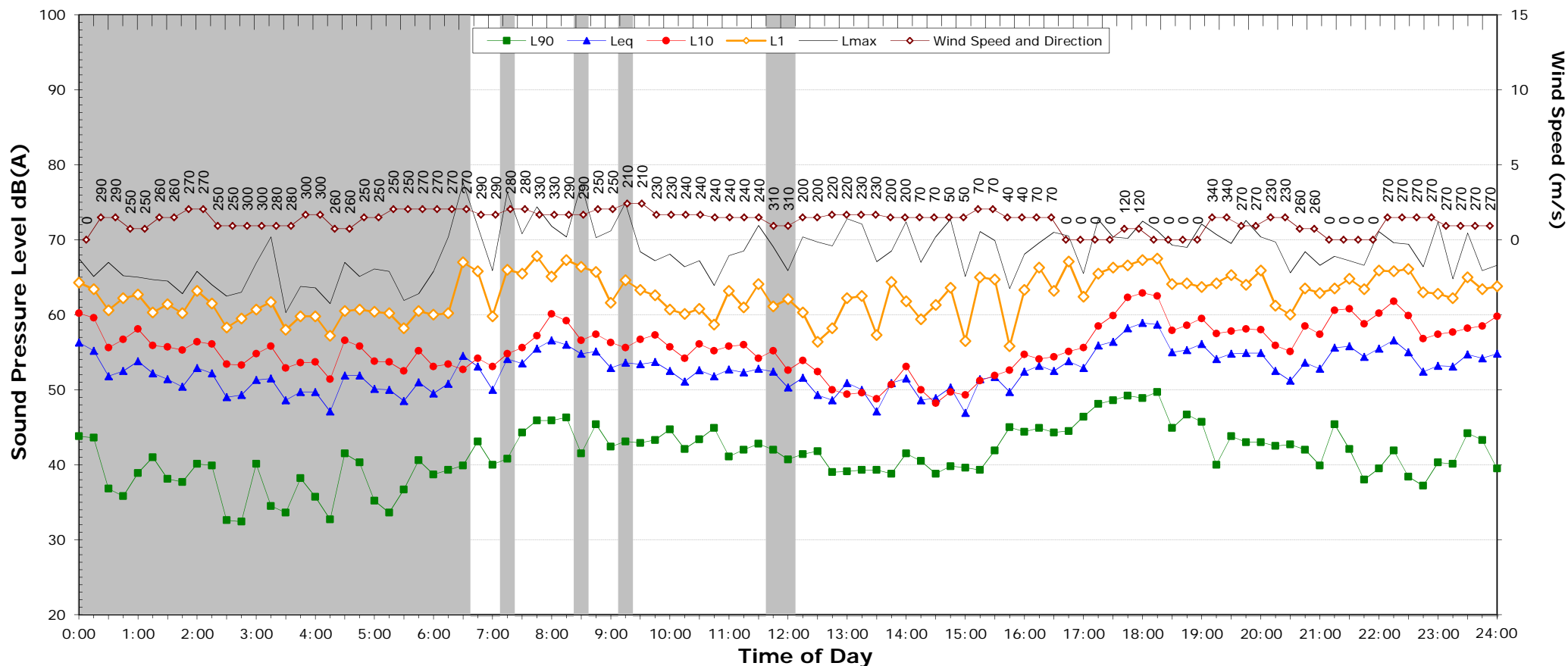
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.5	0.0
L _{eq} 1hr upper 10 percentile	60.6	58.8
L _{eq} 1hr lower 10 percentile	54.1	54.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.8	to	71.8
Lmax - Leq (Range)	20.0	to	20.0

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	39.1	39.5	-
Leq	53.3	55.0	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

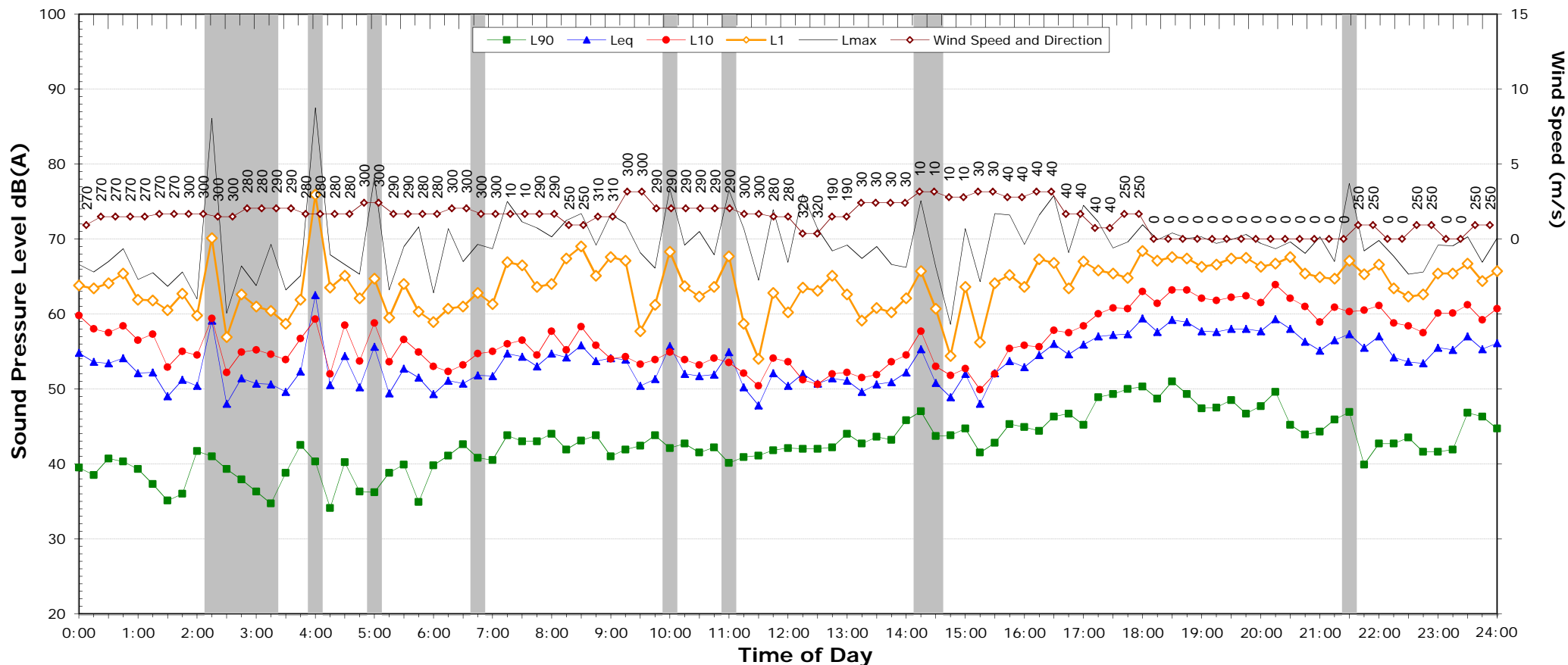
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.4	55.2
L _{eq} 1hr upper 10 percentile	59.6	57.1
L _{eq} 1hr lower 10 percentile	52.1	53.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	67.9	to	72.4
Lmax - Leq (Range)	15.3	to	20.6

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.5	42.7	38.0
Leq	53.7	57.7	54.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

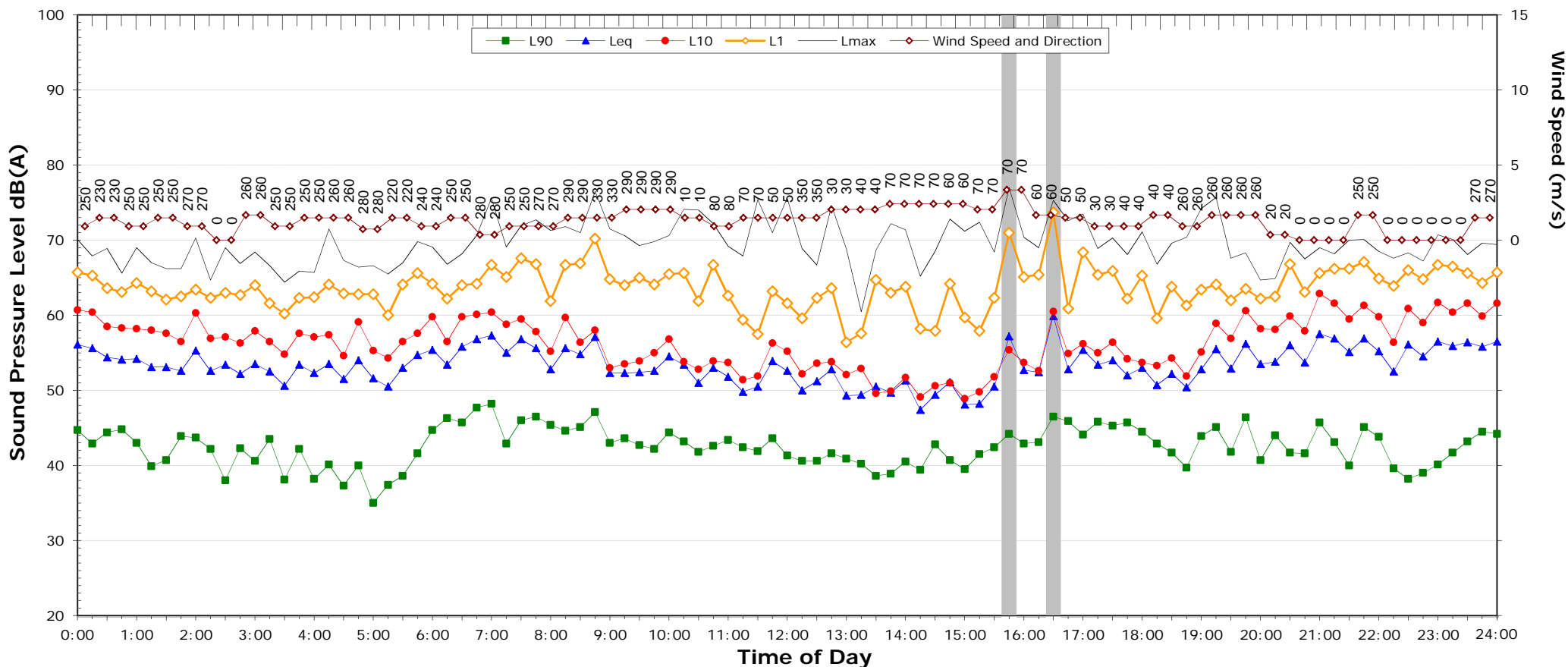
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	57.7	56.7
L _{eq} 1hr upper 10 percentile	60.6	58.6
L _{eq} 1hr lower 10 percentile	53.1	54.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	69.0	to	75.6
Lmax - Leq (Range)	16.0	to	19.5

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	40.2	40.0	37.2
Leq	52.8	54.8	54.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

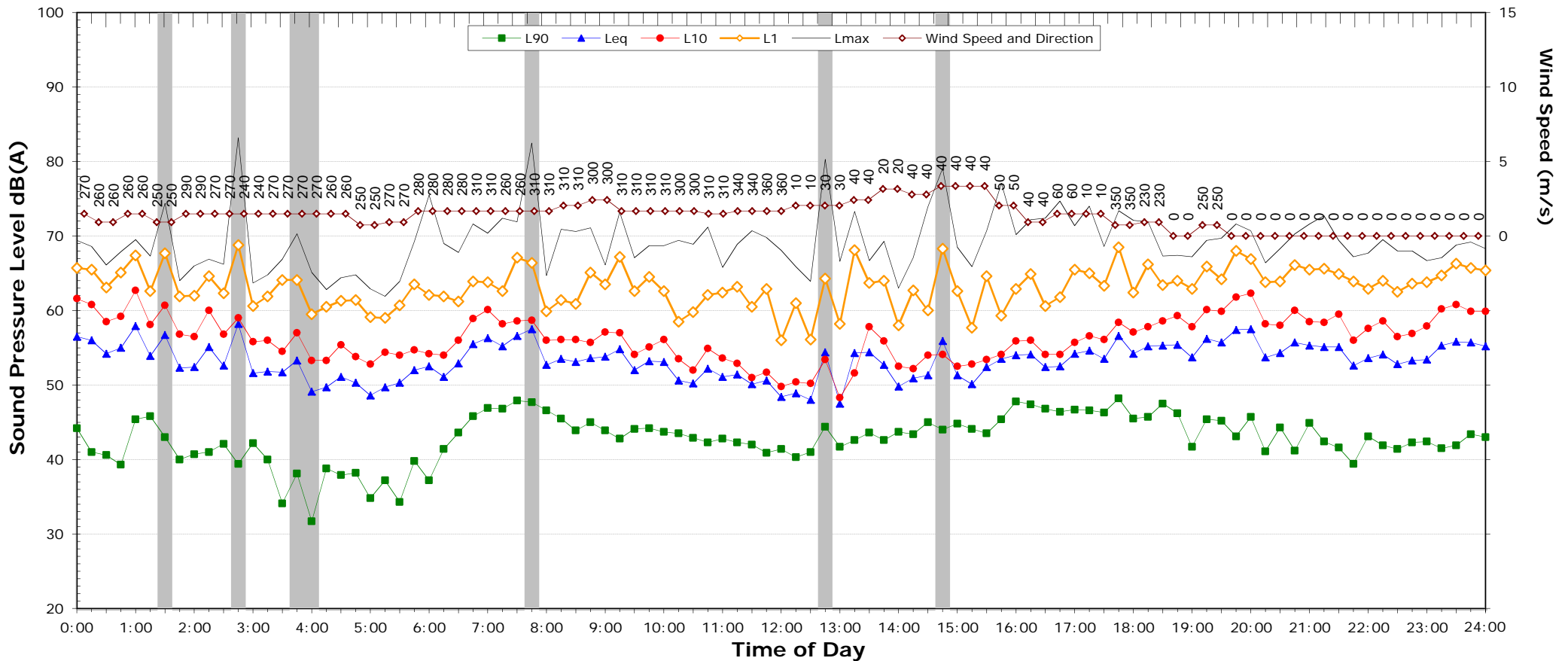
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.0	56.6
L _{eq} 1hr upper 10 percentile	58.3	58.7
L _{eq} 1hr lower 10 percentile	52.3	52.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.9	to	75.5
Lmax - Leq (Range)	15.1	to	24.2

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.7	41.1	34.9
Leq	52.9	55.3	53.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

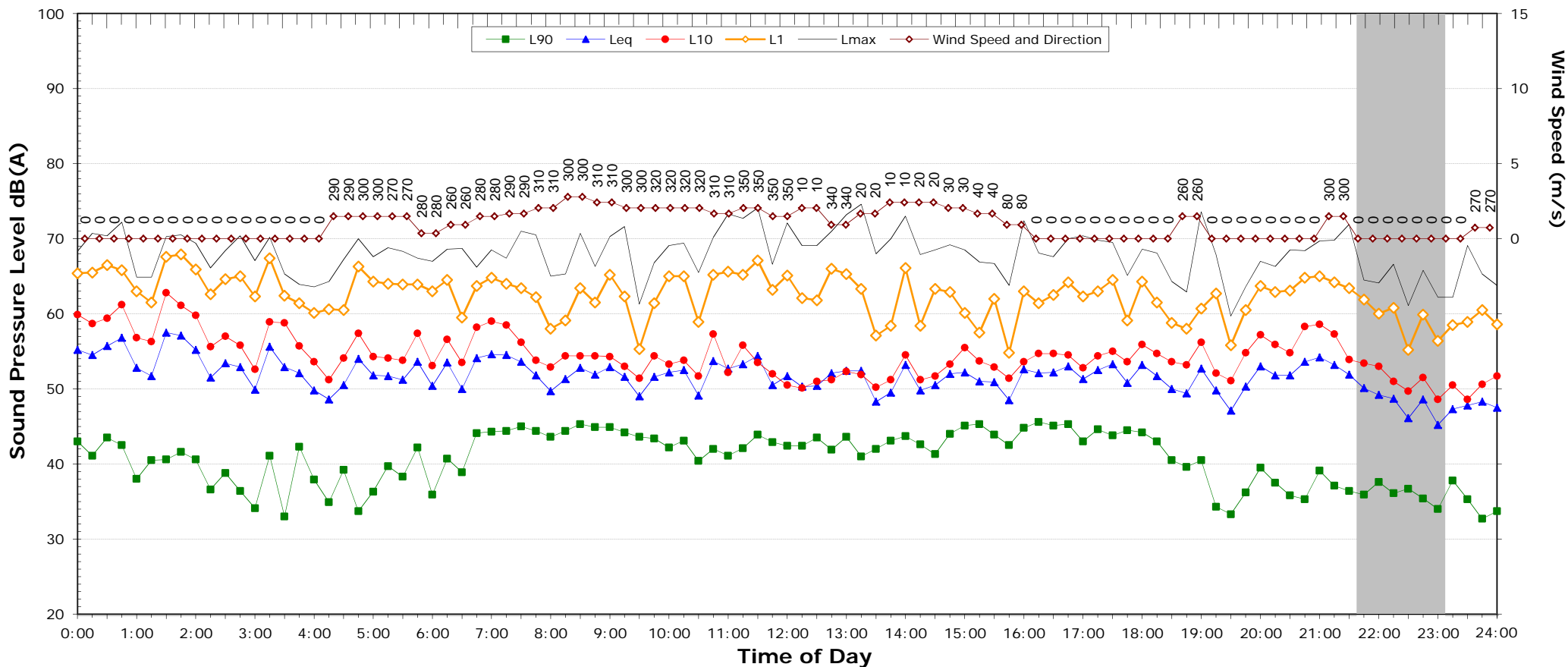
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	56.2	56.3
L _{eq} 1hr upper 10 percentile	58.5	58.4
L _{eq} 1hr lower 10 percentile	51.8	54.2

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.7	to	72.2
Lmax - Leq (Range)	15.3	to	18.3

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.9	34.3	-
Leq	52.0	51.8	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

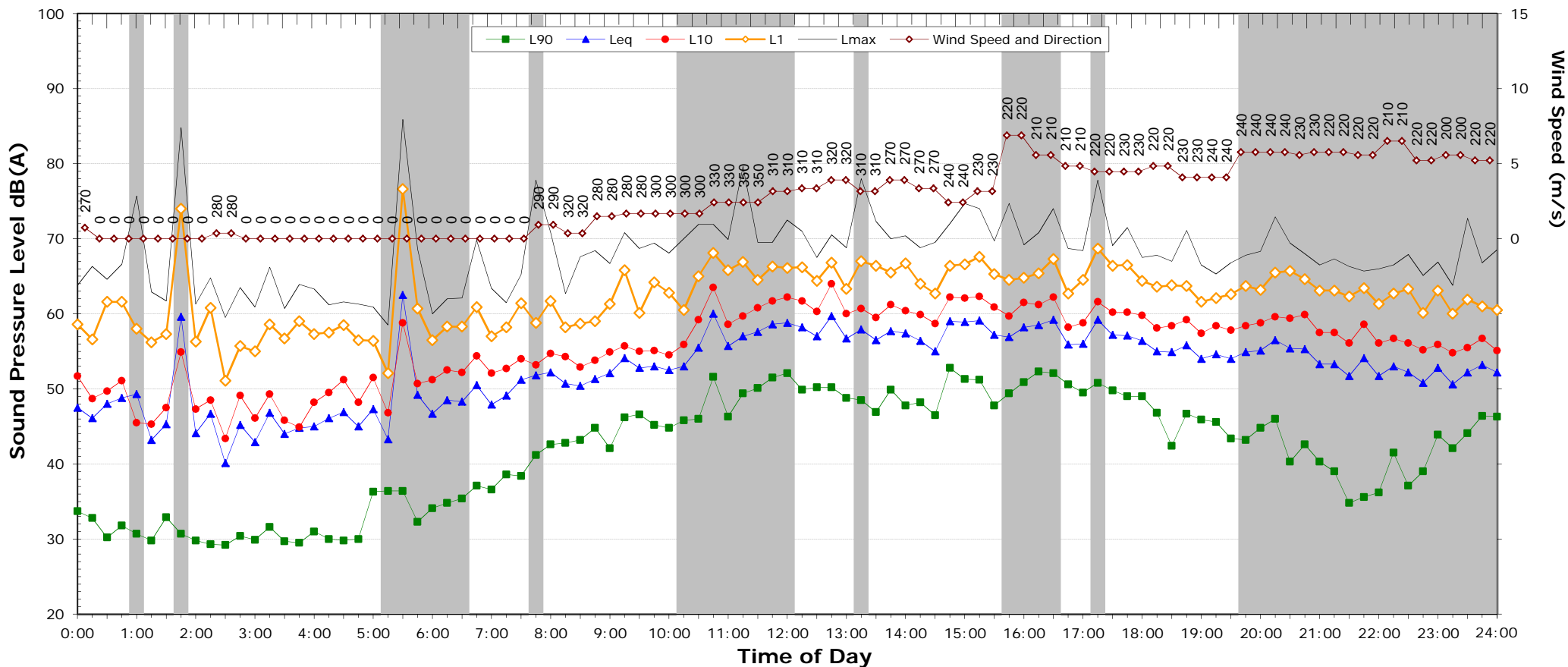
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	55.4	51.9
L _{eq} 1hr lower 10 percentile	53.3	46.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.2	to	69.8
Lmax - Leq (Range)	15.2	to	21.4

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

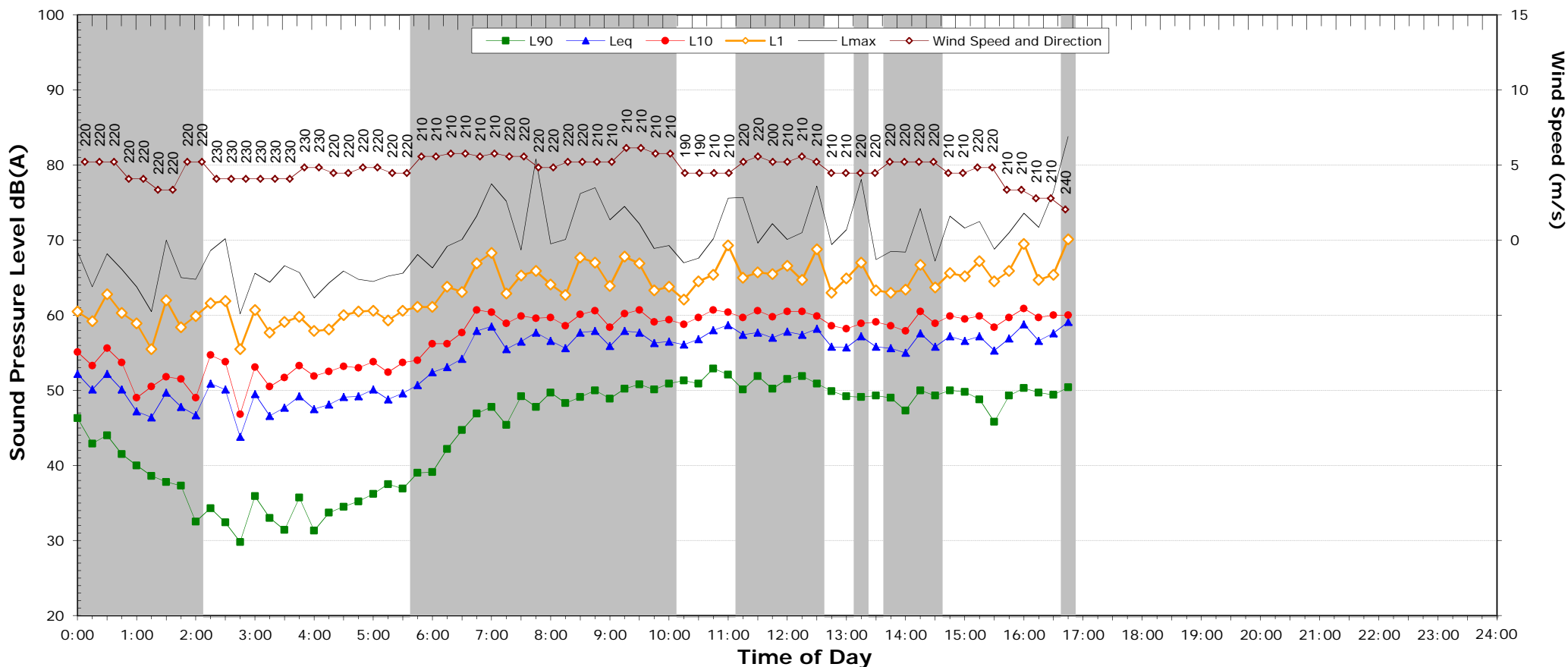
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	60.7	51.8
L _{eq} 1hr lower 10 percentile	53.5	50.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	65.6	to	70.2
Lmax - Leq (Range)	16.4	to	20.9

EXISTING AMBIENT NOISE LEVELS

ID 114 - 43 Albert Dr, DONNELLYVILLE, 2447

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

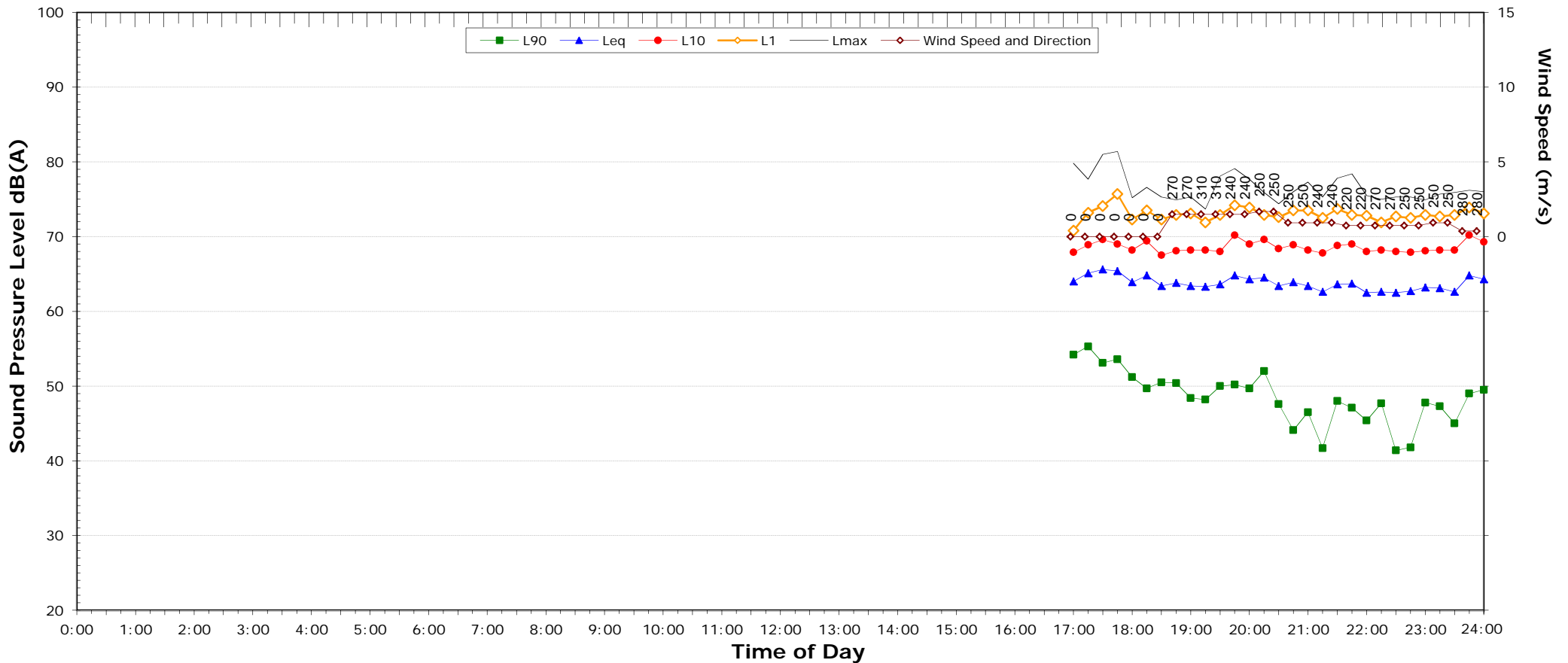
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	60.0	-
L _{eq} 1hr lower 10 percentile	58.3	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Monday, 20 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	44.1	36.8
Leq	-	63.7	62.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

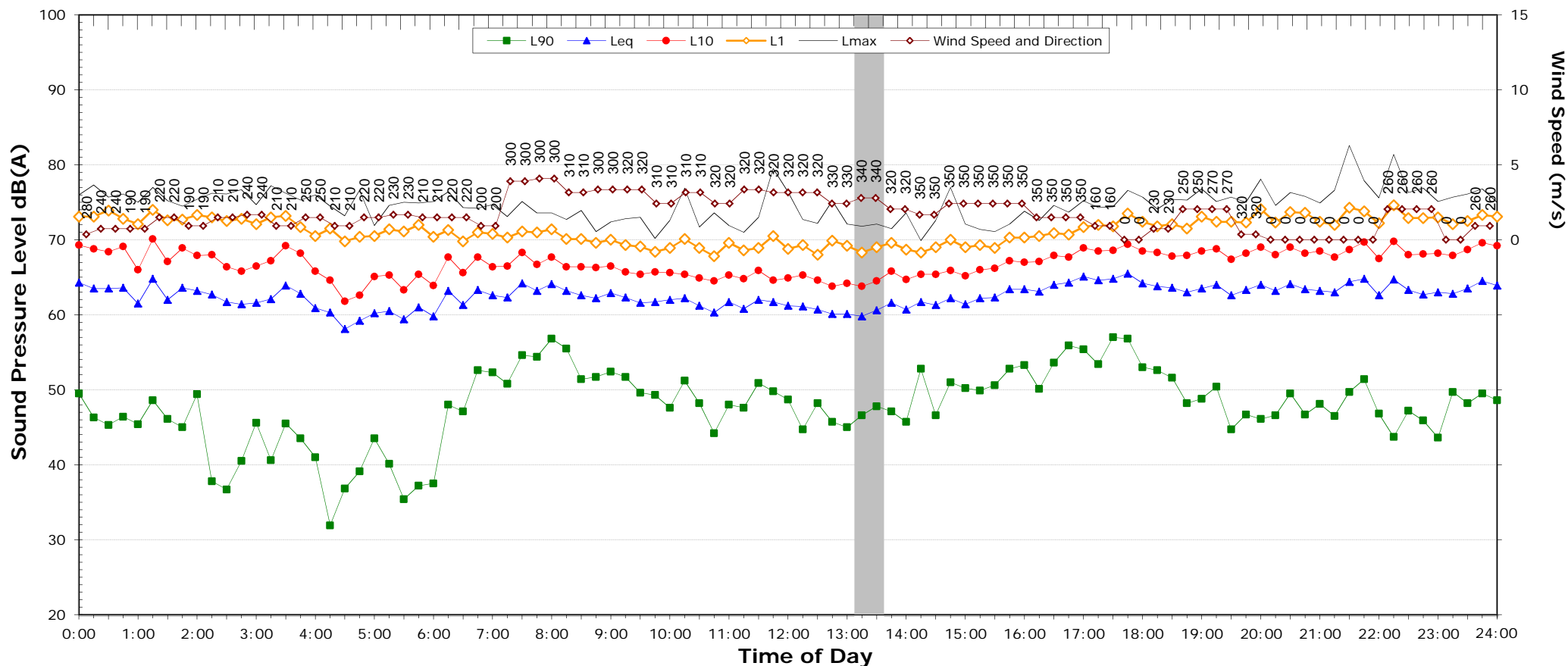
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	64.9
L _{eq} 1hr upper 10 percentile	67.5	66.3
L _{eq} 1hr lower 10 percentile	65.6	62.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	76.6	to	76.6
Lmax - Leq (Range)	17.1	to	17.1

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Tuesday, 21 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.7	46.1	33.1
Leq	62.6	63.6	62.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

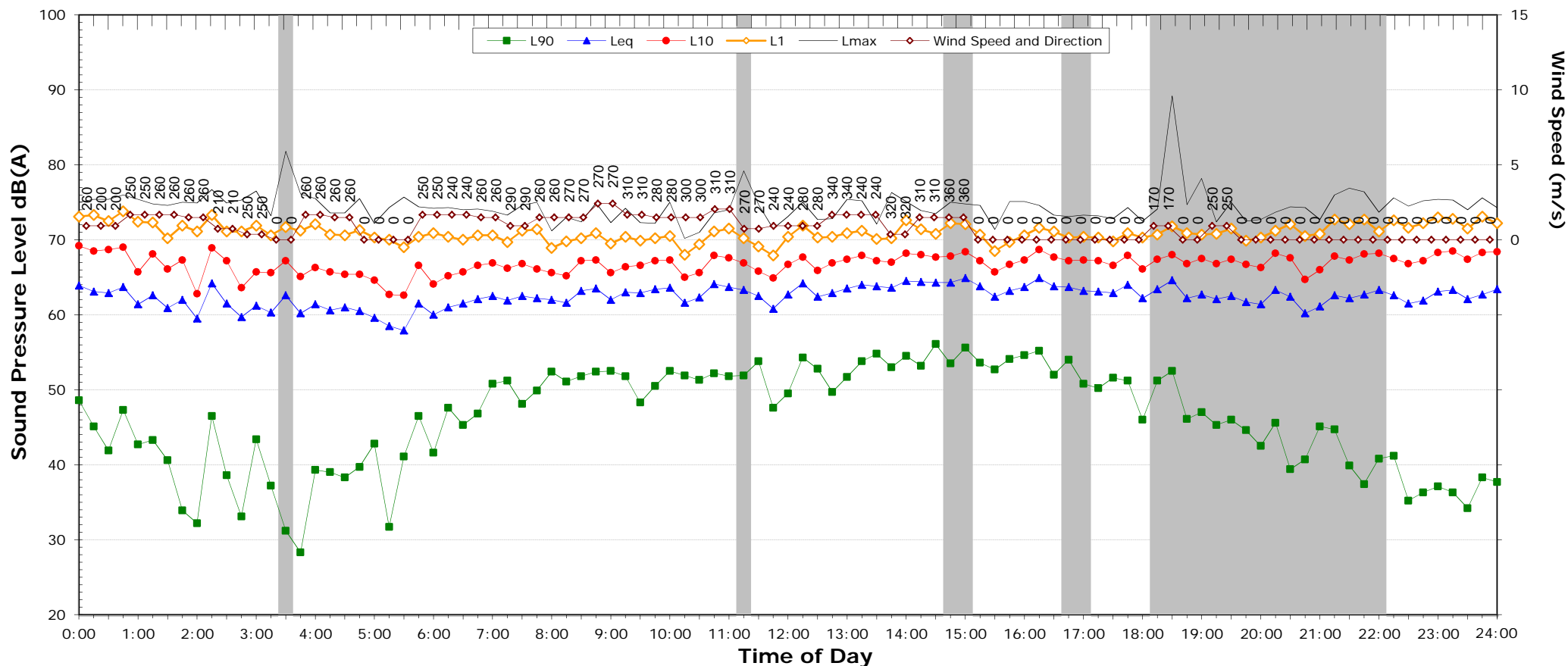
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.4	64.5
L _{eq} 1hr upper 10 percentile	67.0	66.2
L _{eq} 1hr lower 10 percentile	63.4	62.2

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	75.5	to	81.4
Lmax - Leq (Range)	15.0	to	17.9

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.3	-	32.9
Leq	63.2	-	61.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

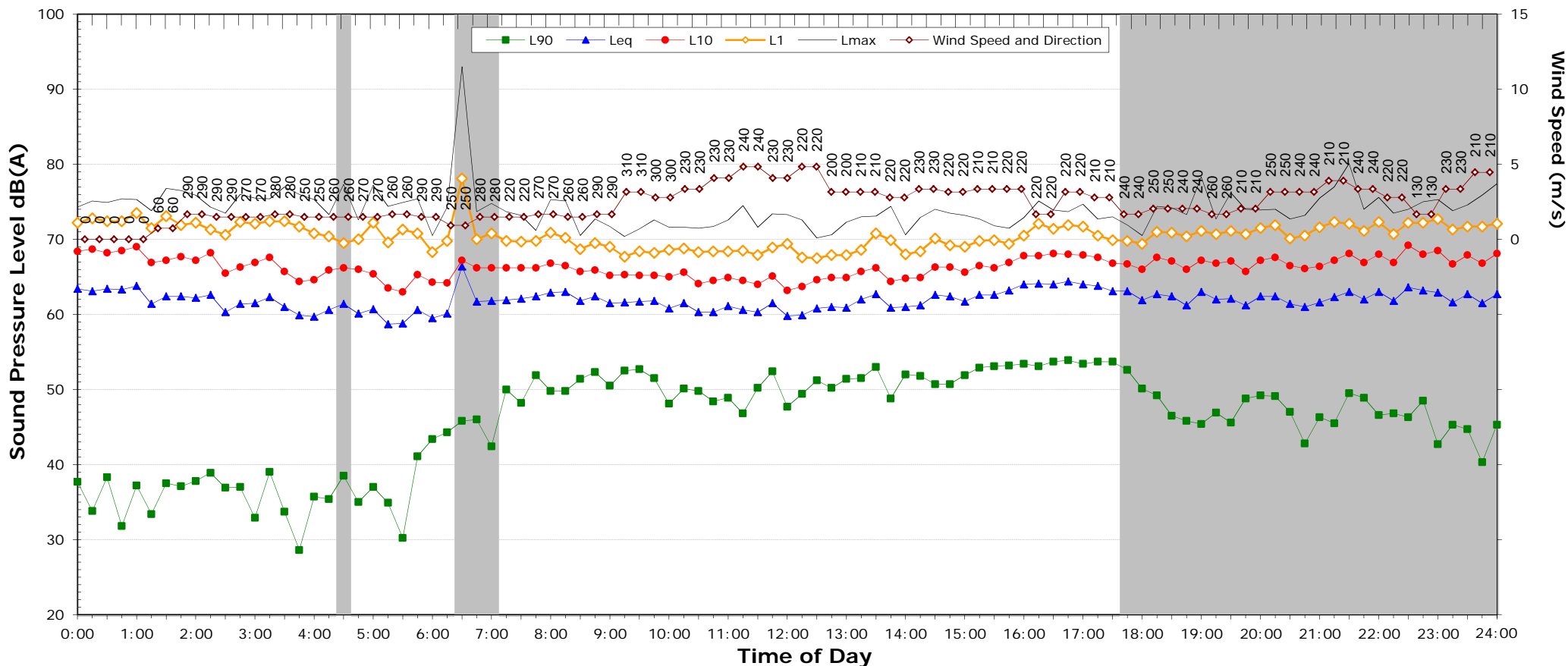
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	64.3
L _{eq} 1hr upper 10 percentile	66.9	65.9
L _{eq} 1hr lower 10 percentile	64.6	62.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	75.4	to	77.2
Lmax - Leq (Range)	15.9	to	16.7

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.4	-	-
Leq	62.1	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

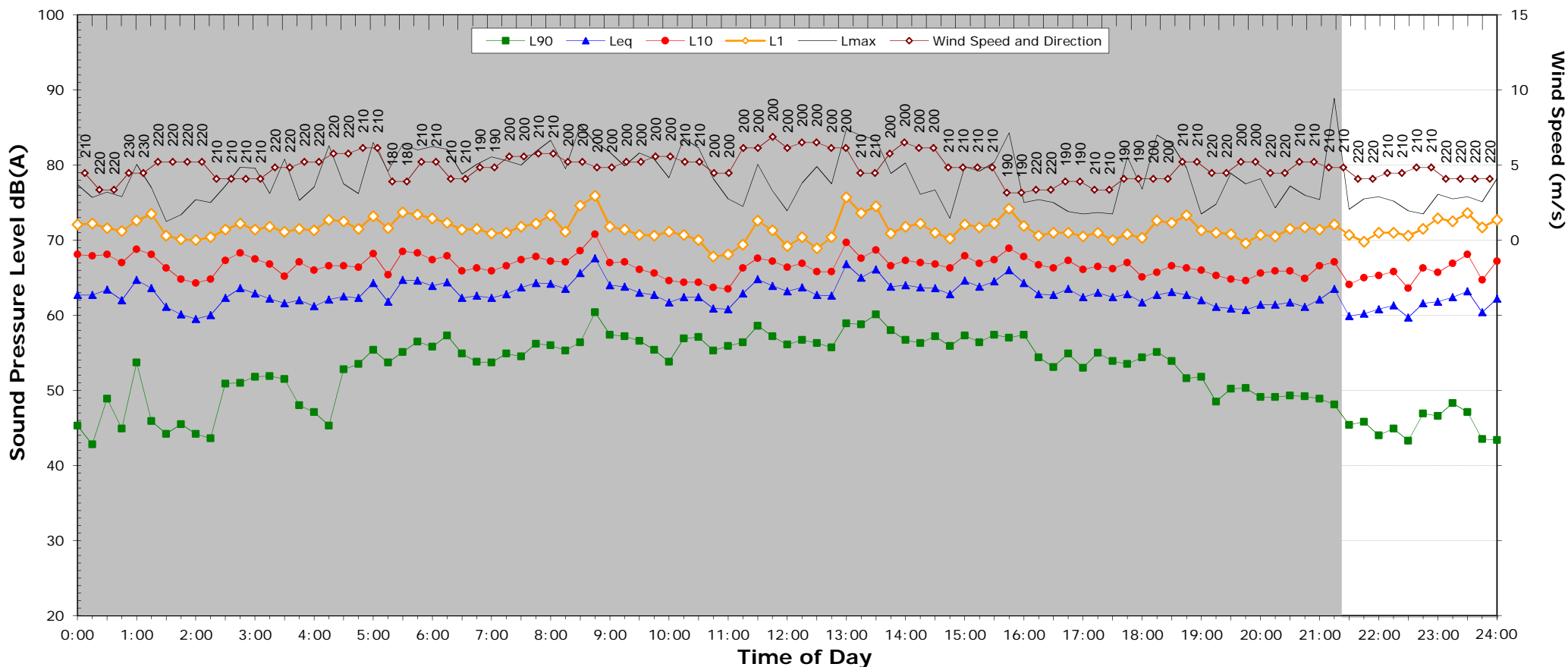
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	66.6	-
L _{eq} 1hr lower 10 percentile	63.1	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	37.9
Leq	-	-	60.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

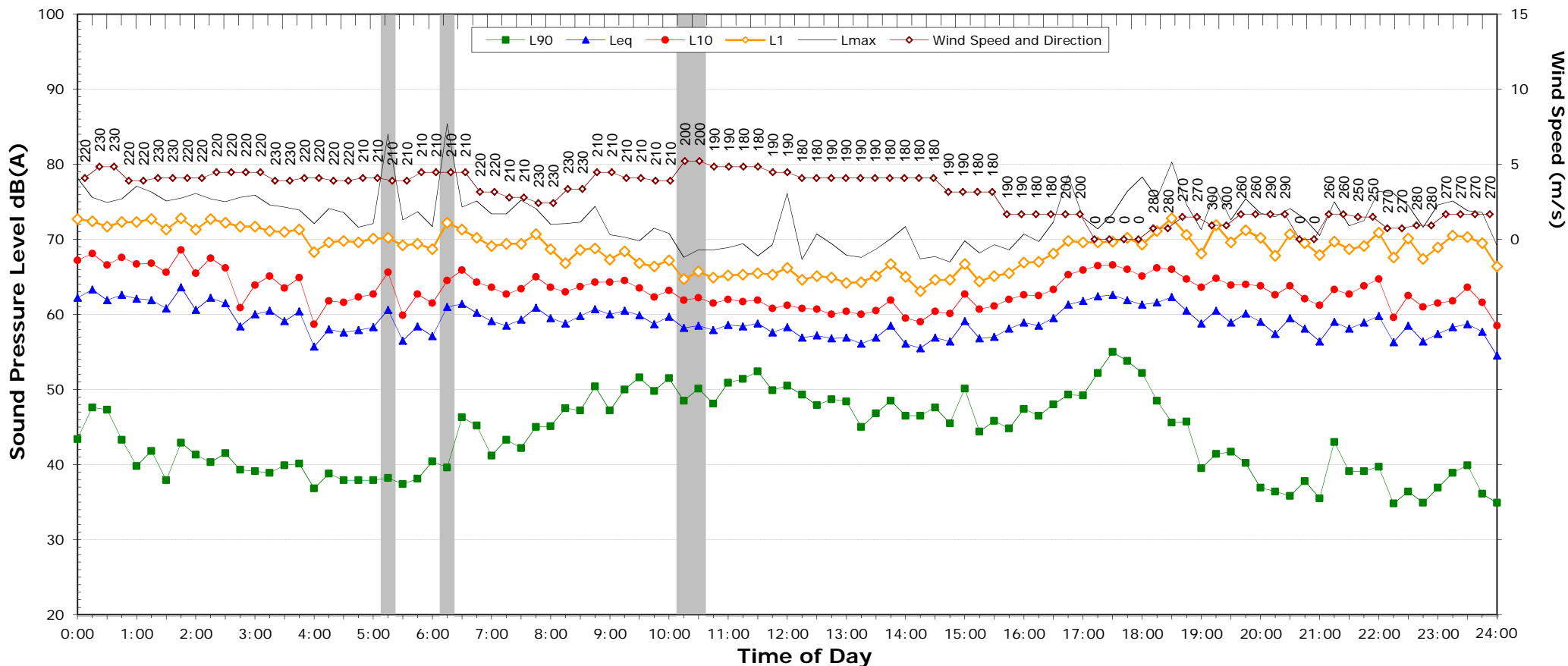
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	63.3
L _{eq} 1hr upper 10 percentile	62.8	65.0
L _{eq} 1hr lower 10 percentile	62.8	59.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.7	to	78.2
Lmax - Leq (Range)	15.1	to	16.3

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.0	35.8	32.4
Leq	59.2	59.6	56.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

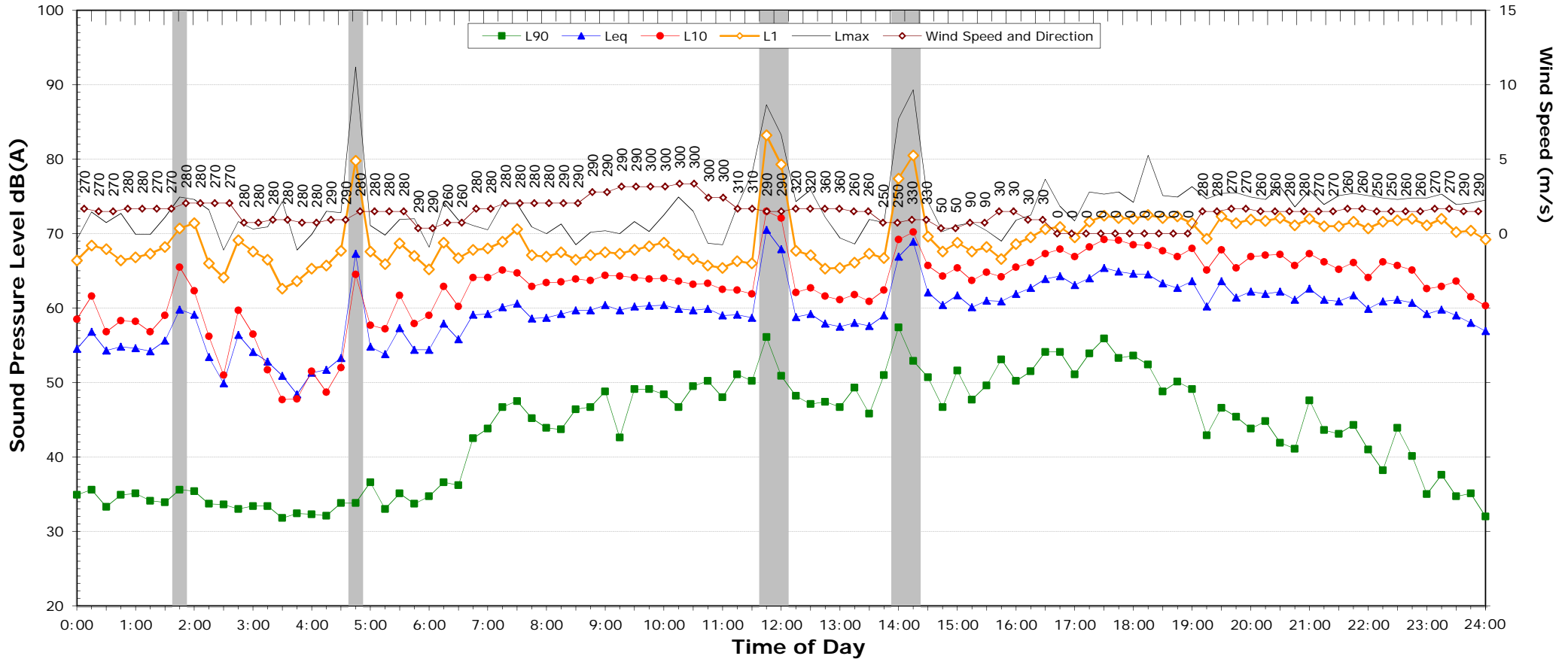
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.8	59.0
L _{eq} 1hr upper 10 percentile	64.1	60.7
L _{eq} 1hr lower 10 percentile	59.5	53.6

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.0	to	76.1
Lmax - Leq (Range)	16.0	to	23.2

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.4	41.1	31.3
Leq	61.3	62.2	58.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

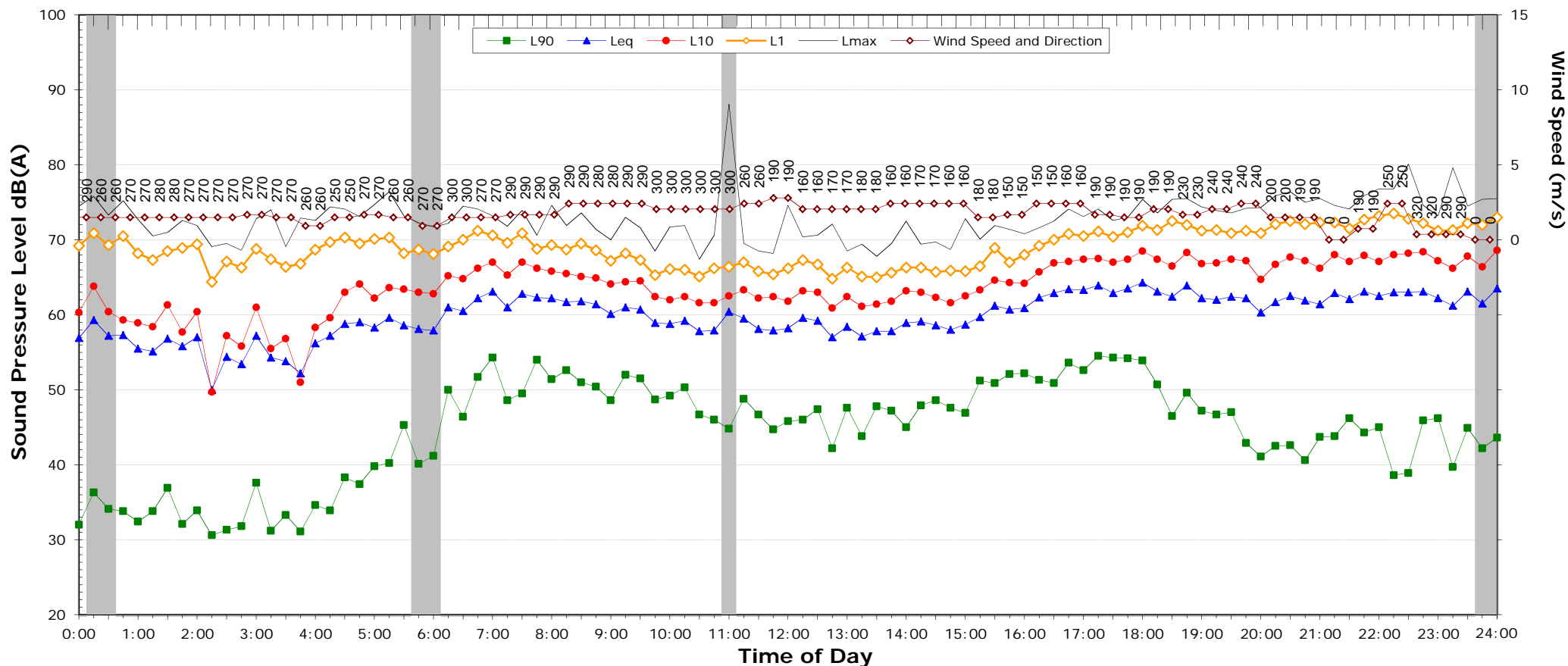
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.0	61.0
L _{eq} 1hr upper 10 percentile	66.7	64.3
L _{eq} 1hr lower 10 percentile	60.8	56.9

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	72.6	to	76.4
L _{max} - Leq (Range)	16.3	to	19.6

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.8	41.1	-
Leq	60.7	62.4	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

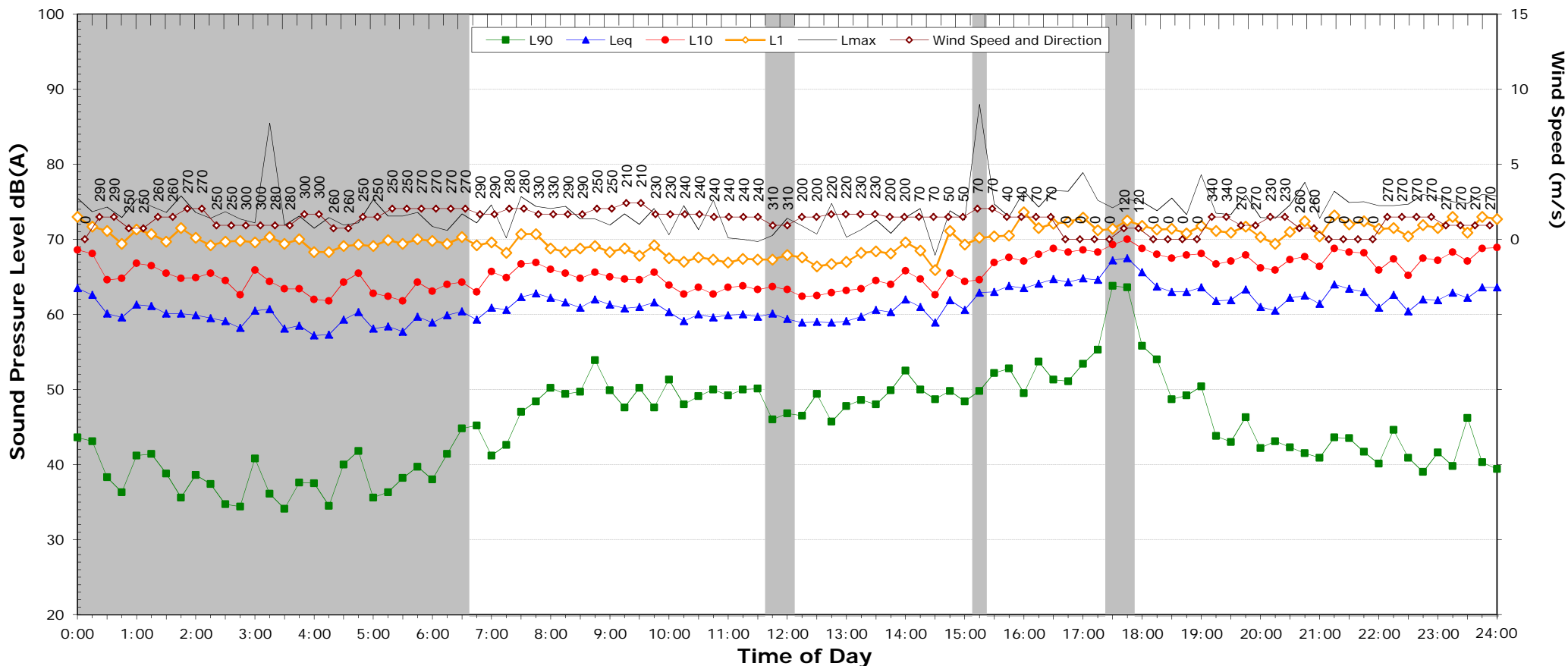
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.7	0.0
L _{eq} 1hr upper 10 percentile	65.9	65.3
L _{eq} 1hr lower 10 percentile	60.7	62.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	79.6	to	80.1
Lmax - Leq (Range)	17.3	to	17.3

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.0	40.9	-
Leq	61.8	62.6	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

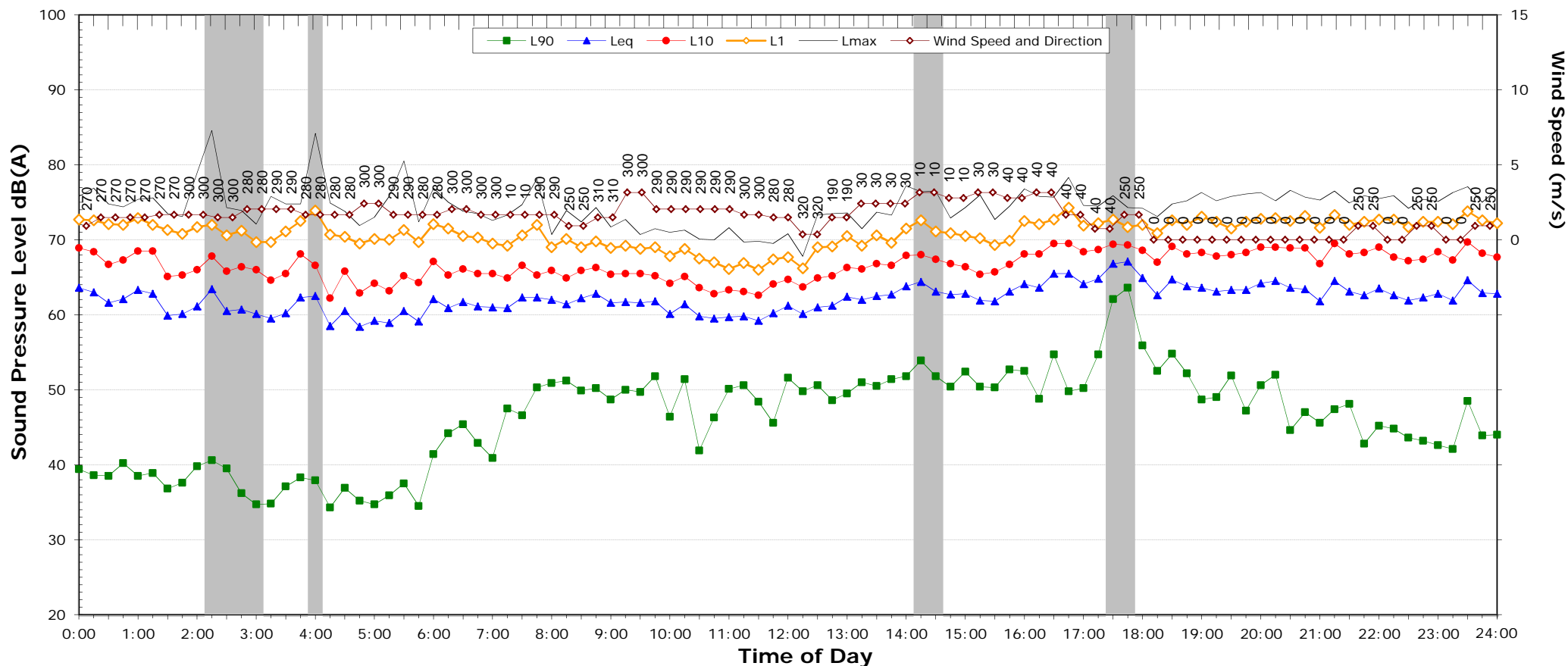
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.6	63.9
L _{eq} 1hr upper 10 percentile	67.3	65.6
L _{eq} 1hr lower 10 percentile	61.8	61.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.9	to	80.5
Lmax - Leq (Range)	15.7	to	20.2

