

PRINCES HIGHWAY UPGRADE BERRY TO BOMADERRY

Post Construction Noise Assessment

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Arcadis

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Executive summary

The 10.3 kilometre section of the Princes Highway between Mullers Lane, Berry and Cambewarra Road, Bomaderry in New South Wales (NSW) was upgraded to provide a four-lane divided highway (two lanes in each direction) with median separation.

The subject project is one part of a series of upgrades to the Princes Highway which aims to provide a four-lane divided highway between the suburb of Waterfall and the town of Falls Creek in NSW for the purpose of improving road safety and traffic efficiency (including freight vehicles) along the NSW South Coast.

An REF of the concept design for the project was prepared by AECOM in November 2013 which assessed the impacts of operational traffic noise as well as construction noise and vibration. Following planning approval in March 2014, Arcadis Australia Pacific Pty Ltd (Arcadis) was engaged to complete the detailed design of the project.

During the detailed design phase of the project, Renzo Tonin & Associates prepared a detailed design report (reference: TH136-01F06 (r9) Detailed Design Noise and Vibration Review, dated 25 November 2016) to supplement and amend the noise and vibration impact assessment undertaken for the REF. The review involved predictive noise modelling to determine the likely road traffic noise impacts from the project to noise sensitive receivers. The results of the noise modelling and updated noise mitigation measures (where required) were presented in the detailed design report.

Noise criteria

The operational noise requirements of the Princes Highway Berry to Bomaderry upgrades were developed in accordance with NSW EPA's 'Road Noise Policy' (RNP) and the Transport for NSW 'Noise Criteria Guideline' (NCG), 'Noise Mitigation Guideline' (NMG) and 'Procedure: Preparing a Post Construction Noise Assessment Report' (PPCNAR).

Noise and traffic monitoring

Long-term unattended traffic noise monitoring was carried out at 15 locations near the subject Berry to Bomaderry Princes Highway upgrade from 13 June to 26 June 2023. The long-term noise monitoring was supplemented by short-term attended noise measurements conducted during the installation of the unattended noise loggers.

The noise measurements were conducted in conjunction with traffic counting surveys at four locations along Princes Highway and one location on Meroo Road, Meroo Meadows (between Fletchers Lane and the Meroo Road interchange).

In addition to the concurrent noise monitoring and traffic counting surveys, RONDA (ROad Noise Data Acquirer) measurements were undertaken along the main carriageways of the Princes Highway to confirm the noise performance of the new road surface.

This report presents the result of this noise and traffic monitoring which have been processed in accordance with the procedures set out in the RNP.

Noise modelling and mitigation review

Road traffic noise levels for the Berry to Bomaderry Princes Highway upgrade were calculated based on the Calculation of Road Traffic Noise (CoRTN) prediction algorithms using the validated as-built post construction noise model and forecast traffic volumes presented in the detailed design report. Scenarios modelled for the post construction noise assessment include the 'Year of Opening' (2019) and 'Design Year' (2029) for both day and night-time periods.

Road traffic noise levels determined by the post construction model were compared against the predicted road traffic noise levels determined during the pre-construction phase (contained in the detailed design report).

The RONDA measurements found the Stone Mastic Asphalt (SMA) pavement surface used for the main carriageways of the Princes Highway upgrade to have a lower acoustic performance than the typical road pavement correction of -2dB considered in the detailed design report. However during the model validation, the noise model was still found to be slightly conservative (predicting higher than the measured levels), and therefore a calibration factor was applied to the post construction noise levels to better align the model results with the measured results.

With respect to the New Lifestyle Village, the detailed design report investigated the option of implementing a barrier along a portion of the western residential boundary to provide shielding of road traffic noise from the Princes Highway. At the time of the detailed design assessment, it was determined that the barrier was not a feasible option. Therefore, the pre-construction road traffic noise predictions did not consider barrier attenuation to these receivers.

However, the as-built construction of the Berry to Bomaderry Princes Highway upgrade includes this barrier, as it was found to be reasonable and feasible to build. As a result of this additional acoustic shielding, the predicted traffic noise levels at receivers behind the barrier were found to be up to 9.6dB(A) less than the detailed design results.

Conclusion

A comparison of the road traffic noise levels from the post construction model against the previously determined pre-construction traffic noise levels presented in the detailed design report found an average difference of +0.8dB (primarily due to the SMA pavement along the Princes Highway main carriageways having a lower acoustic performance than that considered in the detailed design report).

At all receivers, differences between the post and pre-construction traffic noise levels were determined to be less than +2dB(A) for both the 2019 opening year and 2029 design year, and deemed to comply with the design objectives as outlined in the RNP.

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1 Introduction

1.1 Project description

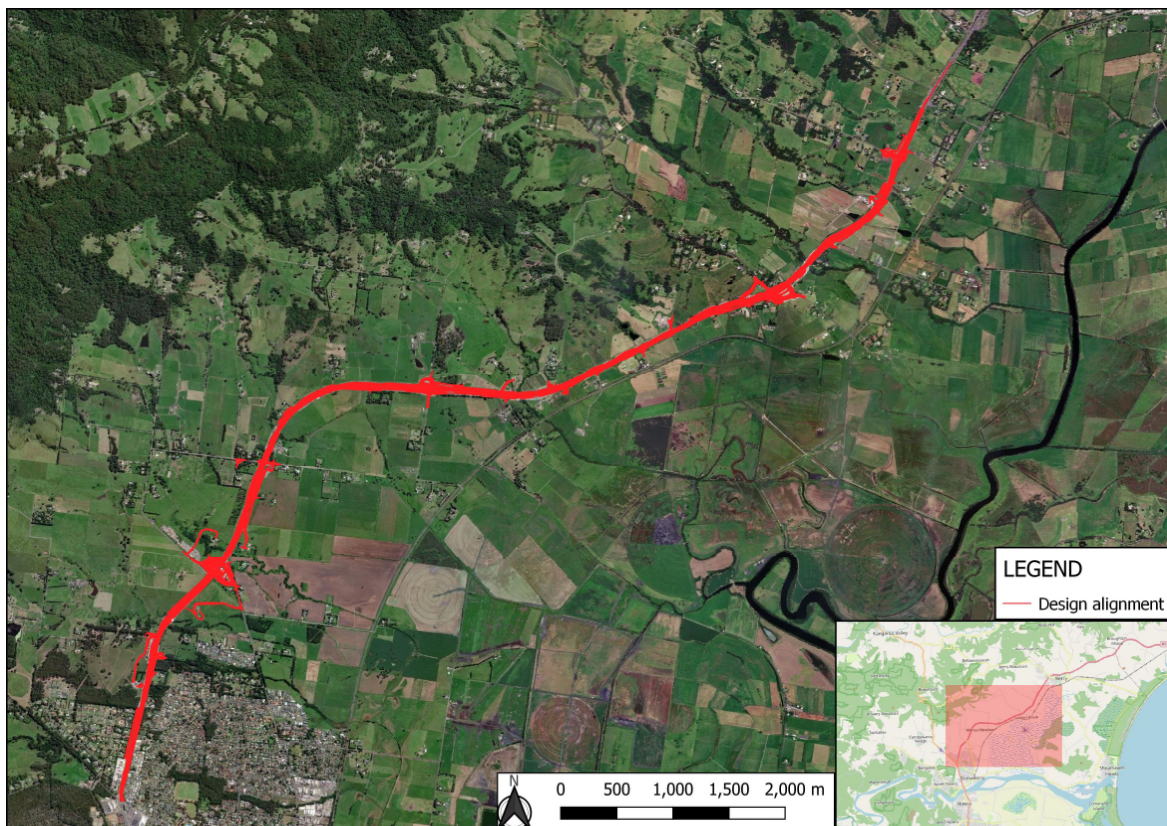
The 10.3 kilometre section of the Princes Highway between Mullers Lane, Berry and Cambewarra Road, Bomaderry in New South Wales (NSW) was upgraded to provide a four-lane divided highway (two lanes in each direction) with median separation.

The subject project is one part of a series of upgrades to the Princes Highway which aims to provide a four-lane divided highway between the suburb of Waterfall and the town of Falls Creek in NSW for the purpose of improving road safety and traffic efficiency (including freight vehicles) along the NSW South Coast.

An REF of the concept design for the project was prepared by AECOM in November 2013 which assessed the impacts of operational traffic noise as well as construction noise and vibration. Following planning approval in March 2014, Arcadis Australia Pacific Pty Ltd (Arcadis) was engaged to complete the detailed design of the project.

Figure 1.1 illustrate the project site and immediate surrounding area.

Figure 1.1: Project and surrounding area



1.2 Purpose and objectives

The purpose of this report is to review traffic noise levels from the Berry to Bomaderry Princes Highway upgrade and compare them against the predicted noise levels from the detailed design report (reference: TH136-01F06 (r9) Detailed Design Noise and Vibration Review, dated 25 November 2016) to assess the adequacy of the recommended and applied road traffic noise mitigation measures.

1.3 Process for assessment

The post construction noise assessment (PCNA) process used in this report is summarised as follows:

1. Measurement of traffic noise at representative noise sensitive receivers in proximity to the project. This includes long-term unattended noise monitoring at 15 locations as well as short-term attended noise measurements conducted during the installation of the unattended noise loggers. The noise measurements were conducted in conjunction with traffic counting surveys at four locations along Princes Highway and one location on Meroo Road, Meroo Meadors (between Fletchers Lane and the Meroo Road interchange).
2. The noise model that was developed during the detailed design stage to predict traffic noise impacts from the project was updated with the as-built road design and validated.
3. Evaluation of compliance against the NSW 'Road Noise Policy' (RNP).
4. Evaluation of the mitigation measures determined during the detailed design stage in accordance with the Transport for NSW's 'Procedure: Preparing a Post Construction Noise Assessment Report' (PPCNAR) and 'Noise Model Validation Guideline'.

Where operational traffic noise levels are found to be greater than the traffic noise levels predicted from the detailed design model by more than 2dB(A), then the following steps are carried out:

1. An examination of the prediction methodology.
2. A review of the suitability and adequacy of the installed noise mitigation measures.
3. An assessment of additional feasible and reasonable mitigation measures at those locations.

The PPCNAR requires the assessment and measurement of road traffic noise before and after opening the project, and the prediction of traffic noise levels 10 years after opening. The detailed design report was prepared using an opening year of 2019 and a design year of 2029 (ie. 10 years after opening).

The assessment has been carried out with reference to the following documents:

- NSW Road Noise Policy (RNP), NSW EPA, March 2011
- Noise Criteria Guideline (NCG), NSW Roads and Maritime Services, April 2015
- Noise Mitigation Guideline (NMG), NSW Roads and Maritime Services, April 2015
- Procedure: Preparing a Post Construction Noise Assessment Report (PPCNAR), NSW Roads and Maritime Services, June 2014

- Australian Standards AS 2702 'Acoustics – Methods for the Measurement of Road Traffic Noise'
- Noise Model Validation Guideline, Transport for NSW, 2022
- Princes Highway Upgrade Berry to Bomaderry – Detailed Design Report, Renzo Tonin & Associates, November 2016

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. APPENDIX A contains a glossary of acoustic terms used in this report.

2 Environmental and legal obligations

2.1 Project noise level objectives

During the detailed design stage of the project, traffic noise level objectives were established as per the RNP. Other relevant environmental documents for the project (outlined in Section 1.3) were also considered during the development of the operational noise mitigation measures.

The roads which form the project are as follows:

- Princes Highway between Mullers Lane (south of Berry) and Cambewarra Road, Bomaderry
- Meroo Road interchange ramps

Under the RNP, these project roads are classified as freeway, arterial roads and sub-arterial roads as Princes Highway supports major regional traffic movement, while the Meroo Road interchange ramps provide connection between Princes Highway and local roads.

Based on the RNP and NCG definitions, the project is considered to be a road redevelopment as the project involved widening of the existing road corridor without any substantial realignment, or changes to road classifications.

At the following locations intersections between the road project and existing roads (where receivers are exposed to noise from a redeveloped road and existing road), 'transition zones' were established in accordance with the NCG:

- Princes Highway and Cambewarra Road junction
- Northern end of the project where the project road ties into the existing Princes Highway
- Princes Highway at the Meroo Road interchange

The purpose of this post construction noise assessment is to confirm that the as-built road performs acoustically as designed during the detailed design stage of the project. Therefore, the traffic noise level objectives presented in the following sections, as established during the detailed design stage and presented in the detailed design report, have not changed.

2.1.1 Residential land uses

The relevant noise criteria from the NCG with respect to residential receivers impacted by the project are summarised in Table 2-1.

Table 2-1: NCG criteria for residential receiver

Road category	Type of Project/land use	Assessment criteria dB(A)	
		Daytime (7am – 10pm)	Night-time (10pm – 7am)
Freeway/ arterial/ sub-arterial roads	1. Existing residences affected by noise from new freeway/arterial/sub-arterial road corridors	L _{Aeq(15hr)} 55 (external)	L _{Aeq(9hr)} 50 (external)
	2. Existing residences affected by noise from redevelopment of existing freeway/arterial/sub-arterial roads	L _{Aeq(15hr)} 60 (external)	L _{Aeq(9hr)} 55 (external)
	3. Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments		
	4. Existing residences affect by both new roads and the redevelopment of existing freeway/arterial/sub-arterial roads in a Transition Zone ¹	Between L _{Aeq(15hr)} 55-60 (external)	Between L _{Aeq(9hr)} 50-55 (external)
	5. Existing residences affected by increases in traffic noise of 12dB(A) or more from existing freeway/arterial/sub-arterial roads ²	Between L _{Aeq(15hr)} 42-55 (external)	Between L _{Aeq(9hr)} 42-50 (external)
	6. Existing residences affected by increases in traffic noise of 12dB(A) or more from redevelopment of existing freeway/arterial/sub-arterial roads ²	Between L _{Aeq(15hr)} 42-60 (external)	Between L _{Aeq(9hr)} 42-55 (external)

Notes

1. The criteria assigned to the entire residence depend on the proportion of noise from the new and redeveloped road. See the NCG for further information.
2. The criteria at each facade are determined from the existing traffic noise level plus 12dB(A).

2.1.2 Relative increase criteria

A large increase of road traffic noise can result in a major change to the acoustic environment for a location. Under Section 8 of the NCG and Section 2.4 of the RNP, this is assessed under the 'Relative Increase Criterion' (RIC). The purpose of the RIC is to recognise the potential for such changes and provide a means to assess and mitigate for this type of noise impact.

The RIC is to be applied external to existing residential receivers impacted by the project. The RIC, as set out in the NCG and RNP applicable to the project, is reproduced in Table 2-2.

Table 2-2: Relative increase criteria

Type of development	Total traffic noise level increase, dB(A)
Redevelopment of existing road	Existing Traffic L _{Aeq,period} + 12dB (external)

Note: 'Existing traffic' refers to the traffic noise levels for the relevant 'no build' scenario

2.1.3 Sensitive land use developments

The NCG and RNP sets criteria for the assessment of traffic noise on non-residential sensitive land uses such as schools, hospitals, places of worship and recreation areas. Given that there are non-residential sensitive land uses impacted by the traffic noise from the project, the relevant criteria are presented in Table 2-3.

Table 2-3: NCG criteria for non-residential sensitive land uses

Existing sensitive land use	Assessment criteria, dB(A)		Additional considerations
	Day (7am to 10pm)	Night (10pm to 7am)	
School classrooms	L _{Aeq(1hr)} 40 (internal) when in use	-	In the case of buildings used for education or health care, noise level criteria for spaces other than classrooms and wards may be obtained by interpolation from the 'maximum' levels shown in Australian Standard 2017:2000 (Standards Australia 2000)
Hospital wards	L _{Aeq(1hr)} 35 (internal)	L _{Aeq(1hr)} 35 (internal)	
Places of worship	L _{Aeq(1hr)} 40 (internal)	L _{Aeq(1hr)} 40 (internal)	<p>The criteria are internal, i.e. the inside of a church. Areas outside the place of worship, such as a churchyard or cemetery, may also be a place of worship. Therefore, in determining appropriate criteria for such external areas, it should be established what in these areas may be affected by road traffic noise.</p> <p>For example, if there is a church car park between a church and the road, compliance with the internal criteria inside the church may be sufficient. If, however, there are areas between the church and the road where outdoor services may take place such as weddings and funerals, external criteria for these areas are appropriate. As issues such as speech intelligibility may be a consideration in these cases, the passive recreation criteria (see point 5) may be applied.</p>
Open space (active use)	L _{Aeq(15hr)} 60 (external) when in use	-	Active recreation is characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion.
Open space (passive use)	L _{Aeq(15hr)} 55 (external) when in use	-	<p>Passive recreation is characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, e.g. playing chess, reading.</p> <p>In determining whether areas are suited for active or passive recreation, the type of activity that occurs in that area and its sensitivity to noise intrusion should be established. For areas where there may be a mix of passive and active recreation, e.g. school playgrounds, the more stringent criteria apply. Open space may also be used as a buffer zone for more sensitive land uses.</p>
Isolated residences in commercial or industrial zones	-	-	For isolated residences in industrial or commercial zones, the external ambient noise levels can be higher than those in residential areas. Internal noise levels in such residences are likely to be more appropriate in assessing any road traffic noise impacts, and the proponent should determine suitable internal noise level targets, taking guidance from Australian Standard 2107:2000 (Standards Australia 2000)

Existing sensitive land use	Assessment criteria, dB(A)		Additional considerations
	Day (7am to 10pm)	Night (10pm to 7am)	
Mixed use development	-	-	Each component of use in a mixed use development should be considered separately. For example, in a mixed use development containing residences and a childcare facility, the residential component should be assessed against the appropriate criteria for residences, and the childcare component should be assessed against the childcare criteria below.
Childcare facilities	Sleeping rooms $L_{Aeq(1hr)}$ 35 (internal) Indoor play areas $L_{Aeq(1hr)}$ 40 (internal) Outdoor play areas $L_{Aeq(1hr)}$ 55 (external)	-	Multi-purpose spaces, e.g. shared indoor play/sleeping rooms should meet the lower of the respective criteria. Measurements for sleeping rooms should be taken during designated sleeping times for the facility, or if these are not known, during the highest hourly traffic noise level during the opening hours of the facility.
Aged care facilities	-	-	Residential land use noise assessment criteria should be applied to these facilities.

Notes: Land use developers must meet internal noise goals in the Infrastructure SEPP (Department of Planning NSW 2007) for sensitive developments near busy roads.

For sensitive land uses such as schools, hospitals, places of worship and childcare centres the criteria are applicable to internal areas. 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, where noise goals are internal, a 10dB(A) reduction from external noise levels to internal noise levels was conservatively adopted to allow an external assessment.

3 Project noise mitigation measures

The noise mitigation measures considered/implemented on the project to reduce noise impacts to the receivers are summarised below:

- Low noise pavement surfaces
- Noise barriers
- At-property noise control treatments

3.1 Low noise pavements

Given the high traffic speeds and free-flowing traffic along the Princes Highway, the main carriageways of the Princes Highway were paved with Stone Mastic Asphalt (SMA), which was considered a low noise pavement. For noise modelling purposes, the detailed design report considered a typical correction factor of -2dB(A) for the use of SMA (when compared against reference dense grade asphalt which has a pavement surface correction of 0dB).

To confirm the acoustic benefit of the SMA used to pave the project roads, Section 6 details the road surface noise measurements that were undertaken along the main carriageways of the Princes Highway.

Due to the slower traffic speeds at the Meroo Road interchange, the detailed design report found the use of quiet pavement along the surface roads of the Meroo Road interchange does not provide any significant acoustic benefit. Therefore, the ramps and bridges of the Meroo Road interchange utilise dense grade asphalt (DGA).

3.2 Noise barriers

Noise barriers are considered reasonable and feasible where residences are closely grouped, the barriers do not cause access difficulties to properties and the barriers are visually acceptable. During the detailed design phase, a detailed barrier analysis was completed for the residential properties within the New Lifestyle Village at 262 Princes Highway, Bomaderry to derive the most appropriate and optimised noise barrier height in accordance with the requirements of the NMG.

The outcome of the barrier assessment determined that that the optimum design of the proposed barrier would have a height of 4m. Following an assessment of the proposed barrier design by TfNSW, implementation of the noise barrier was determined to be not feasible due to site constraints, overshadowing, safety issues related to the barrier affecting visibility when using the New Lifestyle driveway access and maintenance requirements. Therefore, the pre-construction road traffic noise predictions did not consider barrier attenuation to these receivers.

However, during the build phase the barrier was reconsidered, and a barrier at New Lifestyle Village was ultimately implemented. The as-built survey reveals the barrier to have a height of 4.2-4.5m, and this barrier was included in the as-built noise model.

3.3 At property noise control treatment

The detailed design report recommended the consideration of at-property treatment for residential dwellings where road traffic noise levels still exceed the applicable NCG / RNP external traffic noise criteria where other noise mitigation measures are either exhausted or are not feasible/reasonable.

The detailed design report identified a total of 46 properties where traffic noise levels remained above the NCG criteria and therefore triggered the consideration of at-property treatment. Of the 46 identified properties, there are:

- 43 residential properties, including the permanent caretaker residences of hotel/motels (the remainder of the hotel/motel is a commercial property and not considered for at-property treatment)
- Meroo Union Church at 8 Boxsells Lane, Meroo Meadow
- Two buildings of the Kids World Kindy Childcare Centre at 281 Princes Highway, Bomaderry.

Six of the residential properties identified for treatment were part of the New Lifestyle Village. As discussed in Section 3.2, a noise barrier was constructed at this location that shielded five of these six properties. TfNSW confirmed that the one remaining dwelling on the southern side of the Village that was not shielded by the barrier received at-property treatment.

TfNSW confirmed that the Meroo Union Church and Kids World Childcare Centre also received at-property treatment.

4 Noise monitoring

4.1 Noise monitoring methodology

Noise monitoring was conducted with reference to:

- Australian Standard 2702-1984 'Acoustics – Methods for the Measurement of Road Traffic Noise'
- RNP Appendix B3 'Noise Monitoring Procedures'
- PPCNAR Section 3.1 'Noise Monitoring'

4.1.1 Long-term noise monitoring

All long-term (unattended) noise monitoring was conducted using Renzo Tonin & Associates' noise monitors. The noise monitoring equipment complies with IEC 61672 (parts 1-3) 'Electroacoustics – Sound Level Meters' and are designated as Type 1 instruments suitable for laboratory and field use. The equipment was calibrated prior to and after the measurement periods using a Brüel & Kjær 4231 calibrator which complies with IEC 60942 'Electroacoustics – Sound Level Calibrators'. No significant drift in calibration was observed in any noise monitor.

A noise monitoring consists of an NTi Audio XL2 sound level meter in a weather resistant enclosure. Ambient noise levels are recorded at a rate as low as a few milliseconds per sample. Every 15 minutes, the data is processed statistically and stored in memory.

4.1.2 Short-term monitoring

The long-term (unattended) noise monitoring was supplemented by short-term (attended) measurements conducted during the installation of the unattended noise loggers. The short-term measurements were conducted adjacent to the long-term monitoring locations using a Type 1 sound level meter (complying with IEC 61672 (parts 1-3) 'Electroacoustics – Sound Level Meters').

4.1.3 Meteorology during monitoring

The Bureau of Meteorology (BOM) provided meteorological data from the Nowra Automatic Weather Station (station no. 068072). The Nowra Automatic Weather Station is approximately 13.6 – 21.8km from the long-term (unattended) noise monitoring locations and represents the nearest BOM weather station to the project. The weather data is considered representative of the meteorological conditions affecting the sites as they are within the 30km radius of the noise monitoring locations (as required in Section B1.1 of the EPA's Noise Policy for Industry).

The wind speed data was modified to allow for the height difference between the BOM weather station and each microphone location which are at 1.5m above ground level. A correction factor of 0.8 was applied to wind speed data for the long-term (unattended) noise monitoring locations PCNM 1-9 and PCNM 12-15 which are in an open terrain environment with scattered obstructions. For noise

monitoring locations PCNM 10, 11 and 16 which are in a suburban environment (ie. numerous closely spaced obstructions), a correction factor of 0.58 was applied to the wind speed data. The correction factors applied to the wind speed data are based on Table C.1 of the International Standard ISO 4354:2009 'Wind action on structures'.

It is noted that analysis of noise enhancing or noise diminishing meteorological conditions from wind and temperature inversions do not form part of the requirements of the RNP and PPCNAR.

Upon processing the noise monitoring data, any noise levels measured during adverse weather conditions were excluded. Adverse weather conditions include:

- Rain – traffic noise during wet weather conditions is considered to be atypical and not modelled or designed for, so would not provide an accurate representation of the three main sources of traffic noise, being tyre engine and exhaust noise which the project design aims to mitigate.
- Wind – wind greater than 5m/s would create a noise on the microphone of the noise monitor that masks the road traffic noise.

Further to the exclusion of noise data affected by adverse weather, noise data was further reviewed to also discard extraneous non-road traffic noise. Extraneous noise was determined based on the following considerations:

- Unusually high $L_{Aeq,15minute}$ noise levels in comparison to adjacent time periods and in comparison to noise levels during the same period on other similar days of the week.
- Playback of the audio files recorded at Location PCNM 12 confirmed the peaks in the $L_{Aeq,15minute}$ noise levels to the result of dogs barking.
- Location PCNM 16 is in close proximity to trees. Playback of the audio files recorded at this location confirms the occurrence of increased noise levels from the rustling of foliage at times.

The data excluded due to weather or extraneous noise is shown by the grey shaded areas on the graphs in APPENDIX F.

4.2 Noise monitoring locations

In accordance with the project brief, the noise monitoring sites were selected to be same as those monitored as part of the Review of Environmental Factors (REF) noise assessment phase of the project where possible to allow direct comparisons to be made with noise monitoring locations selected prior to the project's construction.

Where it was not possible to conduct noise monitoring at the previously monitored locations, noise monitors were setup at suitable alternative locations within close proximity to the originally selected locations.

Other site specific conditions also influenced the selection of final noise monitoring locations, including access availability to the site, consideration of localised extraneous noise sources (eg. air conditioners,

swimming pool pumps, other mechanical plant and equipment, etc.) and building features (eg. covered balconies, verandas, pergolas, awnings, etc.) which could affect the noise measurement results.

With respect to 510 Princes Highway, Jaspers Brush that was monitored during the REF phase of the project (REF location BG4 and proposed location PCNM 4), the residential dwelling that was previously at the site has been demolished and therefore monitoring was not conducted at this location.

Five additional noise monitoring sites were also nominated by Transport for New South Wales (TfNSW) in response to noise complaints.

4.2.1 Long-term noise monitoring locations

The locations where long-term (unattended) operational traffic noise monitoring was conducted are listed in Table 4-1. The monitoring locations are also shown on the aerial maps in APPENDIX B.

Table 4-1: Long-term traffic noise monitoring locations

ID	REF ID	Address	Distance from project roads ¹	Description
REF locations				
PCNM 1	BG1	10 Mullers Lane Jaspers Brush	94m	Noise monitor located in a free-field environment to the west of the single-storey residential dwelling at this site (ie. facing the Princes Highway). Acoustic environment is controlled by road traffic noise from the Princes Highway.
PCNM 2	BG2	10 Croziers Road Jaspers Brush	100m	Noise monitor located in a free-field environment to the north-east of the two-storey residential dwelling at the site.
PCNM 3	BG3	25 Jaspers Brush Road Jaspers Brush	156m	Noise monitor located in a free-field environment to the west of the single-storey residential dwelling at this site (ie. facing the Princes Highway). Acoustic environment is controlled by road traffic noise from the Princes Highway.
PCNM 5	BG5	Devitts Lane Jaspers Brush	130m	Noise monitors located in a free field environment along the western side of Devitts Lane at different setbacks from the Princes Highway. To the west of these monitoring locations were plastic-wrapped haybales which were observed to rustle in windy conditions.
PCNM 6	BG6	Devitts Lane Jaspers Brush	292m	
PCNM 7	BG7	Devitts Lane Jaspers Brush	582m	Acoustic environment at PCNM 5 (closest to the Princes Highway) is controlled by road traffic noise from the Princes Highway, but occasionally masked by the rustling of the plastic-wrapped haybales during moderate (or stronger) wind conditions. Due to further distance attenuation, the noise of road traffic from the Princes Highway was barely audible at PCNM 6 and 7, and was generally masked by the rustling of the plastic-wrapped haybales during moderate (or stronger) wind conditions.

ID	REF ID	Address	Distance from project roads ¹	Description
PCNM 8	BG8	19 Boxsells Lane Meroo Meadow	108m	Noise monitor located in a free-field environment to the south-east of the single-storey residential dwelling at this site (ie. facing the Princes Highway). Acoustic environment is controlled by road traffic noise from the Princes Highway.
PCNM 9	BG9	1028 Meroo Road Meroo Meadow	32m	Noise monitor located in a free-field environment to the north-west of the single-storey residential dwelling at the site with a direct line-of-sight to the Meroo Road interchange. Acoustic environment is a general hum of distant traffic on the Princes Highway with intermittent noise from passing vehicle along the Meroo Road interchange ramps.
PCNM 10	BG10	35 Gardenia Crescent Bomaderry	278m	Noise monitor located in the front yard, 1m from the southern facade of the single-storey residential dwelling at the site. Acoustic environment is controlled by road traffic noise from the Princes Highway.
PCNM 11	BG11	38 Elvin Drive Bomaderry	40m	Noise monitor located in the rear yard (free-field environment) and subject to acoustic shielding of the Princes Highway traffic noise by the earth mound. Acoustic environment is controlled by road traffic noise from the Princes Highway.
Noise complaint locations				
PCNM 12	-	585B Princes Highway Jaspers Brush	76m	Noise monitor located in the rear yard, 1m from the western facade of the single-storey residential dwelling at the site (ie. facing the Princes Highway). The rear yard is surrounded by a timber paling fence (approx. 1.9m high). Due to the elevation of the Prince Highway above this receiver location and the gaps in the paling fence, the noise monitor is subject to minimal acoustic shielding of the road traffic noise. Acoustic environment is controlled by road traffic noise from the Princes Highway with occasional extraneous noise from dogs barking in the rear yard.
PCNM 13	-	26B Boxsells Lane Meroo Meadow	360m	Noise monitor located in a free field environment to the east of the single-storey residential dwelling at the site (ie. facing the Princes Highway). Acoustic environment is controlled by road traffic noise from the Princes Highway.
PCNM 14	-	10 Boxsells Lane Meroo Meadow	112m	Noise monitoring located in the front yard (free-field environment). Acoustic environment is controlled by road traffic noise from the Princes Highway.
PCNM 15	-	1025 Meroo Road Bomaderry	34m	Noise monitor located in the front yard (free-field environment) facing Meroo Road. Acoustic environment is a general hum of distant traffic on the Princes Highway with intermittent noise from passing vehicles on Meroo Road. There is a single-storey dwelling at this site.

ID	REF ID	Address	Distance from project roads ¹	Description
PCNM 16	-	50A Emerald Drive Meroo Meadow	408m	Noise monitor located in a paddock (free-field environment) to west of the single-storey residential dwelling at the site. Road traffic noise from the Princes Highway generally controls the acoustic environment at this noise monitoring location, but is occasionally masked by the rustling of foliage in close proximity to the noise monitor during moderate (or stronger) wind conditions.

Notes: 1. Distance from nearest lane of the Princes Highway except for Locations PCNM 9 and 15 on Meroo Road, Meroo Meadows where distances to the Meroo Road interchange are presented.

With respect to the monitoring locations along Devitts Lane, Meroo Meadow, Locations PCNM 6 and PCNM 7 were included in the noise monitoring as part of the project brief to the consistent with the monitoring that was undertaken during the REF phase of the project. The setback of Locations PCNM 6 and PCNM 7 from the Princes Highway (approximately 290m and 580m respectively), results in the acoustic environment at these locations was observed to be controlled by other environmental noise, with the traffic noise from Princes Highway being barely audible (due to distance attenuation).

While the results of the noise monitoring at Locations PCNM 6 and PCNM 7 have been presented in Table 4-2, the validation of the as-built noise model does not include these two locations as the traffic noise from Princes Highway was not the dominant noise source that gave rise to the measured $L_{Aeq,15hour}$ and $L_{Aeq,9hour}$ levels.

The noise monitors were installed at the above locations on the Tuesday 13 June and Wednesday 14 Jun 2023, with a return site visit undertaken on Monday 26 June 2023 to retrieve the noise monitors.

Traffic counts, vehicle classifications and vehicle speed data were monitored concurrently with the noise monitoring by a third-party contractor.

4.3 Noise monitoring results

Noise levels are monitored continuously with the L_{A90} , L_{Aeq} , L_{A10} , L_{A1} and L_{Amax} data stored for every 15-minute period (presented in APPENDIX F as noise-level-vs-time graphs). In accordance with the assessment parameters set out in the RNP / NCG (and reproduced in Section 2.1), the daytime $L_{Aeq,15hour}$ and night-time $L_{Aeq,9hour}$ results at each monitoring location have been determined from the $L_{Aeq,15minute}$ measurement data.

The results of the long-term (unattended) and short-term (attended) noise monitoring are presented in the following sections.

4.3.1 Long-term noise monitoring results

Traffic noise levels are assessed separately for daytime and night-time periods which are defined in the RNP as follows:

- Day – 7:00am to 10:00pm (15 hours)
- Night – 10:00pm to 7:00am (9 hours)

The monitoring at PCNM 1-9, PCNM 11 and PCNM 13-16 were conducted in the free field (ie. away from buildings and other acoustically reflective structures). In accordance with the RNP and TfNSW procedures, a +2.5dB(A) facade correction was applied to the measured noise levels at these locations to convert the free field measurement to equivalent measurements at 1m from the building facade. The monitoring at PCNM 10 and PCNM 12 were conducted approximately 1m from the residential dwelling and therefore do not require a facade correction.

The road traffic noise levels presented in Table 4-2 represent the measured or equivalent noise levels at 1m from the building facade for the seven-day time period from Thursday 15 June to Wednesday 21 June 2023. This time period was used for validation as the noise data was not affected by weather and concurrent traffic counting was also available.

The results of the long-term unattended noise monitoring at each monitoring location for the entire monitoring period are presented graphically in APPENDIX F.

Table 4-2: Measured road traffic noise levels, 2023

Noise monitoring location	L _{Aeq} Traffic noise levels, dB(A)	
	L _{Aeq,15hour} Day	L _{Aeq,9hour} Night
Location PCNM 1 – 25 Mullers Lane, Jaspers Brush	63	60
Location PCNM 2 – 10 Croziers Road, Jaspers Brush	54	51
Location PCNM 3 – 25 Jaspers Road, Jaspers Brush	57	53
Location PCNM 5 – Devitts Lane, Meroo Meadow	58	55
Location PCNM 6 – Devitts Lane, Meroo Meadow	58	54
Location PCNM 7 – Devitts Lane, Meroo Meadow	56	53
Location PCNM 8 – 19 Boxsells Lane, Meroo Meadow	53	49
Location PCNM 9 – 1028 Meroo Road, Meroo Meadow	57	53
Location PCNM 10 – 35 Gardenia Crescent, Bomaderry	49	45
Location PCNM 11 – 38 Elvin Drive, Bomaderry	56	51
Location PCNM 12 – 585B Princes Highway, Jaspers Brush	59	55
Location PCNM 13 – 26B Boxsells Lane, Meroo Meadow	51	48
Location PCNM 14 – 10 Boxsells Lane, Meroo Meadow	57	53
Location PCNM 15 – 1025 Meroo Road, Meroo Meadow	57	53
Location PCNM 16 – 50A Emerald Drive, Meroo Meadow ¹	55	51

- Note:
1. The occurrence of light winds during the day and night-time periods on Sunday 18 June 2023 gave rise to unusually high noise level measurements at Location PCNM 16 due to the close proximity of trees. Therefore, the validation of the as-built noise model to this location utilises the time periods of Thursday 15 June to Saturday 17 June 2023, and Monday 19 June to Thursday 22 June 2023 to obtain seven days of concurrent noise and traffic monitoring data.
 2. Due to battery failure there was less data collected at PCNM 9 than at the other locations. Seven days of data was still recorded and the available data has been used for model validation.

4.3.2 Short-term noise measurement results

To supplement the long-term unattended noise monitoring, short-term attended measurements were conducted adjacent to the long-term monitoring locations. The short-term attended measurements were conducted during the installation of the long-term noise monitors. Table 4-3 below presents the $L_{A90,15\text{minute}}$ background and $L_{Aeq,15\text{minute}}$ noise level results from the short-term monitoring.

Table 4-3: Measured short-term noise levels

Noise monitoring location	Date	Time	LA90,15minute dB(A)	LAeq,15minute dB(A)	Observations
PCNM 1 – 25 Mullers Lane, Jaspers Brush	13/06/2023	9:21am to 9:36am	55	59	Noise levels controlled by road traffic noise from the Princes Highway to the West. Heavy vehicles audible. Birds chirping also contributed.
PCNM 2 – 10 Croziers Road, Jaspers Brush	14/06/2023	2:45pm to 3:00pm	48	50	Noise levels controlled by road traffic noise from the Princes Highway to the East. Wind noise in trees also contributed.
PCNM 3 – 25 Jaspers Road, Jaspers Brush	13/06/2023	10:21am to 10:36am	49	54	Noise levels controlled by road traffic noise from the Princes Highway to the North-West. Heavy vehicles audible.
PCNM 7 – Devitts Lane, Meroo Meadow	14/06/2023	3:17pm to 3:32pm	54	62	Noise levels controlled by natural noise sources (i.e. birds chirping, wind gusts). Princes Highway barely audible. High noise events from vehicle passbys on Devitts Lane.
PCNM 8 – 19 Boxsells Lane, Meroo Meadow	14/06/2023	11:17am to 11:32am	53	57	Noise levels controlled by natural noise sources (i.e. birds chirping, wind gusts). Princes Highway faintly audible.
PCNM 9 – 1028 Meroo Road, Meroo Meadow	13/06/2023	4:59pm to 5:14pm	52	56	Noise levels controlled by distant road traffic noise from the Princes Highway to the North-West. Natural noise sources (i.e. birds chirping, sheep) also contributed. Vehicle movements on Meroo Road on-ramp audible.
PCNM 10 – 35 Gardenia Crescent, Bomaderry	13/06/2023	3:00pm to 3:15pm	45	51	Noise levels controlled by road traffic noise from the Princes Highway to the West. Natural noise sources (i.e. birds chirping, insects) also contributed. High noise events were from vehicle passbys on Gardenia Crescent.
PCNM 11 – 38 Elvin Drive, Bomaderry	13/06/2023	4:07pm to 4:22pm	53	57	Noise levels controlled by road traffic noise from the Princes Highway to the North. Heavy vehicles audible.
PCNM 12 – 585B Princes Highway, Jaspers Brush	13/06/2023	11:18am to 11:33am	48	55	Noise levels controlled by distant road traffic noise from the Princes Highway to the North. Heavy vehicles audible.
PCNM 13 – 26B Boxsells Lane, Meroo Meadow	14/06/2023	9:27am to 9:42am	50	54	Noise levels controlled by distant road traffic noise from the Princes Highway to the East. Natural noise sources (i.e. wind gusts) also contributed.
PCNM 14 – 10 Boxsells Lane, Meroo Meadow	14/06/2023	10:21am to 10:36am	55	59	Noise levels controlled by traffic noise from the Princes Highway to the East. Natural noise sources (i.e. birds chirping, wind through trees) also contributed.
PCNM 15 – 1025 Meroo Road, Meroo Meadow	13/06/2023	12:57pm to 1:12pm	50	57	Noise levels controlled by distant road traffic noise from the Princes Highway to the North-West. Distant lawn mowing audible during highway traffic lulls. Intermittent road traffic on Meroo Road. High noise events from heavy vehicle movements on Meroo Road and trailer bangs.
PCNM 16 – 50A Emerald Drive, Meroo Meadow	13/06/2023	2:01pm to 2:16pm	48	52	Noise levels controlled by distant road traffic noise from the Princes Highway to the North-West. Natural noise sources such as wind through trees and horses also contributed.

5 Traffic volumes and classification

In accordance with the PPCNAR, classified traffic monitoring was conducted simultaneously with the noise monitoring by a third-party contractor, Trans Traffic Survey, to identify:

- traffic volumes
- vehicle classification (the total number of vehicles and percentage of heavy vehicles)
- mean (average) vehicle speeds

The location where traffic counting was conducted are listed below and presented on the aerial maps in APPENDIX B.

Table 5-1: Traffic counting locations

Monitoring location	Road	Location description
Location TC1	Princes Highway	South of Mullers Lane, Jaspers Brush
Location TC2	Princes Highway	South of Strongs Road, Jaspers Brush
Location TC3	Princes Highway	South of Devitts Lane, Meroo Meadow
Location TC4	Princes Highway	South of Meroo Road interchange, Meroo Meadow
Location TC5	Meroo Road	Near Fletchers Lane, Meroo Meadow

Table 5-2 presents the average traffic volumes, vehicle classifications and vehicles speeds determined from each traffic counting location for the seven-day time period of Thursday 15 June to Wednesday 21 June 2023.

Table 5-2: Monitored 2023 traffic volumes, vehicle classifications and speeds

Traffic counting location	Day – 7:00am-10:00pm (15 hour)			Night – 10:00pm-7:00am (9 hour)		
	Total vehicles	Heavy vehicles %	Speed (km/h)	Total vehicles	Heavy vehicles %	Speed (km/h)
Location TC1 – Princes Highway (south of Muller Lane), northbound	10,368	10.4	96	1,044	20.9	97
Location TC1 – Princes Highway (south of Muller Lane), southbound	9,290	10.4	96	2,307	14.1	97
Location TC2 – Princes Highway (south of Strongs Road), northbound	10,120	12.3	96	1,021	19.8	98
Location TC2 – Princes Highway (South of Strongs Road), southbound	9,880	12.4	96	1,240	20.7	98
Location TC3 – Princes Highway (south of Devitts Lane), northbound	10,099	10.3	97	1,064	16.6	98
Location TC3 – Princes Highway (south of Devitts Lane), southbound	9,884	9.8	96	1,292	13.8	96
Location TC4 – Princes Highway (south of Meroo Road interchange), northbound	9,535	11.8	96	1,004	18.7	97
Location TC4 – Princes Highway (south of Meroo Road interchange), southbound	9,425	10.9	96	1,125	17.5	98

Traffic counting location	Day – 7:00am-10:00pm (15 hour)			Night – 10:00pm-7:00am (9 hour)		
	Total vehicles	Heavy vehicles %	Speed (km/h)	Total vehicles	Heavy vehicles %	Speed (km/h)
Location TC5 – Meroo Road (near Fletchers Lane), northbound	1,090	8.1	55	138	14.2	57
Location TC5 – Meroo Road (near Fletchers Lane), southbound	1,092	9.2	59	201	8.9	64

The post construction traffic data presented in Table 5-2 are the outputs of a traffic survey carried out over a short period and are not directly comparable to Annual Average Daily Traffic (AADT) data, which provides an average of all days over a one-year period. This 2023 traffic volume data was only used for the validation of the as-built (surveyed road design) noise model.

Once the model was validated, the AADT traffic volume forecast for the opening year (2019) and design year (2029) were input into the calibrated as-built noise model to determine the Year 1 and Year 10 traffic noise levels at all the sensitive receiver locations as assessed in the detailed design report.

The 2019 and 2029 AADT traffic volume forecasts for the 'build' scenario are reproduced in APPENDIX C.

6 Pavement noise

RONDA (ROad Noise Data Acquirer) is a CPX trailer for measuring road surface noise. RONDA is designed in conformance with ISO 11819-2 "Measurement of the influence of road surfaces on traffic noise - Part 2: The close-proximity method". RONDA is uniquely useful for categorising noise emission from existing roads, certifying the noise performance of new road surfaces, and assisting in the development of new road surface materials.

The main carriageways of the Princes Highway Berry to Bomaderry project use a SMA pavement. Lcpx pavement surface measurements of the Princes Highway (between Berry and Bomaderry) were undertaken by Renzo Tonin & Associates using RONDA on Tuesday 29 August 2023. The results of the Lcpx measurements were compared against reference dense graded asphalt (DGA), which has a pavement surface correction of +0dB. The results of the Lcpx measurements are detailed in Table 6-1 below.

Table 6-1: Road surface pavement correction

Road	Speed km/h	Lcpx reference DGA, dB(A)	Lcpx project SMA, dB(A)	Correction, dB
Princes Highway (between Berry and Bomaderry)	100	101.6	101.4	-0.2
	110	102.9	102.7	-0.2

The new pavement on the Princes Highway between Berry and Bomaderry was measured to be 0.2dB quieter than the reference DGA pavement at 100km/h. Extrapolation of the RONDA measurement results to the design speed of 110km/h also reveals the new pavement to be 0.2dB quieter than the reference DGA pavement.

The RONDA measurements revealed the SMA used on the main carriageways of the Princes Highway to have a lower acoustic performance than the -2dB correction factor considered in the detailed design assessment (from Table 3.1 of the RTA's 'Environmental Noise Management Manual' 2001). SMA is known to give typically between 0dB and -2dB reduction in traffic noise compared to DGA, but results have varied across different projects, and depending on whether SMA 7, SMA 10 or SMA 14 has been used. SMA10 was used on this project and has been measured to give -0.2dB, which is within the expected range, but less than the -2dB reduction that was assumed at design. The latest version of the TfNSW Road Noise model Validation Guideline (August 2022), states that SMA 10 typically provides 0.0dB reduction

The measured correction factor of -0.2dB has been applied to the Princes Highway road noise sources in the validation model, and the post construction noise model.

7 Noise assessment methodology

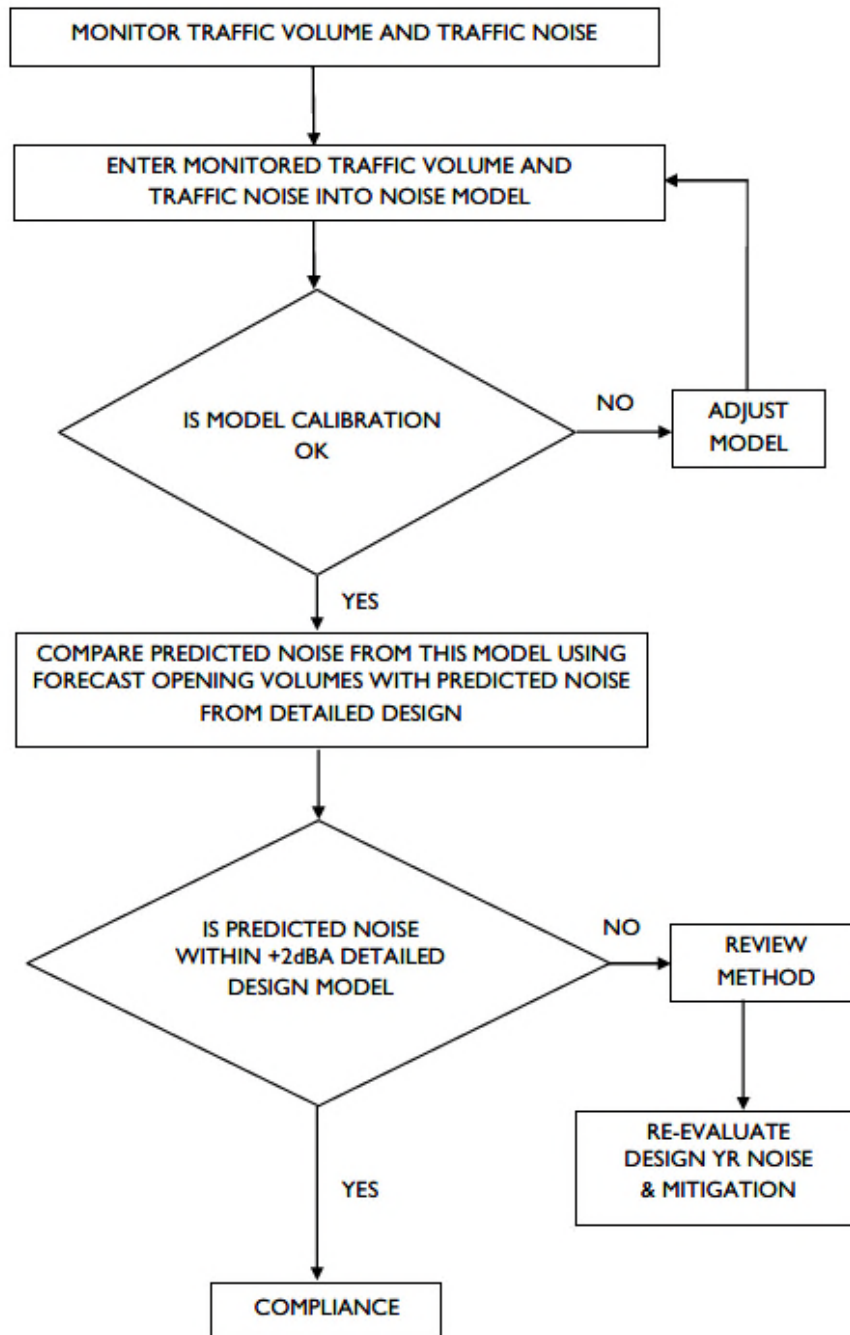
7.1 Compliance assessment procedure

Compliance was assessed for the post construction traffic noise levels predicted and presented in the detailed design report. The methodology used for the assessment is as follows:

1. Monitor the post construction traffic noise levels of the project at the monitoring locations presented in Table 4-1 of this ONCR.
2. Concurrently with the noise monitoring, monitor traffic volumes, vehicle classifications and vehicle speeds along the project roads.
3. Using the monitoring traffic noise levels and the monitoring traffic data in Table 5-2, validate the as-built noise model by comparing the monitored traffic noise levels to the traffic noise levels modelled using the as-built model.
4. Where the comparison between monitored and modelled noise levels is within $\pm 2\text{dB(A)}$, then the as-built noise model predicts results that are generally in agreement with the noise monitoring and there is a reasonable level of confidence that can be placed on the as-built noise model for predicting traffic noise levels. Assign a calibration factor to the as-built noise model if required.
5. Using the validated as-built noise model and forecasted 2019 (Year 1) traffic data presented in APPENDIX C, model the Year 1 traffic noise levels for all receivers impacted by the project and assessed in the detailed design report.
6. Compare the Year 1 traffic noise level modelled during the preparation of the detailed design report ('design' noise model) with the Year 1 traffic noise levels modelled using the validated as-built noise model as part of this ONCR (operational stage).
7. Where the operational as-built noise levels for Year 1 are found to be 2dB(A) or less of the predicted Year 1 'design' noise levels, the operational noise levels are deemed to comply with the design objectives.
8. Where the operational as-built noise levels for Year 1 are found to be more than 2dB(A) of the predicted Year 1 'design' noise levels, then a detailed analysis is required including:
 - i. Predicting 2029 (Year 10) noise level using the as-built noise model for the applicable receiver locations.
 - ii. Checking predicted 2029 noise levels for compliance with the relevant noise criteria.
 - iii. Evaluating the adequacy of the noise mitigation measures implemented.
 - iv. Considering additional reasonable and feasible noise mitigation measures, where necessary.