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.5	44.6	37.3
Leq	62.4	63.5	61.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

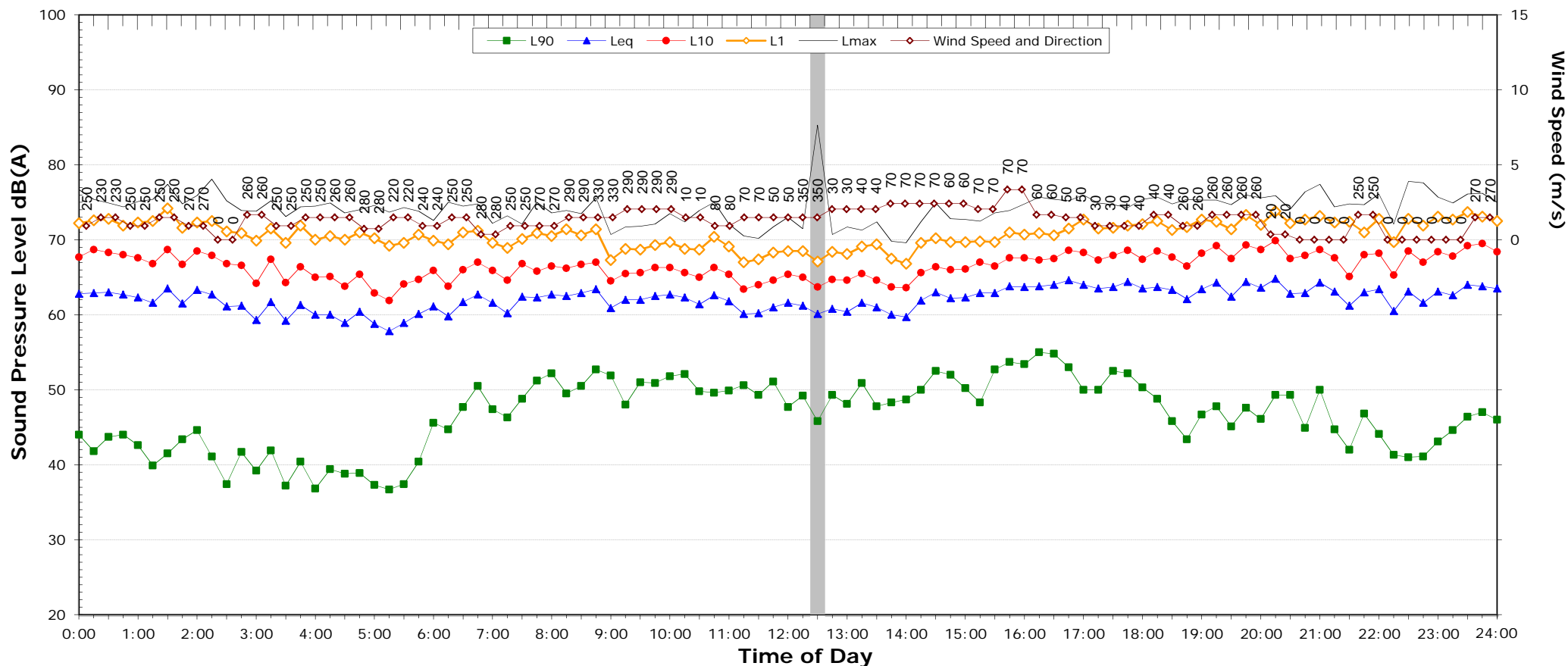
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.2	64.2
L _{eq} 1hr upper 10 percentile	67.3	65.7
L _{eq} 1hr lower 10 percentile	62.7	62.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.9	to	78.1
Lmax - Leq (Range)	15.3	to	16.9

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.1	43.4	34.9
Leq	62.4	63.4	61.7

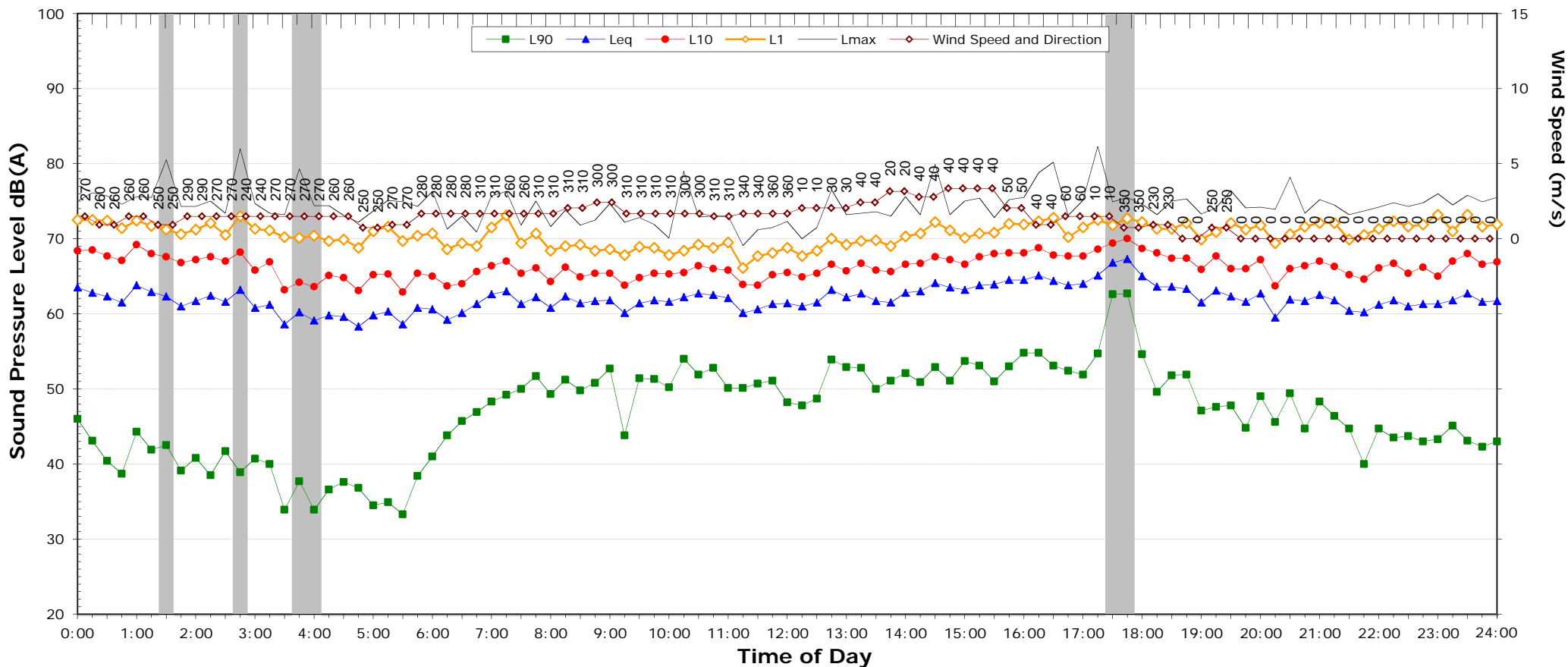
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.2	64.2
L _{eq} 1hr upper 10 percentile	66.5	66.0
L _{eq} 1hr lower 10 percentile	63.2	61.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	76.3	to	77.8
Lmax - Leq (Range)	15.6	to	16.1

EXISTING AMBIENT NOISE LEVELS ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447 Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.2	44.7	35.1
Leq	62.8	62.1	60.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

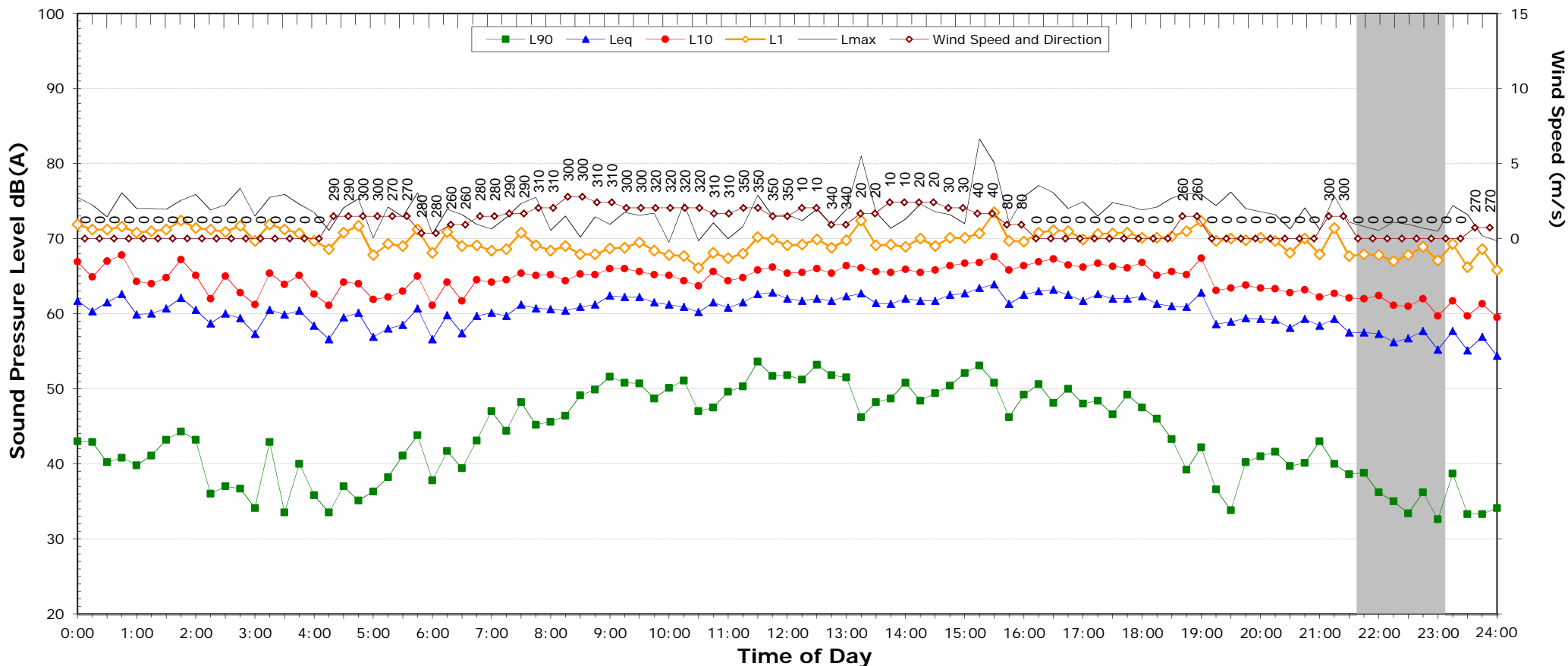
NSW Road Noise Policy (1m from facade)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.1	62.8
L _{eq} 1hr upper 10 percentile	67.2	64.5
L _{eq} 1hr lower 10 percentile	63.4	61.0

Night Time Maximum Noise Levels			
Lmax (Range)	75.3	to	76.7
Lmax - Leq (Range)	15.0	to	17.7

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.2	36.6	-
Leq	61.9	59.8	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

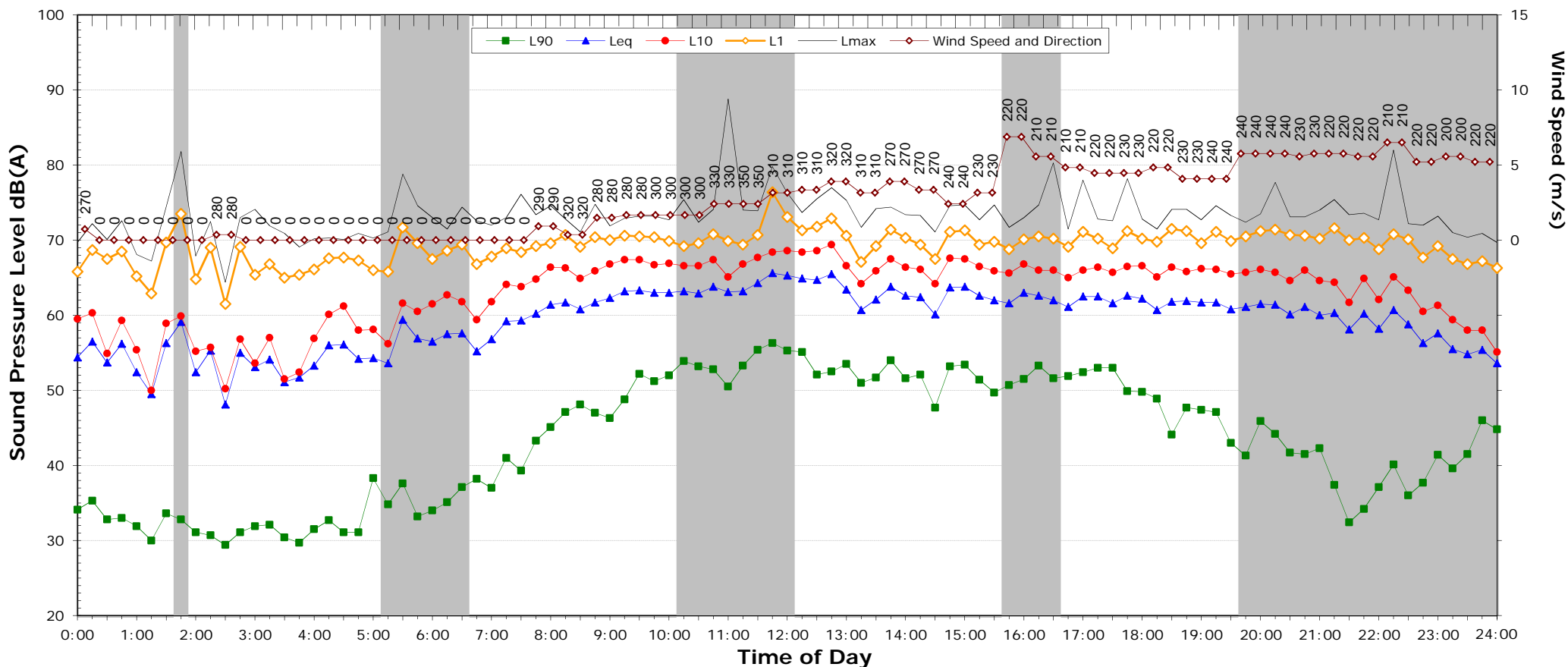
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	65.3	58.7
L _{eq} 1hr lower 10 percentile	61.1	55.2

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	70.9	to	74.5
Lmax - Leq (Range)	15.7	to	20.9

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

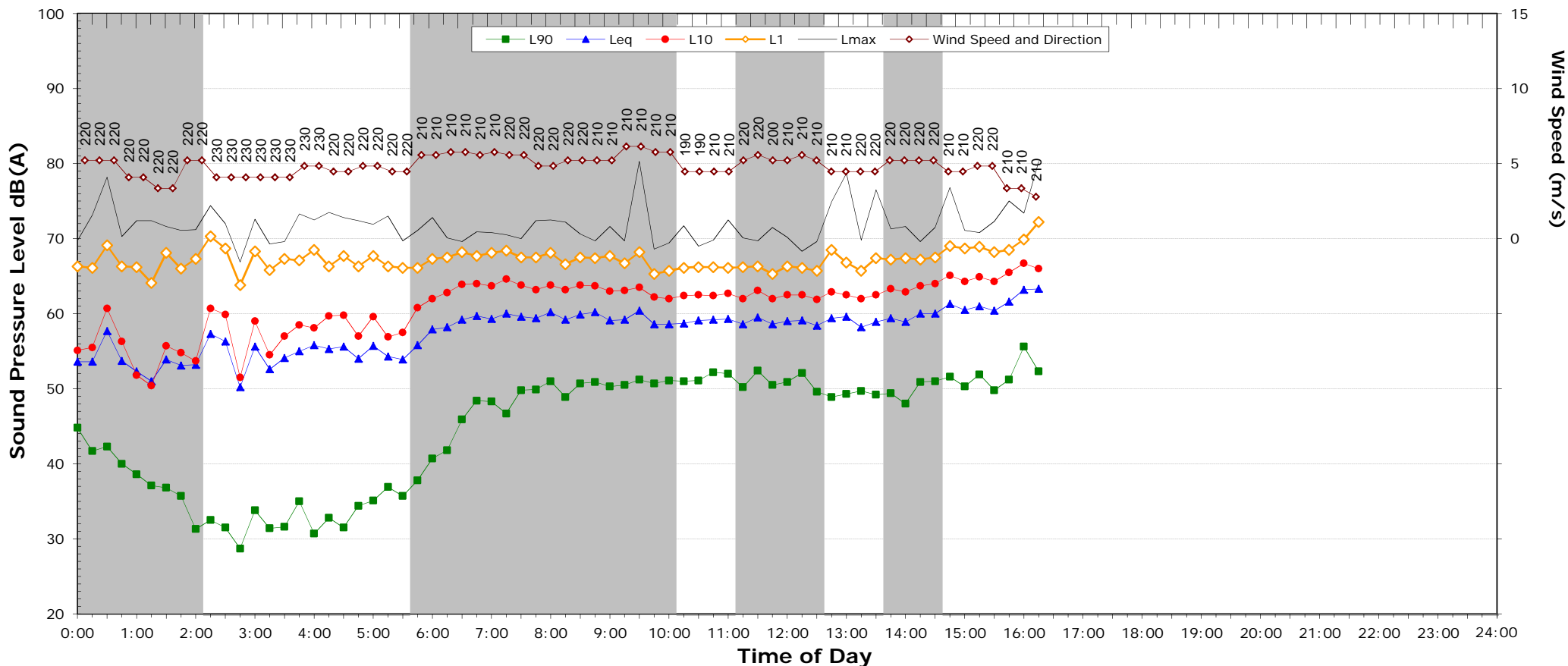
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	67.1	58.0
L _{eq} 1hr lower 10 percentile	62.7	56.6

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.0	to	74.4
Lmax - Leq (Range)	18.3	to	18.9

EXISTING AMBIENT NOISE LEVELS

ID 129 - 18A Albert Dr, DONNELLYVILLE, 2447

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

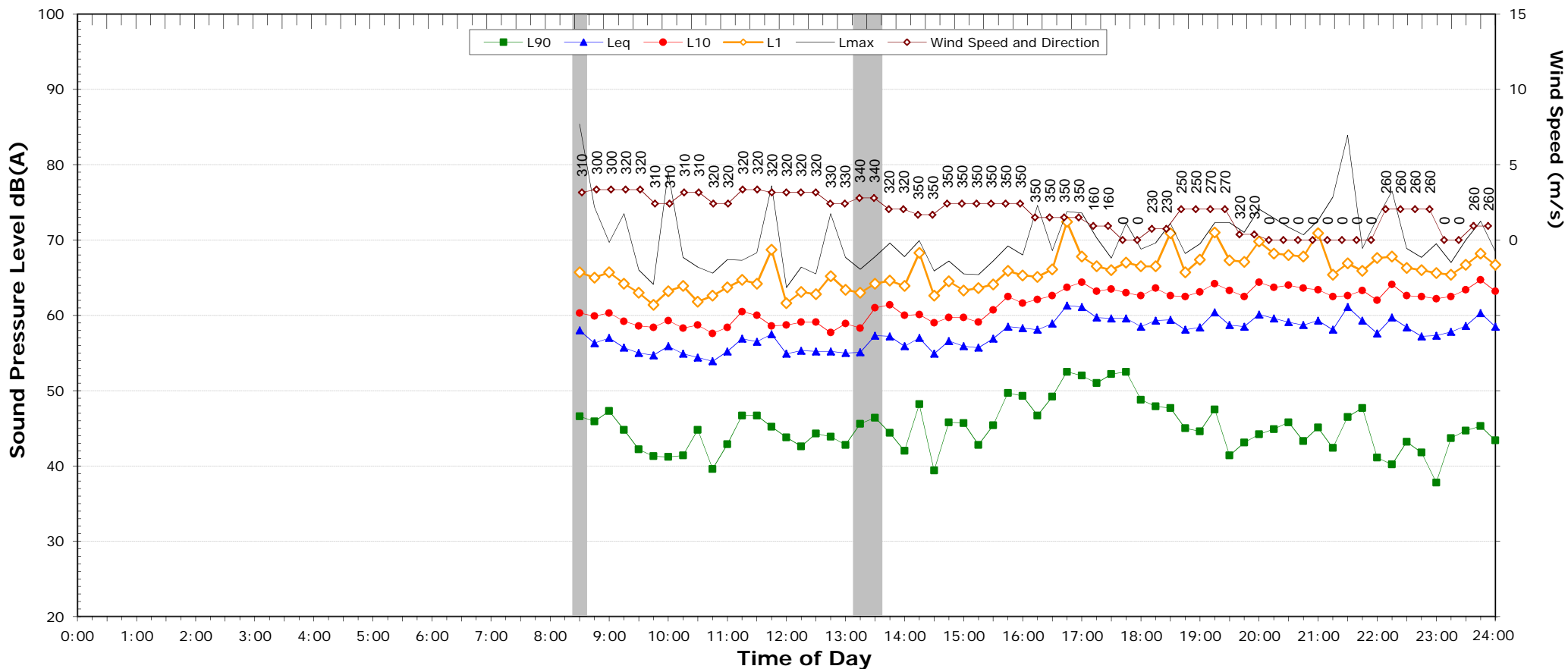
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	65.8	-
L _{eq} 1hr lower 10 percentile	61.1	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Tuesday, 21 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.3	41.4	28.5
Leq	57.2	59.2	56.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

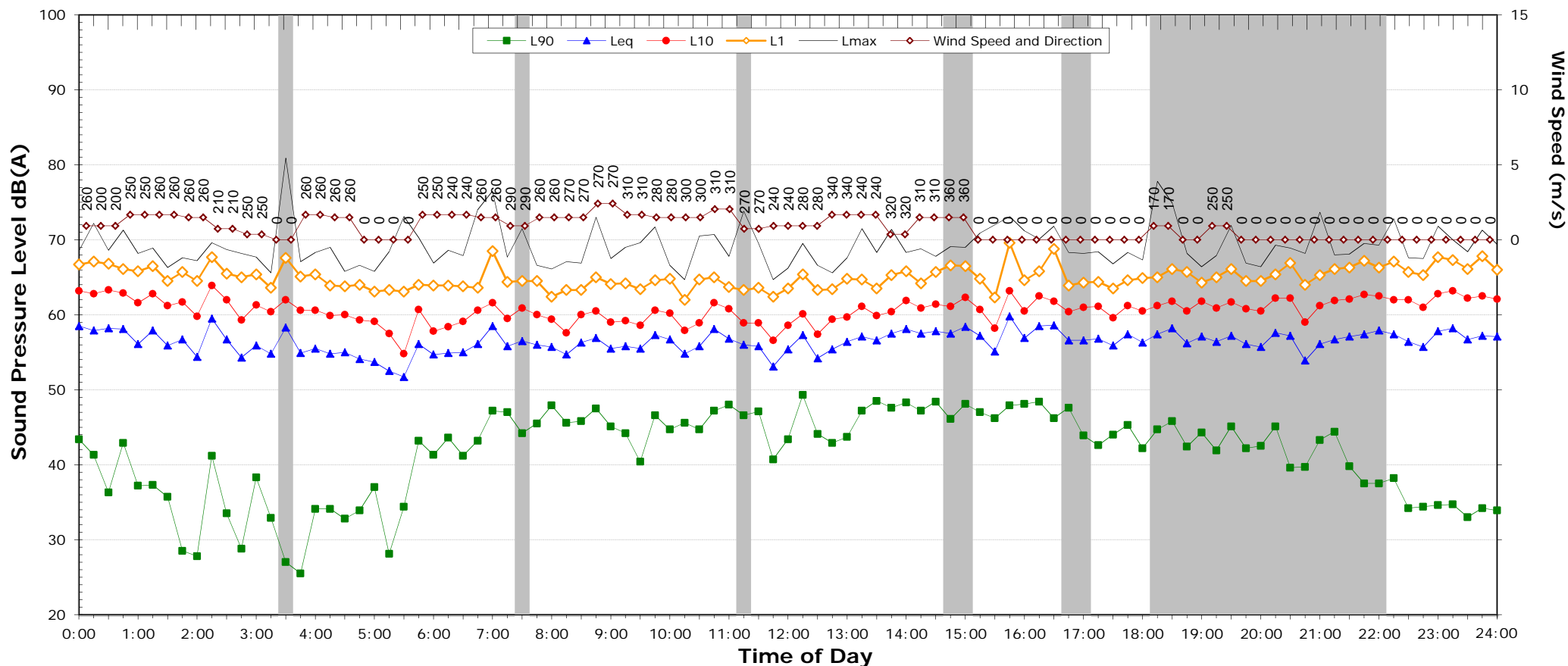
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.4	59.3
L _{eq} 1hr upper 10 percentile	62.3	61.4
L _{eq} 1hr lower 10 percentile	57.4	56.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	73.1	to 76.5
Lmax - Leq (Range)	18.2	to 20.1

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.6	-	29.6
Leq	56.7	-	56.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

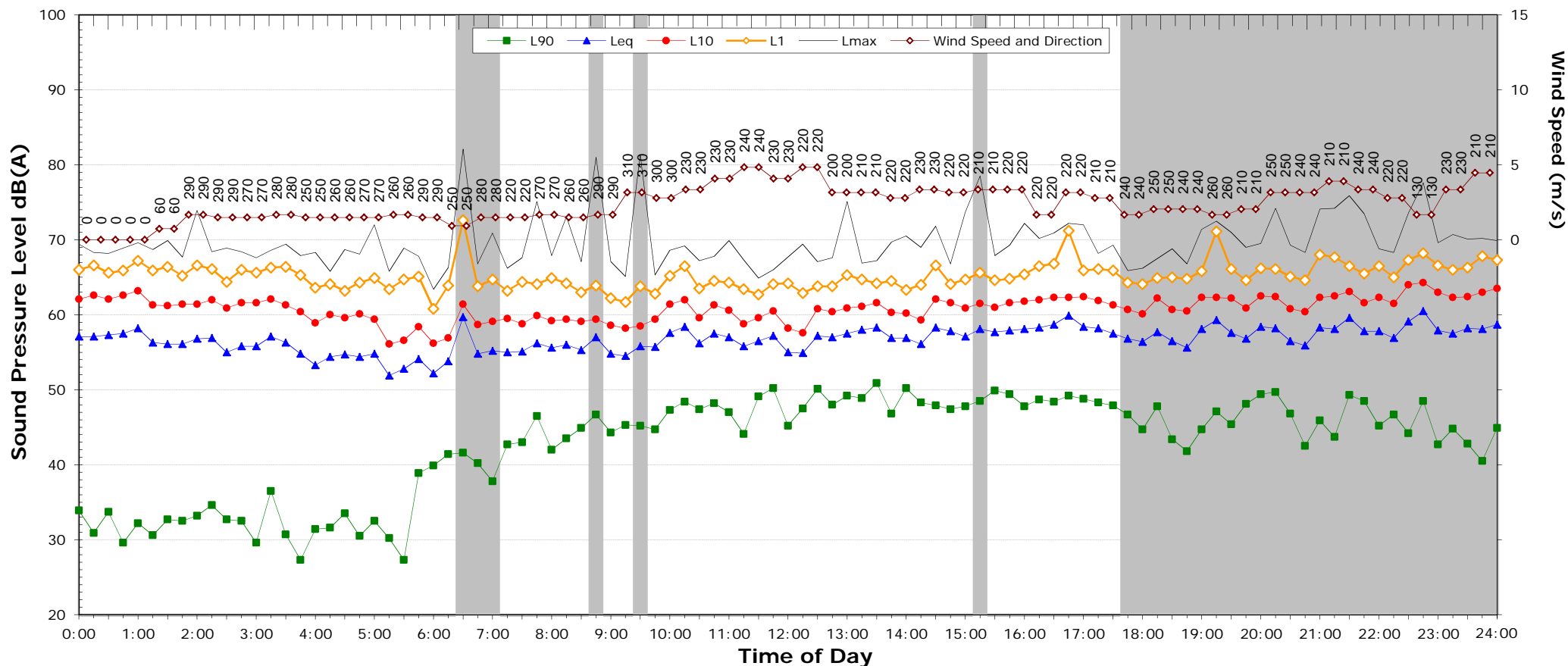
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	58.6
L _{eq} 1hr upper 10 percentile	61.0	60.0
L _{eq} 1hr lower 10 percentile	57.5	55.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.9	to	73.9
Lmax - Leq (Range)	15.9	to	17.6

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.5	-	-
Leq	57.1	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

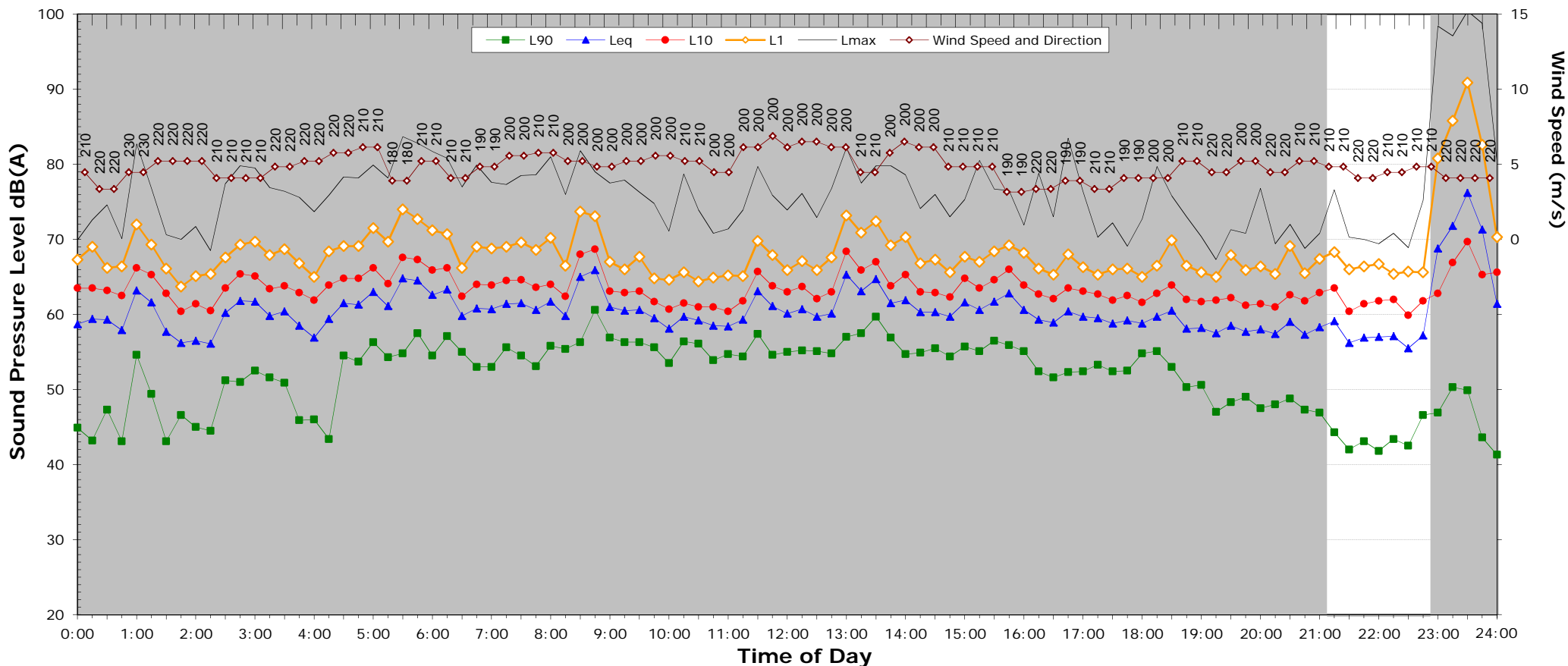
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	61.3	-
L _{eq} 1hr lower 10 percentile	57.9	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

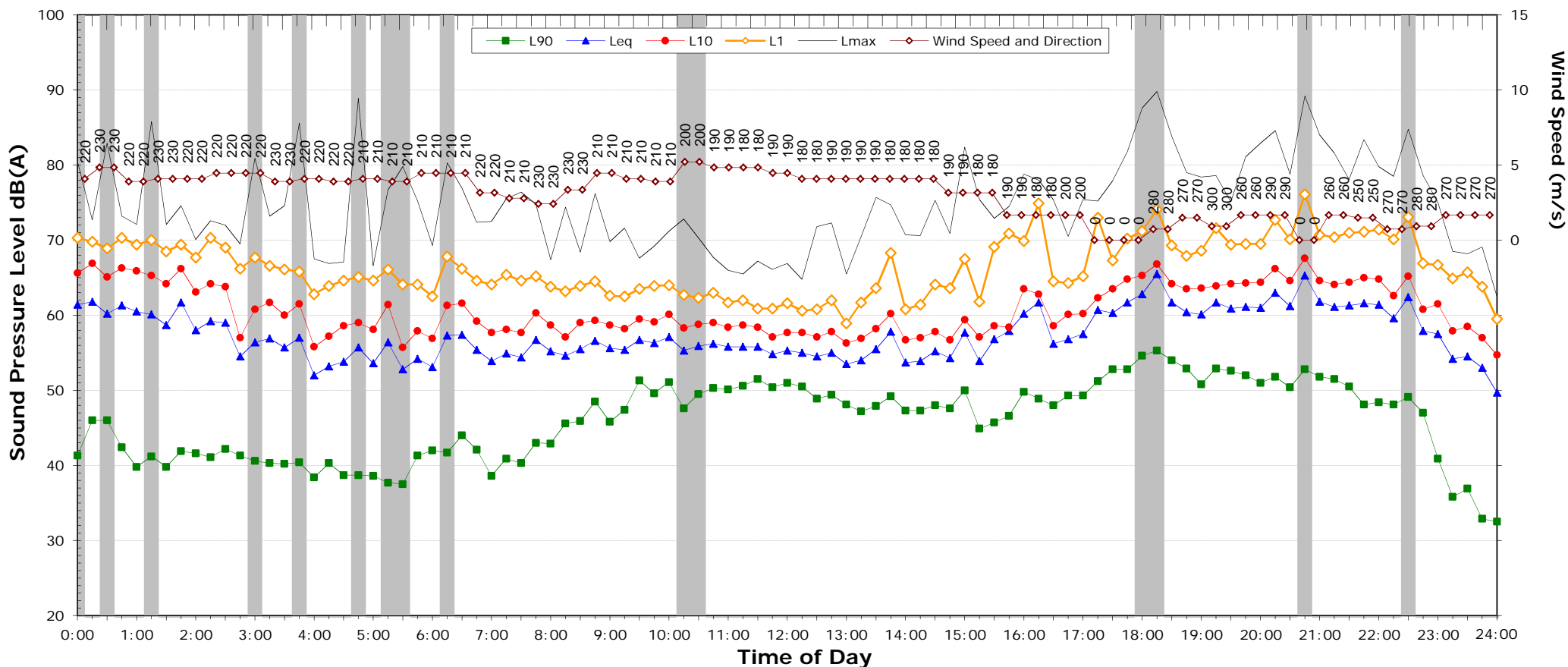
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	60.2
L _{eq} 1hr upper 10 percentile	59.9	63.7
L _{eq} 1hr lower 10 percentile	59.9	56.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.6	to	76.9
Lmax - Leq (Range)	18.5	to	21.5

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.9	48.4	31.0
Leq	56.9	61.4	53.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

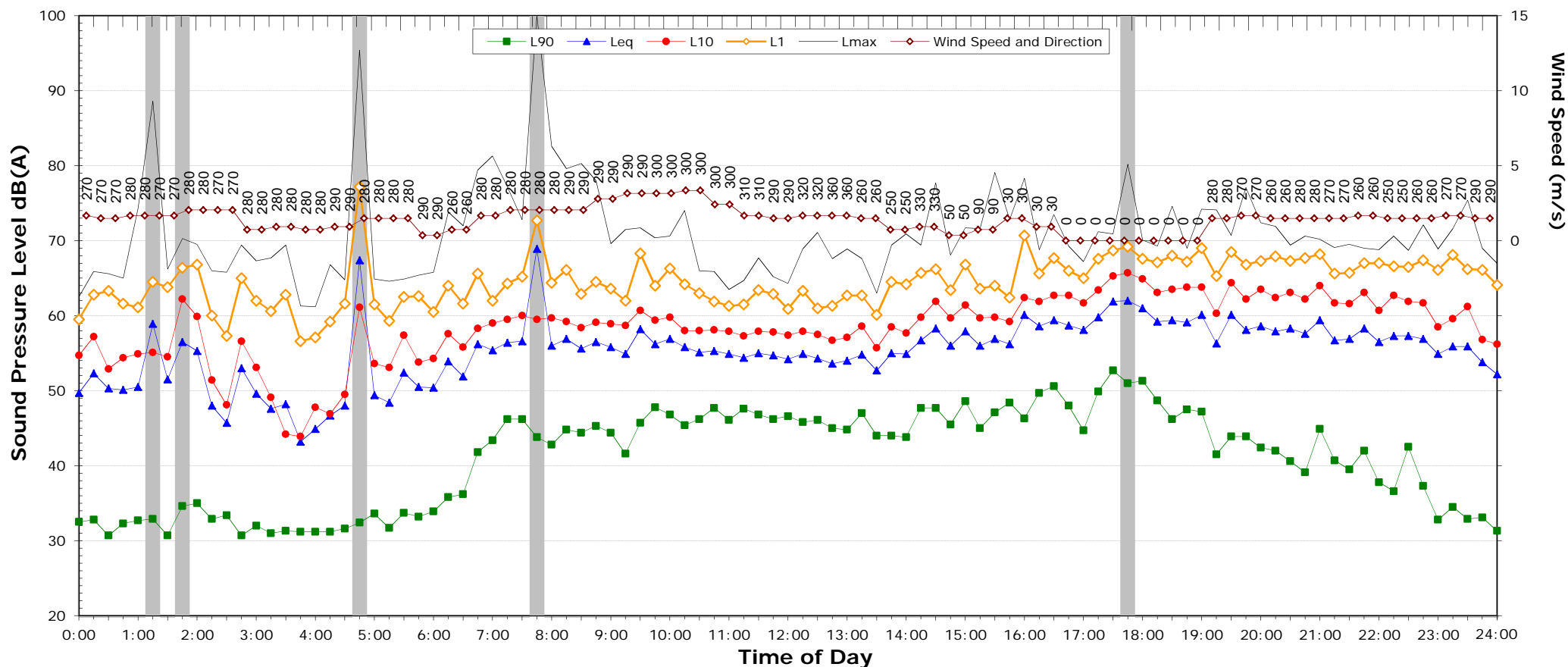
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.0	55.9
L _{eq} 1hr upper 10 percentile	64.2	60.9
L _{eq} 1hr lower 10 percentile	57.5	48.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	65.8	to	81.3
Lmax - Leq (Range)	15.1	to	26.7

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.0	39.1	29.4
Leq	57.0	58.4	54.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

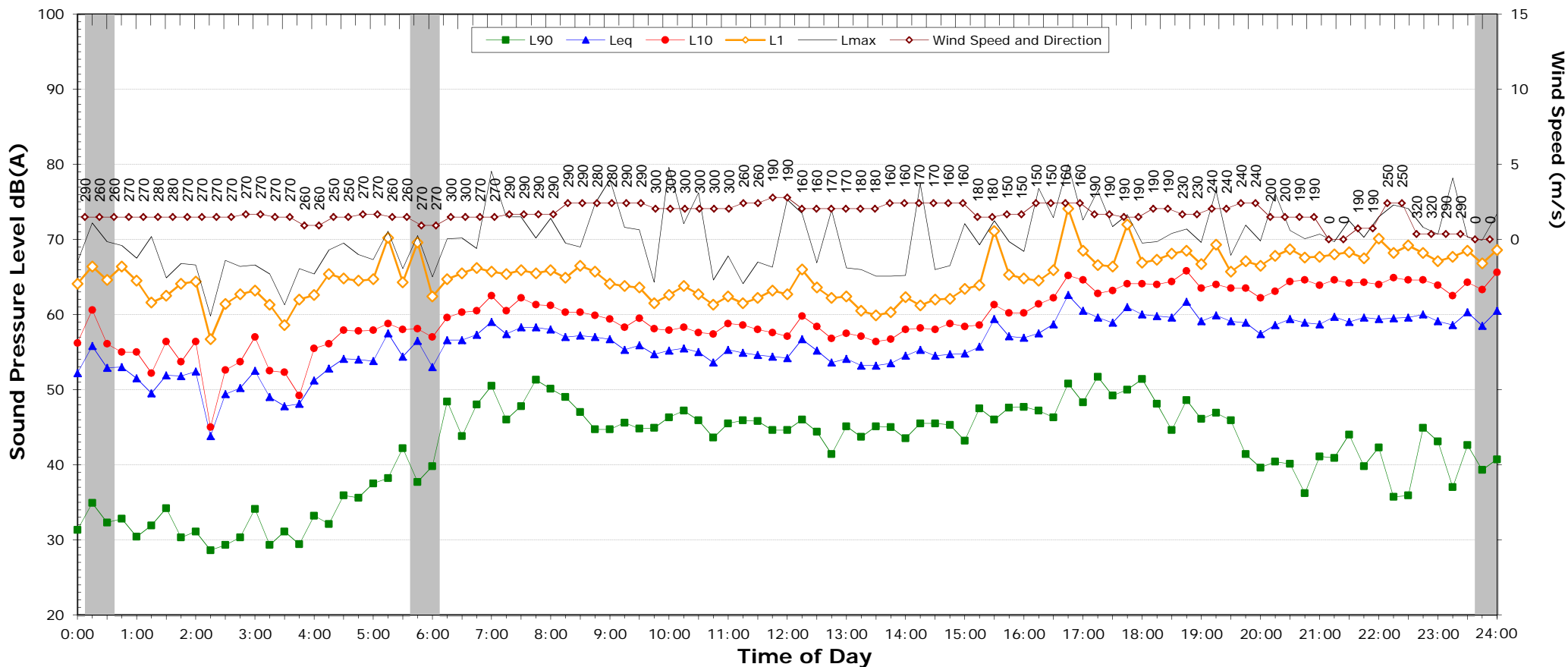
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	59.9	56.9
L _{eq} 1hr upper 10 percentile	62.8	60.0
L _{eq} 1hr lower 10 percentile	56.8	51.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.1	to	79.1
Lmax - Leq (Range)	15.4	to	21.6

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.7	39.6	-
Leq	57.0	59.4	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

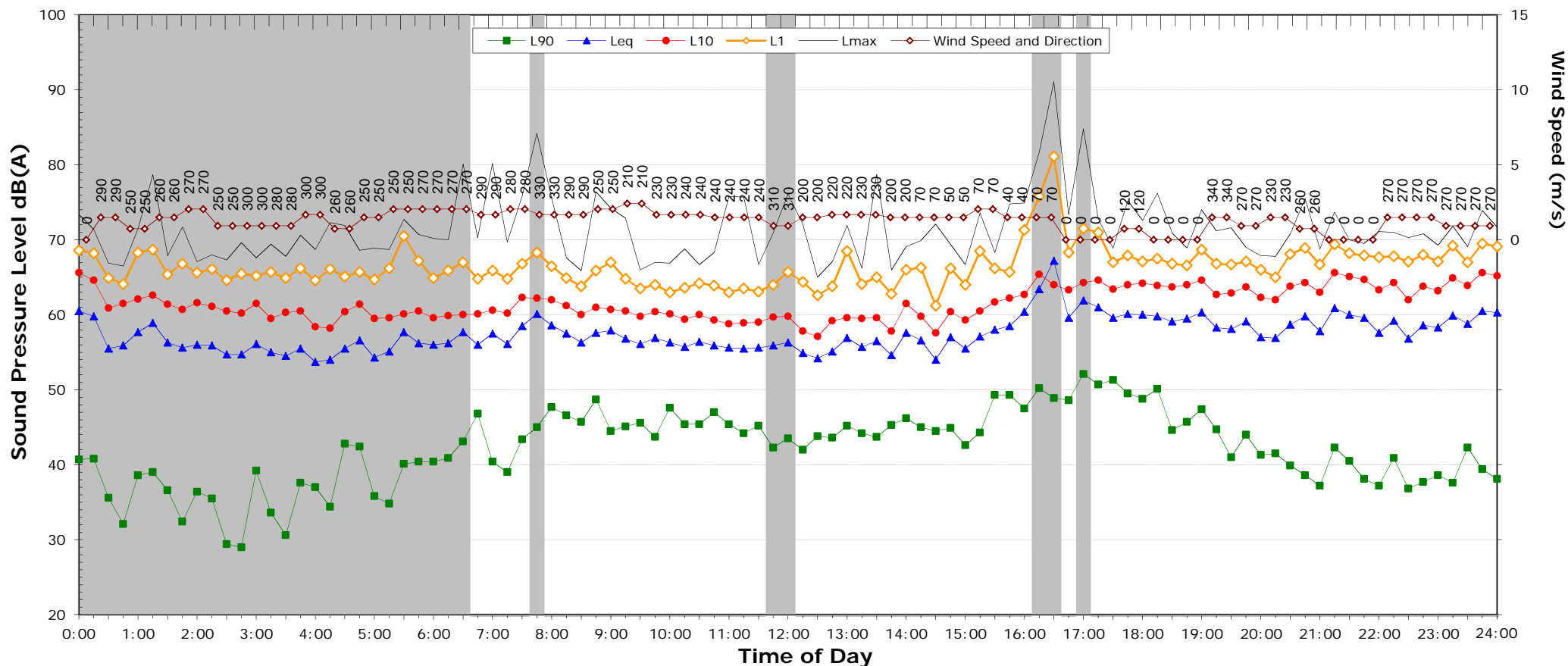
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.3	0.0
L _{eq} 1hr upper 10 percentile	62.7	62.1
L _{eq} 1hr lower 10 percentile	56.6	59.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.6	to	80.2
Lmax - Leq (Range)	15.0	to	23.4

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.4	37.2	-
Leq	57.4	59.1	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

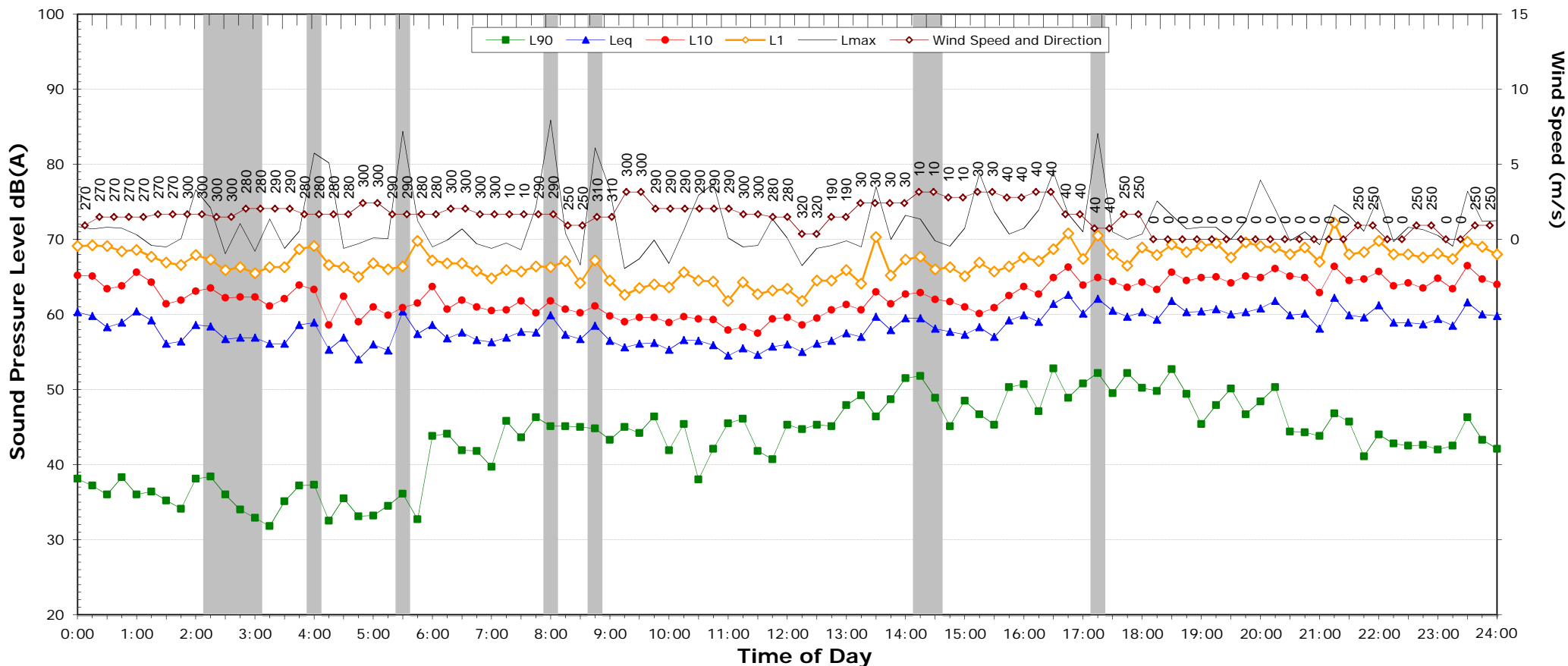
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.4	60.5
L _{eq} 1hr upper 10 percentile	62.5	62.4
L _{eq} 1hr lower 10 percentile	58.0	58.2

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.5	to	80.2
Lmax - Leq (Range)	15.2	to	24.5

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.9	43.8	36.1
Leq	58.0	60.5	58.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

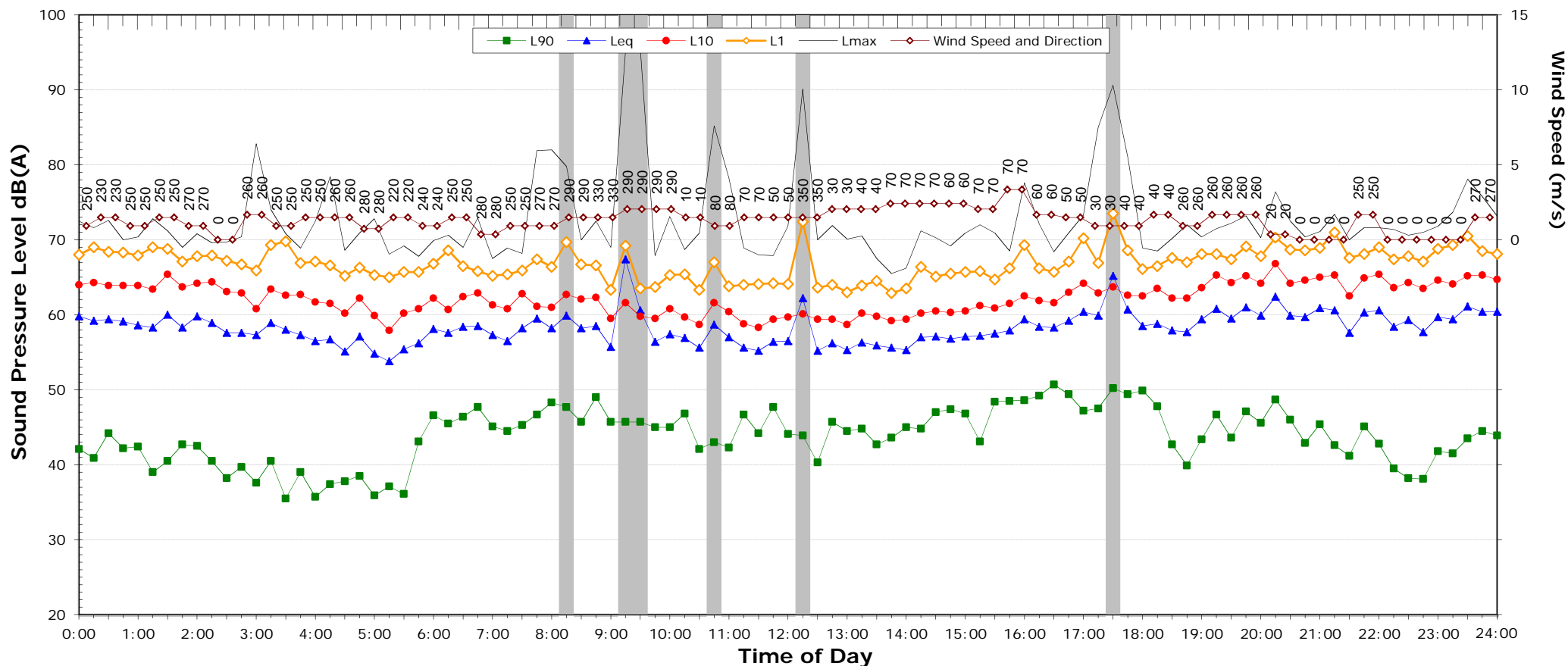
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.4	60.8
L _{eq} 1hr upper 10 percentile	63.4	62.6
L _{eq} 1hr lower 10 percentile	58.2	58.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.0	to	82.8
Lmax - Leq (Range)	16.2	to	24.9

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.7	41.2	33.8
Leq	57.6	60.0	58.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

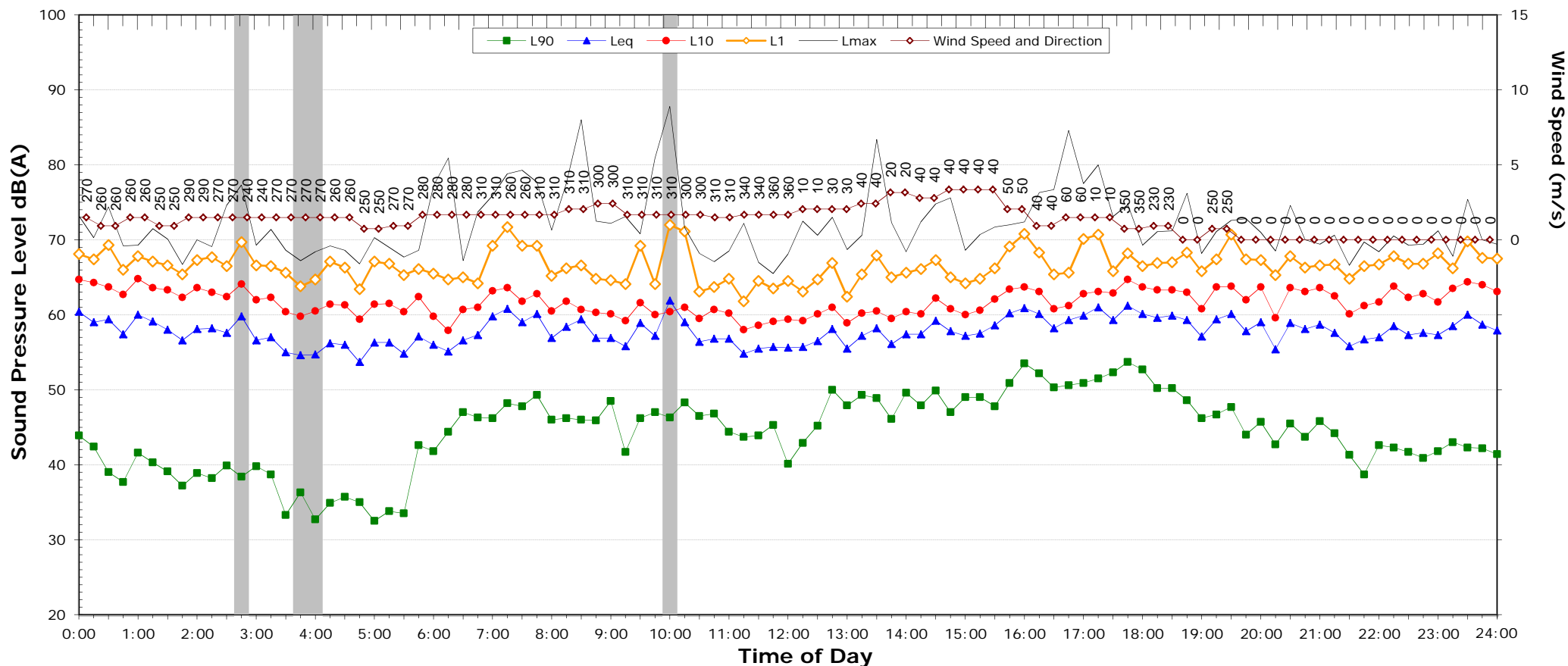
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.9	60.6
L _{eq} 1hr upper 10 percentile	63.1	62.9
L _{eq} 1hr lower 10 percentile	58.2	58.2

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.4	to	80.9
Lmax - Leq (Range)	15.3	to	23.4

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.9	41.3	34.0
Leq	58.3	58.4	56.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

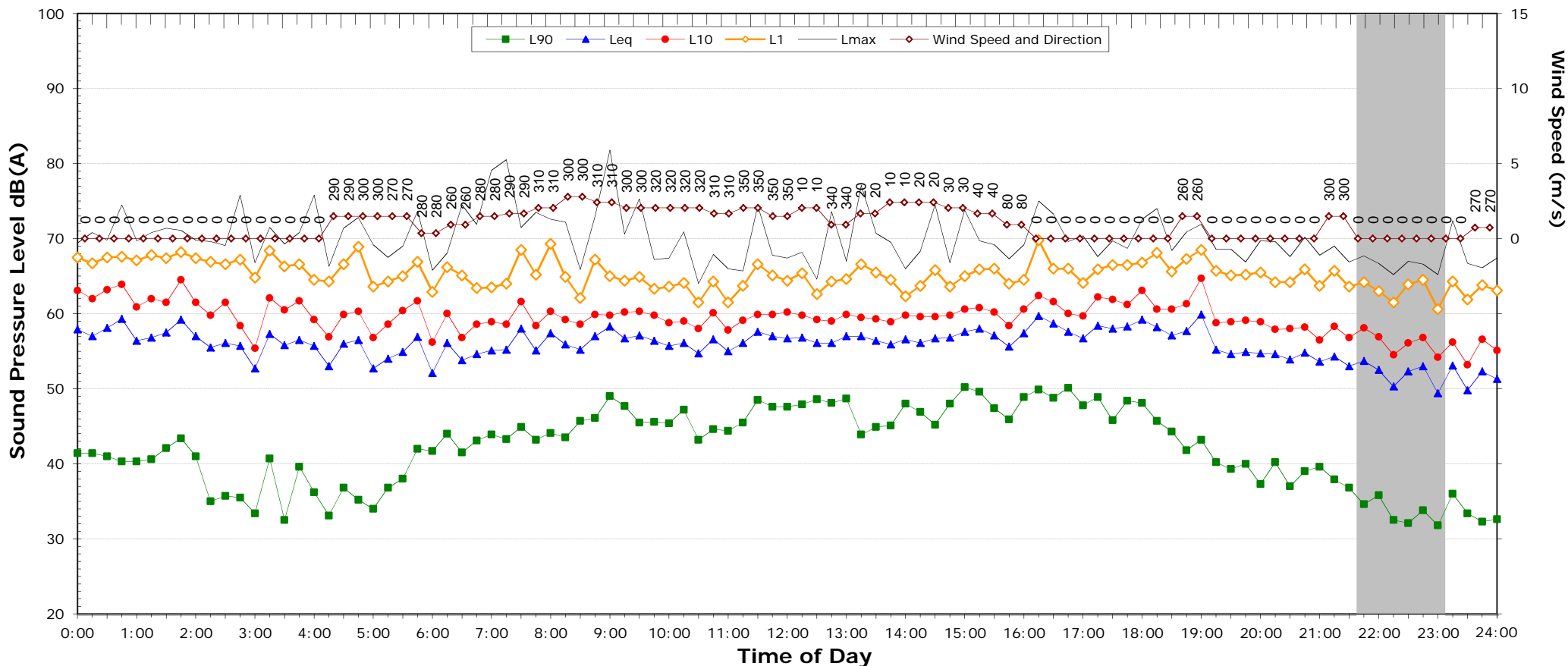
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.8	59.2
L _{eq} 1hr upper 10 percentile	62.5	61.3
L _{eq} 1hr lower 10 percentile	58.5	57.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.8	to	79.1
Lmax - Leq (Range)	16.6	to	24.1

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.9	37.0	-
Leq	57.0	55.9	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

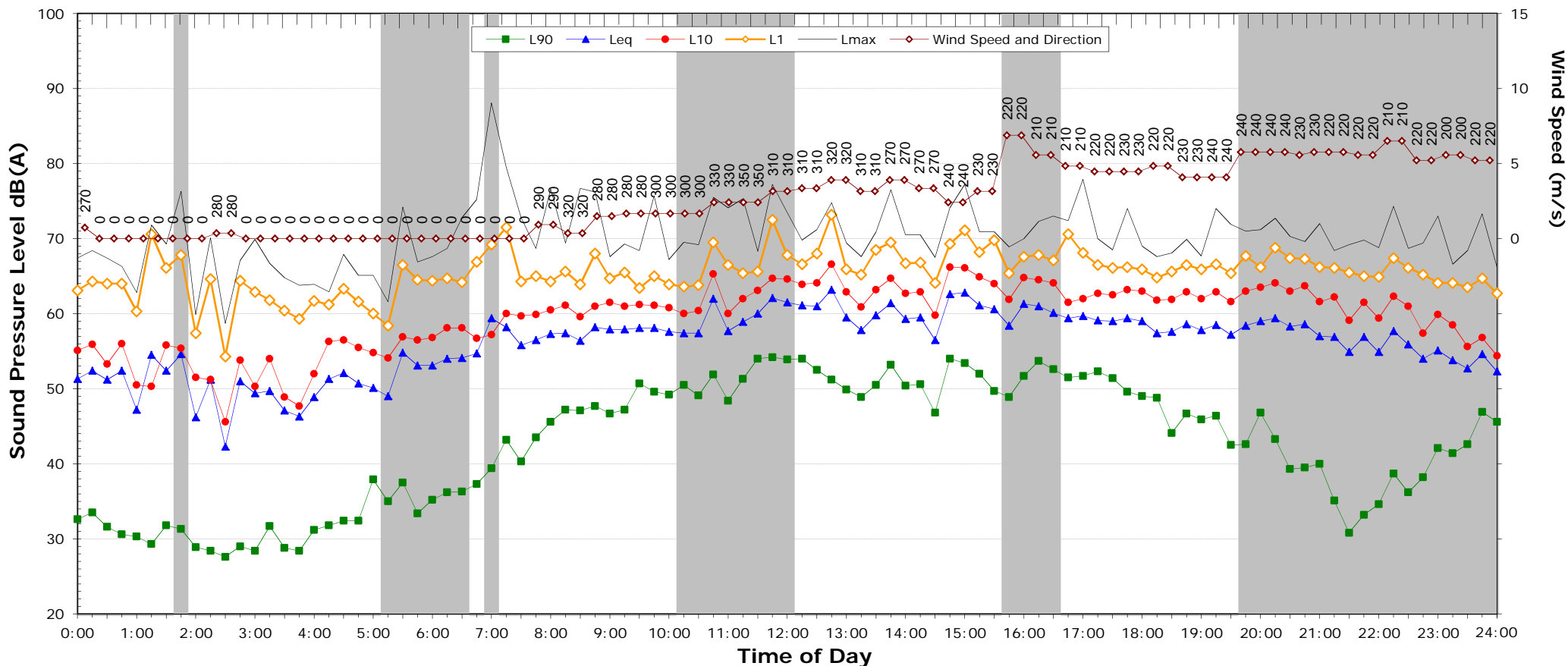
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	60.9	57.2
L _{eq} 1hr lower 10 percentile	56.5	50.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.7	to	75.2
Lmax - Leq (Range)	16.8	to	20.6

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

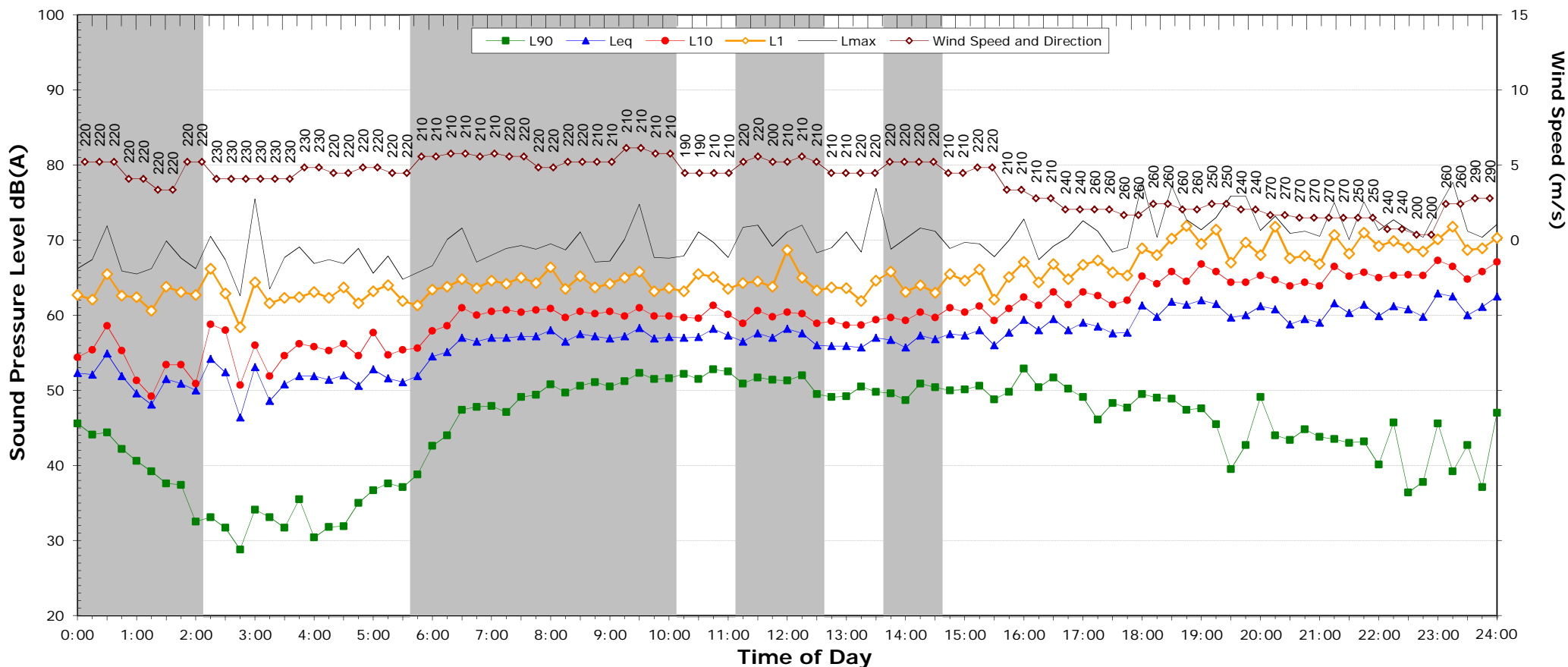
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	63.9	54.8
L _{eq} 1hr lower 10 percentile	59.6	53.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	67.9	to	75.5
Lmax - Leq (Range)	16.5	to	23.2

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	40.1	33.3
Leq	-	60.7	59.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

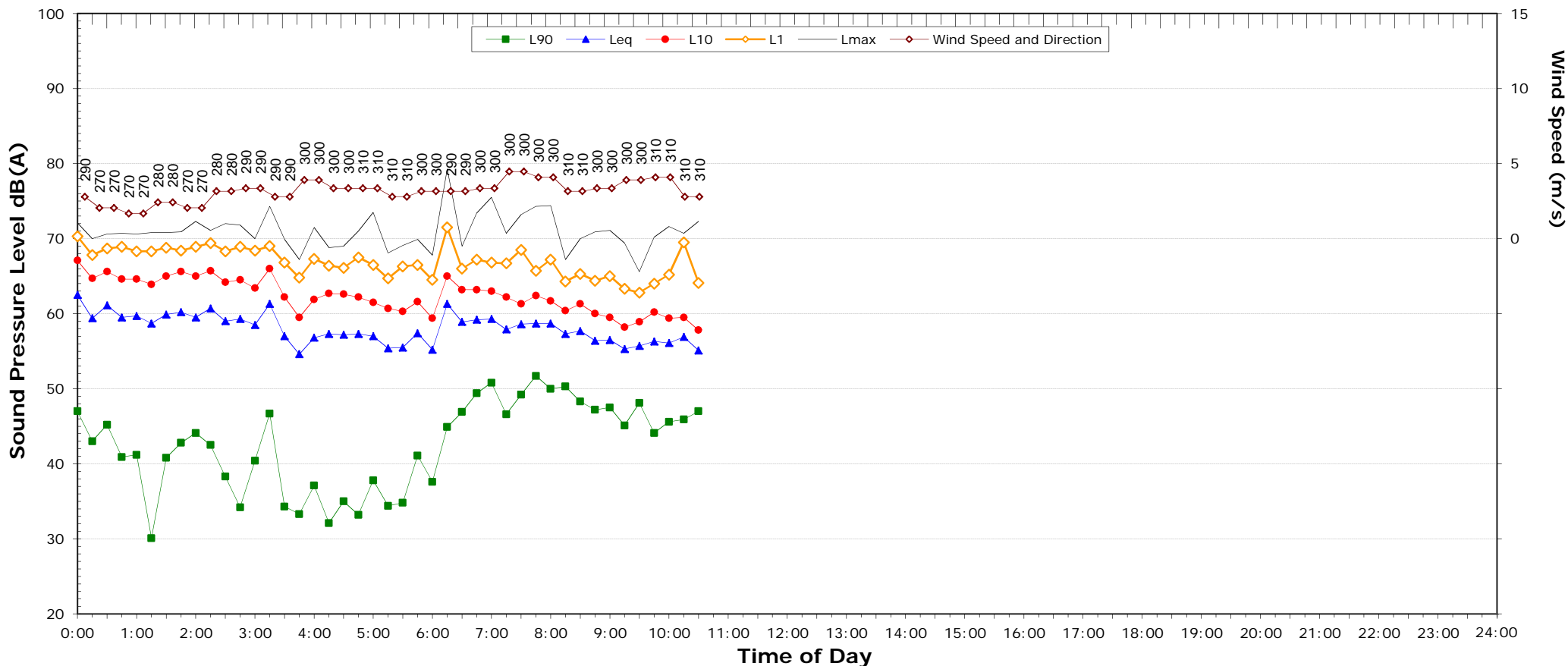
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	63.8	64.1
L _{eq} 1hr lower 10 percentile	58.5	58.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.5	to	79.3
Lmax - Leq (Range)	16.1	to	19.5

EXISTING AMBIENT NOISE LEVELS

ID 130 - 11 Albert Dr, DONNELLYVILLE, 2447

Tuesday, 4 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

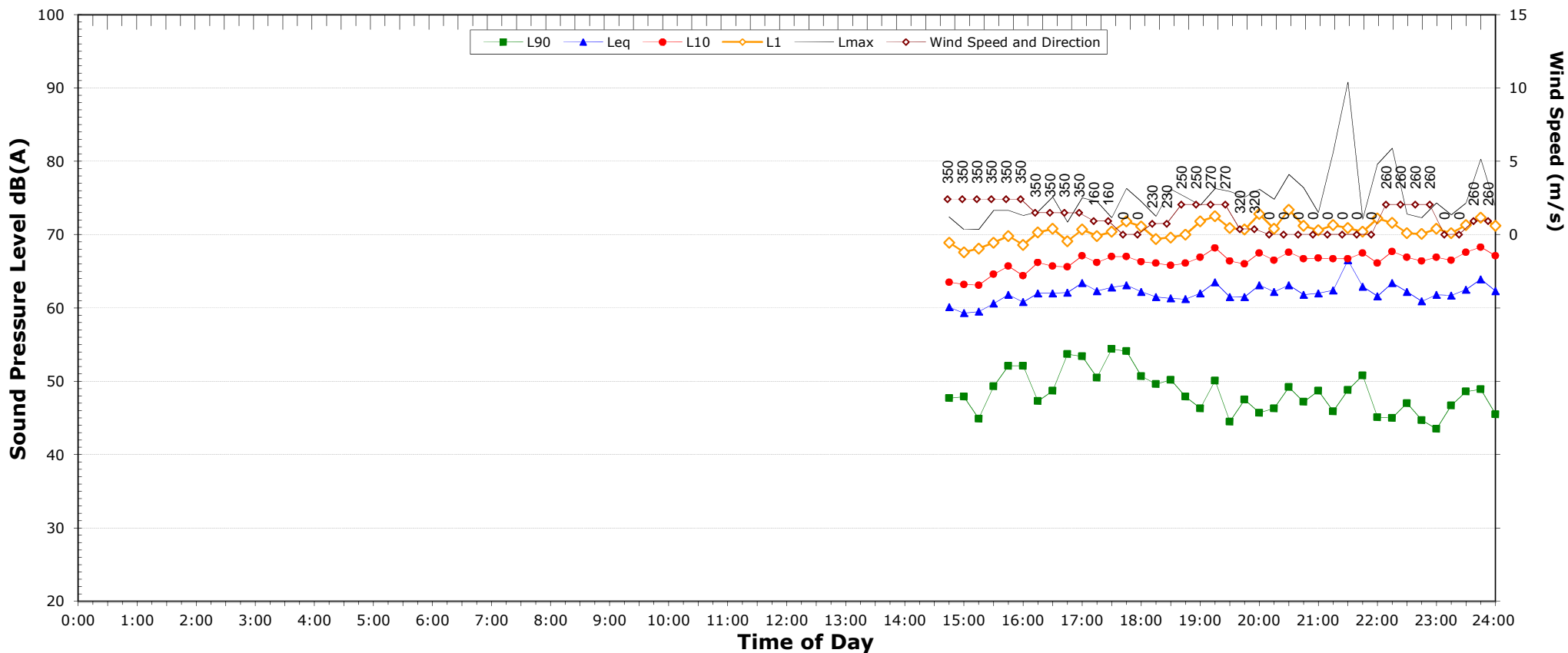
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	61.0	-
L _{eq} 1hr lower 10 percentile	58.4	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447

Tuesday, 21 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	45.1	31.6
Leq	-	62.6	60.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax- Leq ≥ 15dB(A)

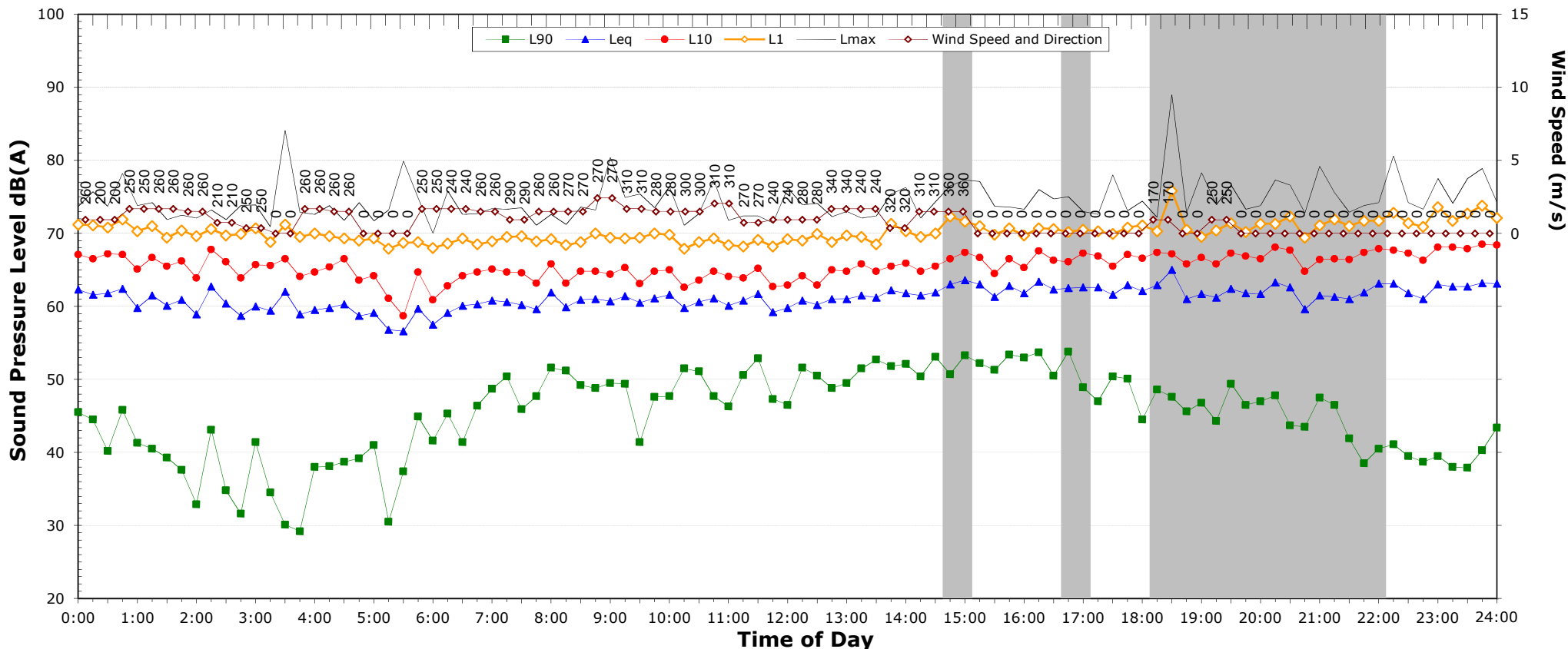
NSW Road Noise Policy (1m from facade)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	63.3
L _{eq} 1hr upper 10 percentile	66.3	65.2
L _{eq} 1hr lower 10 percentile	62.2	60.3

Night Time Maximum Noise Levels			
		(see note 4)	
Lmax (Range)	75.8	to	84.1
Lmax - Leq (Range)	15.7	to	24.0

EXISTING AMBIENT NOISE LEVELS

ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.4	-	33.7
Leq	61.3	-	61.5

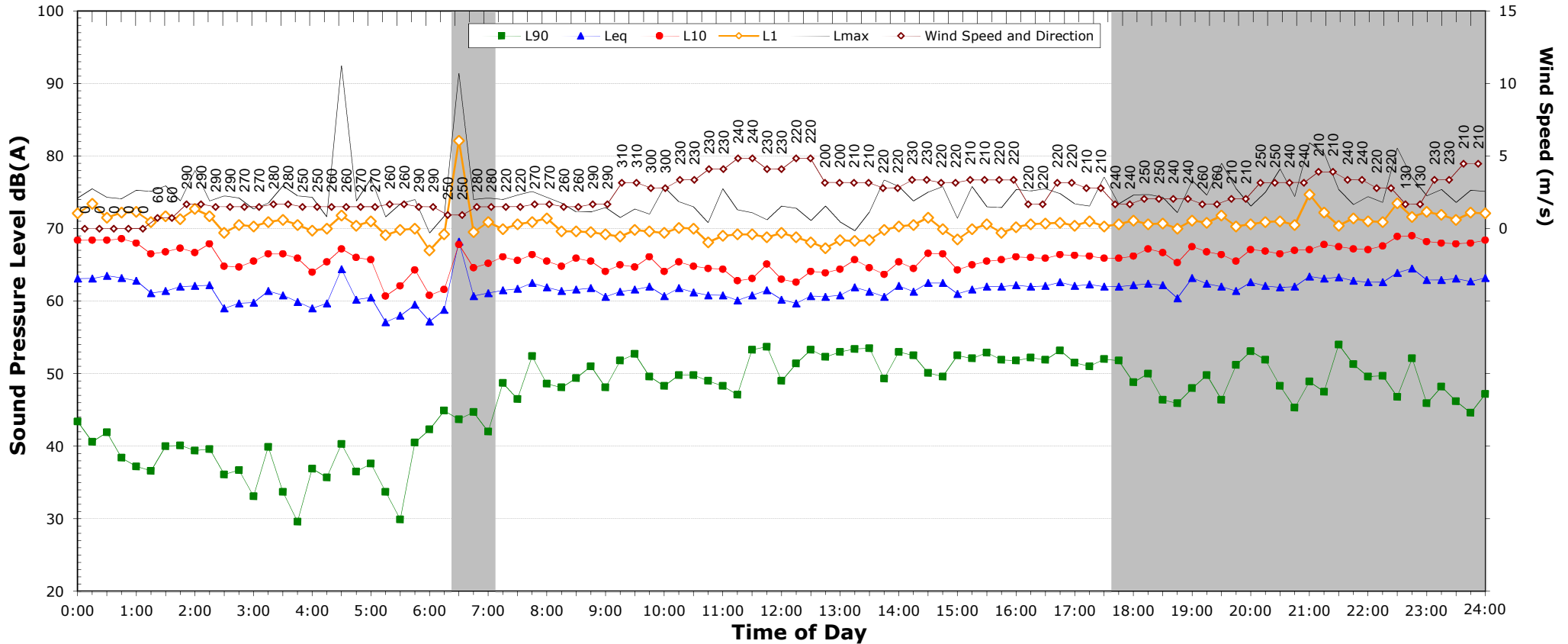
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	64.0
L _{eq} 1hr upper 10 percentile	65.3	65.7
L _{eq} 1hr lower 10 percentile	62.9	60.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	74.0	to 92.5
Lmax - Leq (Range)	15.5	to 30.8

EXISTING AMBIENT NOISE LEVELS
ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447
Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.3	-	-
Leq	61.5	-	-

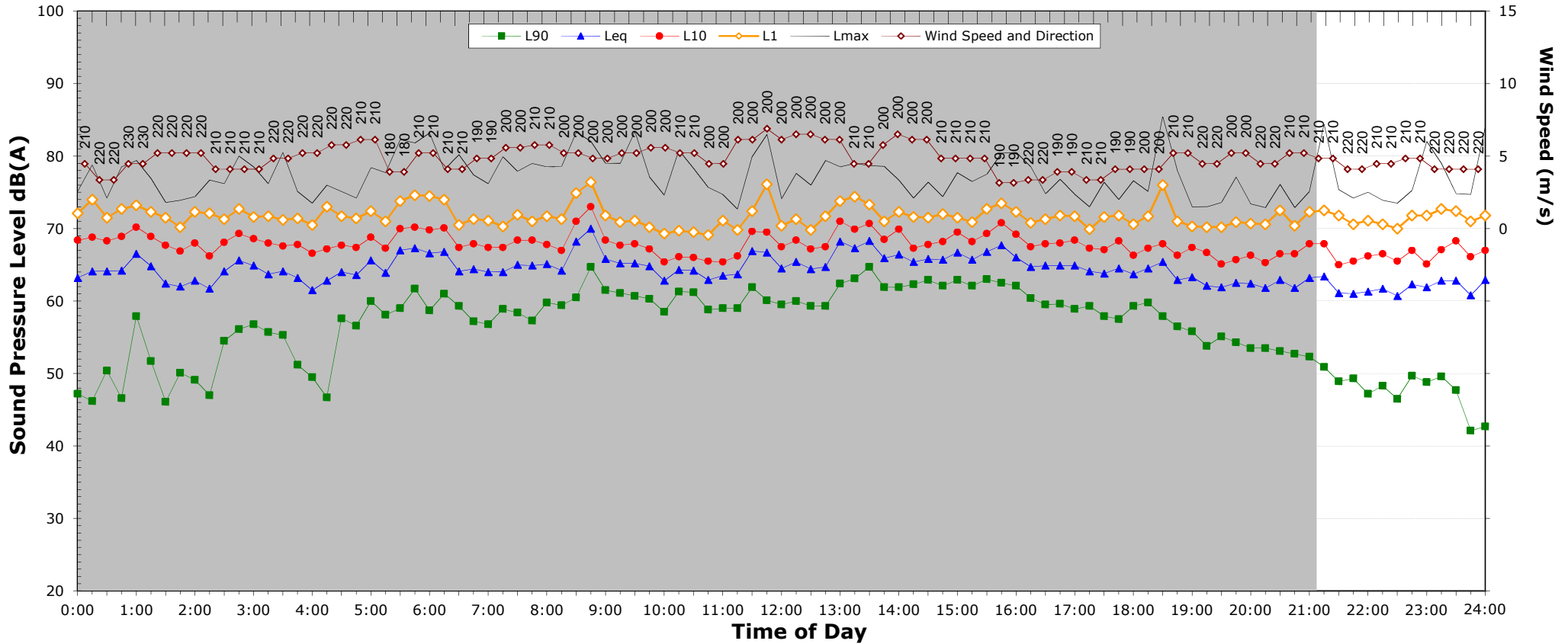
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	64.7	-
L _{eq} 1hr lower 10 percentile	63.0	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS
ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447
Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	40.0
Leq	-	-	60.4

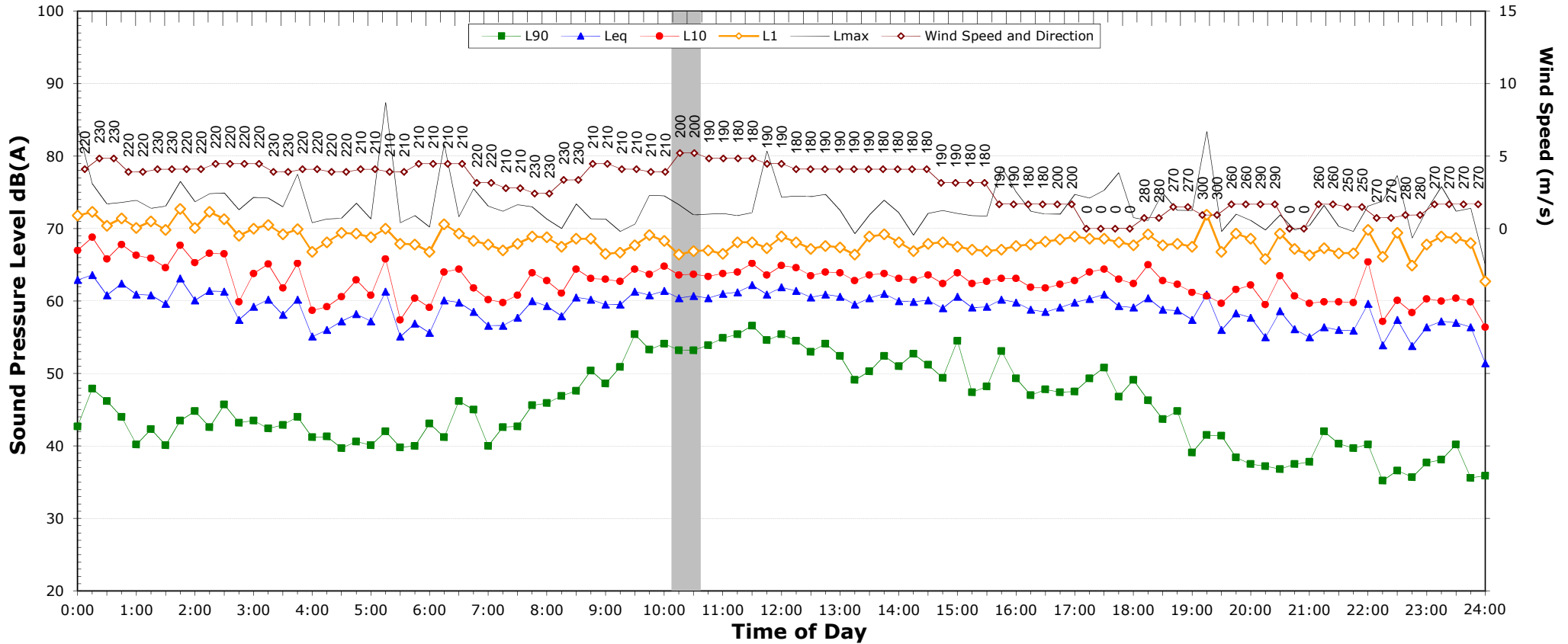
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	62.9
L _{eq} 1hr upper 10 percentile	64.3	64.9
L _{eq} 1hr lower 10 percentile	64.3	59.7

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	73.5	to 87.4
Lmax - Leq (Range)	15.4	to 29.4

EXISTING AMBIENT NOISE LEVELS
ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447
Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.8	37.2	32.7
Leq	60.1	57.9	54.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

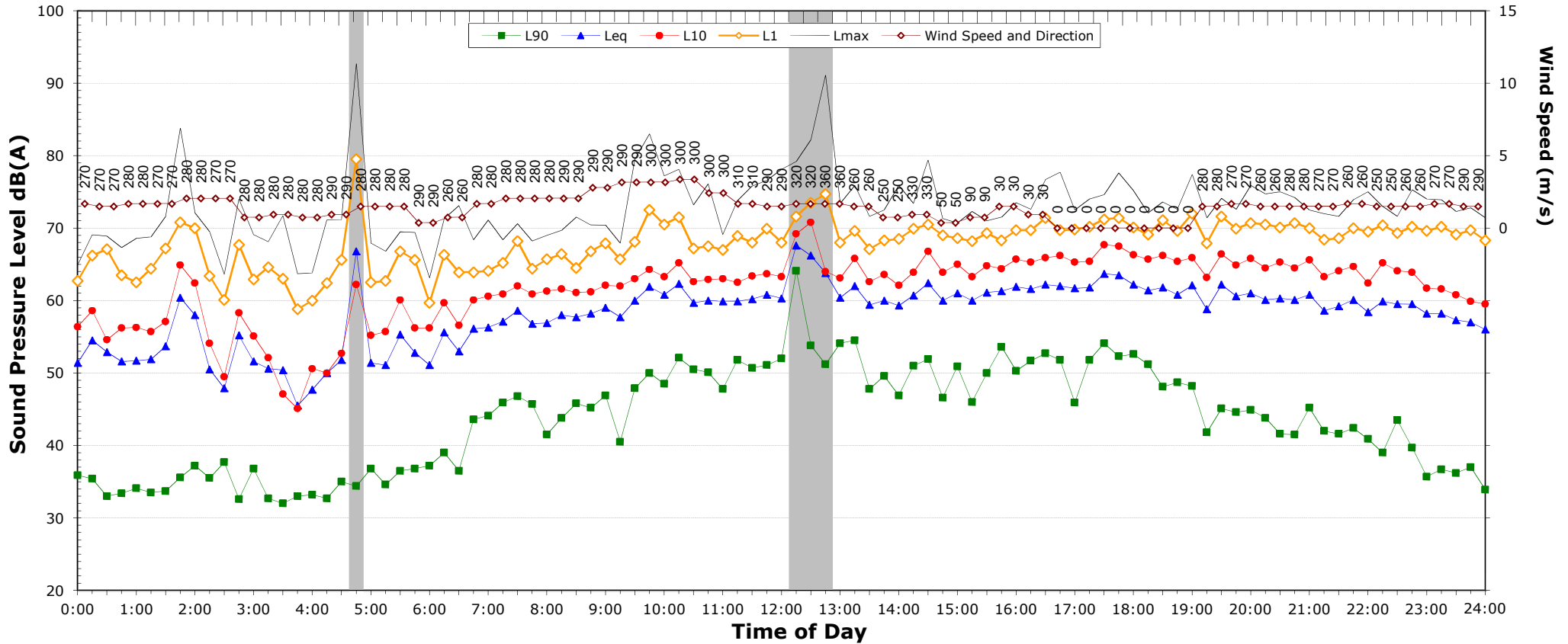
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.1	57.3
L _{eq} 1hr upper 10 percentile	63.7	59.7
L _{eq} 1hr lower 10 percentile	59.4	51.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	69.1	to 83.8
Lmax - Leq (Range)	16.3	to 26.6

EXISTING AMBIENT NOISE LEVELS

ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.8	41.5	31.8
Leq	60.9	60.5	56.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

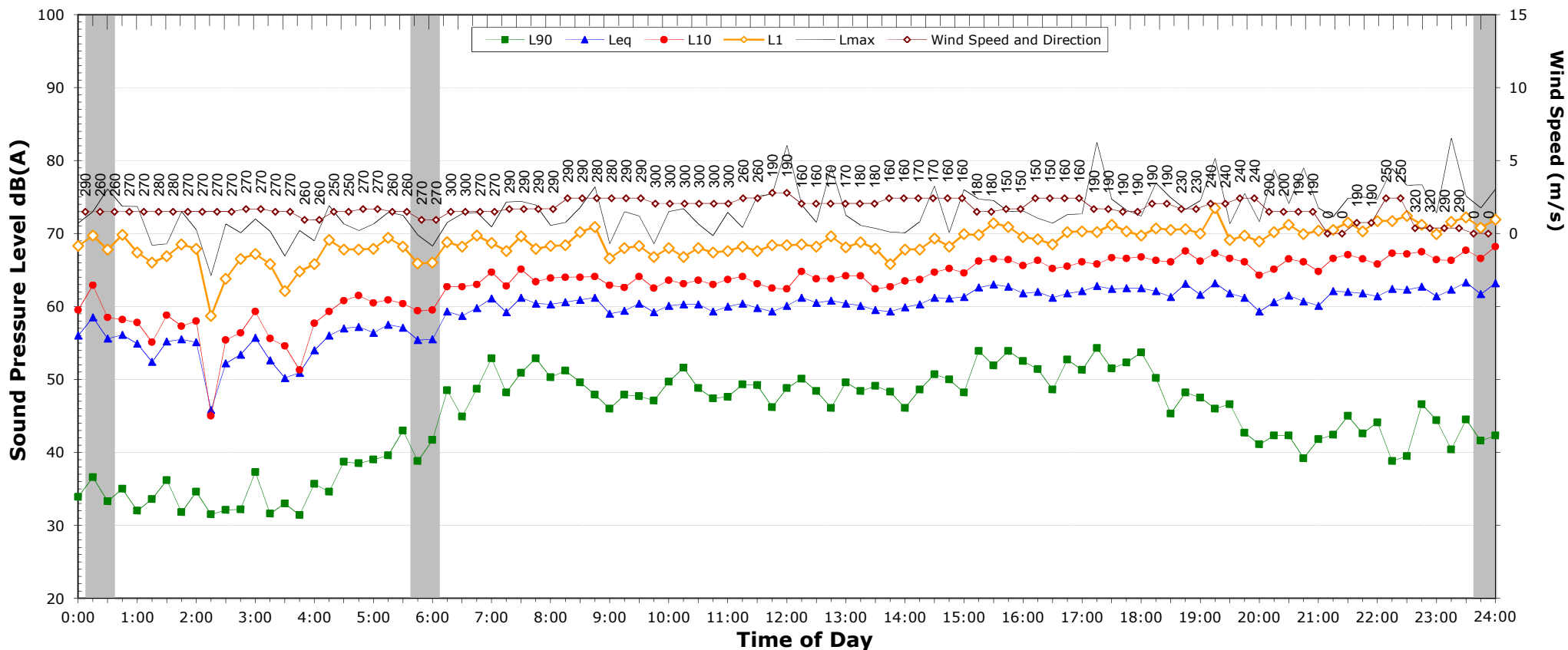
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.1	59.4
L _{eq} 1hr upper 10 percentile	64.9	62.3
L _{eq} 1hr lower 10 percentile	60.4	54.7

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	70.4	to 75.3
Lmax - Leq (Range)	15.6	to 19.0

EXISTING AMBIENT NOISE LEVELS

ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.1	41.1	-
Leq	60.9	61.6	-

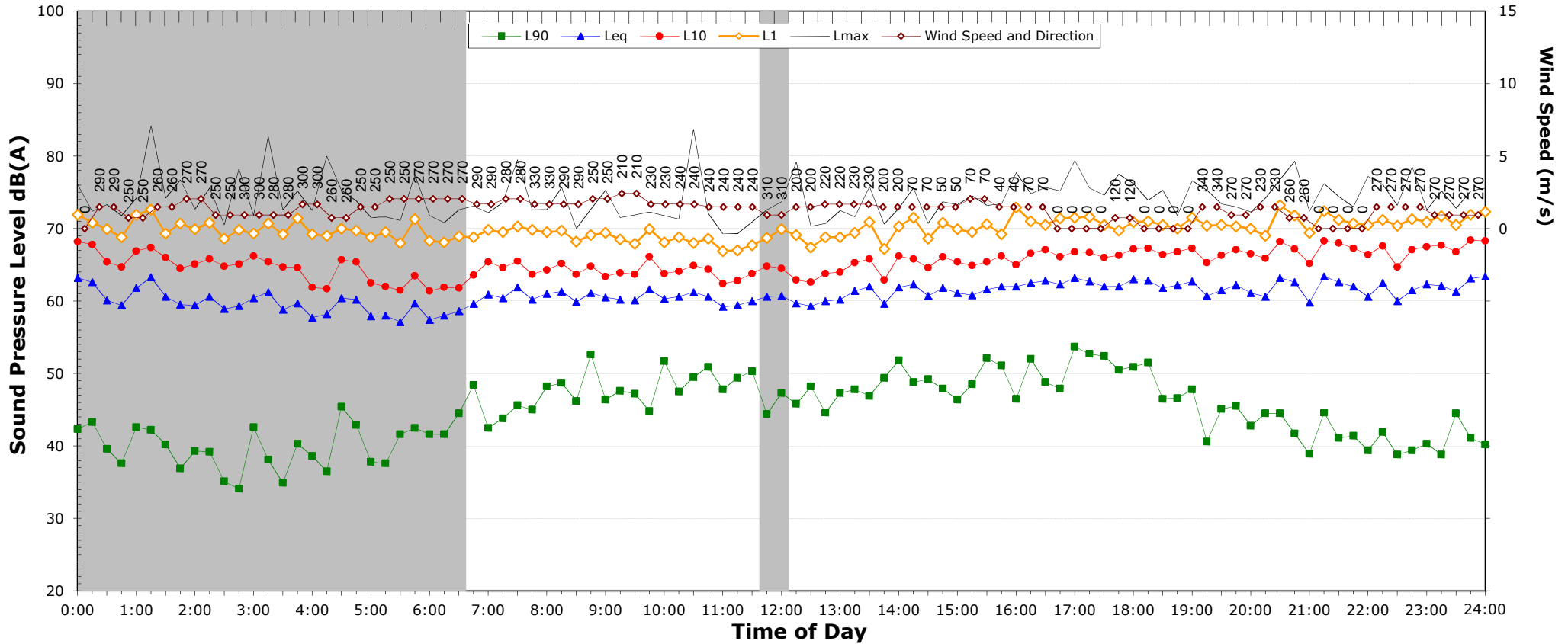
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.6	0.0
L _{eq} 1hr upper 10 percentile	65.0	65.3
L _{eq} 1hr lower 10 percentile	62.3	62.8

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	78.9	to 83.1
Lmax - Leq (Range)	16.7	to 20.3

EXISTING AMBIENT NOISE LEVELS
ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447
Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.6	39.4	35.5
Leq	61.2	62.0	61.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

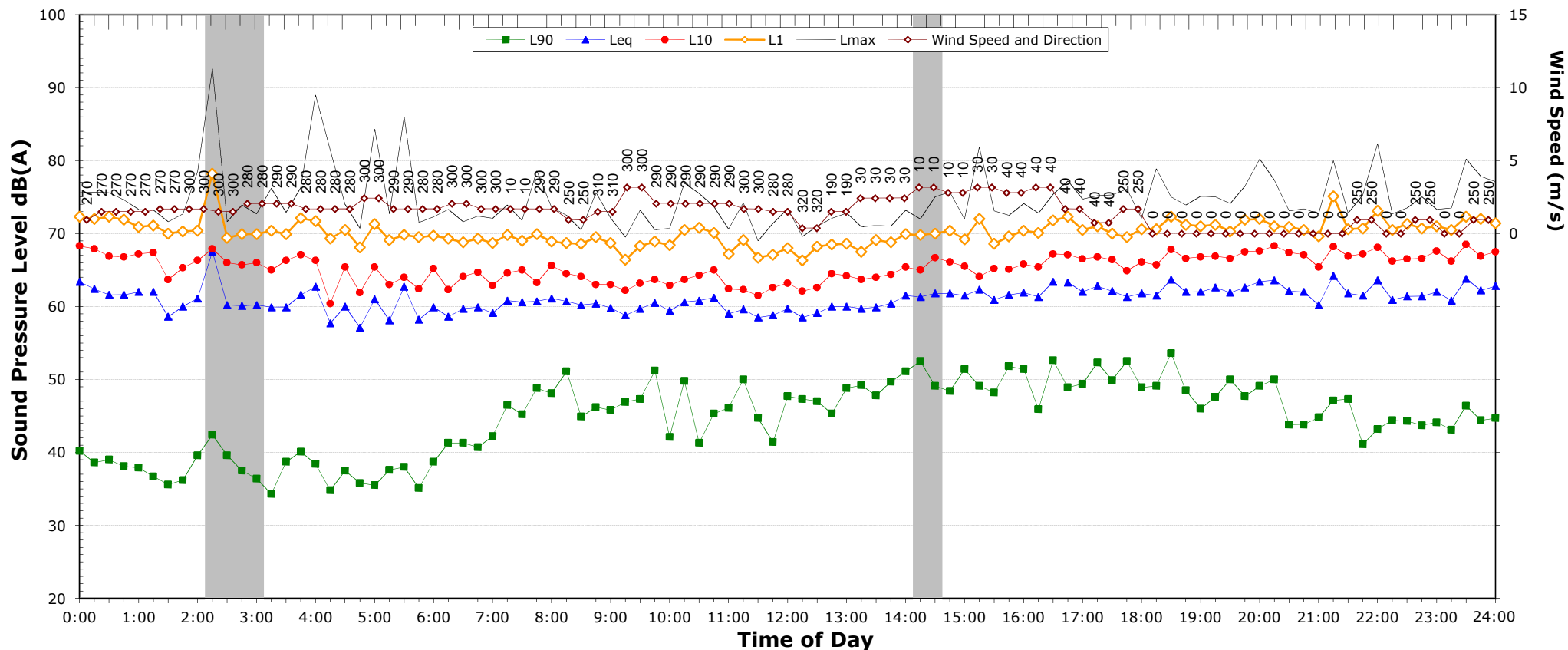
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.0	63.5
L _{eq} 1hr upper 10 percentile	65.1	65.1
L _{eq} 1hr lower 10 percentile	62.3	61.7

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	78.5	to 89.0
Lmax - Leq (Range)	16.8	to 27.8

EXISTING AMBIENT NOISE LEVELS

ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.9	43.2	37.1
Leq	60.8	62.5	60.9

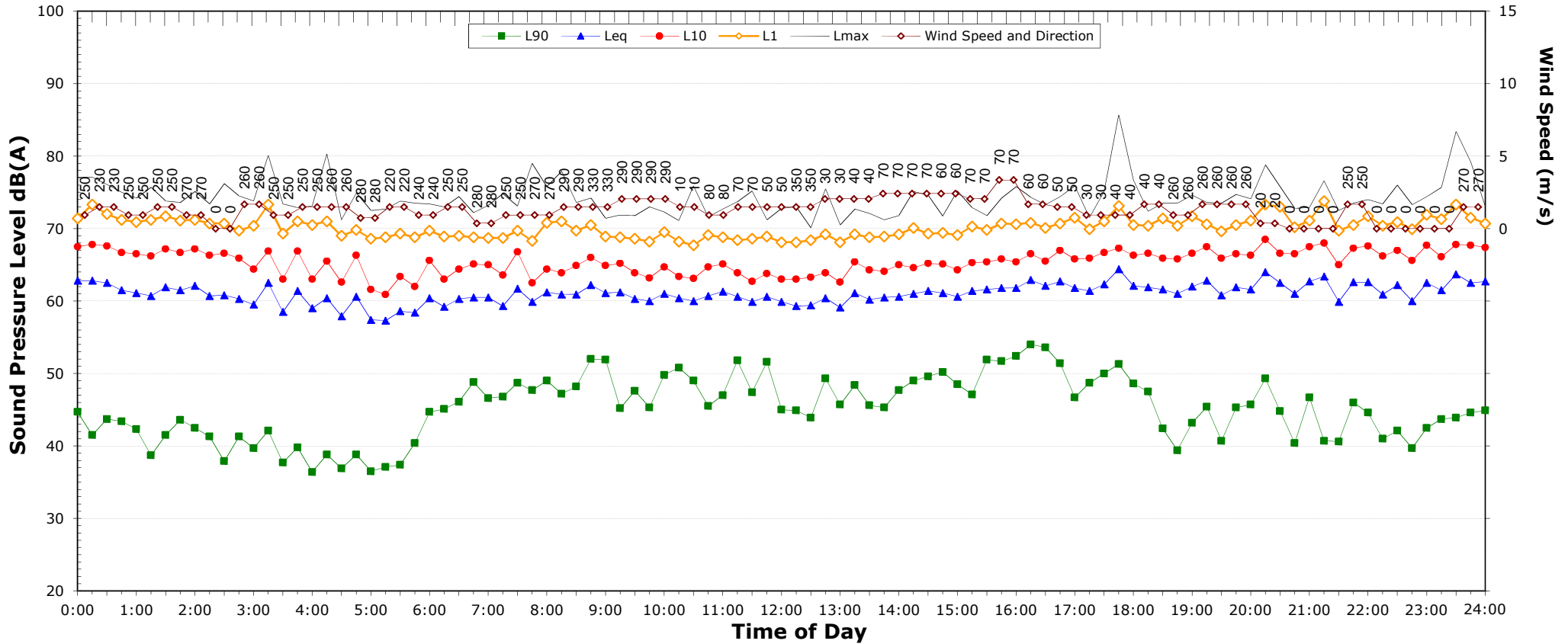
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.9	63.4
L _{eq} 1hr upper 10 percentile	65.3	65.0
L _{eq} 1hr lower 10 percentile	61.8	61.3

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	76.2	to 80.3
Lmax - Leq (Range)	15.1	to 21.0

EXISTING AMBIENT NOISE LEVELS
ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447
Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.3	40.4	36.2
Leq	61.1	62.1	61.0

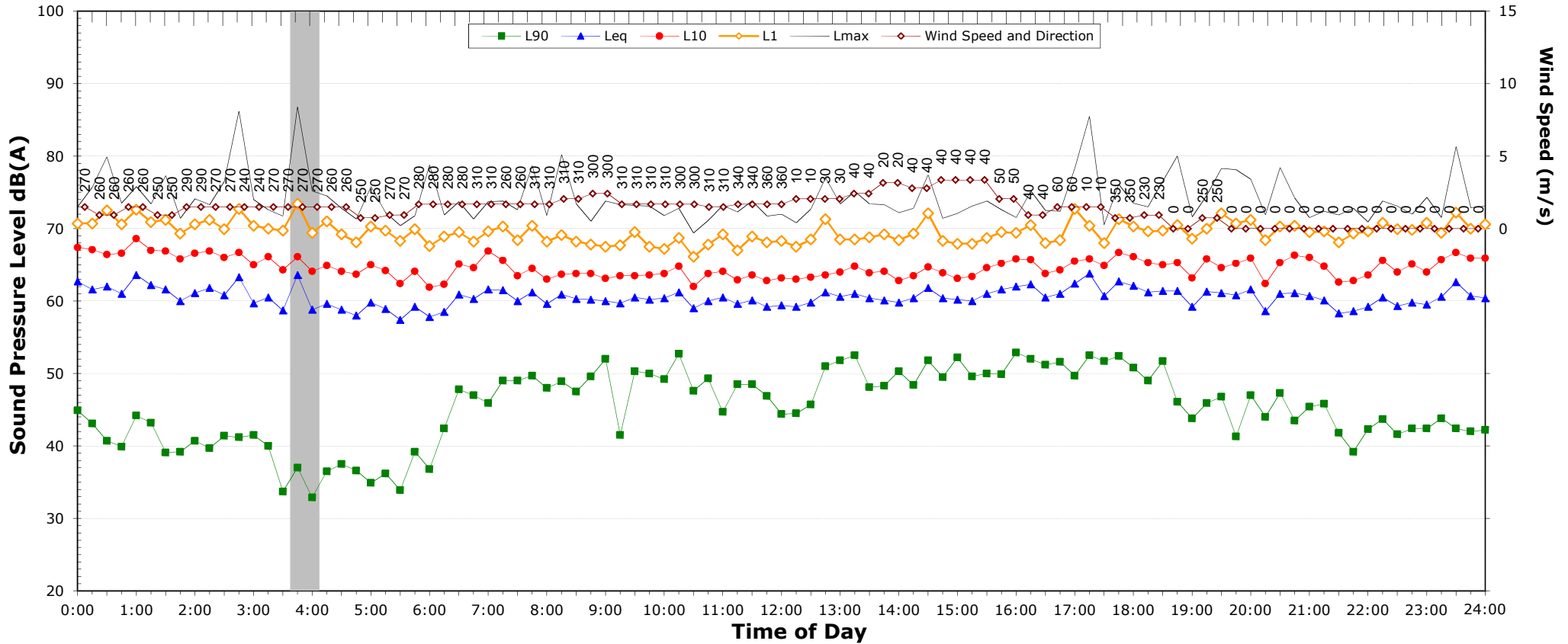
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.9	63.5
L _{eq} 1hr upper 10 percentile	65.2	65.2
L _{eq} 1hr lower 10 percentile	62.4	60.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	75.8	to 86.2
Lmax - Leq (Range)	16.0	to 24.6

EXISTING AMBIENT NOISE LEVELS
ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447
Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.7	41.3	34.8
Leq	60.8	60.5	59.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

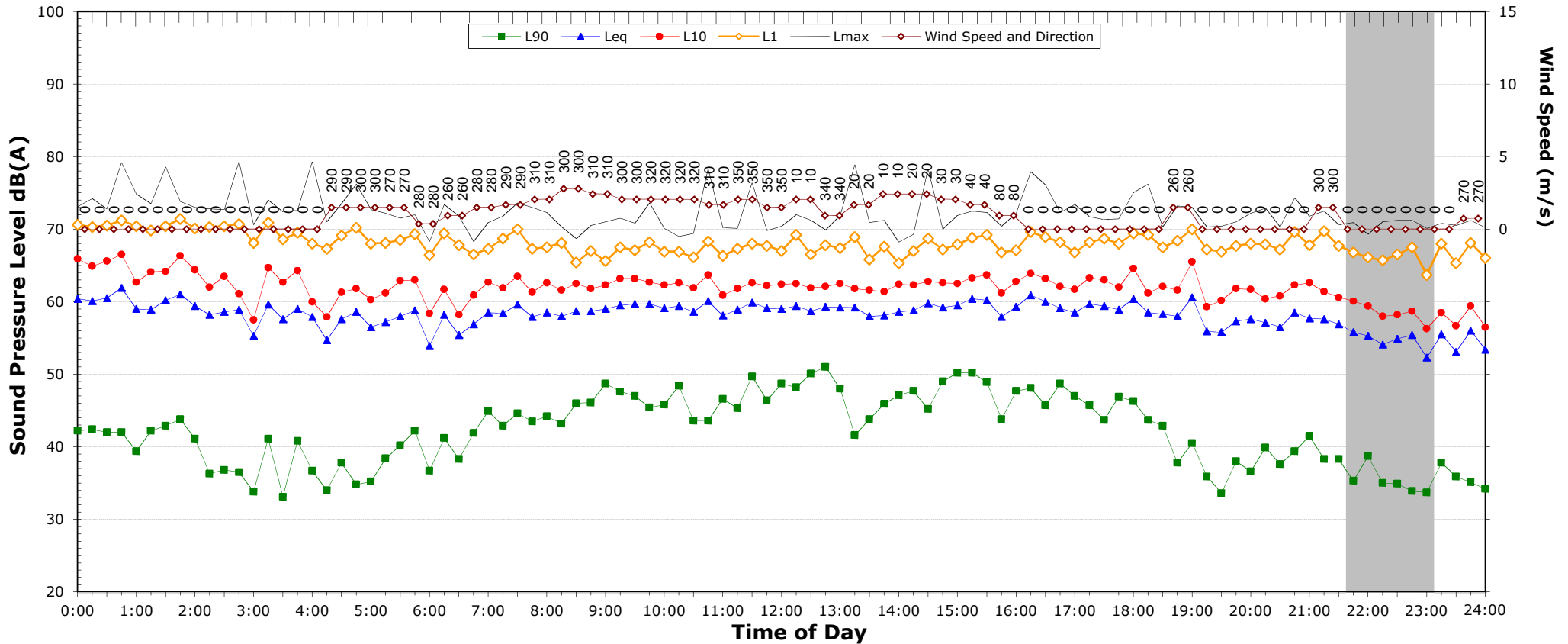
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.2	61.6
L _{eq} 1hr upper 10 percentile	64.6	63.7
L _{eq} 1hr lower 10 percentile	61.9	59.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	73.4	to 81.3
Lmax - Leq (Range)	16.0	to 21.3

EXISTING AMBIENT NOISE LEVELS

ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	43.6	35.9	-
Leq	59.2	57.8	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

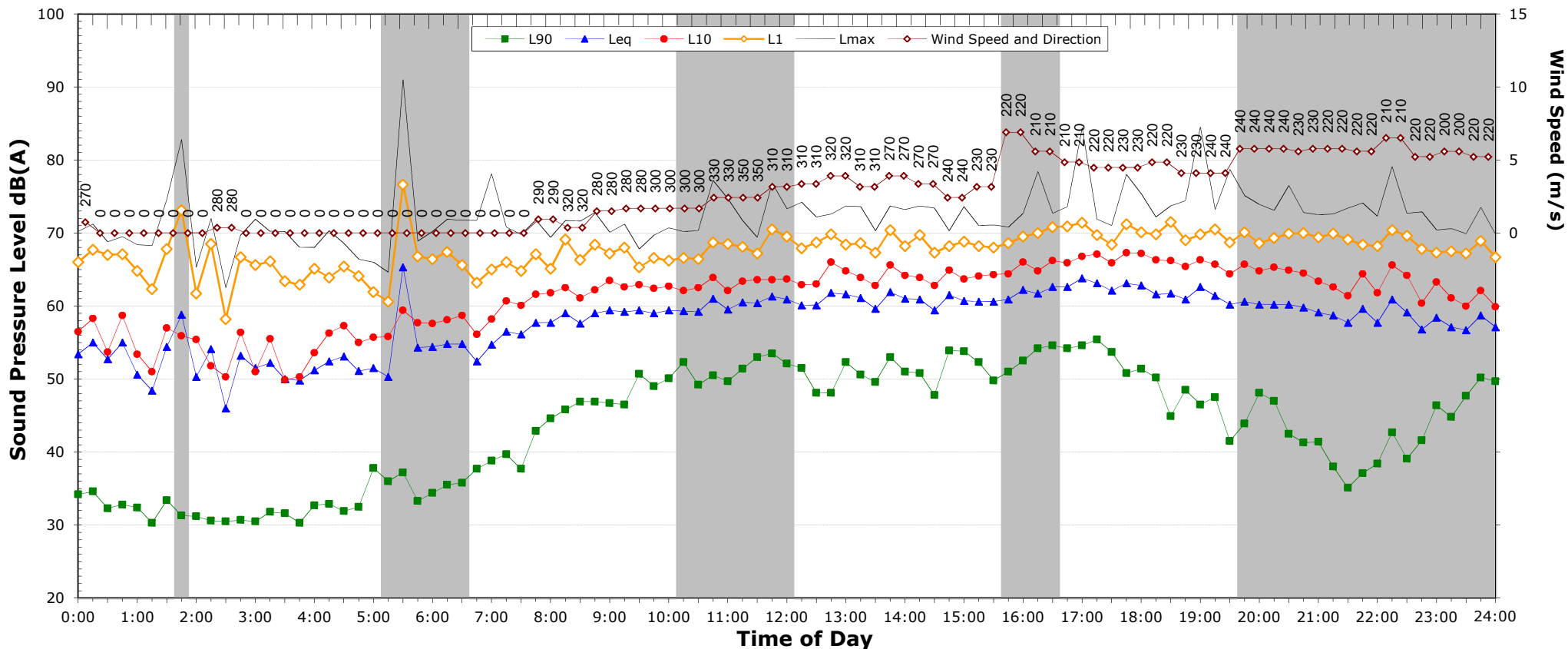
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	62.2	57.2
L _{eq} 1hr lower 10 percentile	59.5	53.4

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	70.2	to 78.1
Lmax - Leq (Range)	16.5	to 24.4