A summary of the above methodology is presented in Figure 7.1 which forms part of the Transport for NSW procedure document 'Preparing a Post Construction Noise Assessment Report', dated June 2014.

Figure 7.1: Summary of compliance assessment procedure



7.2 Additional noise mitigation measures

In accordance with the PPCNAR, additional mitigation measures will be considered where modelled 2019 operational as-built noise levels are found to be greater than 2dB(A) above the modelled 2019 'design' noise levels (ie. operational noise levels are more than +2dB(A) higher than design noise level). For those properties, any necessary additional mitigation measures will be assessed accordingly and where feasible and reasonable would be considered in accordance with the RNP, NMG and the PPCNAR.

'Feasibility' relates to engineering considerations and what can practically be built. 'Reasonableness' is judged in terms of noise mitigation benefits and costs, and many other aspects such as community views, aesthetic impacts, existing and future noise levels at the affected sites and the benefits arising from the development.

8 Noise modelling results and assessment

8.1 Noise prediction model

Noise modelling was carried out using the Road Traffic Noise Module in the CadnaA noise modelling software (Version 2023). This method is recognised and accepted by both Transport for NSW and EPA.

The traffic noise prediction model adopted by CadnaA is based on the method developed by the United Kingdom Department of Environment entitled 'Calculation of Road Traffic Noise (1988)' known as the CoRTN88 method. This method has been adapted to Australian conditions and extensively tested by the Australian Road Research Board. The model predicts noise levels for free flowing traffic and a modified method has been developed which enable an accurate prediction of noise from high truck exhausts to be taken into account.

The pre-construction 'design' noise model used for the detailed design report was updated with the as-built road design (which includes the new noise barrier implemented adjacent to the New Lifestyle Village at 262 Princes Highway, Bomaderry), to provide an as-built post construction noise model.

Table 8-1 sets out the inputs and assumptions used in the as-built post construction traffic noise prediction model, which are consistent with those used in the pre-construction 'design' noise model.

Table 8-1: Summary of CadnaA noise modelling inputs

Input parameters	Data acquired from
Traffic volumes and mix	<p><u>Noise model validation</u>: using 2023 traffic data (total vehicles and % heavy vehicles) from traffic survey by Trans Traffic Survey (see Table 5-2 in Section 5)</p> <p><u>Noise prediction modelling</u>: using 2019 forecasted traffic volumes (total vehicles and % heavy vehicles) presented in the detailed design report (see APPENDIX C)</p>
Vehicle speed	<p><u>Noise model validation</u>: using 2023 (average) traffic speeds from traffic survey by Trans Traffic Survey (see Table 5-2 in Section 5)</p> <p><u>Noise prediction modelling</u>: using 2019 traffic speed data presented in the detailed design report (see APPENDIX C)</p>
Road design	'As-built' road design provided by Transport for NSW
Gradient of roadway	From 'as-built' road design provided by Transport for NSW
Source heights	Noise emission distributed over three source heights: <ul style="list-style-type: none"> • 0.5m for light vehicle exhaust, engine and tyre noise, and heavy vehicle tyre noise • 1.5m for heavy vehicle engines • 3.6m for heavy vehicle exhausts
Ground topography at receivers	Digital topographic data for the surrounding area obtained from 'design' model used in detailed design report
Ground absorption	0.75 (consistent with validated REF noise model and detailed design noise model)
Receiver heights	<ul style="list-style-type: none"> • 1.5m above ground level to represent ground floor level receivers • 4.5m above ground level to represent first floor level receivers
Facade correction	+2.5dB(A)
L ₁₀ to L _{eq} correction	-3dB(A) (in accordance with TfNSW Road Noise Model Validation Guideline)

Input parameters	Data acquired from
Correction for Australian Conditions	L _{Aeq,15hour} : -1.7dB(A) for 'at 1m from facade' conditions 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" (2022). L _{Aeq,9hour} : +0.5dB(A) consistent with REF and detailed design report.
Buildings	From 'design' noise model used in detailed design report
Road pavement correction	<ul style="list-style-type: none"> Princes Highway – Stone Mastic Asphalt (SMA) = -0.2dB(A) from RONDA measurements Meroo Road interchange – Dense Grade Asphalt (DGA) = 0dB(A)
Roadside barrier	From 'as-built' noise wall design provided by Transport for NSW
Traffic noise levels (L _{Aeq})	Based on long-term monitoring results (see Section 4.3.1)

8.2 Model validation

The as-built post construction noise model was validated using the 2023 long-term noise monitoring and 2023 traffic monitoring results that were obtained concurrently.

Table 8-2 summarises the results of the traffic noise model validation, providing a comparison of the modelled traffic noise level for existing conditions compared to the measured traffic noise levels, all presented to one decimal point for the purpose of the validation process.

Table 8-2: Noise model validation results

Monitoring locations	L _{Aeq,15hour} noise level, dB(A)			L _{Aeq,9hour} noise level, dB(A)		
	Measured	Modelled	Variation	Measured	Modelled	Variation
PCNM 1 – 25 Mullers Lane, Jaspers Brush	63.1	61.6	-1.5	59.6	59.4	-0.2
PCNM 2 – 10 Croziers Road, Jaspers Brush	54.4	58.6	4.2	50.6	55.4	4.8
PCNM 3 – 25 Jaspers Road, Jaspers Brush	56.8	58.6	1.8	53.3	55.2	1.9
PCNM 5 – Devitts Lane, Meroo Meadow	58.5	59.7	1.2	55.0	55.6	0.6
PCNM 8 – 19 Boxsells Lane, Meroo Meadow	53.2	55.6	2.4	49.2	51.6	2.4
PCNM 9 – 1028 Meroo Road, Meroo Meadow	57.5	57.2	-0.3	53.1	53.4	0.3
PCNM 10 – 35 Gardenia Crescent, Bomaderry	49.4	51.6	2.2	45.1	47.6	2.5
PCNM 11 – 38 Elvin Drive, Bomaderry	55.7	60.1	4.4	51.4	56.1	4.7
PCNM 12 – 585B Princes Highway, Jaspers Brush	59.1	59.0	-0.1	55.3	55.4	0.1
PCNM 13 – 26B Boxsells Lane, Meroo Meadow	50.7	52.8	2.1	48.4	48.8	0.4
PCNM 14 – 10 Boxsells Lane, Meroo Meadow	56.9	57.2	0.3	52.8	53.2	0.4
PCNM 15 – 1025 Meroo Road, Meroo Meadow	57.4	58.2	0.8	53.2	54.7	1.5
PCNM 16 – 50A Emerald Drive, Meroo Meadow	54.7	54.4	-0.3	50.5	50.4	-0.1
Median (all data)			1.2			0.6

The noise model validation results presented in Table 8-2 show that the as-built noise model predicts road traffic noise levels that are generally in good agreement with the noise monitoring. Therefore, there is a reasonable level of confidence that can be placed on the ability of the as-built noise model to predict future traffic noise levels.

At Location PCNM 2, the as-built noise model is predicted higher road traffic noise levels than the measurement results. The as-built design file identifies the construction of an earth mound at the north-western corner of the intersection of the Princes Highway and Croziers Road. From site observations, the ground contours do not appear to have sufficient resolution to capture the elevation at the top of the earth mound. As a result of the lower earth mound, the noise model is conservatively over-predicting road traffic noise levels at this location.

At Location PCNM 11, the as-built noise model is predicting higher road traffic noise levels than the measurement results. Immediately to the east of Location PCNM 11 (ie. between the monitoring location and the Princes Highway) is an earth mound which has dense foliage on top. It is known that the CoRTN algorithm does not take into account any attenuation effects from dense foliage. As a result, the noise model is predicting conservatively high at the residential receivers behind this earth mound.

A review of the variation between the predicted and measured road traffic noise levels in Table 8-2 reveals a general trend of the as-built noise model to overpredict the traffic noise levels at the receiver location, with 9 of the 13 noise monitoring locations used for validation assessment identifying higher predicted road traffic noise levels than the measurement results.

The median differences in the day and night-time periods are 1.2dB and 0.6dB respectively. To calibrate the as-built noise model to the measurement results, these median differences have been applied as calibration factors to the as-built noise model when predicting operational noise levels for the 2019 opening year and 2029 design year (ie. -1.2dB correction applied to the daytime $L_{Aeq,15hour}$ noise levels and -0.6dB correction applied to the night-time $L_{Aeq,9hour}$ noise levels).

8.3 Predicted post construction traffic noise levels

Post construction traffic noise levels have been predicted using the validated post construction as-built noise model and forecasted traffic classification data for both the 2019 opening year and 2029 design year, as presented in APPENDIX D. Results of the as-built noise modelling were then compared to the 2019 opening year and 2029 design year noise levels that were predicted during the detailed design (pre-construction) at the same receiver locations, in order to compare noise levels in accordance with the PPCNAR.

The table in APPENDIX D presents the 2019 opening year (Year 1) and 2029 (Year 10) noise modelling results at the receiver locations and also details the comparison between the pre-construction (detailed design report) and post construction (as-built) Year 1 and Year 10 noise levels for the day and night-time periods. Receiver identification maps are in APPENDIX E.

The average difference between the predicted noise levels from the as-built and detailed design report noise models for all assessed receivers is 0.8dB(A) for both the daytime and night-time periods. This marginal increase to the predicted road traffic noise levels from the as-built noise model is primarily the result of the RONDA road surface noise measurements which revealed the SMA pavement used along the Princes Highway upgrade to have a lower acoustic performance than the typical -2dB surface correction factor considered in the detailed design report.

At all receivers, differences between the post and pre-construction traffic noise levels were determined to be less than +2dB(A) and deemed to comply with the design objectives.

Due to the inclusion of a 4.2-4.5m high noise wall along a portion of the New Lifestyle Village western boundary (at 262 Princes Highway, Bomaderry), receivers behind this noise wall are predicted to be up to 9.6dB(A) less in the as-built scenario when compared to the detailed design report results. This noise wall was initially determined to be infeasible during the detailed design phase and therefore, the detailed design report results did not consider barrier attenuation to these receivers.

9 Conclusion

Renzo Tonin & Associates (NSW) Pty Ltd has completed the operation noise monitoring and assessment of road traffic noise from the Berry to Bomaderry Princes Highway upgrade in accordance with the requirements set out in the NSW 'Road Noise Policy' and the NSW Procedure: Preparing a Post Construction Noise Assessment Report '.

Traffic noise levels for the 2019 opening year and 2029 design year (10 years after opening) were predicted using a validated post construction as-built noise model. The predicted noise levels were compared to the previously predicted design noise levels and found an average difference of +0.8dB (primarily due to the road noise surface measurement of the SMA pavement along the Princes Highway upgrade having a lower acoustic performance than that considered in the detailed design report). Noise levels were less than the detailed design report results where additional acoustic shielding was provided by the noise wall along the New Lifestyle Village western boundary.

At all receivers, the acoustic performance of the as-built construction of the project was found to be adequate in accordance with the TfNSW procedures by reason of the as-built noise model having road traffic noise levels being not more than +2dB(A) above the detailed design report results at any receiver. Therefore no additional noise mitigation is required.

APPENDIX A Glossary of terminology

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

Adverse weather	Weather effects that enhance noise (particularly wind and temperature inversions) occurring at a site for a significant period of time. In the NSW INP this occurs when wind occurs for more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of nights in winter.		
Air-borne noise	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 source and receiver.		
Ambient noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.		
Amenity	A desirable or useful feature or facility of a building or place.		
AS	Australian Standard		
Assessment period	The time period in which an assessment is made. e.g. Day 7am-10pm & Night 10pm-7am.		
Assessment Point	A location at which a noise or vibration measurement is taken or estimated.		
Attenuation	The reduction in the level of sound or vibration.		
Audible Range	The limits of frequency which are audible or heard as sound. The normal hearing in young adults detects ranges from 20 Hz to 20 kHz, although some people can detect sound with frequencies outside these limits.		
A-weighting	A filter applied to the sound recording made by a microphone to approximate the response of the human ear.		
Background noise	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. 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 percent of a sample period. This is represented as the LA90 noise level if measured as an overall level or an L90 noise level when measured in octave or third-octave bands.		
Barrier (Noise)	A natural or constructed physical barrier which impedes the propagation of sound and includes fences, walls, earth mounds or berms and buildings.		
Berm	Earth or overburden mound.		
Buffer	An area of land between a source and a noise-sensitive receiver and may be an open space or a noise-tolerant land use.		
Bund	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.		
BS	British Standard		
CoRTN	United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)"		
Decibel [dB]	The units that sound is measured in. The following are examples of the decibel readings of common sounds in our environment:		
	threshold of hearing	0 dB	The faintest sound we can hear, defined as 20 micro Pascal
		10 dB	Human breathing
	almost silent	20 dB	
		30 dB	Quiet bedroom or in a quiet national park location
generally quiet	40 dB	Library	

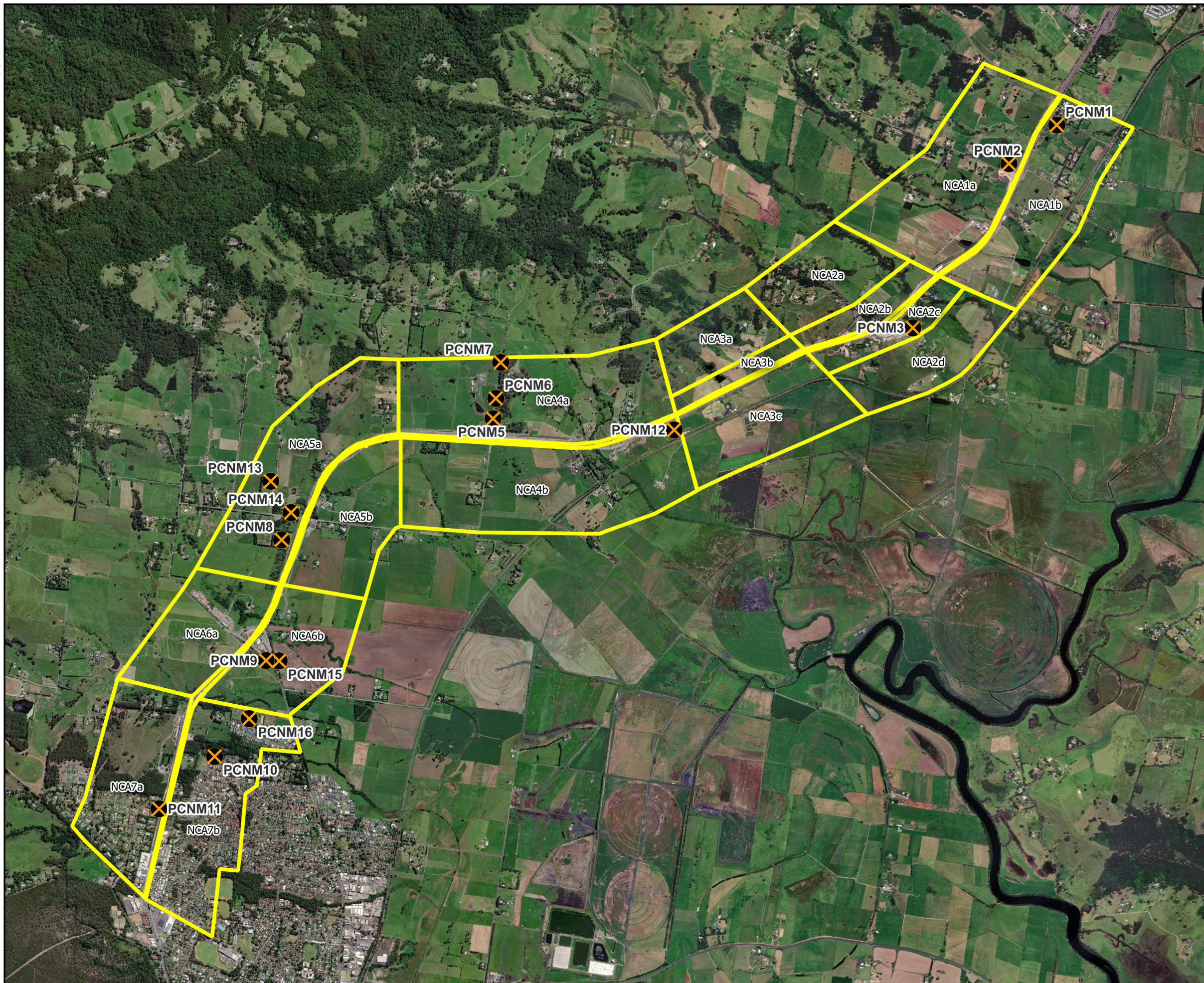
	50 dB	Typical office space or ambience in the city at night
moderately loud	60 dB	CBD mall at lunch time
	70 dB	The sound of a car passing on the street
loud	80 dB	Loud music played at home
	90 dB	The sound of a truck passing on the street
very loud	100 dB	Indoor rock band concert
	110 dB	Operating a chainsaw or jackhammer
extremely loud	120 dB	Jet plane take-off at 100m away
threshold of pain	130 dB	
	140 dB	Military jet take-off at 25m away
dB(A)	A-weighted decibel. The A- weighting noise filter simulates the response of the human ear at relatively low levels, where the ear is not as effective in hearing low frequency sounds as it is in 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 is denoted as dB(A). Practically all noise is measured using the A filter.	
dB(C)	C-weighted decibels. The C-weighting noise filter simulates the response of the human ear at relatively high levels, where the human ear is nearly equally effective at hearing from mid-low frequency (63Hz) to mid-high frequency (4kHz), but is less effective outside these frequencies. The dB(C) level is not widely used but has some applications.	
Diffraction	The distortion of sound waves caused when passing tangentially around solid objects.	
DIN	German Standard	
ECRTN	Environmental Criteria for Road Traffic Noise, NSW, 1999	
ENMM	Environmental Noise Management Manual, Roads and Maritime Services (Transport for NSW)	
EPA	Environment Protection Authority	
Field Test	<p>A test of the sound insulation performance in-situ. See also 'Laboratory Test'</p> <p>The sound insulation performance between building spaces can be measured by conducting a field test, for example, early during the construction stage or on completion.</p> <p>A field test is conducted in a non-ideal acoustic environment. It is generally not possible to measure the performance of an individual building element accurately as the results can be affected by numerous field conditions.</p>	
Fluctuating Noise	Noise that varies continuously to an appreciable extent over the period of observation.	
Free-field	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.	
Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.	
Ground-borne noise	Vibration propagated through the ground and then radiated as noise by vibrating building elements such as wall and floor surfaces. This noise is more noticeable in rooms that are well insulated from other airborne noise. An example would be vibration transmitted from an underground rail line radiating as sound in a bedroom of a building located above.	
Habitable Area	<p>Includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom.</p> <p>Excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.</p>	
Heavy Vehicle	A truck, transporter or other vehicle with a gross weight above a specified level (for example: over 8 tonnes).	

Impulsive noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
Intermittent noise	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.
Intrusive noise	Refers to noise that intrudes above the background level by more than 5 dB(A).
ISEPP	State Environmental Planning Policy (Infrastructure), NSW, 2007
ISEPP Guideline	Development Near Rail Corridors and Busy Roads - Interim Guideline, NSW Department of Planning, December 2008
L1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L10	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L10(1hr)	The L10 level measured over a 1 hour period.
L10(18hr)	The arithmetic average of the L10(1hr) levels for the 18 hour period between 6am and 12 midnight on a normal working day.
L90	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).
LAeq or Leq	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time, which would produce the same energy as a fluctuating sound level. When A-weighted, this is written as the LAeq.
LAeq(1hr)	The LAeq noise level for a one-hour period. In the context of the NSW EPA's Road Noise Policy it represents the highest tenth percentile hourly A-weighted Leq during the period 7am to 10pm, or 10pm to 7am (whichever is relevant).
LAeq(8hr)	The LAeq noise level for the period 10pm to 6am.
LAeq(9hr)	The LAeq noise level for the period 10pm to 7am.
LAeq(15hr)	The LAeq noise level for the period 7am to 10pm.
LAeq (24hr)	The LAeq noise level during a 24 hour period, usually from midnight to midnight.
Lmax	The maximum sound pressure level measured over a given period. When A-weighted, this is usually written as the L _{Amax} .
Lmin	The minimum sound pressure level measured over a given period. When A-weighted, this is usually written as the L _{Amin} .
Loudness	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.
Microphone	An electro-acoustic transducer which receives an acoustic signal and delivers a corresponding electric signal.
NCA	Noise Catchment Area. An area of study within which the noise environment is substantially similar.
NCG	Noise Criteria Guideline, Roads and Maritime Services (Transport for NSW)
NMG	Noise Mitigation Guideline, Roads and Maritime Services (Transport for NSW)
Noise	Unwanted sound
Pre-construction	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).

RBL	Rating Background Level is the representative LA90 background noise level for a period, as defined in the NSW EPA's noise policies.
Reflection	Sound wave reflected from a solid object obscuring its path.
Rw	<p>Weighted Sound Reduction Index</p> <p>A measure of the sound insulation performance of a building element. It is measured in very controlled conditions in a laboratory. The term supersedes the value STC which was used in older versions of the Building Code of Australia. Rw is measured and calculated using the procedure in ISO 717-1. The related field measurement is the DnT,w.</p> <p>The higher the value the better the acoustic performance of the building element.</p>
RNP	Road Noise Policy, NSW, March 2011
SEL	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.
Sound	A fluctuation of air pressure which is propagated as a wave through air.
Sound absorption	The ability of a material to absorb sound energy by conversion to thermal energy.
Sound Insulation	Sound insulation refers to the ability of a construction or building element to limit noise transmission through the building element. The sound insulation of a material can be described by the Rw and the sound insulation between two rooms can be described by the DnT,w.
Sound level meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound power level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 pico watt.
Sound pressure level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone referenced to 20 micro Pascal.
Spoil	Soil or materials arising from excavation activities.
Structure-borne Noise	<p>Audible noise generated by vibration induced in the ground and/or a structure. Vibration can be generated by impact or by solid contact with a vibrating machine.</p> <p>Structure-borne noise cannot be attenuated by barriers or walls but requires the isolation of the vibration source itself. This can be achieved using a resilient element placed between the vibration source and its support such as rubber, neoprene or springs or by physical separation (using an air gap for example).</p> <p>Examples of structure-borne noise include the noise of trains in underground tunnels heard to a listener above the ground, the sound of footsteps on the floor above a listener and the sound of a lift car passing in a shaft. See also 'Impact Noise'.</p>
TfNSW	Transport for New South Wales
Tonal Noise	Sound containing a prominent frequency and characterised by a definite pitch.
Transmission Loss	<p>The sound level difference between one room or area and another, usually of sound transmitted through an intervening partition or wall. Also the vibration level difference between one point and another.</p> <p>For example, if the sound level on one side of a wall is 100dB and 65dB on the other side, it is said that the transmission loss of the wall is 35dB. If the transmission loss is normalised or standardised, it then becomes the Rw or R'w or DnT,w.</p>

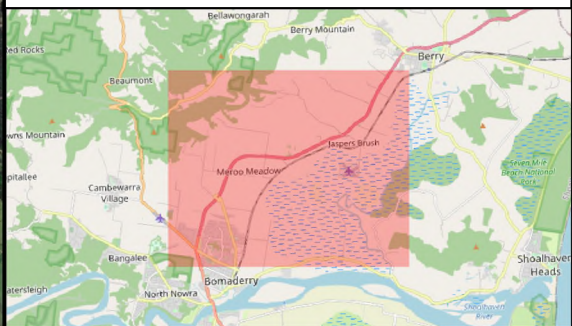
APPENDIX B Noise and traffic monitoring locations

3,000 m
 2,000
 1,000
 0



LEGEND

- 2023 noise monitoring locations
- NCA
- Design alignment



REV	BY	DATE	DESCRIPTION	APPROVER
r0	CC	11/09/23		

0 300 600 900 1,200 1,500 1,800 m

At A3 1:30,000

Full Size A3

NOTE: Do not scale from this drawing.

CLIENT

Transport for NSW

ACOUSTIC CONSULTANT

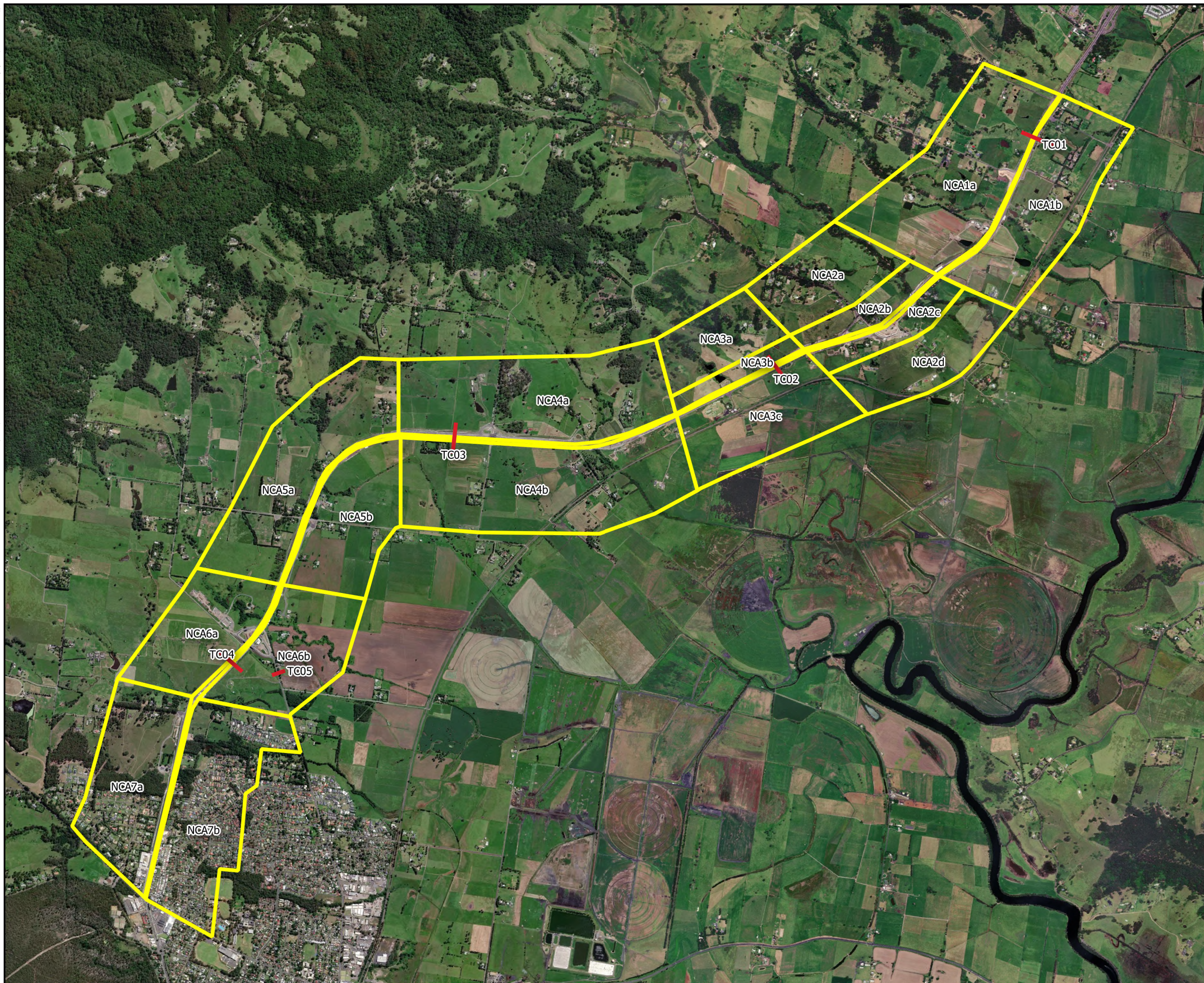
RENZO TONIN & ASSOCIATES
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**BERRY TO BOMADERRY
 PRINCES HIGHWAY UPGRADE**

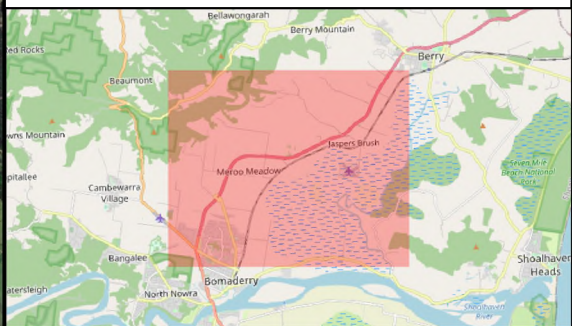
POST-CONSTRUCTION NOISE MONITORING
 LOCATIONS

3,000 m
2,000
1,000
0



LEGEND

- 2023 traffic monitoring locations
- NCA
- Design alignment



REV	BY	DATE	DESCRIPTION	APPROVER
r0	CC	11/09/23		

0 300 600 900 1,200 1,500 1,800 m

At A3 1:30,000

NOTE: Do not scale from this drawing.

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**BERRY TO BOMADERRY
PRINCES HIGHWAY UPGRADE**

POST-CONSTRUCTION TRAFFIC MONITORING
LOCATIONS

APPENDIX C Forecast 2019 and 2029 traffic volumes (from detailed design report)

Road	Location	Direction of traffic	Speed (km/h)	Annual average daily traffic	Daytime		Night-time	
					7:00am - 10:00pm		10:00pm - 7:00am	
					Total vehicles	Heavy vehicles %	Total vehicles	Heavy vehicles %
Opening year 2019								
Princes Highway	South of Mullers Lane	Northbound	110	10,912	9,993	9.8	919	18.0
		Southbound	110	10,152	9,321	11.5	831	21.3
Princes Highway	South of Meroo Road	Northbound	110	10,215	9,359	9.1	856	16.9
		Southbound	110	9,447	8,678	10.9	769	20.3
Princes Highway	South of Abernethys Lane	Northbound	70	10,215	9,359	9.1	856	16.9
		Southbound	70	9,447	8,678	10.9	769	20.3
Princes Highway	Meroo Road interchange	Northbound off-ramp	80	172	157	19.1	16	31.3
		Northbound on-ramp	80	870	791	19.0	79	31.6
		Southbound off-ramp	80	876	799	19.4	76	32.9
		Southbound on-ramp	80	171	156	19.2	15	33.3
Meroo Road	South of Princes Highway	Northbound	80	1,041	937	18.0	103	39.8
		Southbound	80	1,049	929	17.9	121	41.3
Design year 2029								
Princes Highway	South of Mullers Lane	Northbound	110	15,377	14,089	9.1	1,288	16.9
		Southbound	110	14,278	13,117	10.8	1,161	20.1
Princes Highway	South of Meroo Road	Northbound	110	14,518	13,308	8.6	1,210	16.0
		Southbound	110	13,410	12,325	10.2	1,085	19.2
Princes Highway	South of Abernethys Lane	Northbound	70	14,518	13,308	8.6	1,210	16.0
		Southbound	70	13,410	12,325	10.2	1,085	19.2
Princes Highway	Meroo Road interchange	Northbound off-ramp	80	212	193	19.2	19	31.6
		Northbound on-ramp	80	1,072	974	19.0	97	32.0
		Southbound off-ramp	80	1,079	984	19.3	94	33.0
		Southbound on-ramp	80	210	192	18.8	18	33.3
Meroo Road	South of Princes Highway	Northbound	80	1,282	1,154	18.0	127	39.4
		Southbound	80	1,293	1,144	17.8	149	41.6

APPENDIX D Comparison of pre-construction and post construction traffic noise levels