EXISTING AMBIENT NOISE LEVELS

ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

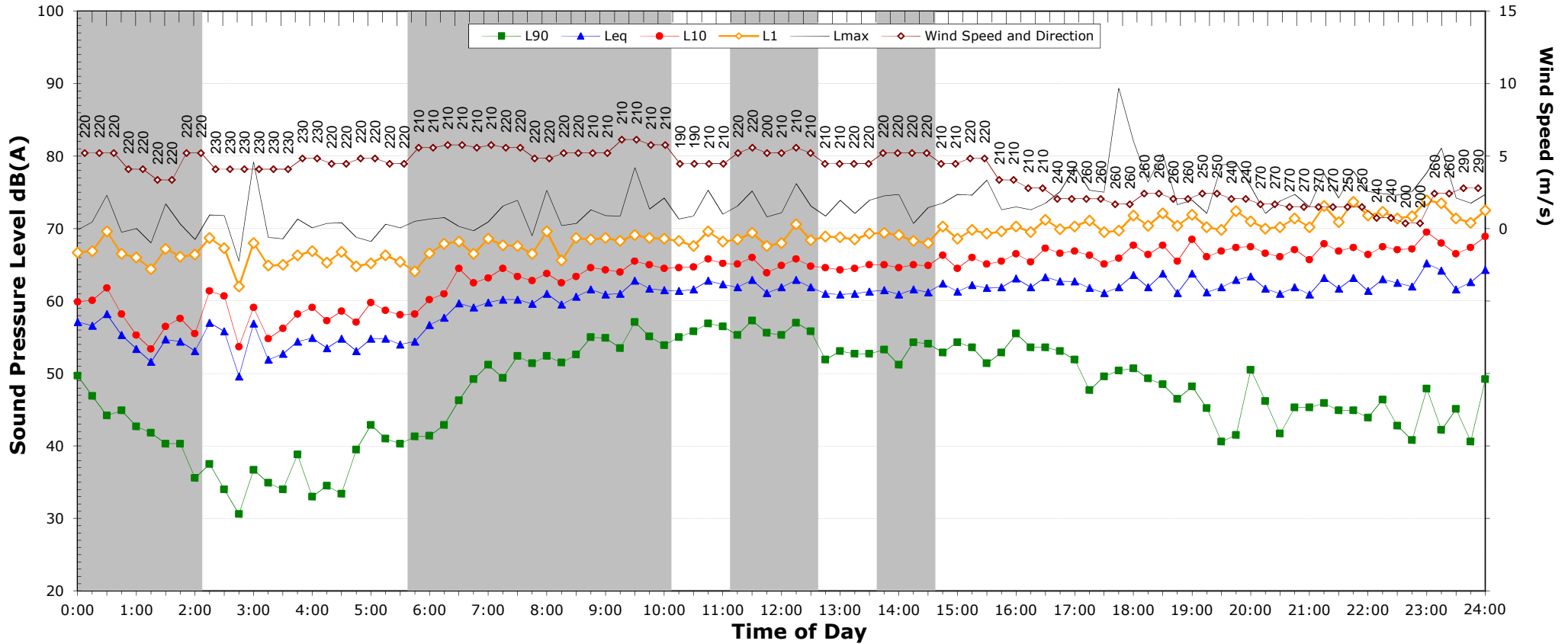
NOTES:

- Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
- "Night" relates to period from 10pm on this graph to 7am on the following graph.
- Graphed data measured in free-field; tabulated results facade corrected
- Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	65.7	58.1
L _{eq} 1hr lower 10 percentile	59.8	56.1

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	70.6	to	79.2
L _{max} - Leq (Range)	16.2	to	23.6

EXISTING AMBIENT NOISE LEVELS
ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447
Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	41.5	38.2
Leq	-	62.3	61.5

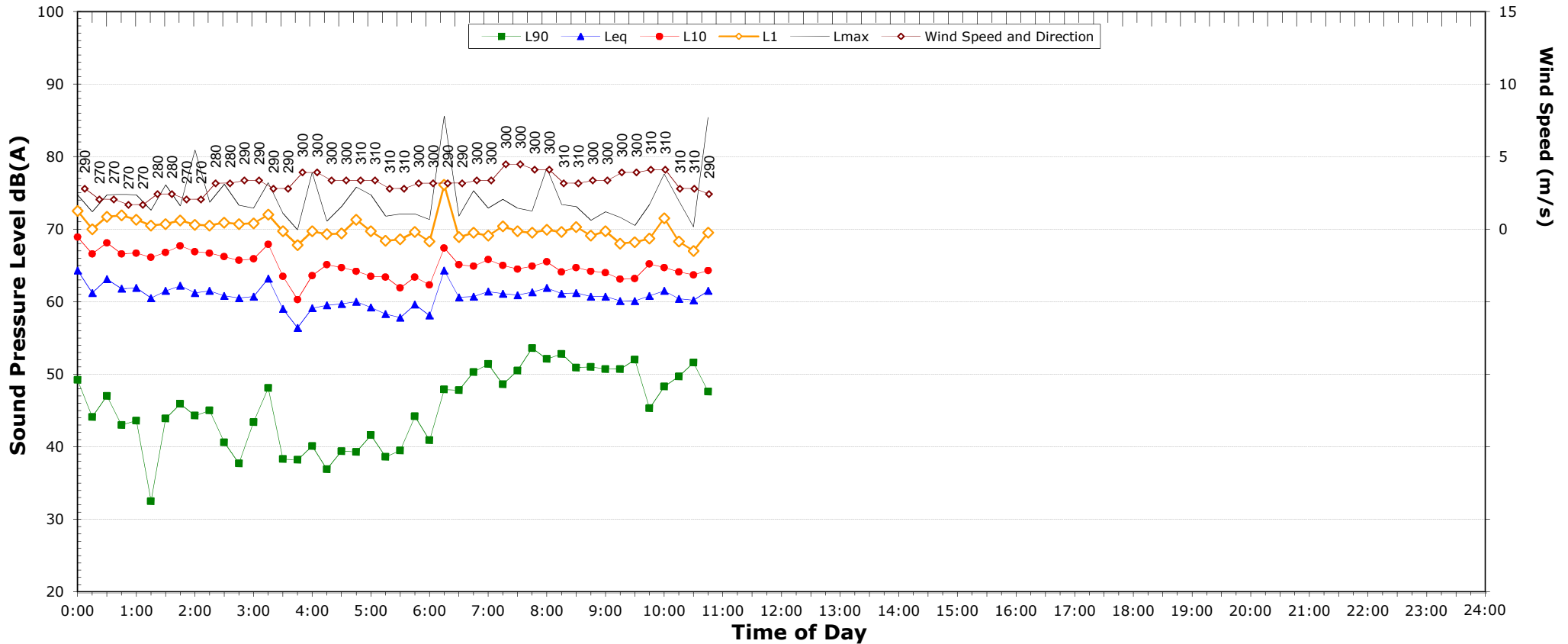
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	65.3	65.9
L _{eq} 1hr lower 10 percentile	63.5	61.0

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	75.8	to 85.6
Lmax - Leq (Range)	15.3	to 23.6

EXISTING AMBIENT NOISE LEVELS
ID 132 - 4723 Pacific Highway, DONNELLYVILLE, 2447
Tuesday, 4 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

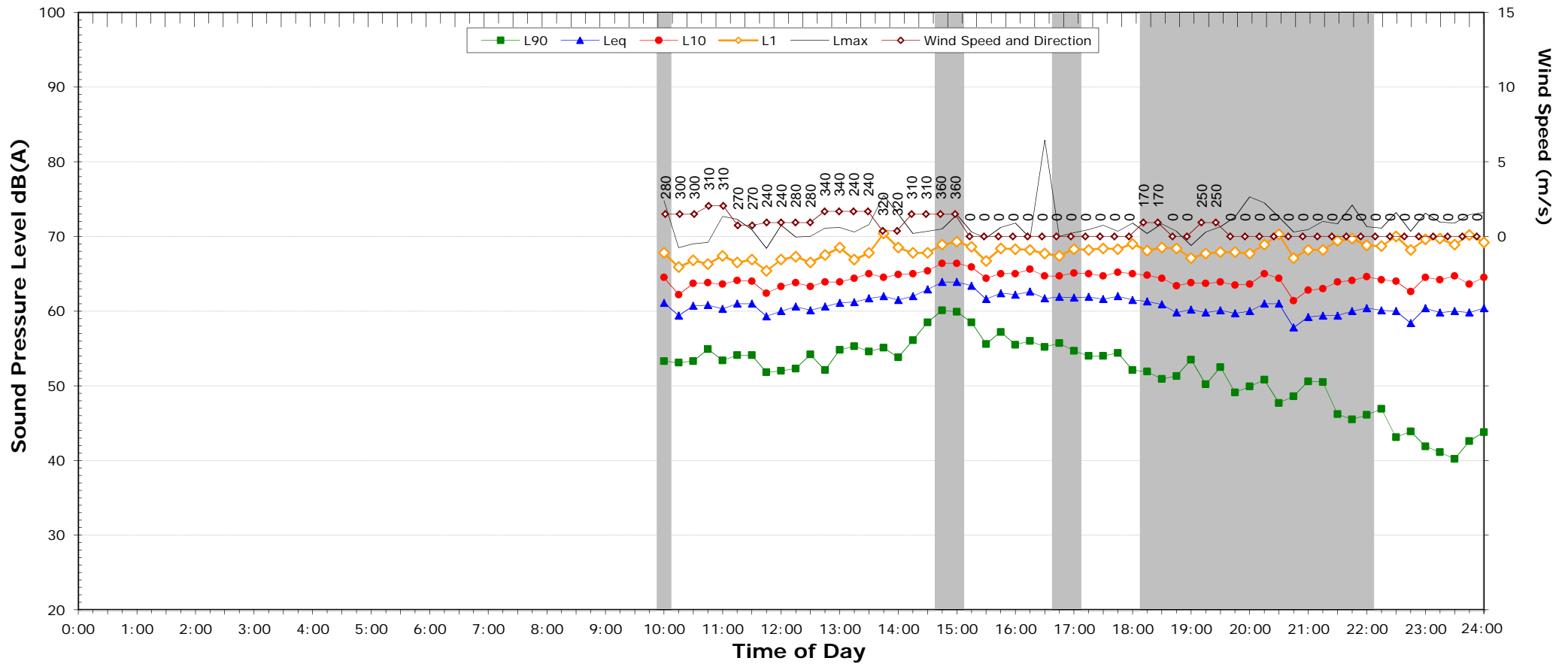
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	63.8	-
L _{eq} 1hr lower 10 percentile	63.2	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	36.6
Leq	-	-	58.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

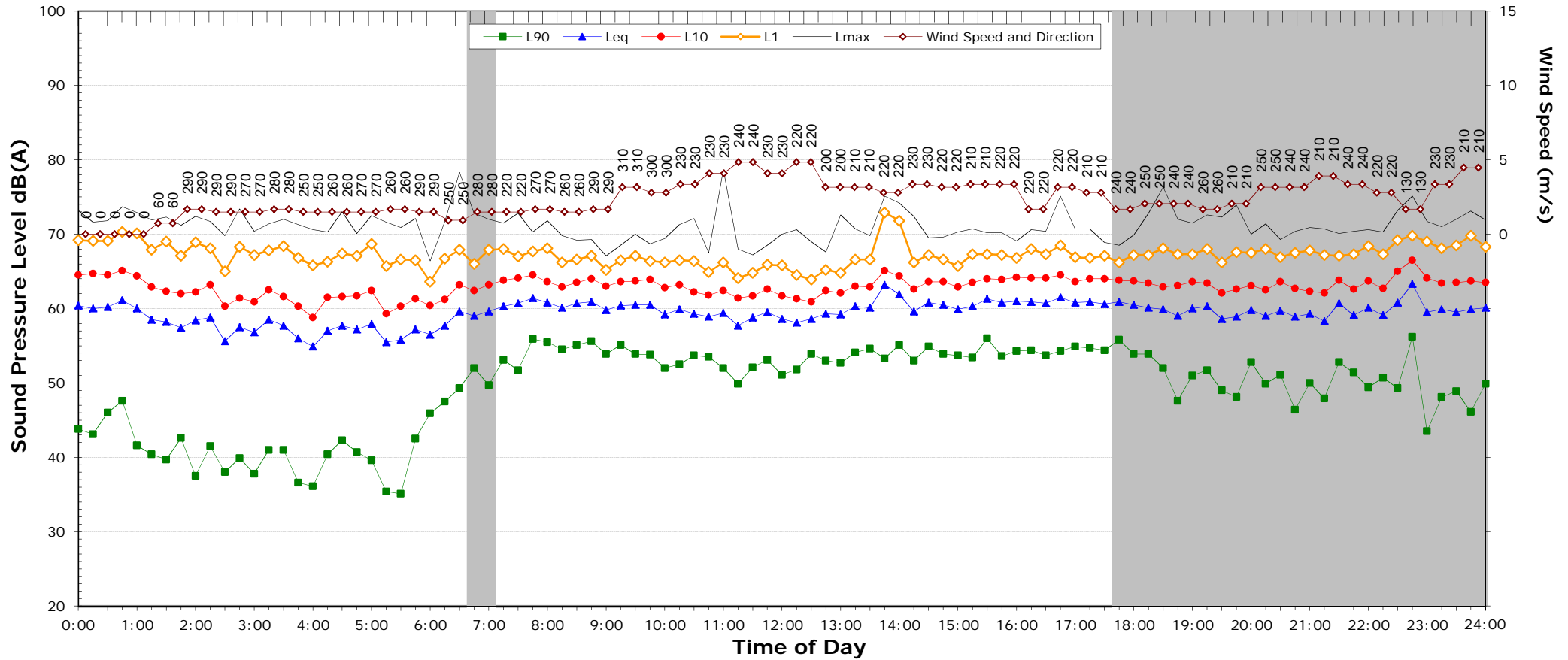
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	61.1
L _{eq} 1hr upper 10 percentile	65.0	62.8
L _{eq} 1hr lower 10 percentile	62.8	58.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.0	to	78.3
Lmax - Leq (Range)	15.0	to	19.5

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	52.0	-	-
Leq	60.3	-	-

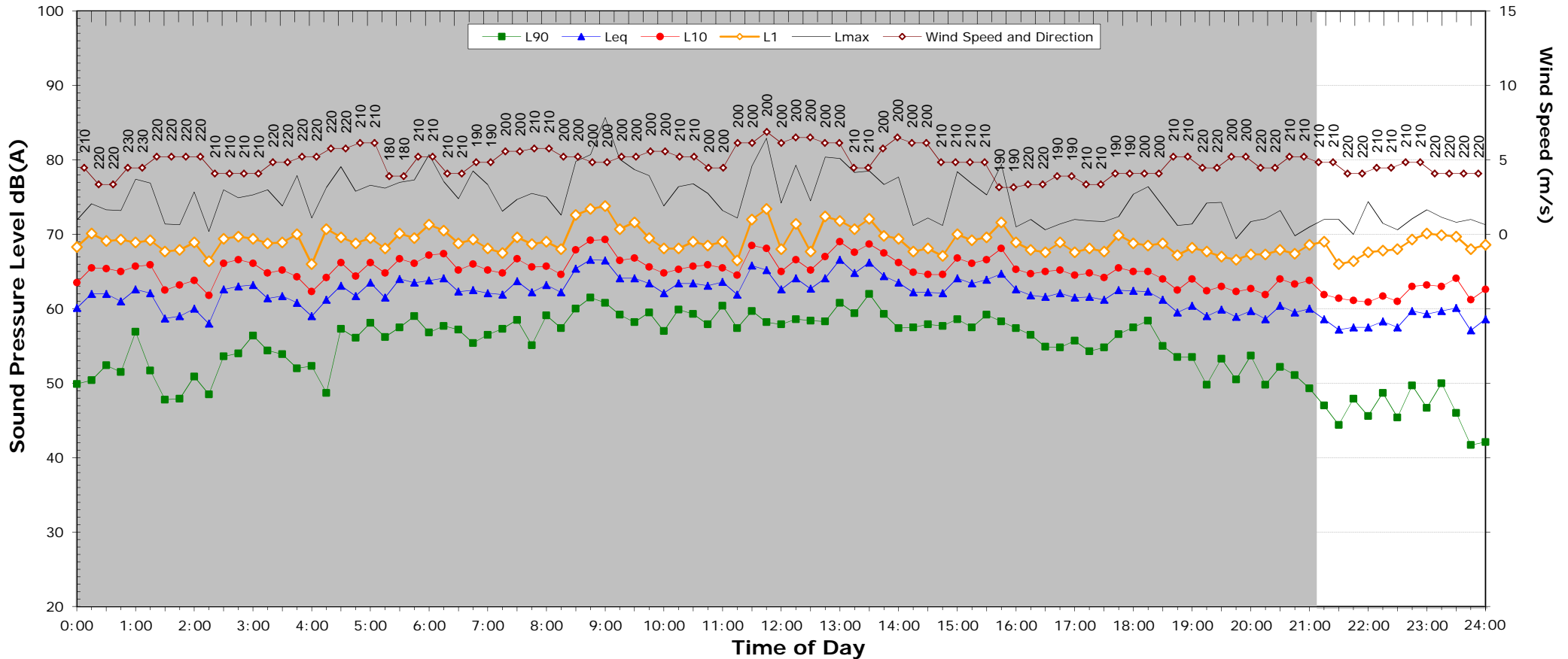
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	64.0	-
L _{eq} 1hr lower 10 percentile	61.2	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS
ID 139 - 4 Scotts Head Rd, WAY WAY, 2447
Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	40.8
Leq	-	-	57.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

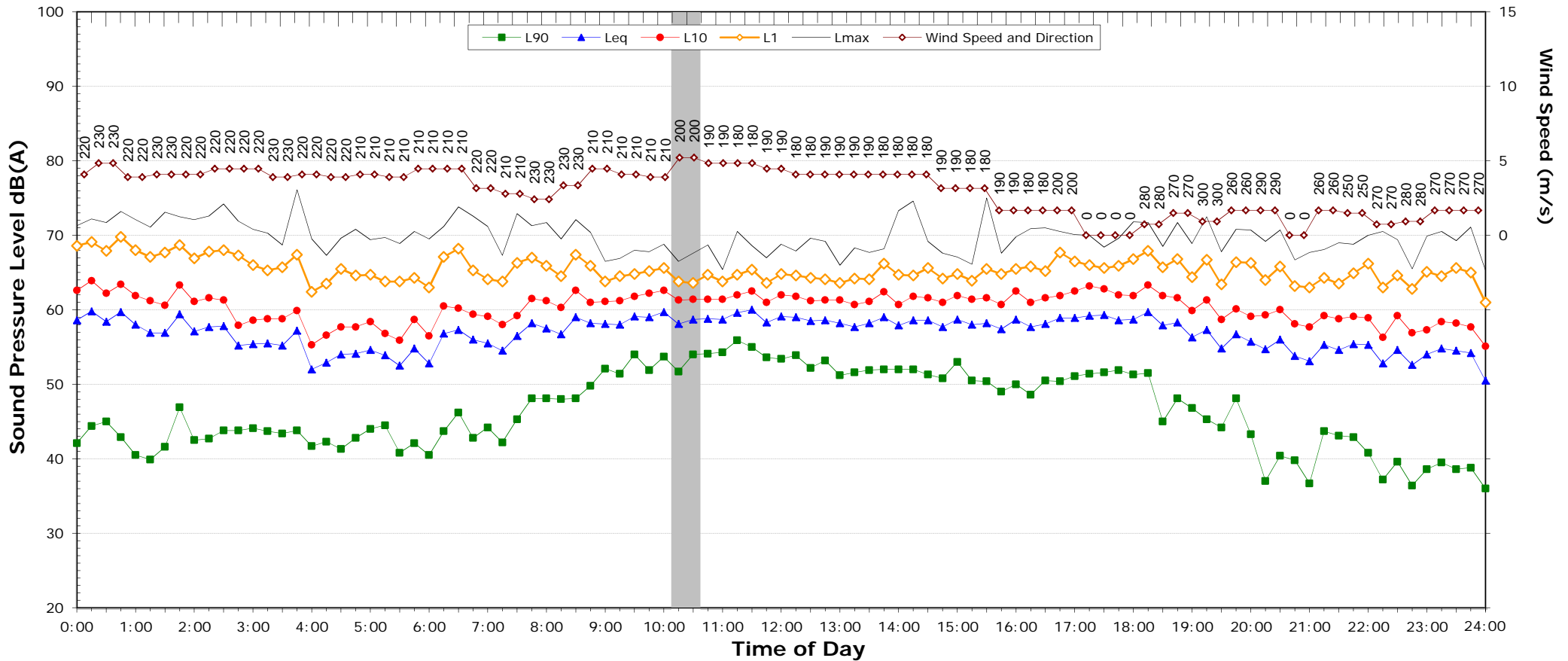
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	59.7
L _{eq} 1hr upper 10 percentile	60.2	61.5
L _{eq} 1hr lower 10 percentile	60.2	56.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	70.5	to	76.1
Lmax - Leq (Range)	15.4	to	20.8

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.1	37.0	34.5
Leq	58.5	56.3	52.8

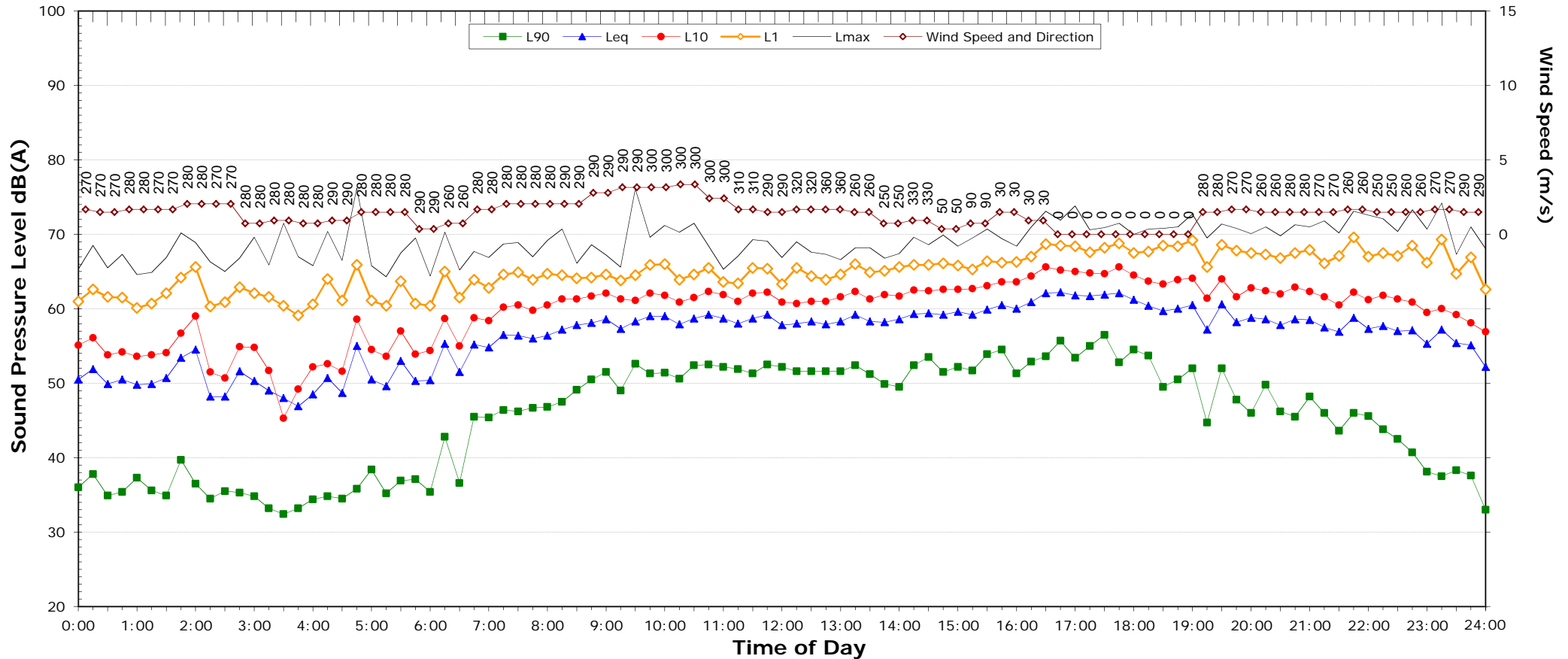
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.5	55.3
L _{eq} 1hr upper 10 percentile	61.6	56.9
L _{eq} 1hr lower 10 percentile	57.4	50.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.5	to	76.2
Lmax - Leq (Range)	15.9	to	24.3

EXISTING AMBIENT NOISE LEVELS
ID 139 - 4 Scotts Head Rd, WAY WAY, 2447
Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.7	44.7	33.8
Leq	59.5	58.9	55.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

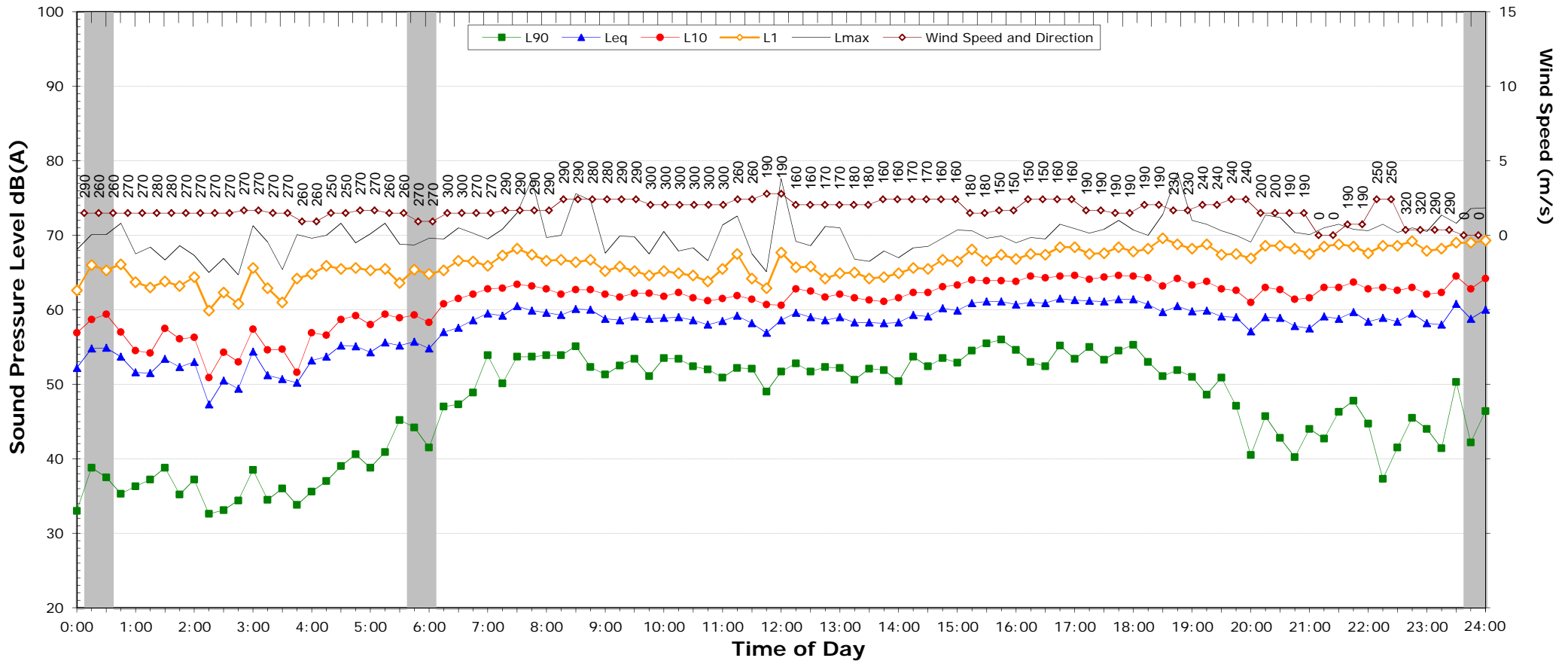
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.7	57.5
L _{eq} 1hr upper 10 percentile	64.3	60.8
L _{eq} 1hr lower 10 percentile	59.6	53.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.6	to	74.2
Lmax - Leq (Range)	16.0	to	20.1

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.9	40.5	-
Leq	59.7	59.2	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

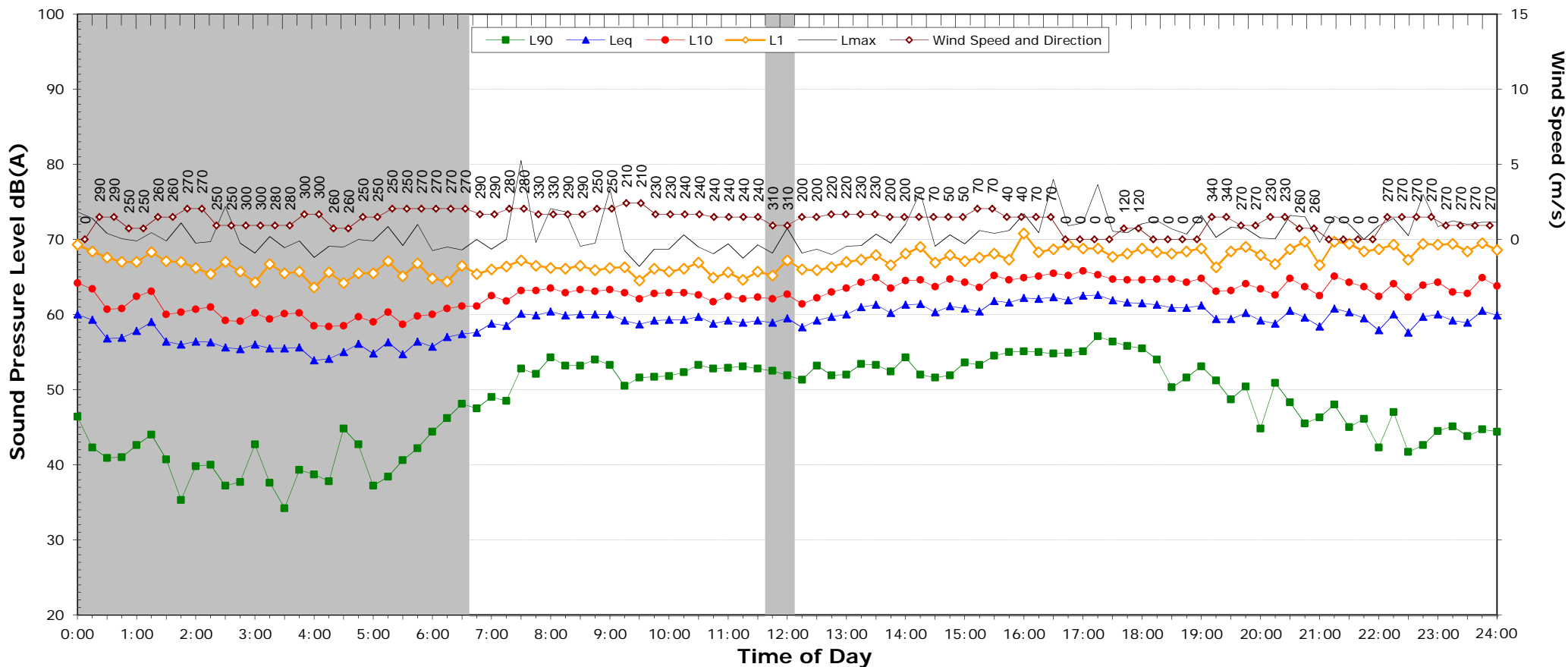
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.1	0.0
L _{eq} 1hr upper 10 percentile	63.7	62.1
L _{eq} 1hr lower 10 percentile	60.8	60.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.6	44.8	40.4
Leq	60.6	60.0	58.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

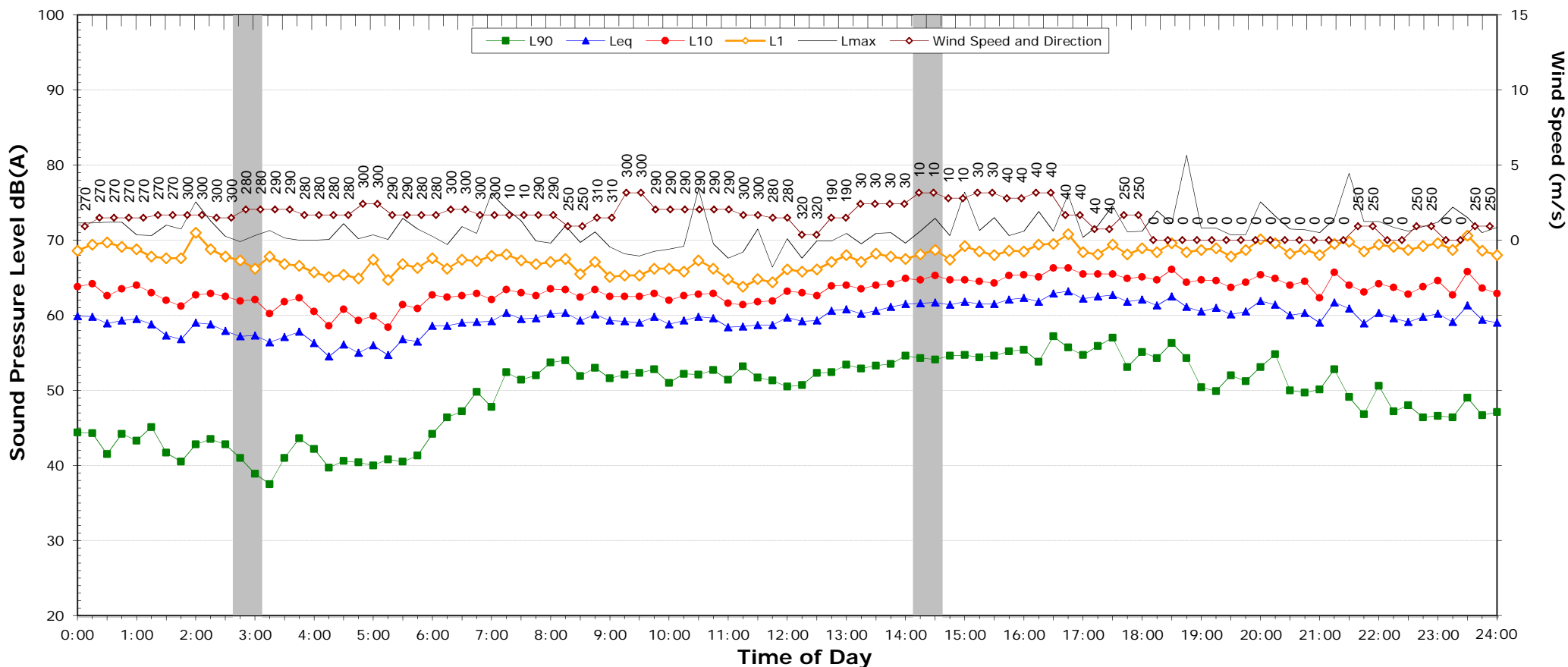
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.9	60.8
L _{eq} 1hr upper 10 percentile	64.6	62.2
L _{eq} 1hr lower 10 percentile	61.6	58.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.2	to	76.2
Lmax - Leq (Range)	16.0	to	17.2

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.4	49.1	41.2
Leq	60.7	60.8	58.4

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

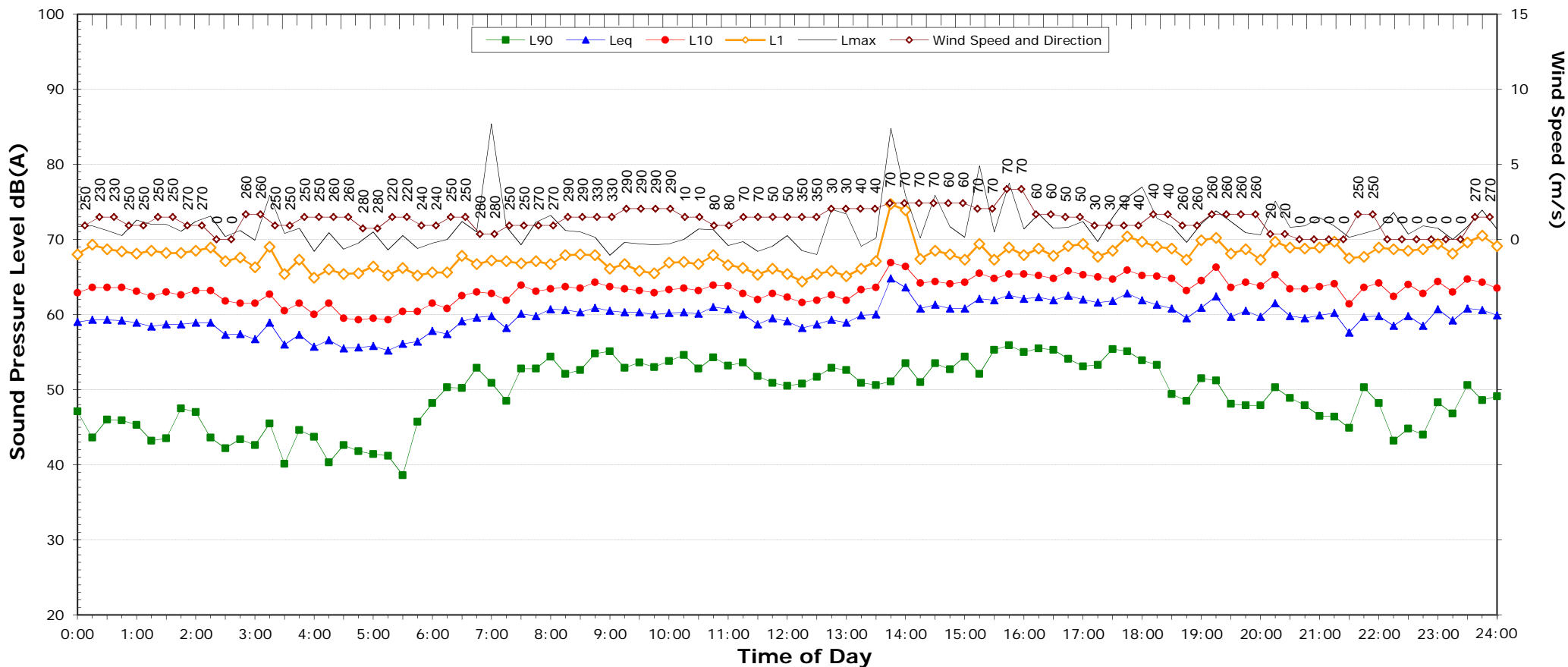
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.2	60.9
L _{eq} 1hr upper 10 percentile	64.9	62.3
L _{eq} 1hr lower 10 percentile	61.6	58.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.0	to	85.4
Lmax - Leq (Range)	15.1	to	26.3

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.9	46.4	39.4
Leq	61.0	60.3	58.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

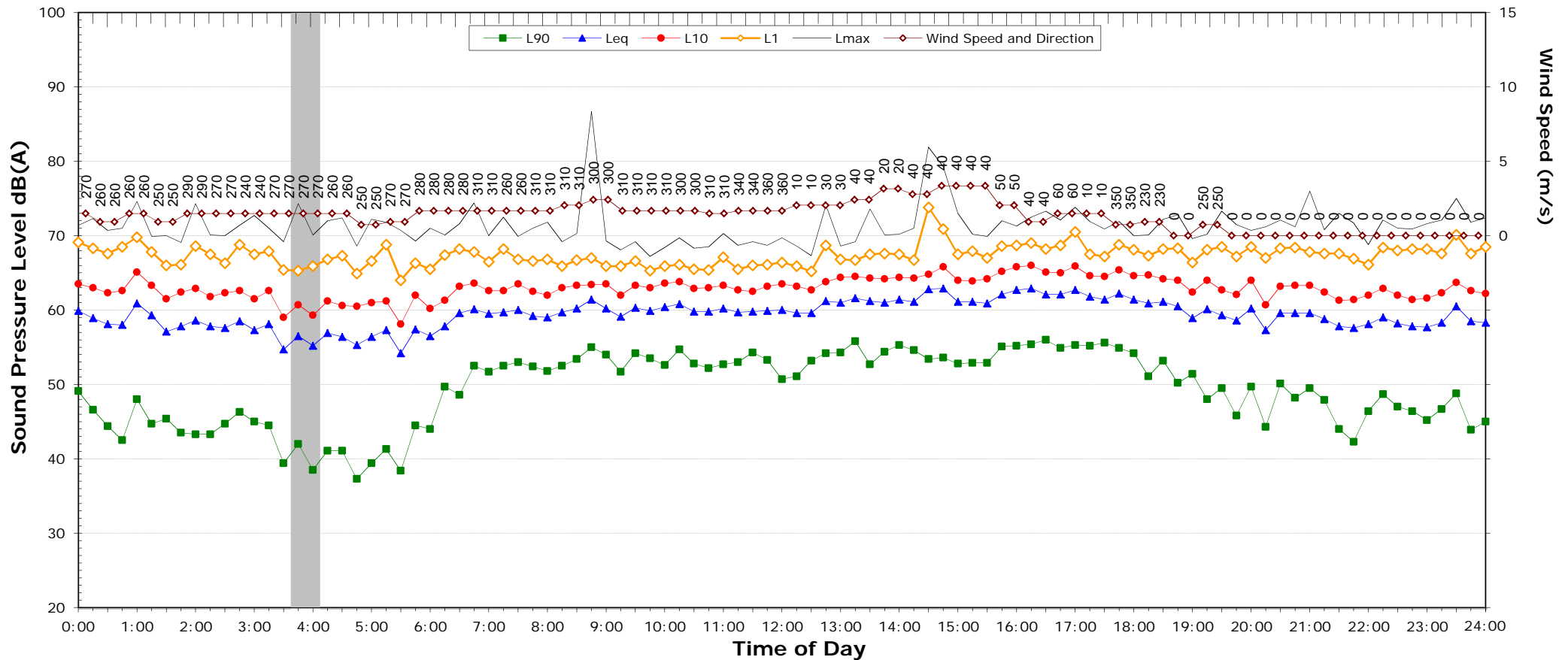
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.3	61.0
L _{eq} 1hr upper 10 percentile	64.9	62.7
L _{eq} 1hr lower 10 percentile	61.6	58.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.8	to	74.6
Lmax - Leq (Range)	15.1	to	16.1

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	52.2	44.0	38.3
Leq	61.0	59.4	57.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

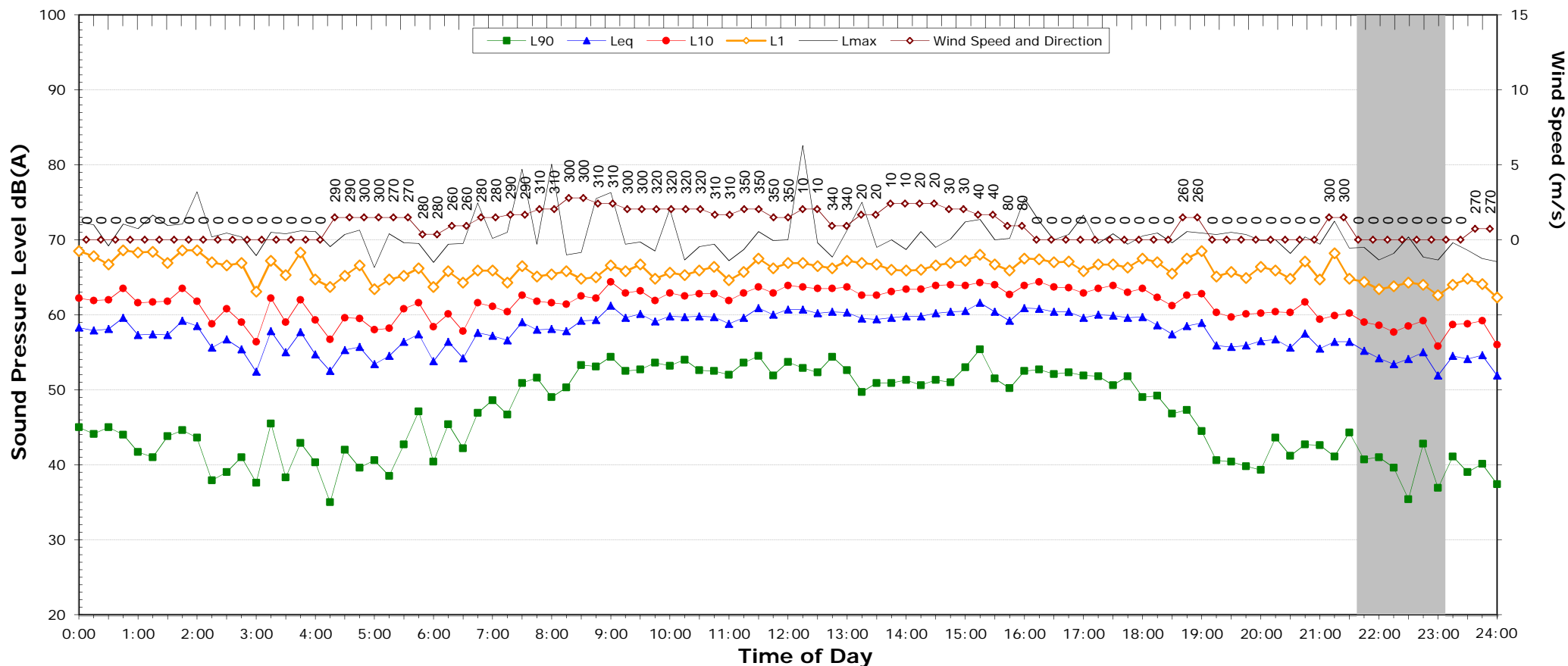
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.1	59.7
L _{eq} 1hr upper 10 percentile	64.8	61.5
L _{eq} 1hr lower 10 percentile	61.1	56.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	70.8	to	76.4
Lmax - Leq (Range)	15.0	to	18.4

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.2	39.8	-
Leq	59.9	57.0	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

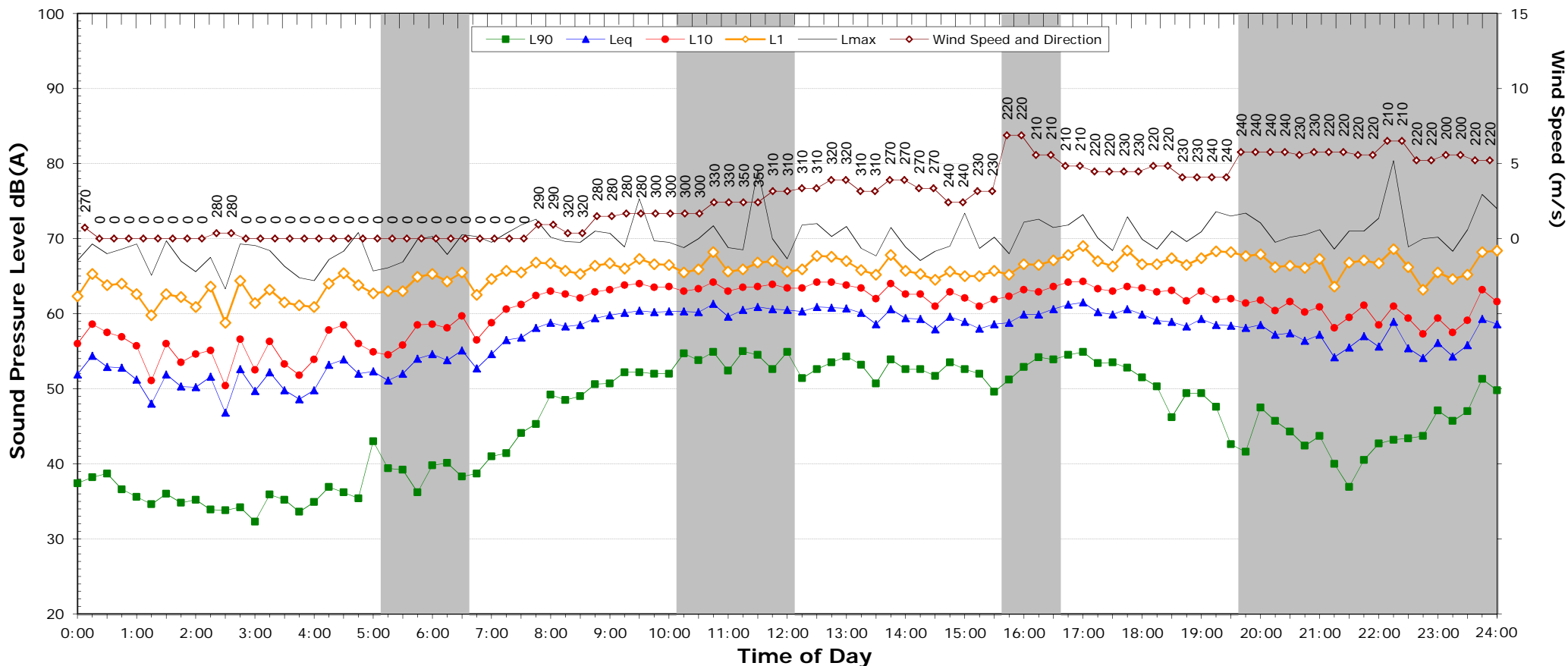
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	63.0	56.4
L _{eq} 1hr lower 10 percentile	58.7	52.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.4	to	70.8
Lmax - Leq (Range)	15.7	to	19.4

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

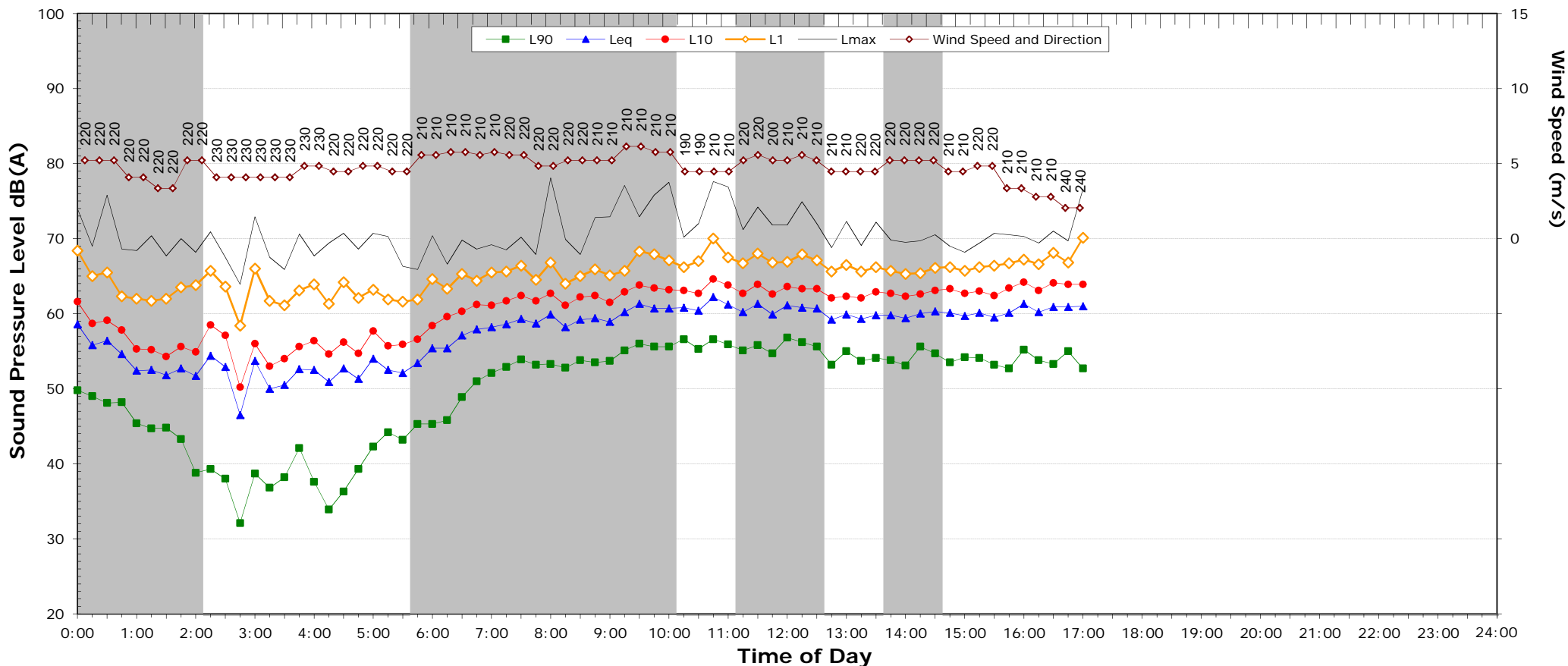
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	63.8	55.2
L _{eq} 1hr lower 10 percentile	60.2	54.1

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	70.3	to	72.9
L _{max} - Leq (Range)	18.0	to	20.2

EXISTING AMBIENT NOISE LEVELS

ID 139 - 4 Scotts Head Rd, WAY WAY, 2447

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

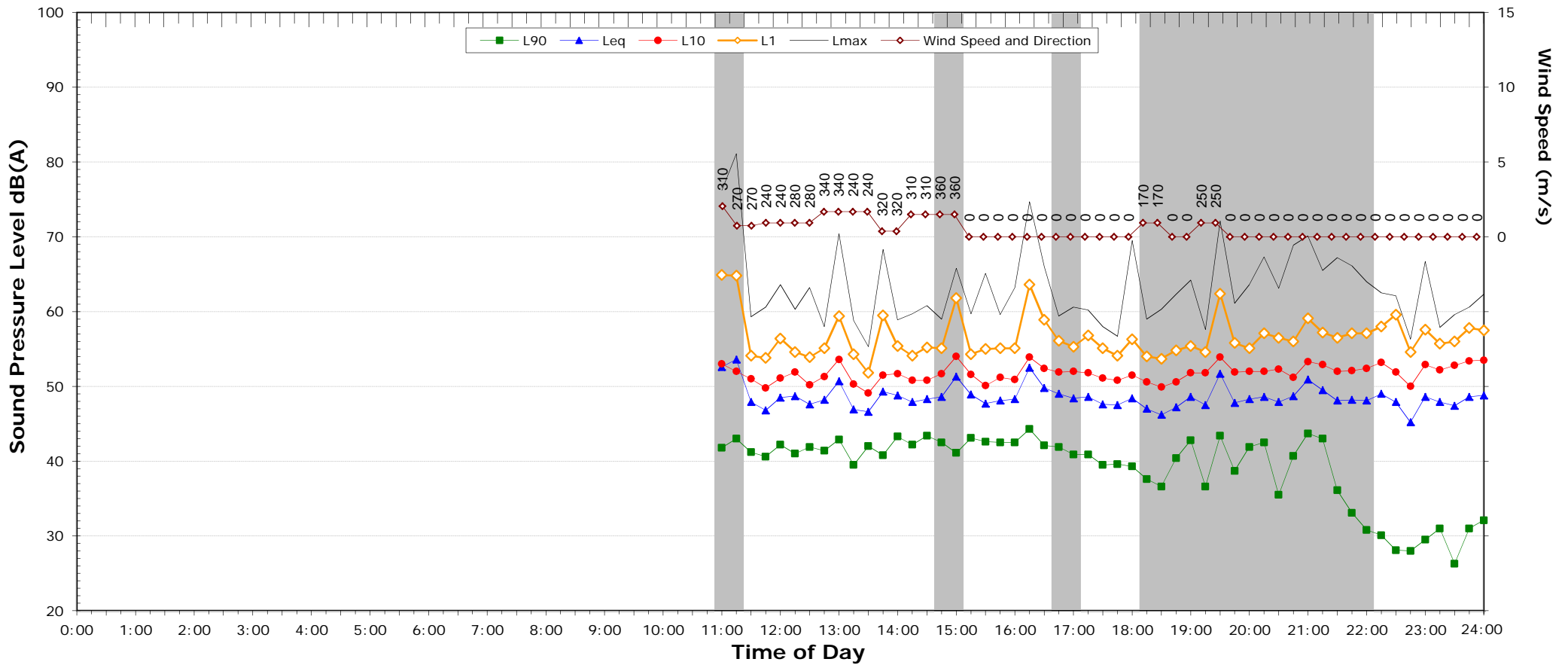
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	63.7	-
L _{eq} 1hr lower 10 percentile	62.1	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	26.6
Leq	-	-	47.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

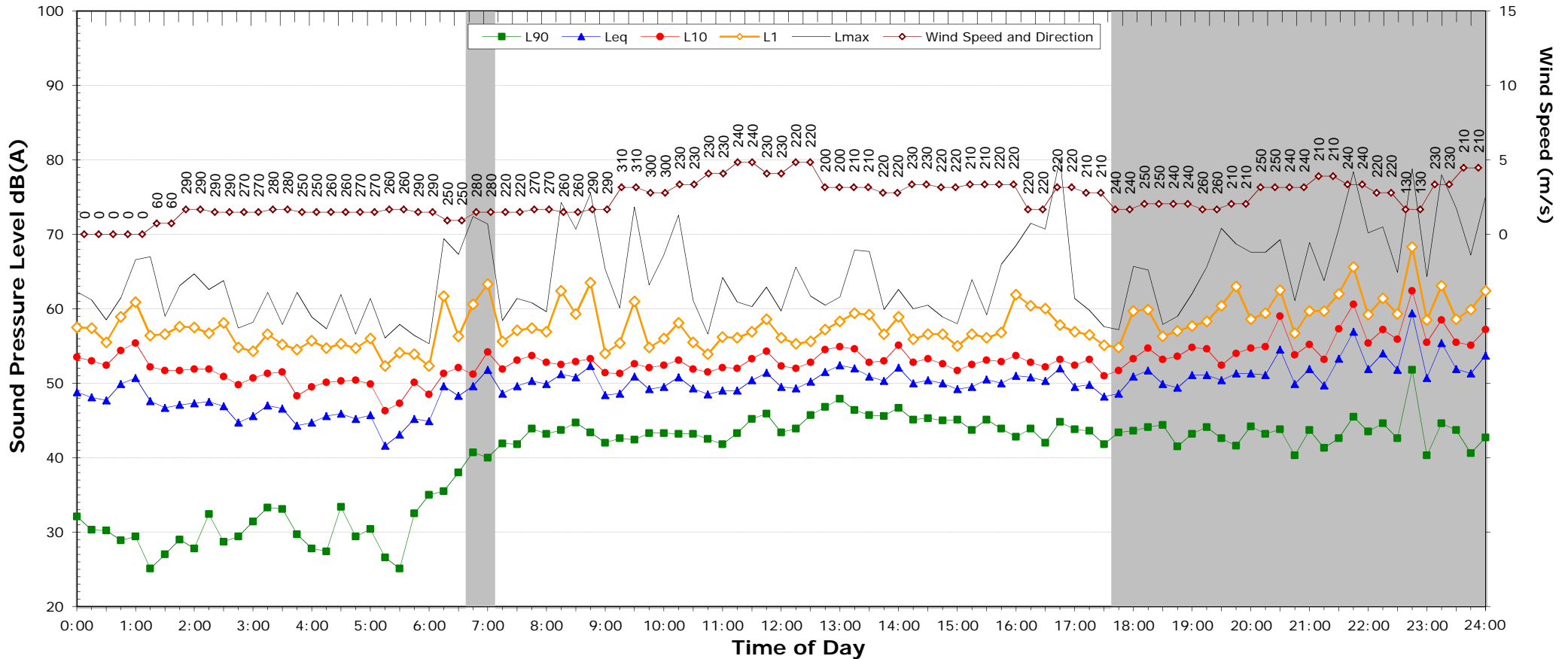
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	49.7
L _{eq} 1hr upper 10 percentile	53.9	51.8
L _{eq} 1hr lower 10 percentile	50.3	46.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.6	to	69.4
Lmax - Leq (Range)	16.3	to	20.4