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA1a	NCA1a_001		Residential	G	SE	52.3	52.9	0.6	-	47.4	48.6	1.2	-	53.7	54.3	0.6	-	48.8	49.9	1.1	-
NCA1a	NCA1a_002		Residential	G	SE	52.1	52.6	0.5	-	47.2	48.3	1.1	-	53.5	54.0	0.5	-	48.6	49.7	1.1	-
NCA1a	NCA1a_003		Residential	G	E	54.0	54.5	0.5	-	49.1	50.2	1.1	-	55.4	55.9	0.5	-	50.4	51.6	1.2	-
NCA1a	NCA1a_004		Residential	G	SE	63.2	63.5	0.3	-	58.4	59.3	0.9	-	64.5	64.9	0.4	-	59.7	60.6	0.9	-
NCA1a	NCA1a_005		Residential	G	E	53.1	53.4	0.3	-	48.2	49.2	1.0	-	54.5	54.8	0.3	-	49.6	50.5	0.9	-
NCA1a	NCA1a_006		Residential	G	E	51.8	52.1	0.3	-	47.0	47.9	0.9	-	53.2	53.5	0.3	-	48.3	49.2	0.9	-
NCA1a	NCA1a_007		Residential	G	SE	52.2	52.6	0.4	-	47.3	48.3	1.0	-	53.6	54.0	0.4	-	48.7	49.7	1.0	-
NCA1a	NCA1a_008		Residential	G	E	50.1	50.6	0.5	-	45.2	46.3	1.1	-	51.5	52.0	0.5	-	46.6	47.7	1.1	-
NCA1a	NCA1a_009		Residential	G	E	49.6	50.1	0.5	-	44.7	45.8	1.1	-	51.0	51.4	0.4	-	46.1	47.1	1.0	-
NCA1a	NCA1a_010		Residential	G	SE	56.7	57.4	0.7	-	51.8	53.2	1.4	-	58.0	58.8	0.8	-	53.1	54.5	1.4	-
NCA1a	NCA1a_011		Residential	G	E	54.2	54.7	0.5	-	49.3	50.4	1.1	-	55.5	56.1	0.6	-	50.6	51.8	1.2	-
NCA1a	NCA1a_012		Residential	G	E	52.6	53.1	0.5	-	47.7	48.8	1.1	-	54.0	54.5	0.5	-	49.1	50.2	1.1	-
NCA1a	NCA1a_013		Residential	G	E	50.3	50.9	0.6	-	45.4	46.6	1.2	-	51.7	52.3	0.6	-	46.8	48.0	1.2	-
NCA1a	NCA1a_014		Residential	G	SE	50.2	50.8	0.6	-	45.3	46.6	1.3	-	51.6	52.2	0.6	-	46.7	47.9	1.2	-
NCA1a	NCA1a_015		Residential	G	SE	51.0	51.5	0.5	-	46.0	47.2	1.2	-	52.3	52.9	0.6	-	47.4	48.6	1.2	-
NCA1a	NCA1a_016		Residential	G	SE	57.8	58.3	0.5	-	53.0	54.1	1.1	-	59.2	59.6	0.4	-	54.3	55.4	1.1	-
NCA1a	NCA1a_016		Residential	1	SE	59.2	59.5	0.3	-	54.3	55.3	1.0	-	60.6	60.9	0.3	-	55.7	56.6	0.9	-
NCA1a	NCA1a_017	Turfco (Commercal)	Non Assess Building	G	SE	67.4	68.3	0.9	-	62.0	63.5	1.5	-	68.8	69.7	0.9	-	63.4	64.9	1.5	-
NCA1b	NCA1b_001		Residential	G	W	50.2	50.7	0.5	-	45.4	46.5	1.1	-	51.6	52.1	0.5	-	46.7	47.8	1.1	-
NCA1b	NCA1b_001		Residential	1	W	51.0	51.5	0.5	-	46.1	47.2	1.1	-	52.4	52.9	0.5	-	47.4	48.6	1.2	-
NCA1b	NCA1b_002		Residential	G	NW	60.6	61.5	0.9	-	55.9	57.3	1.4	-	62.0	62.9	0.9	-	57.2	58.7	1.5	-
NCA1b	NCA1b_003		Residential	G	W	52.9	53.6	0.7	-	48.2	49.4	1.2	-	54.3	55.0	0.7	-	49.5	50.7	1.2	-
NCA1b	NCA1b_004		Residential	G	W	55.7	56.6	0.9	-	51.1	52.5	1.4	-	57.1	58.0	0.9	-	52.4	53.9	1.5	-
NCA1b	NCA1b_005		Residential	G	NW	49.6	50.2	0.6	-	44.8	46.0	1.2	-	51.0	51.6	0.6	-	46.2	47.4	1.2	-
NCA1b	NCA1b_006		Residential	G	NW	53.8	54.5	0.7	-	49.1	50.3	1.2	-	55.2	55.8	0.6	-	50.4	51.6	1.2	-
NCA1b	NCA1b_007		Residential	G	NW	50.7	51.3	0.6	-	45.9	47.1	1.2	-	52.1	52.7	0.6	-	47.2	48.5	1.3	-
NCA1b	NCA1b_008		Residential	G	W	50.0	50.5	0.5	-	45.2	46.3	1.1	-	51.4	51.9	0.5	-	46.5	47.6	1.1	-
NCA1b	NCA1b_009		Residential	G	NW	52.9	53.4	0.5	-	48.0	49.1	1.1	-	54.2	54.8	0.6	-	49.3	50.5	1.2	-
NCA1b	NCA1b_010		Residential	G	W	55.1	55.6	0.5	-	50.2	51.4	1.2	-	56.4	57.0	0.6	-	51.6	52.7	1.1	-
NCA1b	NCA1b_011		Residential	G	NW	54.0	54.5	0.5	-	49.2	50.3	1.1	-	55.4	55.9	0.5	-	50.5	51.6	1.1	-
NCA1b	NCA1b_012		Residential	G	NW	60.6	61.4	0.8	-	55.8	57.1	1.3	-	62.0	62.8	0.8	-	57.2	58.5	1.3	-
NCA1b	NCA1b_013		Residential	G	NW	57.4	57.7	0.3	-	52.6	53.5	0.9	-	58.8	59.1	0.3	-	54.0	54.9	0.9	-
NCA1b	NCA1b_014		Residential	G	SW	61.1	61.5	0.4	-	56.2	57.3	1.1	-	62.4	62.9	0.5	-	57.5	58.6	1.1	-
NCA1b	NCA1b_014		Residential	G	NW	63.4	63.5	0.1	-	58.6	59.3	0.7	-	64.8	64.9	0.1	-	59.9	60.6	0.7	-
NCA2a	NCA2a_001		Residential	G	E	43.8	44.3	0.5	-	38.9	40.0	1.1	-	45.2	45.7	0.5	-	40.2	41.4	1.2	-
NCA2a	NCA2a_002		Residential	G	S	48.0	48.5	0.5	-	43.1	44.3	1.2	-	49.4	49.9	0.5	-	44.5	45.6	1.1	-
NCA2a	NCA2a_002		Residential	1	S	50.9	51.4	0.5	-	46.1	47.2	1.1	-	52.3	52.8	0.5	-	47.4	48.5	1.1	-
NCA2a	NCA2a_003		Residential	G	E	49.9	50.6	0.7	-	45.0	46.3	1.3	-	51.3	52.0	0.7	-	46.4	47.7	1.3	-
NCA2a	NCA2a_004		Residential	G	E	49.2	49.9	0.7	-	44.3	45.6	1.3	-	50.6	51.3	0.7	-	45.7	47.0	1.3	-
NCA2a	NCA2a_005		Residential	G	E	47.1	47.7	0.6	-	42.2	43.4	1.2	-	48.5	49.1	0.6	-	43.5	44.7	1.2	-
NCA2a	NCA2a_006		Residential	G	E	45.1	45.7	0.6	-	40.2	41.4	1.2	-	46.4	47.1	0.7	-	41.5	42.7	1.2	-
NCA2a	NCA2a_007		Residential	G	E	46.1	46.7	0.6	-	41.2	42.4	1.2	-	47.5	48.1	0.6	-	42.5	43.8	1.3	-
NCA2a	NCA2a_008		Residential	G	SW	54.6	55.2	0.6	-	49.7	50.9	1.2	-	56.0	56.6	0.6	-	51.0	52.3	1.3	-
NCA2a	NCA2a_009		Residential	G	SE	50.6	51.1	0.5	-	45.7	46.8	1.1	-	52.0	52.5	0.5	-	47.0	48.2	1.2	-
NCA2a	NCA2a_010		Residential	G	S	49.9	50.4	0.5	-	45.0	46.1	1.1	-	51.3	51.8	0.5	-	46.4	47.5	1.1	-
NCA2a	NCA2a_011		Residential	G	E	47.9	48.3	0.4	-	43.0	44.0	1.0	-	49.3	49.7	0.4	-	44.3	45.4	1.1	-
NCA2a	NCA2a_012		Residential	G	S	42.9	43.4	0.5	-	38.0	39.1	1.1	-	44.3	44.8	0.5	-	39.4	40.5	1.1	-
NCA2b	NCA2b_001		Residential	G	S	61.7	61.6	-0.1	-	56.9	57.3	0.4	-	63.1	63.0	-0.1	-	58.2	58.7	0.5	-
NCA2b	NCA2b_002		Residential	G	SE	60.2	60.6	0.4	-	55.4	56.4	1.0	-	61.6	62.0	0.4	-	56.7	57.8	1.1	-
NCA2b	NCA2b_003		Residential	G	SE	55.3	55.8	0.5	-	50.4	51.5	1.1	-	56.7	57.2	0.5	-	51.8	52.9	1.1	-
NCA2c	NCA2c_001		Residential	G	N	62.5	63.1	0.6	-	57.8	59.0	1.2	-	63.9	64.5	0.6	-	59.1	60.3	1.2	-
NCA2c	NCA2c_002		Residential	G	N	57.7	57.7	0.0	-	53.0	53.7	0.7	-	59.1	59.1	0.0	-	54.3	55.0	0.7	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA2c	NCA2c_003		Residential	G	W	58.9	59.9	1.0	-	54.2	55.9	1.7	-	60.2	61.2	1.0	-	55.6	57.2	1.6	-
NCA2c	NCA2c_004		Residential	G	W	59.6	60.3	0.7	-	54.9	56.3	1.4	-	61.0	61.7	0.7	-	56.3	57.6	1.3	-
NCA2c	NCA2c_005		Residential	G	N	57.0	57.9	0.9	-	52.3	53.7	1.4	-	58.3	59.2	0.9	-	53.6	55.0	1.4	-
NCA2c	NCA2c_006	Woodbyne Hotel (reception venue)	Non Assess Building	G	N	65.1	66.2	1.1	-	60.4	62.1	1.7	-	66.5	67.6	1.1	-	61.7	63.4	1.7	-
NCA2c	NCA2c_007	Woodbyne Hotel (reception venue)	Non Assess Building	G	NW	60.9	61.7	0.8	-	56.1	57.4	1.3	-	62.3	63.1	0.8	-	57.4	58.8	1.4	-
NCA2d	NCA2d_001		Residential	G	SW	48.5	48.9	0.4	-	43.6	44.7	1.1	-	49.9	50.3	0.4	-	45.0	46.1	1.1	-
NCA2d	NCA2d_002		Residential	G	W	45.2	45.9	0.7	-	40.3	41.6	1.3	-	46.6	47.3	0.7	-	41.6	43.0	1.4	-
NCA2d	NCA2d_003		Residential	G	W	52.8	53.2	0.4	-	48.1	49.1	1.0	-	54.2	54.5	0.3	-	49.4	50.4	1.0	-
NCA2d	NCA2d_004		Residential	G	NW	49.2	49.6	0.4	-	44.4	45.4	1.0	-	50.6	51.0	0.4	-	45.7	46.8	1.1	-
NCA2d	NCA2d_005		Residential	G	N	54.9	55.6	0.7	-	50.1	51.4	1.3	-	56.3	57.0	0.7	-	51.4	52.7	1.3	-
NCA2d	NCA2d_006		Residential	G	NW	54.3	55.1	0.8	-	49.5	50.9	1.4	-	55.7	56.5	0.8	-	50.9	52.3	1.4	-
NCA2d	NCA2d_007		Residential	G	NW	52.7	53.3	0.6	-	47.9	49.1	1.2	-	54.1	54.6	0.5	-	49.3	50.5	1.2	-
NCA2d	NCA2d_008		Residential	G	NW	51.9	52.6	0.7	-	47.1	48.4	1.3	-	53.3	54.0	0.7	-	48.4	49.7	1.3	-
NCA2d	NCA2d_009		Residential	G	NW	48.0	48.7	0.7	-	43.1	44.4	1.3	-	49.4	50.1	0.7	-	44.4	45.7	1.3	-
NCA2d	NCA2d_010		Residential	G	NE	49.7	50.4	0.7	-	44.9	46.2	1.3	-	51.0	51.7	0.7	-	46.2	47.5	1.3	-
NCA2d	NCA2d_011		Residential	G	NW	44.3	45.0	0.7	-	39.4	40.7	1.3	-	45.7	46.4	0.7	-	40.8	42.1	1.3	-
NCA3a	NCA3a_001		Residential	G	S	52.2	53.1	0.9	-	47.4	48.8	1.4	-	53.6	54.5	0.9	-	48.7	50.2	1.5	-
NCA3a	NCA3a_002		Residential	G	S	54.3	55.0	0.7	-	49.4	50.8	1.4	-	55.7	56.4	0.7	-	50.8	52.1	1.3	-
NCA3a	NCA3a_003		Residential	G	SE	50.8	51.7	0.9	-	45.9	47.4	1.5	-	52.2	53.1	0.9	-	47.3	48.7	1.4	-
NCA3a	NCA3a_003		Residential	1	SE	51.6	52.5	0.9	-	46.8	48.2	1.4	-	53.0	53.9	0.9	-	48.1	49.5	1.4	-
NCA3b	NCA3b_001	Being demolished	Non Assess Building	G	SE	69.3	70.2	0.9	-	63.9	65.5	1.6	-	70.7	71.6	0.9	-	65.3	66.8	1.5	-
NCA3c	NCA3c_001		Residential	G	NW	60.0	60.9	0.9	-	55.2	56.7	1.5	-	61.4	62.3	0.9	-	56.6	58.0	1.4	-
NCA3c	NCA3c_002		Residential	G	NW	63.6	64.0	0.4	-	58.9	59.9	1.0	-	65.0	65.4	0.4	-	60.2	61.3	1.1	-
NCA4a	NCA4a_001		Residential	G	S	61.0	61.8	0.8	-	56.1	57.5	1.4	-	62.4	63.1	0.7	-	57.5	58.8	1.3	-
NCA4a	NCA4a_002		Residential	G	S	57.0	57.7	0.7	-	52.2	53.4	1.2	-	58.4	59.1	0.7	-	53.5	54.8	1.3	-
NCA4a	NCA4a_003		Residential	G	SW	54.2	54.9	0.7	-	49.4	50.6	1.2	-	55.6	56.3	0.7	-	50.8	52.0	1.2	-
NCA4a	NCA4a_004		Residential	G	S	58.2	58.8	0.6	-	53.5	54.7	1.2	-	59.6	60.2	0.6	-	54.8	56.0	1.2	-
NCA4a	NCA4a_005		Residential	G	S	57.9	58.5	0.6	-	53.0	54.2	1.2	-	59.2	59.9	0.7	-	54.3	55.6	1.3	-
NCA4a	NCA4a_006		Residential	G	S	60.8	61.5	0.7	-	55.9	57.2	1.3	-	62.2	62.9	0.7	-	57.3	58.5	1.2	-
NCA4b	NCA4b_001		Residential	G	N	61.0	61.6	0.6	-	56.2	57.5	1.3	-	62.4	63.0	0.6	-	57.5	58.8	1.3	-
NCA4b	NCA4b_002		Residential	G	N	50.6	51.2	0.6	-	45.8	47.0	1.2	-	52.0	52.6	0.6	-	47.1	48.3	1.2	-
NCA4b	NCA4b_003		Residential	G	N	52.0	52.7	0.7	-	47.2	48.4	1.2	-	53.4	54.0	0.6	-	48.5	49.8	1.3	-
NCA4b	NCA4b_004		Residential	G	N	52.4	53.1	0.7	-	47.6	48.9	1.3	-	53.8	54.5	0.7	-	49.0	50.3	1.3	-
NCA4b	NCA4b_005		Residential	G	NW	58.3	59.0	0.7	-	53.5	54.8	1.3	-	59.7	60.4	0.7	-	54.9	56.1	1.2	-
NCA4b	NCA4b_006		Residential	G	NW	55.9	56.6	0.7	-	51.1	52.4	1.3	-	57.3	58.0	0.7	-	52.5	53.7	1.2	-
NCA4b	NCA4b_007		Residential	G	NW	57.6	58.3	0.7	-	52.9	54.1	1.2	-	59.0	59.7	0.7	-	54.2	55.5	1.3	-
NCA4b	NCA4b_008		Residential	G	NW	53.0	53.6	0.6	-	48.2	49.4	1.2	-	54.3	55.0	0.7	-	49.5	50.8	1.3	-
NCA4b	NCA4b_009		Residential	G	NW	53.4	54.2	0.8	-	48.7	50.0	1.3	-	54.8	55.6	0.8	-	50.0	51.3	1.3	-
NCA4b	NCA4b_010		Residential	G	NW	51.3	52.1	0.8	-	46.5	47.9	1.4	-	52.7	53.5	0.8	-	47.9	49.2	1.3	-
NCA4b	NCA4b_011		Residential	G	NE	50.3	51.1	0.8	-	45.5	46.9	1.4	-	51.6	52.5	0.9	-	46.8	48.2	1.4	-
NCA4b	NCA4b_012		Residential	G	N	52.3	53.0	0.7	-	47.5	48.8	1.3	-	53.7	54.4	0.7	-	48.8	50.2	1.4	-
NCA4b	NCA4b_013		Residential	G	NW	60.5	61.4	0.9	-	55.8	57.3	1.5	-	61.9	62.7	0.8	-	57.1	58.6	1.5	-
NCA5a	NCA5a_001		Residential	G	SE	63.1	63.7	0.6	-	58.2	59.4	1.2	-	64.4	65.1	0.7	-	59.5	60.8	1.3	-
NCA5a	NCA5a_002		Residential	G	S	58.4	59.0	0.6	-	53.5	54.7	1.2	-	59.8	60.4	0.6	-	54.8	56.1	1.3	-
NCA5a	NCA5a_003		Residential	G	S	57.8	58.4	0.6	-	52.9	54.1	1.2	-	59.2	59.8	0.6	-	54.2	55.4	1.2	-
NCA5a	NCA5a_004		Residential	G	S	60.7	61.4	0.7	-	55.8	57.1	1.3	-	62.1	62.8	0.7	-	57.1	58.4	1.3	-
NCA5a	NCA5a_005		Residential	G	SE	66.6	67.2	0.6	-	61.7	62.9	1.2	-	68.0	68.6	0.6	-	63.0	64.3	1.3	-
NCA5a	NCA5a_006		Residential	G	SE	61.9	62.5	0.6	-	57.0	58.3	1.3	-	63.3	63.9	0.6	-	58.4	59.6	1.2	-
NCA5a	NCA5a_007		Residential	G	SE	53.8	54.4	0.6	-	49.0	50.1	1.1	-	55.2	55.8	0.6	-	50.3	51.5	1.2	-
NCA5a	NCA5a_008		Residential	G	E	52.1	52.7	0.6	-	47.3	48.5	1.2	-	53.5	54.1	0.6	-	48.6	49.8	1.2	-
NCA5a	NCA5a_009		Residential	G	E	54.0	54.6	0.6	-	49.2	50.5	1.3	-	55.4	56.0	0.6	-	50.5	51.8	1.3	-
NCA5a	NCA5a_010		Residential	G	SE	54.0	54.5	0.5	-	49.2	50.3	1.1	-	55.4	55.9	0.5	-	50.5	51.6	1.1	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA5a	NCA5a_011		Residential	G	SE	62.6	63.1	0.5	-	57.8	58.9	1.1	-	64.0	64.5	0.5	-	59.1	60.2	1.1	-
NCA5a	NCA5a_011		Residential	1	SE	64.4	65.0	0.6	-	59.5	60.7	1.2	-	65.8	66.4	0.6	-	60.9	62.1	1.2	-
NCA5a	NCA5a_012		Residential	G	E	57.5	58.1	0.6	-	52.8	53.9	1.1	-	58.9	59.5	0.6	-	54.1	55.3	1.2	-
NCA5a	NCA5a_012		Residential	1	E	59.7	60.2	0.5	-	54.9	56.0	1.1	-	61.1	61.6	0.5	-	56.2	57.3	1.1	-
NCA5a	NCA5a_013	Camellia Cottage	Residential	G	E	63.0	63.5	0.5	-	58.2	59.3	1.1	-	64.4	64.9	0.5	-	59.5	60.6	1.1	-
NCA5a	NCA5a_014	Meroo Union Church	Places of worship	G	E	63.9	64.5	0.6	-	59.1	60.3	1.2	-	65.3	65.9	0.6	-	60.4	61.6	1.2	-
NCA5b	NCA5b_001		Residential	G	W	56.1	56.8	0.7	-	51.4	52.7	1.3	-	57.5	58.2	0.7	-	52.7	54.0	1.3	-
NCA5b	NCA5b_002		Residential	G	W	59.8	60.6	0.8	-	55.1	56.5	1.4	-	61.2	62.0	0.8	-	56.5	57.8	1.3	-
NCA5b	NCA5b_003		Residential	G	W	59.1	59.1	0.0	-	54.3	54.9	0.6	-	60.4	60.5	0.1	-	55.6	56.3	0.7	-
NCA5b	NCA5b_004		Residential	G	W	56.9	57.6	0.7	-	52.0	53.4	1.4	-	58.3	59.0	0.7	-	53.4	54.7	1.3	-
NCA5b	NCA5b_005		Residential	G	NW	54.9	55.6	0.7	-	50.1	51.4	1.3	-	56.3	57.0	0.7	-	51.4	52.7	1.3	-
NCA5b	NCA5b_006		Residential	G	W	51.1	51.7	0.6	-	46.3	47.5	1.2	-	52.5	53.1	0.6	-	47.6	48.8	1.2	-
NCA5b	NCA5b_007		Residential	G	N	52.7	53.3	0.6	-	47.8	49.1	1.3	-	54.1	54.7	0.6	-	49.1	50.4	1.3	-
NCA5b	NCA5b_008		Residential	G	NW	64.3	65.7	1.4	-	59.8	61.8	2.0	-	65.6	67.0	1.4	-	61.1	63.1	2.0	-
NCA6a	NCA6a_001	Shed	Non Assess Building	G	E	60.5	61.0	0.5	-	55.1	56.2	1.1	-	61.8	62.4	0.6	-	56.4	57.6	1.2	-
NCA6a	NCA6a_002		Residential	G	E	59.4	59.9	0.5	-	54.6	55.7	1.1	-	60.8	61.3	0.5	-	55.9	57.0	1.1	-
NCA6a	NCA6a_002		Residential	1	E	60.6	61.2	0.6	-	55.8	56.9	1.1	-	62.0	62.5	0.5	-	57.1	58.2	1.1	-
NCA6b	NCA6b_001		Residential	G	NW	50.0	50.5	0.5	-	45.4	46.4	1.0	-	51.3	51.8	0.5	-	46.7	47.7	1.0	-
NCA6b	NCA6b_002		Residential	G	W	59.0	58.3	-0.7	-	55.7	55.4	-0.3	-	60.0	59.4	-0.6	-	56.8	56.6	-0.2	-
NCA6b	NCA6b_003		Residential	G	E	59.8	58.6	-1.2	-	56.7	56.0	-0.7	-	60.8	59.6	-1.2	-	57.8	57.1	-0.7	-
NCA6b	NCA6b_004		Residential	G	N	56.7	57.5	0.8	-	52.1	53.4	1.3	-	58.0	58.8	0.8	-	53.4	54.7	1.3	-
NCA6b	NCA6b_005		Residential	G	W	61.5	62.8	1.3	-	57.1	58.9	1.8	-	62.9	64.1	1.2	-	58.3	60.2	1.9	-
NCA6b	NCA6b_006		Residential	G	W	58.7	59.6	0.9	-	54.1	55.5	1.4	-	60.1	60.9	0.8	-	55.4	56.9	1.5	-
NCA6b	NCA6b_007		Residential	G	W	62.3	63.6	1.3	-	57.8	59.7	1.9	-	63.6	64.9	1.3	-	59.1	61.0	1.9	-
NCA6b	NCA6b_008		Residential	G	W	59.7	60.6	0.9	-	54.8	56.3	1.5	-	61.1	62.0	0.9	-	56.2	57.7	1.5	-
NCA7a	NCA7a_001		Residential	G	E	58.8	59.5	0.7	-	54.0	55.4	1.4	-	60.2	60.9	0.7	-	55.4	56.7	1.3	-
NCA7a	NCA7a_002		Residential	G	E	53.9	54.7	0.8	-	49.1	50.5	1.4	-	55.3	56.1	0.8	-	50.5	51.9	1.4	-
NCA7a	NCA7a_003		Residential	G	E	50.9	51.6	0.7	-	46.1	47.5	1.4	-	52.3	53.0	0.7	-	47.5	48.8	1.3	-
NCA7a	NCA7a_004		Residential	G	E	51.1	51.9	0.8	-	46.4	47.8	1.4	-	52.5	53.3	0.8	-	47.8	49.1	1.3	-
NCA7a	NCA7a_005		Residential	G	E	54.3	54.9	0.6	-	49.5	50.8	1.3	-	55.7	56.3	0.6	-	50.9	52.1	1.2	-
NCA7a	NCA7a_006		Residential	G	E	56.1	56.7	0.6	-	51.3	52.6	1.3	-	57.5	58.2	0.7	-	52.7	54.0	1.3	-
NCA7a	NCA7a_007		Residential	G	E	51.6	52.2	0.6	-	47.0	48.2	1.2	-	53.0	53.6	0.6	-	48.4	49.6	1.2	-
NCA7a	NCA7a_008		Residential	G	N	50.6	51.1	0.5	-	45.8	47.0	1.2	-	52.0	52.5	0.5	-	47.2	48.3	1.1	-
NCA7a	NCA7a_009		Residential	G	N	50.9	51.3	0.4	-	46.1	47.2	1.1	-	52.3	52.7	0.4	-	47.5	48.6	1.1	-
NCA7a	NCA7a_010		Residential	G	E	50.5	51.0	0.5	-	45.7	46.8	1.1	-	51.9	52.4	0.5	-	47.1	48.2	1.1	-
NCA7a	NCA7a_011		Residential	G	E	48.9	49.6	0.7	-	44.3	45.5	1.2	-	50.3	51.0	0.7	-	45.6	46.9	1.3	-
NCA7a	NCA7a_012		Residential	G	E	47.7	48.2	0.5	-	43.0	44.1	1.1	-	49.1	49.6	0.5	-	44.3	45.5	1.2	-
NCA7a	NCA7a_013		Residential	G	E	47.8	48.3	0.5	-	43.1	44.3	1.2	-	49.1	49.7	0.6	-	44.4	45.6	1.2	-
NCA7a	NCA7a_014		Residential	G	E	46.6	47.2	0.6	-	42.0	43.2	1.2	-	48.0	48.6	0.6	-	43.4	44.6	1.2	-
NCA7a	NCA7a_015		Residential	G	E	48.6	49.2	0.6	-	43.9	45.1	1.2	-	50.0	50.6	0.6	-	45.3	46.5	1.2	-
NCA7a	NCA7a_016		Residential	G	E	48.7	49.4	0.7	-	44.1	45.4	1.3	-	50.1	50.8	0.7	-	45.5	46.8	1.3	-
NCA7a	NCA7a_017		Residential	G	E	49.5	50.2	0.7	-	44.9	46.2	1.3	-	50.9	51.6	0.7	-	46.3	47.6	1.3	-
NCA7a	NCA7a_018		Residential	G	E	49.7	50.3	0.6	-	45.0	46.3	1.3	-	51.1	51.7	0.6	-	46.4	47.7	1.3	-
NCA7a	NCA7a_019		Residential	G	E	52.5	53.2	0.7	-	47.9	49.2	1.3	-	53.9	54.6	0.7	-	49.3	50.6	1.3	-
NCA7a	NCA7a_020		Residential	G	E	48.8	49.5	0.7	-	44.2	45.5	1.3	-	50.1	50.9	0.8	-	45.5	46.9	1.4	-
NCA7a	NCA7a_021		Residential	G	E	49.6	50.3	0.7	-	45.0	46.3	1.3	-	51.0	51.7	0.7	-	46.4	47.7	1.3	-
NCA7a	NCA7a_022		Residential	G	NE	46.5	47.3	0.8	-	41.9	43.3	1.4	-	47.9	48.6	0.7	-	43.3	44.6	1.3	-
NCA7a	NCA7a_023		Residential	G	SE	46.5	47.1	0.6	-	41.9	43.1	1.2	-	47.9	48.5	0.6	-	43.3	44.5	1.2	-
NCA7a	NCA7a_024		Residential	G	SE	47.6	48.4	0.8	-	43.1	44.5	1.4	-	49.0	49.8	0.8	-	44.4	45.8	1.4	-
NCA7a	NCA7a_025		Residential	G	E	51.3	52.0	0.7	-	46.7	48.0	1.3	-	52.7	53.4	0.7	-	48.1	49.4	1.3	-
NCA7a	NCA7a_026		Residential	G	SE	50.6	51.4	0.8	-	46.0	47.4	1.4	-	51.9	52.8	0.9	-	47.4	48.8	1.4	-
NCA7a	NCA7a_027		Residential	G	E	46.9	47.4	0.5	-	42.3	43.4	1.1	-	48.3	48.8	0.5	-	43.6	44.8	1.2	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7a	NCA7a_028		Residential	G	SE	49.9	50.6	0.7	-	45.3	46.7	1.4	-	51.3	52.0	0.7	-	46.7	48.0	1.3	-
NCA7a	NCA7a_029		Residential	G	NE	53.2	53.9	0.7	-	48.7	50.0	1.3	-	54.6	55.3	0.7	-	50.0	51.4	1.4	-
NCA7a	NCA7a_030		Residential	G	E	53.6	54.4	0.8	-	49.0	50.5	1.5	-	55.0	55.8	0.8	-	50.4	51.8	1.4	-
NCA7a	NCA7a_031		Residential	G	E	52.7	53.7	1.0	-	48.1	49.8	1.7	-	54.1	55.1	1.0	-	49.5	51.1	1.6	-
NCA7a	NCA7a_032		Residential	G	SE	54.5	55.3	0.8	-	49.9	51.4	1.5	-	55.8	56.7	0.9	-	51.3	52.7	1.4	-
NCA7a	NCA7a_033		Residential	G	E	62.1	61.7	-0.4	-	57.5	57.8	0.3	-	63.5	63.1	-0.4	-	58.8	59.2	0.4	-
NCA7a	NCA7a_034		Residential	G	E	54.4	55.0	0.6	-	49.8	51.1	1.3	-	55.8	56.4	0.6	-	51.2	52.5	1.3	-
NCA7a	NCA7a_035		Residential	G	E	62.0	61.7	-0.3	-	57.4	57.8	0.4	-	63.3	63.1	-0.2	-	58.7	59.2	0.5	-
NCA7a	NCA7a_036		Residential	G	E	54.7	55.2	0.5	-	50.1	51.3	1.2	-	56.0	56.6	0.6	-	51.5	52.7	1.2	-
NCA7a	NCA7a_037		Residential	G	E	61.6	61.4	-0.2	-	57.1	57.5	0.4	-	63.0	62.7	-0.3	-	58.5	58.8	0.3	-
NCA7a	NCA7a_038		Residential	G	E	54.5	55.0	0.5	-	49.9	51.1	1.2	-	55.9	56.3	0.4	-	51.3	52.4	1.1	-
NCA7a	NCA7a_039		Residential	G	E	61.8	61.4	-0.4	-	57.3	57.5	0.2	-	63.2	62.8	-0.4	-	58.7	58.9	0.2	-
NCA7a	NCA7a_040		Residential	G	E	55.1	55.3	0.2	-	50.6	51.4	0.8	-	56.5	56.7	0.2	-	51.9	52.8	0.9	-
NCA7a	NCA7a_041		Residential	G	E	54.5	54.8	0.3	-	49.9	50.9	1.0	-	55.9	56.2	0.3	-	51.2	52.2	1.0	-
NCA7a	NCA7a_042		Residential	G	E	59.6	58.9	-0.7	-	55.1	55.1	0.0	-	61.0	60.3	-0.7	-	56.5	56.4	-0.1	-
NCA7a	NCA7a_043		Residential	G	E	61.4	60.7	-0.7	-	57.0	56.9	-0.1	-	62.8	62.1	-0.7	-	58.3	58.2	-0.1	-
NCA7a	NCA7a_044		Residential	G	E	60.7	60.0	-0.7	-	56.2	56.1	-0.1	-	62.0	61.4	-0.6	-	57.5	57.5	0.0	-
NCA7a	NCA7a_045		Residential	G	E	55.0	55.3	0.3	-	50.4	51.4	1.0	-	56.4	56.7	0.3	-	51.8	52.7	0.9	-
NCA7a	NCA7a_046		Residential	G	E	66.1	66.9	0.8	-	61.6	63.0	1.4	-	67.5	68.3	0.8	-	63.0	64.4	1.4	-
NCA7a	NCA7a_047		Residential	G	SE	58.2	58.3	0.1	-	53.7	54.3	0.6	-	59.6	59.7	0.1	-	55.0	55.7	0.7	-
NCA7a	NCA7a_048		Residential	G	E	54.6	54.9	0.3	-	49.9	50.9	1.0	-	56.0	56.3	0.3	-	51.3	52.3	1.0	-
NCA7a	NCA7a_049		Residential	G	N	53.4	53.9	0.5	-	48.7	49.8	1.1	-	54.8	55.3	0.5	-	50.1	51.2	1.1	-
NCA7a	NCA7a_050		Residential	G	E	52.2	52.7	0.5	-	47.5	48.6	1.1	-	53.6	54.2	0.6	-	48.9	50.0	1.1	-
NCA7a	NCA7a_051		Residential	G	E	51.7	52.1	0.4	-	46.9	48.0	1.1	-	53.1	53.5	0.4	-	48.3	49.4	1.1	-
NCA7a	NCA7a_052		Residential	G	E	51.7	52.2	0.5	-	47.0	48.1	1.1	-	53.1	53.6	0.5	-	48.3	49.5	1.2	-
NCA7a	NCA7a_053		Residential	G	E	51.4	51.9	0.5	-	46.7	47.8	1.1	-	52.8	53.3	0.5	-	48.0	49.2	1.2	-
NCA7a	NCA7a_054		Residential	G	N	48.8	49.4	0.6	-	43.9	45.2	1.3	-	50.2	50.8	0.6	-	45.3	46.5	1.2	-
NCA7a	NCA7a_055		Residential	G	E	49.4	50.0	0.6	-	44.7	45.9	1.2	-	50.8	51.5	0.7	-	46.1	47.3	1.2	-
NCA7a	NCA7a_056		Residential	G	E	46.6	47.1	0.5	-	41.9	43.1	1.2	-	47.9	48.5	0.6	-	43.3	44.5	1.2	-
NCA7a	NCA7a_057		Residential	G	SE	45.5	46.1	0.6	-	41.0	42.2	1.2	-	46.9	47.5	0.6	-	42.3	43.5	1.2	-
NCA7a	NCA7a_058		Residential	G	SE	44.6	45.1	0.5	-	40.0	41.2	1.2	-	46.0	46.5	0.5	-	41.4	42.5	1.1	-
NCA7a	NCA7a_059		Residential	G	SE	49.2	49.8	0.6	-	44.6	45.9	1.3	-	50.6	51.2	0.6	-	45.9	47.3	1.4	-
NCA7a	NCA7a_060		Residential	G	NE	47.9	48.5	0.6	-	43.3	44.6	1.3	-	49.2	49.9	0.7	-	44.6	45.9	1.3	-
NCA7a	NCA7a_061		Residential	G	SE	46.7	47.2	0.5	-	42.1	43.2	1.1	-	48.1	48.6	0.5	-	43.4	44.6	1.2	-
NCA7a	NCA7a_062		Residential	G	SE	46.3	46.9	0.6	-	41.7	43.0	1.3	-	47.6	48.3	0.7	-	43.0	44.3	1.3	-
NCA7a	NCA7a_063		Residential	G	E	45.8	46.4	0.6	-	41.2	42.5	1.3	-	47.2	47.8	0.6	-	42.6	43.8	1.2	-
NCA7a	NCA7a_064		Residential	G	SE	45.8	46.4	0.6	-	41.2	42.4	1.2	-	47.1	47.8	0.7	-	42.5	43.8	1.3	-
NCA7a	NCA7a_065		Residential	G	SE	43.5	44.1	0.6	-	38.9	40.1	1.2	-	44.9	45.5	0.6	-	40.3	41.5	1.2	-
NCA7a	NCA7a_066		Residential	G	SE	44.0	44.6	0.6	-	39.4	40.6	1.2	-	45.4	46.0	0.6	-	40.8	42.0	1.2	-
NCA7a	NCA7a_067		Residential	G	SE	52.6	53.4	0.8	-	48.0	49.5	1.5	-	53.9	54.8	0.9	-	49.4	50.8	1.4	-
NCA7a	NCA7a_068		Residential	G	E	51.3	51.8	0.5	-	46.6	47.7	1.1	-	52.7	53.2	0.5	-	48.0	49.1	1.1	-
NCA7a	NCA7a_068		Residential	1	E	52.1	52.6	0.5	-	47.4	48.5	1.1	-	53.5	54.0	0.5	-	48.8	49.9	1.1	-
NCA7a	NCA7a_069		Residential	G	E	48.2	48.7	0.5	-	43.6	44.8	1.2	-	49.6	50.1	0.5	-	44.9	46.1	1.2	-
NCA7a	NCA7a_069		Residential	1	E	50.5	51.1	0.6	-	45.9	47.2	1.3	-	51.8	52.5	0.7	-	47.2	48.5	1.3	-
NCA7a	NCA7a_070		Residential	G	SE	52.5	53.2	0.7	-	48.0	49.3	1.3	-	53.9	54.6	0.7	-	49.3	50.6	1.3	-
NCA7a	NCA7a_070		Residential	1	SE	54.3	54.8	0.5	-	49.7	50.9	1.2	-	55.7	56.2	0.5	-	51.1	52.3	1.2	-
NCA7a	NCA7a_071		Residential	G	SE	59.8	59.9	0.1	-	55.3	56.0	0.7	-	61.2	61.3	0.1	-	56.6	57.4	0.8	-
NCA7a	NCA7a_071		Residential	1	SE	61.4	61.7	0.3	-	56.8	57.8	1.0	-	62.8	63.1	0.3	-	58.1	59.1	1.0	-
NCA7a	NCA7a_072		Residential	G	E	50.2	50.8	0.6	-	45.5	46.6	1.1	-	51.6	52.2	0.6	-	46.8	48.0	1.2	-
NCA7a	NCA7a_072		Residential	1	E	51.3	51.8	0.5	-	46.6	47.7	1.1	-	52.7	53.2	0.5	-	47.9	49.1	1.2	-
NCA7a	NCA7a_073	Child care (Kids World Kindy)	Childcare Sleeping	G	E	64.8	65.5	0.7	-	60.3	61.6	1.3	-	66.2	66.9	0.7	-	61.6	63.0	1.4	-
NCA7a	NCA7a_073	Child care (Kids World Kindy)	Childcare Sleeping	1	E	66.3	66.8	0.5	-	61.6	62.9	1.3	-	67.7	68.2	0.5	-	63.0	64.2	1.2	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7a	NCA7a_074	Child care (Kids World Kindy)	Childcare Sleeping	G	E	57.2	58.2	1.0	-	52.6	54.2	1.6	-	58.6	59.6	1.0	-	54.0	55.6	1.6	-
NCA7a	NCA7a_075		Residential	G	SW	42.7	43.3	0.6	-	38.1	39.3	1.2	-	44.1	44.7	0.6	-	39.5	40.7	1.2	-
NCA7a	NCA7a_076	The Bounty Motel	Residential	G	E	66.5	67.3	0.8	-	61.9	63.3	1.4	-	67.9	68.6	0.7	-	63.3	64.7	1.4	-
NCA7b	NCA7b_002	Balan Village Motel	Residential	G	W	66.0	67.0	1.0	-	61.4	63.0	1.6	-	67.4	68.4	1.0	-	62.8	64.4	1.6	-
NCA7b	NCA7b_002	Balan Village Motel	Residential	1	W	67.4	68.3	0.9	-	62.7	64.3	1.6	-	68.8	69.7	0.9	-	64.1	65.7	1.6	-
NCA7b	NCA7b_003		Residential	G	SW	49.6	50.3	0.7	-	45.0	46.4	1.4	-	50.9	51.7	0.8	-	46.4	47.8	1.4	-
NCA7b	NCA7b_003		Residential	1	N	52.1	53.0	0.9	-	47.6	49.2	1.6	-	53.5	54.4	0.9	-	49.0	50.5	1.5	-
NCA7b	NCA7b_004		Residential	G	N	53.2	53.7	0.5	-	48.5	49.5	1.0	-	54.6	55.1	0.5	-	49.8	50.9	1.1	-
NCA7b	NCA7b_004		Residential	1	N	54.0	54.4	0.4	-	49.2	50.2	1.0	-	55.3	55.8	0.5	-	50.6	51.6	1.0	-
NCA7b	NCA7b_005		Residential	G	W	67.5	68.9	1.4	-	63.0	65.0	2.0	-	68.9	70.3	1.4	-	64.4	66.4	2.0	-
NCA7b	NCA7b_006		Residential	G	N	51.5	52.4	0.9	-	46.9	48.4	1.5	-	52.8	53.7	0.9	-	48.3	49.8	1.5	-
NCA7b	NCA7b_007		Residential	G	N	51.3	52.2	0.9	-	46.8	48.2	1.4	-	52.7	53.5	0.8	-	48.2	49.6	1.4	-
NCA7b	NCA7b_008		Residential	G	W	50.2	50.9	0.7	-	45.6	46.9	1.3	-	51.6	52.3	0.7	-	46.9	48.3	1.4	-
NCA7b	NCA7b_009		Residential	G	NE	47.4	47.8	0.4	-	43.0	43.7	0.7	-	48.8	49.1	0.3	-	44.3	45.1	0.8	-
NCA7b	NCA7b_009		Residential	1	NW	50.9	51.5	0.6	-	46.2	47.4	1.2	-	52.3	52.9	0.6	-	47.6	48.8	1.2	-
NCA7b	NCA7b_010		Residential	G	W	60.7	60.8	0.1	-	56.2	56.9	0.7	-	62.1	62.2	0.1	-	57.5	58.3	0.8	-
NCA7b	NCA7b_011		Residential	G	W	60.7	61.2	0.5	-	56.2	57.3	1.1	-	62.1	62.6	0.5	-	57.5	58.7	1.2	-
NCA7b	NCA7b_012		Residential	G	W	59.8	60.5	0.7	-	55.2	56.6	1.4	-	61.2	61.9	0.7	-	56.6	57.9	1.3	-
NCA7b	NCA7b_013		Residential	G	W	66.7	67.5	0.8	-	62.1	63.6	1.5	-	68.0	68.9	0.9	-	63.4	65.0	1.6	-
NCA7b	NCA7b_014		Residential	G	W	66.8	67.9	1.1	-	62.2	64.0	1.8	-	68.2	69.3	1.1	-	63.6	65.4	1.8	-
NCA7b	NCA7b_015		Residential	G	N	53.5	53.9	0.4	-	48.7	49.8	1.1	-	54.9	55.3	0.4	-	50.1	51.1	1.0	-
NCA7b	NCA7b_016		Residential	G	W	45.1	45.5	0.4	-	40.5	41.5	1.0	-	46.5	46.9	0.4	-	41.9	42.9	1.0	-
NCA7b	NCA7b_016		Residential	1	W	47.4	47.9	0.5	-	42.8	44.0	1.2	-	48.7	49.3	0.6	-	44.2	45.3	1.1	-
NCA7b	NCA7b_017		Residential	G	W	62.4	63.2	0.8	-	57.8	59.3	1.5	-	63.7	64.6	0.9	-	59.2	60.7	1.5	-
NCA7b	NCA7b_018		Residential	G	NW	61.4	62.0	0.6	-	56.8	58.1	1.3	-	62.8	63.4	0.6	-	58.2	59.5	1.3	-
NCA7b	NCA7b_019		Residential	G	S	50.6	51.1	0.5	-	46.0	47.0	1.0	-	52.0	52.5	0.5	-	47.3	48.3	1.0	-
NCA7b	NCA7b_020		Residential	G	E	61.9	60.7	-1.2	-	59.3	58.7	-0.6	-	62.8	61.7	-1.1	-	60.3	59.7	-0.6	-
NCA7b	NCA7b_021		Residential	G	NW	48.1	48.7	0.6	-	43.6	44.8	1.2	-	49.5	50.1	0.6	-	44.9	46.2	1.3	-
NCA7b	NCA7b_021		Residential	1	NW	49.6	50.3	0.7	-	45.1	46.3	1.2	-	51.0	51.6	0.6	-	46.4	47.7	1.3	-
NCA7b	NCA7b_022		Residential	G	W	66.8	67.8	1.0	-	62.2	63.8	1.6	-	68.1	69.2	1.1	-	63.5	65.2	1.7	-
NCA7b	NCA7b_023		Residential	G	W	66.1	67.2	1.1	-	61.5	63.2	1.7	-	67.5	68.6	1.1	-	62.9	64.6	1.7	-
NCA7b	NCA7b_024		Residential	G	W	67.7	68.8	1.1	-	63.1	64.9	1.8	-	69.1	70.2	1.1	-	64.5	66.3	1.8	-
NCA7b	NCA7b_025		Residential	G	W	67.3	68.5	1.2	-	62.7	64.6	1.9	-	68.7	69.9	1.2	-	64.1	66.0	1.9	-
NCA7b	NCA7b_026		Residential	G	W	66.6	67.8	1.2	-	62.1	63.9	1.8	-	68.0	69.2	1.2	-	63.5	65.2	1.7	-
NCA7b	NCA7b_027		Residential	G	W	51.2	52.1	0.9	-	46.6	48.2	1.6	-	52.6	53.5	0.9	-	48.0	49.5	1.5	-
NCA7b	NCA7b_028		Residential	G	N	49.8	50.6	0.8	-	45.3	46.6	1.3	-	51.2	52.0	0.8	-	46.6	48.0	1.4	-
NCA7b	NCA7b_029		Residential	G	W	49.7	50.4	0.7	-	45.1	46.4	1.3	-	51.1	51.8	0.7	-	46.5	47.8	1.3	-
NCA7b	NCA7b_030		Residential	G	N	50.3	51.2	0.9	-	45.8	47.2	1.4	-	51.7	52.5	0.8	-	47.1	48.6	1.5	-
NCA7b	NCA7b_031		Residential	G	W	51.1	51.9	0.8	-	46.5	48.0	1.5	-	52.5	53.3	0.8	-	47.9	49.3	1.4	-
NCA7b	NCA7b_032		Residential	G	W	51.2	51.9	0.7	-	46.6	47.9	1.3	-	52.6	53.3	0.7	-	47.9	49.3	1.4	-
NCA7b	NCA7b_033		Residential	G	W	51.4	52.1	0.7	-	46.8	48.1	1.3	-	52.8	53.5	0.7	-	48.1	49.5	1.4	-
NCA7b	NCA7b_034		Residential	G	N	49.9	50.6	0.7	-	45.3	46.6	1.3	-	51.2	52.0	0.8	-	46.7	48.0	1.3	-
NCA7b	NCA7b_035		Residential	G	W	50.5	51.3	0.8	-	45.9	47.3	1.4	-	51.9	52.7	0.8	-	47.3	48.7	1.4	-
NCA7b	NCA7b_036		Residential	G	W	52.4	53.1	0.7	-	47.8	49.1	1.3	-	53.7	54.5	0.8	-	49.1	50.5	1.4	-
NCA7b	NCA7b_037		Residential	G	W	52.6	53.3	0.7	-	48.0	49.3	1.3	-	54.0	54.7	0.7	-	49.4	50.7	1.3	-
NCA7b	NCA7b_038		Residential	G	W	52.9	53.6	0.7	-	48.3	49.7	1.4	-	54.3	55.0	0.7	-	49.7	51.0	1.3	-
NCA7b	NCA7b_039		Residential	G	SW	51.0	51.5	0.5	-	46.3	47.5	1.2	-	52.3	52.9	0.6	-	47.7	48.9	1.2	-
NCA7b	NCA7b_040		Residential	G	NW	51.1	51.7	0.6	-	46.5	47.8	1.3	-	52.5	53.1	0.6	-	47.9	49.1	1.2	-
NCA7b	NCA7b_041		Residential	G	W	48.5	49.1	0.6	-	43.9	45.1	1.2	-	49.8	50.5	0.7	-	45.2	46.5	1.3	-
NCA7b	NCA7b_042		Residential	G	W	48.2	48.8	0.6	-	43.6	44.8	1.2	-	49.6	50.2	0.6	-	45.0	46.2	1.2	-
NCA7b	NCA7b_043		Residential	G	W	48.1	48.7	0.6	-	43.5	44.7	1.2	-	49.5	50.1	0.6	-	44.9	46.1	1.2	-
NCA7b	NCA7b_044		Residential	G	W	48.0	48.6	0.6	-	43.4	44.6	1.2	-	49.4	50.0	0.6	-	44.8	46.0	1.2	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_045	Residential	G	W	46.8	47.2	0.4	-	42.1	43.2	1.1	-	48.2	48.6	0.4	-	43.5	44.6	1.1	-	
NCA7b	NCA7b_046	Residential	G	NW	46.8	47.3	0.5	-	42.2	43.3	1.1	-	48.2	48.7	0.5	-	43.6	44.7	1.1	-	
NCA7b	NCA7b_047	Residential	G	W	46.9	47.4	0.5	-	42.2	43.4	1.2	-	48.2	48.8	0.6	-	43.6	44.8	1.2	-	
NCA7b	NCA7b_048	Residential	G	W	46.5	47.1	0.6	-	41.9	43.1	1.2	-	47.9	48.5	0.6	-	43.3	44.4	1.1	-	
NCA7b	NCA7b_049	Residential	G	W	46.7	47.3	0.6	-	42.1	43.3	1.2	-	48.1	48.7	0.6	-	43.5	44.7	1.2	-	
NCA7b	NCA7b_050	Residential	G	SW	47.5	48.0	0.5	-	42.9	44.0	1.1	-	48.9	49.4	0.5	-	44.3	45.4	1.1	-	
NCA7b	NCA7b_051	Residential	G	SW	47.3	47.8	0.5	-	42.6	43.7	1.1	-	48.7	49.2	0.5	-	44.0	45.1	1.1	-	
NCA7b	NCA7b_052	Residential	G	W	47.9	48.4	0.5	-	43.3	44.4	1.1	-	49.3	49.8	0.5	-	44.7	45.8	1.1	-	
NCA7b	NCA7b_053	Residential	G	W	48.4	48.9	0.5	-	43.8	44.9	1.1	-	49.8	50.3	0.5	-	45.2	46.3	1.1	-	
NCA7b	NCA7b_054	Residential	G	W	49.0	49.5	0.5	-	44.4	45.5	1.1	-	50.4	50.9	0.5	-	45.8	46.9	1.1	-	
NCA7b	NCA7b_055	Residential	G	W	47.8	48.3	0.5	-	43.2	44.4	1.2	-	49.1	49.7	0.6	-	44.6	45.7	1.1	-	
NCA7b	NCA7b_056	Residential	G	W	46.7	47.4	0.7	-	42.2	43.4	1.2	-	48.1	48.7	0.6	-	43.5	44.8	1.3	-	
NCA7b	NCA7b_057	Residential	G	W	46.6	47.2	0.6	-	42.0	43.2	1.2	-	48.0	48.6	0.6	-	43.4	44.6	1.2	-	
NCA7b	NCA7b_058	Residential	G	W	47.1	47.6	0.5	-	42.5	43.7	1.2	-	48.4	49.0	0.6	-	43.8	45.0	1.2	-	
NCA7b	NCA7b_059	Residential	G	W	46.7	47.3	0.6	-	42.1	43.3	1.2	-	48.1	48.7	0.6	-	43.5	44.6	1.1	-	
NCA7b	NCA7b_060	Residential	G	W	46.4	47.0	0.6	-	41.8	43.0	1.2	-	47.8	48.4	0.6	-	43.1	44.4	1.3	-	
NCA7b	NCA7b_061	Residential	G	W	46.4	47.0	0.6	-	41.8	43.0	1.2	-	47.7	48.4	0.7	-	43.1	44.3	1.2	-	
NCA7b	NCA7b_062	Residential	G	W	48.0	48.6	0.6	-	43.4	44.6	1.2	-	49.4	50.0	0.6	-	44.8	46.0	1.2	-	
NCA7b	NCA7b_063	Residential	G	N	45.9	46.4	0.5	-	41.4	42.4	1.0	-	47.2	47.8	0.6	-	42.7	43.8	1.1	-	
NCA7b	NCA7b_064	Residential	G	N	46.2	46.8	0.6	-	41.7	42.8	1.1	-	47.6	48.2	0.6	-	43.1	44.2	1.1	-	
NCA7b	NCA7b_065	Residential	G	N	46.6	47.1	0.5	-	42.1	43.2	1.1	-	47.9	48.5	0.6	-	43.4	44.5	1.1	-	
NCA7b	NCA7b_066	Residential	G	W	48.5	49.2	0.7	-	44.0	45.2	1.2	-	49.9	50.6	0.7	-	45.3	46.6	1.3	-	
NCA7b	NCA7b_067	Residential	G	N	45.9	46.3	0.4	-	41.4	42.3	0.9	-	47.3	47.7	0.4	-	42.8	43.7	0.9	-	
NCA7b	NCA7b_068	Residential	G	S	45.9	46.4	0.5	-	41.3	42.4	1.1	-	47.3	47.8	0.5	-	42.7	43.7	1.0	-	
NCA7b	NCA7b_069	Residential	G	S	45.9	46.3	0.4	-	41.3	42.4	1.1	-	47.3	47.7	0.4	-	42.7	43.7	1.0	-	
NCA7b	NCA7b_070	Residential	G	W	48.2	48.9	0.7	-	43.7	45.0	1.3	-	49.6	50.3	0.7	-	45.0	46.3	1.3	-	
NCA7b	NCA7b_071	Residential	G	W	46.7	47.3	0.6	-	42.1	43.3	1.2	-	48.0	48.7	0.7	-	43.4	44.7	1.3	-	
NCA7b	NCA7b_072	Residential	G	W	46.0	46.4	0.4	-	41.4	42.4	1.0	-	47.3	47.8	0.5	-	42.7	43.8	1.1	-	
NCA7b	NCA7b_073	Residential	G	W	47.3	48.0	0.7	-	42.7	44.0	1.3	-	48.7	49.4	0.7	-	44.1	45.4	1.3	-	
NCA7b	NCA7b_074	Residential	G	W	45.8	46.3	0.5	-	41.2	42.3	1.1	-	47.2	47.7	0.5	-	42.6	43.7	1.1	-	
NCA7b	NCA7b_075	Residential	G	W	47.3	47.8	0.5	-	42.7	43.9	1.2	-	48.7	49.2	0.5	-	44.0	45.2	1.2	-	
NCA7b	NCA7b_076	Residential	G	N	46.1	46.6	0.5	-	41.5	42.6	1.1	-	47.4	48.0	0.6	-	42.9	44.0	1.1	-	
NCA7b	NCA7b_077	Residential	G	W	47.4	48.1	0.7	-	42.9	44.1	1.2	-	48.8	49.5	0.7	-	44.2	45.5	1.3	-	
NCA7b	NCA7b_078	Residential	G	W	45.9	46.4	0.5	-	41.3	42.4	1.1	-	47.2	47.8	0.6	-	42.6	43.8	1.2	-	
NCA7b	NCA7b_079	Residential	G	N	46.4	46.9	0.5	-	41.8	42.9	1.1	-	47.7	48.3	0.6	-	43.2	44.3	1.1	-	
NCA7b	NCA7b_080	Residential	G	W	46.9	47.5	0.6	-	42.3	43.5	1.2	-	48.3	48.9	0.6	-	43.7	44.9	1.2	-	
NCA7b	NCA7b_081	Residential	G	N	48.1	48.8	0.7	-	43.6	44.9	1.3	-	49.5	50.2	0.7	-	44.9	46.2	1.3	-	
NCA7b	NCA7b_082	Residential	G	N	48.4	49.2	0.8	-	43.9	45.3	1.4	-	49.8	50.6	0.8	-	45.2	46.7	1.5	-	
NCA7b	NCA7b_083	Residential	G	W	47.2	47.8	0.6	-	42.6	43.8	1.2	-	48.6	49.2	0.6	-	44.0	45.2	1.2	-	
NCA7b	NCA7b_084	Residential	G	W	48.7	49.4	0.7	-	44.1	45.5	1.4	-	50.1	50.8	0.7	-	45.5	46.8	1.3	-	
NCA7b	NCA7b_085	Residential	G	W	48.9	49.6	0.7	-	44.3	45.6	1.3	-	50.2	51.0	0.8	-	45.7	47.0	1.3	-	
NCA7b	NCA7b_086	Residential	G	SW	47.6	48.3	0.7	-	43.0	44.3	1.3	-	49.0	49.7	0.7	-	44.4	45.7	1.3	-	
NCA7b	NCA7b_087	Residential	G	NW	47.7	48.3	0.6	-	43.1	44.3	1.2	-	49.0	49.7	0.7	-	44.4	45.7	1.3	-	
NCA7b	NCA7b_088	Residential	G	NW	48.7	49.4	0.7	-	44.1	45.4	1.3	-	50.1	50.8	0.7	-	45.5	46.8	1.3	-	
NCA7b	NCA7b_089	Residential	G	W	48.9	49.5	0.6	-	44.3	45.5	1.2	-	50.2	50.9	0.7	-	45.6	46.9	1.3	-	
NCA7b	NCA7b_090	Residential	G	W	49.0	49.6	0.6	-	44.4	45.6	1.2	-	50.4	51.0	0.6	-	45.7	47.0	1.3	-	
NCA7b	NCA7b_091	Residential	G	W	49.2	49.8	0.6	-	44.6	45.8	1.2	-	50.6	51.2	0.6	-	46.0	47.2	1.2	-	
NCA7b	NCA7b_092	Residential	G	W	48.9	49.6	0.7	-	44.3	45.6	1.3	-	50.3	51.0	0.7	-	45.7	46.9	1.2	-	
NCA7b	NCA7b_093	Residential	G	W	48.8	49.4	0.6	-	44.2	45.4	1.2	-	50.2	50.8	0.6	-	45.5	46.8	1.3	-	
NCA7b	NCA7b_094	Residential	G	W	48.8	49.4	0.6	-	44.1	45.4	1.3	-	50.2	50.8	0.6	-	45.5	46.7	1.2	-	
NCA7b	NCA7b_095	Residential	G	W	49.8	50.4	0.6	-	45.2	46.4	1.2	-	51.2	51.8	0.6	-	46.6	47.8	1.2	-	
NCA7b	NCA7b_096	Residential	G	W	49.8	50.3	0.5	-	45.1	46.3	1.2	-	51.1	51.7	0.6	-	46.5	47.7	1.2	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_097		Residential	G	NW	50.2	50.8	0.6	-	45.6	46.8	1.2	-	51.6	52.2	0.6	-	46.9	48.2	1.3	-
NCA7b	NCA7b_098		Residential	G	NW	51.2	51.9	0.7	-	46.6	47.9	1.3	-	52.6	53.3	0.7	-	48.0	49.3	1.3	-
NCA7b	NCA7b_099		Residential	G	NW	50.1	50.8	0.7	-	45.6	46.9	1.3	-	51.5	52.2	0.7	-	46.9	48.2	1.3	-
NCA7b	NCA7b_100		Residential	G	NW	50.1	50.8	0.7	-	45.5	46.9	1.4	-	51.5	52.2	0.7	-	46.9	48.2	1.3	-
NCA7b	NCA7b_101		Residential	G	W	50.1	50.8	0.7	-	45.5	46.8	1.3	-	51.5	52.2	0.7	-	46.9	48.2	1.3	-
NCA7b	NCA7b_102		Residential	G	W	50.2	50.9	0.7	-	45.7	47.0	1.3	-	51.6	52.3	0.7	-	47.0	48.4	1.4	-
NCA7b	NCA7b_103		Residential	G	W	50.2	50.9	0.7	-	45.6	47.0	1.4	-	51.6	52.3	0.7	-	47.0	48.4	1.4	-
NCA7b	NCA7b_104		Residential	G	W	50.1	50.9	0.8	-	45.5	46.9	1.4	-	51.5	52.3	0.8	-	46.9	48.3	1.4	-
NCA7b	NCA7b_105		Residential	G	W	50.0	50.7	0.7	-	45.4	46.8	1.4	-	51.4	52.1	0.7	-	46.8	48.2	1.4	-
NCA7b	NCA7b_106		Residential	G	W	50.1	50.8	0.7	-	45.5	46.9	1.4	-	51.5	52.2	0.7	-	46.9	48.3	1.4	-
NCA7b	NCA7b_107		Residential	G	W	50.0	50.7	0.7	-	45.4	46.8	1.4	-	51.3	52.1	0.8	-	46.8	48.1	1.3	-
NCA7b	NCA7b_108		Residential	G	N	48.6	49.4	0.8	-	44.0	45.5	1.5	-	50.0	50.8	0.8	-	45.4	46.9	1.5	-
NCA7b	NCA7b_109		Residential	G	W	49.8	50.5	0.7	-	45.3	46.6	1.3	-	51.2	51.9	0.7	-	46.6	47.9	1.3	-
NCA7b	NCA7b_110		Residential	G	W	52.0	52.9	0.9	-	47.4	49.0	1.6	-	53.4	54.3	0.9	-	48.8	50.4	1.6	-
NCA7b	NCA7b_111		Residential	G	W	51.5	52.3	0.8	-	46.9	48.4	1.5	-	52.9	53.7	0.8	-	48.3	49.8	1.5	-
NCA7b	NCA7b_112		Residential	G	W	51.8	52.6	0.8	-	47.2	48.7	1.5	-	53.2	54.0	0.8	-	48.6	50.0	1.4	-
NCA7b	NCA7b_113		Residential	G	W	51.5	52.2	0.7	-	46.9	48.3	1.4	-	52.9	53.6	0.7	-	48.2	49.6	1.4	-
NCA7b	NCA7b_114		Residential	G	W	51.1	51.8	0.7	-	46.5	47.8	1.3	-	52.5	53.2	0.7	-	47.9	49.2	1.3	-
NCA7b	NCA7b_115		Residential	G	W	51.1	51.8	0.7	-	46.5	47.8	1.3	-	52.5	53.2	0.7	-	47.9	49.2	1.3	-
NCA7b	NCA7b_116		Residential	G	W	51.5	52.1	0.6	-	46.9	48.2	1.3	-	52.9	53.5	0.6	-	48.2	49.5	1.3	-
NCA7b	NCA7b_117		Residential	G	W	52.0	52.6	0.6	-	47.4	48.6	1.2	-	53.4	54.0	0.6	-	48.7	50.0	1.3	-
NCA7b	NCA7b_118		Residential	G	W	52.9	53.2	0.3	-	48.4	49.3	0.9	-	54.3	54.6	0.3	-	49.7	50.6	0.9	-
NCA7b	NCA7b_119		Residential	G	NW	52.9	53.7	0.8	-	48.4	49.7	1.3	-	54.3	55.1	0.8	-	49.8	51.1	1.3	-
NCA7b	NCA7b_120		Residential	G	NW	52.1	52.8	0.7	-	47.6	48.8	1.2	-	53.5	54.2	0.7	-	48.9	50.2	1.3	-
NCA7b	NCA7b_121		Residential	G	NW	51.3	51.9	0.6	-	46.7	48.0	1.3	-	52.7	53.3	0.6	-	48.0	49.3	1.3	-
NCA7b	NCA7b_122		Residential	G	NW	51.2	51.8	0.6	-	46.6	47.8	1.2	-	52.6	53.2	0.6	-	48.0	49.2	1.2	-
NCA7b	NCA7b_123		Residential	G	N	49.4	50.1	0.7	-	44.9	46.2	1.3	-	50.8	51.5	0.7	-	46.2	47.6	1.4	-
NCA7b	NCA7b_124		Residential	G	N	49.9	50.6	0.7	-	45.4	46.7	1.3	-	51.3	52.0	0.7	-	46.7	48.1	1.4	-
NCA7b	NCA7b_125		Residential	G	W	51.1	51.9	0.8	-	46.5	47.9	1.4	-	52.5	53.2	0.7	-	47.9	49.3	1.4	-
NCA7b	NCA7b_126		Residential	G	S	47.8	48.5	0.7	-	43.3	44.5	1.2	-	49.2	49.9	0.7	-	44.6	45.9	1.3	-
NCA7b	NCA7b_127		Residential	G	N	48.4	49.0	0.6	-	43.9	45.1	1.2	-	49.8	50.4	0.6	-	45.2	46.4	1.2	-
NCA7b	NCA7b_128		Residential	G	N	48.2	48.9	0.7	-	43.7	44.9	1.2	-	49.6	50.3	0.7	-	45.1	46.3	1.2	-
NCA7b	NCA7b_129		Residential	G	N	48.1	48.7	0.6	-	43.5	44.8	1.3	-	49.4	50.1	0.7	-	44.9	46.2	1.3	-
NCA7b	NCA7b_130		Residential	G	W	46.8	47.4	0.6	-	42.2	43.4	1.2	-	48.2	48.8	0.6	-	43.6	44.7	1.1	-
NCA7b	NCA7b_131		Residential	G	W	48.4	49.1	0.7	-	43.9	45.2	1.3	-	49.8	50.5	0.7	-	45.2	46.5	1.3	-
NCA7b	NCA7b_132		Residential	G	W	48.4	49.0	0.6	-	43.8	45.1	1.3	-	49.8	50.4	0.6	-	45.2	46.4	1.2	-
NCA7b	NCA7b_133		Residential	G	W	48.0	48.7	0.7	-	43.4	44.7	1.3	-	49.4	50.0	0.6	-	44.8	46.1	1.3	-
NCA7b	NCA7b_134		Residential	G	N	48.9	49.4	0.5	-	44.4	45.5	1.1	-	50.3	50.8	0.5	-	45.7	46.9	1.2	-
NCA7b	NCA7b_135		Residential	G	NW	49.2	49.9	0.7	-	44.6	46.0	1.4	-	50.5	51.3	0.8	-	46.0	47.4	1.4	-
NCA7b	NCA7b_136		Residential	G	NW	49.2	50.0	0.8	-	44.7	46.1	1.4	-	50.6	51.4	0.8	-	46.0	47.4	1.4	-
NCA7b	NCA7b_137		Residential	G	NW	49.0	49.7	0.7	-	44.5	45.8	1.3	-	50.4	51.1	0.7	-	45.8	47.2	1.4	-
NCA7b	NCA7b_138		Residential	G	NW	48.6	49.3	0.7	-	44.0	45.3	1.3	-	50.0	50.6	0.6	-	45.4	46.7	1.3	-
NCA7b	NCA7b_139		Residential	G	NW	47.8	48.4	0.6	-	43.3	44.5	1.2	-	49.2	49.8	0.6	-	44.6	45.8	1.2	-
NCA7b	NCA7b_140		Residential	G	NW	47.6	48.3	0.7	-	43.1	44.3	1.2	-	49.0	49.6	0.6	-	44.4	45.7	1.3	-
NCA7b	NCA7b_141		Residential	G	NW	48.9	49.4	0.5	-	44.3	45.5	1.2	-	50.2	50.8	0.6	-	45.6	46.8	1.2	-
NCA7b	NCA7b_142		Residential	G	NW	49.3	50.0	0.7	-	44.8	46.1	1.3	-	50.7	51.4	0.7	-	46.1	47.4	1.3	-
NCA7b	NCA7b_143		Residential	G	W	49.4	50.1	0.7	-	44.9	46.1	1.2	-	50.8	51.5	0.7	-	46.2	47.5	1.3	-
NCA7b	NCA7b_144		Residential	G	W	49.0	49.6	0.6	-	44.4	45.6	1.2	-	50.4	51.0	0.6	-	45.8	47.0	1.2	-
NCA7b	NCA7b_145		Residential	G	NW	49.4	50.1	0.7	-	44.8	46.1	1.3	-	50.8	51.5	0.7	-	46.2	47.5	1.3	-
NCA7b	NCA7b_146		Residential	G	N	49.4	50.0	0.6	-	44.9	46.0	1.1	-	50.8	51.4	0.6	-	46.2	47.4	1.2	-
NCA7b	NCA7b_147		Residential	G	W	50.9	51.6	0.7	-	46.4	47.7	1.3	-	52.3	53.0	0.7	-	47.7	49.1	1.4	-
NCA7b	NCA7b_148		Residential	G	W	50.7	51.4	0.7	-	46.1	47.5	1.4	-	52.1	52.8	0.7	-	47.5	48.8	1.3	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_149	Residential	G	W	50.7	51.4	0.7	-	46.2	47.5	1.3	-	52.1	52.8	0.7	-	47.5	48.9	1.4	-	
NCA7b	NCA7b_150	Residential	G	NW	50.7	51.4	0.7	-	46.1	47.5	1.4	-	52.1	52.8	0.7	-	47.5	48.8	1.3	-	
NCA7b	NCA7b_151	Residential	G	NW	50.7	51.4	0.7	-	46.2	47.5	1.3	-	52.1	52.8	0.7	-	47.5	48.9	1.4	-	
NCA7b	NCA7b_152	Residential	G	NW	50.5	51.2	0.7	-	45.9	47.2	1.3	-	51.9	52.5	0.6	-	47.3	48.6	1.3	-	
NCA7b	NCA7b_153	Residential	G	NW	50.1	50.8	0.7	-	45.5	46.8	1.3	-	51.5	52.2	0.7	-	46.9	48.2	1.3	-	
NCA7b	NCA7b_154	Residential	G	W	50.4	51.0	0.6	-	45.8	47.1	1.3	-	51.7	52.4	0.7	-	47.2	48.5	1.3	-	
NCA7b	NCA7b_155	Residential	G	W	49.5	50.0	0.5	-	44.9	46.1	1.2	-	50.8	51.4	0.6	-	46.2	47.4	1.2	-	
NCA7b	NCA7b_156	Residential	G	N	48.8	49.4	0.6	-	44.2	45.4	1.2	-	50.2	50.8	0.6	-	45.6	46.8	1.2	-	
NCA7b	NCA7b_157	Residential	G	W	49.8	50.5	0.7	-	45.3	46.6	1.3	-	51.2	51.9	0.7	-	46.7	48.0	1.3	-	
NCA7b	NCA7b_158	Residential	G	SW	48.9	49.6	0.7	-	44.4	45.7	1.3	-	50.3	51.0	0.7	-	45.7	47.0	1.3	-	
NCA7b	NCA7b_159	Residential	G	NW	49.0	49.7	0.7	-	44.5	45.8	1.3	-	50.3	51.1	0.8	-	45.8	47.2	1.4	-	
NCA7b	NCA7b_160	Residential	G	W	49.0	49.6	0.6	-	44.4	45.7	1.3	-	50.3	51.0	0.7	-	45.8	47.1	1.3	-	
NCA7b	NCA7b_161	Residential	G	NW	48.3	49.0	0.7	-	43.8	45.2	1.4	-	49.7	50.4	0.7	-	45.2	46.5	1.3	-	
NCA7b	NCA7b_162	Residential	G	W	48.5	49.2	0.7	-	44.0	45.3	1.3	-	49.9	50.5	0.6	-	45.3	46.6	1.3	-	
NCA7b	NCA7b_163	Residential	G	W	49.1	49.7	0.6	-	44.6	45.8	1.2	-	50.5	51.1	0.6	-	45.9	47.2	1.3	-	
NCA7b	NCA7b_164	Residential	G	W	49.5	50.1	0.6	-	44.9	46.2	1.3	-	50.8	51.5	0.7	-	46.3	47.6	1.3	-	
NCA7b	NCA7b_165	Residential	G	W	48.7	49.3	0.6	-	44.1	45.4	1.3	-	50.0	50.7	0.7	-	45.5	46.8	1.3	-	
NCA7b	NCA7b_166	Residential	G	W	48.2	48.8	0.6	-	43.7	44.8	1.1	-	49.6	50.2	0.6	-	45.0	46.2	1.2	-	
NCA7b	NCA7b_167	Residential	G	W	56.2	56.9	0.7	-	51.6	53.0	1.4	-	57.6	58.3	0.7	-	53.0	54.3	1.3	-	
NCA7b	NCA7b_168	Residential	G	W	55.9	56.5	0.6	-	51.3	52.6	1.3	-	57.3	57.9	0.6	-	52.7	54.0	1.3	-	
NCA7b	NCA7b_169	Residential	G	W	52.1	52.7	0.6	-	47.5	48.8	1.3	-	53.4	54.1	0.7	-	48.9	50.2	1.3	-	
NCA7b	NCA7b_170	Residential	G	SW	51.3	51.9	0.6	-	46.7	48.0	1.3	-	52.7	53.3	0.6	-	48.1	49.4	1.3	-	
NCA7b	NCA7b_171	Residential	G	NW	50.0	50.5	0.5	-	45.4	46.6	1.2	-	51.4	51.9	0.5	-	46.8	47.9	1.1	-	
NCA7b	NCA7b_172	Residential	G	N	49.8	50.3	0.5	-	45.2	46.3	1.1	-	51.2	51.7	0.5	-	46.5	47.7	1.2	-	
NCA7b	NCA7b_173	Residential	G	W	50.2	50.8	0.6	-	45.6	46.8	1.2	-	51.6	52.2	0.6	-	47.0	48.2	1.2	-	
NCA7b	NCA7b_174	Residential	G	W	51.2	51.8	0.6	-	46.6	47.9	1.3	-	52.5	53.2	0.7	-	48.0	49.3	1.3	-	
NCA7b	NCA7b_175	Residential	G	W	51.9	52.5	0.6	-	47.3	48.6	1.3	-	53.2	53.9	0.7	-	48.7	50.0	1.3	-	
NCA7b	NCA7b_176	Residential	G	NW	51.8	52.5	0.7	-	47.3	48.6	1.3	-	53.2	53.9	0.7	-	48.7	50.0	1.3	-	
NCA7b	NCA7b_177	Residential	G	SW	50.2	50.9	0.7	-	45.7	47.0	1.3	-	51.6	52.3	0.7	-	47.1	48.3	1.2	-	
NCA7b	NCA7b_178	Residential	G	W	50.0	50.7	0.7	-	45.4	46.7	1.3	-	51.4	52.0	0.6	-	46.8	48.1	1.3	-	
NCA7b	NCA7b_179	Residential	G	W	49.7	50.4	0.7	-	45.2	46.5	1.3	-	51.1	51.8	0.7	-	46.5	47.9	1.4	-	
NCA7b	NCA7b_180	Residential	G	W	48.4	48.9	0.5	-	43.8	45.0	1.2	-	49.8	50.3	0.5	-	45.2	46.3	1.1	-	
NCA7b	NCA7b_181	Residential	G	S	48.5	49.1	0.6	-	44.0	45.2	1.2	-	49.9	50.5	0.6	-	45.3	46.6	1.3	-	
NCA7b	NCA7b_182	Residential	G	W	47.3	47.8	0.5	-	42.6	43.7	1.1	-	48.6	49.2	0.6	-	44.0	45.1	1.1	-	
NCA7b	NCA7b_183	Residential	G	W	48.0	48.6	0.6	-	43.5	44.7	1.2	-	49.4	50.0	0.6	-	44.8	46.0	1.2	-	
NCA7b	NCA7b_184	Residential	G	W	47.8	48.3	0.5	-	43.2	44.3	1.1	-	49.2	49.7	0.5	-	44.5	45.7	1.2	-	
NCA7b	NCA7b_185	Residential	G	W	49.1	49.6	0.5	-	44.5	45.6	1.1	-	50.5	51.0	0.5	-	45.8	47.0	1.2	-	
NCA7b	NCA7b_186	Residential	G	W	49.0	49.5	0.5	-	44.4	45.5	1.1	-	50.4	50.9	0.5	-	45.7	46.9	1.2	-	
NCA7b	NCA7b_187	Residential	G	SW	49.9	50.5	0.6	-	45.3	46.6	1.3	-	51.3	51.9	0.6	-	46.7	47.9	1.2	-	
NCA7b	NCA7b_188	Residential	G	NW	51.2	51.8	0.6	-	46.7	47.9	1.2	-	52.6	53.2	0.6	-	48.0	49.2	1.2	-	
NCA7b	NCA7b_189	Residential	G	W	47.2	47.8	0.6	-	42.7	43.8	1.1	-	48.6	49.1	0.5	-	44.1	45.2	1.1	-	
NCA7b	NCA7b_190	Residential	G	SW	46.8	47.3	0.5	-	42.3	43.4	1.1	-	48.2	48.7	0.5	-	43.6	44.7	1.1	-	
NCA7b	NCA7b_191	Residential	G	W	46.4	46.8	0.4	-	41.8	42.9	1.1	-	47.8	48.2	0.4	-	43.2	44.2	1.0	-	
NCA7b	NCA7b_192	Residential	G	NW	47.3	47.9	0.6	-	42.8	44.0	1.2	-	48.7	49.3	0.6	-	44.1	45.3	1.2	-	
NCA7b	NCA7b_193	Residential	G	W	47.7	48.2	0.5	-	43.1	44.2	1.1	-	49.1	49.6	0.5	-	44.5	45.6	1.1	-	
NCA7b	NCA7b_194	Residential	G	S	46.0	46.6	0.6	-	41.5	42.7	1.2	-	47.3	48.0	0.7	-	42.8	44.0	1.2	-	
NCA7b	NCA7b_195	Residential	G	W	46.8	47.4	0.6	-	42.3	43.5	1.2	-	48.2	48.8	0.6	-	43.6	44.9	1.3	-	
NCA7b	NCA7b_196	Residential	G	W	47.1	47.8	0.7	-	42.5	43.9	1.4	-	48.4	49.2	0.8	-	43.9	45.2	1.3	-	
NCA7b	NCA7b_197	Residential	G	W	48.3	48.9	0.6	-	43.7	45.0	1.3	-	49.6	50.3	0.7	-	45.1	46.4	1.3	-	
NCA7b	NCA7b_198	Residential	G	W	48.4	49.0	0.6	-	43.9	45.1	1.2	-	49.8	50.4	0.6	-	45.2	46.5	1.3	-	
NCA7b	NCA7b_199	Residential	G	W	48.3	49.0	0.7	-	43.8	45.0	1.2	-	49.7	50.3	0.6	-	45.1	46.4	1.3	-	
NCA7b	NCA7b_200	Residential	G	W	48.1	48.6	0.5	-	43.5	44.7	1.2	-	49.5	50.0	0.5	-	44.9	46.0	1.1	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_201	Residential	G	N	46.6	47.0	0.4	-	42.0	43.0	1.0	-	48.0	48.4	0.4	-	43.4	44.4	1.0	-	
NCA7b	NCA7b_202	Residential	G	N	46.5	46.9	0.4	-	41.9	42.9	1.0	-	47.8	48.3	0.5	-	43.3	44.2	0.9	-	
NCA7b	NCA7b_203	Residential	G	W	46.6	47.1	0.5	-	42.0	43.1	1.1	-	48.0	48.5	0.5	-	43.4	44.4	1.0	-	
NCA7b	NCA7b_204	Residential	G	W	46.3	46.8	0.5	-	41.7	42.7	1.0	-	47.7	48.2	0.5	-	43.1	44.1	1.0	-	
NCA7b	NCA7b_205	Residential	G	N	46.3	46.6	0.3	-	41.8	42.6	0.8	-	47.6	48.0	0.4	-	43.1	44.0	0.9	-	
NCA7b	NCA7b_206	Residential	G	W	46.6	47.1	0.5	-	42.0	43.1	1.1	-	48.0	48.5	0.5	-	43.4	44.5	1.1	-	
NCA7b	NCA7b_207	Residential	G	W	47.6	48.3	0.7	-	43.1	44.4	1.3	-	49.0	49.6	0.6	-	44.4	45.7	1.3	-	
NCA7b	NCA7b_208	Residential	G	N	46.1	46.5	0.4	-	41.6	42.6	1.0	-	47.4	47.9	0.5	-	42.9	43.9	1.0	-	
NCA7b	NCA7b_209	Residential	G	SW	46.5	47.0	0.5	-	41.9	43.1	1.2	-	47.9	48.4	0.5	-	43.3	44.4	1.1	-	
NCA7b	NCA7b_210	Residential	G	W	46.1	46.7	0.6	-	41.6	42.7	1.1	-	47.5	48.1	0.6	-	42.9	44.1	1.2	-	
NCA7b	NCA7b_211	Residential	G	N	45.5	45.8	0.3	-	41.0	41.9	0.9	-	46.9	47.2	0.3	-	42.3	43.2	0.9	-	
NCA7b	NCA7b_212	Residential	G	W	45.6	46.2	0.6	-	41.1	42.3	1.2	-	47.0	47.6	0.6	-	42.4	43.6	1.2	-	
NCA7b	NCA7b_213	Residential	G	W	46.3	46.8	0.5	-	41.8	42.9	1.1	-	47.7	48.2	0.5	-	43.1	44.2	1.1	-	
NCA7b	NCA7b_214	Residential	G	W	46.3	46.7	0.4	-	41.7	42.7	1.0	-	47.6	48.1	0.5	-	43.0	44.1	1.1	-	
NCA7b	NCA7b_215	Residential	G	W	46.4	46.8	0.4	-	41.8	42.8	1.0	-	47.8	48.2	0.4	-	43.2	44.2	1.0	-	
NCA7b	NCA7b_216	Residential	G	S	46.7	47.2	0.5	-	42.2	43.3	1.1	-	48.1	48.6	0.5	-	43.6	44.6	1.0	-	
NCA7b	NCA7b_217	Residential	G	S	46.9	47.3	0.4	-	42.4	43.4	1.0	-	48.2	48.7	0.5	-	43.7	44.8	1.1	-	
NCA7b	NCA7b_218	Residential	G	W	47.7	48.3	0.6	-	43.1	44.3	1.2	-	49.1	49.7	0.6	-	44.5	45.7	1.2	-	
NCA7b	NCA7b_219	Residential	G	W	47.4	47.9	0.5	-	42.8	43.9	1.1	-	48.7	49.3	0.6	-	44.1	45.2	1.1	-	
NCA7b	NCA7b_220	Residential	G	W	47.3	47.8	0.5	-	42.7	43.8	1.1	-	48.7	49.2	0.5	-	44.1	45.2	1.1	-	
NCA7b	NCA7b_221	Residential	G	W	47.5	48.0	0.5	-	42.9	44.0	1.1	-	48.9	49.4	0.5	-	44.3	45.4	1.1	-	
NCA7b	NCA7b_222	Residential	G	W	47.6	48.2	0.6	-	43.0	44.2	1.2	-	49.0	49.6	0.6	-	44.4	45.5	1.1	-	
NCA7b	NCA7b_223	Residential	G	SW	47.0	47.5	0.5	-	42.4	43.6	1.2	-	48.3	48.9	0.6	-	43.7	44.9	1.2	-	
NCA7b	NCA7b_224	Residential	G	W	46.7	47.2	0.5	-	42.1	43.2	1.1	-	48.1	48.6	0.5	-	43.5	44.5	1.0	-	
NCA7b	NCA7b_225	Residential	G	W	46.8	47.3	0.5	-	42.2	43.3	1.1	-	48.2	48.7	0.5	-	43.5	44.6	1.1	-	
NCA7b	NCA7b_226	Residential	G	S	46.6	47.1	0.5	-	42.1	43.2	1.1	-	48.0	48.5	0.5	-	43.5	44.5	1.0	-	
NCA7b	NCA7b_227	Residential	G	NW	46.7	47.3	0.6	-	42.1	43.3	1.2	-	48.0	48.7	0.7	-	43.4	44.6	1.2	-	
NCA7b	NCA7b_228	Residential	G	S	46.0	46.3	0.3	-	41.5	42.3	0.8	-	47.3	47.7	0.4	-	42.8	43.7	0.9	-	
NCA7b	NCA7b_229	Residential	G	W	46.4	46.8	0.4	-	41.7	42.8	1.1	-	47.7	48.2	0.5	-	43.1	44.1	1.0	-	
NCA7b	NCA7b_230	Residential	G	W	47.1	47.6	0.5	-	42.5	43.7	1.2	-	48.5	49.0	0.5	-	43.9	45.0	1.1	-	
NCA7b	NCA7b_231	Residential	G	W	47.1	47.6	0.5	-	42.5	43.7	1.2	-	48.4	49.0	0.6	-	43.9	45.0	1.1	-	
NCA7b	NCA7b_232	Residential	G	S	45.8	46.1	0.3	-	41.4	42.2	0.8	-	47.2	47.5	0.3	-	42.8	43.5	0.7	-	
NCA7b	NCA7b_233	Residential	G	N	45.7	46.0	0.3	-	41.2	42.0	0.8	-	47.1	47.4	0.3	-	42.6	43.4	0.8	-	
NCA7b	NCA7b_234	Residential	G	N	47.3	47.7	0.4	-	42.8	43.6	0.8	-	48.7	49.0	0.3	-	44.2	45.0	0.8	-	
NCA7b	NCA7b_235	Residential	G	N	47.5	47.9	0.4	-	43.0	43.9	0.9	-	48.9	49.3	0.4	-	44.3	45.2	0.9	-	
NCA7b	NCA7b_236	Residential	G	N	47.1	47.5	0.4	-	42.6	43.5	0.9	-	48.5	48.9	0.4	-	43.9	44.8	0.9	-	
NCA7b	NCA7b_237	Residential	G	N	47.3	47.6	0.3	-	42.8	43.6	0.8	-	48.6	49.0	0.4	-	44.1	45.0	0.9	-	
NCA7b	NCA7b_238	Residential	G	N	47.3	47.8	0.5	-	42.8	43.8	1.0	-	48.7	49.1	0.4	-	44.1	45.1	1.0	-	
NCA7b	NCA7b_239	Residential	G	N	46.9	47.2	0.3	-	42.4	43.3	0.9	-	48.2	48.6	0.4	-	43.7	44.6	0.9	-	
NCA7b	NCA7b_240	Residential	G	W	47.8	48.3	0.5	-	43.1	44.3	1.2	-	49.1	49.7	0.6	-	44.5	45.6	1.1	-	
NCA7b	NCA7b_241	Residential	G	SE	43.6	43.6	0.0	-	39.5	39.8	0.3	-	44.9	44.9	0.0	-	40.8	41.2	0.4	-	
NCA7b	NCA7b_242	Residential	G	SE	43.8	43.8	0.0	-	39.7	40.0	0.3	-	45.1	45.1	0.0	-	41.0	41.3	0.3	-	
NCA7b	NCA7b_243	Residential	G	NE	47.7	48.2	0.5	-	43.1	44.1	1.0	-	49.1	49.6	0.5	-	44.4	45.5	1.1	-	
NCA7b	NCA7b_244	Residential	G	NW	47.5	48.1	0.6	-	42.9	44.0	1.1	-	48.9	49.5	0.6	-	44.2	45.3	1.1	-	
NCA7b	NCA7b_245	Residential	G	N	45.5	45.9	0.4	-	40.9	41.9	1.0	-	46.8	47.3	0.5	-	42.2	43.3	1.1	-	
NCA7b	NCA7b_246	Residential	G	SE	44.1	44.1	0.0	-	39.9	40.3	0.4	-	45.4	45.5	0.1	-	41.2	41.6	0.4	-	
NCA7b	NCA7b_247	Residential	G	SE	44.1	44.2	0.1	-	39.9	40.4	0.5	-	45.5	45.6	0.1	-	41.2	41.7	0.5	-	
NCA7b	NCA7b_248	Residential	G	SW	44.9	45.3	0.4	-	40.3	41.3	1.0	-	46.2	46.7	0.5	-	41.6	42.7	1.1	-	
NCA7b	NCA7b_249	Residential	G	SW	46.0	46.4	0.4	-	41.4	42.4	1.0	-	47.4	47.8	0.4	-	42.8	43.8	1.0	-	
NCA7b	NCA7b_250	Residential	G	NW	47.9	48.4	0.5	-	43.2	44.4	1.2	-	49.3	49.8	0.5	-	44.6	45.7	1.1	-	
NCA7b	NCA7b_251	Residential	G	W	49.1	49.6	0.5	-	44.4	45.6	1.2	-	50.5	51.0	0.5	-	45.8	47.0	1.2	-	
NCA7b	NCA7b_252	Residential	G	W	49.1	49.7	0.6	-	44.5	45.7	1.2	-	50.5	51.1	0.6	-	45.9	47.1	1.2	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_253	Residential	G	SW	47.4	47.9	0.5	-	42.8	43.9	1.1	-	48.8	49.3	0.5	-	44.1	45.3	1.2	-	
NCA7b	NCA7b_254	Residential	G	NW	46.0	46.5	0.5	-	41.5	42.5	1.0	-	47.4	47.9	0.5	-	42.8	43.9	1.1	-	
NCA7b	NCA7b_255	Residential	G	SW	47.0	47.5	0.5	-	42.4	43.6	1.2	-	48.4	48.9	0.5	-	43.8	44.9	1.1	-	
NCA7b	NCA7b_256	Residential	G	S	47.9	48.4	0.5	-	43.3	44.4	1.1	-	49.3	49.8	0.5	-	44.7	45.8	1.1	-	
NCA7b	NCA7b_257	Residential	G	W	49.6	50.3	0.7	-	45.0	46.3	1.3	-	51.0	51.6	0.6	-	46.4	47.7	1.3	-	
NCA7b	NCA7b_258	Residential	G	S	49.6	50.1	0.5	-	45.1	46.2	1.1	-	51.0	51.5	0.5	-	46.4	47.6	1.2	-	
NCA7b	NCA7b_259	Residential	G	S	49.9	50.5	0.6	-	45.4	46.6	1.2	-	51.3	51.9	0.6	-	46.8	48.0	1.2	-	
NCA7b	NCA7b_260	Residential	G	S	50.2	50.8	0.6	-	45.7	46.9	1.2	-	51.6	52.2	0.6	-	47.0	48.3	1.3	-	
NCA7b	NCA7b_261	Residential	G	S	50.6	51.2	0.6	-	46.0	47.3	1.3	-	51.9	52.6	0.7	-	47.4	48.6	1.2	-	
NCA7b	NCA7b_262	Residential	G	SW	51.6	52.3	0.7	-	47.0	48.3	1.3	-	53.0	53.6	0.6	-	48.4	49.7	1.3	-	
NCA7b	NCA7b_263	Residential	G	SW	51.4	52.0	0.6	-	46.8	48.0	1.2	-	52.8	53.4	0.6	-	48.2	49.4	1.2	-	
NCA7b	NCA7b_264	Residential	G	W	52.2	52.7	0.5	-	47.5	48.7	1.2	-	53.6	54.1	0.5	-	48.9	50.1	1.2	-	
NCA7b	NCA7b_265	Residential	G	SW	49.4	50.0	0.6	-	44.8	46.0	1.2	-	50.8	51.4	0.6	-	46.2	47.4	1.2	-	
NCA7b	NCA7b_266	Residential	G	N	49.2	49.7	0.5	-	44.6	45.7	1.1	-	50.6	51.1	0.5	-	45.9	47.1	1.2	-	
NCA7b	NCA7b_267	Residential	G	NW	50.4	51.0	0.6	-	45.8	47.0	1.2	-	51.8	52.4	0.6	-	47.1	48.3	1.2	-	
NCA7b	NCA7b_268	Residential	G	NW	50.2	50.8	0.6	-	45.5	46.7	1.2	-	51.6	52.2	0.6	-	46.9	48.1	1.2	-	
NCA7b	NCA7b_269	Residential	G	NW	50.5	51.1	0.6	-	45.9	47.1	1.2	-	51.9	52.5	0.6	-	47.2	48.5	1.3	-	
NCA7b	NCA7b_270	Residential	G	NW	50.2	50.8	0.6	-	45.5	46.7	1.2	-	51.6	52.2	0.6	-	46.9	48.1	1.2	-	
NCA7b	NCA7b_271	Residential	G	N	49.5	50.2	0.7	-	44.9	46.1	1.2	-	50.9	51.6	0.7	-	46.2	47.5	1.3	-	
NCA7b	NCA7b_272	Residential	G	NW	50.5	51.1	0.6	-	45.8	47.0	1.2	-	51.9	52.5	0.6	-	47.2	48.4	1.2	-	
NCA7b	NCA7b_273	Residential	G	NW	50.5	51.0	0.5	-	45.8	46.9	1.1	-	51.8	52.4	0.6	-	47.1	48.3	1.2	-	
NCA7b	NCA7b_274	Residential	G	NW	50.2	50.8	0.6	-	45.6	46.7	1.1	-	51.6	52.2	0.6	-	46.9	48.1	1.2	-	
NCA7b	NCA7b_275	Residential	G	N	49.7	50.2	0.5	-	45.1	46.1	1.0	-	51.1	51.6	0.5	-	46.5	47.5	1.0	-	
NCA7b	NCA7b_276	Residential	G	N	48.3	48.8	0.5	-	43.8	44.8	1.0	-	49.7	50.2	0.5	-	45.1	46.1	1.0	-	
NCA7b	NCA7b_277	Residential	G	N	47.6	48.0	0.4	-	43.1	44.0	0.9	-	49.0	49.4	0.4	-	44.4	45.4	1.0	-	
NCA7b	NCA7b_278	Residential	G	N	47.2	47.6	0.4	-	42.6	43.6	1.0	-	48.5	49.0	0.5	-	44.0	45.0	1.0	-	
NCA7b	NCA7b_279	Residential	G	NE	44.4	44.5	0.1	-	40.1	40.5	0.4	-	45.7	45.8	0.1	-	41.4	41.9	0.5	-	
NCA7b	NCA7b_280	Residential	G	NE	44.9	45.1	0.2	-	40.6	41.1	0.5	-	46.3	46.4	0.1	-	41.9	42.4	0.5	-	
NCA7b	NCA7b_281	Residential	G	SE	43.9	43.8	-0.1	-	39.9	40.1	0.2	-	45.2	45.1	-0.1	-	41.2	41.4	0.2	-	
NCA7b	NCA7b_282	Residential	G	NE	44.5	44.6	0.1	-	40.1	40.6	0.5	-	45.8	46.0	0.2	-	41.4	42.0	0.6	-	
NCA7b	NCA7b_283	Residential	G	NE	46.3	46.4	0.1	-	42.0	42.5	0.5	-	47.6	47.7	0.1	-	43.3	43.8	0.5	-	
NCA7b	NCA7b_284	Residential	G	NE	48.1	48.3	0.2	-	43.7	44.3	0.6	-	49.4	49.6	0.2	-	45.0	45.6	0.6	-	
NCA7b	NCA7b_285	Residential	G	NE	48.3	48.5	0.2	-	43.8	44.5	0.7	-	49.6	49.9	0.3	-	45.1	45.9	0.8	-	
NCA7b	NCA7b_286	Residential	G	W	47.3	47.8	0.5	-	42.7	43.8	1.1	-	48.7	49.2	0.5	-	44.0	45.2	1.2	-	
NCA7b	NCA7b_287	Residential	G	NW	46.4	46.9	0.5	-	41.9	43.0	1.1	-	47.8	48.3	0.5	-	43.3	44.3	1.0	-	
NCA7b	NCA7b_288	Residential	G	NW	46.2	46.7	0.5	-	41.7	42.7	1.0	-	47.6	48.1	0.5	-	43.1	44.1	1.0	-	
NCA7b	NCA7b_289	Residential	G	NW	46.2	46.6	0.4	-	41.7	42.7	1.0	-	47.5	48.0	0.5	-	43.0	44.0	1.0	-	
NCA7b	NCA7b_290	Residential	G	NW	46.9	47.4	0.5	-	42.4	43.4	1.0	-	48.3	48.8	0.5	-	43.8	44.8	1.0	-	
NCA7b	NCA7b_291	Residential	G	N	47.0	47.3	0.3	-	42.5	43.4	0.9	-	48.3	48.7	0.4	-	43.8	44.7	0.9	-	
NCA7b	NCA7b_292	Residential	G	N	47.2	47.6	0.4	-	42.7	43.6	0.9	-	48.6	49.0	0.4	-	44.1	45.0	0.9	-	
NCA7b	NCA7b_293	Residential	G	N	47.3	47.7	0.4	-	42.8	43.7	0.9	-	48.7	49.1	0.4	-	44.2	45.1	0.9	-	
NCA7b	NCA7b_294	Residential	G	N	47.5	48.1	0.6	-	43.0	44.1	1.1	-	48.9	49.4	0.5	-	44.3	45.4	1.1	-	
NCA7b	NCA7b_295	Residential	G	NW	47.3	47.7	0.4	-	42.7	43.7	1.0	-	48.6	49.1	0.5	-	44.1	45.1	1.0	-	
NCA7b	NCA7b_296	Residential	G	NE	45.7	46.0	0.3	-	41.1	41.9	0.8	-	47.0	47.3	0.3	-	42.5	43.2	0.7	-	
NCA7b	NCA7b_297	Residential	G	N	46.1	46.4	0.3	-	41.5	42.3	0.8	-	47.4	47.8	0.4	-	42.9	43.7	0.8	-	
NCA7b	NCA7b_298	Residential	G	N	45.5	45.8	0.3	-	41.0	41.9	0.9	-	46.9	47.2	0.3	-	42.4	43.2	0.8	-	
NCA7b	NCA7b_299	Residential	G	NE	45.5	45.9	0.4	-	41.0	41.8	0.8	-	46.9	47.3	0.4	-	42.3	43.1	0.8	-	
NCA7b	NCA7b_300	Residential	G	N	46.8	47.2	0.4	-	42.2	43.2	1.0	-	48.1	48.6	0.5	-	43.6	44.5	0.9	-	
NCA7b	NCA7b_301	Residential	G	N	47.5	47.9	0.4	-	43.0	43.9	0.9	-	48.8	49.3	0.5	-	44.3	45.3	1.0	-	
NCA7b	NCA7b_302	Residential	G	N	47.8	48.3	0.5	-	43.4	44.3	0.9	-	49.2	49.7	0.5	-	44.7	45.7	1.0	-	
NCA7b	NCA7b_303	Residential	G	N	47.8	48.3	0.5	-	43.3	44.2	0.9	-	49.2	49.6	0.4	-	44.6	45.6	1.0	-	
NCA7b	NCA7b_304	Residential	G	NW	47.8	48.3	0.5	-	43.3	44.3	1.0	-	49.1	49.6	0.5	-	44.6	45.6	1.0	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_305	Residential	G	NW	47.4	47.9	0.5	-	42.8	43.9	1.1	-	48.8	49.3	0.5	-	44.1	45.2	1.1	-	
NCA7b	NCA7b_306	Residential	G	N	46.9	47.4	0.5	-	42.3	43.4	1.1	-	48.2	48.8	0.6	-	43.6	44.7	1.1	-	
NCA7b	NCA7b_307	Residential	G	NW	46.1	46.6	0.5	-	41.6	42.6	1.0	-	47.4	47.9	0.5	-	42.9	43.9	1.0	-	
NCA7b	NCA7b_308	Residential	G	NW	44.8	45.2	0.4	-	40.4	41.3	0.9	-	46.2	46.6	0.4	-	41.7	42.7	1.0	-	
NCA7b	NCA7b_309	Residential	G	NW	45.2	45.6	0.4	-	40.7	41.6	0.9	-	46.5	46.9	0.4	-	42.1	43.0	0.9	-	
NCA7b	NCA7b_310	Residential	G	NW	45.1	45.5	0.4	-	40.7	41.6	0.9	-	46.5	46.9	0.4	-	42.0	42.9	0.9	-	
NCA7b	NCA7b_311	Residential	G	NW	45.1	45.5	0.4	-	40.7	41.5	0.8	-	46.5	46.9	0.4	-	42.0	42.9	0.9	-	
NCA7b	NCA7b_312	Residential	G	NW	45.1	45.5	0.4	-	40.7	41.5	0.8	-	46.4	46.8	0.4	-	42.0	42.9	0.9	-	
NCA7b	NCA7b_313	Residential	G	N	46.5	46.7	0.2	-	42.2	42.8	0.6	-	47.8	48.1	0.3	-	43.5	44.1	0.6	-	
NCA7b	NCA7b_314	Residential	G	W	54.1	54.7	0.6	-	49.6	50.8	1.2	-	55.5	56.1	0.6	-	50.9	52.1	1.2	-	
NCA7b	NCA7b_315	Residential	G	W	55.4	56.0	0.6	-	50.9	52.1	1.2	-	56.8	57.4	0.6	-	52.2	53.5	1.3	-	
NCA7b	NCA7b_316	Residential	G	W	55.2	55.9	0.7	-	50.7	52.0	1.3	-	56.6	57.3	0.7	-	52.0	53.3	1.3	-	
NCA7b	NCA7b_317	Residential	G	W	55.1	55.9	0.8	-	50.5	51.9	1.4	-	56.5	57.3	0.8	-	51.9	53.3	1.4	-	
NCA7b	NCA7b_318	Residential	G	W	55.3	55.9	0.6	-	50.7	51.9	1.2	-	56.7	57.3	0.6	-	52.1	53.3	1.2	-	
NCA7b	NCA7b_319	Residential	G	W	55.5	55.9	0.4	-	50.9	51.9	1.0	-	56.9	57.3	0.4	-	52.2	53.3	1.1	-	
NCA7b	NCA7b_320	Residential	G	W	55.9	56.3	0.4	-	51.3	52.3	1.0	-	57.3	57.7	0.4	-	52.7	53.7	1.0	-	
NCA7b	NCA7b_321	Residential	G	W	56.2	56.5	0.3	-	51.6	52.6	1.0	-	57.6	57.9	0.3	-	53.0	53.9	0.9	-	
NCA7b	NCA7b_322	Residential	G	W	56.3	56.7	0.4	-	51.7	52.7	1.0	-	57.7	58.1	0.4	-	53.1	54.1	1.0	-	
NCA7b	NCA7b_323	Residential	G	W	56.4	56.8	0.4	-	51.8	52.8	1.0	-	57.8	58.2	0.4	-	53.2	54.2	1.0	-	
NCA7b	NCA7b_324	Residential	G	W	54.2	54.4	0.2	-	49.5	50.4	0.9	-	55.6	55.8	0.2	-	50.9	51.8	0.9	-	
NCA7b	NCA7b_325	Residential	G	W	53.9	54.3	0.4	-	49.2	50.2	1.0	-	55.3	55.7	0.4	-	50.5	51.6	1.1	-	
NCA7b	NCA7b_326	Residential	G	W	53.2	53.7	0.5	-	48.5	49.6	1.1	-	54.6	55.1	0.5	-	49.9	51.0	1.1	-	
NCA7b	NCA7b_327	Residential	G	N	50.0	50.6	0.6	-	45.3	46.5	1.2	-	51.4	52.0	0.6	-	46.7	47.9	1.2	-	
NCA7b	NCA7b_328	Residential	G	NW	51.1	51.7	0.6	-	46.4	47.6	1.2	-	52.5	53.1	0.6	-	47.8	49.0	1.2	-	
NCA7b	NCA7b_329	Residential	G	W	50.8	51.4	0.6	-	46.1	47.4	1.3	-	52.2	52.8	0.6	-	47.5	48.7	1.2	-	
NCA7b	NCA7b_330	Residential	G	W	54.5	54.6	0.1	-	49.8	50.6	0.8	-	55.8	56.0	0.2	-	51.2	51.9	0.7	-	
NCA7b	NCA7b_331	Residential	G	W	51.4	52.0	0.6	-	46.6	47.9	1.3	-	52.8	53.4	0.6	-	48.0	49.3	1.3	-	
NCA7b	NCA7b_332	Residential	G	W	54.8	54.9	0.1	-	50.1	50.9	0.8	-	56.2	56.3	0.1	-	51.5	52.3	0.8	-	
NCA7b	NCA7b_333	Residential	G	W	51.4	52.1	0.7	-	46.7	48.0	1.3	-	52.8	53.5	0.7	-	48.1	49.3	1.2	-	
NCA7b	NCA7b_334	Residential	G	W	55.1	55.3	0.2	-	50.4	51.2	0.8	-	56.5	56.7	0.2	-	51.8	52.6	0.8	-	
NCA7b	NCA7b_335	Residential	G	W	51.6	52.2	0.6	-	46.8	48.1	1.3	-	53.0	53.6	0.6	-	48.2	49.5	1.3	-	
NCA7b	NCA7b_336	Residential	G	W	55.2	55.5	0.3	-	50.6	51.4	0.8	-	56.6	56.9	0.3	-	52.0	52.8	0.8	-	
NCA7b	NCA7b_337	Residential	G	W	51.3	51.9	0.6	-	46.6	47.8	1.2	-	52.7	53.3	0.6	-	48.0	49.2	1.2	-	
NCA7b	NCA7b_338	Residential	G	NW	55.0	55.3	0.3	-	50.3	51.2	0.9	-	56.4	56.7	0.3	-	51.7	52.6	0.9	-	
NCA7b	NCA7b_339	Residential	G	NW	54.4	54.9	0.5	-	49.7	50.9	1.2	-	55.8	56.3	0.5	-	51.1	52.2	1.1	-	
NCA7b	NCA7b_340	Residential	G	N	52.2	52.8	0.6	-	47.5	48.7	1.2	-	53.6	54.2	0.6	-	48.9	50.1	1.2	-	
NCA7b	NCA7b_341	Residential	G	NW	54.0	54.6	0.6	-	49.3	50.5	1.2	-	55.3	56.0	0.7	-	50.6	51.9	1.3	-	
NCA7b	NCA7b_342	Residential	G	N	53.3	53.9	0.6	-	48.6	49.8	1.2	-	54.7	55.3	0.6	-	49.9	51.1	1.2	-	
NCA7b	NCA7b_343	Residential	G	N	53.0	53.5	0.5	-	48.3	49.3	1.0	-	54.4	54.9	0.5	-	49.6	50.7	1.1	-	
NCA7b	NCA7b_344	Residential	G	N	52.4	52.8	0.4	-	47.7	48.7	1.0	-	53.8	54.2	0.4	-	49.1	50.0	0.9	-	
NCA7b	NCA7b_345	Residential	G	N	52.3	52.7	0.4	-	47.6	48.6	1.0	-	53.7	54.1	0.4	-	49.0	49.9	0.9	-	
NCA7b	NCA7b_346	Residential	G	N	52.5	52.8	0.3	-	47.8	48.7	0.9	-	53.9	54.2	0.3	-	49.2	50.1	0.9	-	
NCA7b	NCA7b_347	Residential	G	N	51.9	52.2	0.3	-	47.2	48.1	0.9	-	53.3	53.6	0.3	-	48.6	49.5	0.9	-	
NCA7b	NCA7b_348	Residential	G	N	51.2	51.7	0.5	-	46.6	47.6	1.0	-	52.6	53.1	0.5	-	48.0	49.0	1.0	-	
NCA7b	NCA7b_349	Residential	G	NE	50.3	50.8	0.5	-	45.8	46.7	0.9	-	51.7	52.2	0.5	-	47.1	48.1	1.0	-	
NCA7b	NCA7b_350	Residential	G	NE	49.7	50.1	0.4	-	45.1	46.0	0.9	-	51.0	51.5	0.5	-	46.5	47.4	0.9	-	
NCA7b	NCA7b_351	Residential	G	NE	48.5	48.8	0.3	-	44.1	44.8	0.7	-	49.9	50.2	0.3	-	45.4	46.2	0.8	-	
NCA7b	NCA7b_352	Residential	G	N	50.0	50.5	0.5	-	45.4	46.4	1.0	-	51.4	51.9	0.5	-	46.8	47.8	1.0	-	
NCA7b	NCA7b_353	Residential	G	N	50.9	51.4	0.5	-	46.3	47.4	1.1	-	52.3	52.8	0.5	-	47.6	48.7	1.1	-	
NCA7b	NCA7b_354	Residential	G	NW	52.6	53.1	0.5	-	47.9	48.9	1.0	-	54.0	54.5	0.5	-	49.3	50.3	1.0	-	
NCA7b	NCA7b_355	Residential	G	NW	52.6	53.1	0.5	-	47.8	48.9	1.1	-	53.9	54.5	0.6	-	49.2	50.3	1.1	-	
NCA7b	NCA7b_356	Residential	G	NW	52.3	52.9	0.6	-	47.5	48.8	1.3	-	53.7	54.3	0.6	-	48.9	50.1	1.2	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_357	Residential	G	NE	50.6	51.2	0.6	-	45.8	47.0	1.2	-	52.0	52.6	0.6	-	47.2	48.4	1.2	-	
NCA7b	NCA7b_358	Residential	G	NW	51.1	51.7	0.6	-	46.4	47.6	1.2	-	52.5	53.1	0.6	-	47.8	49.0	1.2	-	
NCA7b	NCA7b_359	Residential	G	N	52.6	53.1	0.5	-	47.9	49.0	1.1	-	54.0	54.5	0.5	-	49.3	50.4	1.1	-	
NCA7b	NCA7b_360	Residential	G	W	52.5	53.1	0.6	-	47.7	49.0	1.3	-	53.9	54.5	0.6	-	49.1	50.3	1.2	-	
NCA7b	NCA7b_361	Residential	G	W	52.0	52.6	0.6	-	47.3	48.6	1.3	-	53.4	54.0	0.6	-	48.7	49.9	1.2	-	
NCA7b	NCA7b_362	Residential	G	W	52.0	52.6	0.6	-	47.2	48.5	1.3	-	53.3	54.0	0.7	-	48.6	49.9	1.3	-	
NCA7b	NCA7b_363	Residential	G	W	50.2	50.8	0.6	-	45.5	46.7	1.2	-	51.6	52.2	0.6	-	46.9	48.1	1.2	-	
NCA7b	NCA7b_364	Residential	G	N	52.9	53.6	0.7	-	48.2	49.5	1.3	-	54.3	55.0	0.7	-	49.5	50.9	1.4	-	
NCA7b	NCA7b_365	Residential	G	NW	52.5	53.2	0.7	-	47.9	49.1	1.2	-	53.9	54.6	0.7	-	49.2	50.5	1.3	-	
NCA7b	NCA7b_366	Residential	G	NE	45.0	45.0	0.0	-	40.8	41.1	0.3	-	46.3	46.3	0.0	-	42.1	42.4	0.3	-	
NCA7b	NCA7b_367	Residential	G	NE	45.3	45.4	0.1	-	41.1	41.5	0.4	-	46.6	46.8	0.2	-	42.3	42.8	0.5	-	
NCA7b	NCA7b_368	Residential	G	E	45.6	45.6	0.0	-	41.3	41.7	0.4	-	46.9	47.0	0.1	-	42.6	43.0	0.4	-	
NCA7b	NCA7b_369	Residential	G	E	47.1	47.4	0.3	-	42.8	43.4	0.6	-	48.4	48.7	0.3	-	44.1	44.7	0.6	-	
NCA7b	NCA7b_370	Residential	G	NW	56.9	57.0	0.1	-	52.2	52.9	0.7	-	58.3	58.4	0.1	-	53.6	54.3	0.7	-	
NCA7b	NCA7b_371	Residential	G	NW	56.6	56.7	0.1	-	52.0	52.6	0.6	-	58.0	58.1	0.1	-	53.3	54.0	0.7	-	
NCA7b	NCA7b_372	Residential	G	NW	56.4	56.4	0.0	-	51.7	52.4	0.7	-	57.8	57.8	0.0	-	53.1	53.7	0.6	-	
NCA7b	NCA7b_373	Residential	G	NW	55.2	55.5	0.3	-	50.5	51.4	0.9	-	56.6	56.9	0.3	-	51.8	52.8	1.0	-	
NCA7b	NCA7b_374	Residential	G	NW	54.3	54.9	0.6	-	49.6	50.8	1.2	-	55.7	56.3	0.6	-	51.0	52.2	1.2	-	
NCA7b	NCA7b_375	Residential	G	N	54.8	55.3	0.5	-	50.1	51.2	1.1	-	56.2	56.7	0.5	-	51.5	52.6	1.1	-	
NCA7b	NCA7b_376	Residential	G	N	54.9	55.3	0.4	-	50.2	51.2	1.0	-	56.3	56.7	0.4	-	51.6	52.6	1.0	-	
NCA7b	NCA7b_377	Residential	G	N	54.4	54.8	0.4	-	49.6	50.7	1.1	-	55.7	56.2	0.5	-	51.0	52.1	1.1	-	
NCA7b	NCA7b_378	Residential	G	N	53.1	53.9	0.8	-	48.4	49.7	1.3	-	54.5	55.3	0.8	-	49.7	51.1	1.4	-	
NCA7b	NCA7b_379	Residential	G	N	53.2	54.0	0.8	-	48.4	49.8	1.4	-	54.6	55.4	0.8	-	49.8	51.2	1.4	-	
NCA7b	NCA7b_380	Residential	G	N	52.4	53.1	0.7	-	47.6	48.9	1.3	-	53.8	54.5	0.7	-	48.9	50.3	1.4	-	
NCA7b	NCA7b_381	Residential	G	N	51.2	51.6	0.4	-	46.5	47.6	1.1	-	52.6	53.0	0.4	-	47.9	48.9	1.0	-	
NCA7b	NCA7b_382	Residential	G	N	50.9	51.4	0.5	-	46.2	47.3	1.1	-	52.2	52.8	0.6	-	47.6	48.7	1.1	-	
NCA7b	NCA7b_383	Residential	G	N	48.0	48.5	0.5	-	43.4	44.4	1.0	-	49.4	49.9	0.5	-	44.8	45.8	1.0	-	
NCA7b	NCA7b_384	Residential	G	E	48.7	49.3	0.6	-	44.2	45.2	1.0	-	50.0	50.7	0.7	-	45.5	46.6	1.1	-	
NCA7b	NCA7b_385	Residential	G	N	51.3	51.9	0.6	-	46.7	47.8	1.1	-	52.7	53.3	0.6	-	48.0	49.2	1.2	-	
NCA7b	NCA7b_386	Residential	G	E	48.1	48.7	0.6	-	43.7	44.7	1.0	-	49.4	50.1	0.7	-	45.0	46.0	1.0	-	
NCA7b	NCA7b_387	Residential	G	N	52.3	52.9	0.6	-	47.6	48.8	1.2	-	53.7	54.3	0.6	-	49.0	50.1	1.1	-	
NCA7b	NCA7b_388	Residential	G	N	53.1	53.6	0.5	-	48.3	49.4	1.1	-	54.5	55.0	0.5	-	49.7	50.8	1.1	-	
NCA7b	NCA7b_389	Residential	G	N	53.7	54.3	0.6	-	49.0	50.1	1.1	-	55.1	55.7	0.6	-	50.3	51.5	1.2	-	
NCA7b	NCA7b_390	Residential	G	N	54.0	54.7	0.7	-	49.2	50.6	1.4	-	55.4	56.1	0.7	-	50.6	51.9	1.3	-	
NCA7b	NCA7b_391	Residential	G	N	54.0	54.7	0.7	-	49.2	50.5	1.3	-	55.4	56.1	0.7	-	50.6	51.9	1.3	-	
NCA7b	NCA7b_392	Residential	G	N	54.5	54.9	0.4	-	49.7	50.8	1.1	-	55.9	56.3	0.4	-	51.1	52.2	1.1	-	
NCA7b	NCA7b_393	Residential	G	N	55.2	55.5	0.3	-	50.5	51.4	0.9	-	56.6	56.9	0.3	-	51.8	52.8	1.0	-	
NCA7b	NCA7b_394	Residential	G	NW	55.6	55.9	0.3	-	50.9	51.9	1.0	-	57.0	57.3	0.3	-	52.2	53.2	1.0	-	
NCA7b	NCA7b_395	Residential	G	NW	55.6	55.9	0.3	-	50.9	51.8	0.9	-	57.0	57.3	0.3	-	52.3	53.2	0.9	-	
NCA7b	NCA7b_396	Residential	G	NW	55.2	55.5	0.3	-	50.5	51.5	1.0	-	56.6	57.0	0.4	-	51.9	52.8	0.9	-	
NCA7b	NCA7b_397	Residential	G	NW	56.4	56.5	0.1	-	51.8	52.4	0.6	-	57.8	57.9	0.1	-	53.1	53.8	0.7	-	
NCA7b	NCA7b_398	Residential	G	W	54.3	54.5	0.2	-	49.6	50.4	0.8	-	55.7	55.9	0.2	-	50.9	51.8	0.9	-	
NCA7b	NCA7b_399	Residential	G	W	54.6	54.8	0.2	-	49.8	50.7	0.9	-	56.0	56.3	0.3	-	51.2	52.1	0.9	-	
NCA7b	NCA7b_400	Residential	G	N	53.9	54.4	0.5	-	49.1	50.3	1.2	-	55.3	55.9	0.6	-	50.5	51.7	1.2	-	
NCA7b	NCA7b_401	Residential	G	N	53.7	54.4	0.7	-	49.0	50.2	1.2	-	55.1	55.8	0.7	-	50.3	51.6	1.3	-	
NCA7b	NCA7b_402	Residential	G	N	51.7	52.2	0.5	-	46.9	48.0	1.1	-	53.1	53.6	0.5	-	48.3	49.4	1.1	-	
NCA7b	NCA7b_403	Residential	G	N	52.5	53.0	0.5	-	47.7	48.8	1.1	-	53.9	54.4	0.5	-	49.1	50.2	1.1	-	
NCA7b	NCA7b_404	Residential	G	NE	51.1	51.4	0.3	-	46.3	47.3	1.0	-	52.4	52.8	0.4	-	47.7	48.7	1.0	-	
NCA7b	NCA7b_405	Residential	G	NE	50.9	51.4	0.5	-	46.2	47.3	1.1	-	52.3	52.8	0.5	-	47.6	48.6	1.0	-	
NCA7b	NCA7b_406	Residential	G	NE	49.3	49.9	0.6	-	44.6	45.7	1.1	-	50.7	51.3	0.6	-	46.0	47.1	1.1	-	
NCA7b	NCA7b_407	Residential	G	NW	51.1	51.6	0.5	-	46.3	47.4	1.1	-	52.5	53.0	0.5	-	47.7	48.8	1.1	-	
NCA7b	NCA7b_408	Residential	G	N	49.7	50.3	0.6	-	45.1	46.2	1.1	-	51.1	51.7	0.6	-	46.4	47.6	1.2	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_409		Residential	G	N	48.9	49.5	0.6	-	44.4	45.4	1.0	-	50.3	50.9	0.6	-	45.7	46.8	1.1	-
NCA7b	NCA7b_410		Residential	G	NE	48.0	48.3	0.3	-	43.6	44.4	0.8	-	49.3	49.7	0.4	-	44.9	45.7	0.8	-
NCA7b	NCA7b_411		Residential	G	NW	50.5	51.2	0.7	-	45.8	47.1	1.3	-	51.9	52.6	0.7	-	47.1	48.4	1.3	-
NCA7b	NCA7b_412		Residential	G	NW	50.6	51.3	0.7	-	45.9	47.2	1.3	-	52.0	52.7	0.7	-	47.2	48.5	1.3	-
NCA7b	NCA7b_413		Residential	G	NW	50.2	50.9	0.7	-	45.5	46.8	1.3	-	51.5	52.2	0.7	-	46.9	48.1	1.2	-
NCA7b	NCA7b_414		Residential	G	N	50.1	50.7	0.6	-	45.6	46.7	1.1	-	51.5	52.1	0.6	-	46.9	48.0	1.1	-
NCA7b	NCA7b_415		Residential	G	NE	47.9	48.3	0.4	-	43.7	44.4	0.7	-	49.2	49.6	0.4	-	45.0	45.7	0.7	-
NCA7b	NCA7b_416		Residential	G	NE	48.9	49.3	0.4	-	44.4	45.3	0.9	-	50.2	50.7	0.5	-	45.7	46.6	0.9	-
NCA7b	NCA7b_417		Residential	G	N	49.6	50.1	0.5	-	45.1	46.0	0.9	-	50.9	51.5	0.6	-	46.4	47.4	1.0	-
NCA7b	NCA7b_418		Residential	G	NW	47.8	48.2	0.4	-	43.2	44.2	1.0	-	49.1	49.6	0.5	-	44.5	45.5	1.0	-
NCA7b	NCA7b_419		Residential	G	NW	48.2	48.9	0.7	-	43.6	44.8	1.2	-	49.6	50.3	0.7	-	44.9	46.1	1.2	-
NCA7b	NCA7b_420		Residential	G	NW	48.3	48.9	0.6	-	43.6	44.8	1.2	-	49.6	50.3	0.7	-	44.9	46.2	1.3	-
NCA7b	NCA7b_421		Residential	G	NW	47.8	48.3	0.5	-	43.0	44.1	1.1	-	49.1	49.7	0.6	-	44.4	45.5	1.1	-
NCA7b	NCA7b_422		Residential	G	E	47.1	47.3	0.2	-	43.0	43.5	0.5	-	48.4	48.6	0.2	-	44.3	44.8	0.5	-
NCA7b	NCA7b_423		Residential	G	E	48.1	48.3	0.2	-	43.9	44.5	0.6	-	49.4	49.6	0.2	-	45.2	45.8	0.6	-
NCA7b	NCA7b_424		Residential	G	N	47.0	47.5	0.5	-	42.5	43.4	0.9	-	48.4	48.9	0.5	-	43.8	44.8	1.0	-
NCA7b	NCA7b_425		Residential	G	W	47.9	48.5	0.6	-	43.2	44.3	1.1	-	49.3	49.9	0.6	-	44.6	45.7	1.1	-
NCA7b	NCA7b_426		Residential	G	W	49.4	50.0	0.6	-	44.6	45.8	1.2	-	50.7	51.3	0.6	-	46.0	47.1	1.1	-
NCA7b	NCA7b_427		Residential	G	W	49.3	49.9	0.6	-	44.5	45.7	1.2	-	50.7	51.3	0.6	-	45.9	47.1	1.2	-
NCA7b	NCA7b_428		Residential	G	W	48.9	49.4	0.5	-	44.1	45.2	1.1	-	50.3	50.8	0.5	-	45.5	46.6	1.1	-
NCA7b	NCA7b_429		Residential	G	N	49.9	50.4	0.5	-	45.3	46.3	1.0	-	51.2	51.7	0.5	-	46.6	47.7	1.1	-
NCA7b	NCA7b_430		Residential	G	N	50.8	51.2	0.4	-	46.2	47.2	1.0	-	52.1	52.6	0.5	-	47.5	48.5	1.0	-
NCA7b	NCA7b_431		Residential	G	N	51.4	51.8	0.4	-	46.7	47.7	1.0	-	52.8	53.2	0.4	-	48.1	49.0	0.9	-
NCA7b	NCA7b_432		Residential	G	N	51.5	51.8	0.3	-	46.8	47.7	0.9	-	52.8	53.2	0.4	-	48.1	49.1	1.0	-
NCA7b	NCA7b_433		Residential	G	N	52.3	52.7	0.4	-	47.5	48.5	1.0	-	53.6	54.1	0.5	-	48.9	49.9	1.0	-
NCA7b	NCA7b_434		Residential	G	N	51.6	52.0	0.4	-	46.9	47.9	1.0	-	53.0	53.4	0.4	-	48.3	49.2	0.9	-
NCA7b	NCA7b_435		Residential	G	N	53.0	53.4	0.4	-	48.2	49.2	1.0	-	54.4	54.8	0.4	-	49.6	50.6	1.0	-
NCA7b	NCA7b_436		Residential	G	N	53.4	54.0	0.6	-	48.6	49.8	1.2	-	54.8	55.4	0.6	-	50.0	51.2	1.2	-
NCA7b	NCA7b_437		Residential	G	N	53.5	54.3	0.8	-	48.8	50.1	1.3	-	54.9	55.7	0.8	-	50.1	51.5	1.4	-
NCA7b	NCA7b_438		Residential	G	W	54.0	54.4	0.4	-	49.2	50.2	1.0	-	55.4	55.8	0.4	-	50.6	51.6	1.0	-
NCA7b	NCA7b_439		Residential	G	W	54.4	54.7	0.3	-	49.7	50.6	0.9	-	55.8	56.1	0.3	-	51.1	52.0	0.9	-
NCA7b	NCA7b_440		Residential	G	N	51.0	51.6	0.6	-	46.4	47.4	1.0	-	52.4	52.9	0.5	-	47.7	48.8	1.1	-
NCA7b	NCA7b_441		Residential	G	N	51.5	52.1	0.6	-	46.8	47.9	1.1	-	52.9	53.4	0.5	-	48.2	49.3	1.1	-
NCA7b	NCA7b_442		Residential	G	N	51.4	51.9	0.5	-	46.6	47.8	1.2	-	52.8	53.3	0.5	-	48.0	49.1	1.1	-
NCA7b	NCA7b_443		Residential	G	N	51.9	52.3	0.4	-	47.2	48.1	0.9	-	53.3	53.7	0.4	-	48.5	49.5	1.0	-
NCA7b	NCA7b_444		Residential	G	N	52.1	52.5	0.4	-	47.4	48.3	0.9	-	53.5	53.9	0.4	-	48.7	49.7	1.0	-
NCA7b	NCA7b_445		Residential	G	N	52.4	52.7	0.3	-	47.6	48.6	1.0	-	53.8	54.1	0.3	-	49.0	50.0	1.0	-
NCA7b	NCA7b_446		Residential	G	N	52.8	53.2	0.4	-	48.0	49.1	1.1	-	54.2	54.6	0.4	-	49.4	50.4	1.0	-
NCA7b	NCA7b_447		Residential	G	N	52.7	53.2	0.5	-	47.9	49.0	1.1	-	54.1	54.6	0.5	-	49.3	50.4	1.1	-
NCA7b	NCA7b_448		Residential	G	N	52.7	53.2	0.5	-	47.9	49.0	1.1	-	54.1	54.6	0.5	-	49.3	50.4	1.1	-
NCA7b	NCA7b_449		Residential	G	W	54.1	54.5	0.4	-	49.4	50.3	0.9	-	55.5	55.9	0.4	-	50.7	51.7	1.0	-
NCA7b	NCA7b_450		Residential	G	W	63.4	64.2	0.8	-	58.8	60.3	1.5	-	64.8	65.6	0.8	-	60.2	61.6	1.4	-
NCA7b	NCA7b_451		Residential	G	W	62.0	62.1	0.1	-	57.4	58.2	0.8	-	63.4	63.5	0.1	-	58.7	59.6	0.9	-
NCA7b	NCA7b_452		Residential	G	SW	58.3	59.0	0.7	-	53.8	55.1	1.3	-	59.7	60.3	0.6	-	55.1	56.4	1.3	-
NCA7b	NCA7b_453		Residential	G	SW	56.2	56.8	0.6	-	51.6	52.9	1.3	-	57.5	58.2	0.7	-	53.0	54.3	1.3	-
NCA7b	NCA7b_454		Residential	G	SW	55.8	56.5	0.7	-	51.3	52.6	1.3	-	57.2	57.9	0.7	-	52.7	53.9	1.2	-
NCA7b	NCA7b_455		Residential	G	SW	55.3	55.9	0.6	-	50.7	52.0	1.3	-	56.7	57.3	0.6	-	52.1	53.4	1.3	-
NCA7b	NCA7b_456		Residential	G	SW	54.6	55.2	0.6	-	50.0	51.3	1.3	-	56.0	56.6	0.6	-	51.4	52.6	1.2	-
NCA7b	NCA7b_457		Residential	G	SW	53.5	54.1	0.6	-	48.9	50.1	1.2	-	54.9	55.5	0.6	-	50.3	51.5	1.2	-
NCA7b	NCA7b_458		Residential	G	SW	52.7	53.3	0.6	-	48.1	49.3	1.2	-	54.1	54.7	0.6	-	49.5	50.6	1.1	-
NCA7b	NCA7b_459		Residential	G	SW	52.0	52.5	0.5	-	47.3	48.5	1.2	-	53.4	53.9	0.5	-	48.7	49.9	1.2	-
NCA7b	NCA7b_460		Residential	G	S	51.1	51.6	0.5	-	46.4	47.6	1.2	-	52.5	53.0	0.5	-	47.8	49.0	1.2	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_461	Residential	G	NW	50.2	50.8	0.6	-	45.6	46.8	1.2	-	51.6	52.2	0.6	-	47.0	48.2	1.2	-	
NCA7b	NCA7b_462	Residential	G	SW	49.8	50.3	0.5	-	45.2	46.3	1.1	-	51.2	51.7	0.5	-	46.5	47.7	1.2	-	
NCA7b	NCA7b_463	Residential	G	SW	49.6	50.2	0.6	-	45.0	46.1	1.1	-	51.0	51.6	0.6	-	46.4	47.5	1.1	-	
NCA7b	NCA7b_464	Residential	G	NW	49.4	49.9	0.5	-	44.8	45.9	1.1	-	50.8	51.4	0.6	-	46.2	47.3	1.1	-	
NCA7b	NCA7b_465	Residential	G	NW	49.6	50.2	0.6	-	45.0	46.2	1.2	-	51.0	51.6	0.6	-	46.4	47.5	1.1	-	
NCA7b	NCA7b_466	Residential	G	SW	49.4	49.9	0.5	-	44.8	45.9	1.1	-	50.8	51.3	0.5	-	46.2	47.3	1.1	-	
NCA7b	NCA7b_467	Residential	G	SW	49.5	50.0	0.5	-	44.9	46.0	1.1	-	50.9	51.4	0.5	-	46.3	47.4	1.1	-	
NCA7b	NCA7b_468	Residential	G	SW	49.5	49.9	0.4	-	44.9	45.9	1.0	-	50.9	51.3	0.4	-	46.2	47.3	1.1	-	
NCA7b	NCA7b_469	Residential	G	SW	49.5	49.8	0.3	-	44.9	45.8	0.9	-	50.9	51.2	0.3	-	46.2	47.2	1.0	-	
NCA7b	NCA7b_470	Residential	G	S	48.7	48.9	0.2	-	44.1	44.9	0.8	-	50.1	50.3	0.2	-	45.4	46.3	0.9	-	
NCA7b	NCA7b_471	Residential	G	N	45.3	45.7	0.4	-	40.8	41.8	1.0	-	46.7	47.1	0.4	-	42.2	43.2	1.0	-	
NCA7b	NCA7b_472	Residential	G	W	45.5	45.8	0.3	-	40.9	41.8	0.9	-	46.8	47.2	0.4	-	42.2	43.2	1.0	-	
NCA7b	NCA7b_473	Residential	G	SW	44.8	45.3	0.5	-	40.3	41.4	1.1	-	46.1	46.7	0.6	-	41.6	42.8	1.2	-	
NCA7b	NCA7b_474	Residential	G	N	45.4	45.8	0.4	-	40.9	41.8	0.9	-	46.8	47.2	0.4	-	42.3	43.2	0.9	-	
NCA7b	NCA7b_475	Residential	G	NW	46.7	47.2	0.5	-	42.1	43.2	1.1	-	48.0	48.6	0.6	-	43.5	44.6	1.1	-	
NCA7b	NCA7b_476	Residential	G	W	46.7	47.2	0.5	-	42.1	43.2	1.1	-	48.1	48.6	0.5	-	43.5	44.6	1.1	-	
NCA7b	NCA7b_477	Residential	G	W	47.0	47.4	0.4	-	42.4	43.5	1.1	-	48.4	48.8	0.4	-	43.8	44.8	1.0	-	
NCA7b	NCA7b_478	Residential	G	W	46.7	47.1	0.4	-	42.1	43.1	1.0	-	48.1	48.5	0.4	-	43.5	44.5	1.0	-	
NCA7b	NCA7b_479	Residential	G	W	46.8	47.3	0.5	-	42.2	43.3	1.1	-	48.2	48.6	0.4	-	43.6	44.6	1.0	-	
NCA7b	NCA7b_480	Residential	G	W	46.2	46.6	0.4	-	41.6	42.6	1.0	-	47.6	48.0	0.4	-	43.0	44.0	1.0	-	
NCA7b	NCA7b_481	Residential	G	W	46.0	46.4	0.4	-	41.4	42.4	1.0	-	47.4	47.8	0.4	-	42.8	43.7	0.9	-	
NCA7b	NCA7b_482	Residential	G	W	46.9	47.3	0.4	-	42.3	43.3	1.0	-	48.2	48.7	0.5	-	43.6	44.7	1.1	-	
NCA7b	NCA7b_483	Residential	G	NE	46.6	46.6	0.0	-	42.4	42.7	0.3	-	47.9	48.0	0.1	-	43.7	44.0	0.3	-	
NCA7b	NCA7b_484	Residential	G	NE	46.4	46.4	0.0	-	42.2	42.4	0.2	-	47.7	47.7	0.0	-	43.5	43.8	0.3	-	
NCA7b	NCA7b_485	Residential	G	E	45.4	45.2	-0.2	-	41.4	41.4	0.0	-	46.7	46.5	-0.2	-	42.7	42.7	0.0	-	
NCA7b	NCA7b_486	Residential	G	E	45.7	45.7	0.0	-	41.7	41.8	0.1	-	47.0	47.0	0.0	-	42.9	43.1	0.2	-	
NCA7b	NCA7b_487	Residential	G	N	47.7	48.1	0.4	-	43.4	44.1	0.7	-	49.0	49.4	0.4	-	44.7	45.5	0.8	-	
NCA7b	NCA7b_488	Residential	G	NW	48.0	48.5	0.5	-	43.5	44.5	1.0	-	49.3	49.9	0.6	-	44.8	45.8	1.0	-	
NCA7b	NCA7b_489	Residential	G	N	48.1	48.3	0.2	-	43.7	44.4	0.7	-	49.4	49.7	0.3	-	45.0	45.7	0.7	-	
NCA7b	NCA7b_490	Residential	G	N	47.6	47.9	0.3	-	43.3	44.0	0.7	-	49.0	49.3	0.3	-	44.6	45.3	0.7	-	
NCA7b	NCA7b_491	Residential	G	N	47.6	48.1	0.5	-	43.2	44.1	0.9	-	48.9	49.4	0.5	-	44.5	45.5	1.0	-	
NCA7b	NCA7b_492	Residential	G	E	47.7	47.9	0.2	-	43.5	44.1	0.6	-	48.9	49.2	0.3	-	44.8	45.4	0.6	-	
NCA7b	NCA7b_493	Residential	G	N	48.5	49.0	0.5	-	44.1	45.0	0.9	-	49.9	50.3	0.4	-	45.4	46.4	1.0	-	
NCA7b	NCA7b_494	Residential	G	N	48.8	49.1	0.3	-	44.5	45.3	0.8	-	50.1	50.5	0.4	-	45.8	46.6	0.8	-	
NCA7b	NCA7b_495	Residential	G	N	49.2	49.6	0.4	-	44.7	45.6	0.9	-	50.5	51.0	0.5	-	46.0	47.0	1.0	-	
NCA7b	NCA7b_496	Residential	G	N	49.3	49.8	0.5	-	44.9	45.8	0.9	-	50.7	51.1	0.4	-	46.2	47.1	0.9	-	
NCA7b	NCA7b_497	Residential	G	N	48.6	49.0	0.4	-	44.2	45.1	0.9	-	50.0	50.4	0.4	-	45.5	46.4	0.9	-	
NCA7b	NCA7b_498	Residential	G	NE	53.5	53.0	-0.5	-	50.4	50.3	-0.1	-	54.6	54.1	-0.5	-	51.6	51.4	-0.2	-	
NCA7b	NCA7b_499	Residential	G	NW	51.6	51.6	0.0	-	47.8	48.1	0.3	-	52.8	52.8	0.0	-	49.0	49.4	0.4	-	
NCA7b	NCA7b_500	Residential	G	NW	50.6	50.5	-0.1	-	46.8	47.1	0.3	-	51.8	51.8	0.0	-	48.0	48.4	0.4	-	
NCA7b	NCA7b_501	Residential	G	NW	47.9	47.8	-0.1	-	44.1	44.4	0.3	-	49.1	49.0	-0.1	-	45.3	45.7	0.4	-	
NCA7b	NCA7b_502	Residential	G	S	47.2	47.3	0.1	-	43.9	43.6	-0.3	-	48.3	47.8	-0.5	-	45.1	44.9	-0.2	-	
NCA7b	NCA7b_503	Residential	G	W	49.4	49.7	0.3	-	44.9	45.8	0.9	-	50.7	51.1	0.4	-	46.2	47.1	0.9	-	
NCA7b	NCA7b_504	Residential	G	W	50.0	50.2	0.2	-	45.6	46.4	0.8	-	51.2	51.6	0.4	-	46.9	47.7	0.8	-	
NCA7b	NCA7b_505	Residential	G	N	51.7	51.6	-0.1	-	48.0	48.2	0.2	-	52.9	52.9	0.0	-	49.2	49.5	0.3	-	
NCA7b	NCA7b_506	Residential	G	N	51.9	52.0	0.1	-	47.8	48.4	0.6	-	53.2	53.3	0.1	-	49.1	49.7	0.6	-	
NCA7b	NCA7b_507	Residential	G	E	47.7	47.2	-0.5	-	44.3	44.2	-0.1	-	48.8	48.4	-0.4	-	45.5	45.4	-0.1	-	
NCA7b	NCA7b_508	Residential	G	E	48.3	48.0	-0.3	-	44.8	44.7	-0.1	-	49.5	49.2	-0.3	-	46.0	46.0	0.0	-	
NCA7b	NCA7b_509	Residential	G	S	48.0	47.9	-0.1	-	43.9	44.3	0.4	-	49.2	49.3	0.1	-	45.2	45.6	0.4	-	
NCA7b	NCA7b_510	Residential	G	N	50.6	50.9	0.3	-	46.3	47.0	0.7	-	51.9	52.3	0.4	-	47.5	48.3	0.8	-	
NCA7b	NCA7b_511	Residential	G	N	50.0	50.2	0.2	-	45.8	46.4	0.6	-	51.2	51.5	0.3	-	47.0	47.7	0.7	-	
NCA7b	NCA7b_512	Residential	G	S	47.7	47.7	0.0	-	43.6	44.0	0.4	-	49.0	49.1	0.1	-	44.9	45.3	0.4	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_513	Residential	G	W	50.0	50.5	0.5	-	45.2	46.3	1.1	-	51.3	51.9	0.6	-	46.6	47.7	1.1	-	
NCA7b	NCA7b_514	Residential	G	S	48.1	48.3	0.2	-	43.9	44.5	0.6	-	49.4	49.7	0.3	-	45.2	45.8	0.6	-	
NCA7b	NCA7b_515	Residential	G	S	48.2	48.5	0.3	-	43.9	44.6	0.7	-	49.5	49.8	0.3	-	45.2	45.9	0.7	-	
NCA7b	NCA7b_516	Residential	G	S	48.2	48.5	0.3	-	43.9	44.6	0.7	-	49.5	49.8	0.3	-	45.2	45.9	0.7	-	
NCA7b	NCA7b_517	Residential	G	N	49.5	49.9	0.4	-	44.8	45.8	1.0	-	50.8	51.3	0.5	-	46.2	47.1	0.9	-	
NCA7b	NCA7b_518	Residential	G	S	48.8	49.1	0.3	-	44.3	45.1	0.8	-	50.1	50.4	0.3	-	45.6	46.4	0.8	-	
NCA7b	NCA7b_519	Residential	G	NW	50.5	51.0	0.5	-	45.9	46.9	1.0	-	51.8	52.3	0.5	-	47.2	48.2	1.0	-	
NCA7b	NCA7b_520	Residential	G	SW	49.6	49.9	0.3	-	45.0	45.9	0.9	-	50.9	51.3	0.4	-	46.4	47.3	0.9	-	
NCA7b	NCA7b_521	Residential	G	N	52.1	52.6	0.5	-	47.3	48.5	1.2	-	53.4	54.0	0.6	-	48.7	49.8	1.1	-	
NCA7b	NCA7b_522	Residential	G	SW	49.6	49.9	0.3	-	45.1	45.9	0.8	-	51.0	51.3	0.3	-	46.4	47.3	0.9	-	
NCA7b	NCA7b_523	Residential	G	N	53.0	53.4	0.4	-	48.5	49.4	0.9	-	54.3	54.8	0.5	-	49.8	50.7	0.9	-	
NCA7b	NCA7b_524	Residential	G	SW	49.8	50.2	0.4	-	45.3	46.1	0.8	-	51.2	51.6	0.4	-	46.6	47.5	0.9	-	
NCA7b	NCA7b_525	Residential	G	N	52.4	53.0	0.6	-	47.7	48.8	1.1	-	53.8	54.4	0.6	-	49.1	50.2	1.1	-	
NCA7b	NCA7b_526	Residential	G	N	50.7	51.2	0.5	-	46.0	47.0	1.0	-	52.1	52.5	0.4	-	47.4	48.4	1.0	-	
NCA7b	NCA7b_527	Residential	G	SW	50.4	50.8	0.4	-	45.7	46.7	1.0	-	51.8	52.2	0.4	-	47.1	48.1	1.0	-	
NCA7b	NCA7b_528	Residential	G	N	53.0	53.5	0.5	-	48.3	49.3	1.0	-	54.3	54.9	0.6	-	49.6	50.7	1.1	-	
NCA7b	NCA7b_529	Residential	G	N	53.2	53.7	0.5	-	48.4	49.5	1.1	-	54.5	55.1	0.6	-	49.8	50.9	1.1	-	
NCA7b	NCA7b_530	Residential	G	N	54.6	55.2	0.6	-	49.8	51.0	1.2	-	56.0	56.7	0.7	-	51.2	52.4	1.2	-	
NCA7b	NCA7b_531	Residential	G	SW	50.9	51.4	0.5	-	46.2	47.3	1.1	-	52.3	52.8	0.5	-	47.6	48.6	1.0	-	
NCA7b	NCA7b_532	Residential	G	S	51.4	51.8	0.4	-	46.7	47.7	1.0	-	52.8	53.2	0.4	-	48.1	49.1	1.0	-	
NCA7b	NCA7b_533	Residential	G	W	54.2	54.8	0.6	-	49.3	50.5	1.2	-	55.6	56.2	0.6	-	50.7	51.9	1.2	-	
NCA7b	NCA7b_534	Residential	G	N	56.9	57.4	0.5	-	52.0	53.1	1.1	-	58.3	58.8	0.5	-	53.4	54.5	1.1	-	
NCA7b	NCA7b_535	Residential	G	W	52.5	53.0	0.5	-	47.6	48.8	1.2	-	53.9	54.4	0.5	-	49.0	50.2	1.2	-	
NCA7b	NCA7b_536	Residential	G	SW	50.3	50.7	0.4	-	45.6	46.6	1.0	-	51.7	52.1	0.4	-	47.0	48.0	1.0	-	
NCA7b	NCA7b_537	Residential	G	SW	49.9	50.3	0.4	-	45.3	46.2	0.9	-	51.3	51.7	0.4	-	46.7	47.6	0.9	-	
NCA7b	NCA7b_538	Residential	G	SW	49.7	50.1	0.4	-	45.0	46.0	1.0	-	51.1	51.5	0.4	-	46.4	47.4	1.0	-	
NCA7b	NCA7b_539	Residential	G	SW	49.5	49.9	0.4	-	44.9	45.8	0.9	-	50.8	51.3	0.5	-	46.2	47.2	1.0	-	
NCA7b	NCA7b_540	Residential	G	SW	48.8	49.1	0.3	-	44.3	45.1	0.8	-	50.1	50.5	0.4	-	45.6	46.4	0.8	-	
NCA7b	NCA7b_541	Residential	G	SW	48.5	48.8	0.3	-	44.0	44.8	0.8	-	49.8	50.1	0.3	-	45.3	46.2	0.9	-	
NCA7b	NCA7b_542	Residential	G	S	47.9	48.1	0.2	-	43.6	44.3	0.7	-	49.3	49.5	0.2	-	44.9	45.6	0.7	-	
NCA7b	NCA7b_543	Residential	G	S	47.4	47.5	0.1	-	43.2	43.6	0.4	-	48.7	48.8	0.1	-	44.5	45.0	0.5	-	
NCA7b	NCA7b_544	Residential	G	S	47.5	47.5	0.0	-	43.2	43.7	0.5	-	48.8	48.9	0.1	-	44.5	45.1	0.6	-	
NCA7b	NCA7b_545	Residential	G	S	47.6	47.7	0.1	-	43.4	43.9	0.5	-	48.9	49.0	0.1	-	44.7	45.2	0.5	-	
NCA7b	NCA7b_546	Residential	G	S	47.6	47.6	0.0	-	43.4	43.9	0.5	-	48.9	49.0	0.1	-	44.7	45.2	0.5	-	
NCA7b	NCA7b_547	Residential	G	S	47.5	47.5	0.0	-	43.4	43.8	0.4	-	48.8	48.8	0.0	-	44.7	45.1	0.4	-	
NCA7b	NCA7b_548	Residential	G	S	47.4	47.4	0.0	-	43.4	43.8	0.4	-	48.7	48.8	0.1	-	44.7	45.1	0.4	-	
NCA7b	NCA7b_549	Residential	G	S	47.4	47.3	-0.1	-	43.5	43.8	0.3	-	48.6	48.6	0.0	-	44.8	45.1	0.3	-	
NCA7b	NCA7b_550	Residential	G	S	47.6	47.3	-0.3	-	44.1	44.0	-0.1	-	48.8	48.5	-0.3	-	45.3	45.3	0.0	-	
NCA7b	NCA7b_551	Residential	G	S	47.5	47.0	-0.5	-	44.0	43.9	-0.1	-	48.6	48.2	-0.4	-	45.2	45.1	-0.1	-	
NCA7b	NCA7b_552	Residential	G	S	47.8	47.4	-0.4	-	44.3	44.2	-0.1	-	48.9	48.6	-0.3	-	45.5	45.4	-0.1	-	
NCA7b	NCA7b_553	Residential	G	S	48.7	48.0	-0.7	-	45.5	45.2	-0.3	-	49.7	49.1	-0.6	-	46.6	46.4	-0.2	-	
NCA7b	NCA7b_554	Residential	G	S	49.3	48.5	-0.8	-	46.2	45.8	-0.4	-	50.4	49.6	-0.8	-	47.4	47.0	-0.4	-	
NCA7b	NCA7b_555	Residential	G	S	50.4	49.6	-0.8	-	47.4	47.0	-0.4	-	51.5	50.7	-0.8	-	48.5	48.2	-0.3	-	
NCA7b	NCA7b_556	Residential	G	S	51.2	50.2	-1.0	-	48.2	47.7	-0.5	-	52.2	51.2	-1.0	-	49.3	48.9	-0.4	-	
NCA7b	NCA7b_557	Residential	G	E	51.2	50.4	-0.8	-	48.3	47.8	-0.5	-	52.3	51.4	-0.9	-	49.4	49.0	-0.4	-	
NCA7b	NCA7b_558	Residential	G	E	54.5	53.3	-1.2	-	51.8	51.2	-0.6	-	55.5	54.3	-1.2	-	52.9	52.3	-0.6	-	
NCA7b	NCA7b_559	Residential	G	NE	61.2	60.1	-1.1	-	58.6	58.0	-0.6	-	62.2	61.0	-1.2	-	59.7	59.1	-0.6	-	
NCA7b	NCA7b_560	Residential	G	E	62.2	61.0	-1.2	-	59.5	58.9	-0.6	-	63.1	61.9	-1.2	-	60.6	60.0	-0.6	-	
NCA7b	NCA7b_561	Residential	G	E	61.5	60.4	-1.1	-	58.9	58.3	-0.6	-	62.4	61.3	-1.1	-	60.0	59.4	-0.6	-	
NCA7b	NCA7b_562	Residential	G	E	62.9	61.8	-1.1	-	60.2	59.6	-0.6	-	63.9	62.7	-1.2	-	61.3	60.7	-0.6	-	
NCA7b	NCA7b_563	Residential	G	W	66.2	67.3	1.1	-	61.6	63.3	1.7	-	67.6	68.6	1.0	-	63.0	64.7	1.7	-	
NCA7b	NCA7b_563	Residential	1	W	67.9	68.9	1.0	-	63.2	64.9	1.7	-	69.3	70.3	1.0	-	64.6	66.2	1.6	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_564	Residential	G	W	46.9	47.5	0.6	-	42.3	43.5	1.2	-	48.3	48.9	0.6	-	43.6	44.9	1.3	-	
NCA7b	NCA7b_564	Residential	1	W	49.2	49.8	0.6	-	44.6	45.9	1.3	-	50.5	51.2	0.7	-	46.0	47.2	1.2	-	
NCA7b	NCA7b_565	Residential	G	NW	48.8	49.4	0.6	-	44.2	45.4	1.2	-	50.2	50.8	0.6	-	45.5	46.8	1.3	-	
NCA7b	NCA7b_565	Residential	1	NW	51.4	52.1	0.7	-	46.9	48.2	1.3	-	52.8	53.5	0.7	-	48.2	49.5	1.3	-	
NCA7b	NCA7b_566	Residential	G	W	49.0	49.7	0.7	-	44.4	45.7	1.3	-	50.4	51.1	0.7	-	45.8	47.1	1.3	-	
NCA7b	NCA7b_566	Residential	1	W	50.9	51.5	0.6	-	46.3	47.6	1.3	-	52.3	52.9	0.6	-	47.7	48.9	1.2	-	
NCA7b	NCA7b_567	Residential	G	NW	47.9	48.6	0.7	-	43.4	44.7	1.3	-	49.3	50.0	0.7	-	44.7	46.1	1.4	-	
NCA7b	NCA7b_567	Residential	1	NW	49.9	50.5	0.6	-	45.4	46.6	1.2	-	51.3	51.9	0.6	-	46.7	48.0	1.3	-	
NCA7b	NCA7b_568	Residential	G	W	47.6	48.3	0.7	-	43.0	44.3	1.3	-	49.0	49.6	0.6	-	44.3	45.7	1.4	-	
NCA7b	NCA7b_568	Residential	1	W	49.3	50.0	0.7	-	44.8	46.2	1.4	-	50.7	51.4	0.7	-	46.1	47.5	1.4	-	
NCA7b	NCA7b_569	Residential	G	W	47.4	48.1	0.7	-	42.8	44.1	1.3	-	48.8	49.5	0.7	-	44.2	45.5	1.3	-	
NCA7b	NCA7b_569	Residential	1	W	49.0	49.7	0.7	-	44.5	45.8	1.3	-	50.4	51.1	0.7	-	45.9	47.2	1.3	-	
NCA7b	NCA7b_570	Residential	G	N	47.0	47.6	0.6	-	42.5	43.7	1.2	-	48.3	49.0	0.7	-	43.8	45.1	1.3	-	
NCA7b	NCA7b_570	Residential	1	W	50.0	50.8	0.8	-	45.5	46.9	1.4	-	51.4	52.2	0.8	-	46.9	48.3	1.4	-	
NCA7b	NCA7b_571	Residential	G	W	50.2	50.9	0.7	-	45.7	47.0	1.3	-	51.6	52.3	0.7	-	47.0	48.3	1.3	-	
NCA7b	NCA7b_571	Residential	1	W	51.6	52.2	0.6	-	47.1	48.3	1.2	-	53.0	53.6	0.6	-	48.4	49.7	1.3	-	
NCA7b	NCA7b_572	Residential	G	SW	45.3	45.8	0.5	-	40.7	41.8	1.1	-	46.7	47.2	0.5	-	42.1	43.2	1.1	-	
NCA7b	NCA7b_572	Residential	1	NW	46.8	47.3	0.5	-	42.4	43.4	1.0	-	48.2	48.7	0.5	-	43.7	44.7	1.0	-	
NCA7b	NCA7b_573	Residential	G	NE	44.6	44.5	-0.1	-	40.5	40.7	0.2	-	45.9	45.9	0.0	-	41.8	42.1	0.3	-	
NCA7b	NCA7b_573	Residential	1	NE	48.1	48.4	0.3	-	43.7	44.4	0.7	-	49.4	49.8	0.4	-	45.0	45.7	0.7	-	
NCA7b	NCA7b_574	Residential	G	N	46.2	46.8	0.6	-	41.7	42.8	1.1	-	47.6	48.2	0.6	-	43.1	44.2	1.1	-	
NCA7b	NCA7b_574	Residential	1	W	50.3	50.9	0.6	-	45.8	47.0	1.2	-	51.7	52.3	0.6	-	47.1	48.3	1.2	-	
NCA7b	NCA7b_575	Residential	G	W	50.7	51.4	0.7	-	46.0	47.3	1.3	-	52.1	52.8	0.7	-	47.4	48.6	1.2	-	
NCA7b	NCA7b_575	Residential	1	W	53.5	53.9	0.4	-	48.8	49.8	1.0	-	54.9	55.3	0.4	-	50.2	51.2	1.0	-	
NCA7b	NCA7b_576	Residential	G	N	49.6	50.2	0.6	-	44.9	46.1	1.2	-	51.0	51.6	0.6	-	46.3	47.5	1.2	-	
NCA7b	NCA7b_576	Residential	1	N	52.8	53.2	0.4	-	48.1	49.1	1.0	-	54.2	54.6	0.4	-	49.5	50.5	1.0	-	
NCA7b	NCA7b_577	Residential	G	NW	50.5	51.1	0.6	-	45.9	47.0	1.1	-	51.9	52.5	0.6	-	47.2	48.4	1.2	-	
NCA7b	NCA7b_577	Residential	1	NW	53.2	53.6	0.4	-	48.5	49.5	1.0	-	54.6	55.0	0.4	-	49.9	50.9	1.0	-	
NCA7b	NCA7b_578	Residential	G	NW	46.7	47.2	0.5	-	42.1	43.2	1.1	-	48.1	48.6	0.5	-	43.4	44.5	1.1	-	
NCA7b	NCA7b_578	Residential	1	NW	50.3	50.8	0.5	-	45.7	46.8	1.1	-	51.7	52.2	0.5	-	47.0	48.1	1.1	-	
NCA7b	NCA7b_579	Residential	G	W	50.2	50.8	0.6	-	45.5	46.8	1.3	-	51.6	52.2	0.6	-	46.9	48.1	1.2	-	
NCA7b	NCA7b_579	Residential	1	W	55.1	55.6	0.5	-	50.5	51.6	1.1	-	56.5	57.0	0.5	-	51.8	53.0	1.2	-	
NCA7b	NCA7b_580	Residential	G	NW	48.1	48.7	0.6	-	43.5	44.6	1.1	-	49.5	50.1	0.6	-	44.9	46.0	1.1	-	
NCA7b	NCA7b_580	Residential	1	NW	50.1	50.7	0.6	-	45.5	46.6	1.1	-	51.5	52.0	0.5	-	46.8	47.9	1.1	-	
NCA7b	NCA7b_581	Residential	G	N	51.0	51.4	0.4	-	46.3	47.3	1.0	-	52.3	52.8	0.5	-	47.7	48.7	1.0	-	
NCA7b	NCA7b_581	Residential	1	N	52.0	52.4	0.4	-	47.3	48.3	1.0	-	53.3	53.8	0.5	-	48.6	49.7	1.1	-	
NCA7b	NCA7b_582	Residential	G	N	51.7	52.1	0.4	-	46.9	47.9	1.0	-	53.0	53.5	0.5	-	48.3	49.3	1.0	-	
NCA7b	NCA7b_582	Residential	1	N	53.0	53.4	0.4	-	48.2	49.3	1.1	-	54.4	54.8	0.4	-	49.6	50.6	1.0	-	
NCA7b	NCA7b_583	Residential	G	N	51.9	52.5	0.6	-	47.1	48.3	1.2	-	53.3	53.9	0.6	-	48.5	49.7	1.2	-	
NCA7b	NCA7b_583	Residential	1	W	53.5	53.9	0.4	-	48.7	49.7	1.0	-	54.9	55.3	0.4	-	50.1	51.1	1.0	-	
NCA7b	NCA7b_584	Residential	G	N	49.5	49.5	0.0	-	45.6	46.0	0.4	-	50.7	50.8	0.1	-	46.9	47.3	0.4	-	
NCA7b	NCA7b_584	Residential	1	N	52.3	52.3	0.0	-	48.3	48.7	0.4	-	53.5	53.6	0.1	-	49.5	50.0	0.5	-	
NCA7b	NCA7b_585	Residential	G	N	49.1	49.5	0.4	-	44.7	45.5	0.8	-	50.5	50.8	0.3	-	46.0	46.8	0.8	-	
NCA7b	NCA7b_585	Residential	1	W	51.9	52.3	0.4	-	47.2	48.2	1.0	-	53.2	53.7	0.5	-	48.6	49.6	1.0	-	
NCA7b	NCA7b_586	Residential	G	SW	48.2	48.5	0.3	-	43.7	44.5	0.8	-	49.6	49.9	0.3	-	45.0	45.9	0.9	-	
NCA7b	NCA7b_586	Residential	1	NW	51.3	51.8	0.5	-	46.6	47.6	1.0	-	52.7	53.2	0.5	-	47.9	49.0	1.1	-	
NCA7b	NCA7b_587	Residential	G	S	50.3	50.7	0.4	-	45.7	46.6	0.9	-	51.7	52.1	0.4	-	47.0	48.0	1.0	-	
NCA7b	NCA7b_588	Residential	G	SW	50.6	50.9	0.3	-	45.9	46.8	0.9	-	51.9	52.3	0.4	-	47.3	48.2	0.9	-	
NCA7b	NCA7b_589	Residential	G	N	48.3	48.1	-0.2	-	44.8	45.0	0.2	-	49.5	49.3	-0.2	-	46.0	46.2	0.2	-	
NCA7b	NCA7b_589	Residential	1	E	52.1	51.2	-0.9	-	49.2	48.7	-0.5	-	53.1	52.2	-0.9	-	50.3	49.9	-0.4	-	
NCA7b	NCA7b_590	Residential	G	S	47.3	47.3	0.0	-	43.3	43.7	0.4	-	48.5	48.6	0.1	-	44.5	45.0	0.5	-	
NCA7b	NCA7b_591	Residential	G	NE	47.9	48.2	0.3	-	43.5	44.2	0.7	-	49.2	49.5	0.3	-	44.8	45.5	0.7	-	

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_592	New Lifestyle Village	Residential	G	W	55.1	56.3	1.2	-	50.6	52.4	1.8	-	56.5	57.7	1.2	-	51.9	53.8	1.9	-
NCA7b	NCA7b_593	New Lifestyle Village	Residential	G	W	55.3	56.6	1.3	-	50.8	52.7	1.9	-	56.7	58.0	1.3	-	52.2	54.1	1.9	-
NCA7b	NCA7b_594	New Lifestyle Village	Residential	G	W	55.5	56.8	1.3	-	50.9	52.9	2.0	-	56.9	58.2	1.3	-	52.3	54.2	1.9	-
NCA7b	NCA7b_595	New Lifestyle Village	Residential	G	W	55.2	56.5	1.3	-	50.7	52.6	1.9	-	56.6	57.9	1.3	-	52.0	54.0	2.0	-
NCA7b	NCA7b_596	New Lifestyle Village	Residential	G	W	54.8	56.1	1.3	-	50.3	52.2	1.9	-	56.2	57.5	1.3	-	51.7	53.5	1.8	-
NCA7b	NCA7b_597	New Lifestyle Village	Residential	G	N	54.4	55.1	0.7	-	49.8	51.2	1.4	-	55.7	56.5	0.8	-	51.1	52.5	1.4	-
NCA7b	NCA7b_598	New Lifestyle Village	Residential	G	N	55.9	56.4	0.5	-	51.3	52.5	1.2	-	57.3	57.8	0.5	-	52.7	53.9	1.2	-
NCA7b	NCA7b_599	New Lifestyle Village	Residential	G	N	57.5	57.9	0.4	-	53.0	54.0	1.0	-	58.9	59.3	0.4	-	54.3	55.4	1.1	-
NCA7b	NCA7b_600	New Lifestyle Village	Residential	G	N	60.1	60.5	0.4	-	55.6	56.7	1.1	-	61.5	61.9	0.4	-	57.0	58.0	1.0	-
NCA7b	NCA7b_601	New Lifestyle Village	Residential	G	W	66.5	65.0	-1.5	-	61.9	60.9	-1.0	-	67.9	66.4	-1.5	-	63.3	62.3	-1.0	-
NCA7b	NCA7b_602	New Lifestyle Village	Residential	G	W	52.4	53.2	0.8	-	47.8	49.2	1.4	-	53.8	54.6	0.8	-	49.1	50.6	1.5	-
NCA7b	NCA7b_603	New Lifestyle Village	Residential	G	W	52.6	53.5	0.9	-	48.0	49.5	1.5	-	54.0	54.9	0.9	-	49.4	50.9	1.5	-
NCA7b	NCA7b_604	New Lifestyle Village	Residential	G	W	52.3	53.1	0.8	-	47.7	49.1	1.4	-	53.7	54.5	0.8	-	49.1	50.5	1.4	-
NCA7b	NCA7b_605	New Lifestyle Village	Residential	G	W	52.7	53.4	0.7	-	48.1	49.4	1.3	-	54.0	54.7	0.7	-	49.4	50.8	1.4	-
NCA7b	NCA7b_606	New Lifestyle Village	Residential	G	W	53.7	54.6	0.9	-	49.1	50.7	1.6	-	55.1	56.0	0.9	-	50.5	52.0	1.5	-
NCA7b	NCA7b_607	New Lifestyle Village	Residential	G	W	52.4	53.1	0.7	-	47.8	49.1	1.3	-	53.8	54.5	0.7	-	49.2	50.5	1.3	-
NCA7b	NCA7b_608	New Lifestyle Village	Residential	G	W	52.1	52.7	0.6	-	47.5	48.8	1.3	-	53.5	54.1	0.6	-	48.8	50.1	1.3	-
NCA7b	NCA7b_609	New Lifestyle Village	Residential	G	W	52.3	52.9	0.6	-	47.7	48.9	1.2	-	53.7	54.3	0.6	-	49.1	50.3	1.2	-
NCA7b	NCA7b_610	New Lifestyle Village	Residential	G	W	52.5	53.0	0.5	-	47.9	49.1	1.2	-	53.9	54.4	0.5	-	49.3	50.5	1.2	-
NCA7b	NCA7b_611	New Lifestyle Village	Residential	G	W	52.4	52.9	0.5	-	47.8	49.0	1.2	-	53.8	54.3	0.5	-	49.1	50.3	1.2	-
NCA7b	NCA7b_612	New Lifestyle Village	Residential	G	W	53.0	53.3	0.3	-	48.4	49.4	1.0	-	54.4	54.7	0.3	-	49.8	50.8	1.0	-
NCA7b	NCA7b_613	New Lifestyle Village	Residential	G	W	53.7	54.1	0.4	-	49.0	50.2	1.2	-	55.0	55.5	0.5	-	50.4	51.5	1.1	-
NCA7b	NCA7b_614	New Lifestyle Village	Residential	G	W	54.0	54.6	0.6	-	49.4	50.6	1.2	-	55.4	56.0	0.6	-	50.8	52.0	1.2	-
NCA7b	NCA7b_615	New Lifestyle Village	Residential	G	W	53.8	54.3	0.5	-	49.2	50.3	1.1	-	55.2	55.7	0.5	-	50.6	51.7	1.1	-
NCA7b	NCA7b_616	New Lifestyle Village	Residential	G	W	53.8	54.3	0.5	-	49.2	50.4	1.2	-	55.2	55.7	0.5	-	50.6	51.7	1.1	-
NCA7b	NCA7b_617	New Lifestyle Village	Residential	G	W	53.5	54.1	0.6	-	48.9	50.1	1.2	-	54.9	55.5	0.6	-	50.3	51.5	1.2	-
NCA7b	NCA7b_618	New Lifestyle Village	Residential	G	N	54.1	53.2	-0.9	-	49.5	49.3	-0.2	-	55.5	54.6	-0.9	-	50.9	50.7	-0.2	-
NCA7b	NCA7b_619	New Lifestyle Village	Residential	G	W	58.2	58.8	0.6	-	53.6	55.0	1.4	-	59.6	60.2	0.6	-	55.0	56.3	1.3	-
NCA7b	NCA7b_620	New Lifestyle Village	Residential	G	W	56.4	56.9	0.5	-	51.8	53.0	1.2	-	57.8	58.3	0.5	-	53.2	54.4	1.2	-
NCA7b	NCA7b_621	New Lifestyle Village	Residential	G	W	56.3	56.9	0.6	-	51.8	53.0	1.2	-	57.7	58.2	0.5	-	53.1	54.3	1.2	-
NCA7b	NCA7b_622	New Lifestyle Village	Residential	G	W	56.7	56.7	0.0	-	52.1	52.8	0.7	-	58.1	58.1	0.0	-	53.5	54.2	0.7	-
NCA7b	NCA7b_623	New Lifestyle Village	Residential	G	W	57.1	57.0	-0.1	-	52.5	53.1	0.6	-	58.5	58.4	-0.1	-	53.9	54.5	0.6	-
NCA7b	NCA7b_624	New Lifestyle Village	Residential	G	W	58.6	57.4	-1.2	-	54.0	53.6	-0.4	-	60.0	58.8	-1.2	-	55.4	54.9	-0.5	-
NCA7b	NCA7b_625	New Lifestyle Village	Residential	G	W	66.1	61.7	-4.4	-	61.6	57.8	-3.8	-	67.5	63.1	-4.4	-	62.9	59.2	-3.7	-
NCA7b	NCA7b_625	New Lifestyle Village	Residential	G	W	66.1	58.4	-7.7	-	61.6	54.5	-7.1	-	67.5	59.8	-7.7	-	63.0	55.8	-7.2	-
NCA7b	NCA7b_626	New Lifestyle Village	Residential	G	W	66.6	57.0	-9.6	-	62.1	53.1	-9.0	-	68.0	58.4	-9.6	-	63.4	54.5	-8.9	-
NCA7b	NCA7b_627	New Lifestyle Village	Residential	G	W	66.5	57.1	-9.4	-	62.0	53.1	-8.9	-	67.9	58.4	-9.5	-	63.4	54.5	-8.9	-
NCA7b	NCA7b_628	New Lifestyle Village	Residential	G	W	66.3	58.3	-8.0	-	61.8	54.4	-7.4	-	67.7	59.7	-8.0	-	63.1	55.7	-7.4	-
NCA7b	NCA7b_629	New Lifestyle Village	Residential	G	W	60.6	59.8	-0.8	-	56.0	55.9	-0.1	-	61.9	61.2	-0.7	-	57.4	57.2	-0.2	-
NCA7b	NCA7b_630	New Lifestyle Village	Residential	G	N	57.5	58.3	0.8	-	52.9	54.4	1.5	-	58.9	59.7	0.8	-	54.3	55.7	1.4	-
NCA7b	NCA7b_631	New Lifestyle Village	Residential	G	N	56.9	57.6	0.7	-	52.4	53.7	1.3	-	58.3	59.0	0.7	-	53.7	55.1	1.4	-
NCA7b	NCA7b_632	New Lifestyle Village	Residential	G	N	56.1	56.8	0.7	-	51.5	52.9	1.4	-	57.5	58.2	0.7	-	52.9	54.2	1.3	-
NCA7b	NCA7b_633	New Lifestyle Village	Residential	G	N	55.2	55.9	0.7	-	50.6	51.9	1.3	-	56.5	57.3	0.8	-	52.0	53.3	1.3	-
NCA7b	NCA7b_634	New Lifestyle Village	Residential	G	W	67.6	68.9	1.3	-	63.1	65.0	1.9	-	69.0	70.3	1.3	-	64.5	66.3	1.8	-
NCA7b	NCA7b_635	Treehaven Tourist Park	Residential	1	W	55.1	56.0	0.9	-	50.6	52.1	1.5	-	56.5	57.4	0.9	-	52.0	53.4	1.4	-
NCA7b	NCA7b_635	Treehaven Tourist Park	Residential	G	W	69.1	70.2	1.1	-	64.5	66.2	1.7	-	70.5	71.6	1.1	-	65.8	67.6	1.8	-
NCA7b	NCA7b_636	Treehaven Tourist Park	Residential	G	W	54.9	55.7	0.8	-	50.4	51.8	1.4	-	56.3	57.1	0.8	-	51.7	53.2	1.5	-
NCA7b	NCA7b_637	Treehaven Tourist Park	Residential	G	W	54.9	55.7	0.8	-	50.4	51.8	1.4	-	56.3	57.1	0.8	-	51.8	53.2	1.4	-
NCA7b	NCA7b_638	Treehaven Tourist Park	Residential	G	W	54.5	55.3	0.8	-	50.0	51.4	1.4	-	55.9	56.7	0.8	-	51.3	52.8	1.5	-
NCA7b	NCA7b_639	Treehaven Tourist Park	Residential	G	N	53.7	55.0	1.3	-	49.2	51.0	1.8	-	55.1	56.4	1.3	-	50.5	52.4	1.9	-
NCA7b	NCA7b_640	Treehaven Tourist Park	Residential	G	W	55.3	56.5	1.2	-	50.7	52.6	1.9	-	56.6	57.9	1.3	-	52.1	54.0	1.9	-
NCA7b	NCA7b_641	Treehaven Tourist Park	Residential	G	W	55.2	56.4	1.2	-	50.6	52.5	1.9	-	56.6	57.8	1.2	-	52.0	53.8	1.8	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_642	Treehaven Tourist Park	Residential	G	W	54.7	55.8	1.1	-	50.2	51.9	1.7	-	56.1	57.2	1.1	-	51.5	53.3	1.8	-
NCA7b	NCA7b_643	Treehaven Tourist Park	Residential	G	W	53.5	54.5	1.0	-	49.0	50.6	1.6	-	54.9	55.9	1.0	-	50.4	52.0	1.6	-
NCA7b	NCA7b_644	Treehaven Tourist Park	Residential	G	W	53.3	54.1	0.8	-	48.7	50.2	1.5	-	54.6	55.5	0.9	-	50.1	51.5	1.4	-
NCA7b	NCA7b_645	Treehaven Tourist Park	Residential	G	W	53.2	54.0	0.8	-	48.6	50.0	1.4	-	54.5	55.4	0.9	-	50.0	51.4	1.4	-
NCA7b	NCA7b_646	Treehaven Tourist Park	Residential	G	W	52.2	53.0	0.8	-	47.6	49.0	1.4	-	53.5	54.4	0.9	-	48.9	50.4	1.5	-
NCA7b	NCA7b_647	Treehaven Tourist Park	Residential	G	W	51.4	52.1	0.7	-	46.7	48.1	1.4	-	52.7	53.5	0.8	-	48.1	49.5	1.4	-
NCA7b	NCA7b_648	Treehaven Tourist Park	Residential	G	W	51.5	52.2	0.7	-	46.8	48.2	1.4	-	52.9	53.6	0.7	-	48.2	49.5	1.3	-
NCA7b	NCA7b_649	Treehaven Tourist Park	Residential	G	W	53.2	54.0	0.8	-	48.6	50.0	1.4	-	54.6	55.4	0.8	-	50.0	51.4	1.4	-
NCA7b	NCA7b_650	Treehaven Tourist Park	Residential	G	W	51.3	52.0	0.7	-	46.7	48.0	1.3	-	52.7	53.4	0.7	-	48.0	49.3	1.3	-
NCA7b	NCA7b_651	Treehaven Tourist Park	Residential	G	S	50.5	51.2	0.7	-	45.9	47.2	1.3	-	51.9	52.6	0.7	-	47.3	48.5	1.2	-
NCA7b	NCA7b_652	Treehaven Tourist Park	Residential	G	W	53.3	54.1	0.8	-	48.7	50.2	1.5	-	54.7	55.5	0.8	-	50.1	51.5	1.4	-
NCA7b	NCA7b_653	Treehaven Tourist Park	Residential	G	S	50.6	51.3	0.7	-	46.0	47.3	1.3	-	52.0	52.7	0.7	-	47.4	48.7	1.3	-
NCA7b	NCA7b_654	Treehaven Tourist Park	Residential	G	W	52.8	53.5	0.7	-	48.2	49.5	1.3	-	54.2	54.9	0.7	-	49.6	50.9	1.3	-
NCA7b	NCA7b_655	Treehaven Tourist Park	Residential	G	W	52.2	52.9	0.7	-	47.6	48.9	1.3	-	53.6	54.3	0.7	-	48.9	50.3	1.4	-
NCA7b	NCA7b_656	Treehaven Tourist Park	Residential	G	W	52.0	52.7	0.7	-	47.4	48.7	1.3	-	53.4	54.1	0.7	-	48.7	50.1	1.4	-
NCA7b	NCA7b_657	Treehaven Tourist Park	Residential	G	W	52.0	52.7	0.7	-	47.4	48.8	1.4	-	53.4	54.1	0.7	-	48.8	50.1	1.3	-
NCA7b	NCA7b_658	Treehaven Tourist Park	Residential	G	W	51.9	52.6	0.7	-	47.3	48.7	1.4	-	53.3	54.0	0.7	-	48.7	50.1	1.4	-
NCA7b	NCA7b_659	Treehaven Tourist Park	Residential	G	W	51.9	52.6	0.7	-	47.3	48.7	1.4	-	53.2	54.0	0.8	-	48.6	50.0	1.4	-
NCA7b	NCA7b_660	Treehaven Tourist Park	Residential	G	W	51.9	52.6	0.7	-	47.3	48.7	1.4	-	53.3	54.0	0.7	-	48.7	50.0	1.3	-
NCA7b	NCA7b_661	Treehaven Tourist Park	Residential	G	W	52.0	52.8	0.8	-	47.5	48.9	1.4	-	53.4	54.2	0.8	-	48.8	50.2	1.4	-
NCA7b	NCA7b_662	Treehaven Tourist Park	Residential	G	W	52.0	52.9	0.9	-	47.5	48.9	1.4	-	53.4	54.2	0.8	-	48.8	50.3	1.5	-
NCA7b	NCA7b_663	Treehaven Tourist Park	Residential	G	W	52.4	53.2	0.8	-	47.8	49.3	1.5	-	53.7	54.6	0.9	-	49.2	50.7	1.5	-
NCA7b	NCA7b_664	Treehaven Tourist Park	Residential	G	W	52.2	53.1	0.9	-	47.6	49.2	1.6	-	53.5	54.5	1.0	-	49.0	50.5	1.5	-
NCA7b	NCA7b_665	Treehaven Tourist Park	Residential	G	W	52.6	53.5	0.9	-	48.1	49.6	1.5	-	54.0	54.9	0.9	-	49.4	51.0	1.6	-
NCA7b	NCA7b_666	Treehaven Tourist Park	Residential	G	W	52.7	53.7	1.0	-	48.2	49.8	1.6	-	54.1	55.1	1.0	-	49.5	51.1	1.6	-
NCA7b	NCA7b_667	Treehaven Tourist Park	Residential	G	W	52.8	53.7	0.9	-	48.2	49.8	1.6	-	54.1	55.1	1.0	-	49.6	51.1	1.5	-
NCA7b	NCA7b_668	Treehaven Tourist Park	Residential	G	W	53.0	53.9	0.9	-	48.4	50.0	1.6	-	54.3	55.3	1.0	-	49.8	51.3	1.5	-
NCA7b	NCA7b_669	Treehaven Tourist Park	Residential	G	W	52.8	53.8	1.0	-	48.3	49.9	1.6	-	54.2	55.2	1.0	-	49.7	51.2	1.5	-
NCA7b	NCA7b_670	Treehaven Tourist Park	Residential	G	W	53.0	54.0	1.0	-	48.4	50.1	1.7	-	54.3	55.4	1.1	-	49.8	51.4	1.6	-
NCA7b	NCA7b_671	Treehaven Tourist Park	Residential	G	W	52.9	53.9	1.0	-	48.3	50.0	1.7	-	54.2	55.3	1.1	-	49.7	51.3	1.6	-
NCA7b	NCA7b_672	Treehaven Tourist Park	Residential	G	W	52.8	53.8	1.0	-	48.2	49.8	1.6	-	54.2	55.2	1.0	-	49.6	51.2	1.6	-
NCA7b	NCA7b_673	Treehaven Tourist Park	Residential	G	N	55.1	56.3	1.2	-	50.6	52.4	1.8	-	56.5	57.7	1.2	-	52.0	53.8	1.8	-
NCA7b	NCA7b_674	Treehaven Tourist Park	Residential	G	N	54.9	56.1	1.2	-	50.4	52.1	1.7	-	56.3	57.5	1.2	-	51.7	53.5	1.8	-
NCA7b	NCA7b_675	Treehaven Tourist Park	Residential	G	S	55.1	55.9	0.8	-	50.5	51.9	1.4	-	56.5	57.3	0.8	-	51.9	53.3	1.4	-
NCA7b	NCA7b_676	Treehaven Tourist Park	Residential	G	N	56.2	57.2	1.0	-	51.6	53.2	1.6	-	57.6	58.6	1.0	-	53.0	54.6	1.6	-
NCA7b	NCA7b_677	Treehaven Tourist Park	Residential	G	W	62.6	63.8	1.2	-	58.1	59.8	1.7	-	64.0	65.1	1.1	-	59.5	61.2	1.7	-
NCA7b	NCA7b_678	Treehaven Tourist Park	Residential	G	SW	53.1	53.8	0.7	-	48.6	49.9	1.3	-	54.5	55.2	0.7	-	49.9	51.2	1.3	-
NCA7b	NCA7b_679	Treehaven Tourist Park	Residential	G	N	52.9	53.6	0.7	-	48.4	49.7	1.3	-	54.3	55.0	0.7	-	49.8	51.0	1.2	-
NCA7b	NCA7b_680	Treehaven Tourist Park	Residential	G	N	53.5	54.2	0.7	-	49.0	50.3	1.3	-	54.9	55.6	0.7	-	50.3	51.6	1.3	-
NCA7b	NCA7b_681	Treehaven Tourist Park	Residential	G	N	54.1	54.7	0.6	-	49.5	50.8	1.3	-	55.4	56.1	0.7	-	50.9	52.2	1.3	-
NCA7b	NCA7b_682	Treehaven Tourist Park	Residential	G	W	54.8	55.5	0.7	-	50.3	51.6	1.3	-	56.2	56.9	0.7	-	51.7	53.0	1.3	-
NCA7b	NCA7b_683	Treehaven Tourist Park	Residential	G	N	51.8	52.7	0.9	-	47.2	48.7	1.5	-	53.2	54.1	0.9	-	48.6	50.1	1.5	-
NCA7b	NCA7b_684	Treehaven Tourist Park	Residential	G	W	53.6	54.3	0.7	-	49.0	50.4	1.4	-	55.0	55.7	0.7	-	50.4	51.7	1.3	-
NCA7b	NCA7b_685	Treehaven Tourist Park	Residential	G	N	51.7	52.5	0.8	-	47.2	48.6	1.4	-	53.1	53.9	0.8	-	48.5	49.9	1.4	-
NCA7b	NCA7b_686	Treehaven Tourist Park	Residential	G	N	51.5	52.3	0.8	-	47.0	48.3	1.3	-	52.9	53.6	0.7	-	48.3	49.7	1.4	-
NCA7b	NCA7b_687	Treehaven Tourist Park	Residential	G	N	51.0	51.8	0.8	-	46.5	47.8	1.3	-	52.4	53.2	0.8	-	47.8	49.2	1.4	-
NCA7b	NCA7b_688	Treehaven Tourist Park	Residential	G	N	52.5	53.3	0.8	-	47.9	49.3	1.4	-	53.9	54.7	0.8	-	49.3	50.7	1.4	-
NCA7b	NCA7b_689	Treehaven Tourist Park	Residential	G	N	52.3	53.1	0.8	-	47.7	49.2	1.5	-	53.7	54.5	0.8	-	49.1	50.5	1.4	-
NCA7b	NCA7b_690	Treehaven Tourist Park	Residential	G	N	51.6	52.4	0.8	-	47.1	48.4	1.3	-	53.0	53.8	0.8	-	48.4	49.8	1.4	-
NCA7b	NCA7b_691	Treehaven Tourist Park	Residential	G	N	51.2	51.9	0.7	-	46.6	47.9	1.3	-	52.6	53.3	0.7	-	48.0	49.3	1.3	-
NCA7b	NCA7b_692	Treehaven Tourist Park	Residential	G	SW	51.7	52.4	0.7	-	47.1	48.4	1.3	-	53.1	53.8	0.7	-	48.5	49.8	1.3	-
NCA7b	NCA7b_693	Treehaven Tourist Park	Residential	G	W	51.7	52.4	0.7	-	47.1	48.4	1.3	-	53.1	53.8	0.7	-	48.4	49.7	1.3	-