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.0	-	-
Leq	50.3	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

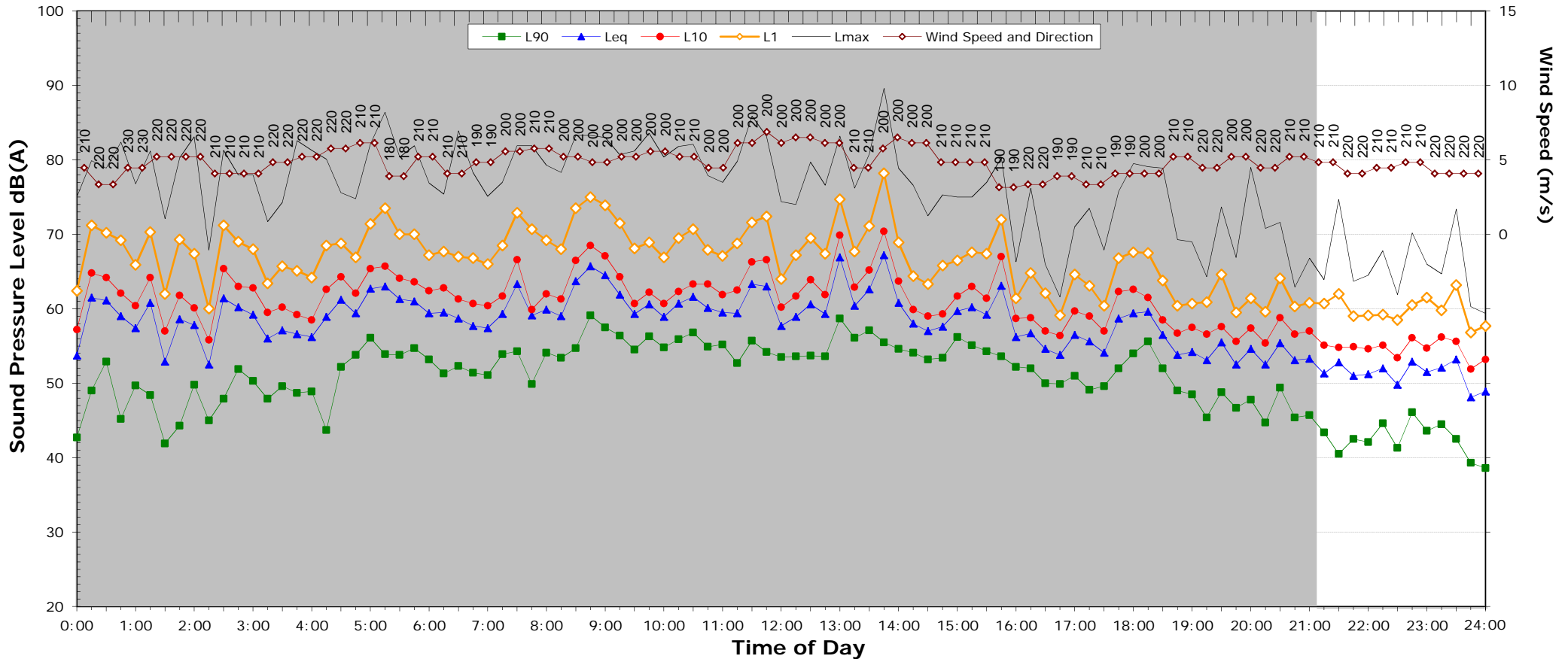
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	53.9	-
L _{eq} 1hr lower 10 percentile	51.6	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	37.2
Leq	-	-	50.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

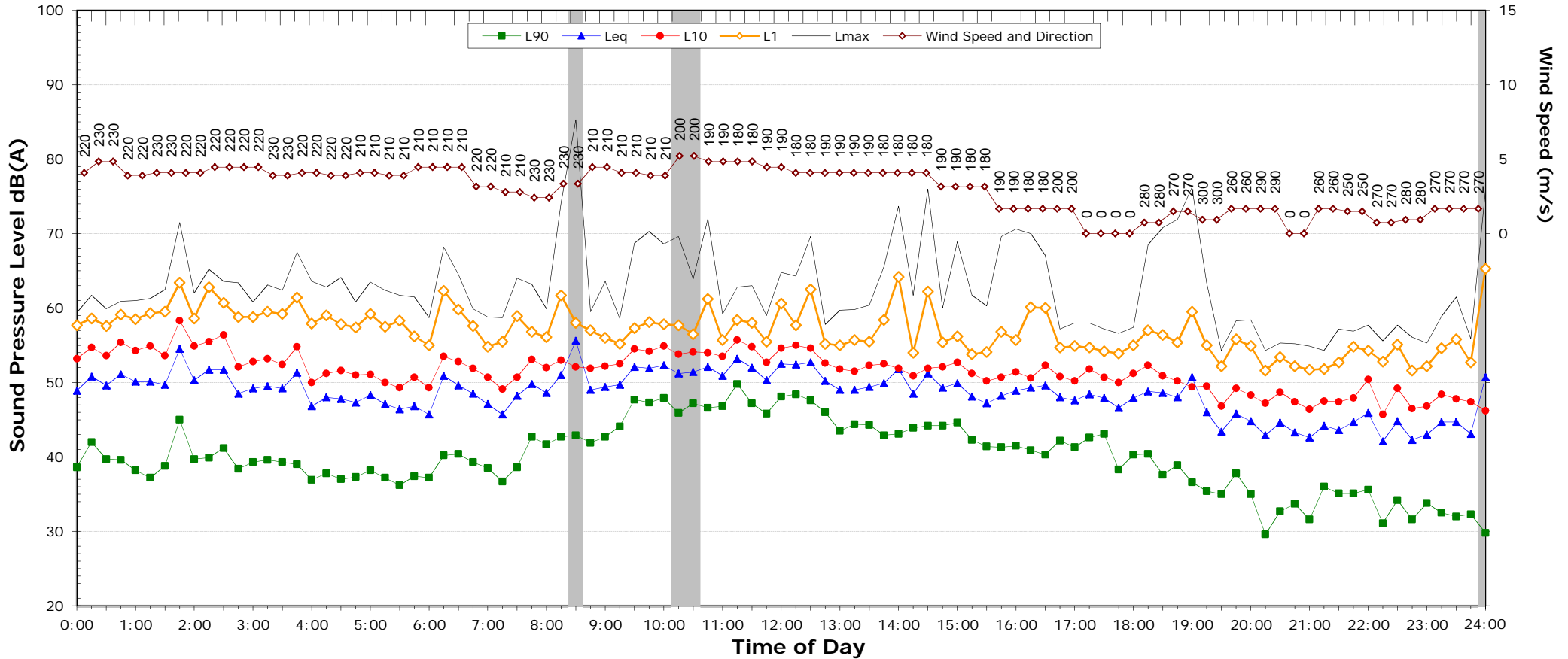
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	52.6
L _{eq} 1hr upper 10 percentile	54.1	54.2
L _{eq} 1hr lower 10 percentile	54.1	49.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	67.5	to	73.4
Lmax - Leq (Range)	15.9	to	22.3

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	40.3	31.6	28.9
Leq	50.1	46.2	44.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

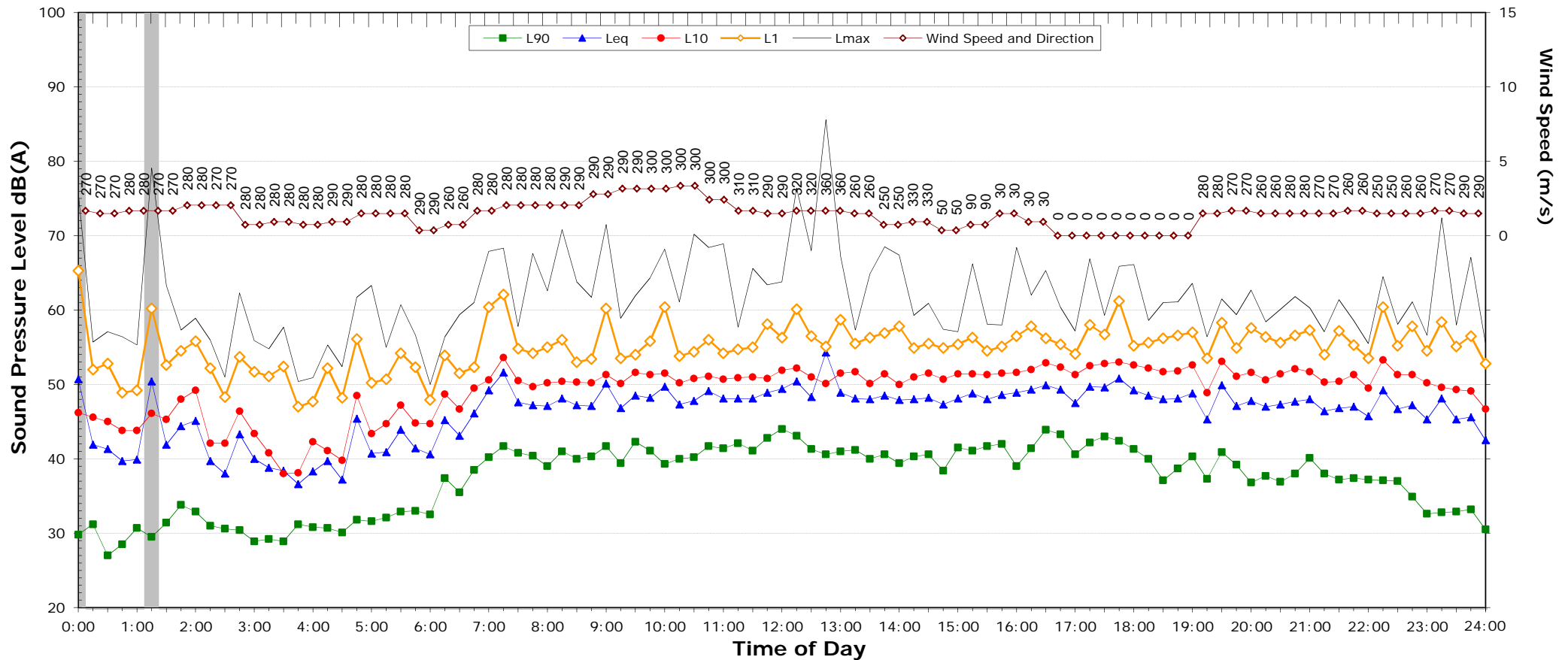
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.8	46.5
L _{eq} 1hr upper 10 percentile	54.4	49.0
L _{eq} 1hr lower 10 percentile	46.6	40.6

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	67.9	to	67.9
L _{max} - Leq (Range)	16.3	to	21.6

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	39.4	36.9	30.2
Leq	48.9	47.6	45.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

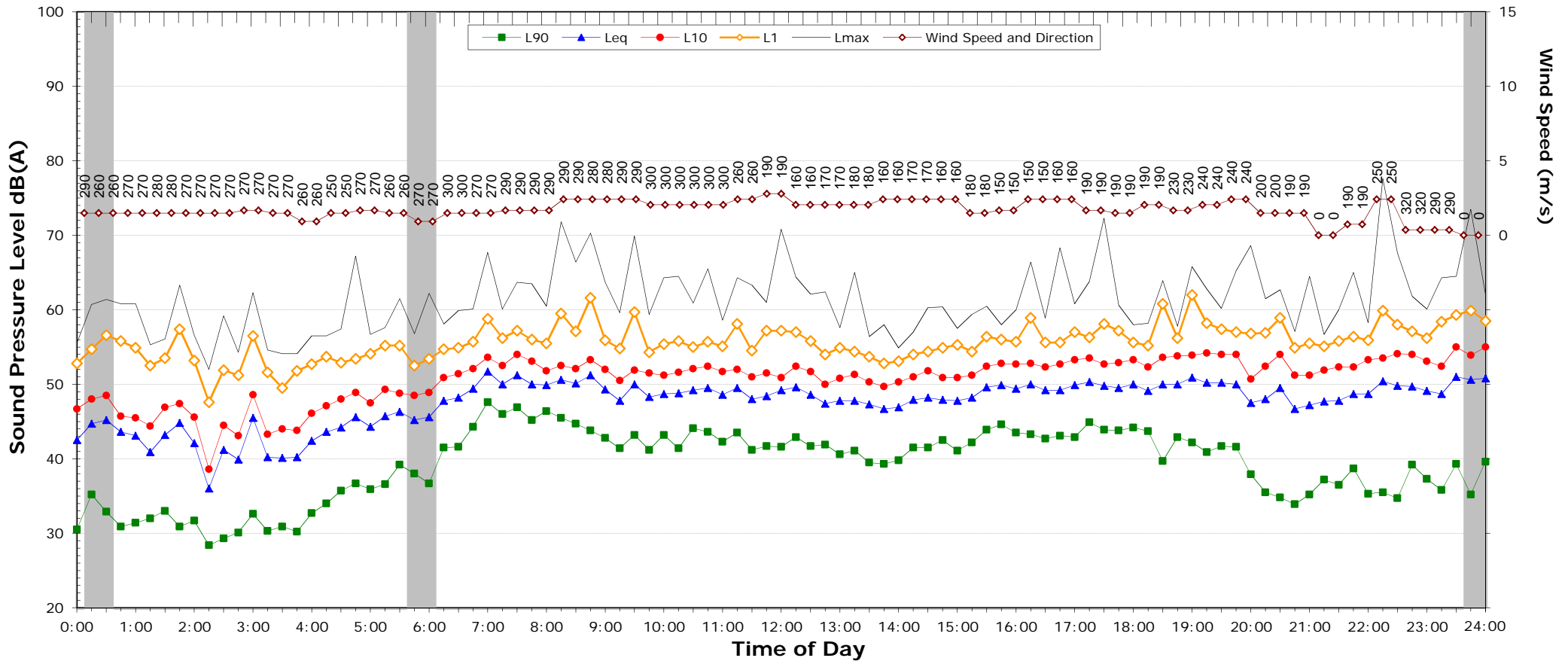
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.1	48.1
L _{eq} 1hr upper 10 percentile	53.1	52.1
L _{eq} 1hr lower 10 percentile	49.5	43.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	67.2	to	72.4
Lmax - Leq (Range)	15.5	to	26.6

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	41.1	34.8	-
Leq	49.2	49.1	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

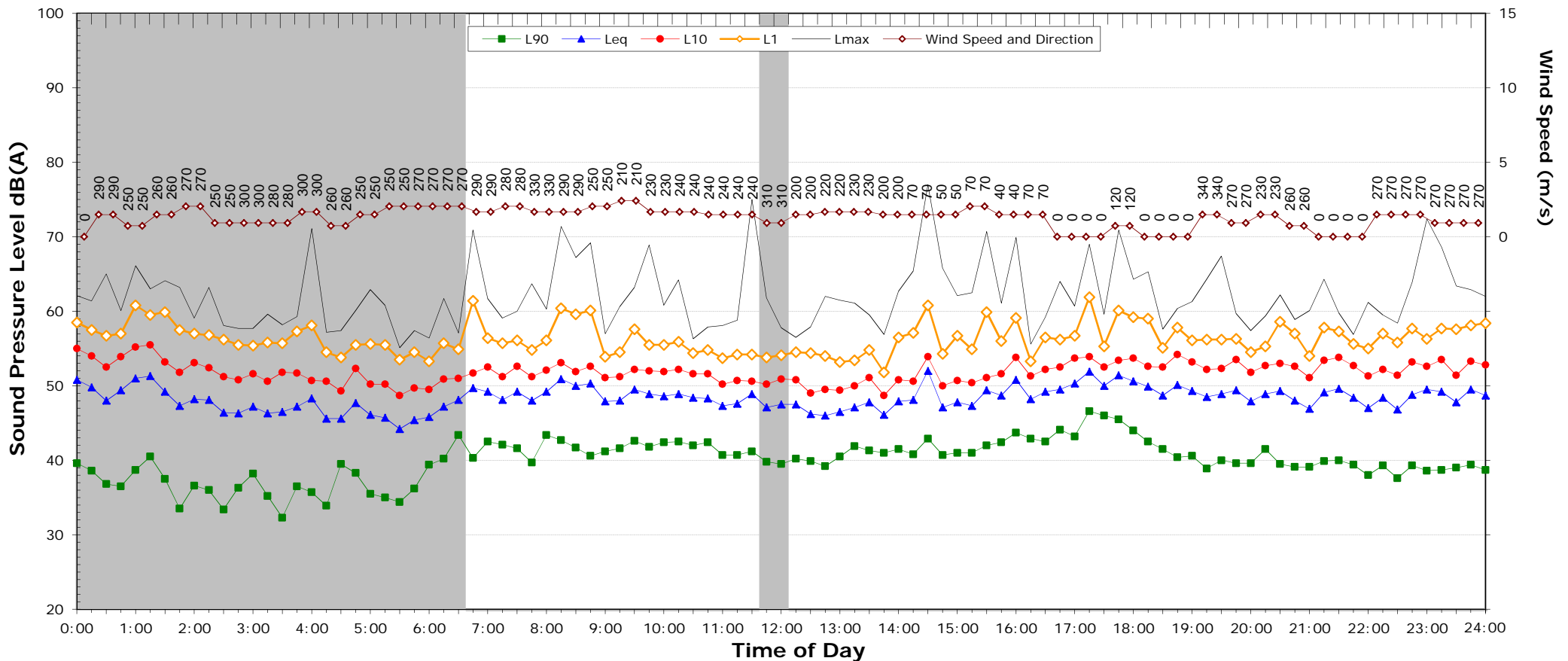
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.6	0.0
L _{eq} 1hr upper 10 percentile	52.8	52.5
L _{eq} 1hr lower 10 percentile	50.1	52.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	70.9	to	77.6
Lmax - Leq (Range)	21.4	to	27.8

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	40.5	38.9	37.0
Leq	49.0	48.8	47.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

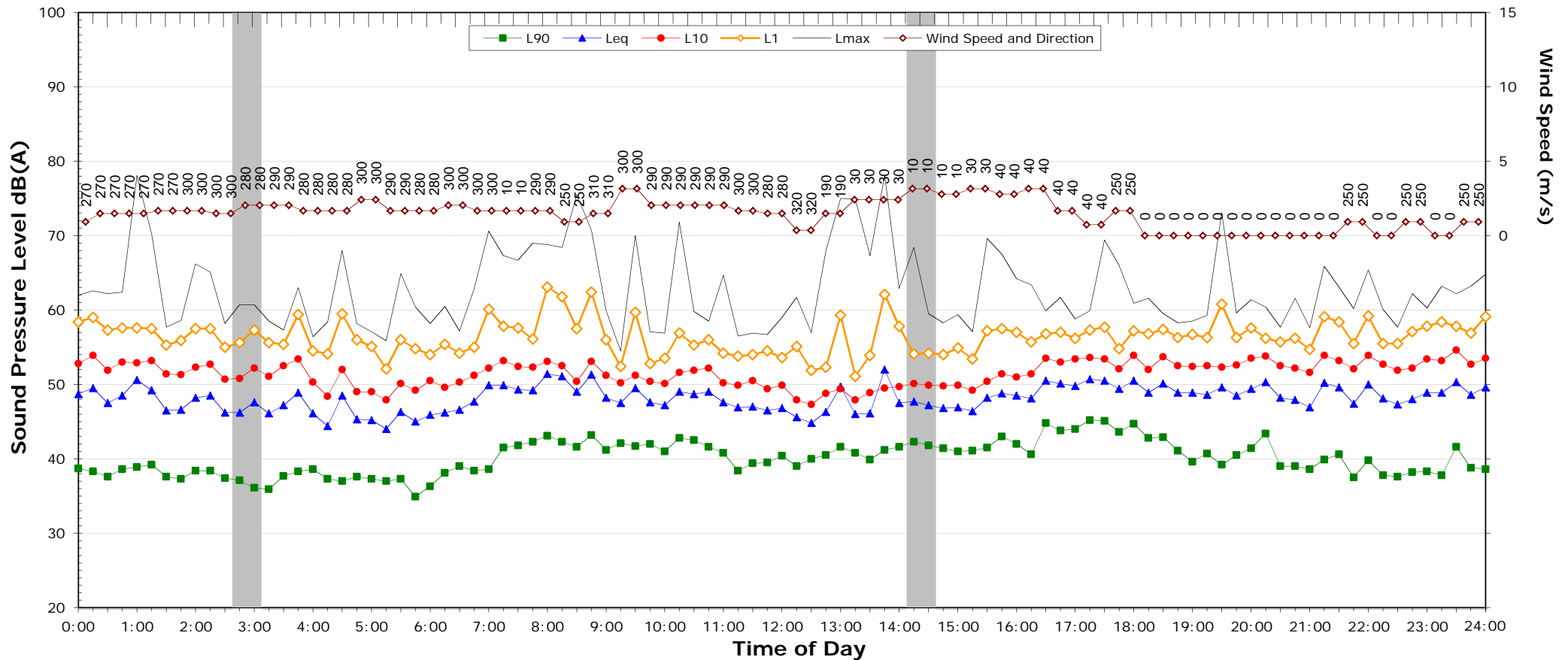
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.4	50.3
L _{eq} 1hr upper 10 percentile	53.0	51.7
L _{eq} 1hr lower 10 percentile	49.4	47.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	65.1	to	78.1
Lmax - Leq (Range)	15.8	to	28.9

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	39.9	38.6	36.9
Leq	48.8	49.1	48.4

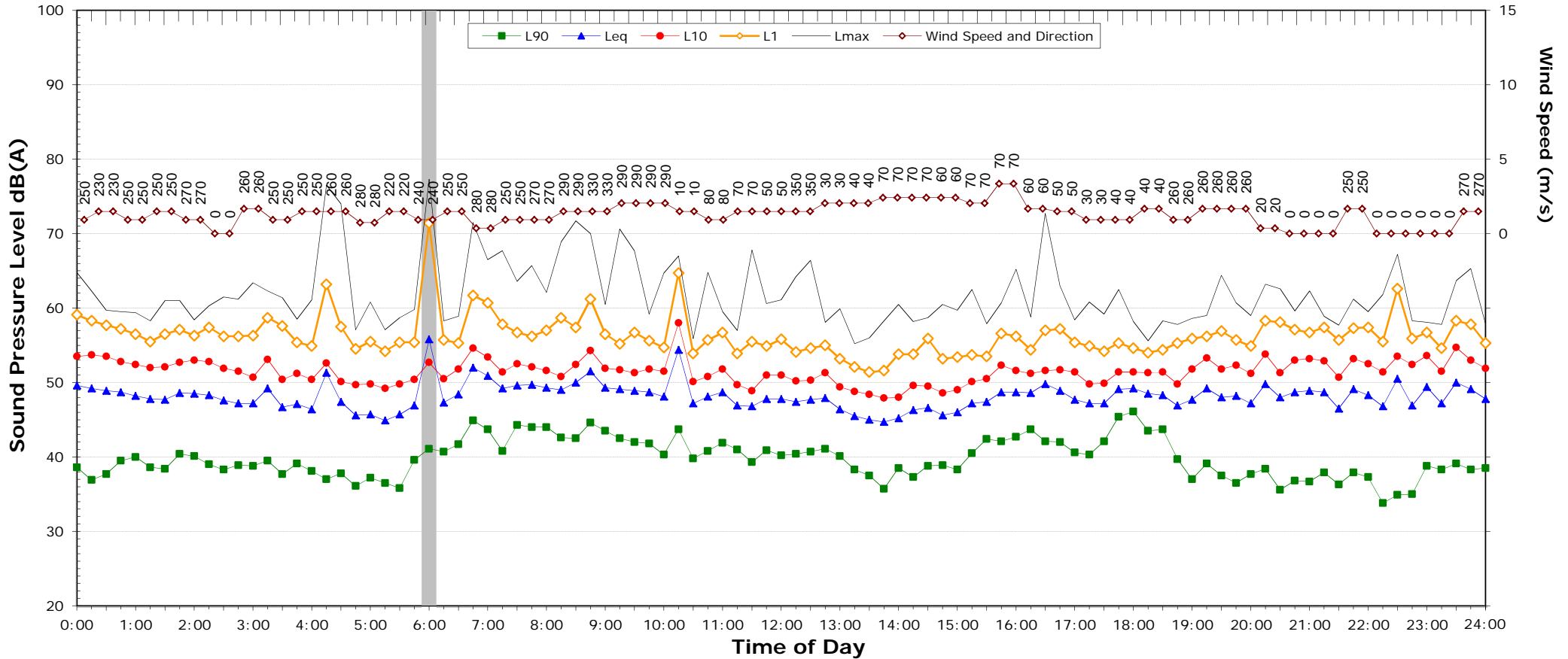
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	51.4	50.9
L _{eq} 1hr upper 10 percentile	52.7	52.5
L _{eq} 1hr lower 10 percentile	49.3	48.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.5	to	76.5
Lmax - Leq (Range)	15.4	to	28.3

EXISTING AMBIENT NOISE LEVELS
ID 146 - 38 Kerr Dr, MACKSVILLE, 2447
Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	38.3	36.3	35.0
Leq	48.5	48.3	48.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

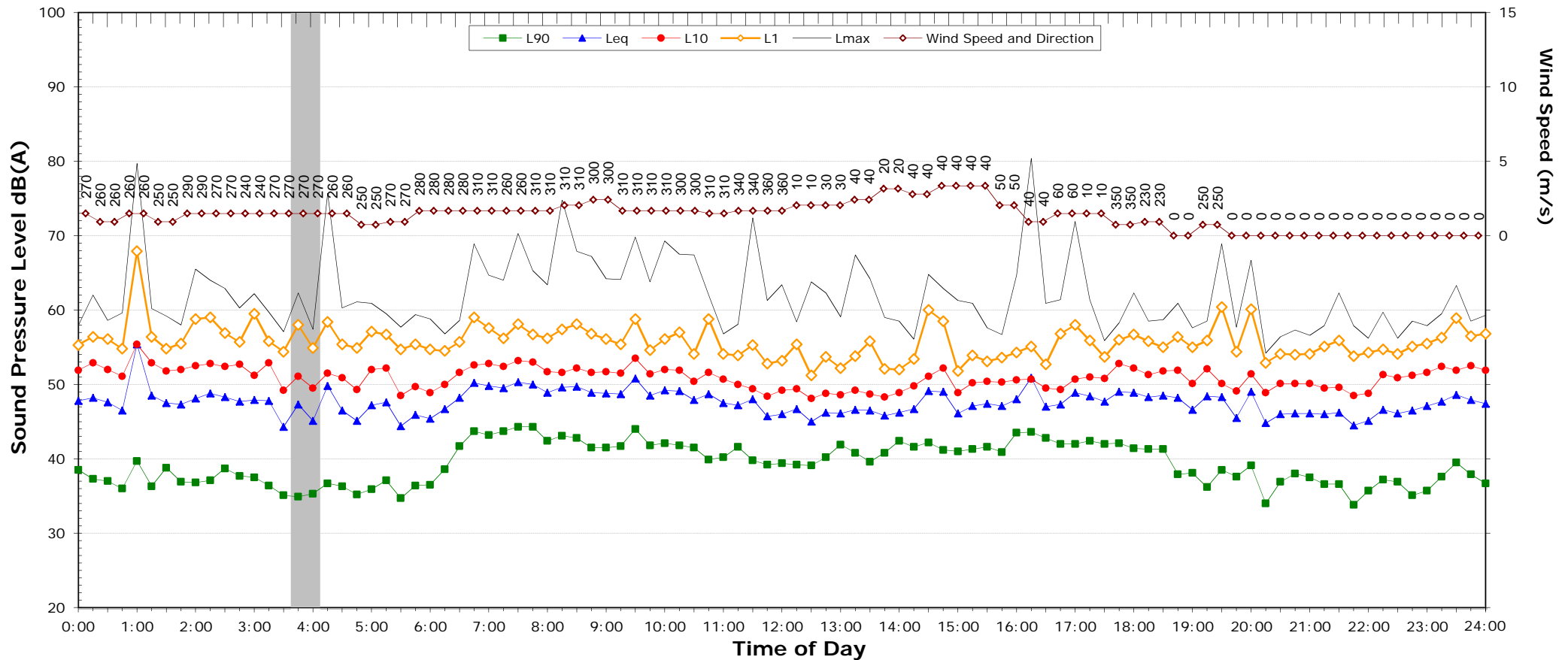
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.9	51.0
L _{eq} 1hr upper 10 percentile	52.9	53.6
L _{eq} 1hr lower 10 percentile	48.2	48.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	65.3	to	79.7
Lmax - Leq (Range)	15.8	to	28.6

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	39.6	34.0	33.6
Leq	48.2	47.0	46.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

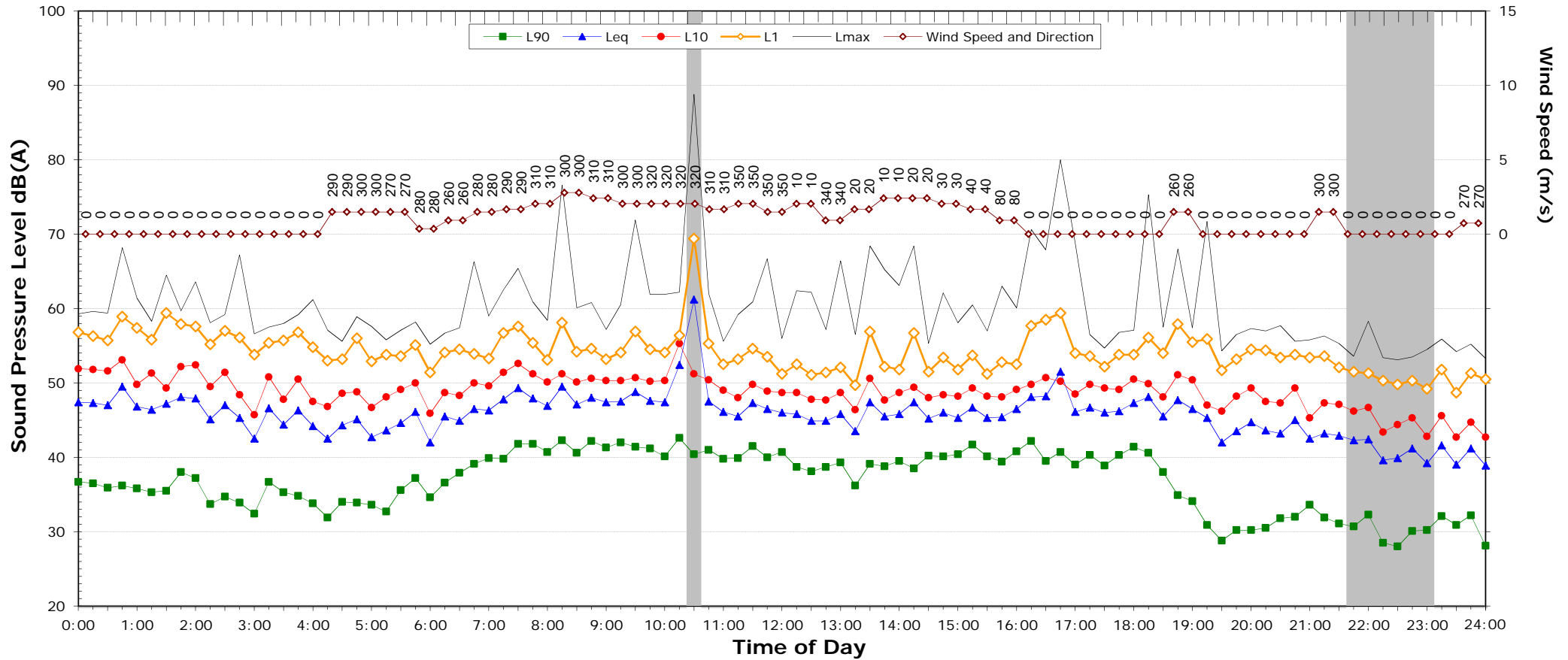
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	50.4	48.8
L _{eq} 1hr upper 10 percentile	52.1	50.4
L _{eq} 1hr lower 10 percentile	48.1	46.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	66.3	to	68.2
Lmax - Leq (Range)	15.1	to	21.9

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	38.7	30.2	-
Leq	47.3	45.0	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

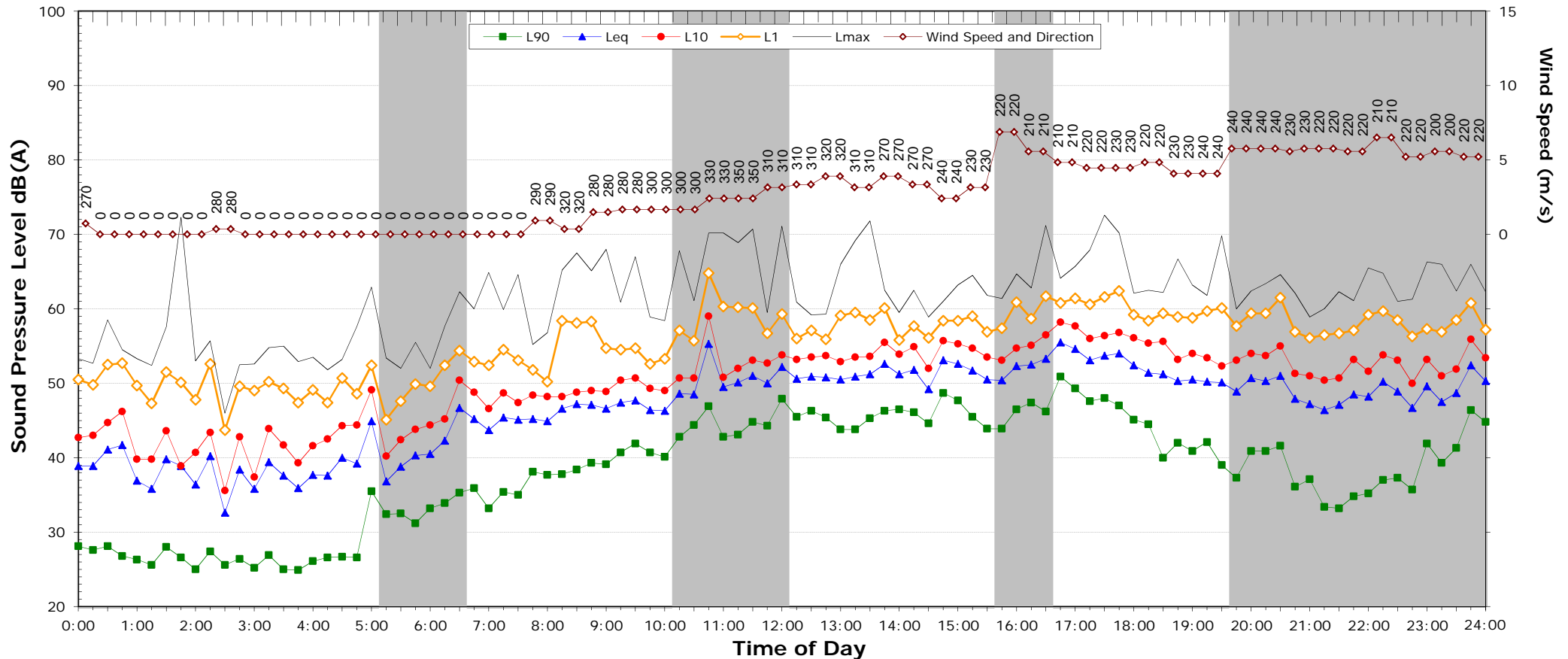
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	51.8	47.0
L _{eq} 1hr lower 10 percentile	45.9	40.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.3	to	72.3
Lmax - Leq (Range)	15.6	to	34.3

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

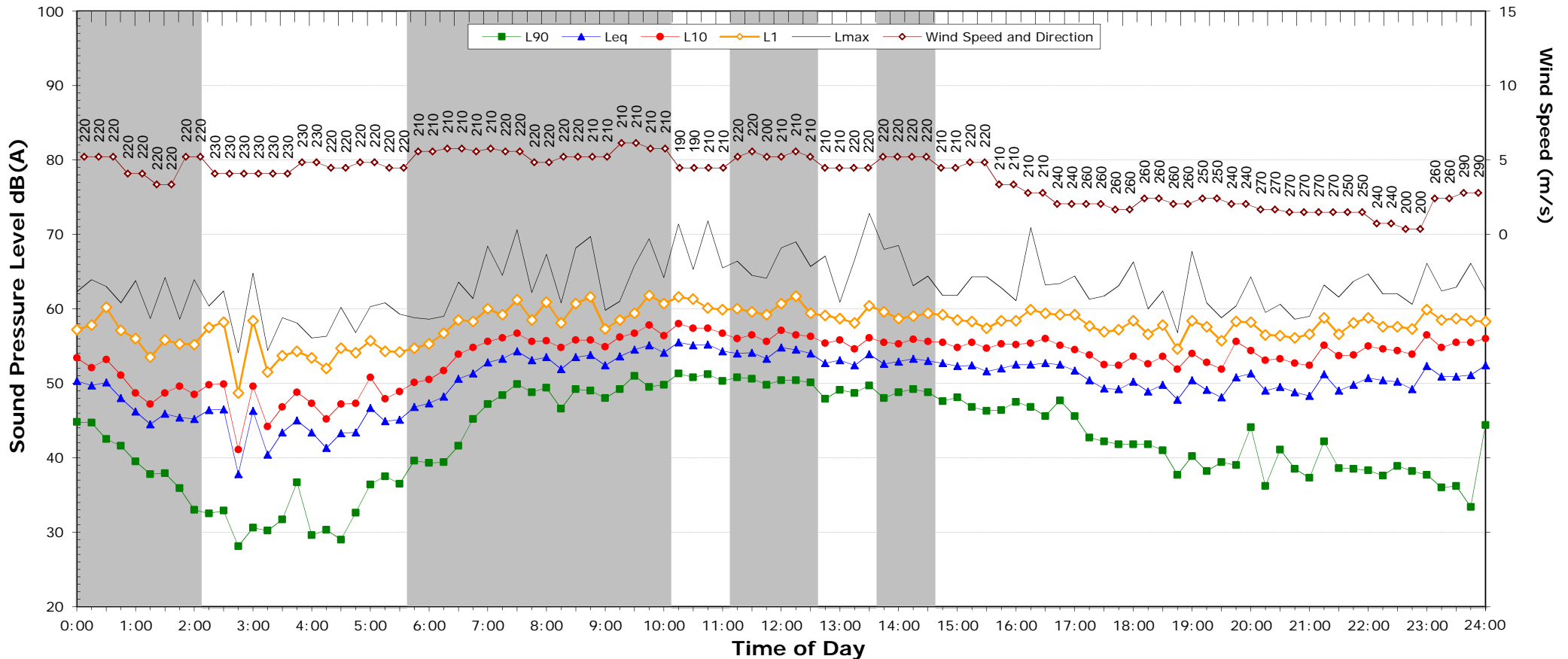
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	57.4	47.8
L _{eq} 1hr lower 10 percentile	47.9	45.8

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	-	to	-
L _{max} - Leq (Range)	15.5	to	19.5

EXISTING AMBIENT NOISE LEVELS

ID 146 - 38 Kerr Dr, MACKSVILLE, 2447

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	37.3	33.3
Leq	-	49.7	49.6

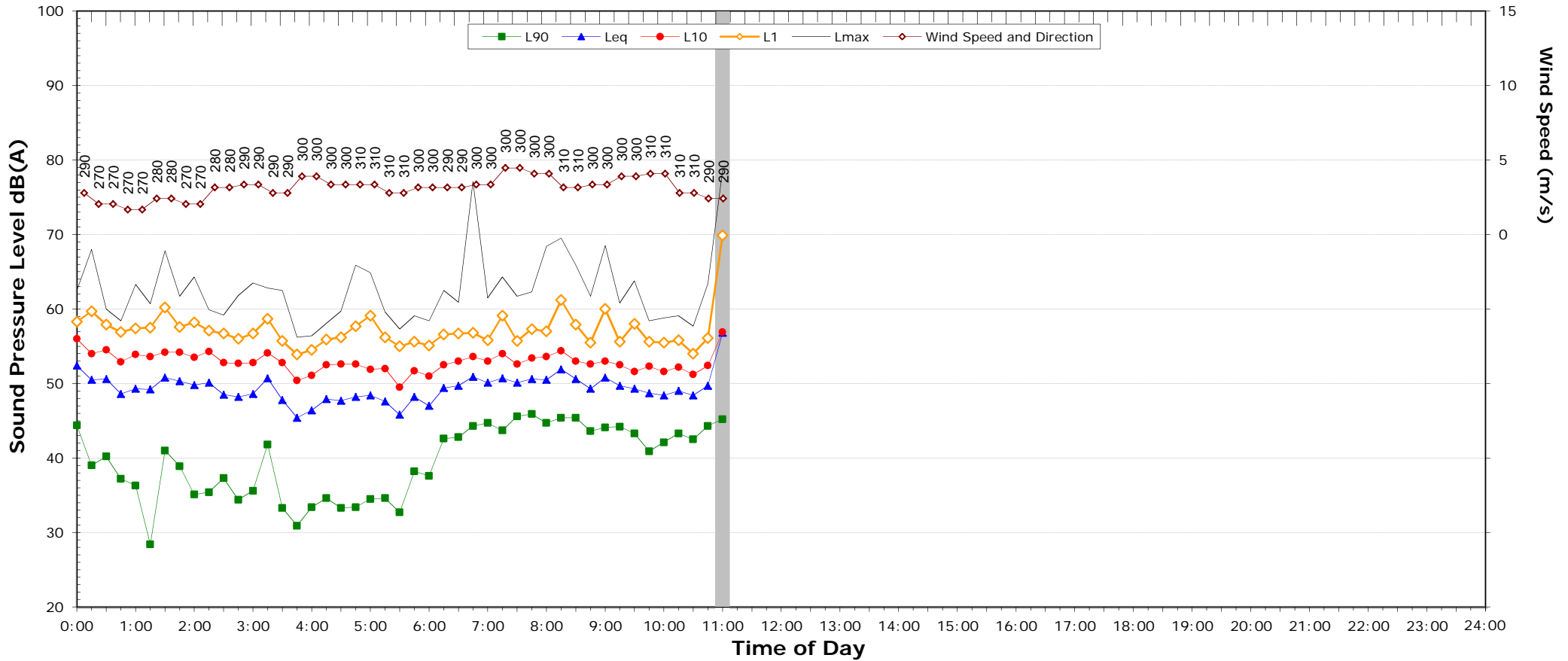
NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	57.4	53.9
L _{eq} 1hr lower 10 percentile	51.5	49.7

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	65.9	to	77.1
L _{max} - Leq (Range)	15.4	to	27.0

EXISTING AMBIENT NOISE LEVELS
ID 146 - 38 Kerr Dr, MACKSVILLE, 2447
Tuesday, 4 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

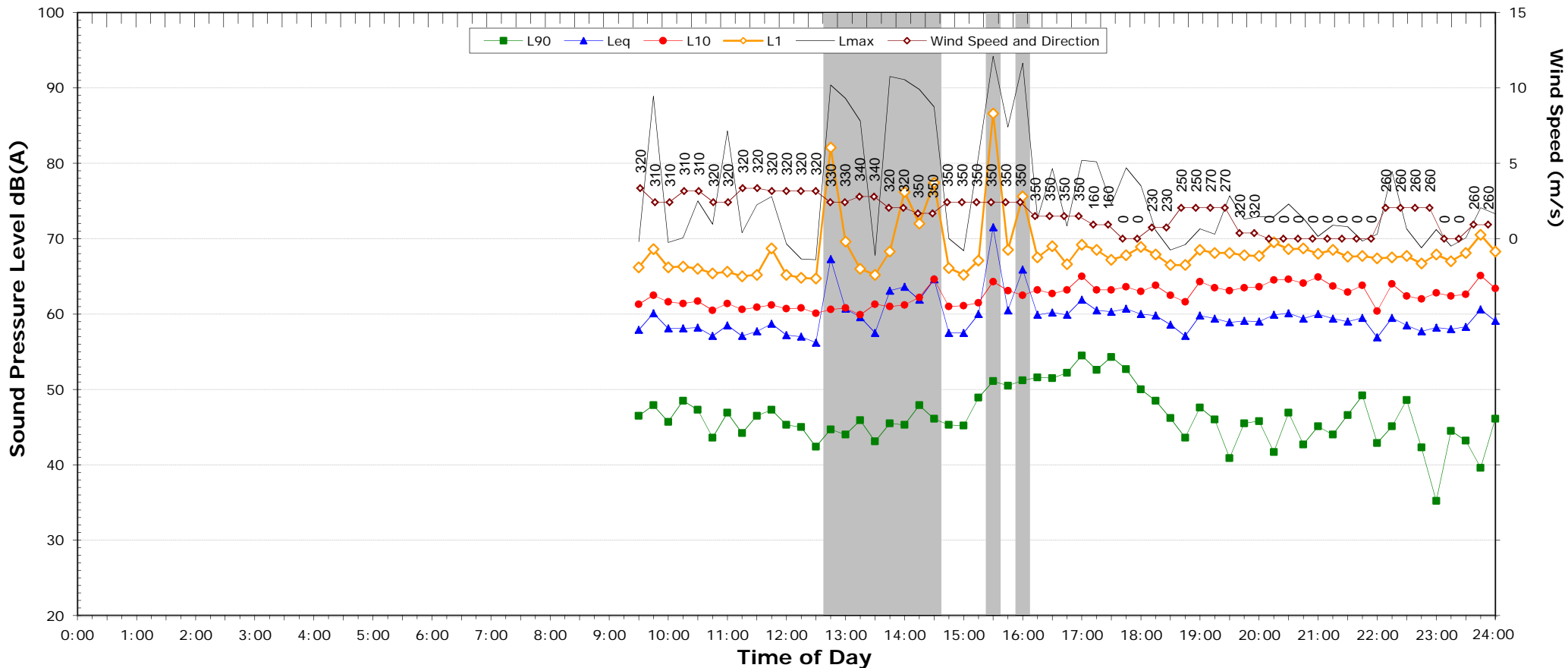
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	53.2	-
L _{eq} 1hr lower 10 percentile	51.6	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Tuesday, 21 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	41.7	32.0
Leq	-	59.2	57.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

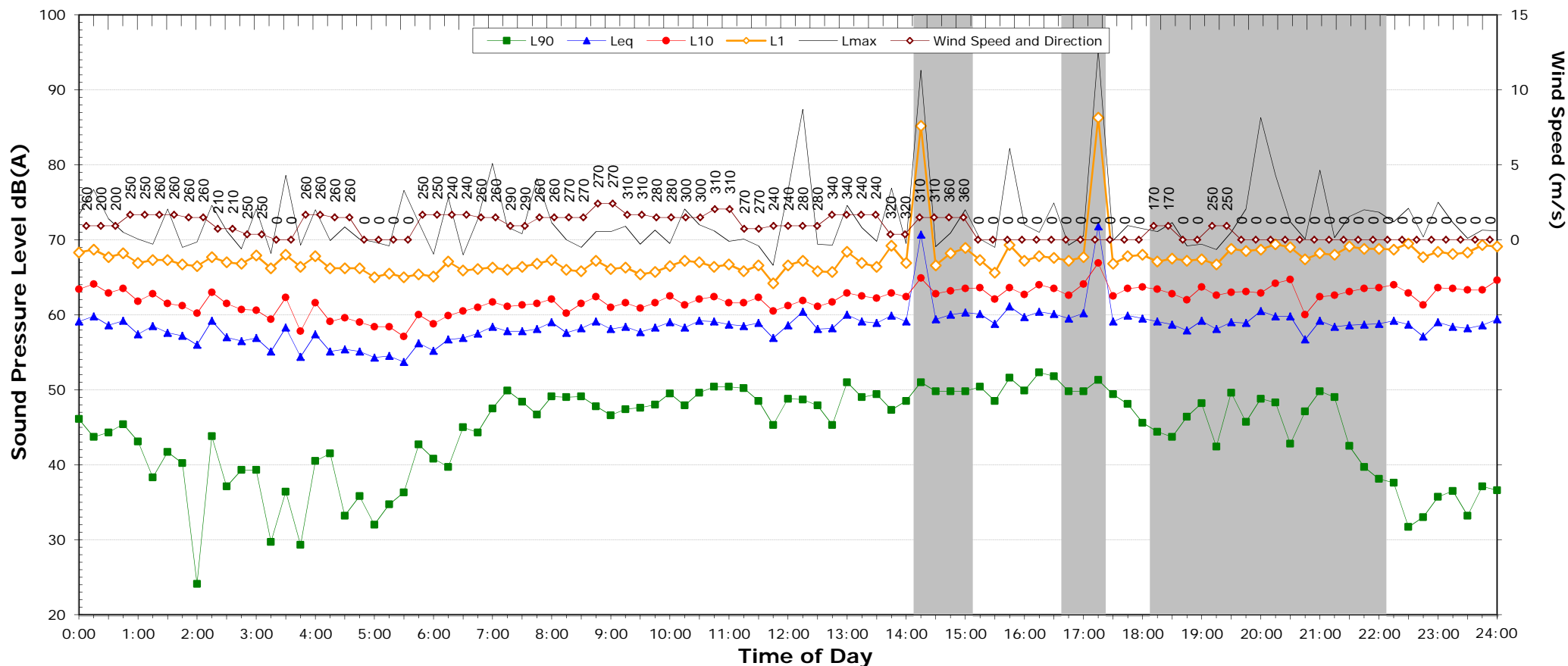
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	60.0
L _{eq} 1hr upper 10 percentile	63.0	61.6
L _{eq} 1hr lower 10 percentile	59.3	57.5

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	71.7	to 80.2
Lmax - Leq (Range)	16.7	to 22.8

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.6	-	29.8
Leq	59.0	-	57.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

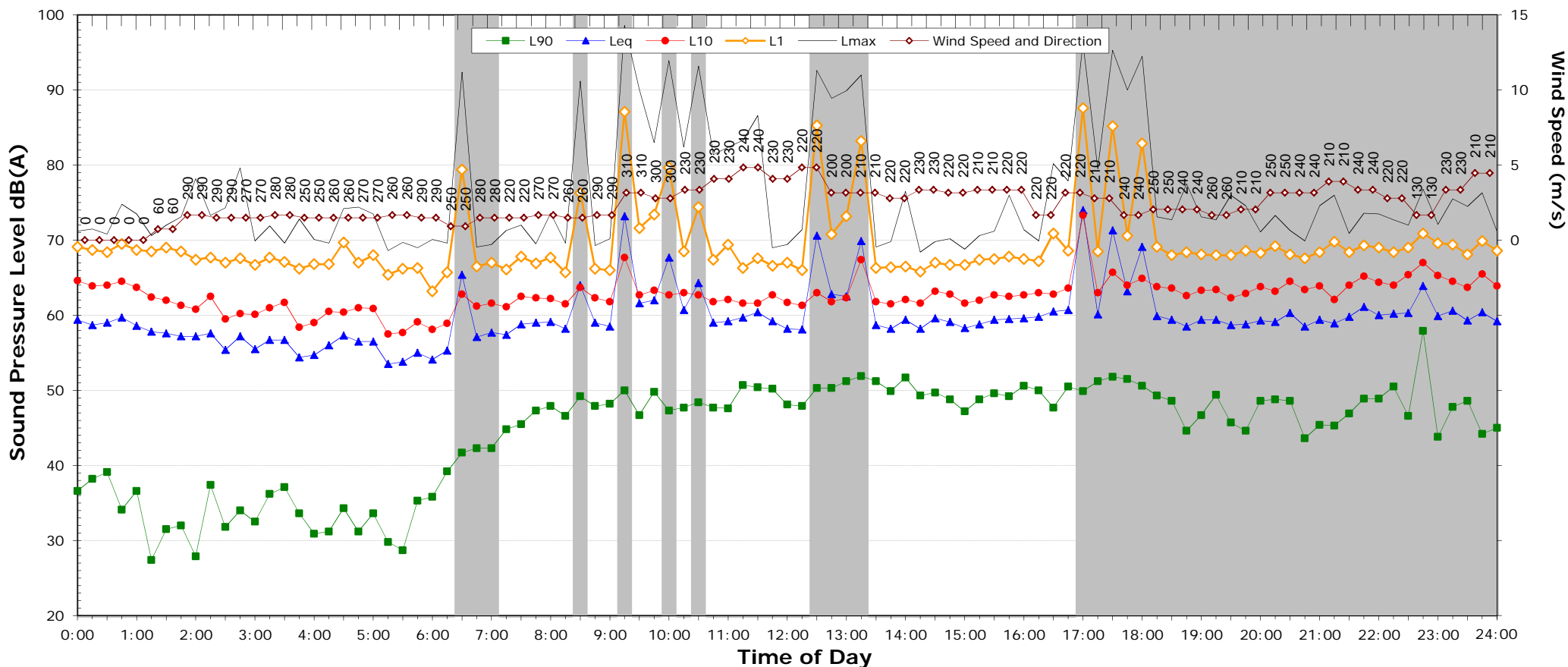
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	59.8
L _{eq} 1hr upper 10 percentile	62.8	61.5
L _{eq} 1hr lower 10 percentile	60.7	56.6

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	70.1	to	79.6
Lmax - Leq (Range)	15.8	to	23.1

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

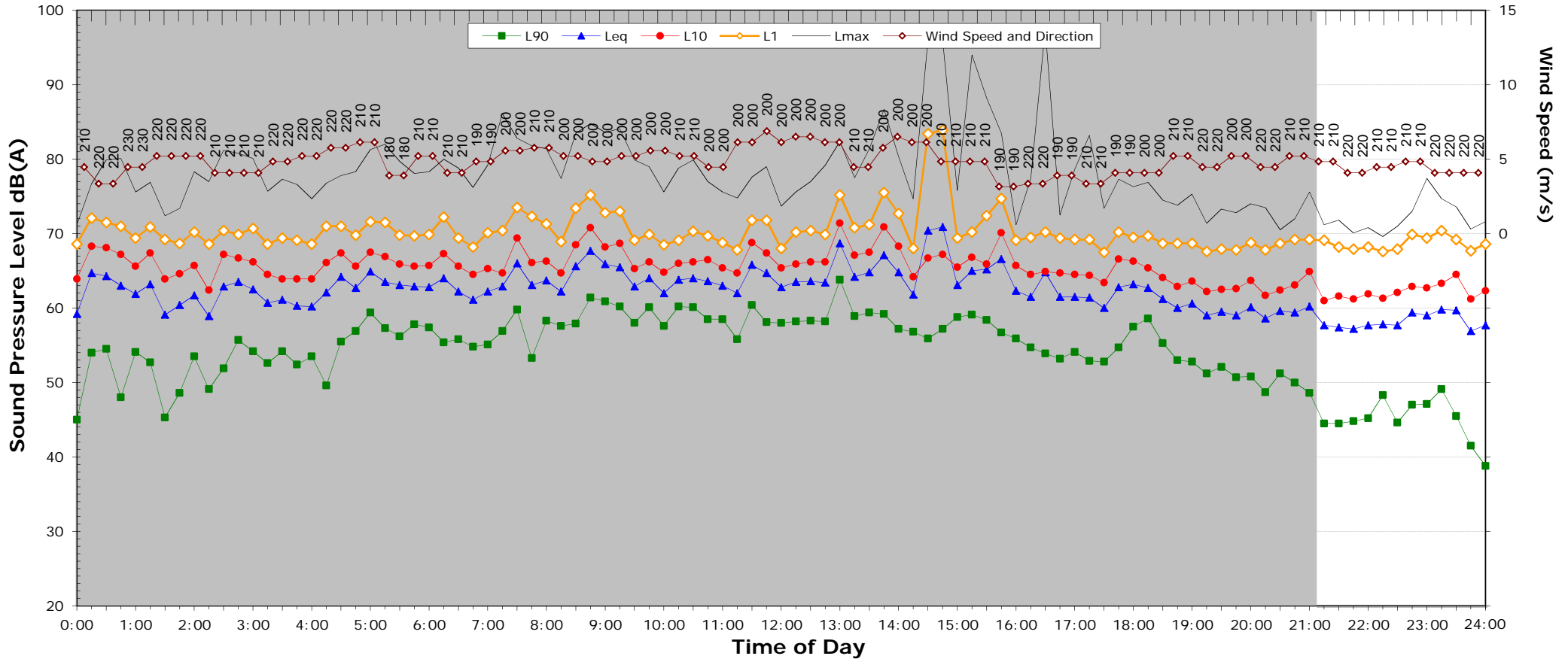
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	64.3	-
L _{eq} 1hr lower 10 percentile	60.6	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	40.9
Leq	-	-	57.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

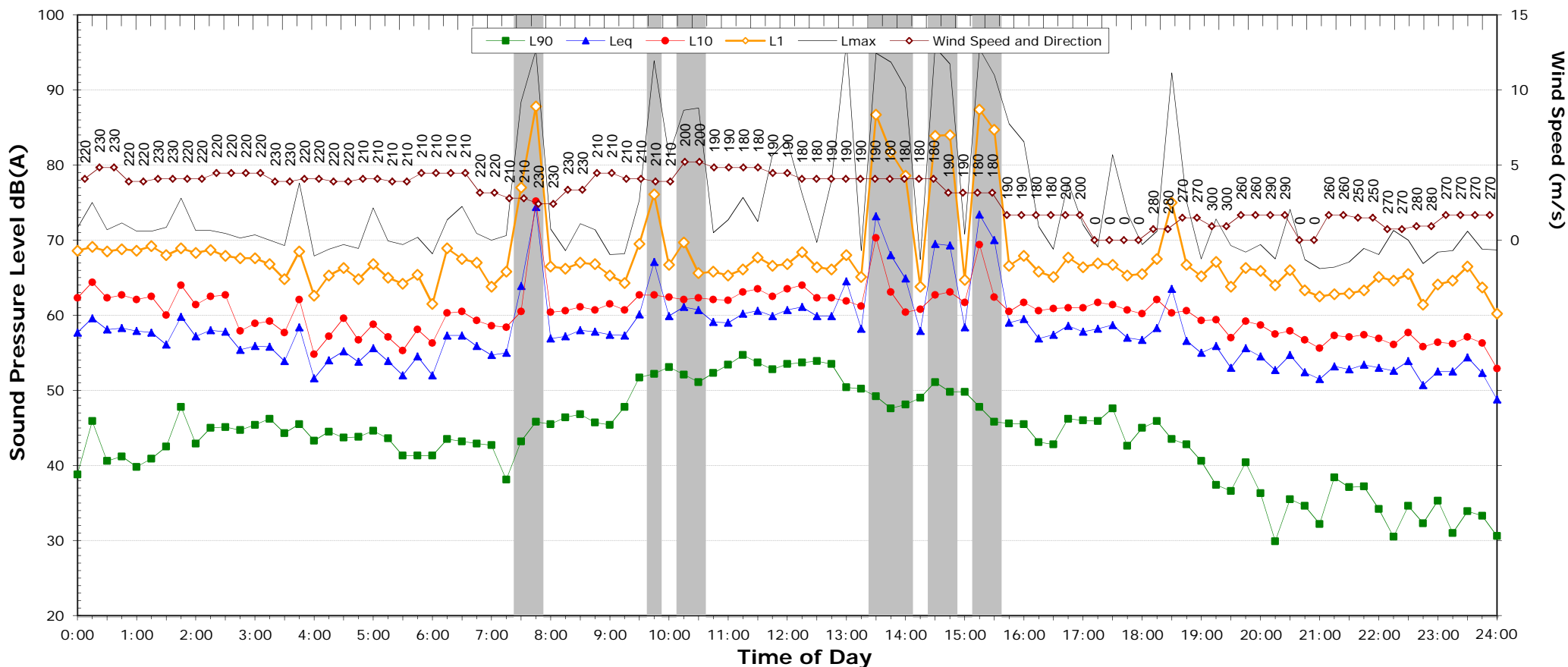
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	59.6
L _{eq} 1hr upper 10 percentile	60.0	61.2
L _{eq} 1hr lower 10 percentile	60.0	55.7

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	70.4	to	77.6
Lmax - Leq (Range)	16.0	to	22.0

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	32.2	28.1
Leq	-	56.1	51.6

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

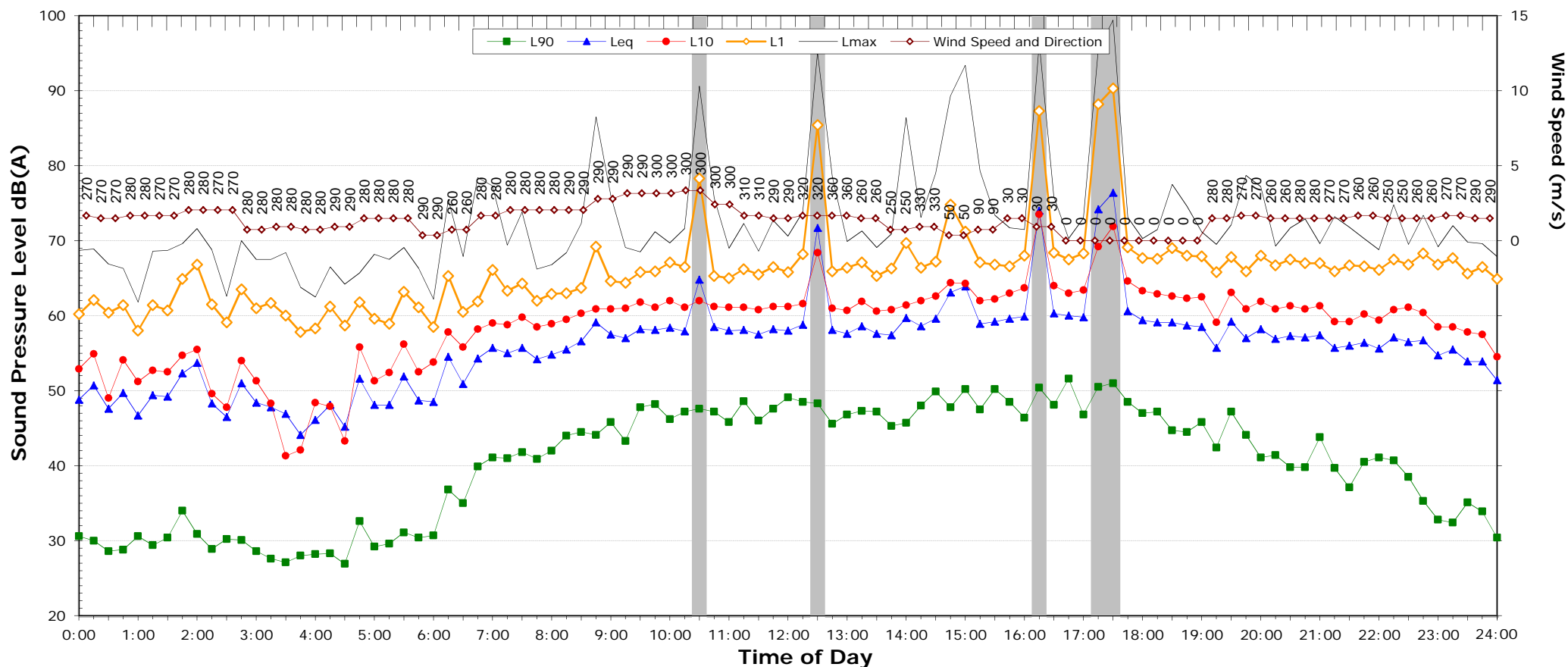
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	60.8	54.1
L _{eq} 1hr upper 10 percentile	63.6	56.7
L _{eq} 1hr lower 10 percentile	55.5	48.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.2	to	78.4
Lmax - Leq (Range)	18.7	to	24.2

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	39.7	-
Leq	-	57.5	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

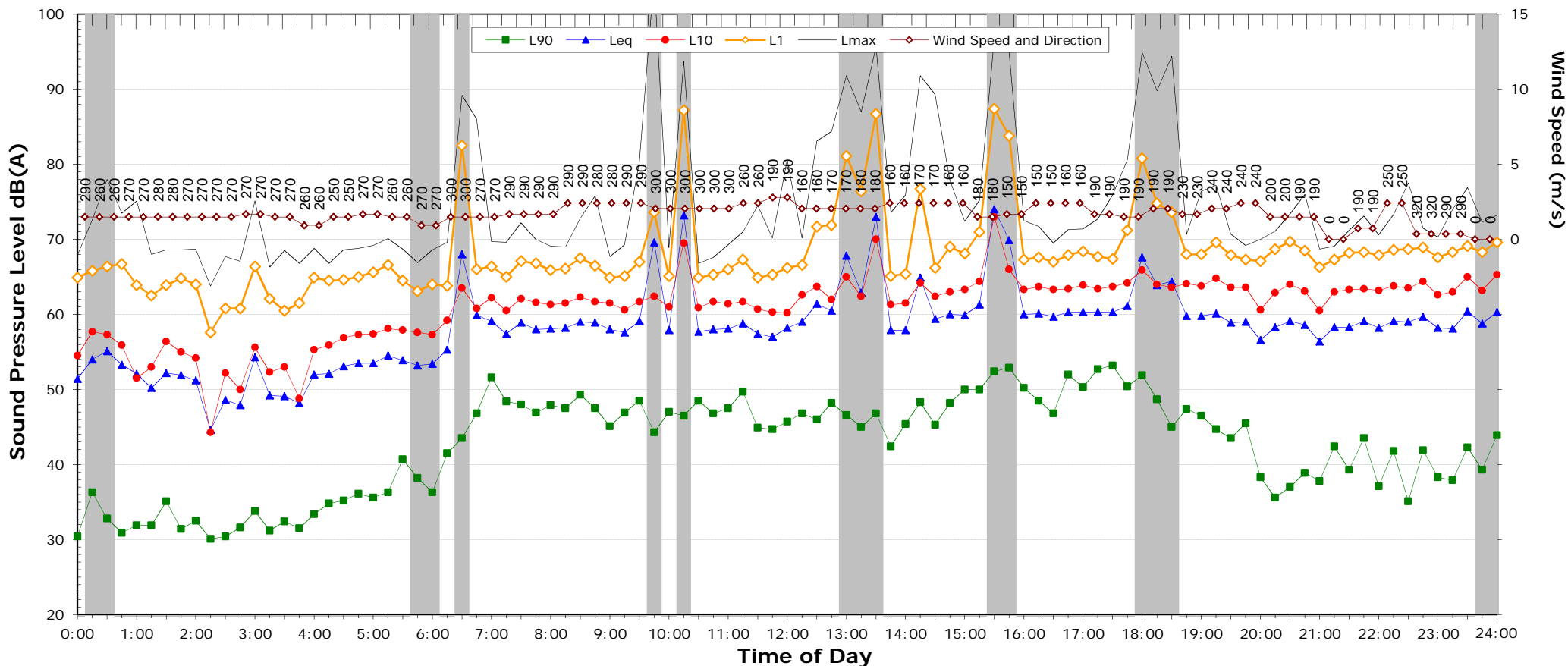
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.0	56.6
L _{eq} 1hr upper 10 percentile	63.5	61.0
L _{eq} 1hr lower 10 percentile	58.0	52.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	68.7	to	86.0
Lmax - Leq (Range)	15.9	to	27.5

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.1	37.0	-
Leq	59.5	58.7	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

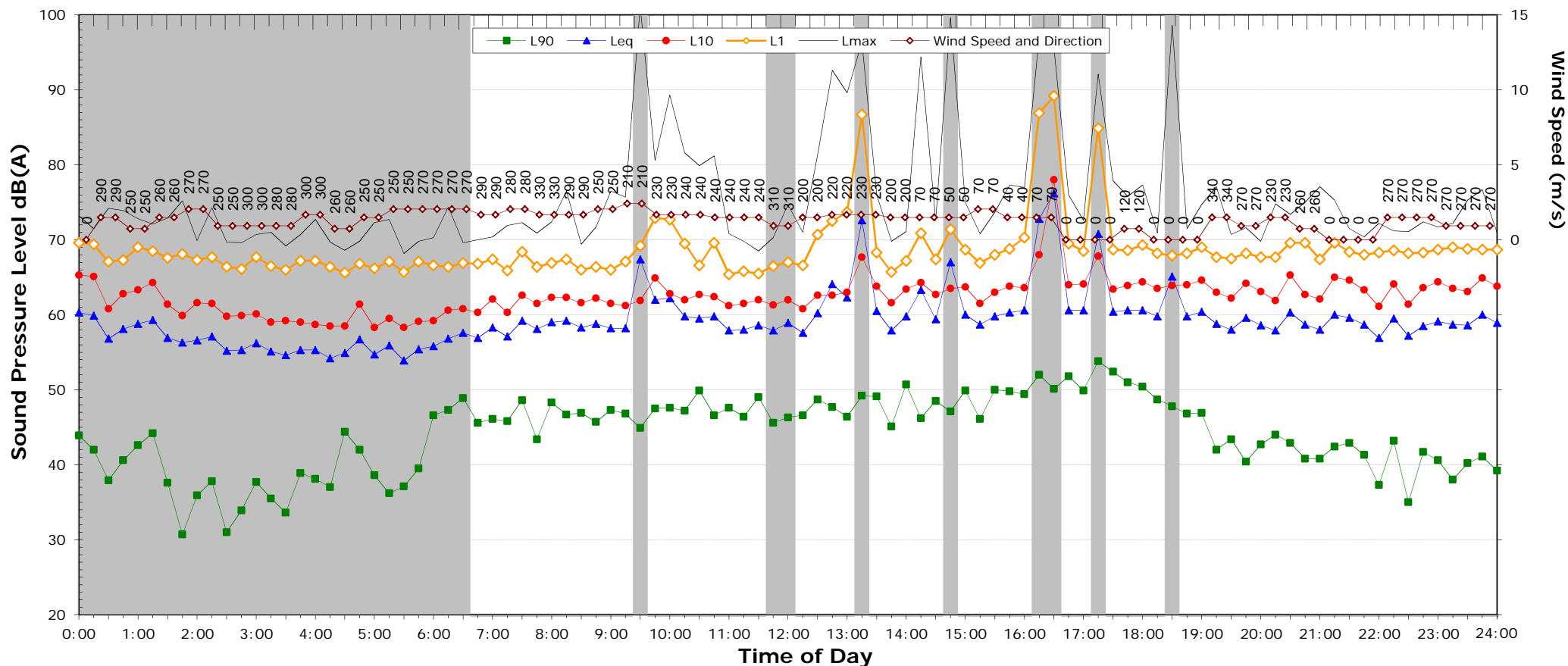
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.8	0.0
L _{eq} 1hr upper 10 percentile	63.7	61.9
L _{eq} 1hr lower 10 percentile	60.4	60.2

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	76.9	to	77.5
L _{max} - Leq (Range)	17.5	to	18.5

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.8	40.4	34.6
Leq	60.1	59.1	57.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

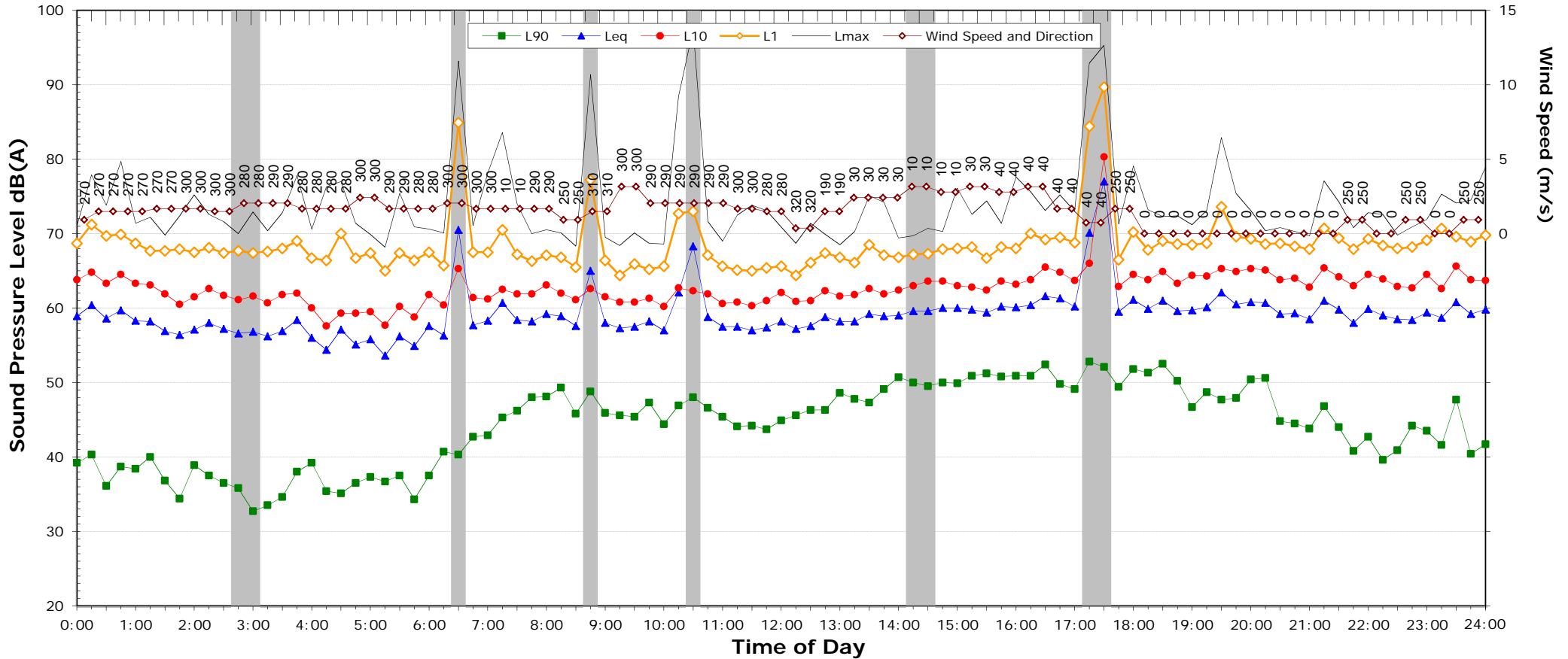
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.3	60.2
L _{eq} 1hr upper 10 percentile	64.0	61.8
L _{eq} 1hr lower 10 percentile	60.9	58.2

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	75.2	to	79.7
Lmax - Leq (Range)	17.6	to	21.3

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.4	42.7	36.6
Leq	59.2	60.1	57.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

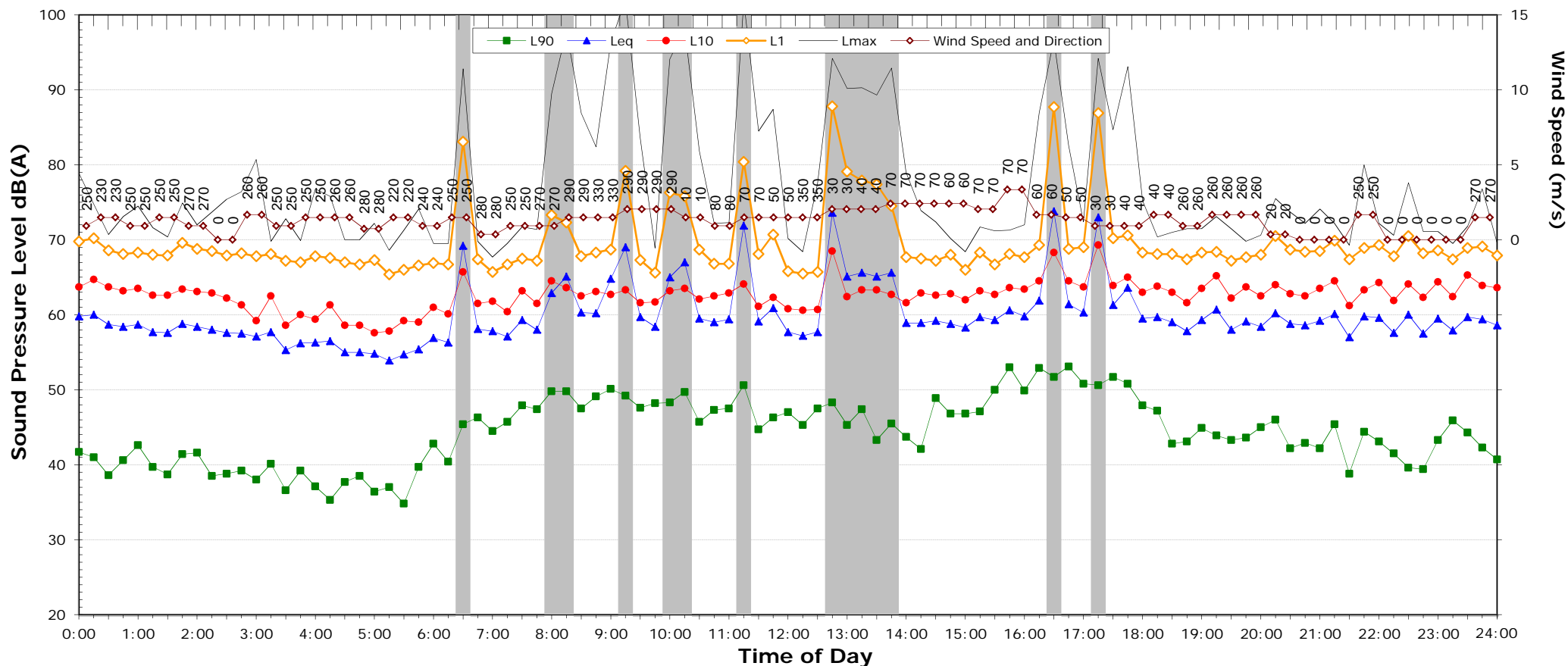
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.0	60.3
L _{eq} 1hr upper 10 percentile	63.4	62.2
L _{eq} 1hr lower 10 percentile	60.0	57.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.1	to	80.7
Lmax - Leq (Range)	15.8	to	23.1

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	42.2	35.7
Leq	-	59.2	57.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

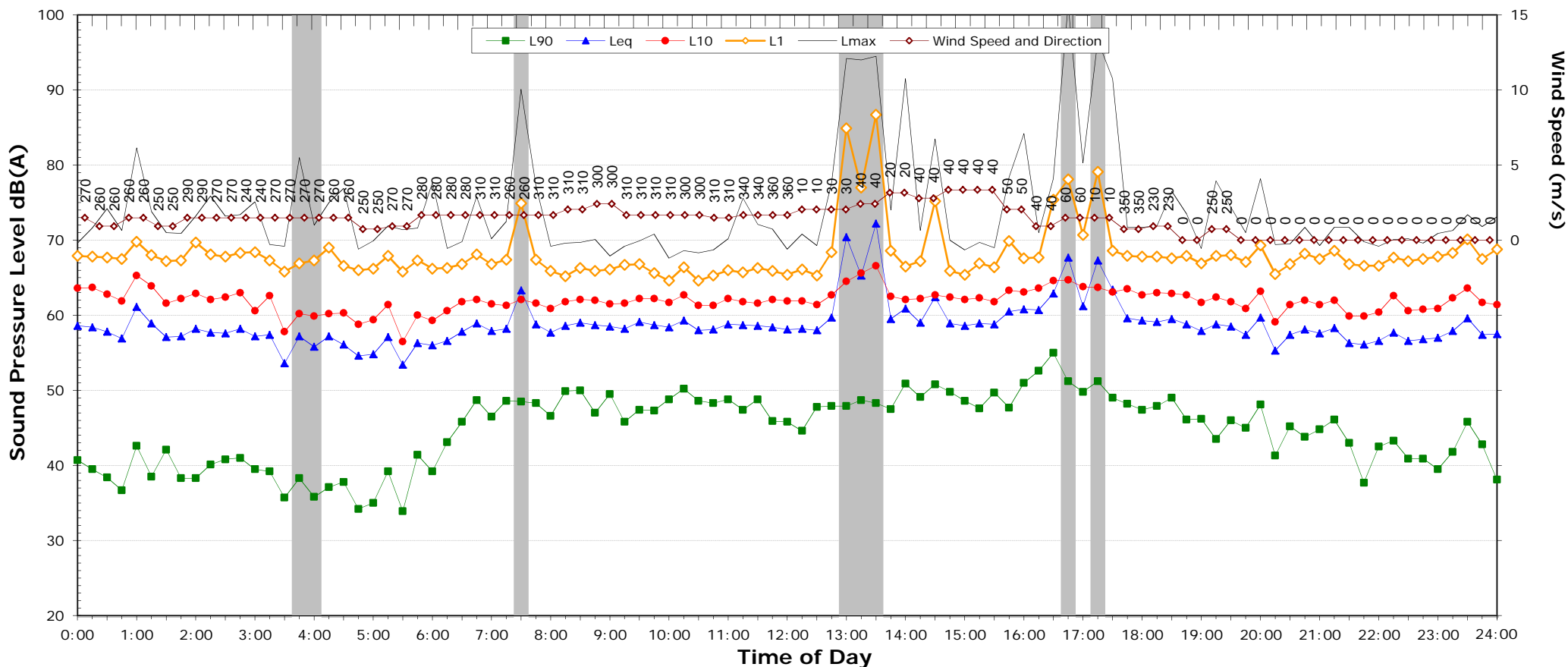
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.3	60.3
L _{eq} 1hr upper 10 percentile	64.6	61.5
L _{eq} 1hr lower 10 percentile	60.4	58.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.8	to	82.3
Lmax - Leq (Range)	15.9	to	23.4

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.9	41.3	34.2
Leq	59.5	58.0	56.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

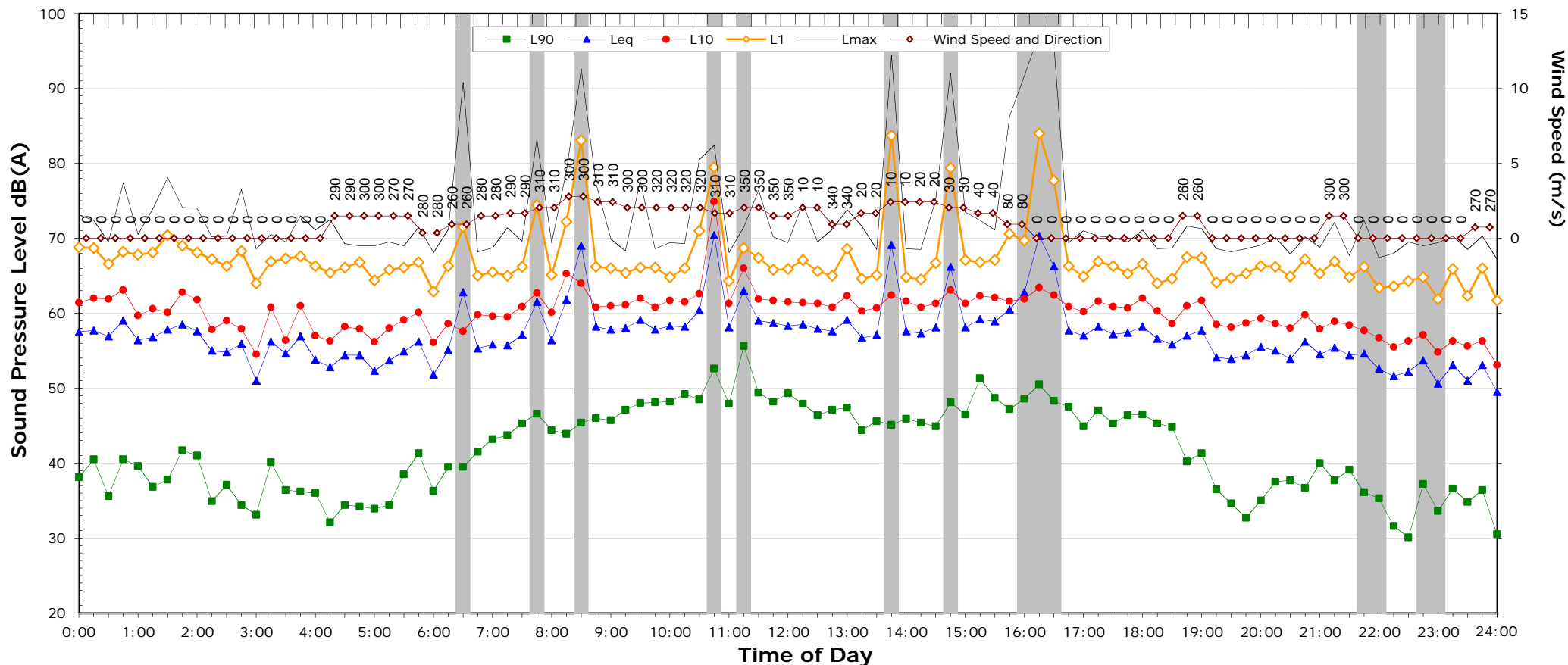
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	61.6	58.8
L _{eq} 1hr upper 10 percentile	64.0	60.7
L _{eq} 1hr lower 10 percentile	59.6	56.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.2	to	78.1
Lmax - Leq (Range)	15.2	to	22.0

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	34.6	27.0
Leq	-	55.5	51.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

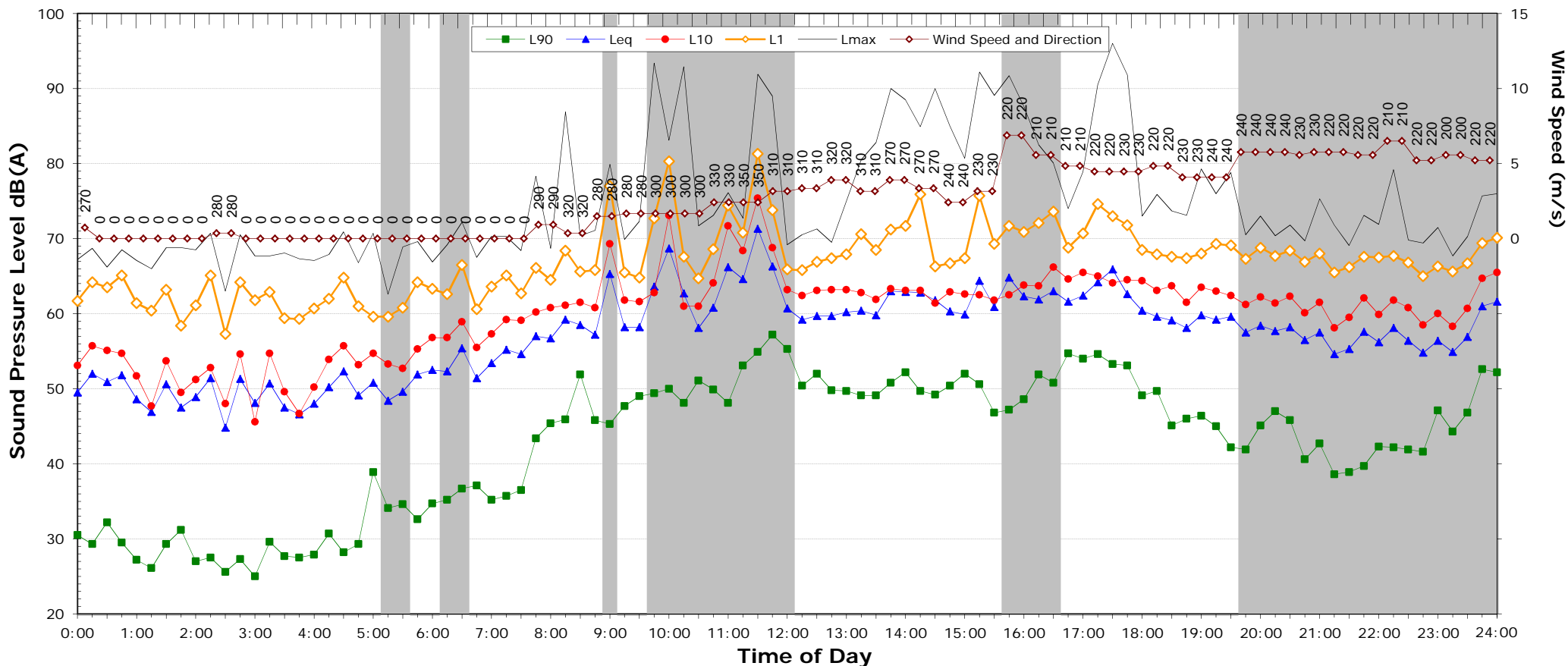
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	62.1	55.0
L _{eq} 1hr lower 10 percentile	57.2	51.0

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	68.1	to	70.9
L _{max} - Leq (Range)	17.4	to	21.1

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

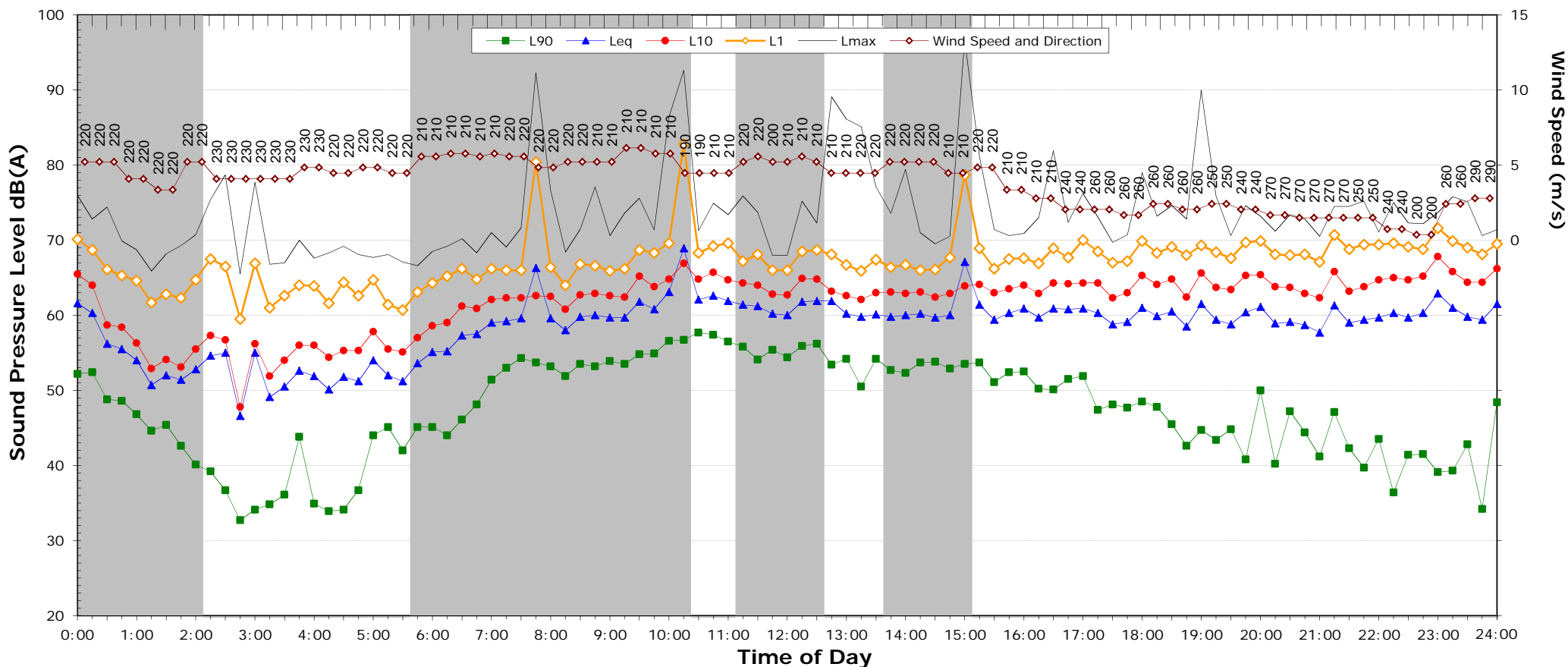
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	66.2	56.3
L _{eq} 1hr lower 10 percentile	58.8	53.7

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	68.1	to	78.7
L _{max} - Leq (Range)	16.5	to	24.9

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	40.2	32.2
Leq	-	59.7	58.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

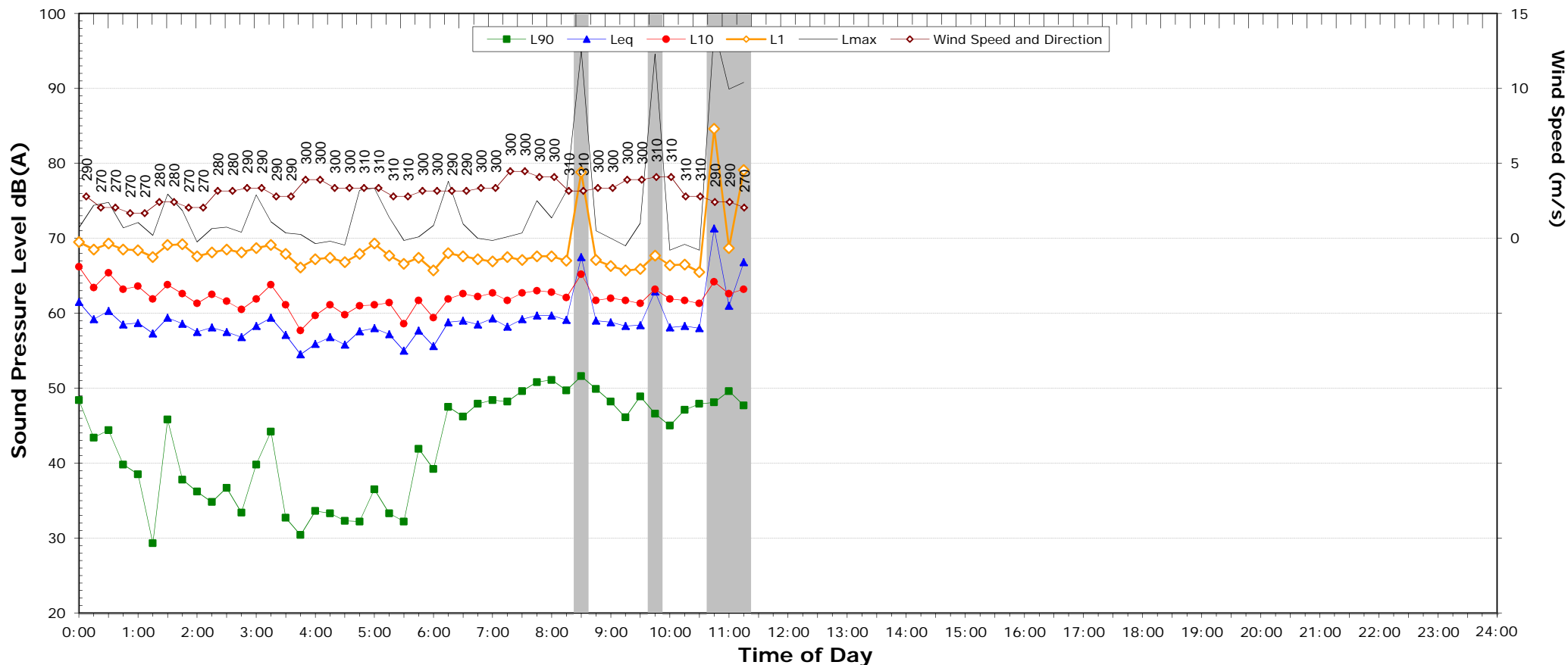
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	64.7	63.5
L _{eq} 1hr lower 10 percentile	61.1	59.0

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.2	to	77.6
Lmax - Leq (Range)	15.1	to	19.6

EXISTING AMBIENT NOISE LEVELS

ID 152 - 58 Harrimans Ln, MACKSVILLE, 2447

Tuesday, 4 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

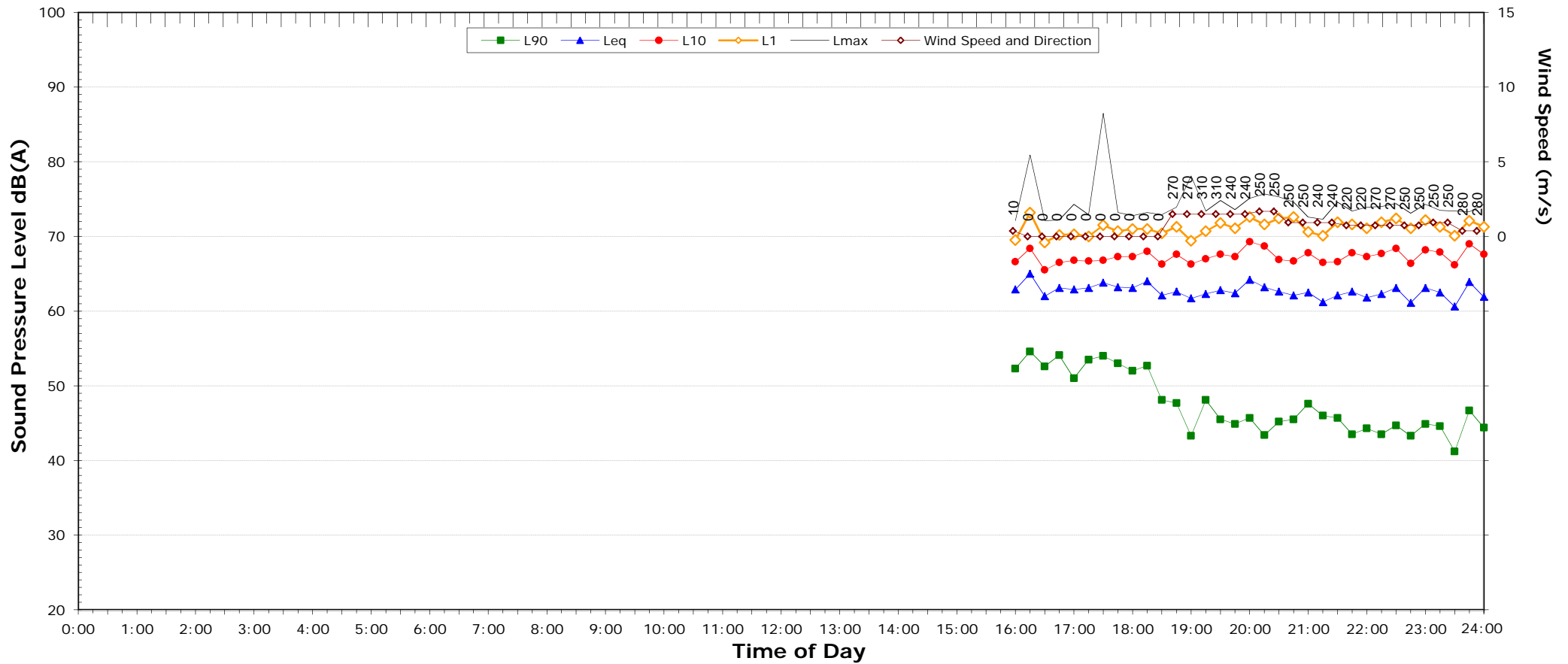
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	-
L _{eq} 1hr upper 10 percentile	61.7	-
L _{eq} 1hr lower 10 percentile	60.7	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Monday, 20 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	43.4	41.0
Leq	-	62.6	61.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

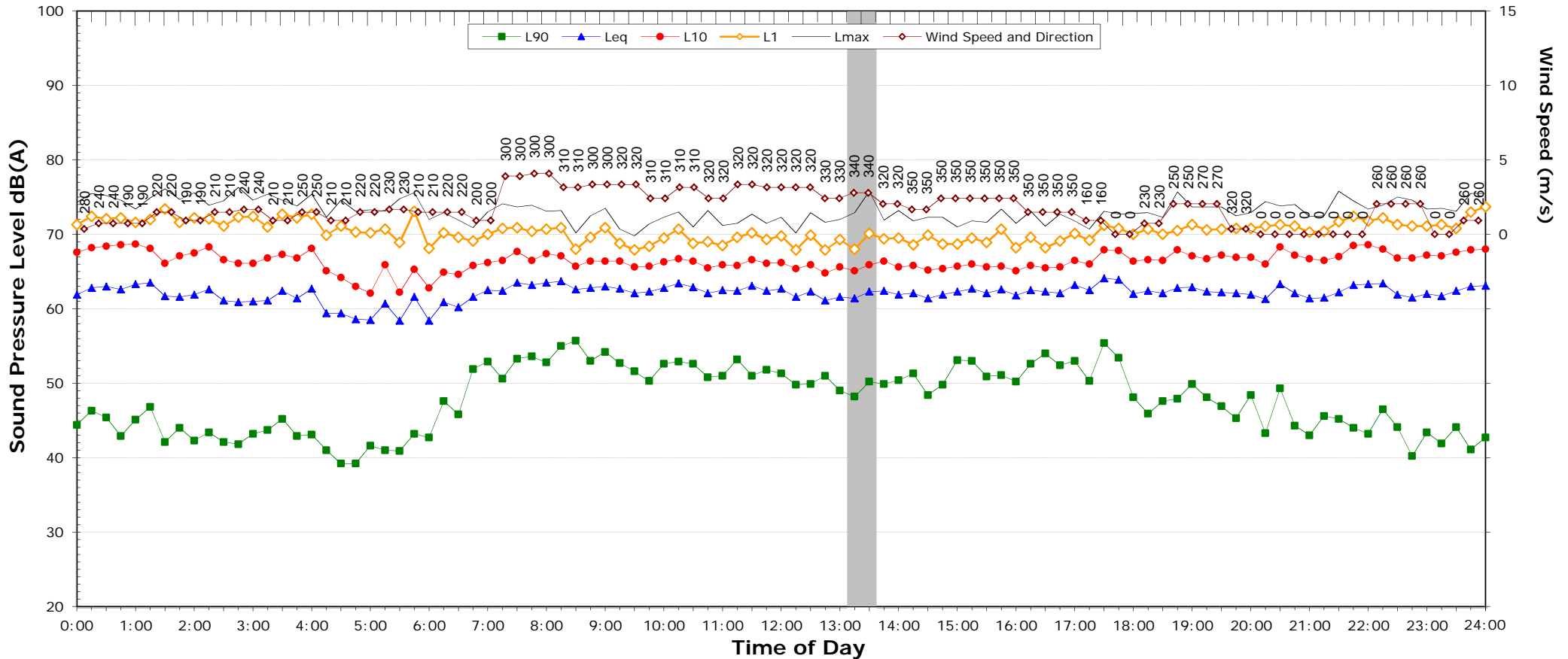
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	64.2
L _{eq} 1hr upper 10 percentile	65.9	65.4
L _{eq} 1hr lower 10 percentile	64.5	61.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	74.6	to	75.6
Lmax - Leq (Range)	15.6	to	15.6

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Tuesday, 21 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.8	43.2	36.6
Leq	62.6	62.4	61.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

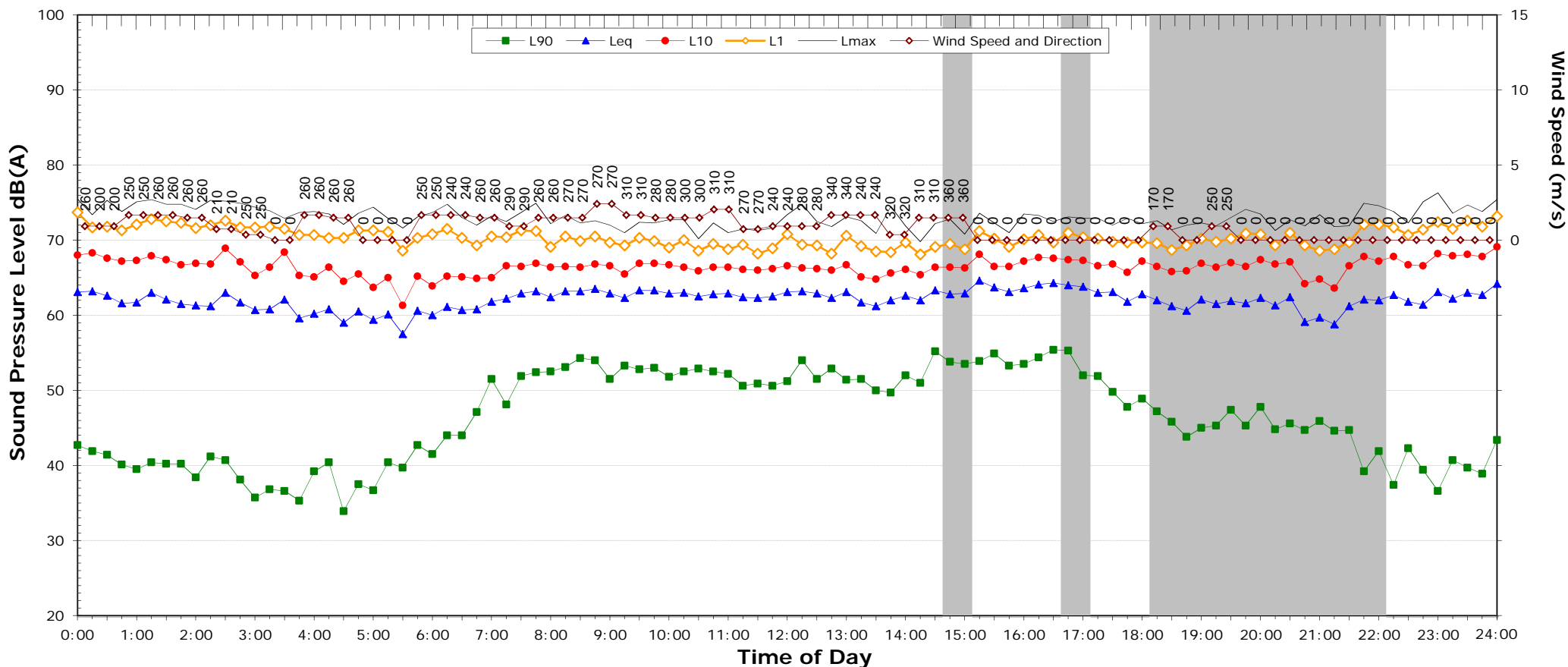
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.0	64.0
L _{eq} 1hr upper 10 percentile	65.7	65.1
L _{eq} 1hr lower 10 percentile	64.3	62.2

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Wednesday, 22 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	49.8	-	36.7
Leq	62.9	-	61.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

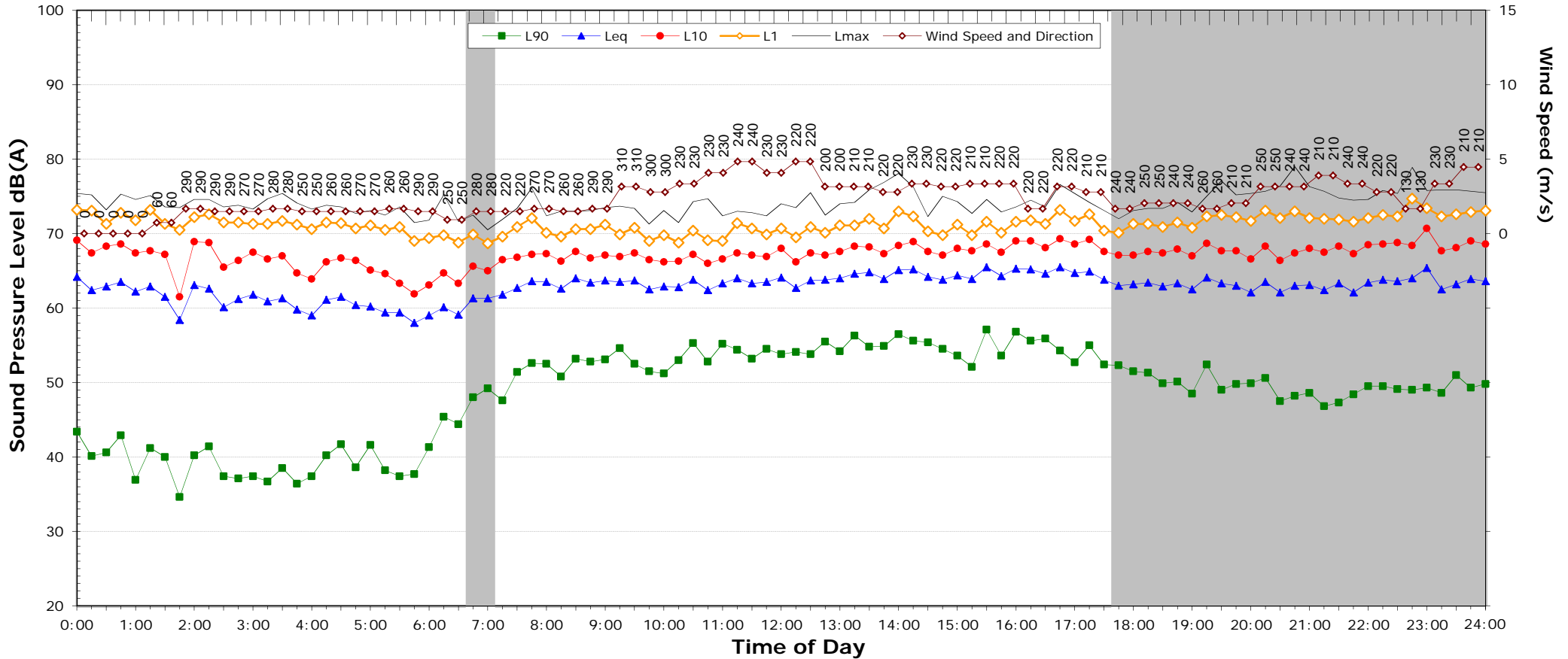
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	64.0
L _{eq} 1hr upper 10 percentile	66.7	65.6
L _{eq} 1hr lower 10 percentile	64.5	61.5

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	75.2	to	75.4
Lmax - Leq (Range)	15.1	to	15.6

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Thursday, 23 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.5	-	-
Leq	64.0	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

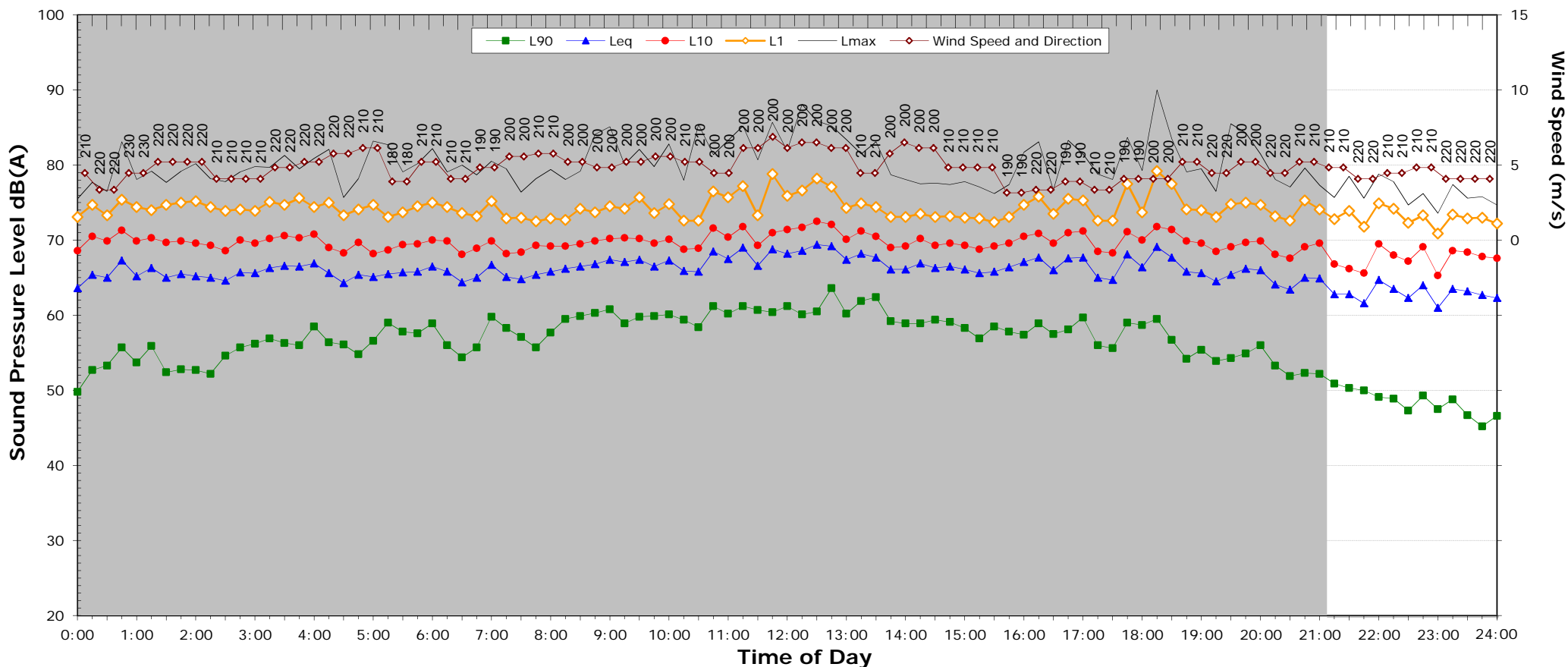
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	67.5	-
L _{eq} 1hr lower 10 percentile	65.5	-

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Ct, NTH MACKSVILLE, 2447

Friday, 24 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	46.3
Leq	-	-	61.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

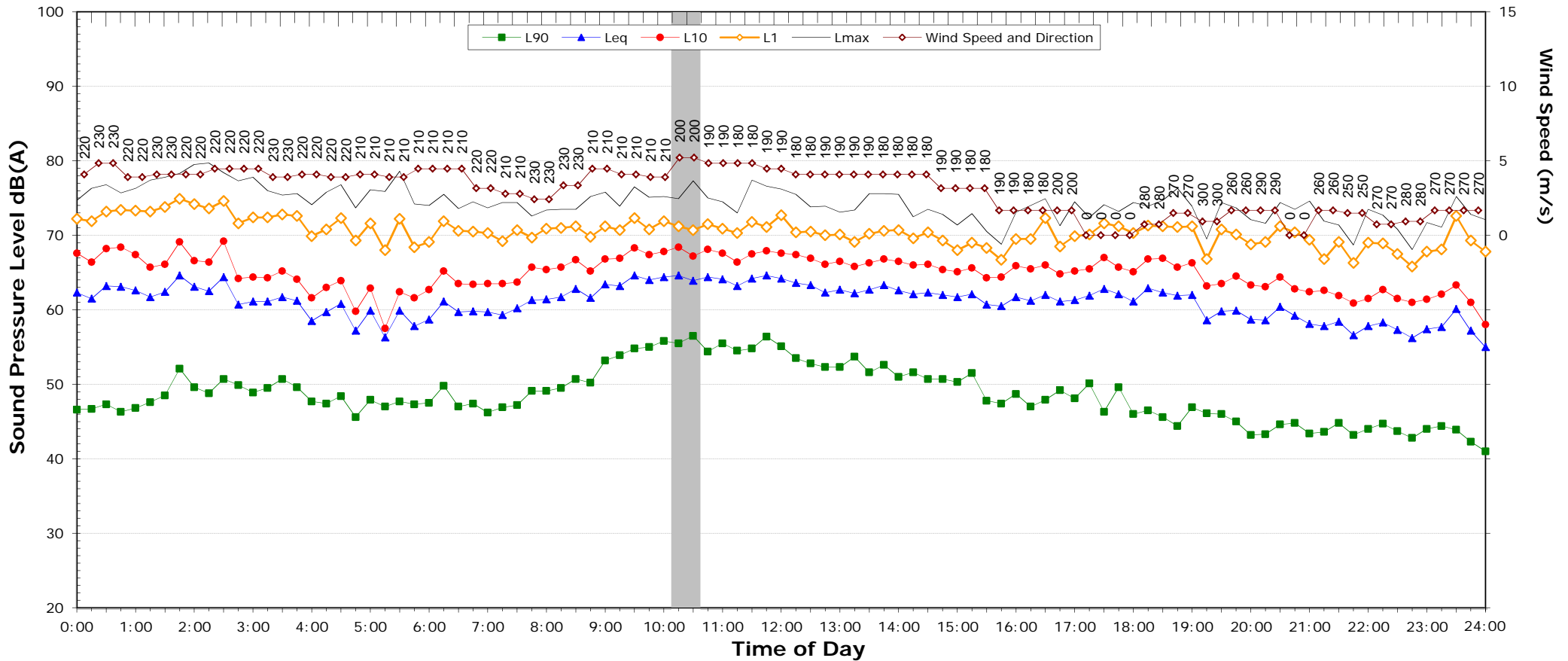
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	64.2
L _{eq} 1hr upper 10 percentile	65.6	65.6
L _{eq} 1hr lower 10 percentile	65.6	60.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	75.5	to	79.7
Lmax - Leq (Range)	15.2	to	20.2

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Ct, NTH MACKSVILLE, 2447

Saturday, 25 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.2	43.2	40.0
Leq	62.6	60.0	56.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