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2019								Design year 2029							
						Day				Night				Day				Night			
				Floor	Orientation	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?	Detailed design	As-built	Difference	>2dB(A) difference?
NCA7b	NCA7b_694	Treehaven Tourist Park	Residential	G	W	52.8	53.5	0.7	-	48.2	49.5	1.3	-	54.2	54.9	0.7	-	49.6	50.9	1.3	-
NCA7b	NCA7b_695	Treehaven Tourist Park	Residential	G	W	54.8	55.5	0.7	-	50.3	51.6	1.3	-	56.2	56.9	0.7	-	51.6	53.0	1.4	-
NCA7b	NCA7b_696	Treehaven Tourist Park	Residential	G	W	54.7	55.4	0.7	-	50.1	51.5	1.4	-	56.1	56.8	0.7	-	51.5	52.9	1.4	-
NCA7b	NCA7b_697	Treehaven Tourist Park	Residential	G	W	54.6	55.4	0.8	-	50.0	51.5	1.5	-	56.0	56.8	0.8	-	51.4	52.9	1.5	-
NCA7b	NCA7b_698	Treehaven Tourist Park	Residential	G	W	53.1	53.9	0.8	-	48.5	50.0	1.5	-	54.5	55.3	0.8	-	49.9	51.3	1.4	-
NCA7b	NCA7b_699	Treehaven Tourist Park	Residential	G	W	52.8	53.6	0.8	-	48.2	49.7	1.5	-	54.2	55.0	0.8	-	49.6	51.0	1.4	-
NCA7b	NCA7b_700	Treehaven Tourist Park	Residential	G	S	51.1	51.8	0.7	-	46.5	47.8	1.3	-	52.5	53.2	0.7	-	47.9	49.2	1.3	-
NCA7b	NCA7b_701	Treehaven Tourist Park	Residential	G	W	54.4	55.5	1.1	-	49.8	51.6	1.8	-	55.7	56.9	1.2	-	51.2	52.9	1.7	-
NCA7b	NCA7b_702	Treehaven Tourist Park	Residential	G	W	55.2	56.4	1.2	-	50.7	52.4	1.7	-	56.6	57.8	1.2	-	52.0	53.8	1.8	-
NCA7b	NCA7b_703	Treehaven Tourist Park	Residential	G	N	52.9	54.0	1.1	-	48.3	50.1	1.8	-	54.3	55.4	1.1	-	49.7	51.4	1.7	-
NCA7b	NCA7b_704	Treehaven Tourist Park	Residential	G	N	52.6	53.7	1.1	-	48.0	49.8	1.8	-	54.0	55.1	1.1	-	49.4	51.2	1.8	-
NCA7b	NCA7b_705	Treehaven Tourist Park	Residential	G	W	56.3	57.7	1.4	-	51.8	53.8	2.0	-	57.7	59.1	1.4	-	53.2	55.1	1.9	-
NCA7b	NCA7b_706	Treehaven Tourist Park	Residential	G	W	56.4	57.6	1.2	-	51.8	53.7	1.9	-	57.7	59.0	1.3	-	53.2	55.1	1.9	-
NCA7b	NCA7b_707	Treehaven Tourist Park	Residential	G	S	53.5	54.6	1.1	-	49.0	50.6	1.6	-	54.9	56.0	1.1	-	50.3	52.0	1.7	-
NCA7b	NCA7b_708	Treehaven Tourist Park	Residential	G	S	52.9	54.0	1.1	-	48.4	50.0	1.6	-	54.3	55.3	1.0	-	49.7	51.4	1.7	-
NCA7b	NCA7b_709	Treehaven Tourist Park	Residential	G	S	52.3	53.3	1.0	-	47.7	49.3	1.6	-	53.6	54.7	1.1	-	49.1	50.7	1.6	-
NCA7b	NCA7b_710	Treehaven Tourist Park	Residential	G	S	52.2	53.0	0.8	-	47.7	49.1	1.4	-	53.6	54.4	0.8	-	49.0	50.5	1.5	-

APPENDIX E Receiver identification

900 m
600
300
0

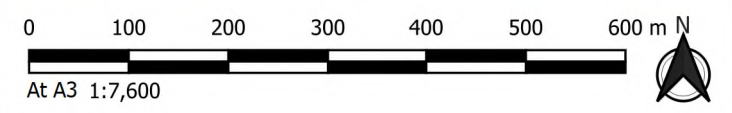


LEGEND

- NCA
- Buildings



REV	BY	DATE	DESCRIPTION	APPROVER
r0	CC	27/09/23		



FULL SIZE A3
NOTE: Do not scale from this drawing.

CLIENT

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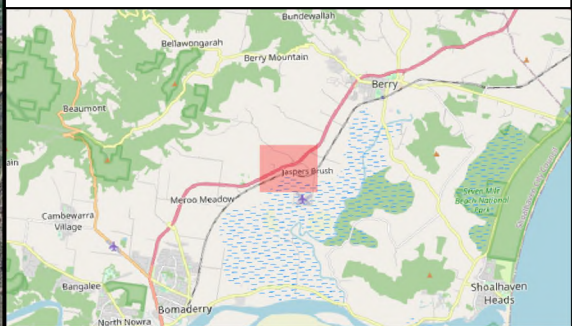
**BERRY TO BOMADERRY
PRINCES HIGHWAY UPGRADE**

RECEIVER IDENTIFICATION



LEGEND

- NCA
- Buildings



REV	BY	DATE	DESCRIPTION	APPROVER
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r0	CC	27/09/23		

0 90 180 270 360 450 540 m

At A3 1:7,200

FULL SIZE A3
NOTE: Do not scale from this drawing.

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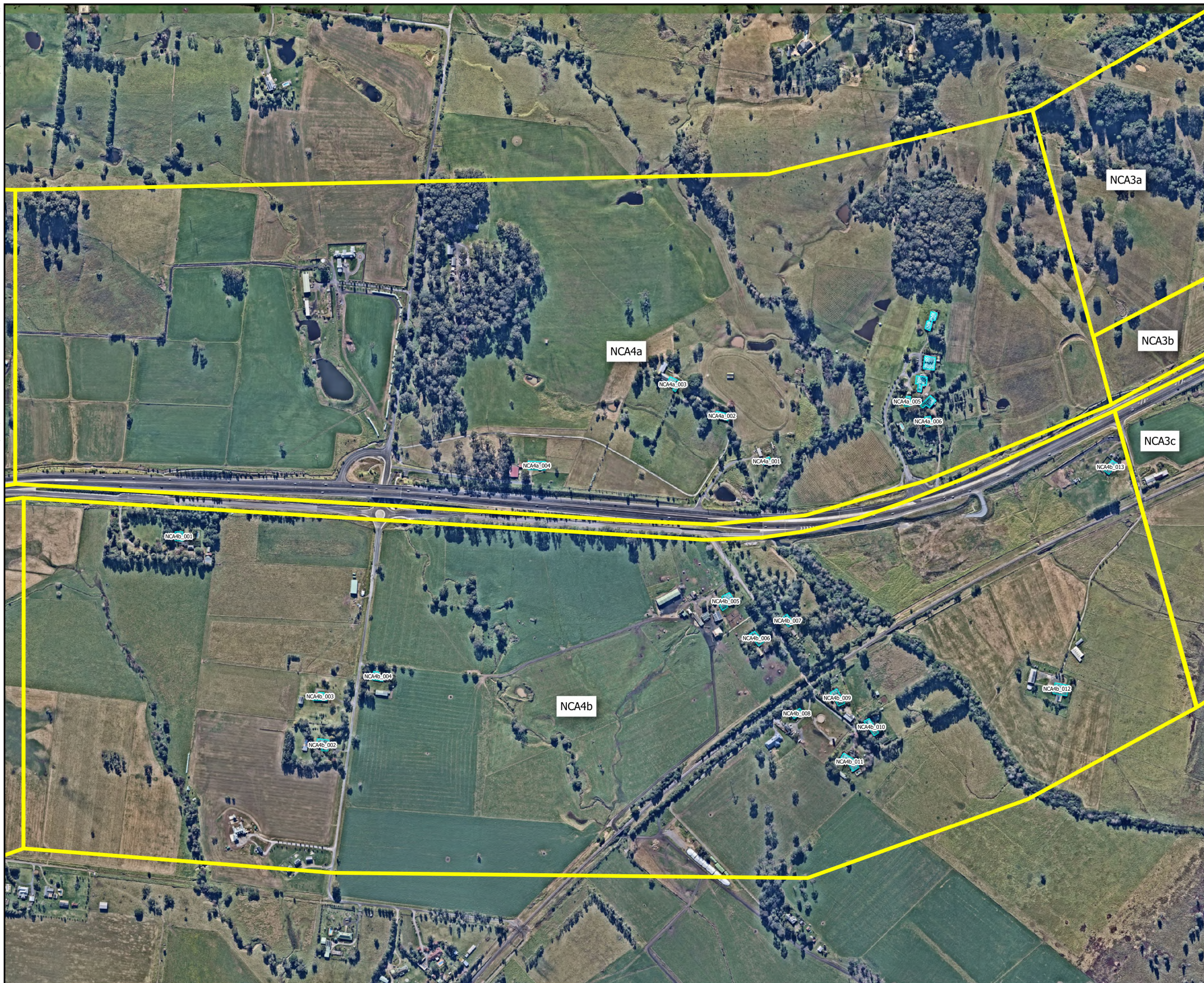
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**BERRY TO BOMADERRY
PRINCES HIGHWAY UPGRADE**

RECEIVER IDENTIFICATION

900 m
600
300
0

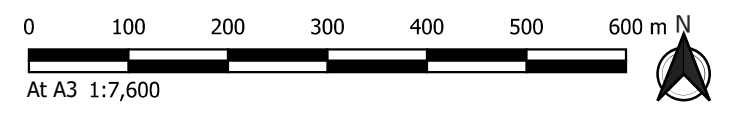


LEGEND

- NCA
- Buildings



REV	BY	DATE	DESCRIPTION	APPROVER
r0	CC	27/09/23		



NOTE: Do not scale from this drawing.

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**BERRY TO BOMADERY
PRINCES HIGHWAY UPGRADE**

RECEIVER IDENTIFICATION

600 m
400
200
0



LEGEND

- NCA
- Buildings



REV	BY	DATE	DESCRIPTION	APPROVER
r0	CC	27/09/23		

0 90 180 270 360 450 540 m

At A3 1:7,500

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**BERRY TO BOMADERRY
PRINCES HIGHWAY UPGRADE**

RECEIVER IDENTIFICATION

600 m
400
200
0

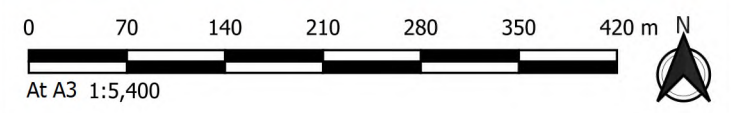


LEGEND

- NCA
- Buildings



REV	BY	DATE	DESCRIPTION	APPROVER
r0	CC	27/09/23		



Co-ordinate System: GDA94 / MGA zone 56
NOTE: Do not scale from this drawing.

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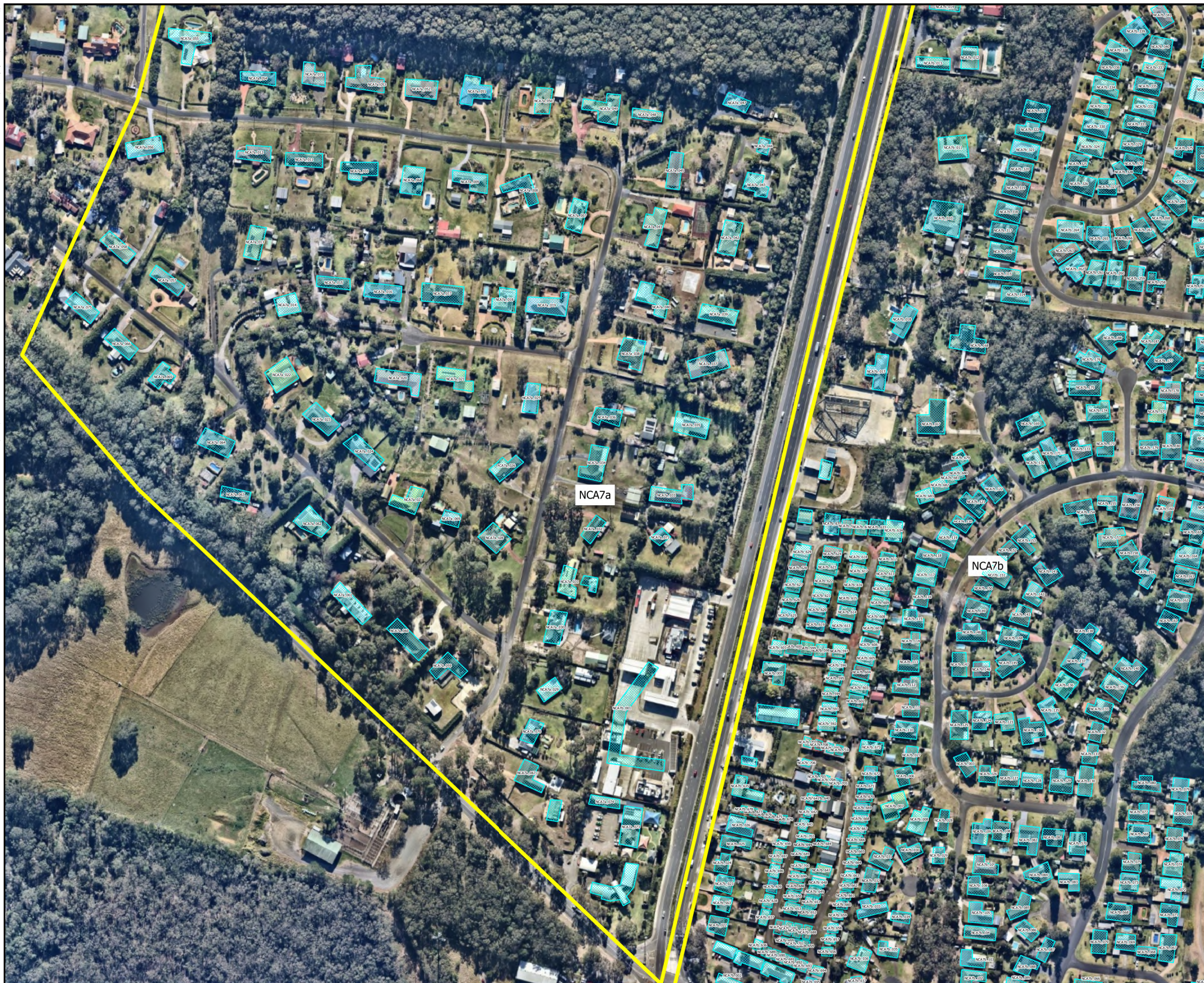
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**BERRY TO BOMADERRY
PRINCES HIGHWAY UPGRADE**

RECEIVER IDENTIFICATION

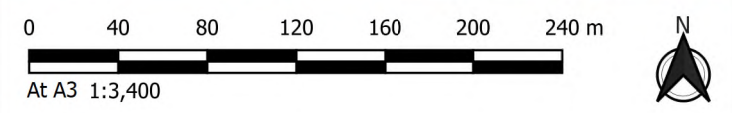
300 m
200
100
0



LEGEND

- NCA
- Buildings

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..
r0	CC	27/09/23		
REV	BY	DATE	DESCRIPTION	APPROVER
A3	Original		Co-ordinate System: GDA94 / MGA zone 56	



CLIENT



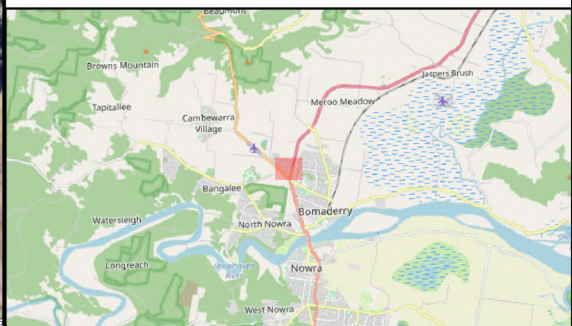
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**BERRY TO BOMADERY
PRINCES HIGHWAY UPGRADE**

RECEIVER IDENTIFICATION

FULL SIZE A3
NOTE: Do not scale from this drawing.

270 m

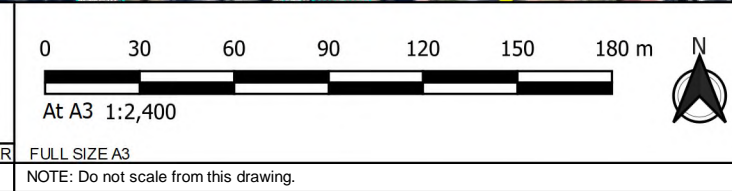
180

90

0



REV	BY	DATE	DESCRIPTION	APPROVER
0	CC	27/09/23		
A3 Original			Co-ordinate System: GDA94 / MGA zone 56	



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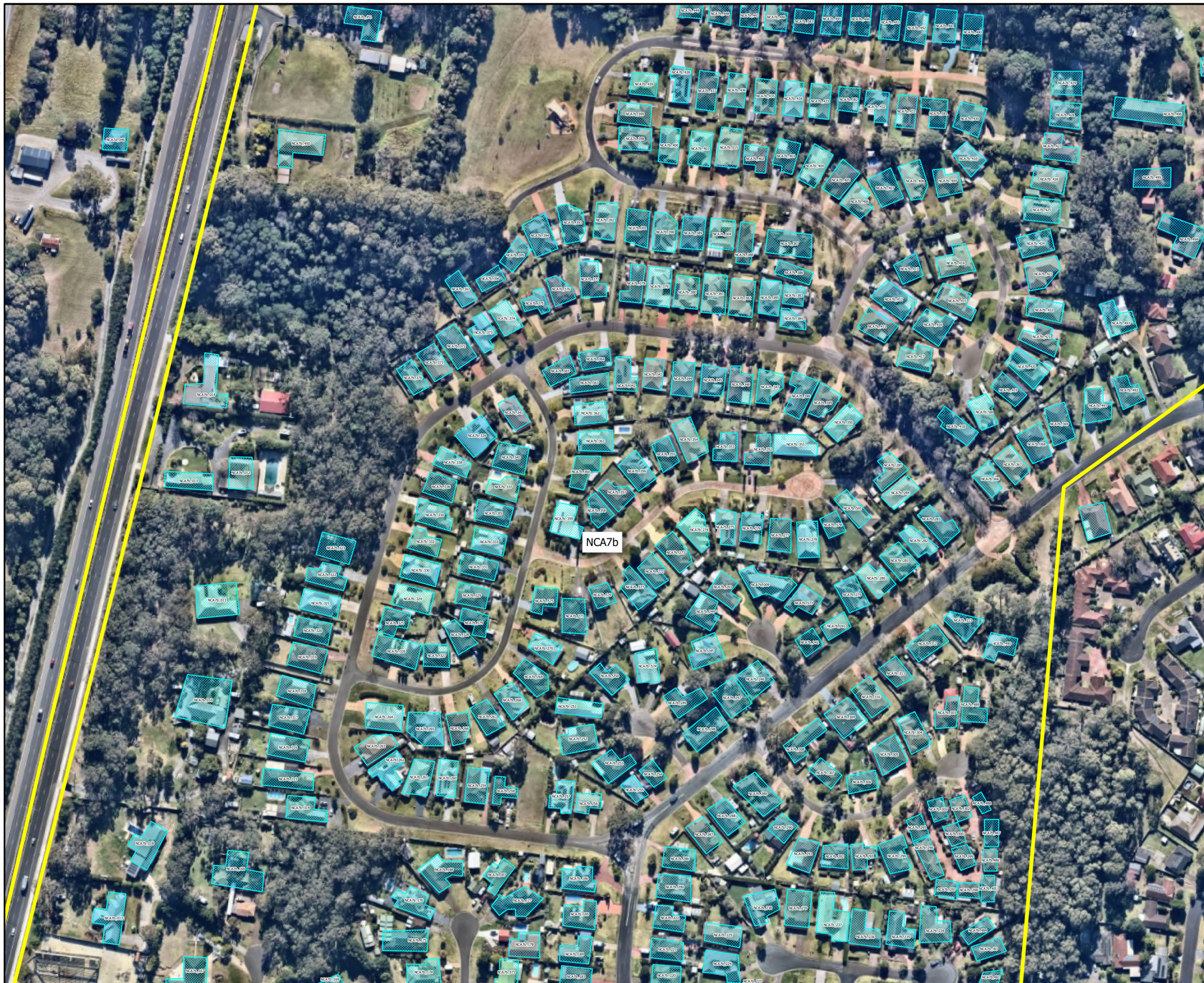
BERRY TO BOMADERRY
 PRINCES HIGHWAY UPGRADE
 RECEIVER IDENTIFICATION

270 m

180

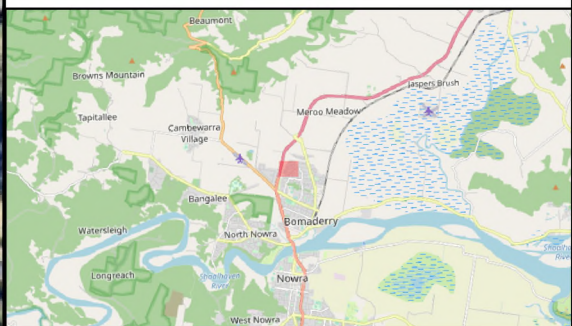
90

0

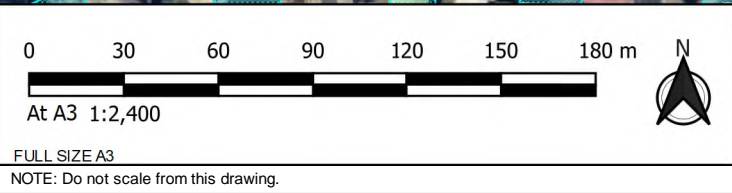


LEGEND

- NCA
- Buildings



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r0	CC	27/09/23		
REV	BY	DATE	DESCRIPTION	APPROVER
A3	Original		Co-ordinate System: GDA94 / MGA zone 56	



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**BERRY TO BOMADERRY
PRINCES HIGHWAY UPGRADE**

RECEIVER IDENTIFICATION

240 m

160

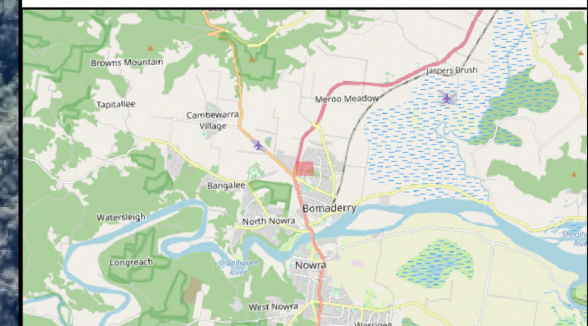
80

0

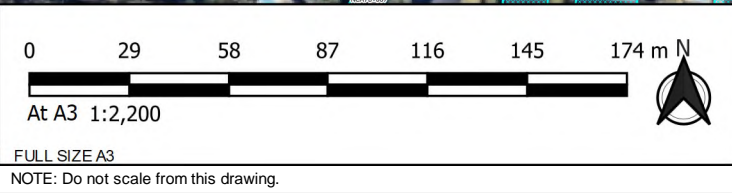


LEGEND

- NCA
- Buildings



REV	BY	DATE	DESCRIPTION	APPROVER
0	CC	27/09/23		
A3 Original			Co-ordinate System: GDA94 / MGA zone 56	



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**BERRY TO BOMADERRY
PRINCES HIGHWAY UPGRADE**

RECEIVER IDENTIFICATION

210 m

140

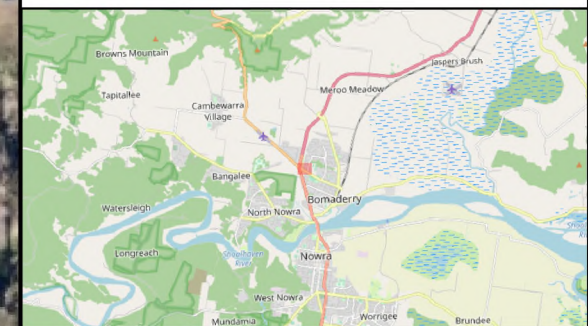
70

0



LEGEND

-  NCA
-  Buildings



REV	BY	DATE	DESCRIPTION	APPROVER
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..
r0	CC	27/09/23		

0 20 40 60 80 100 120 m

At A3 1:1,800

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BERRY TO BOMADERRY
PRINCES HIGHWAY UPGRADE
RECEIVER IDENTIFICATION

APPENDIX F Noise monitoring results

Monitoring ID: PCNM1
Address: 25 Mullers Lane, Jaspers Brush
Description: Side yard

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week ³	63	60

Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

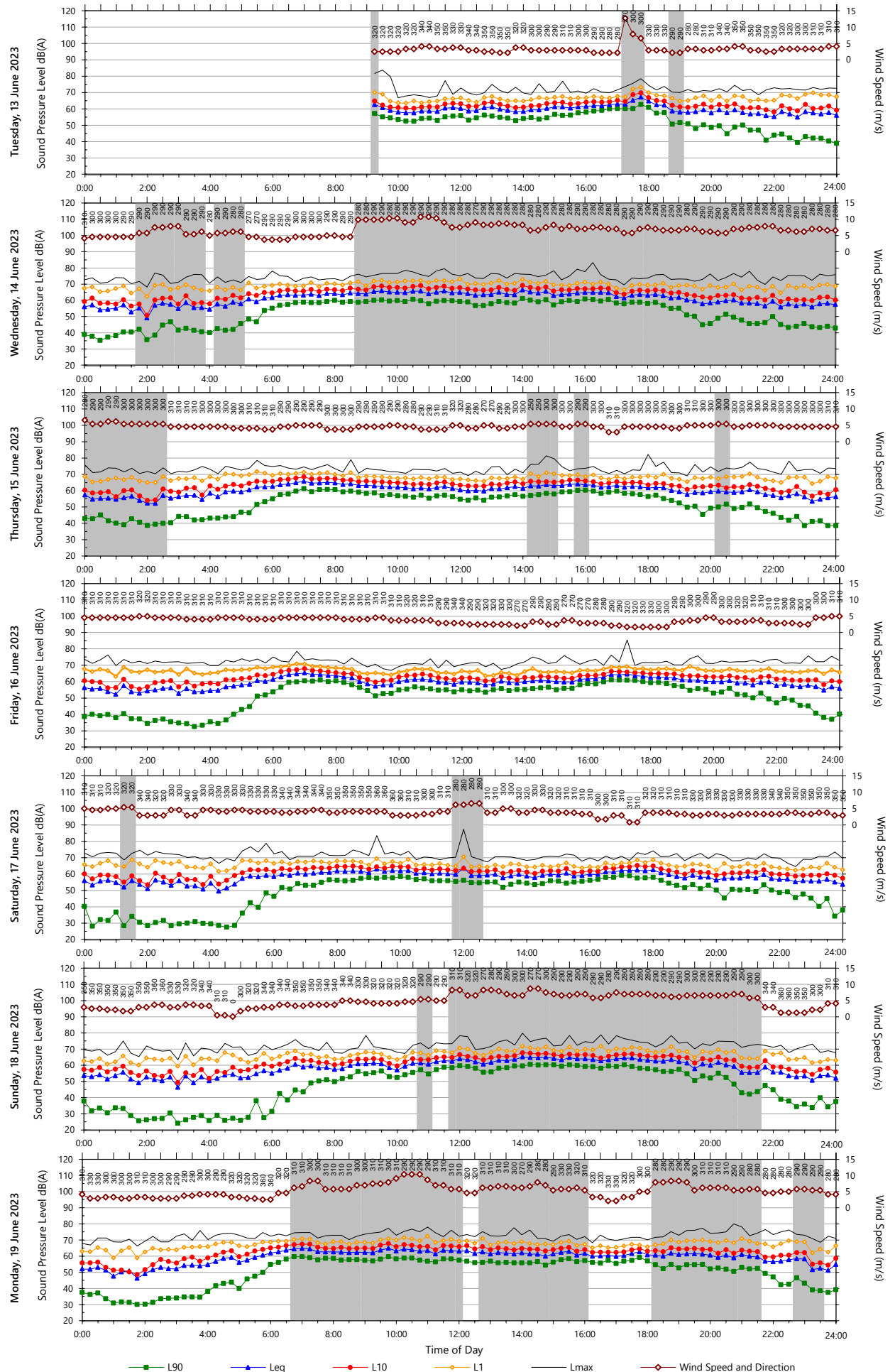


Logger location map



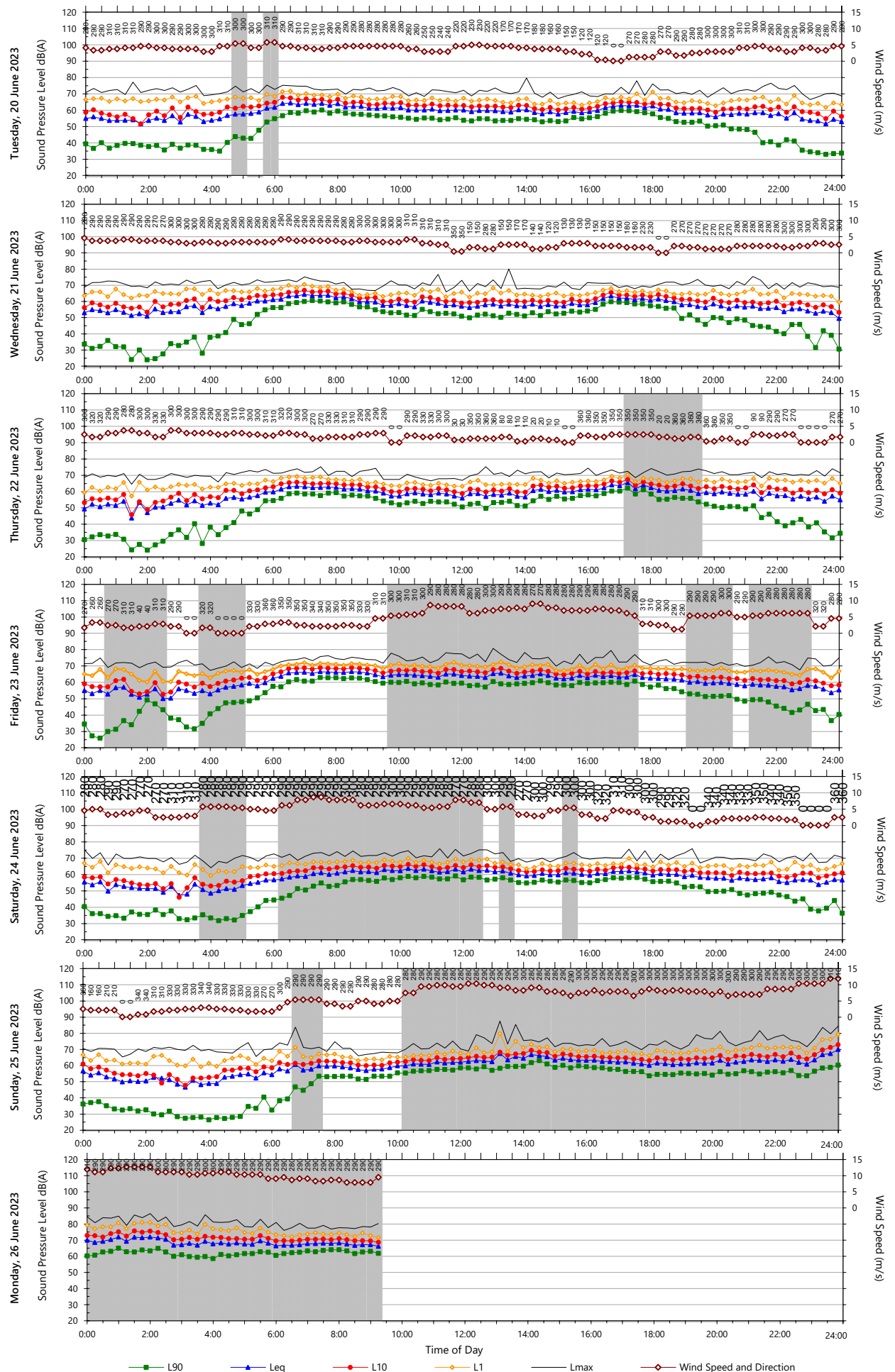
Unattended Monitoring Results

Location: Side yard



Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)