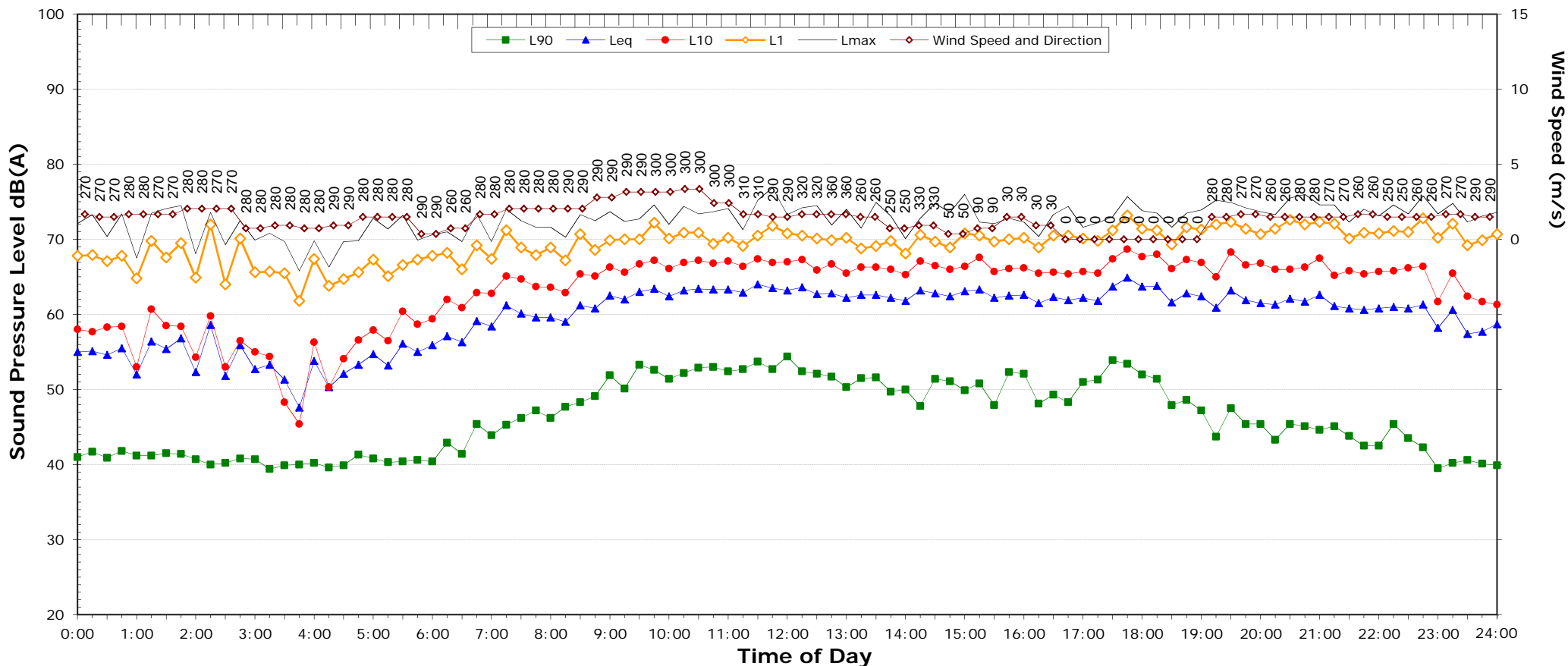
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.5	59.0
L _{eq} 1hr upper 10 percentile	66.7	60.4
L _{eq} 1hr lower 10 percentile	61.0	54.6

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	70.8	to	75.2
Lmax - Leq (Range)	15.3	to	19.9

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Sunday, 26 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.2	42.5	39.6
Leq	62.7	61.9	58.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

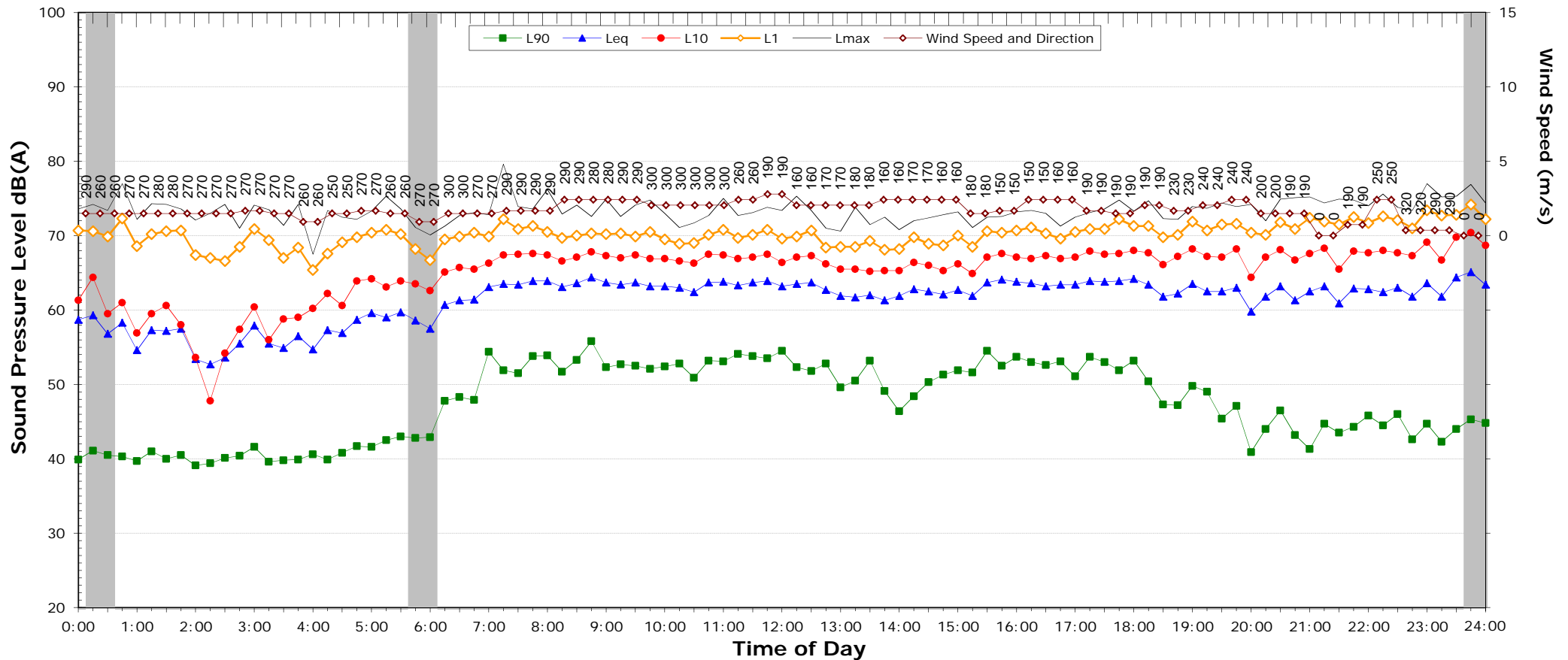
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.9	61.2
L _{eq} 1hr upper 10 percentile	66.0	64.2
L _{eq} 1hr lower 10 percentile	63.0	57.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.4	to	77.0
Lmax - Leq (Range)	15.1	to	20.2

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Ct, NTH MACKSVILLE, 2447

Monday, 27 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.3	41.3	-
Leq	63.3	62.4	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

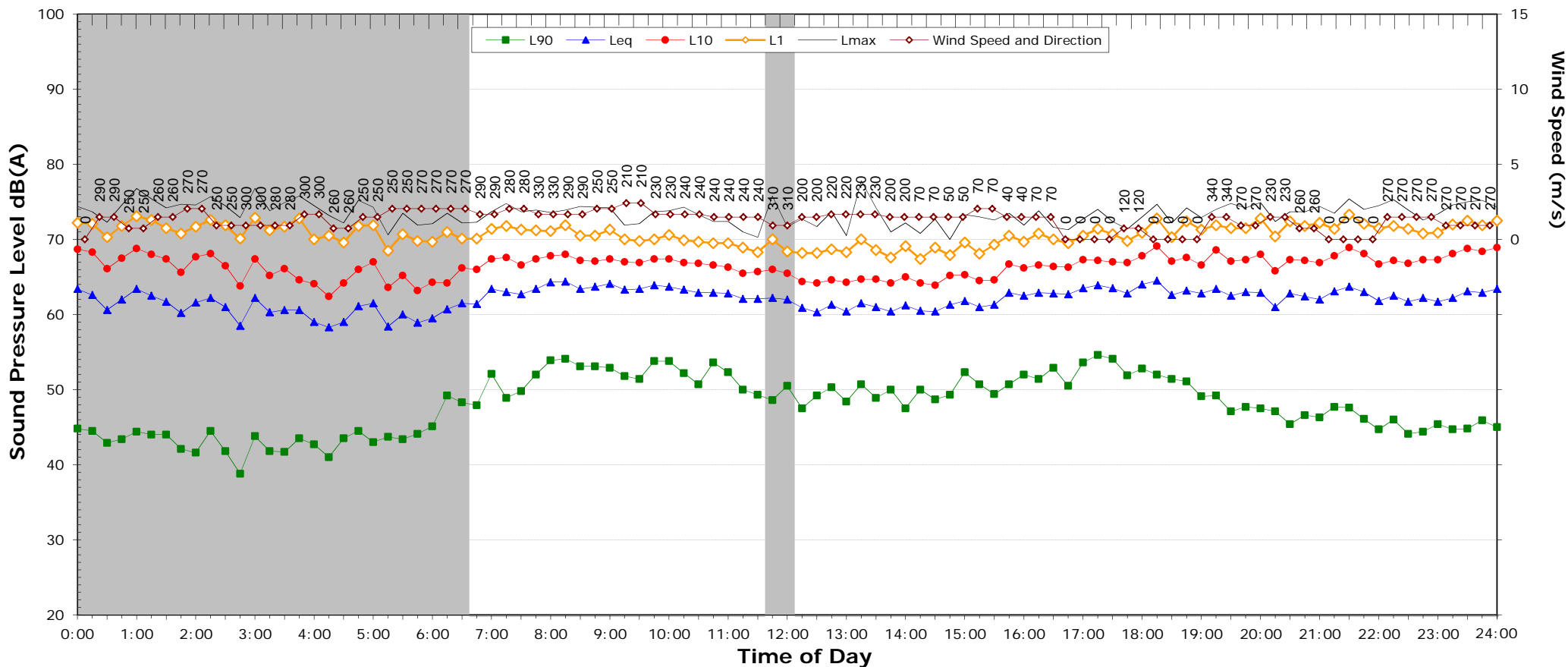
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.6	0.0
L _{eq} 1hr upper 10 percentile	66.3	65.8
L _{eq} 1hr lower 10 percentile	64.4	65.0

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Tuesday, 28 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.9	45.4	42.7
Leq	62.6	62.9	61.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

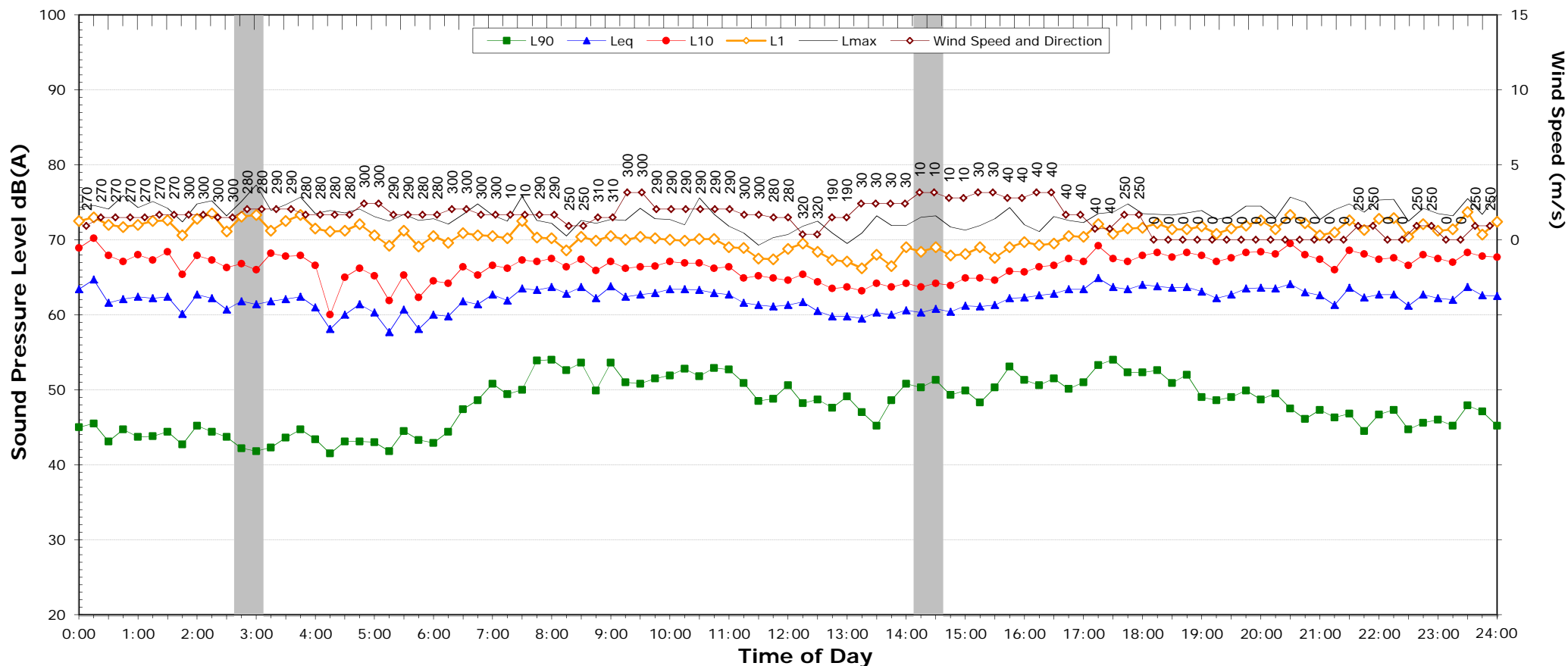
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.2	64.2
L _{eq} 1hr upper 10 percentile	66.3	65.4
L _{eq} 1hr lower 10 percentile	63.4	61.8

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	-	to	-
Lmax - Leq (Range)	-	to	-

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Wednesday, 29 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.3	46.1	42.2
Leq	62.4	63.1	62.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

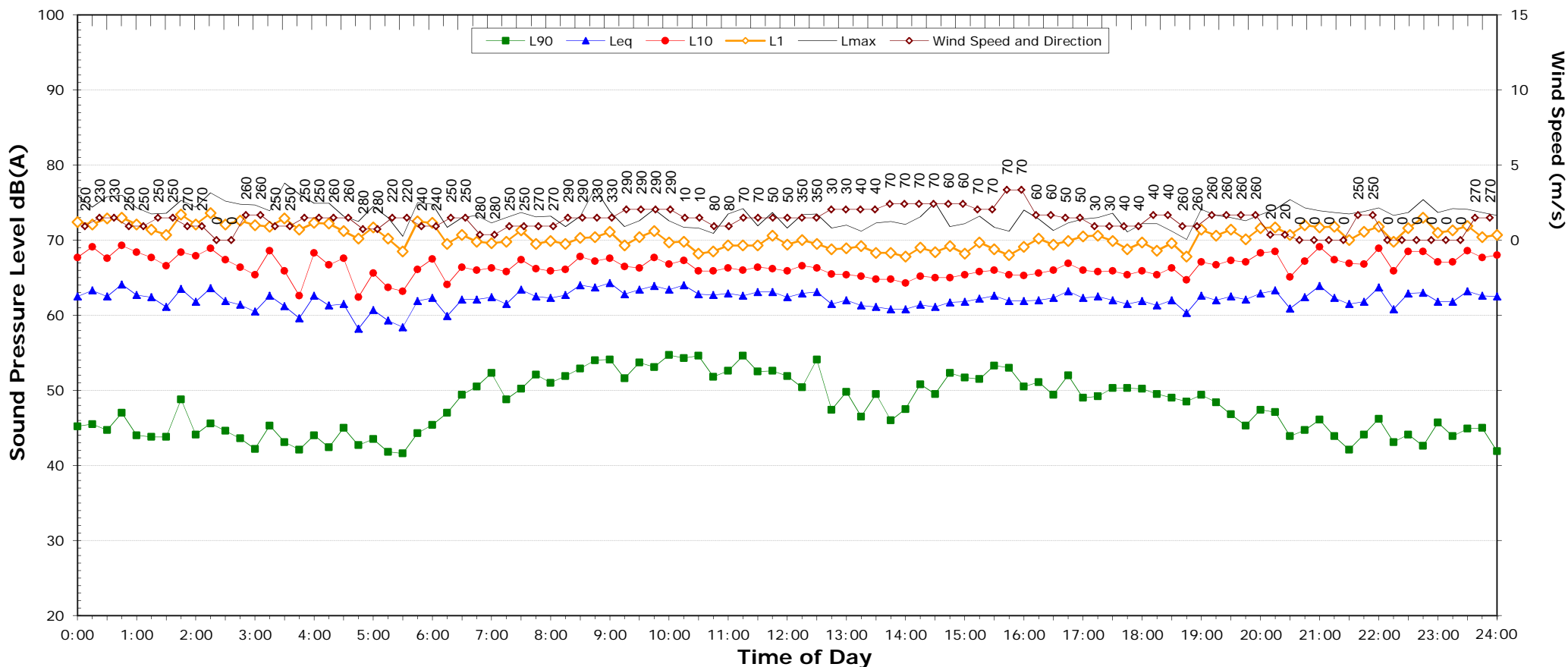
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.1	64.5
L _{eq} 1hr upper 10 percentile	66.3	65.7
L _{eq} 1hr lower 10 percentile	62.8	63.1

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	77.6	to	77.6
Lmax - Leq (Range)	15.9	to	15.9

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Thursday, 30 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.8	43.9	41.9
Leq	62.5	62.3	62.0

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

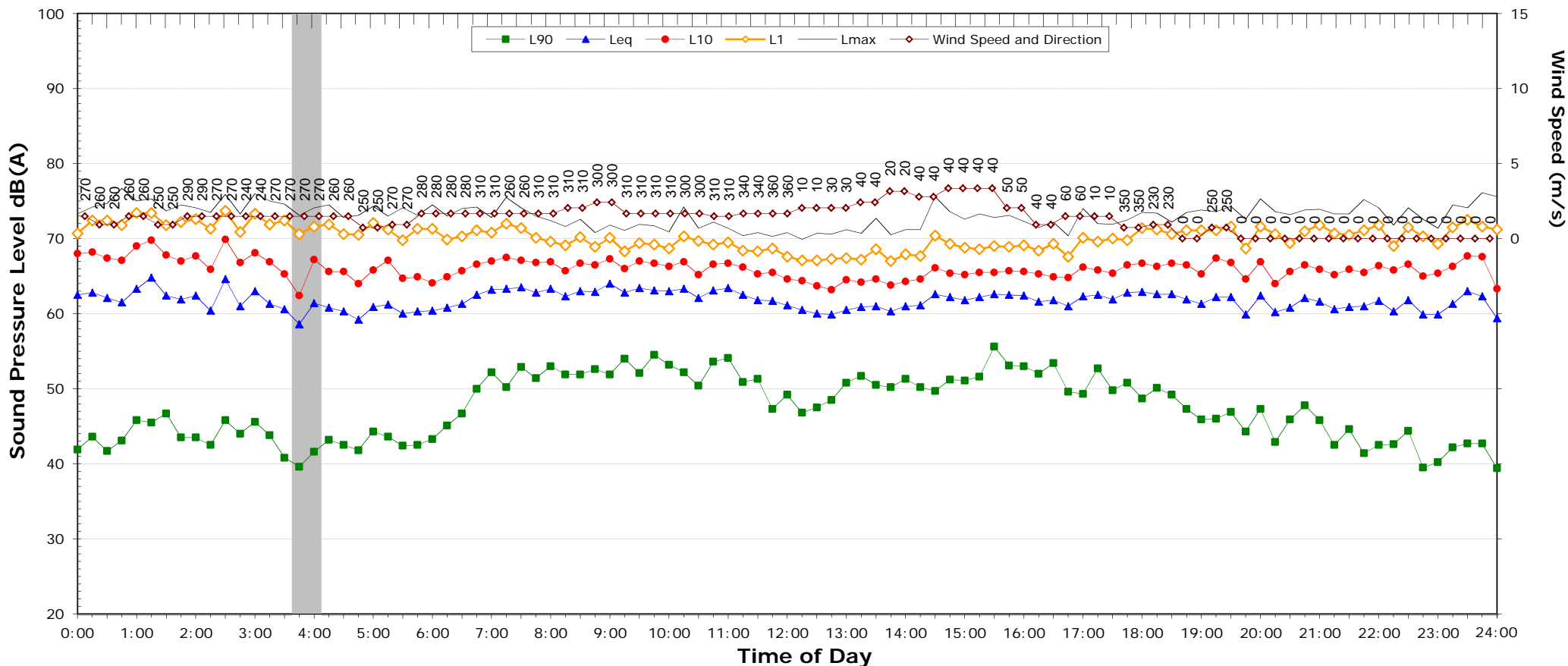
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.0	64.5
L _{eq} 1hr upper 10 percentile	66.1	65.5
L _{eq} 1hr lower 10 percentile	63.8	62.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	-	to -
Lmax - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Friday, 31 May 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.7	42.5	39.5
Leq	62.3	61.6	60.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

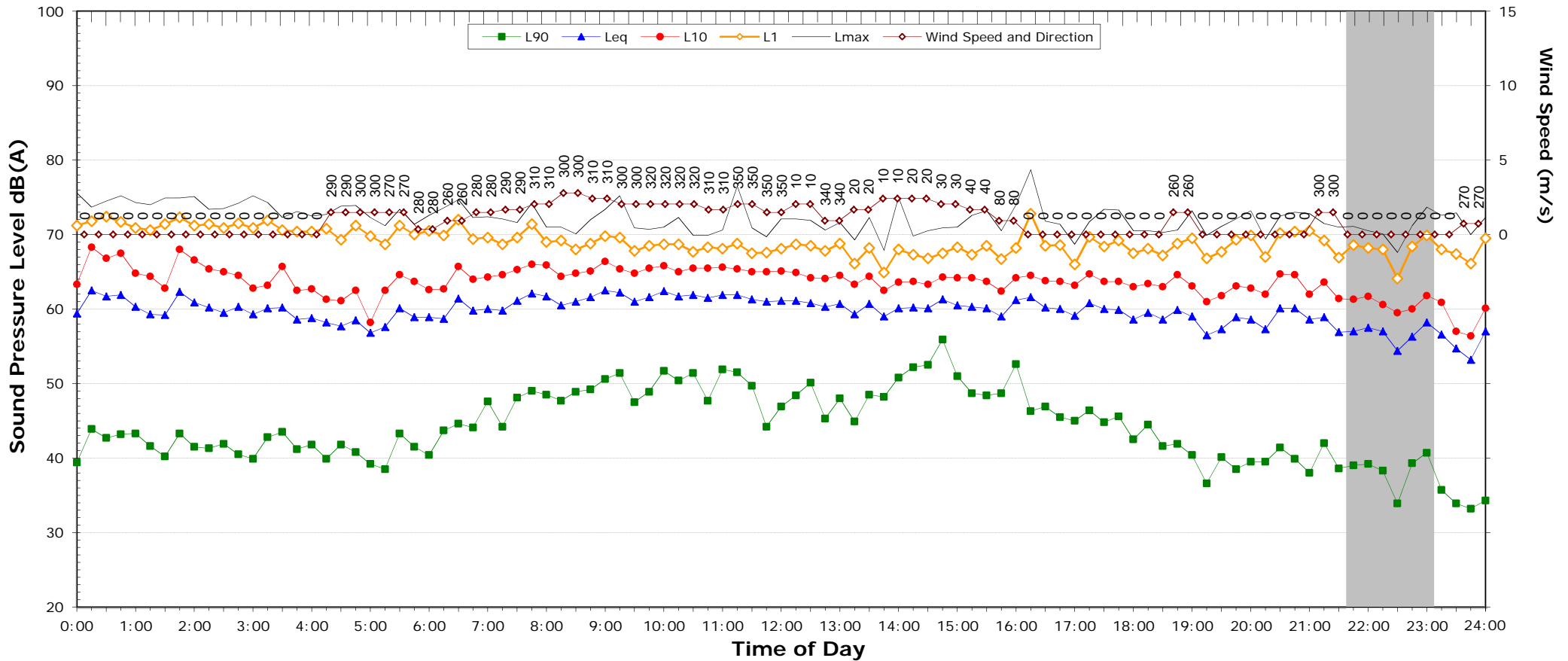
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.6	62.7
L _{eq} 1hr upper 10 percentile	65.7	64.2
L _{eq} 1hr lower 10 percentile	63.0	60.3

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	73.9	to	75.2
Lmax - Leq (Range)	15.4	to	16.1

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Saturday, 1 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	44.9	38.0	-
Leq	60.9	58.7	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

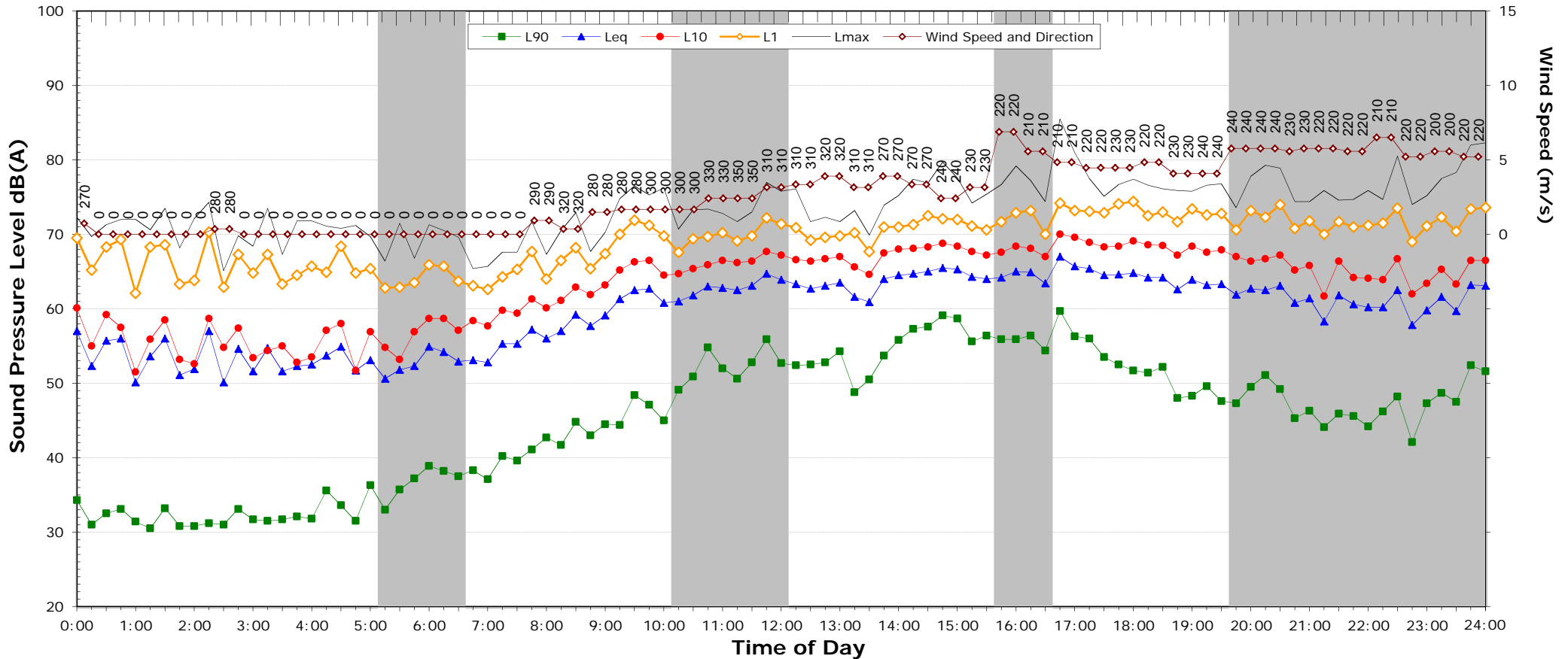
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	64.3	58.1
L _{eq} 1hr lower 10 percentile	60.5	55.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	71.2	to	74.3
Lmax - Leq (Range)	17.3	to	20.6

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Ct, NTH MACKSVILLE, 2447

Sunday, 2 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

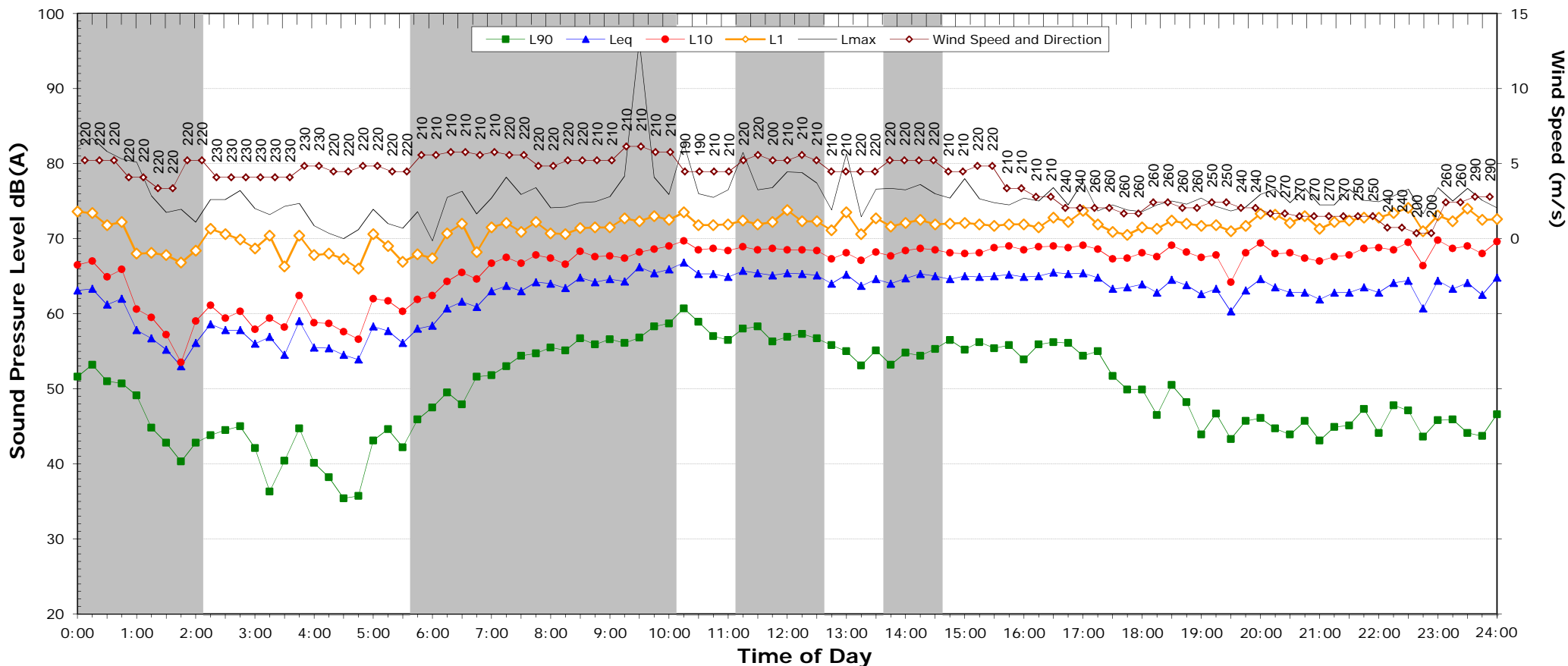
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	68.8	60.1
L _{eq} 1hr lower 10 percentile	58.8	58.4

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	72.0	to	76.4
Lmax - Leq (Range)	15.0	to	18.8

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Monday, 3 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	43.3	41.4
Leq	-	63.1	62.7

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax-Leq ≥ 15dB(A)

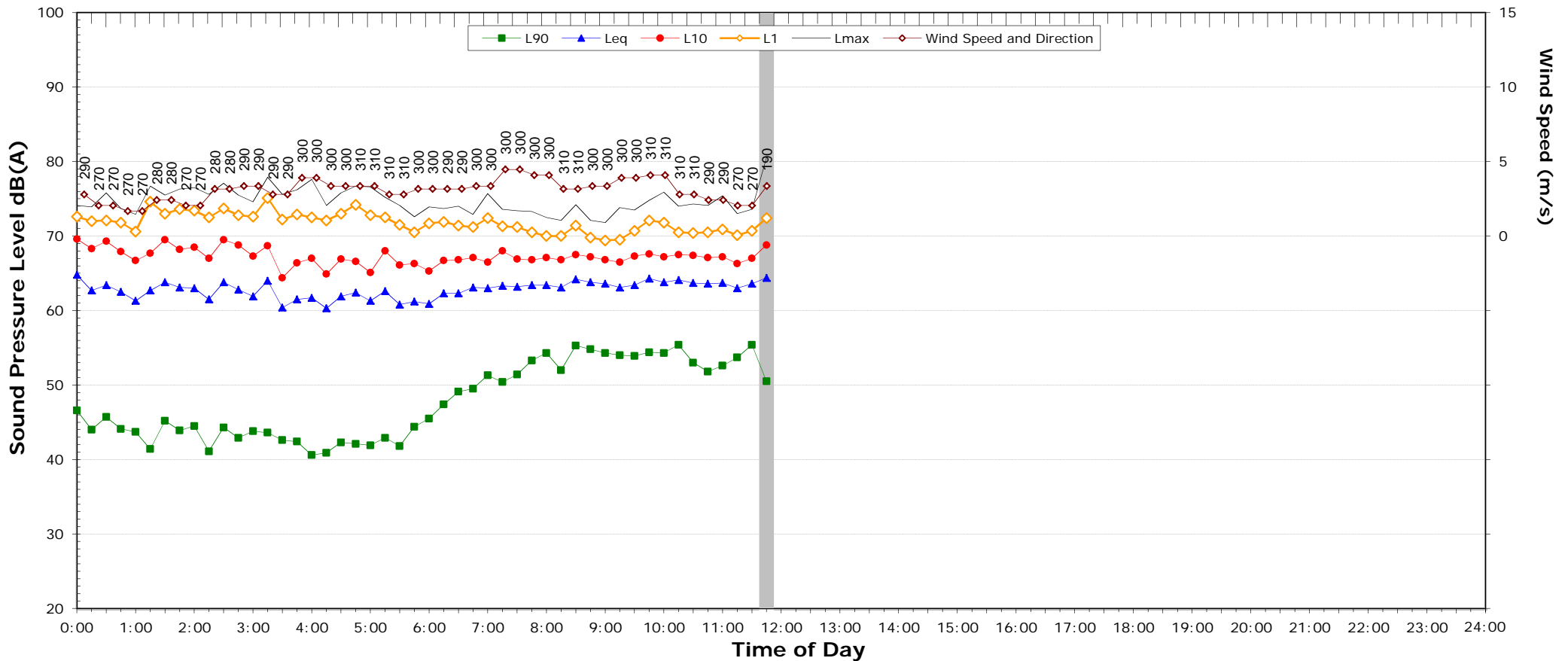
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	68.1	66.3
L _{eq} 1hr lower 10 percentile	65.3	63.9

Night Time Maximum Noise Levels (see note 4)			
Lmax (Range)	76.7	to	77.9
Lmax - Leq (Range)	15.2	to	15.8

EXISTING AMBIENT NOISE LEVELS

ID 666 - 22 Letitia Cl, NTH MACKSVILLE, 2447

Tuesday, 4 June 2013



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	0.0	0.0	66.3
Leq	65.8	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured in free-field; tabulated results facade corrected
4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max}-Leq ≥ 15dB(A)

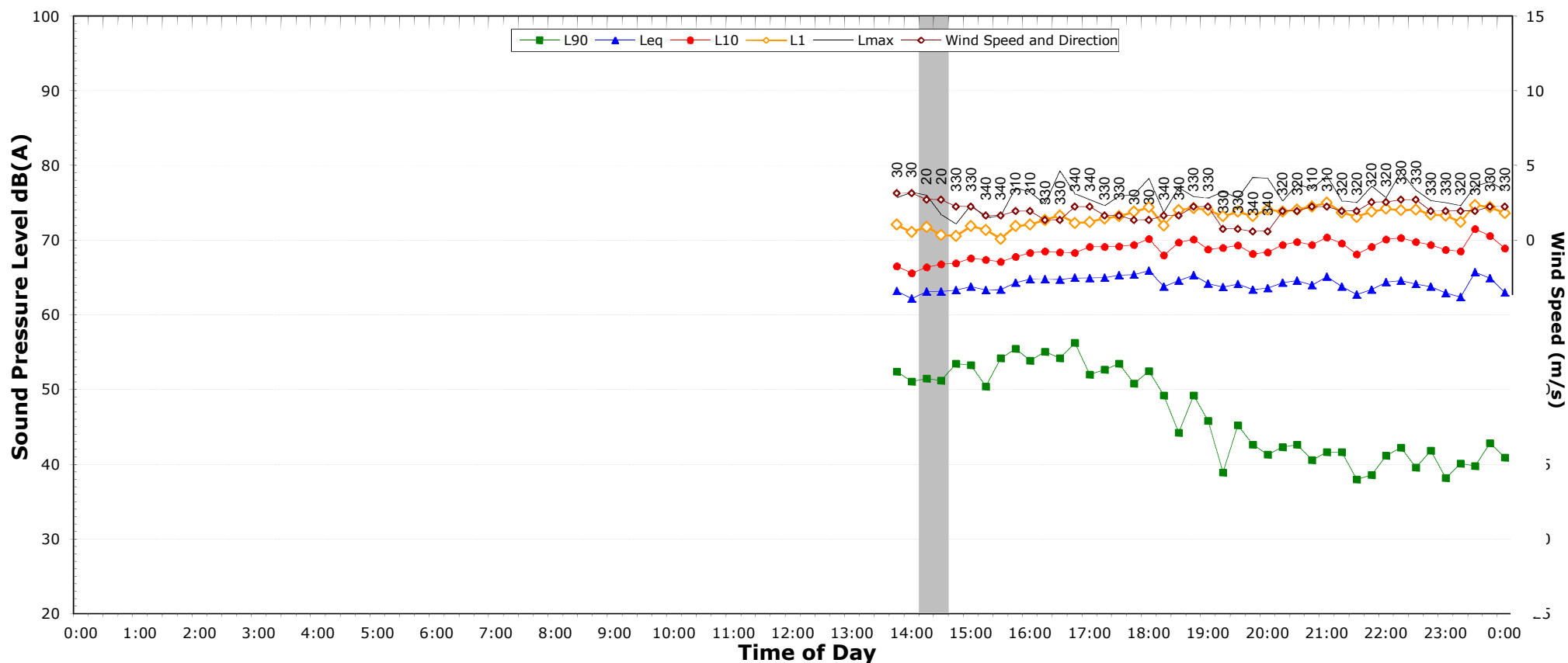
NSW Road Noise Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	0.0	0.0
L _{eq} 1hr upper 10 percentile	66.3	-
L _{eq} 1hr lower 10 percentile	65.8	-

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Wednesday, 2 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	38.6	31.9
Leq (see note 3)	-	64.1	63.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - L_{eq} ≥ 15dB(A)

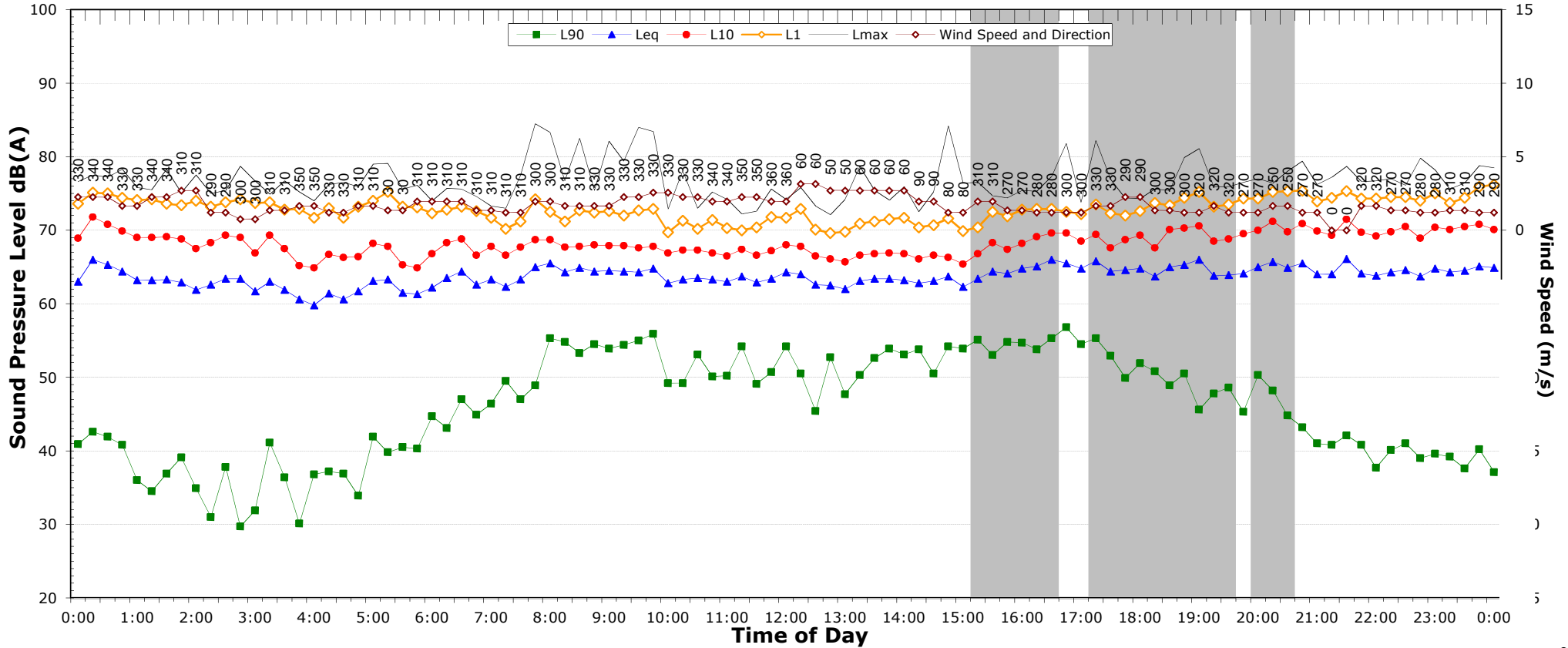
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.3	63.2
L _{eq} 1hr upper 10 percentile	65.4	64.8
L _{eq} 1hr lower 10 percentile	62.7	61.5

Night Time Maximum Noise Levels (see note 4)			
L _{max} (Range)	76.7	to	79.1
L _{max} - L _{eq} (Range)	15.2	to	17.2

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Thursday, 3 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	34.2
Leq (see note 3)	-	-	64.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

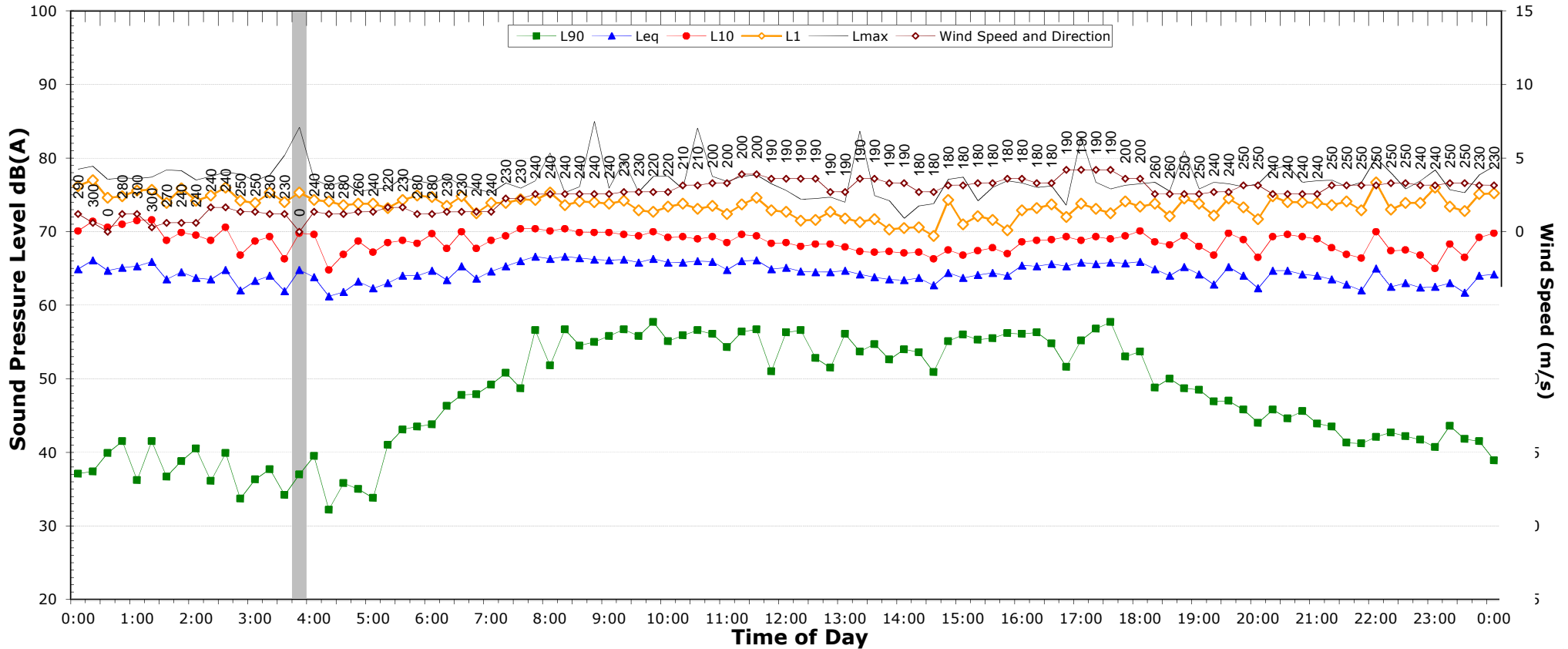
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.9	64.1
L _{eq} 1hr upper 10 percentile	65.1	65.3
L _{eq} 1hr lower 10 percentile	62.9	62.2

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	79.8	to 80.4
L _{max} - Leq (Range)	15.4	to 17.1

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Friday, 4 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	51.5	41.3	33.9
Leq (see note 3)	65.3	64.1	62.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

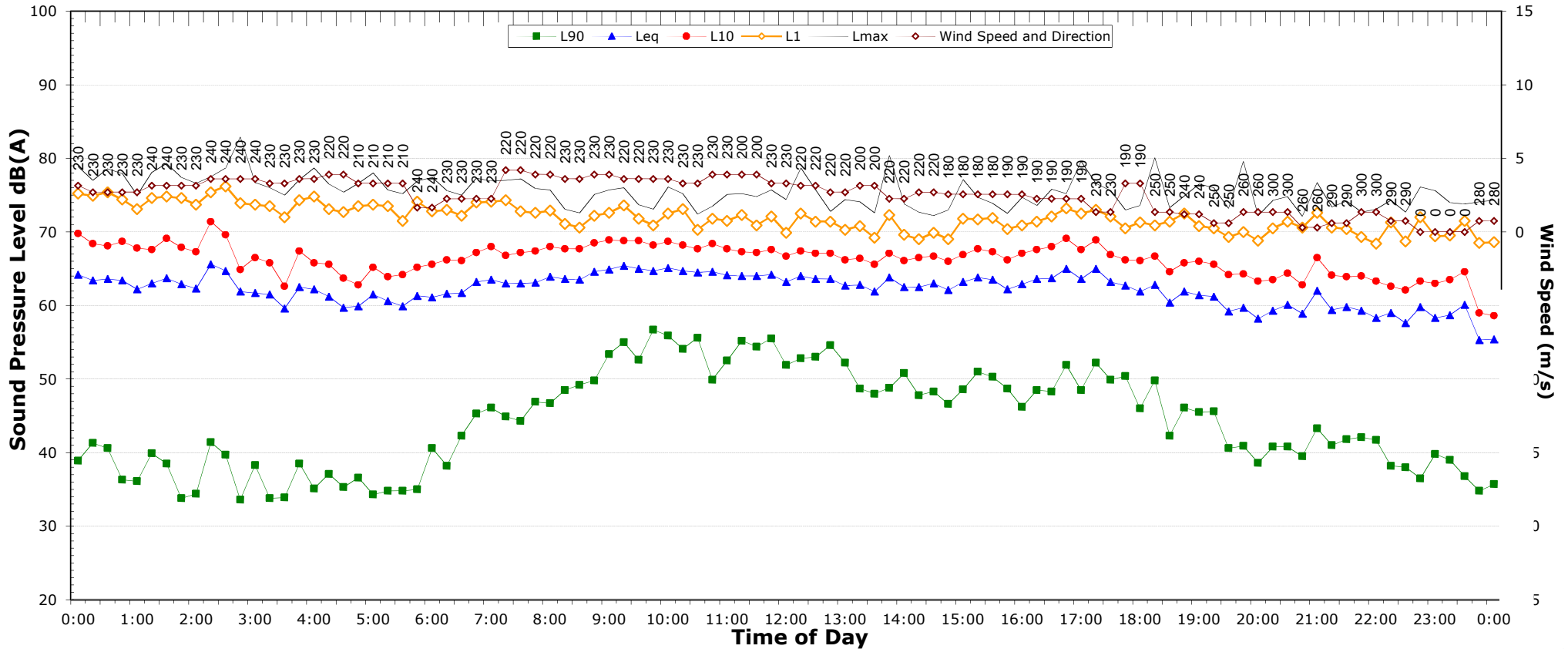
NSW ECRTN Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.0	62.5
L _{eq} 1hr upper 10 percentile	66.2	63.8
L _{eq} 1hr lower 10 percentile	63.6	60.6

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	77.4	to 82.9
Lmax - Leq (Range)	15.4	to 19.1

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Saturday, 5 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	46.6	39.5	29.8
Leq (see note 3)	63.7	60.3	56.8

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

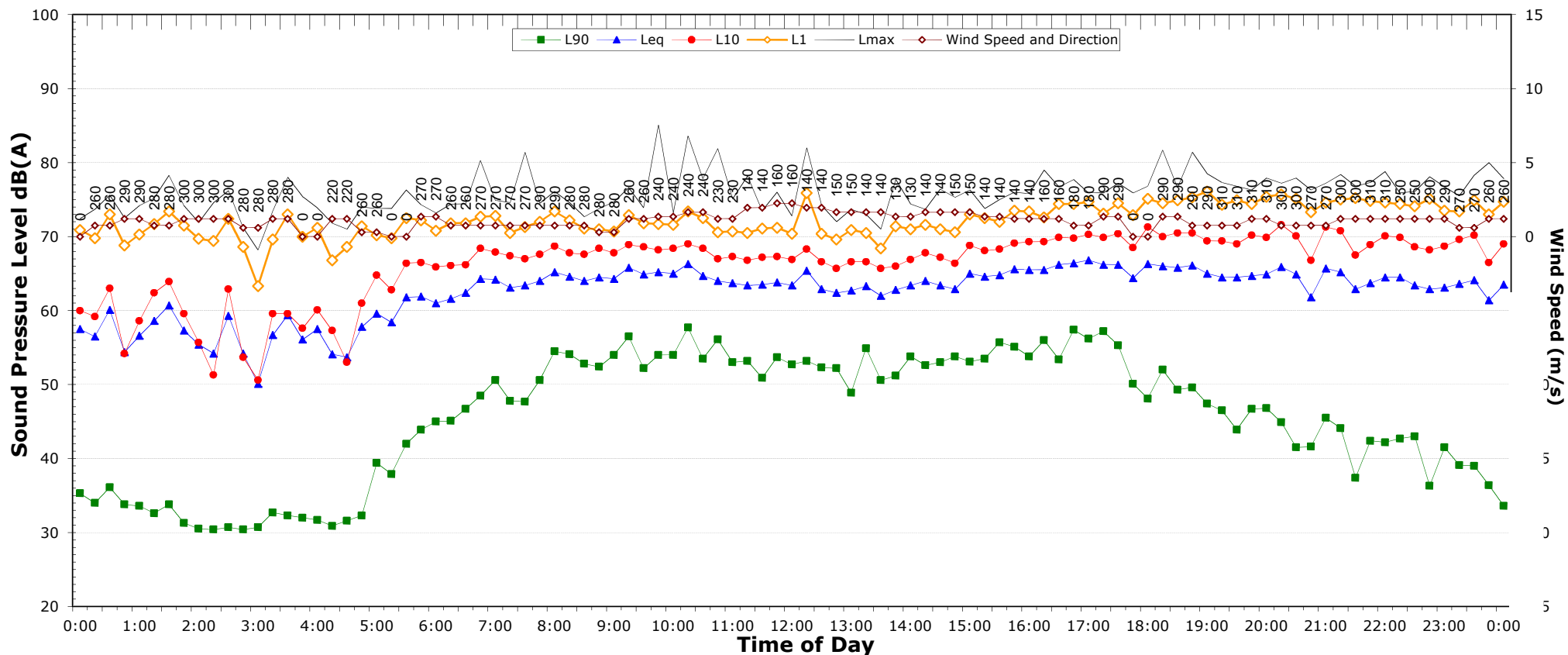
NSW ECRTN Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	63.1	56.8
L _{eq} 1hr upper 10 percentile	64.8	58.8
L _{eq} 1hr lower 10 percentile	59.5	54.4

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	74.2	to 76.8
L _{max} - Leq (Range)	16.4	to 20.6

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Monday, 7 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.1	41.5	33.9
Leq (see note 3)	64.6	64.9	63.1

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

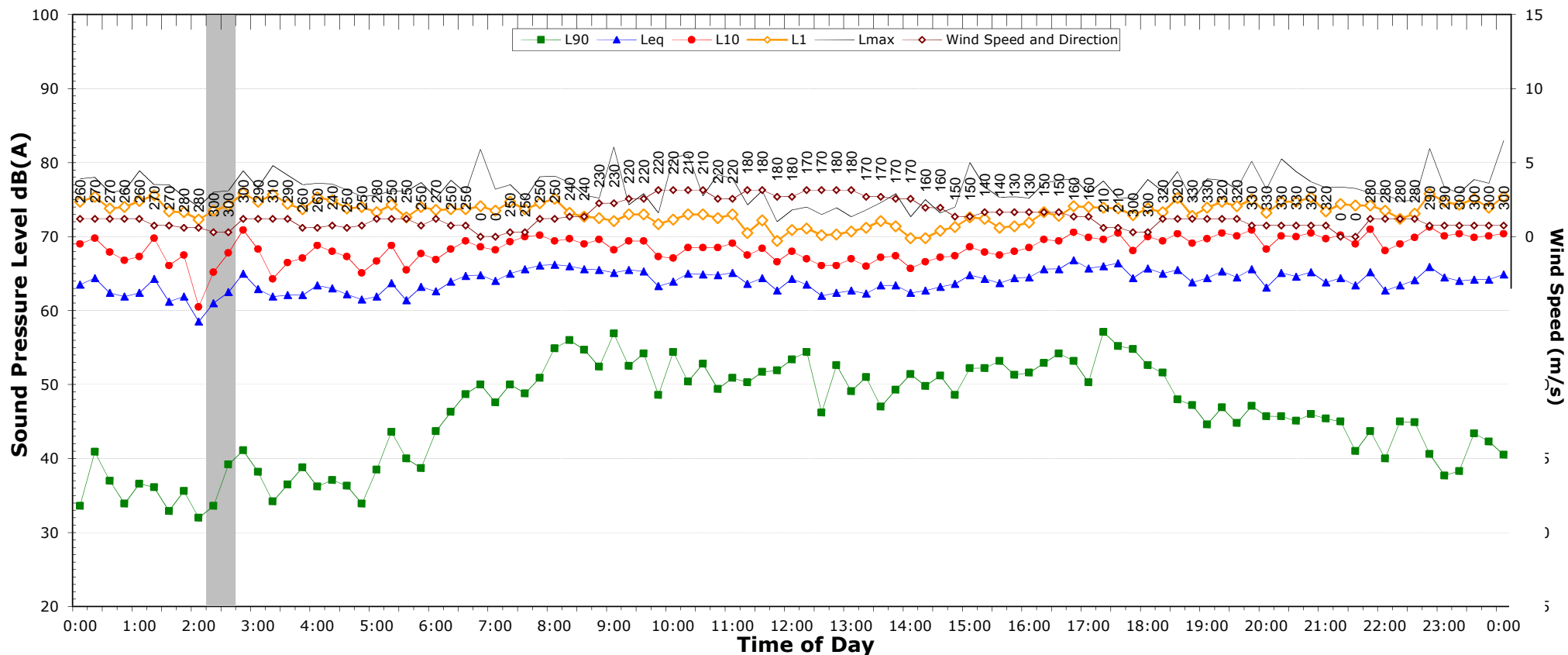
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.7	63.1
L _{eq} 1hr upper 10 percentile	66.1	64.4
L _{eq} 1hr lower 10 percentile	63.2	61.9

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	77.0	to 81.8
Lmax - Leq (Range)	15.1	to 17.4

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Tuesday, 8 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	48.8	41.0	36.0
Leq (see note 3)	64.7	64.6	63.9

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

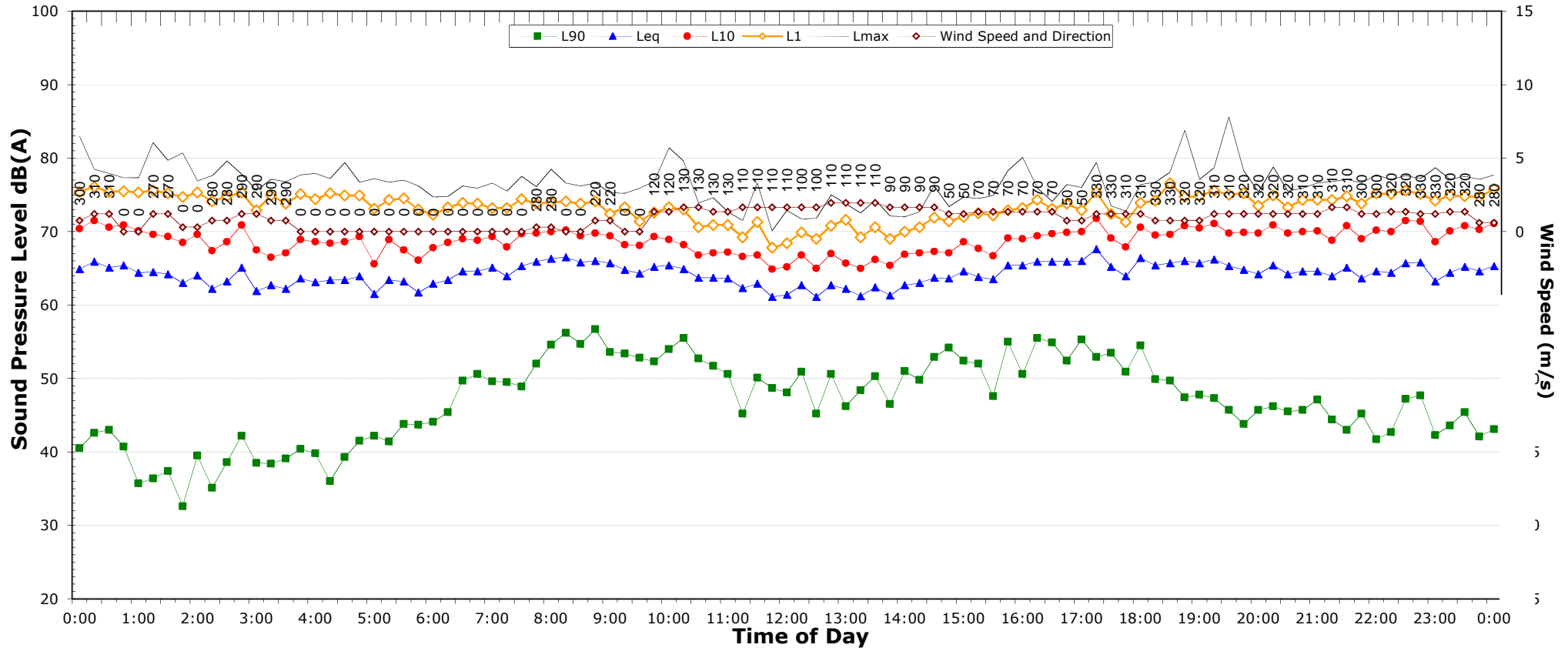
NSW ECRTN Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.6	63.9
L _{eq} 1hr upper 10 percentile	65.9	65.2
L _{eq} 1hr lower 10 percentile	62.8	62.8

Night Time Maximum Noise Levels (see note 4)		
Lmax (Range)	79.4	to 83.0
Lmax - Leq (Range)	16.3	to 18.7

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Wednesday, 9 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.6	43.0	37.5
Leq (see note 3)	64.5	65.0	64.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

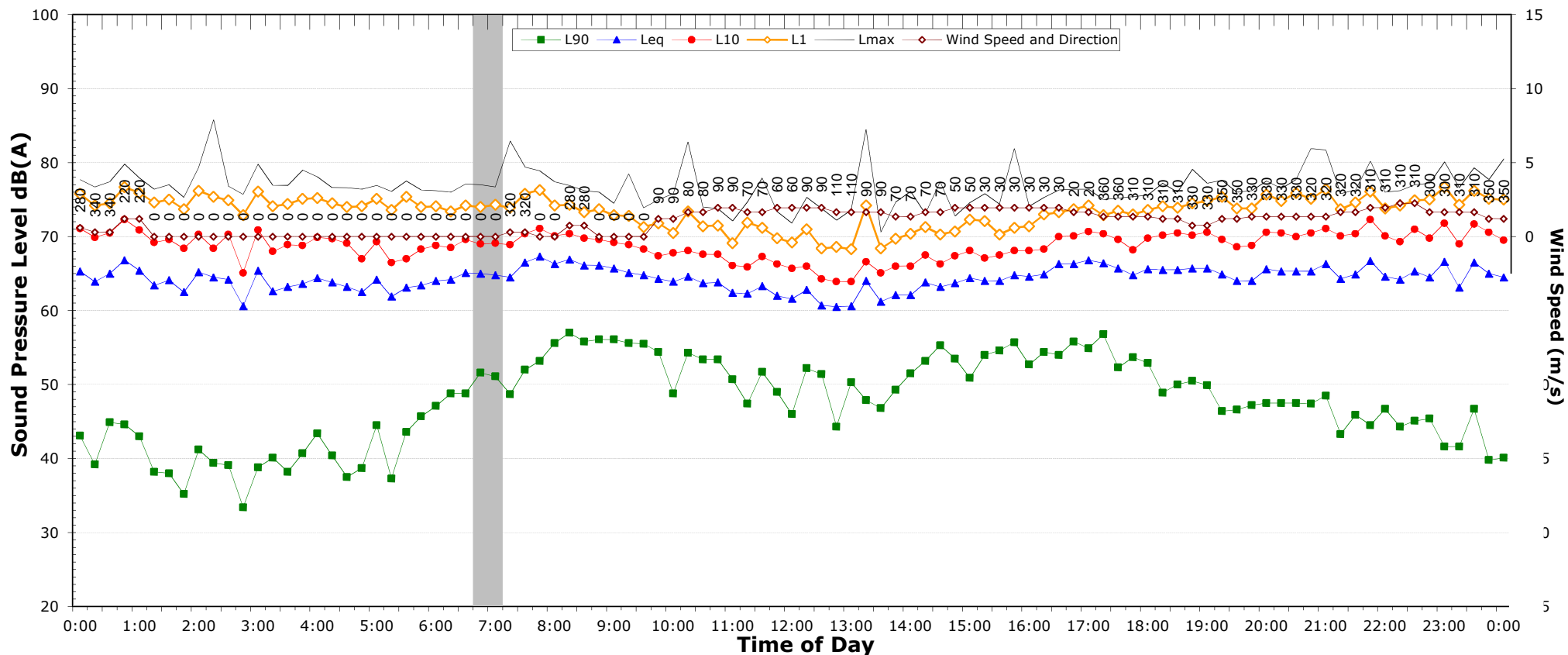
INSTRUCTIONS NOT FOLLOWED

4. Night time Lmax values are shown only where Lmax > 65dB(A) and where Lmax - Leq ≥ 15dB(A)

NSW ECRTN Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.7	64.3
L _{eq} 1hr upper 10 percentile	66.0	65.4
L _{eq} 1hr lower 10 percentile	62.0	63.2

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
Lmax (Range)	79.0	to 85.8
Lmax - Leq (Range)	15.5	to 21.8

EXISTING AMBIENT NOISE LEVELS 3008 - 6858 Pacific Highway, Valla Thursday, 10 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	47.9	44.5	33.0
Leq (see note 3)	64.5	65.3	64.2

NOTES:

- Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
- "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

- Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

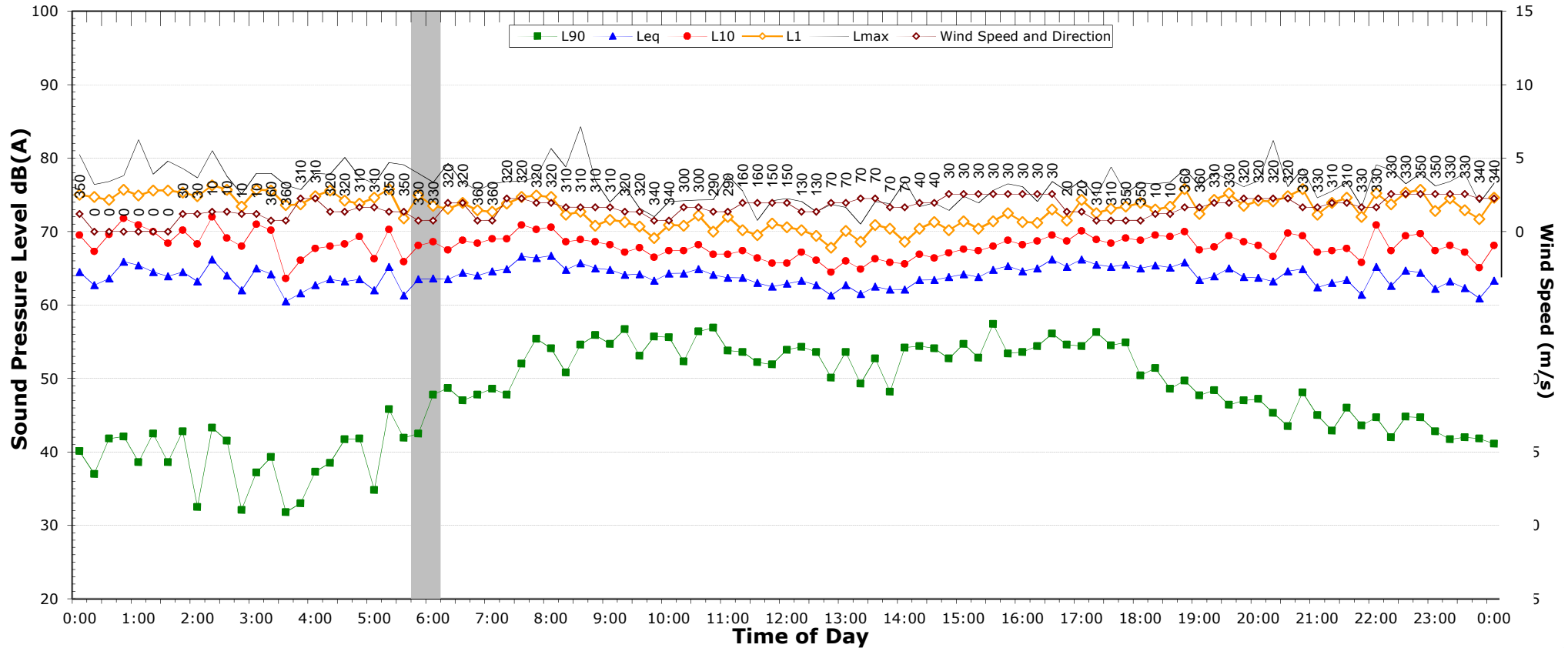
NSW ECRTN Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.8	64.2
L _{eq} 1hr upper 10 percentile	66.2	65.3
L _{eq} 1hr lower 10 percentile	61.8	62.5

Night Time Maximum Noise Levels (see note 4)		
Descriptor	Day	Night
L _{max} (Range)	77.9	to 82.5
L _{max} - Leq (Range)	15.2	to 17.9

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Friday, 11 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.4	43.5	32.2
Leq (see note 3)	64.4	64.2	62.5

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

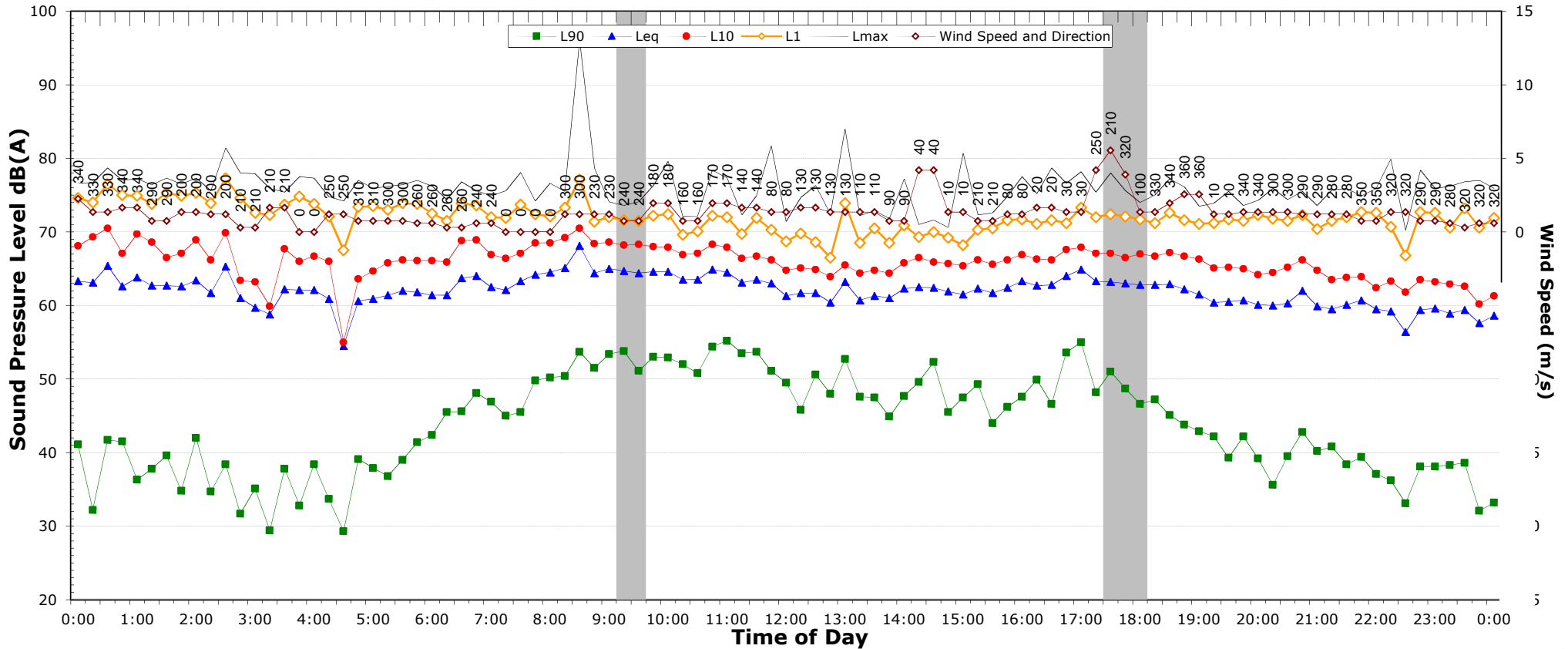
NSW ECRTN Policy (1m from facade) (see note 3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.3	62.5
L _{eq} 1hr upper 10 percentile	66.0	63.9
L _{eq} 1hr lower 10 percentile	62.3	59.9

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	77.0	to 81.4
L _{max} - Leq (Range)	15.3	to 18.9

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Saturday, 12 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	45.5	37.1	29.0
Leq (see note 3)	63.4	61.0	57.2

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

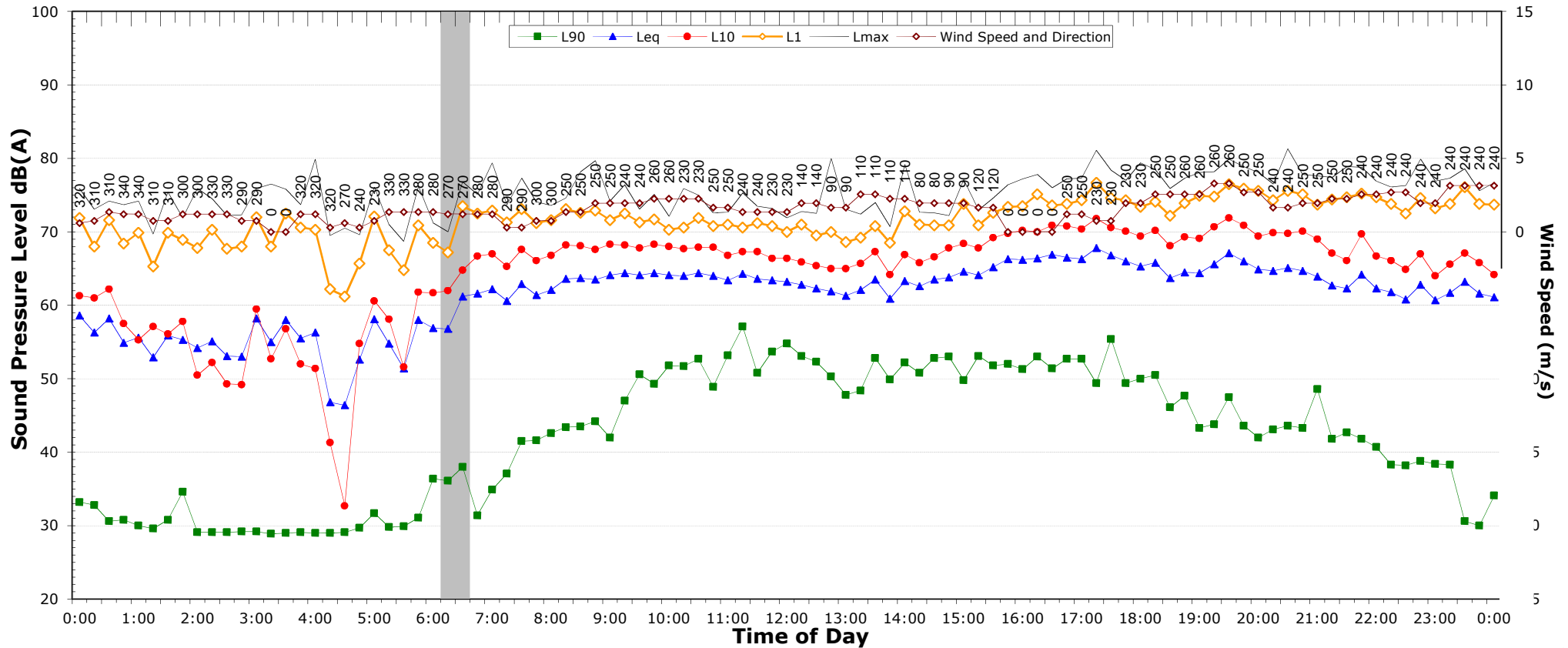
INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	62.8	57.2
L _{eq} 1hr upper 10 percentile	65.3	61.9
L _{eq} 1hr lower 10 percentile	60.2	53.6

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	74.2	to 79.9
L _{max} - Leq (Range)	17.5	to 23.5

EXISTING AMBIENT NOISE LEVELS 3008 - 6858 Pacific Highway, Valla Sunday, 13 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	42.6	41.8	28.5
Leq (see note 3)	64.4	64.7	61.3

NOTES:

- Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
- "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

- Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

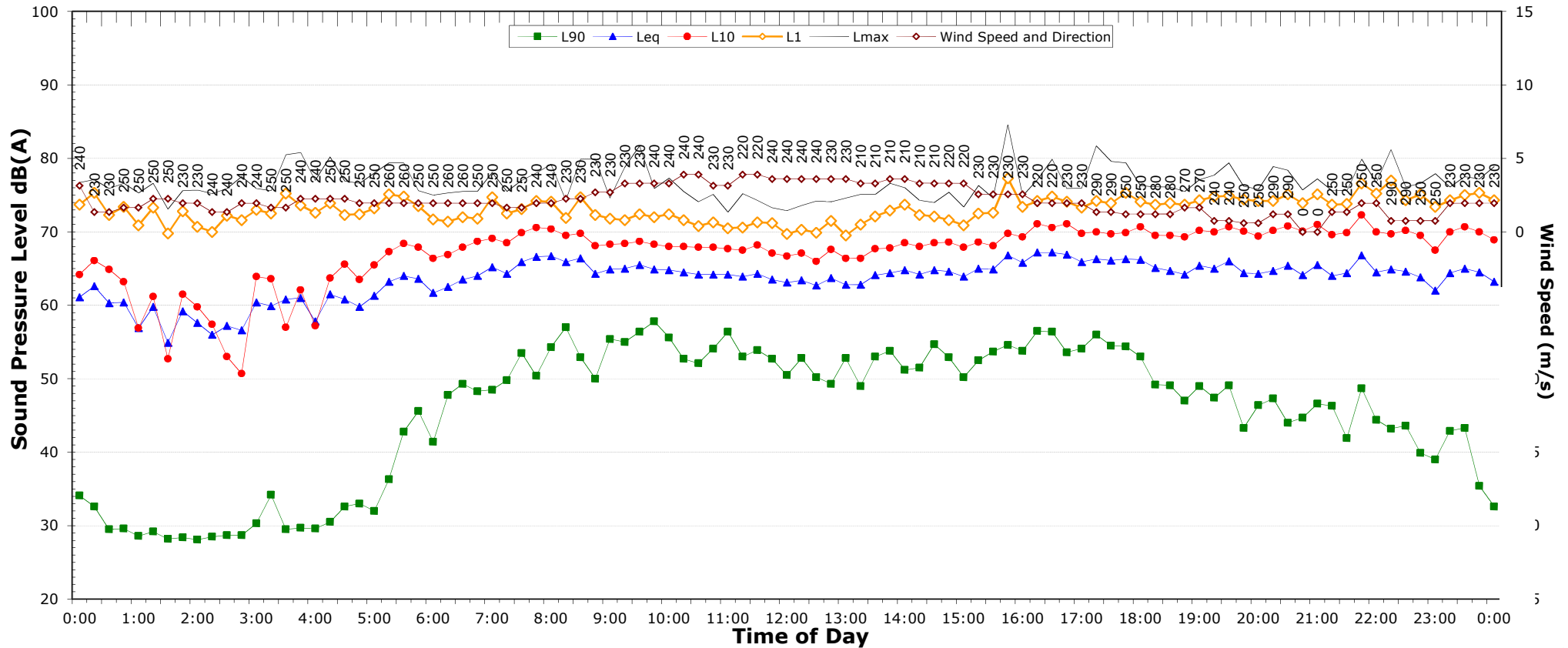
NSW ECRN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	64.4	61.3
L _{eq} 1hr upper 10 percentile	66.6	63.9
L _{eq} 1hr lower 10 percentile	62.0	57.9

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	76.6	to 80.8
L _{max} - Leq (Range)	16.2	to 20.8

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Monday, 14 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	50.2	43.3	34.4
Leq (see note 3)	65.1	65.0	64.3

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

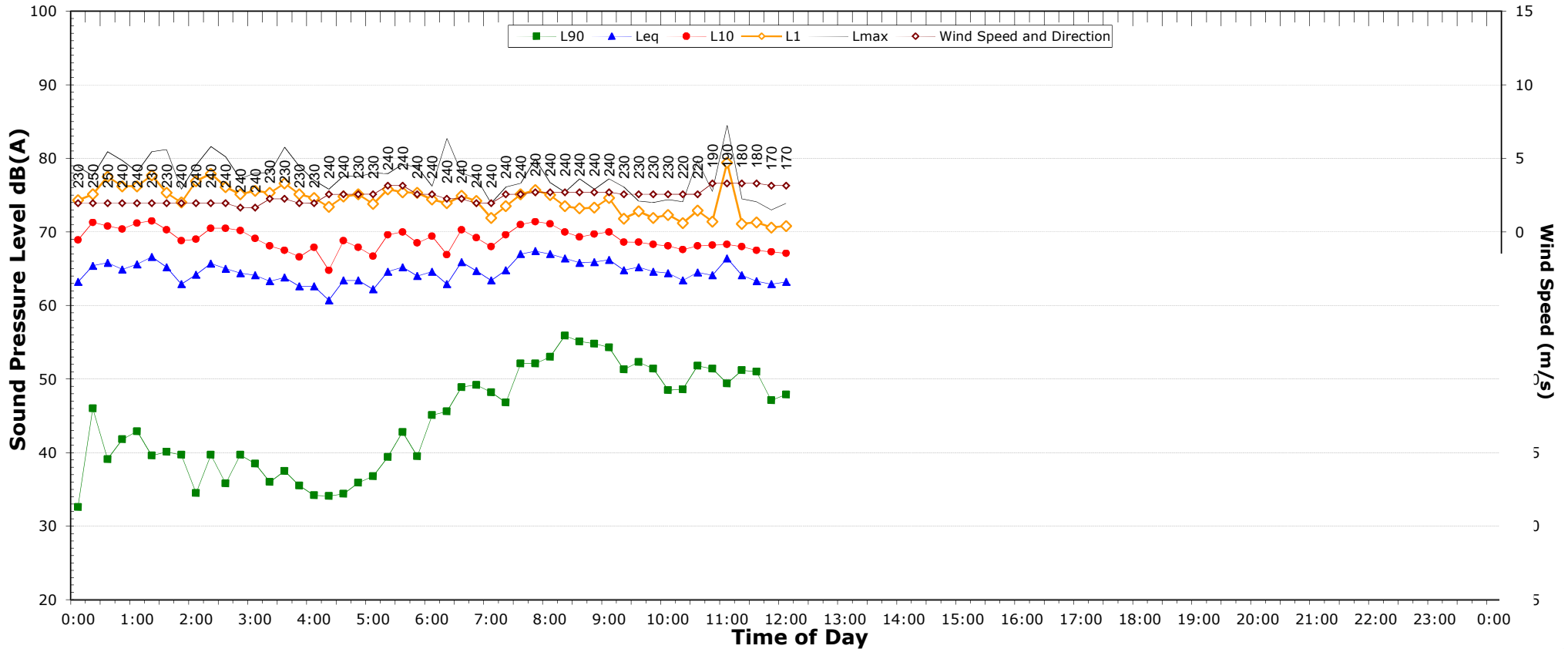
NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.1	64.3
L _{eq} 1hr upper 10 percentile	66.5	65.4
L _{eq} 1hr lower 10 percentile	63.5	62.6

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	78.0	to 82.7
L _{max} - Leq (Range)	15.4	to 18.4

EXISTING AMBIENT NOISE LEVELS

3008 - 6858 Pacific Highway, Valla

Tuesday, 15 May 2012



NSW Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night ²
	7am-6pm	6pm-10pm	10pm-7am
L ₉₀	-	-	-
Leq (see note 3)	-	-	-

NOTES:

1. Shaded periods denote measurements adversely affected by rain, wind or extraneous noise - data in these periods are excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.

INSTRUCTIONS NOT FOLLOWED

4. Night time L_{max} values are shown only where L_{max} > 65dB(A) and where L_{max} - Leq ≥ 15dB(A)

NSW ECRTN Policy (1m from facade) (see note3)		
Descriptor	Day	Night ²
	7am-10pm	10pm-7am
L _{eq} 15 hr and L _{eq} 9 hr	65.3	-
L _{eq} 1hr upper 10 percentile	66.7	-
L _{eq} 1hr lower 10 percentile	63.4	-

Night Time Maximum Noise Levels (see note 4)		
L _{max} (Range)	-	to -
L _{max} - Leq (Range)	-	to -

APPENDIX I - MAXIMUM NOISE LEVEL ASSESSMENT

Table I1 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 5

Monday, 20 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	64	66	65	65	64	64	61	62	65	64
L _{av max}	80	86	-	-	79	-	76	81	-	80
No Events	1	1	0	0	1	0	1	2	0	6
Tuesday, 21 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	65	65	64	63	64	63	61	61	64	64
L _{av max}	81	86	-	-	80	83	77	-	-	81
No Events	2	1	0	0	1	3	1	0	0	8
Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	64	65	66	64	63	63	63	61	64	64
L _{av max}	81	-	-	79	84	78	84	77	84	81
No Events	1	0	0	1	1	1	3	4	3	14
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	64	64	65	64	62	62	60	61	62	63
L _{av max}	80	-	80	79	78	78	76	79	78	79
No Events	1	0	1	2	2	4	11	5	3	29
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	59	57	58	56	53	56	58	61	58
L _{av max}	75	76	74	75	75	70	73	74	-	74
No Events	9	8	8	13	9	16	14	9	0	86

Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	63	61	60	58	57	57	61	61	64	61
Lav max	80	77	77	75	74	73	76	76	-	76
No Events	2	9	4	16	13	15	6	3	0	68
Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	64	66	65	63	63	63	62	62	64	64
Lav max	79	82	80	80	78	81	79	79	80	80
No Events	1	1	1	2	3	1	4	3	1	17
Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	65	66	65	64	64	63	62	62	64	64
Lav max	-	85	-	80	91	88	78	79	80	83
No Events	0	2	0	2	1	1	4	3	1	14
Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	64	66	65	64	64	62	62	62	64	64
Lav max	84	-	81	-	86	-	79	78	-	82
No Events	1	0	3	0	1	0	3	3	0	11
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	64	64	64	64	61	62	60	60	62	62
Lav max	-	-	-	84	77	78	76	77	77	78
No Events	0	0	0	2	6	2	7	2	1	20
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	59	58	57	58	56	56	57	58	59	58
Lav max	-	75	73	75	74	73	73	-	75	74
No Events	0	10	18	10	12	12	7	0	1	70

Table I2 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 111

Monday, 20 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	60	60	60	60	58	60	56	56	61	59
L _{av max}	-	-	-	-	75	-	71	-	-	73
No Events	0	0	0	0	1	0	2	0	0	3
Tuesday, 21 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	60	60	58	58	59	58	57	55	57	58
L _{av max}	77	-	-	-	76	-	73	71	-	74
No Events	1	0	0	0	1	0	4	1	0	7
Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	55	55	55	56	56	55	57	54	62	57
L _{av max}	70	74	-	-	72	-	-	-	-	72
No Events	1	1	0	0	1	0	0	0	0	3
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	55	56	57	56	55	55	52	55	55	55
L _{av max}	72	-	-	-	71	72	68	-	71	71
No Events	3	0	0	0	2	4	5	0	1	15
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	52	53	51	54	50	47	62	51	54	55
L _{av max}	68	69	68	70	67	67	-	67	73	69
No Events	3	3	9	2	7	2	0	4	1	31
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	56	55	53	52	50	50	54	55	58	55
L _{av max}	72	72	70	68	66	67	70	73	-	70
No Events	2	2	4	9	7	6	1	1	0	32

Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	57	57	57	55	61	58	57	54	55	57
Lav max	73	-	-	71	-	-	72	70	-	72
No Events	1	0	0	1	0	0	1	1	0	4
Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	57	59	57	58	56	56	55	55	57	57
Lav max	-	-	-	-	75	-	75	-	-	75
No Events	0	0	0	0	1	0	1	0	0	2
Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	58	58	58	58	60	56	53	54	56	57
Lav max	-	-	-	73	-	-	69	-	72	71
No Events	0	0	0	1	0	0	1	0	4	6
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	56	57	57	58	54	56	54	54	55	56
Lav max	-	-	72	74	70	-	70	70	73	71
No Events	0	0	1	1	1	0	2	2	2	9
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	51	51	49	57	48	48	50	58	52	53
Lav max	-	66	66	-	68	66	66	-	-	67
No Events	0	6	6	0	2	4	5	0	0	23

Table I3 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 114

Tuesday, 21 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	60	57	56	57	56	56	53	57	57
L _{av max}	-	-	-	72	-	71	72	69	73	72
No Events	0	0	0	8	0	1	4	4	1	18
Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	51	51	52	53	53	53	55	51	56	53
L _{av max}	-	-	71	68	69	68	-	-	75	70
No Events	0	0	2	3	1	2	0	0	1	9
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	54	54	55	55	54	54	51	52	54	54
L _{av max}	70	73	71	71	70	70	68	-	70	70
No Events	1	2	1	2	1	1	4	0	10	22
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	51	52	50	51	49	45	61	50	54	54
L _{av max}	69	69	67	67	67	66	-	67	-	67
No Events	4	9	10	5	6	3	0	7	0	44
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	54	53	53	51	50	49	54	54	59	54
L _{av max}	70	70	70	68	66	66	69	72	75	70
No Events	3	8	4	12	12	5	5	3	1	53
Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	55	54	53	51	55	57	53	51	51	54
L _{av max}	72	71	69	-	-	-	-	69	69	70
No Events	1	1	1	0	0	0	0	4	5	12

Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	54	56	55	54	53	52	53	54	56	54
Lav max	-	-	-	70	69	-	72	69	76	71
No Events	0	0	0	1	2	0	1	2	1	7
Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	55	56	56	54	55	52	50	51	54	54
Lav max	71	-	-	-	-	67	-	71	71	70
No Events	1	0	0	0	0	1	0	3	2	7
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	53	56	55	56	52	53	52	52	53	54
Lav max	70	-	71	-	69	69	68	68	69	69
No Events	1	0	3	0	6	6	9	5	3	33
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	47	48	48	54	44	45	46	57	49	51
Lav max	-	67	66	-	-	66	-	-	67	67
No Events	0	3	3	0	0	2	0	0	8	16

Table I4 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 129

Monday, 20 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	63	64	63	63	62	63	60	60	63	62
L _{av max}	-	-	-	-	-	-	77	-	-	77
No Events	0	0	0	0	0	0	1	0	0	1
Tuesday, 21 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	63	64	63	61	62	61	60	60	62	62
L _{av max}	81	-	-	-	-	-	76	76	-	78
No Events	1	0	0	0	0	0	1	1	0	3
Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	63	62	62	61	61	59	63	62
L _{av max}	-	-	-	-	-	76	77	75	-	76
No Events	0	0	0	0	0	1	3	3	0	7
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	61	62	63	62	61	59	58	58	61	61
L _{av max}	-	78	-	-	76	74	74	74	-	75
No Events	0	1	0	0	1	3	5	1	0	11
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	58	55	58	54	51	62	55	58	57
L _{av max}	74	74	72	74	71	68	-	72	74	72
No Events	6	5	6	3	11	18	0	3	1	53
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	61	59	58	56	54	54	58	59	62	58
L _{av max}	-	75	73	72	71	72	74	75	-	73
No Events	0	8	5	5	6	8	5	2	0	39

Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	62	63	63	61	61	61	59	60	61	61
Lav max	-	-	-	79	-	-	75	78	-	77
No Events	0	0	0	1	0	0	2	3	0	6
Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	62	63	63	63	61	61	60	60	62	62
Lav max	-	-	-	-	78	-	75	-	-	76
No Events	0	0	0	0	1	0	2	0	0	3
Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	62	64	63	62	62	60	59	60	61	62
Lav max	78	-	-	-	-	-	-	76	-	77
No Events	2	0	0	0	0	0	0	1	0	3
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	61	62	61	61	59	60	59	59	59	60
Lav max	-	-	-	-	76	76	75	75	-	75
No Events	0	0	0	0	4	3	2	4	0	13
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	57	56	55	56	54	53	55	57	57	56
Lav max	-	73	71	73	71	70	71	-	72	72
No Events	0	3	9	3	11	8	4	0	2	40

Table 15 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 130

Tuesday, 21 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	58	59	58	56	57	56	54	54	56	57
Lav max	77	-	-	-	-	-	-	72	74	74
No Events	1	0	0	0	0	0	0	2	15	18
Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	57	57	58	56	56	56	55	53	57	56
Lav max	73	-	-	74	-	-	72	69	-	72
No Events	1	0	0	1	0	0	1	1	0	4
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	63	73	61	60	58	56	54	54	56	64
Lav max	-	-	-	-	-	74	-	74	74	74
No Events	0	0	0	0	0	2	0	2	16	20
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	60	53	51	56	50	46	62	51	55	56
Lav max	77	69	72	-	67	69	-	66	73	70
No Events	8	2	2	0	9	3	0	1	14	39
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	57	55	54	52	50	49	54	56	57	54
Lav max	72	72	69	68	66	66	70	71	77	70
No Events	1	4	1	3	5	3	1	4	3	25
Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	58	60	59	58	57	58	56	58	57	58
Lav max	-	-	-	77	-	73	80	-	-	77
No Events	0	0	0	1	0	1	1	0	0	3

Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	59	60	59	59	58	58	56	56	58	58
Lav max	-	76	-	-	80	74	76	-	-	76
No Events	0	1	0	0	2	2	2	0	0	7
Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	59	60	59	58	58	55	56	56	58	58
Lav max	-	77	74	-	75	71	-	77	75	75
No Events	0	2	3	0	1	1	0	1	10	18
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	58	59	58	58	55	56	55	55	55	57
Lav max	-	75	75	-	74	74	71	74	74	74
No Events	0	1	1	0	2	3	5	1	6	19
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	51	52	51	53	50	48	51	53	56	52
Lav max	-	70	67	70	67	66	68	-	74	69
No Events	0	2	5	7	9	2	1	0	15	41

Table I6 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 132

Tuesday, 21 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	62	60	61	60	60	58	60	61
L _{av max}	82	80	78	-	-	82	-	75	76	79
No Events	1	1	1	0	0	2	0	6	1	12
Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	63	62	60	60	62	58	64	62
L _{av max}	79	79	-	78	-	76	82	74	-	78
No Events	2	1	0	1	0	1	4	3	0	12
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	62	62	61	60	59	57	58	59	60
L _{av max}	79	80	-	77	-	75	73	81	78	78
No Events	2	3	0	1	0	3	2	2	3	16
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	56	56	53	57	52	49	61	53	55	56
L _{av max}	73	73	69	79	69	68	-	69	72	71
No Events	8	5	9	4	9	6	0	4	3	48
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	57	56	55	53	52	57	56	60	57
L _{av max}	75	73	73	71	70	69	74	72	-	72
No Events	1	8	5	6	7	11	1	5	0	44
Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	62	61	63	61	59	60	59	61
L _{av max}	79	-	-	79	-	80	82	86	-	81
No Events	1	0	0	1	0	4	3	1	0	10

Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _A eq	61	63	62	62	60	61	59	59	60	61
Lav max	-	79	77	-	76	78	78	-	-	78
No Events	0	3	1	0	1	2	2	0	0	9
Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _A eq	62	63	62	61	62	61	59	58	60	61
Lav max	-	81	80	77	82	-	75	79	-	79
No Events	0	2	1	1	3	0	4	1	0	12
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _A eq	60	61	60	60	58	59	57	57	57	59
Lav max	-	80	79	77	76	77	74	-	73	77
No Events	0	2	1	2	3	2	4	0	1	15
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _A eq	54	55	54	55	52	51	52	60	54	55
Lav max	-	71	69	72	70	68	69	-	72	70
No Events	0	7	10	3	12	11	3	0	8	54

Table I7 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 139

Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	60	60	60	58	57	57	57	56	59	59
L _{av max}	-	-	-	-	73	72	73	72	78	74
No Events	0	0	0	0	1	1	2	3	1	8
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	59	59	58	57	55	54	54	56	57
L _{av max}	-	-	-	73	73	74	70	70	73	72
No Events	0	0	0	1	5	2	4	5	2	19
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	54	54	51	53	50	48	52	51	54	52
L _{av max}	70	70	68	69	67	67	70	68	70	69
No Events	6	6	2	5	6	7	10	4	3	49
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	55	54	53	51	51	55	55	58	55
L _{av max}	73	72	70	69	69	68	71	72	-	70
No Events	2	7	3	3	5	11	6	1	0	38
Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	60	59	58	58	57	55	57	59	58
L _{av max}	76	-	-	74	-	-	71	73	76	74
No Events	2	0	0	4	0	0	2	1	1	10
Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	60	60	59	59	58	57	56	56	59	58
L _{av max}	-	-	-	-	73	76	71	-	84	76
No Events	0	0	0	0	1	1	1	0	2	5

Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	60	59	58	58	56	56	57	59	58
L _{av max}	-	-	75	74	-	-	72	72	74	73
No Events	0	0	1	1	0	0	3	2	1	8
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	58	59	58	58	55	57	54	56	57	57
L _{av max}	-	75	-	75	71	-	71	71	75	73
No Events	0	1	0	2	3	0	3	1	1	11
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	54	54	53	50	51	50	53	53	54	53
L _{av max}	-	70	69	67	68	66	69	-	70	68
No Events	0	1	7	5	7	4	3	0	2	29

Table I8 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 146

Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	48	48	49	47	46	46	46	44	50	48
L _{av max}	67	-	67	67	-	-	-	-	67	67
No Events	1	0	1	1	0	0	0	0	4	7
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	52	51	50	52	51	49	48	47	49	50
L _{av max}	68	71	-	68	-	67	-	-	68	68
No Events	5	4	0	3	0	2	0	0	1	15
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	43	47	41	47	41	38	42	42	46	44
L _{av max}	-	-	-	-	-	-	-	-	67	67
No Events	0	0	0	0	0	0	0	0	2	2
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	47	46	44	43	42	41	44	46	50	46
L _{av max}	-	70	-	-	-	-	67	-	67	68
No Events	0	2	0	0	0	0	1	0	3	6
Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	48	49	49	48	47	47	46	45	48	48
L _{av max}	72	69	72	68	65	-	68	-	67	69
No Events	1	1	2	2	1	0	1	0	4	12
Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	48	49	49	48	48	47	48	51	50	49
L _{av max}	-	-	-	-	-	-	69	77	67	71
No Events	0	0	0	0	0	0	12	5	7	24

Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	49	49	51	48	48	46	48	46	49	48
Lav max	67	65	74	66	-	-	69	-	67	68
No Events	3	1	8	1	0	0	5	0	3	21
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	47	48	48	47	45	46	44	44	46	46
Lav max	-	-	68	-	67	-	-	-	66	67
No Events	0	0	1	0	1	0	0	0	1	3
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
LAeq	40	40	40	38	38	38	41	39	45	41
Lav max	-	-	-	72	-	-	-	-	-	72
No Events	0	0	0	1	0	0	0	0	0	1

Table 19 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 152

Tuesday, 21 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	59	59	57	58	57	55	55	57	57
L _{av max}	79	-	77	74	74	77	71	74	76	75
No Events	1	0	1	1	2	3	2	2	3	15
Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	59	59	57	57	56	57	54	61	58
L _{av max}	75	-	75	76	75	72	73	70	-	74
No Events	2	0	1	2	4	2	8	2	0	21
Friday, 24 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	59	59	58	57	56	55	53	56	57
L _{av max}	77	74	75	75	-	75	72	69	73	74
No Events	2	2	1	2	0	2	2	6	3	20
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	53	52	49	52	49	46	49	50	54	51
L _{av max}	69	69	67	69	68	68	66	67	73	69
No Events	7	11	5	13	5	2	5	6	11	65
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	56	54	54	51	50	50	53	54	63	56
L _{av max}	73	70	73	68	68	67	69	70	86	72
No Events	3	6	3	11	8	12	5	1	3	52
Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	59	59	59	57	57	57	56	56	65	59
L _{av max}	-	76	77	73	73	75	74	73	-	75
No Events	0	2	4	3	1	2	6	2	0	20

Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _A eq	59	60	59	58	58	56	55	55	64	59
Lav max	-	76	75	75	76	75	73	73	-	75
No Events	0	3	2	2	5	2	3	2	0	19
Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _A eq	59	59	59	58	58	56	56	56	58	58
Lav max	76	77	78	74	74	-	74	73	75	75
No Events	2	1	3	2	6	0	3	6	2	25
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _A eq	57	58	58	58	55	56	54	54	59	57
Lav max	-	73	75	75	71	72	69	71	-	72
No Events	0	2	2	4	6	3	8	2	0	27
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _A eq	52	52	51	49	50	48	51	51	53	51
Lav max	68	68	68	68	68	67	68	68	70	68
No Events	4	13	13	6	10	8	8	6	2	70

Table I10 – Summary of Maximum Noise Levels along Existing Pacific Highway for Receiver ID 666

Monday, 20 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	62	63	62	61	62	59	60	61	62
L _{av max}	-	-	-	-	-	-	75	75	-	75
No Events	0	0	0	0	0	0	1	2	0	3
Tuesday, 21 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	62	62	62	61	60	60	61	62
L _{av max}	-	-	-	-	-	-	-	-	-	-
No Events	0	0	0	0	0	0	0	0	0	0
Wednesday, 22 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	63	62	62	60	61	59	61	62
L _{av max}	-	-	-	-	-	75	-	-	-	75
No Events	0	0	0	0	0	1	0	0	0	1
Saturday, 25 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	58	55	56	56	52	53	55	58	56
L _{av max}	73	75	72	72	73	69	69	71	73	72
No Events	1	4	7	7	12	9	8	4	1	53
Sunday, 26 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	60	59	58	57	55	55	58	59	62	59
L _{av max}	76	75	76	73	72	72	73	75	-	74
No Events	1	3	2	11	11	7	2	1	0	38
Tuesday, 28 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	63	62	62	62	60	59	62	62
L _{av max}	-	-	-	-	-	-	-	-	-	-
No Events	0	0	0	0	0	0	0	0	0	0

Wednesday, 29 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	63	62	62	62	61	61	62	62
L _{av max}	-	-	-	-	-	78	-	-	-	78
No Events	0	0	0	0	0	1	0	0	0	1
Thursday, 30 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	62	63	62	63	63	61	60	60	62	62
L _{av max}	-	-	-	-	-	-	-	-	-	-
No Events	0	0	0	0	0	0	0	0	0	0
Friday, 31 May 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	61	62	62	61	60	59	58	59	60	60
L _{av max}	-	-	-	-	75	-	74	-	-	74
No Events	0	0	0	0	2	0	3	0	0	5
Saturday, 1 June 2013										
	10pm – 11pm	11pm – 12am	12am – 1am	1am – 2am	2am – 3am	3am – 4am	4am – 5am	5am – 6am	6am – 7am	Total
L _{Aeq}	57	56	54	54	54	53	53	53	53	54
L _{av max}	-	72	70	71	71	70	70	-	-	71
No Events	0	7	10	7	6	9	10	0	0	49

APPENDIX J - EXISTING PACIFIC HIGHWAY PAVEMENT TYPE

Table J1 – Existing Pacific Highway Pavement Type

ROAN	Segment Number	Chainage from Kempsey		Chainage for Project		Reseal Year	Current Reseal Aggregate Size	Segment History
		Start	Finish	Start	Finish			
-	-	41.77	42.82	0.0	1.1	-	-	unknown
10	2290	42.82	43.18	1.1	1.4	2009	14	Ycon 1996. AC10 1998. Crack sealed 2004. 14mm CR 2009.
10	2295	43.18	43.3	1.4	1.5	2005	10	Ycon 1968. 10mm FS 2005.
10	2300	43.3	44.98	1.5	3.2	2009	14	Ycon 1965. 10mm FS 2004. 14/7 CR 2009.
10	2310	44.98	46.48	3.2	4.7	2008	14	Ycon 1980. 10mm FS 1995. 14mm CR 2008.
10	2320	46.48	47.57	4.7	5.8	2008	14	Ycon 1971. 7mm FS 1995. 14mm CR 2008. DG AC14 Crouches Creek Bridge 2011.
10	2325	47.57	48.57	5.8	6.8	2003	14	Ycon 2003 - 14/7mm GS.
10	2327	48.57	48.81	6.8	7.0	1999	14	Ycon 1971. 14mm DG AC 1999 .
10	2330	48.81	50.44	7.0	8.7	2008	14	Ycon 1974. 14mm FS 1999 . DG AC14 (1400m to 1630m) 2005. 14mm CR 2008.
10	2340	50.44	52.01	8.7	10.2	2008	14	Ycon 1962. 14mm FS 1999. DG AC14 1420m - 1570m 2008. 14mm CR 2008.
10	2350	52.01	52.83	10.2	11.1	2008	14	Ycon 1992 - DG AC14. DG AC14 450m - 816m 2004. DG AC14 0m - 450m 2008.
10	2355	52.83	53.04	11.1	11.3			Ycon 1931. Concrete 1999.
10	2360	53.04	54.38	11.3	12.6	1999	14	Ycon 1987. DG AC14 1999. Diamond grinding 0m to 230m 2012.
10	2365	54.37	54.49	12.6	12.7	1999	14	Ycon 1974. DG AC14 1999.
10	2370	54.49	55.94	12.7	14.2	2009	14	Ycon 1997. DG AC14 1999. 14/7mm CR 2009. DG AC10 (790m to 1100m) 2012. WB 2012.
10	2380	55.94	57.06	14.2	15.3	2009	14	Ycon 1964. DG AC14 1999. 70m - 320m 7mm FS 2005 (champions ln). 14/7mm CR 2009. WB 2012
10	2385	57.06	57.71	15.3	15.9	2005	14	Ycon 2005 - 14mm SMA.
10	2390	57.71	58.93	15.9	17.2	2009	14	Ycon 1988. DG AC14 2002. DG AC14 (60m to 110m for speed camera) 14/7mm CR 2009. WB 2012.
10	2400	58.93	60.35	17.2	18.6	2013	14	Ycon 1994 - DG AC14. (Open Grade north of Watts Creek). 7mm FS & 14mm DG AC 840m - 1420m 2009. 7mm (0m to 840m) 2012. 14/7mm DD poly (0m to 840m) 2013.
10	2410	60.35	62.23	18.6	20.5	2010	7	Ycon 1964. 14mm FS 1997. Rehab 1580m - 1880m 2005. Waterblasting 2007. 14mm Poly 2008. 7mm poly 2010.
10	2420	62.23	63.04	20.5	21.3	2010	14	Ycon 1973. 40mm DG AC14 2003. 0m - 360m DG AC14 NB lane 2007. AC on approach to Teagues ck 2009. DG AC14 360m - 810m 2010.

APPENDIX K - AT-PROPERTY TREATMENT FIGURES


















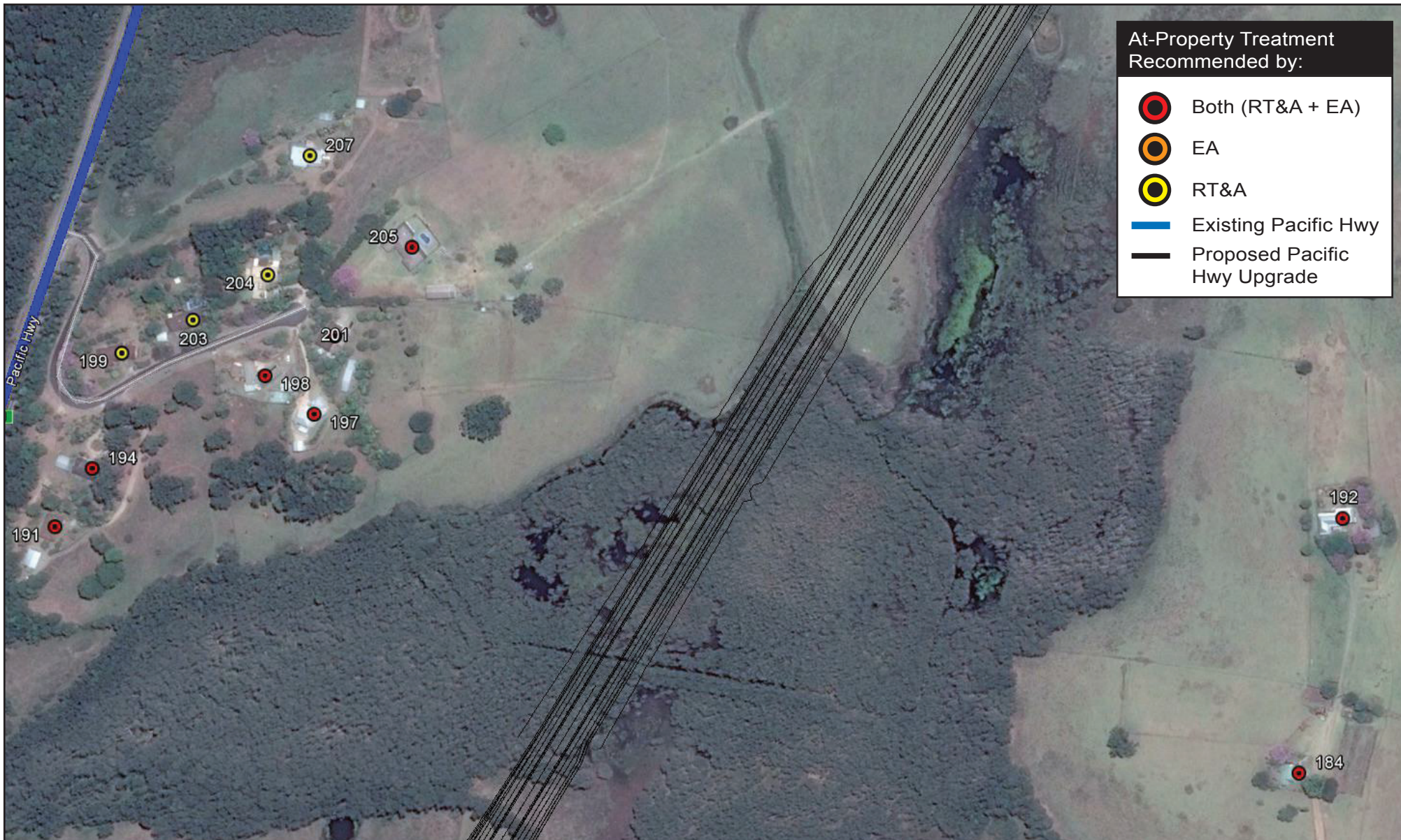


At-Property Treatment
Recommended by:

-  Both (RT&A + EA)
-  EA
-  RT&A
-  Existing Pacific Hwy
-  Proposed Pacific Hwy Upgrade












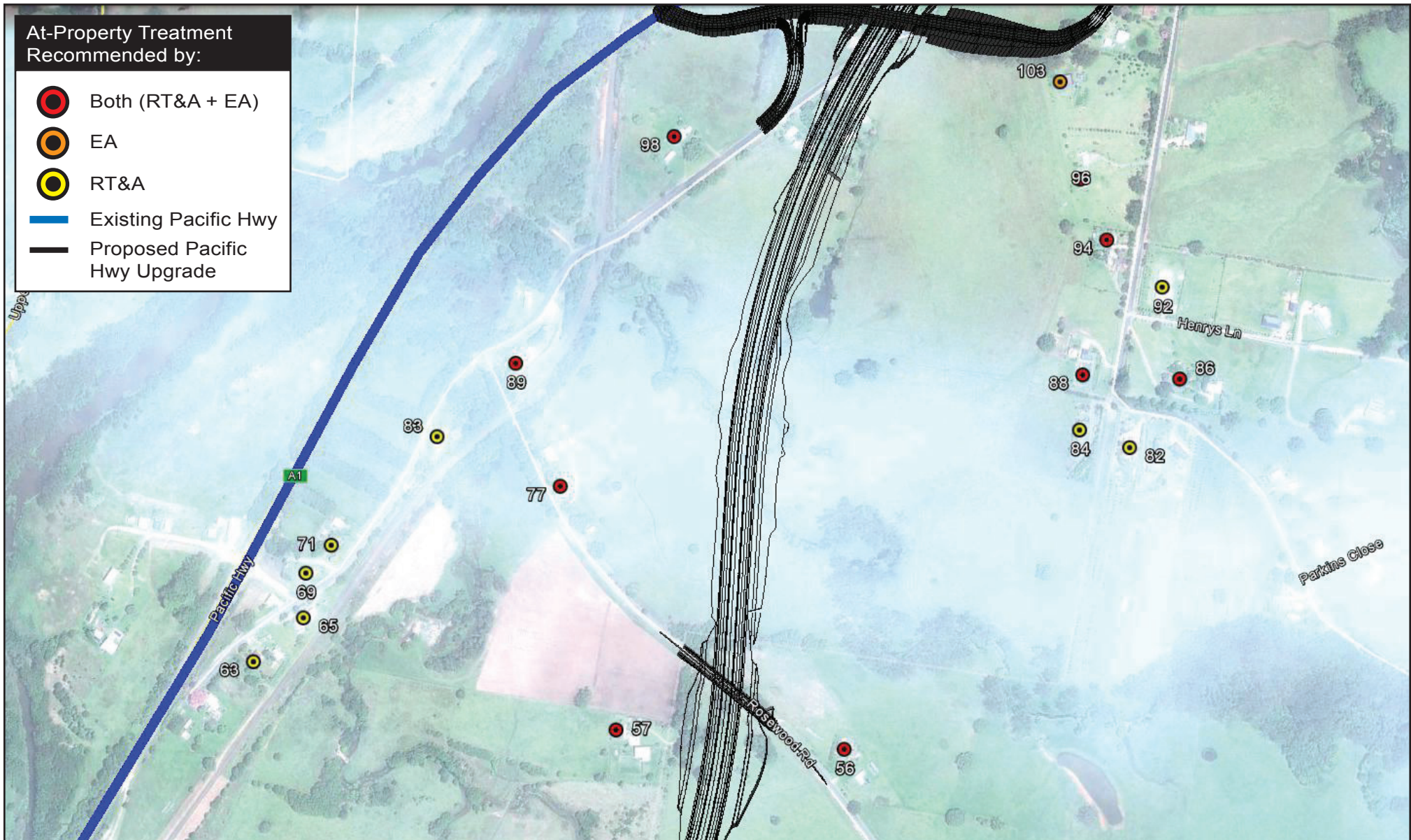


At-Property Treatment Recommended by:

-  Both (RT&A + EA)
-  EA
-  RT&A
-  Existing Pacific Hwy
-  Proposed Pacific Hwy Upgrade











APPENDIX L - ENMM PRAC NOTE IV BARRIER ASSESSMENT – NAMBUCCA RIVER BRIDGE

Name of NCA	WC2NH - NAMBUCCA RIVER BRIDGE BARRIER
Location of NCA	Western side of Upgrade, North & South of River

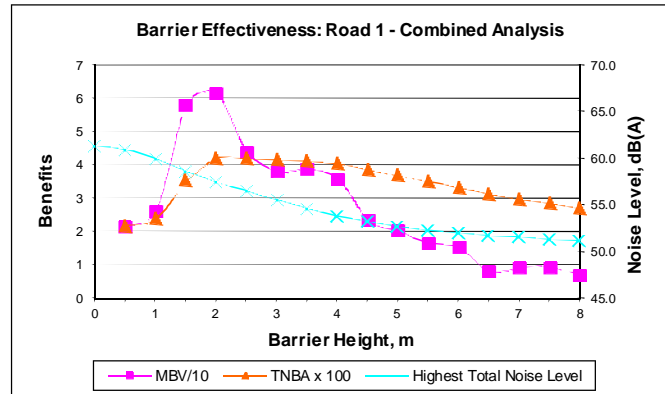
Input Parameters	Segment 1	Segment 2	Segment 3
Number of dwellings affected	6	23	13
ECRTN Target Noise Level	50	50	50
Lowest Total Predicted Future Noise Level (no barrier)	55.7	50.9	48.6
Highest Total Predicted Future Noise Level (no barrier)	61.4	55.6	52.3

Priority	Noise source	Barrier Required?	Barrier Length
Enter loudest source first		Enter 1 for 'Yes	(m)
Road 1	Upgrade	1	1000
No. of noise barriers required		1	

Noise Levels for Increasing Barrier Heights

Barrier Height	Upgrade		
	Segment 1	Segment 2	Segment 3
0	61.4	55.6	52.3
0.5	61.0	55.4	52.0
1	60.0	55.2	51.8
1.5	58.7	54.5	51.4
2	57.5	53.7	51.0
2.5	56.6	53.2	50.6
3	55.6	52.8	50.3
3.5	54.7	52.3	50.1
4	53.9	51.9	49.8
4.5	53.3	51.6	49.7
5	52.8	51.4	49.5
5.5	52.4	51.2	49.4
6	52.1	51.0	49.3
6.5	51.8	50.9	49.3
7	51.6	50.8	49.2
7.5	51.4	50.7	49.1
8	51.2	50.6	49.1

Determining ABO based on MBV Curves



Barrier Insertion Loss (IL) Analysis

	Barrier Height (m)	IL (dB)	IL and/or Visually Acceptable?
Target Barrier Option (TB)	Over 8m	N/A	No
Assessed Barrier Option (AB)	2	3.9	No

- * Target Barrier is not feasible due to visually unacceptable
- * Assessed Barrier is not feasible due to low insertion loss
- * Architectural treatments should be considered