Monitoring ID: PCNM2
Address: 10 Croziers Road, Jaspers Brush
Description: Backyard

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week ³	55	50

Notes:

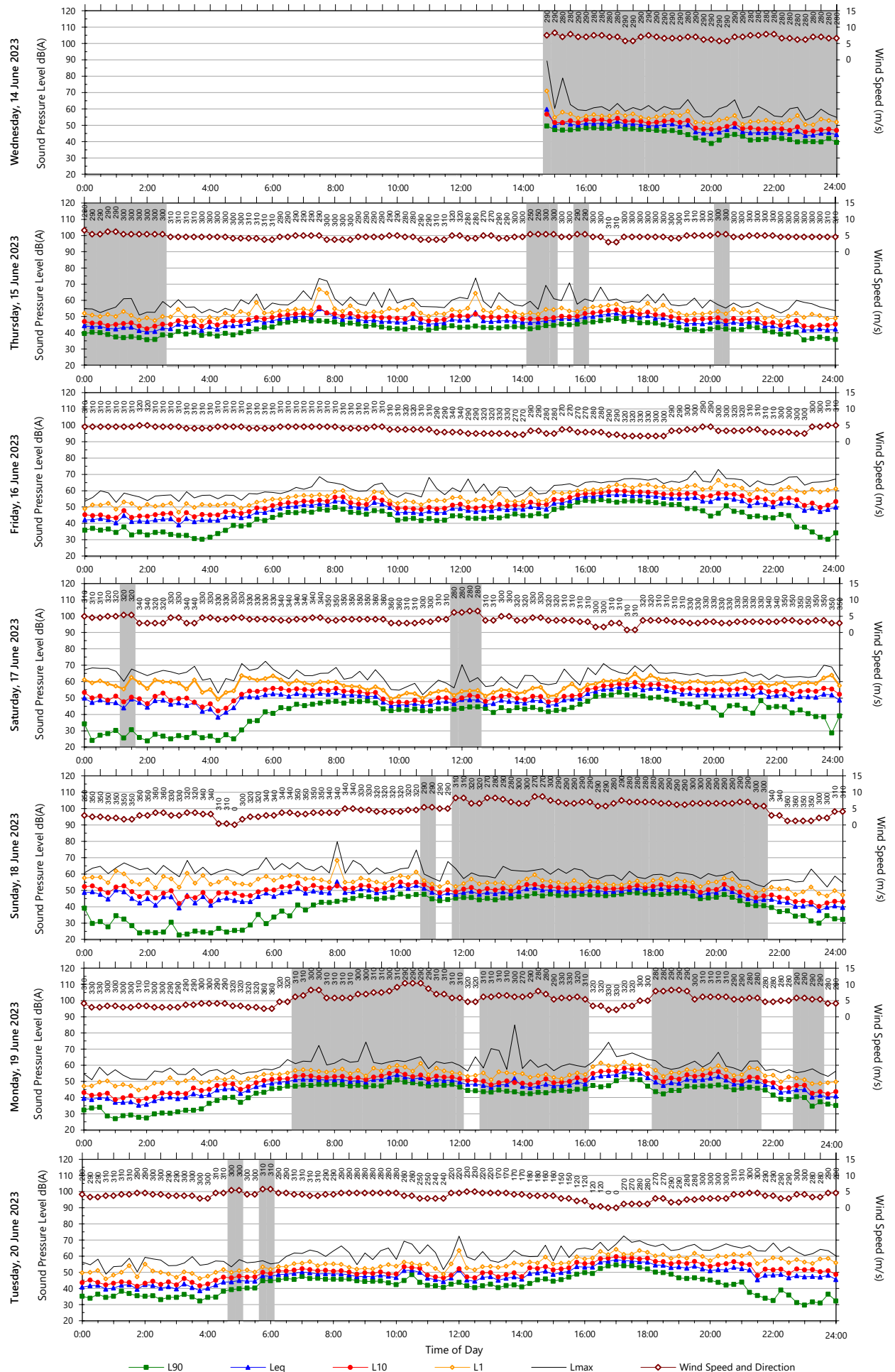
1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

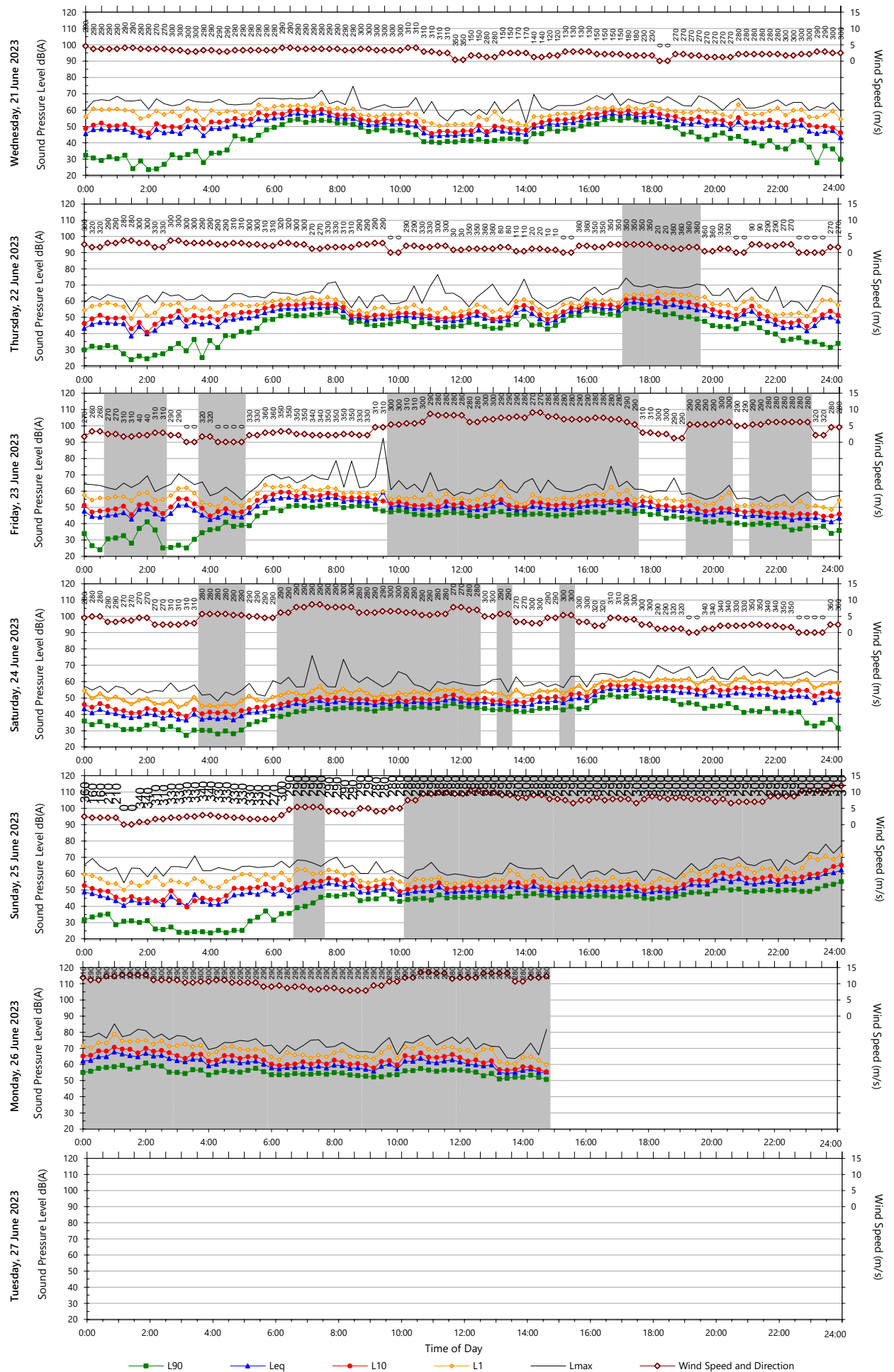
Logger location photograph



Logger location map







Monitoring ID: PCNM3
Address: 25 Jaspers Brush Road, Jaspers Brush
Description: Sideyard

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week ³	57	54

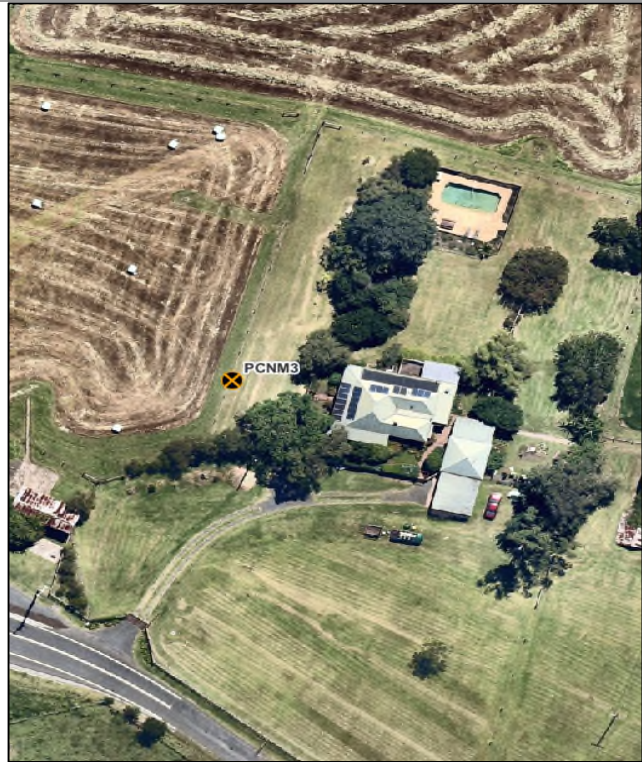
Notes:

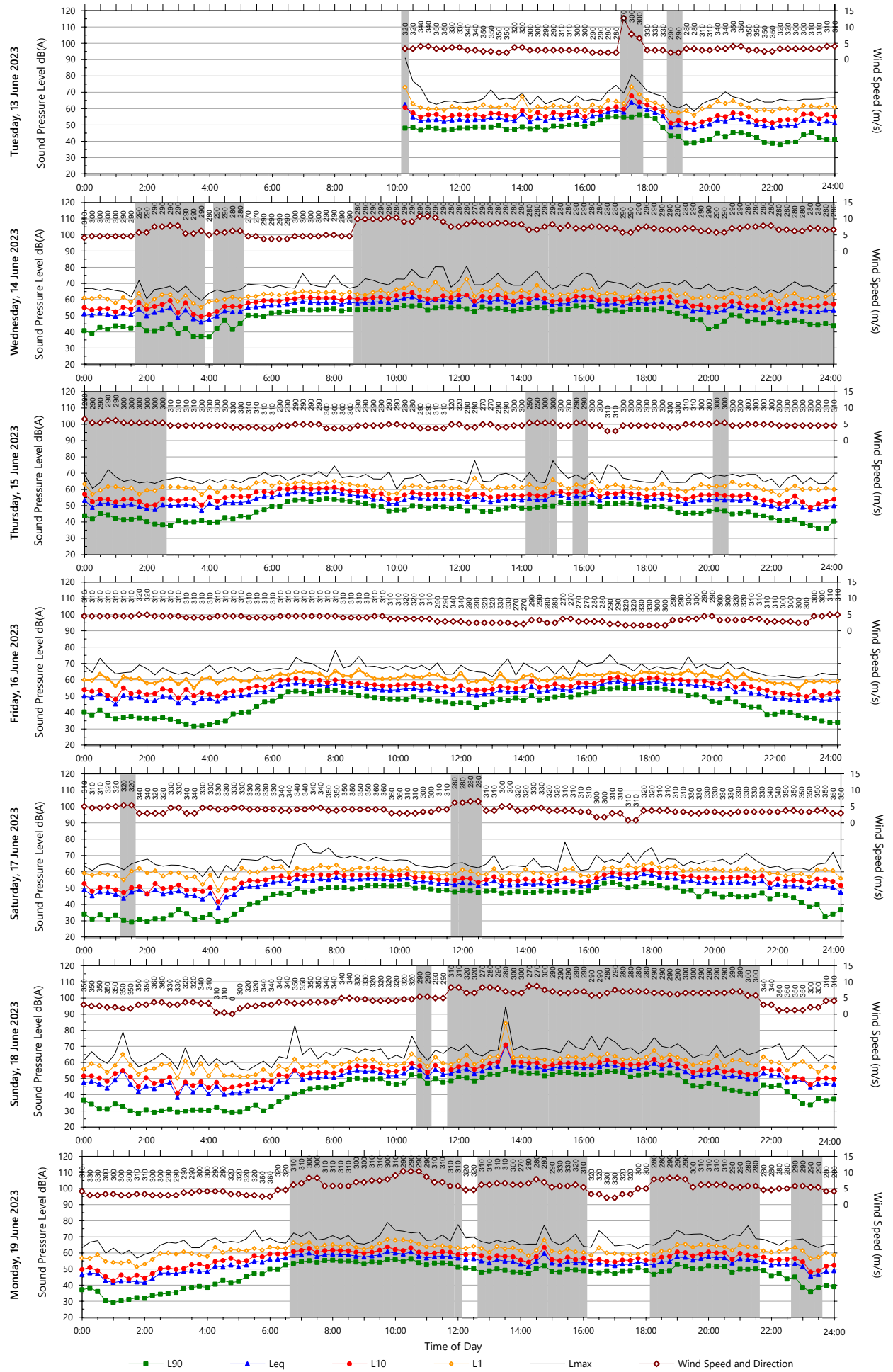
1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

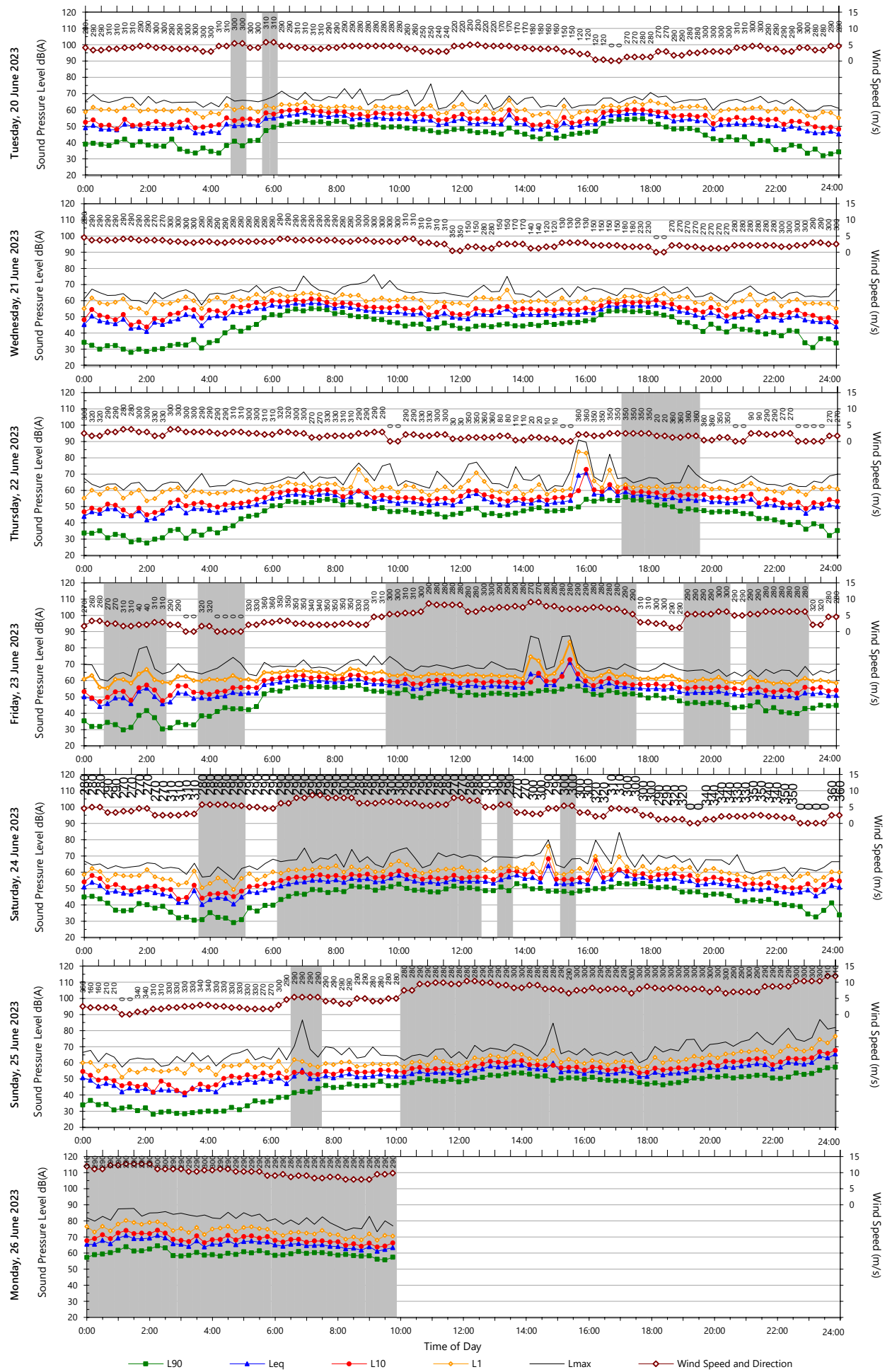
Logger location photograph



Logger location map







Monitoring ID: PCNM5
Address: Devitts Lane, Meroo Meadow
Description: Adjacent to Devitts Lane and paddocks

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week³	58	55

Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

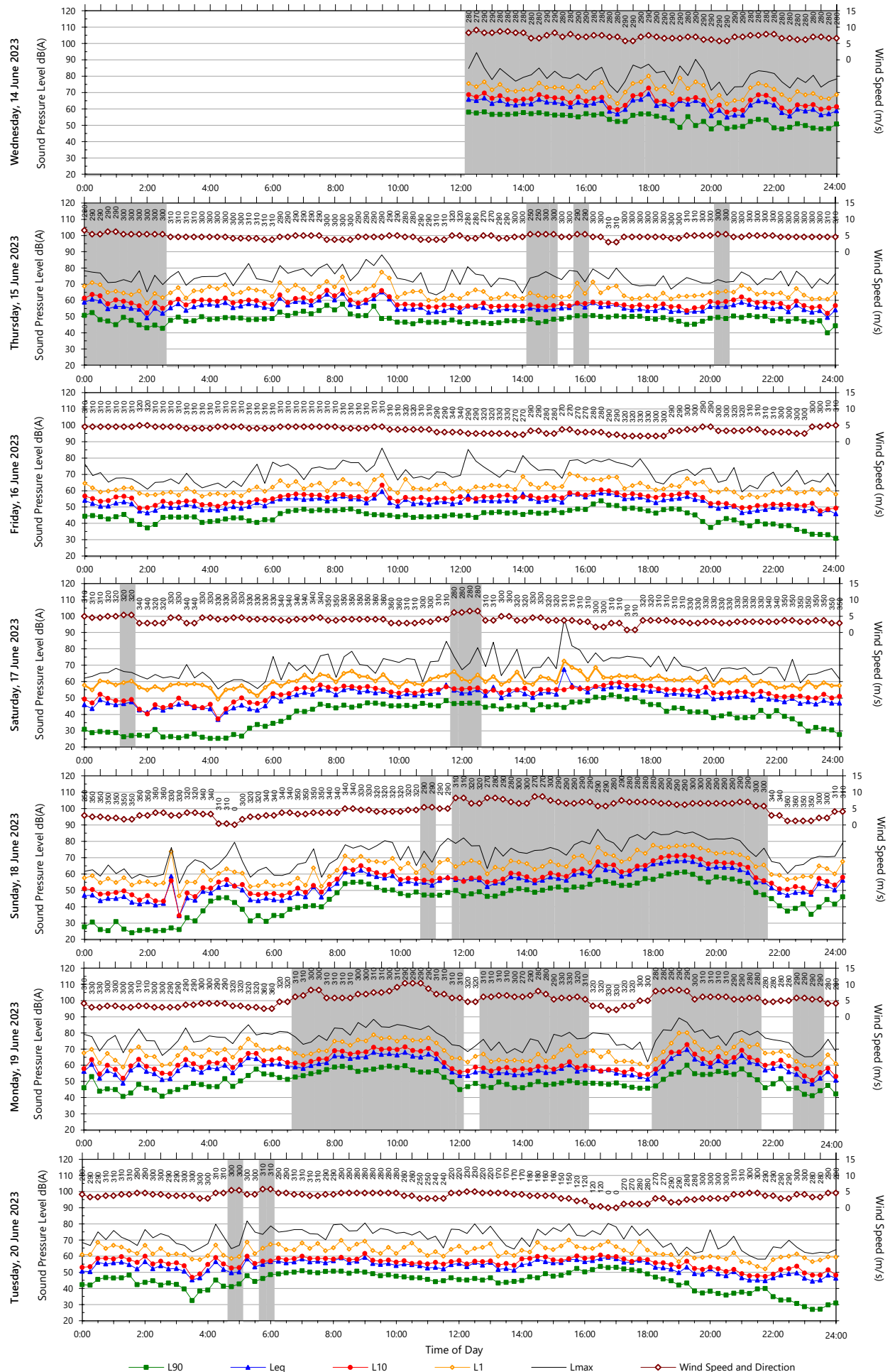


Logger location map



Unattended Monitoring Results

Location: Adjacent to Devitts Lane and paddocks



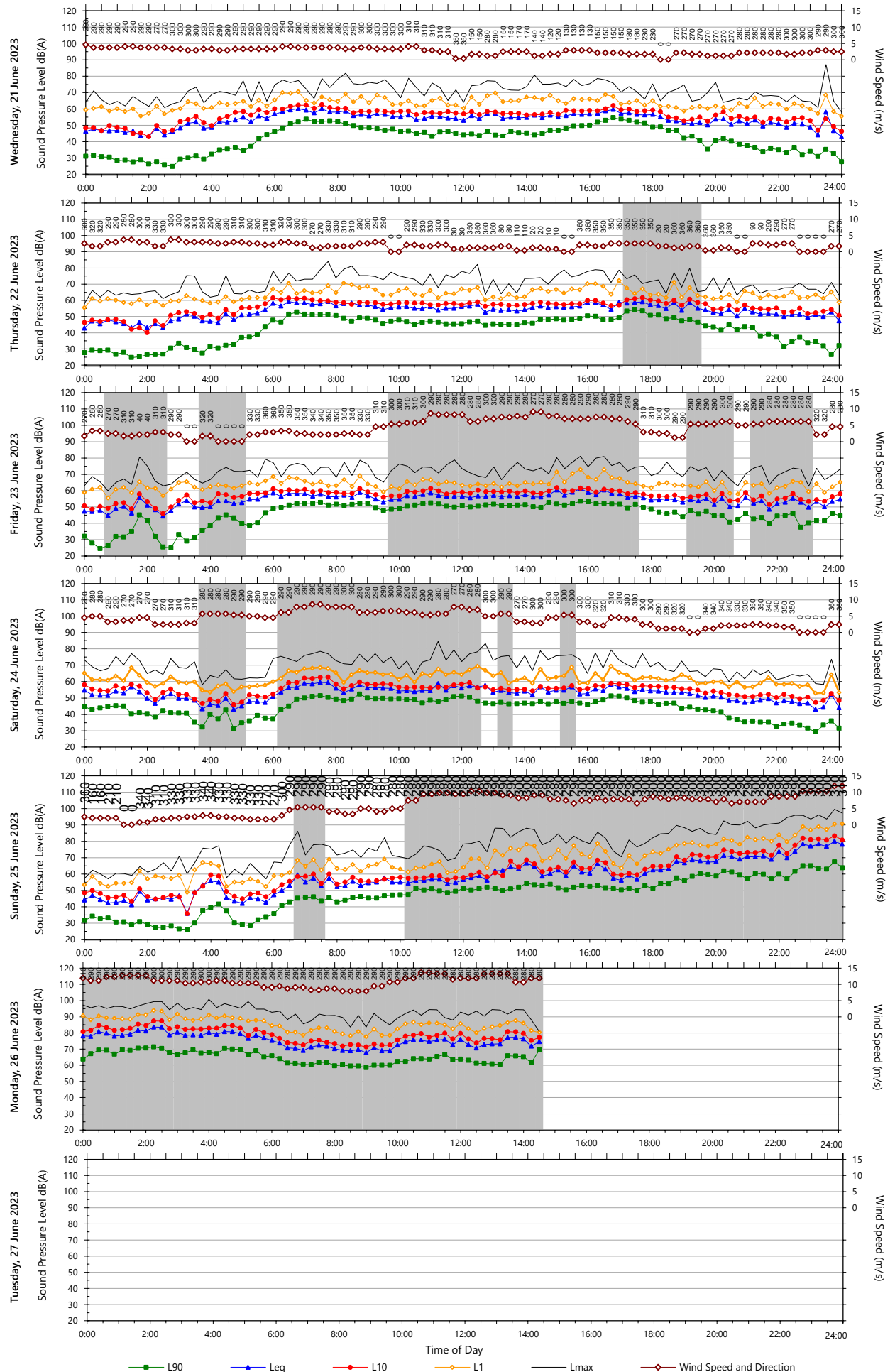
Legend: L90 (green square), Leq (blue triangle), L10 (red circle), L1 (orange diamond), Lmax (black line), Wind Speed and Direction (red diamond)

Data File: 2023-06-14 broadband.txt

Template: QTE-26 Logger Graphs Program (r42)

Unattended Monitoring Results

Location: Adjacent to Devitts Lane and paddocks



Data File: 2023-06-14 broadband.txt

Template: QTE-26 Logger Graphs Program (r42)

Monitoring ID: PCNM6
Address: Devitts Lane, Merroo Meadow
Description: Adjacent to Devitts Lane and paddocks

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week³	58	55

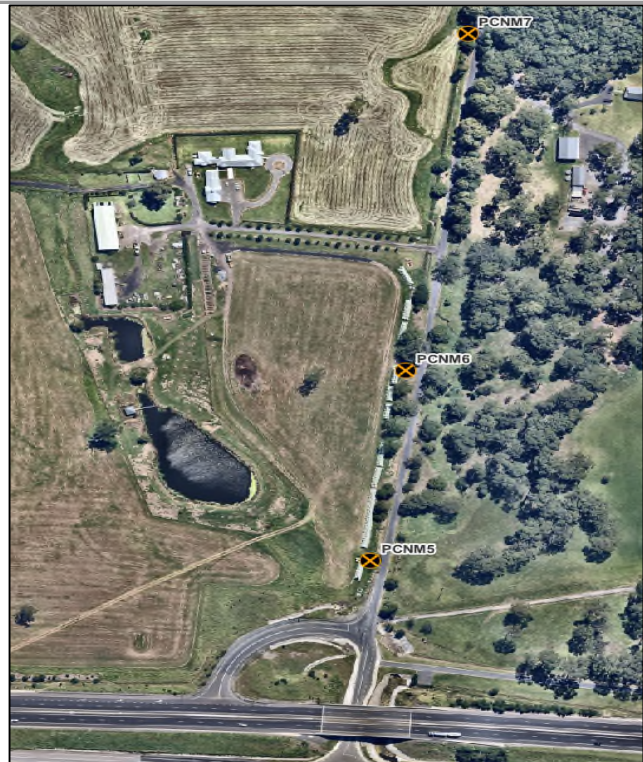
Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

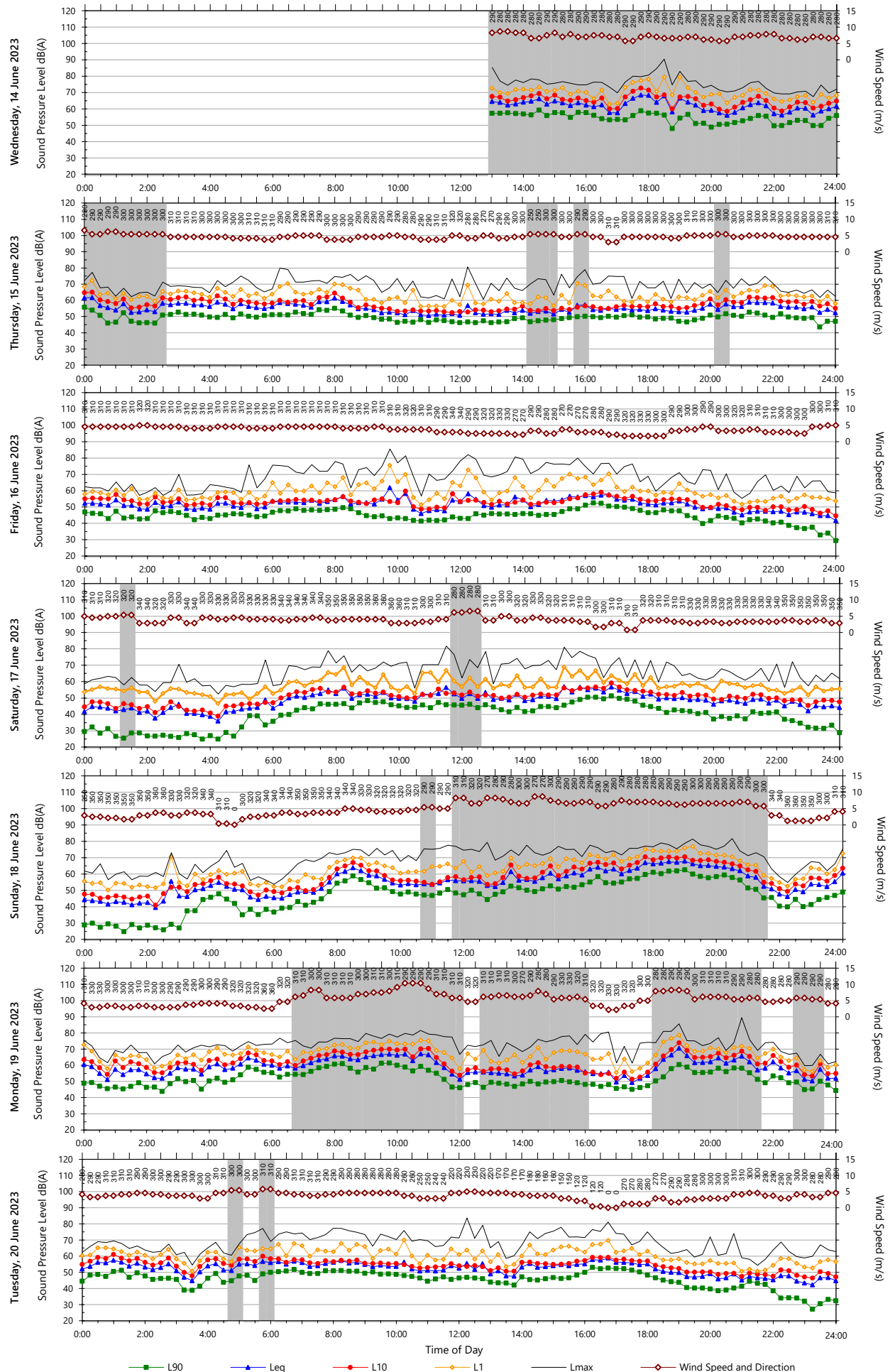


Logger location map



Unattended Monitoring Results

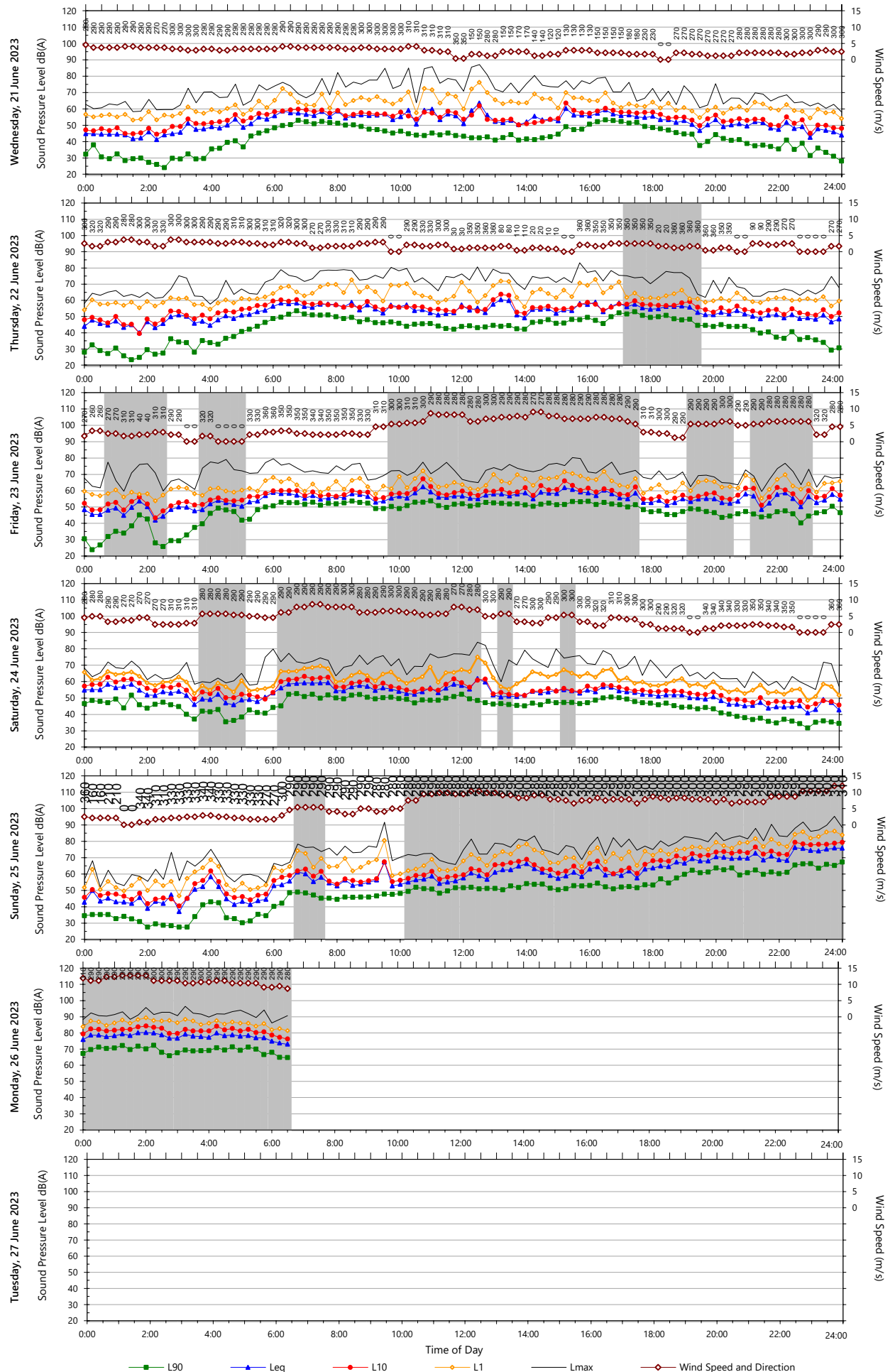
Location: Adjacent to Devitts Lane and paddocks



Legend: L90 (green square), Leq (blue triangle), L10 (red circle), L1 (orange diamond), Lmax (black line), Wind Speed and Direction (red diamond)

Unattended Monitoring Results

Location: Adjacent to Devitts Lane and paddocks



Data File: 2023-06-14_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Monitoring ID: PCNM7
Address: Devitts Lane, Meroo Meadow
Description: Adjacent to Devitts Lane and paddocks

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week³	55	52

Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

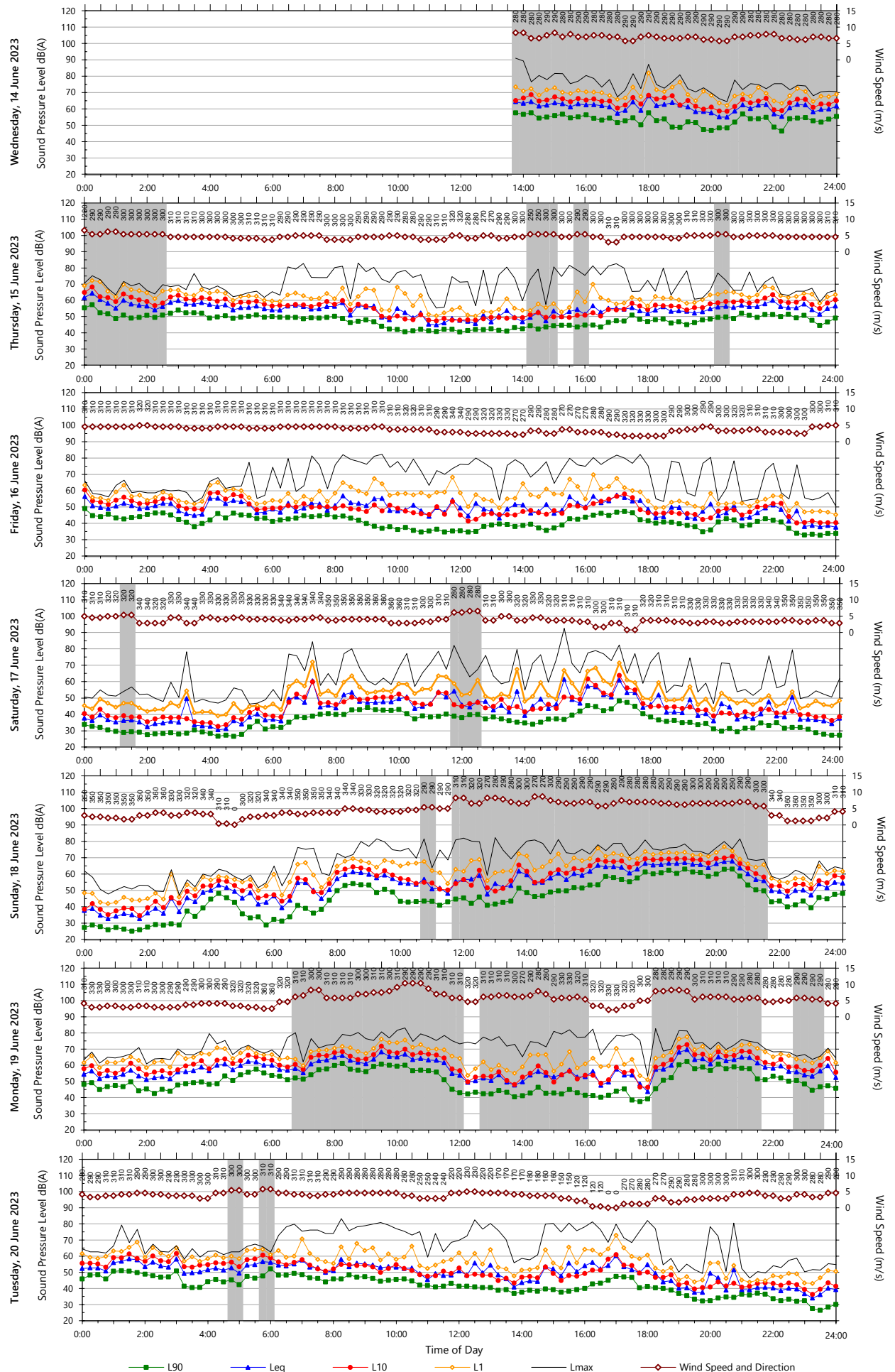


Logger location map



Unattended Monitoring Results

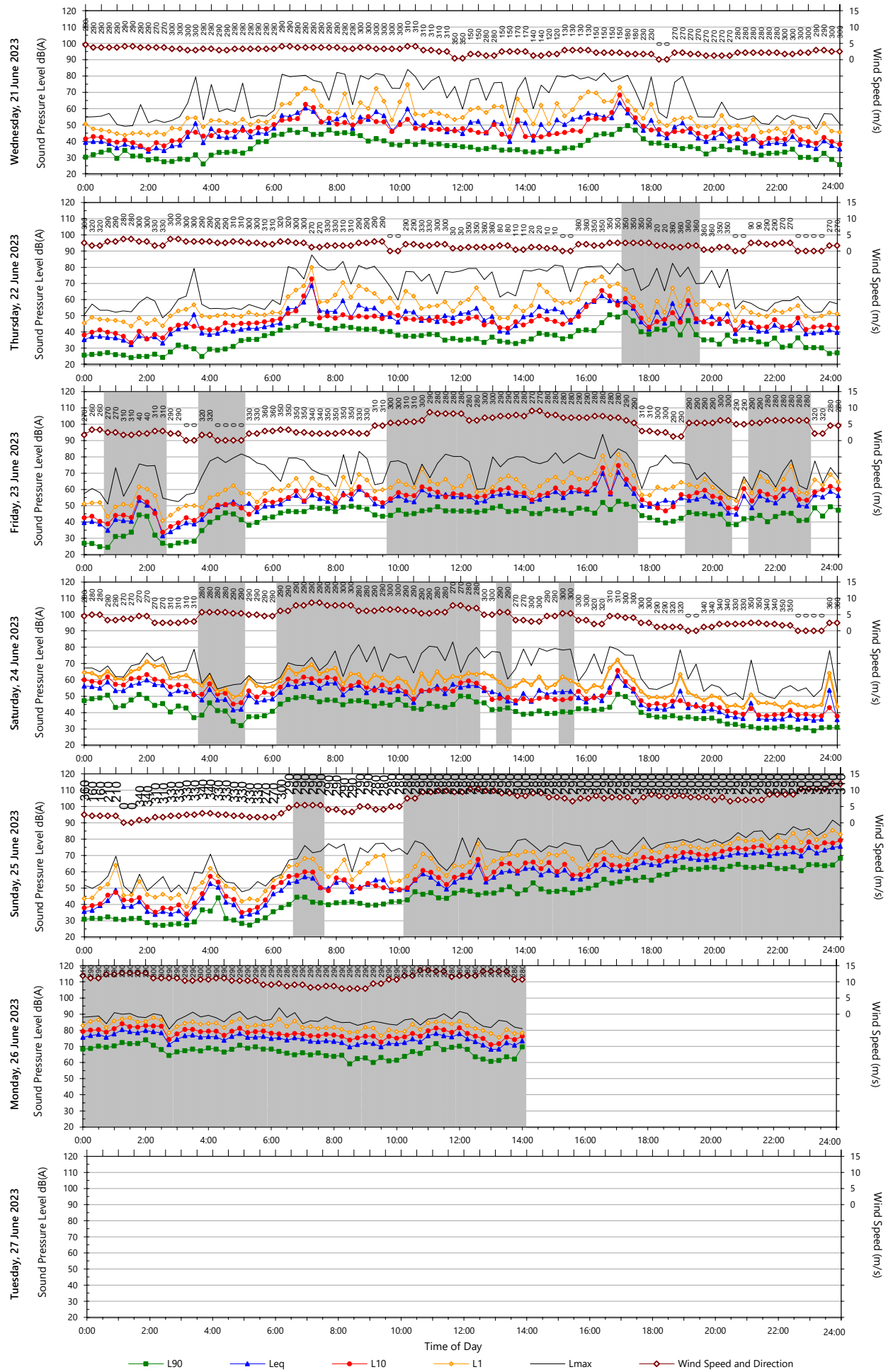
Location: Adjacent to Devitts Lane and paddocks



Legend: L90 (green square), Leq (blue triangle), L10 (red circle), L1 (orange diamond), Lmax (black line), Wind Speed and Direction (red diamond)

Unattended Monitoring Results

Location: Adjacent to Devitts Lane and paddocks



Data File: 2023-06-14_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Monitoring ID: PCNM8
Address: 19 Boxsells Lane, Meroo Meadow
Description: Backyard adjacent to paddocks

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week³	52	49

Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

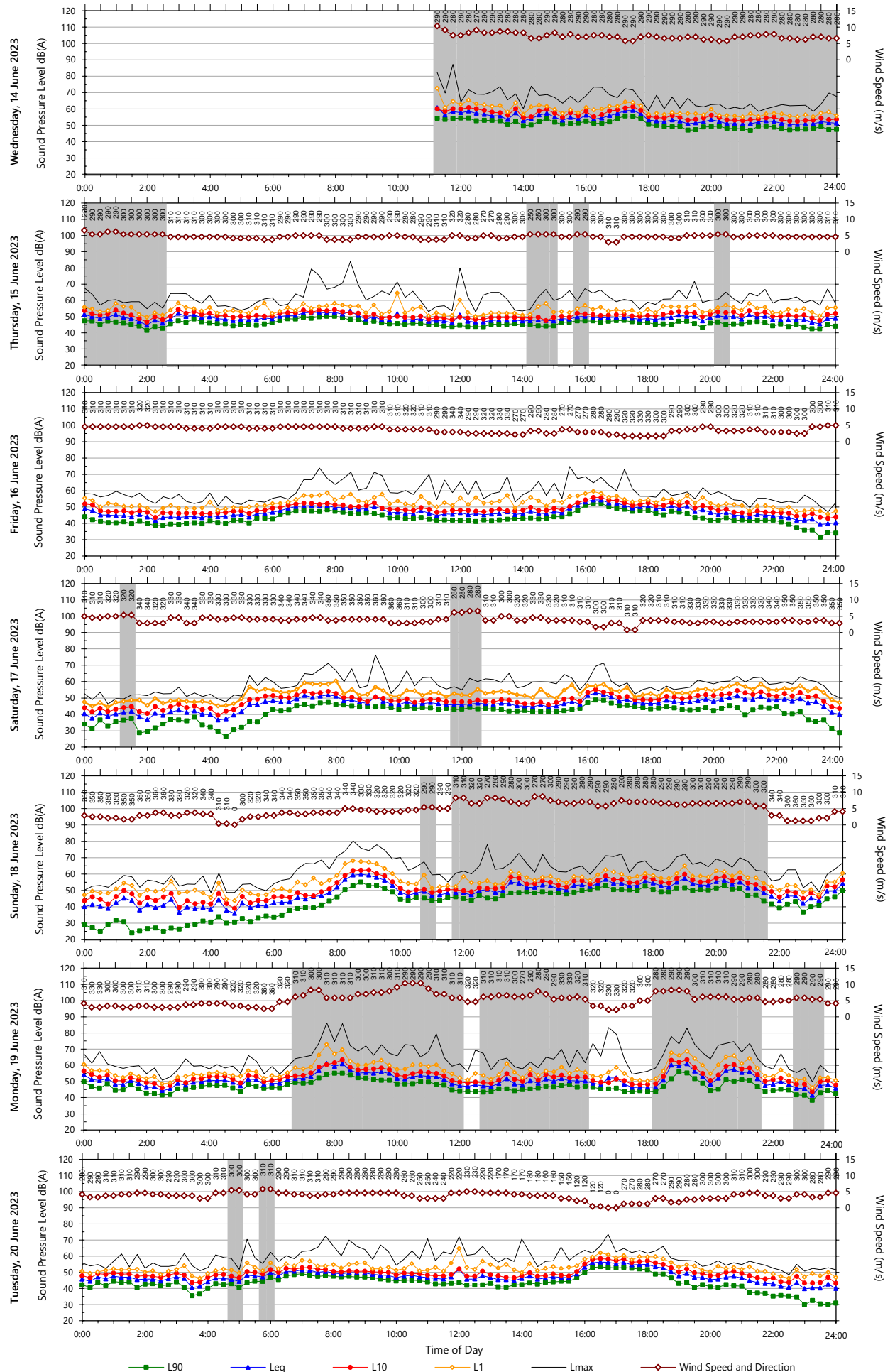


Logger location map



Unattended Monitoring Results

Location: Backyard adjacent to paddocks

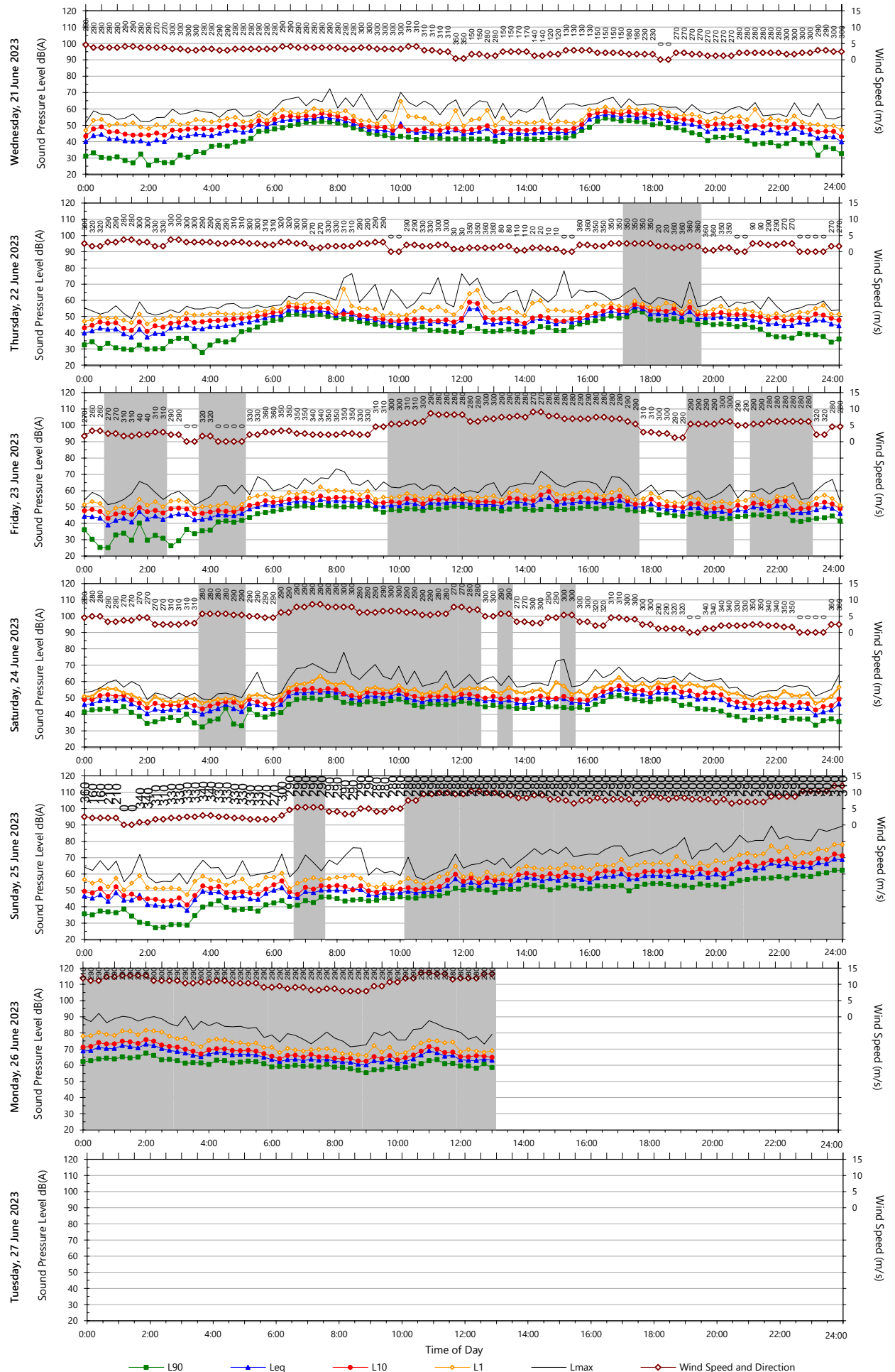


Data File: 2023-06-14_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Unattended Monitoring Results

Location: Backyard adjacent to paddocks



Data File: 2023-06-14_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Monitoring ID: PCNM9
Address: 1028 Meroo Road, Meroo Meadow
Description: Backyard adjacent to paddock

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week ³	58	54

Notes:

- Day is 7:00am to 10:00pm
- Night is 10:00pm to 7:00am
- Median of daily L_{Aeq}
- Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

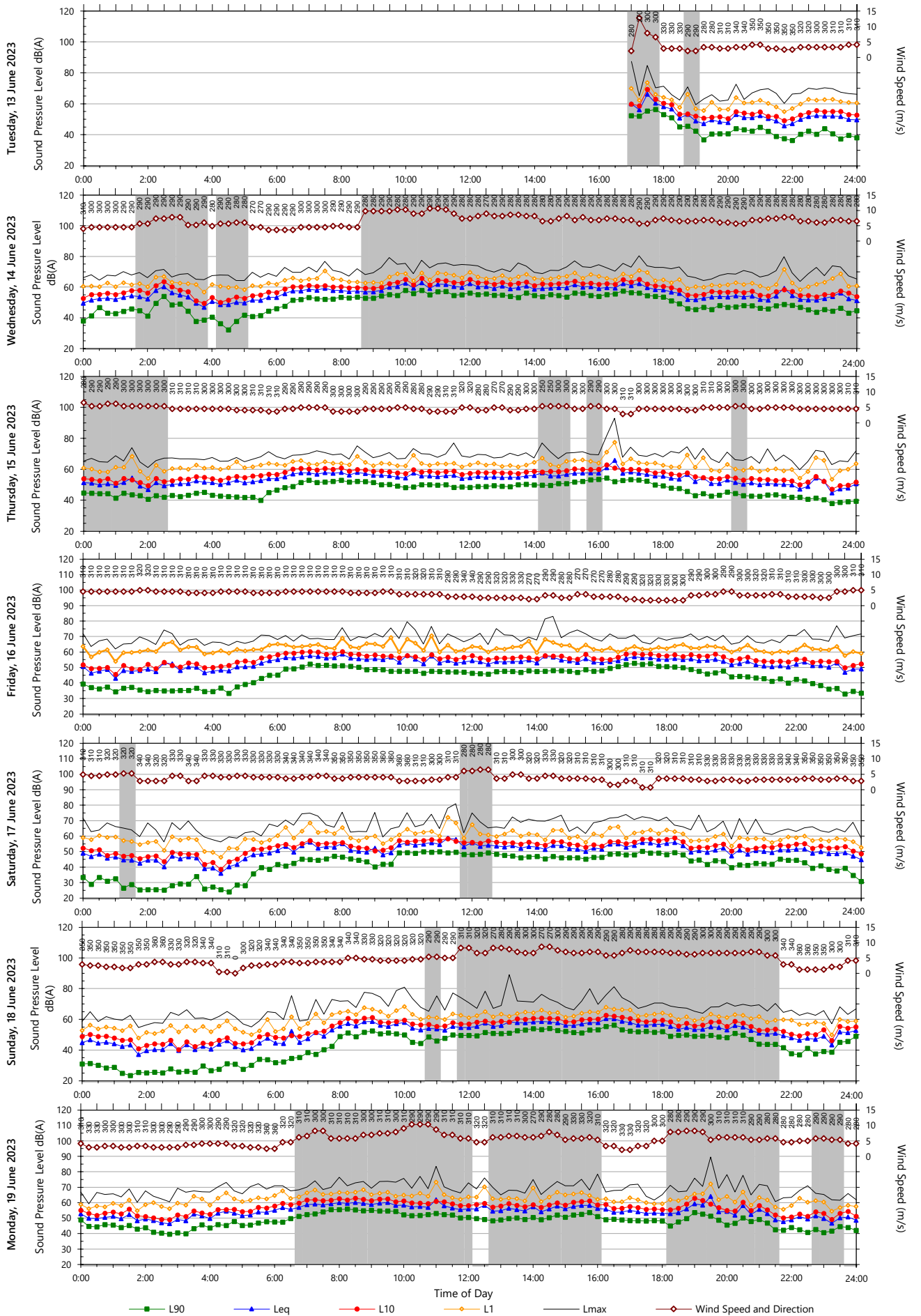


Logger location map



Unattended Monitoring Results

Location: Backyard adjacent to paddock

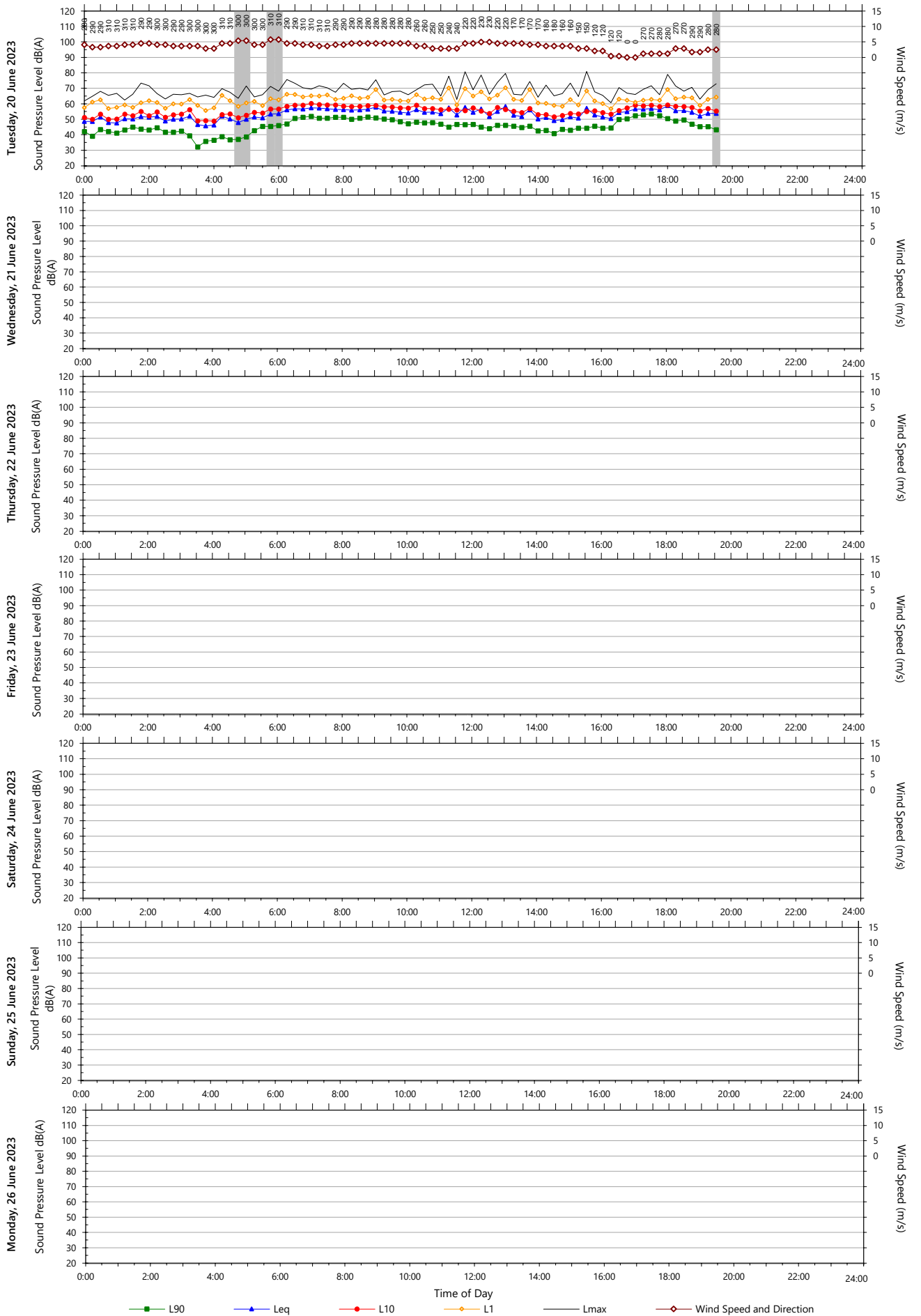


Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Unattended Monitoring Results

Location: Backyard adjacent to paddock



Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Monitoring ID: PCNM10
Address: 35 Gardenia Crescent, Bomaderry
Description: Front yard

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week³	49	46

Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

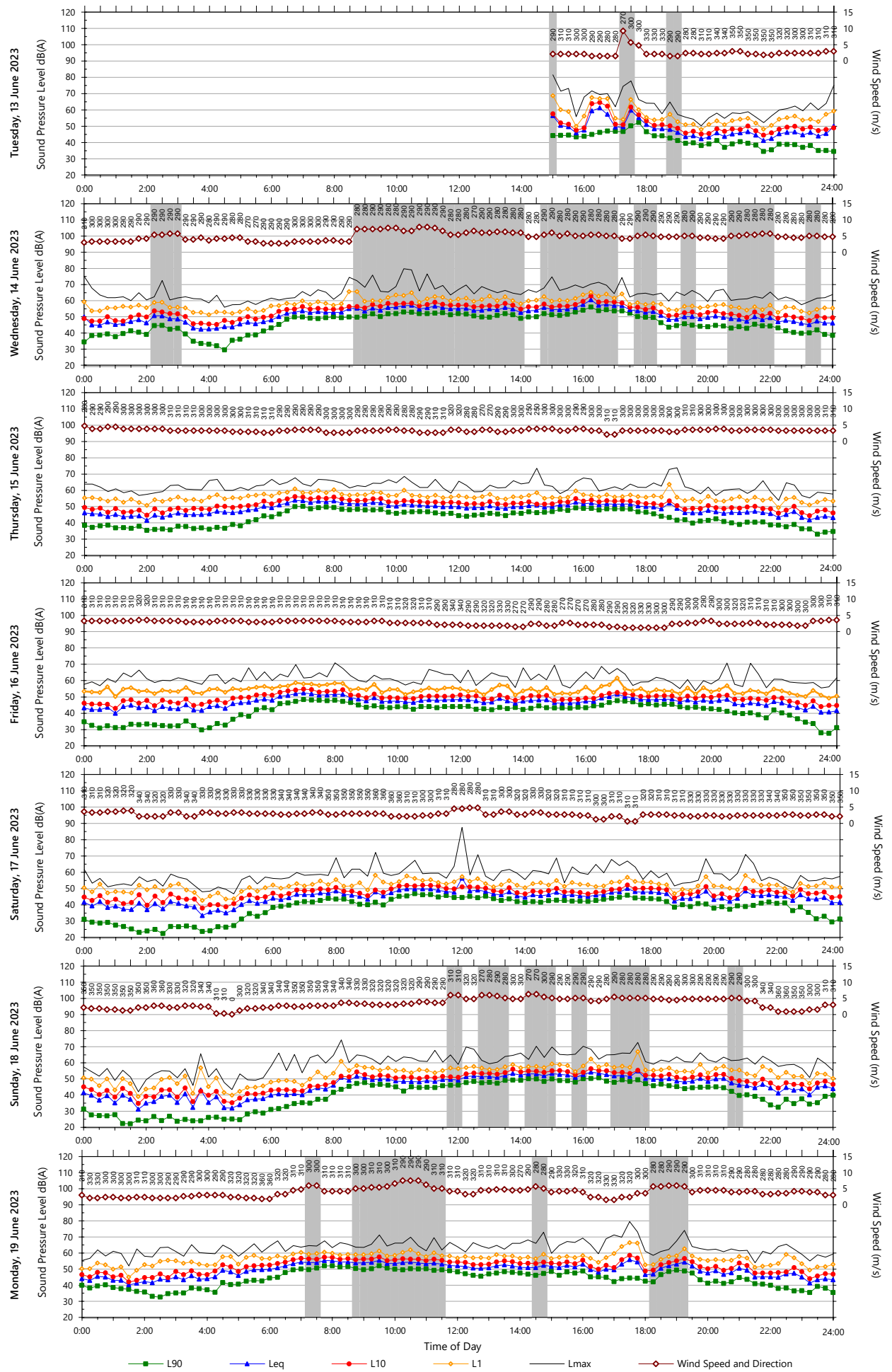


Logger location map



Unattended Monitoring Results

Location: Front yard

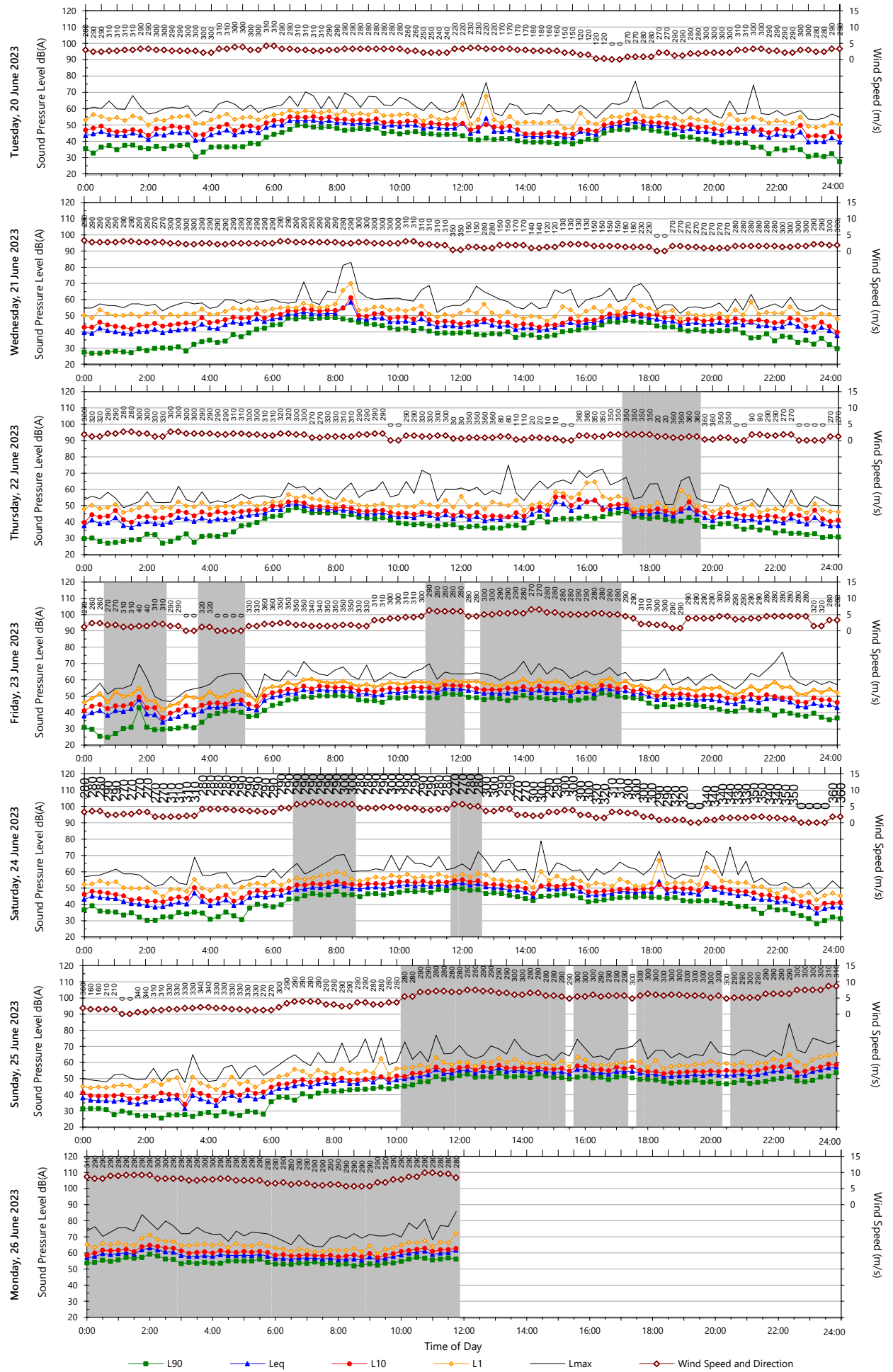


Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Unattended Monitoring Results

Location: Front yard



Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Monitoring ID: PCNM11
Address: 38 Elvin Drive, Bomaderry
Description: Backyard

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week ³	56	52

Notes:

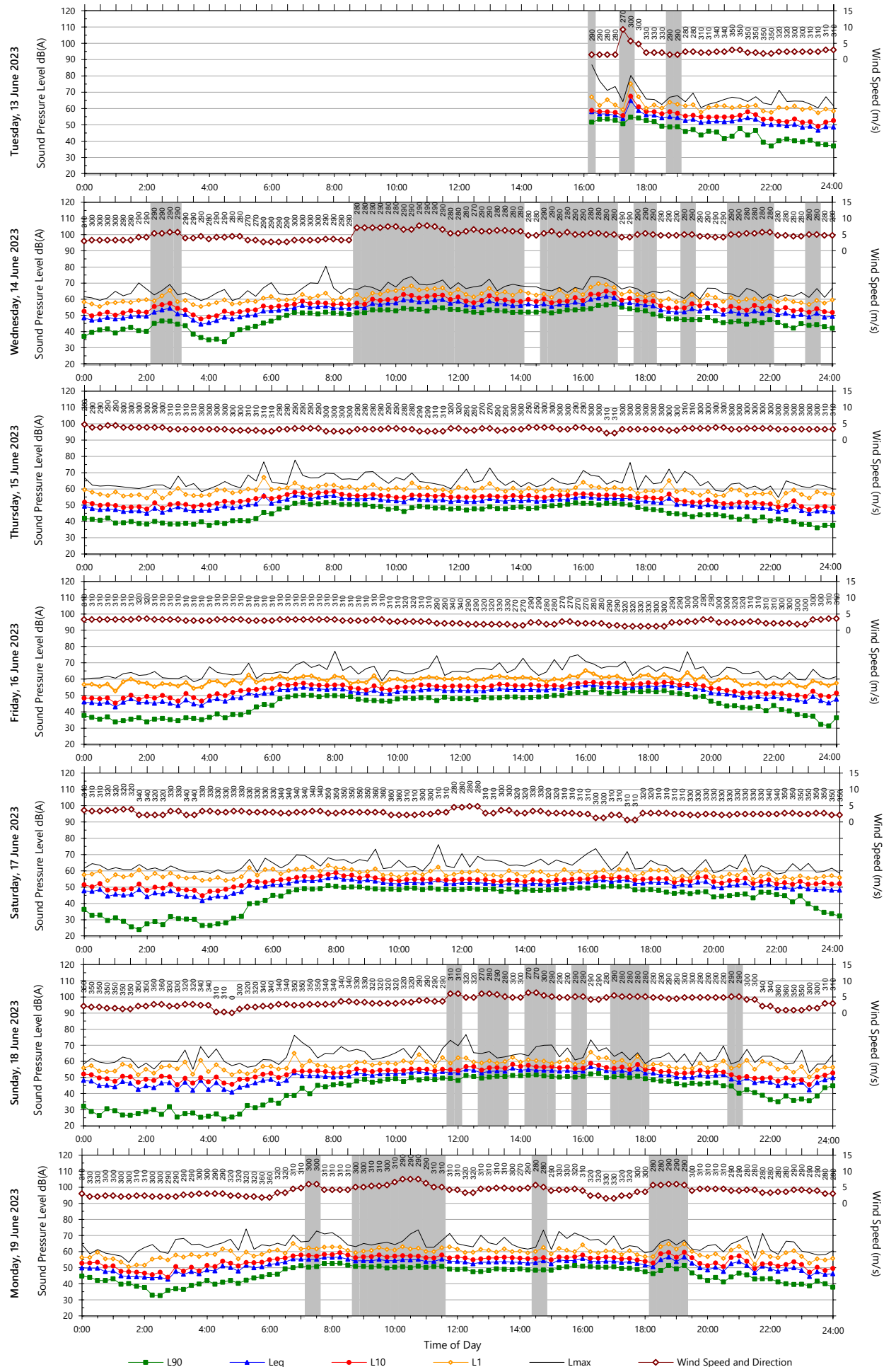
1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

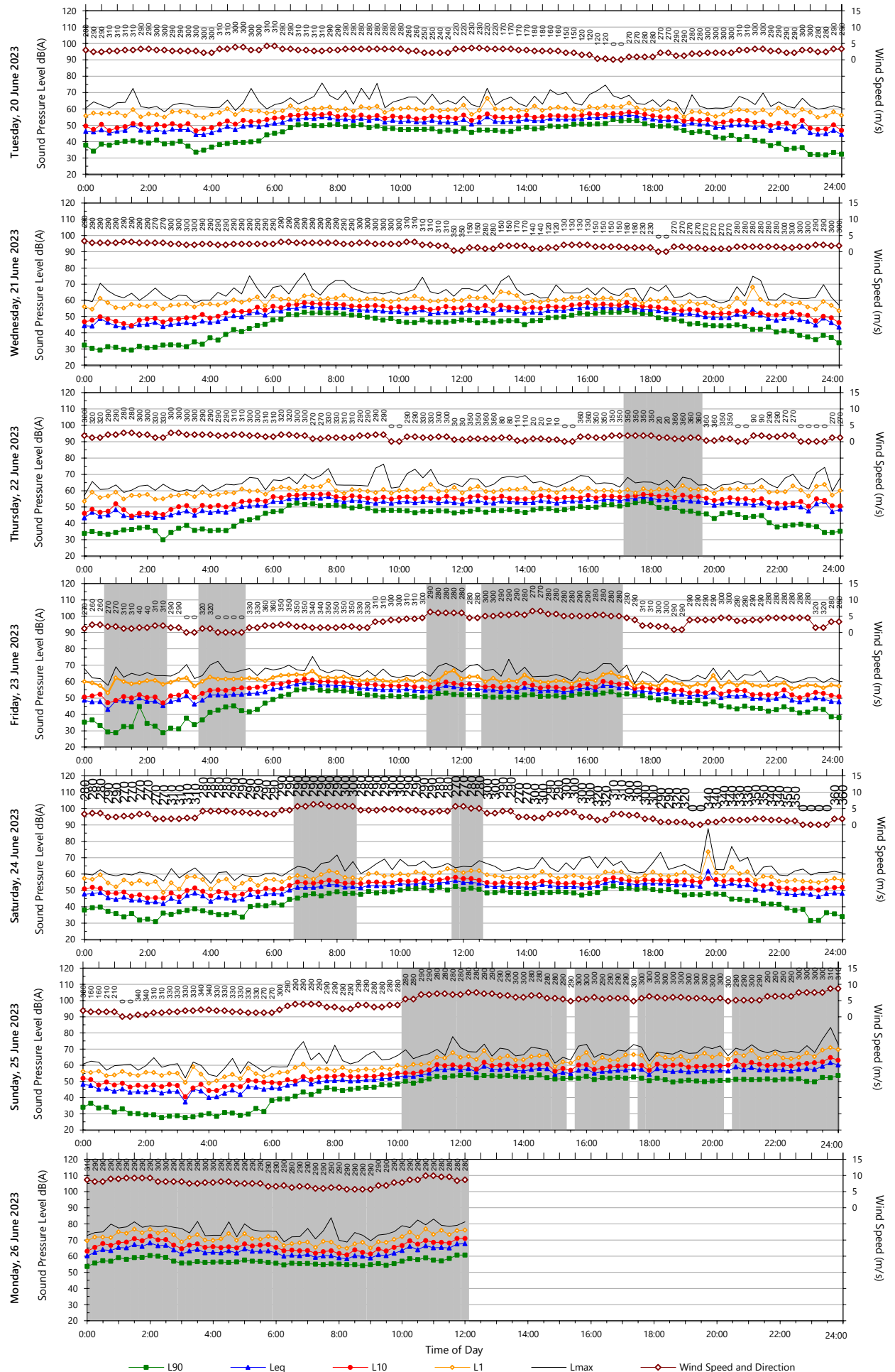
Logger location photograph



Logger location map







Monitoring ID: PCNM12
Address: 585B Princes Highway, Jaspers Brush
Description: Backyard

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week ³	59	55

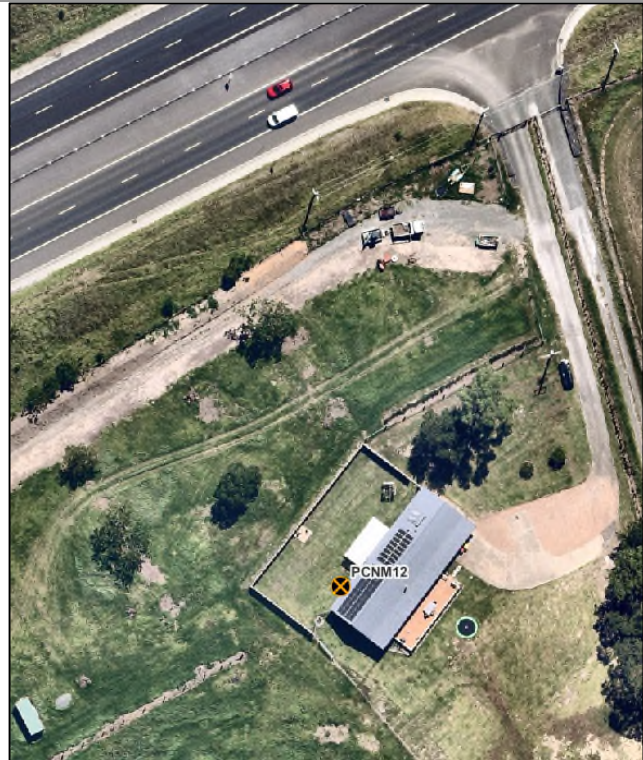
Notes:

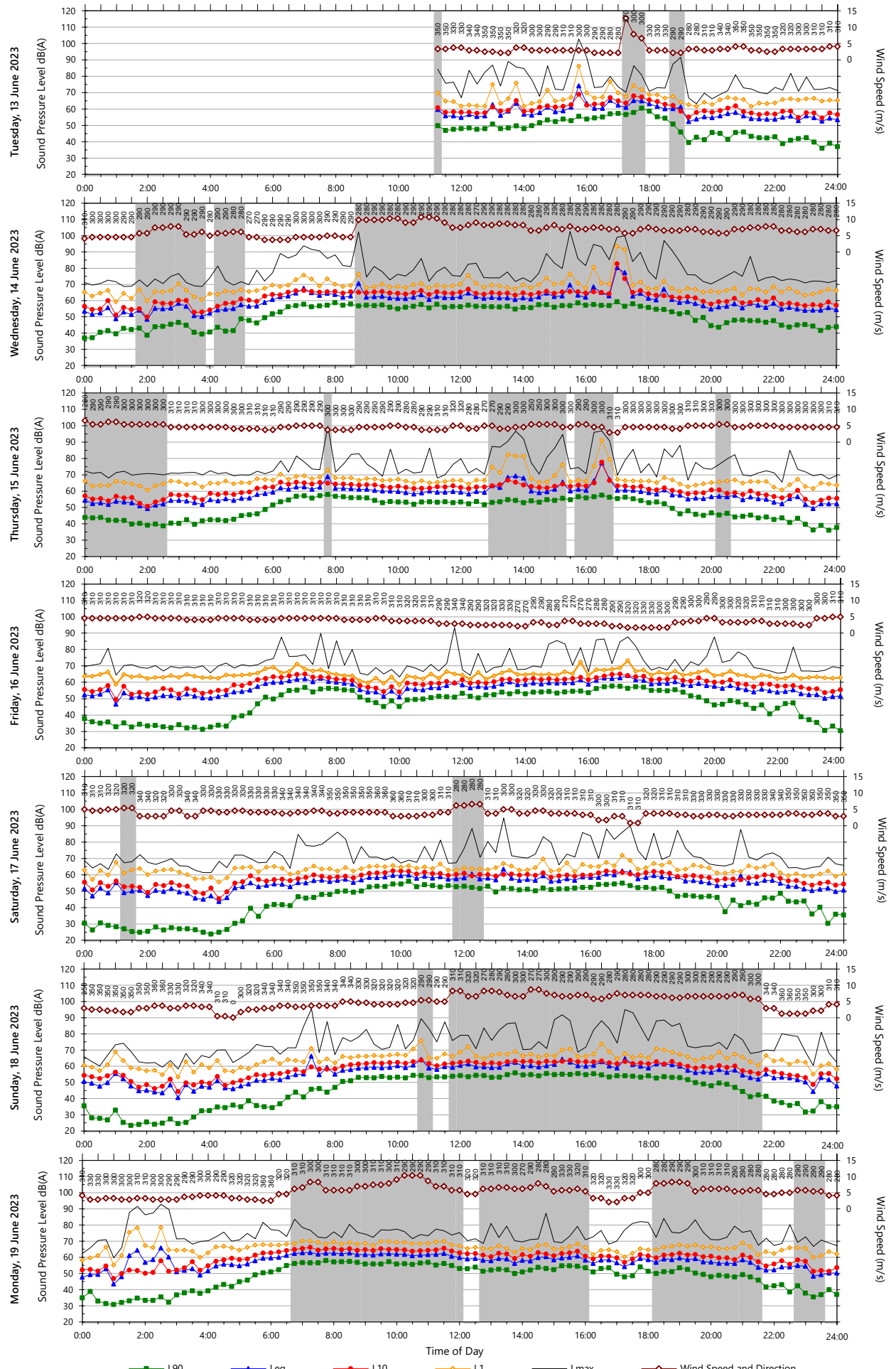
1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

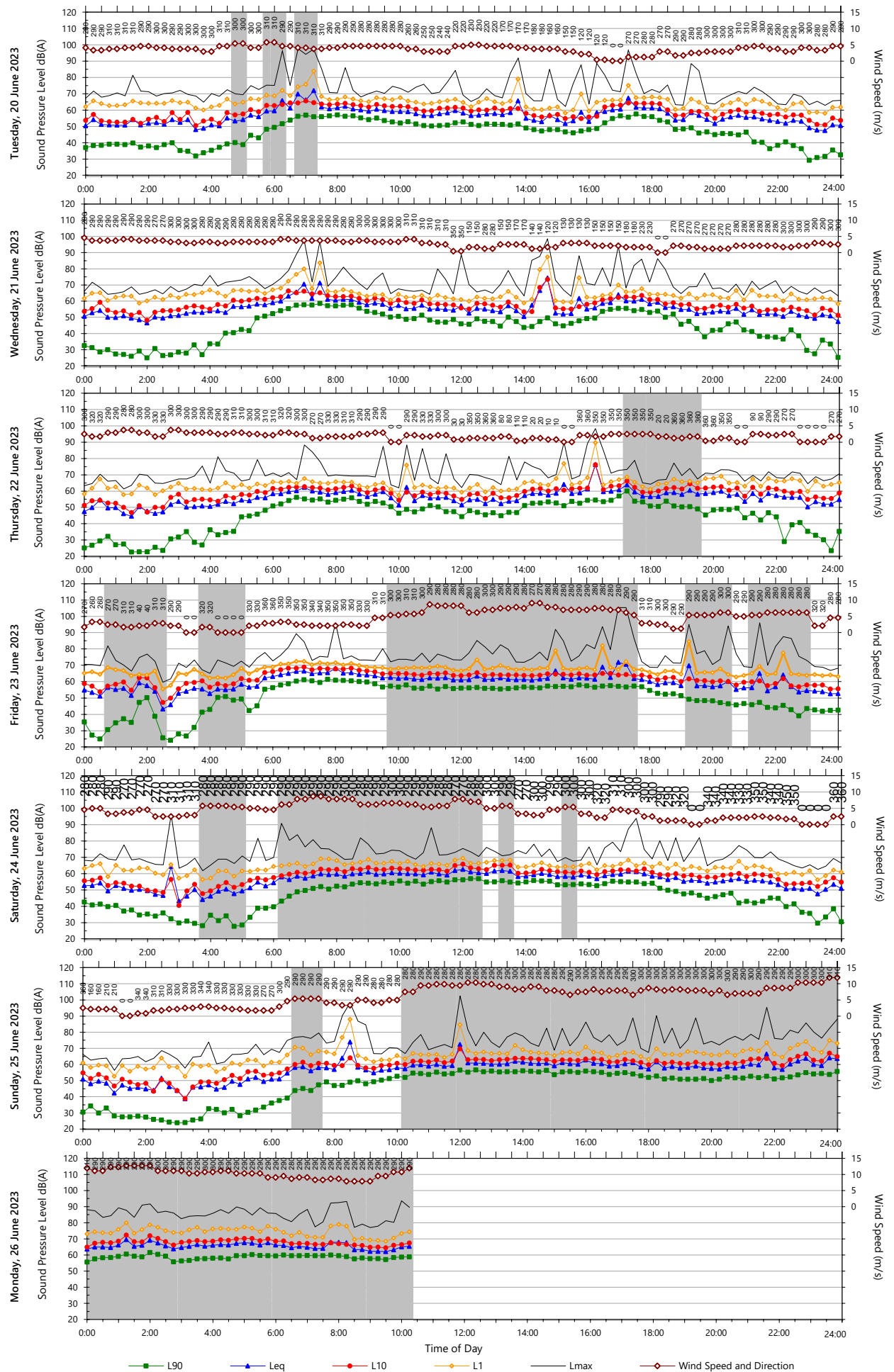
Logger location photograph



Logger location map







Monitoring ID: PCNM13
Address: 26B Boxsells Lane, Meroo Meadow
Description: Front yard adjacent to paddocks

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week³	52	48

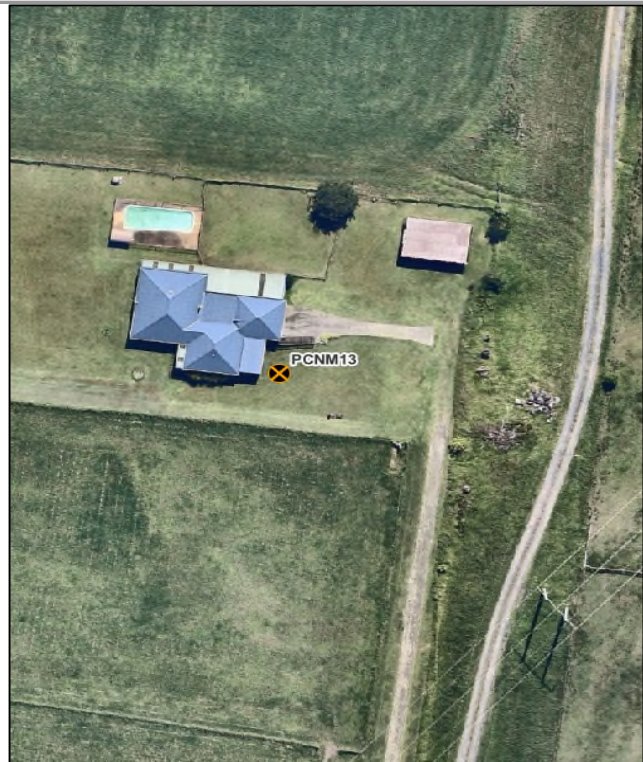
Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

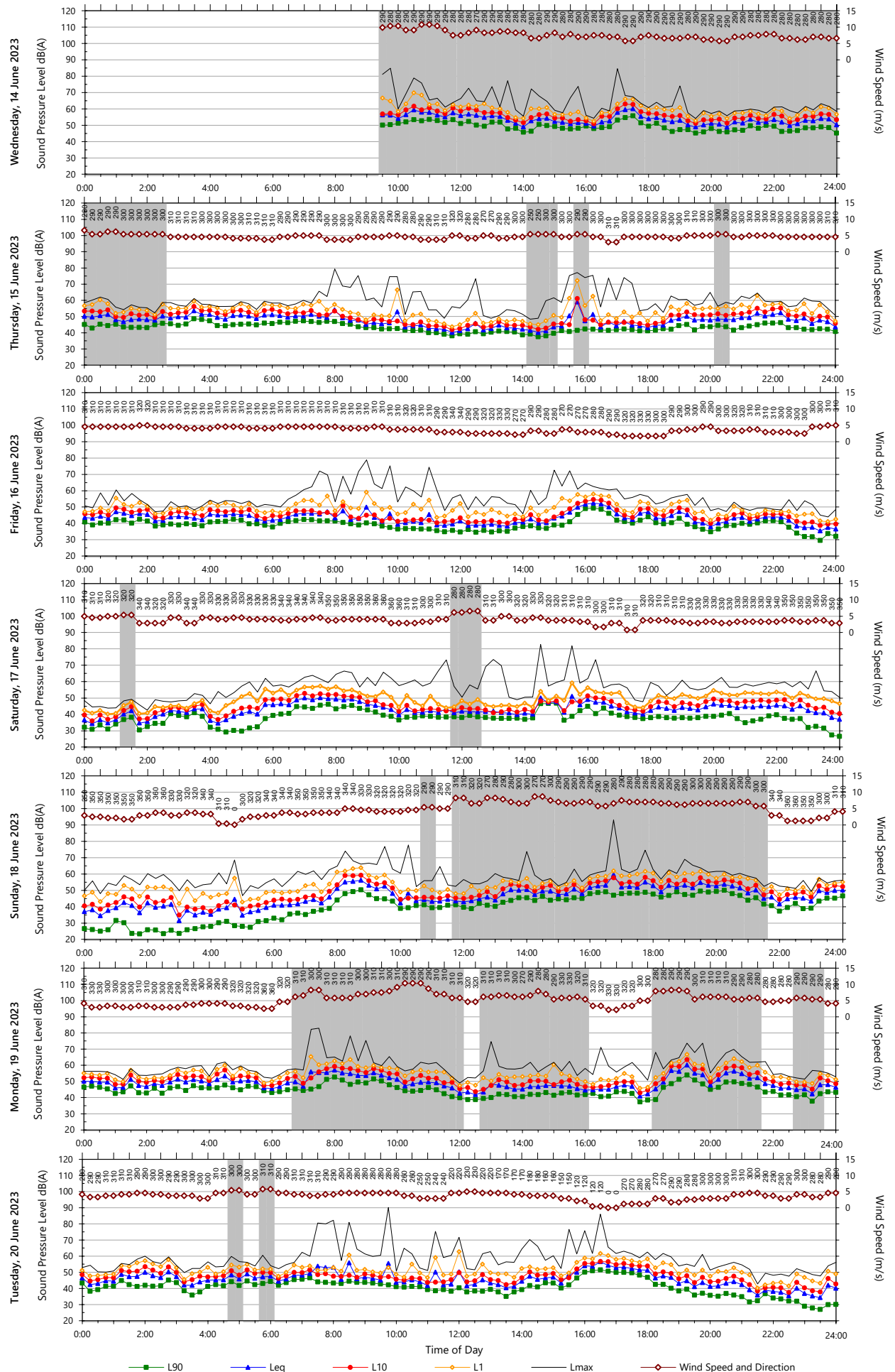


Logger location map



Unattended Monitoring Results

Location: Front yard adjacent to paddocks

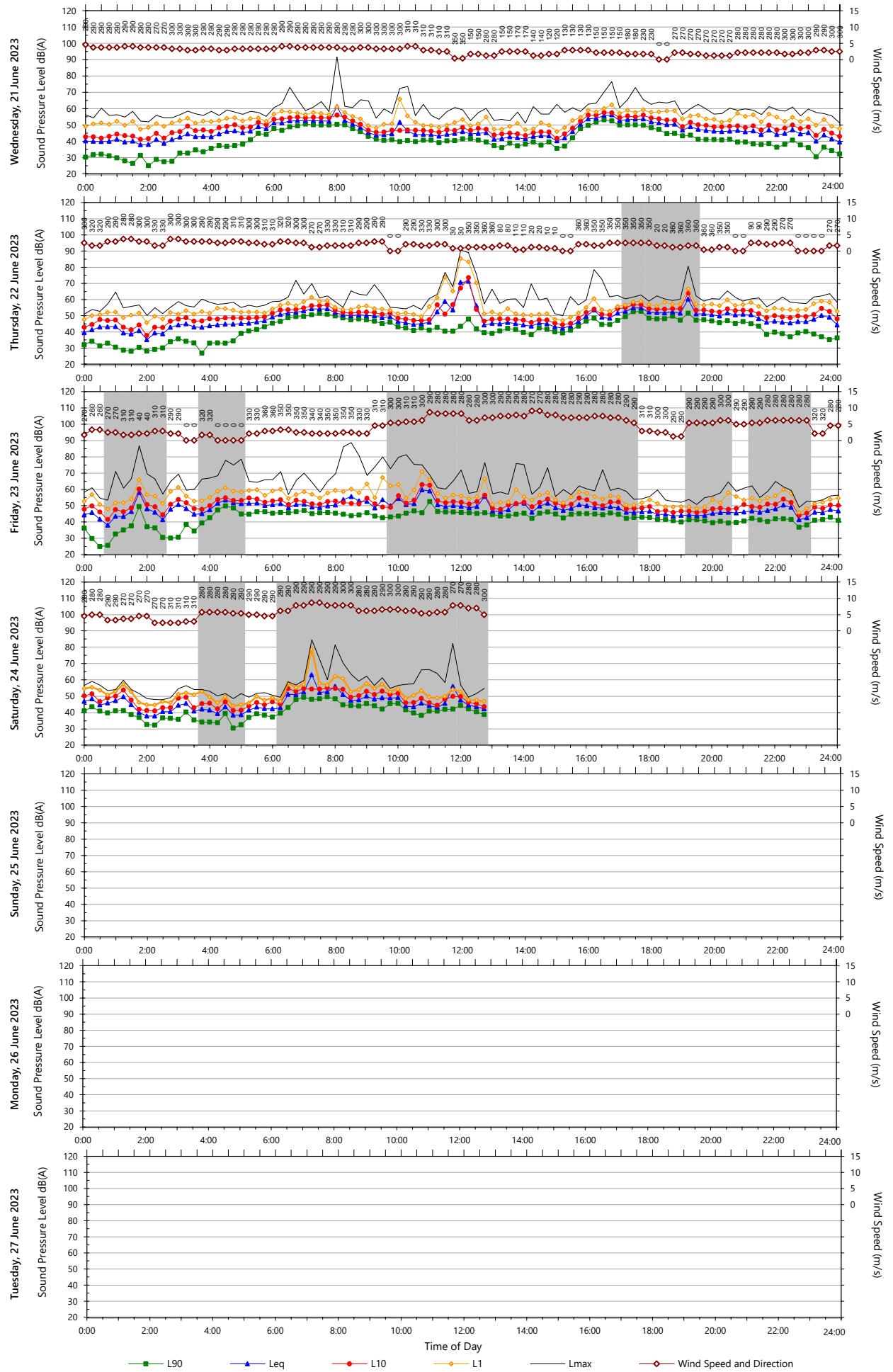


Data File: 2023-06-14_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Unattended Monitoring Results

Location: Front yard adjacent to paddocks



Data File: 2023-06-14_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Monitoring ID: PCNM14
Address: 10 Boxsells Lane, Meroo Meadow
Description: Front yard

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week³	55	53

Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

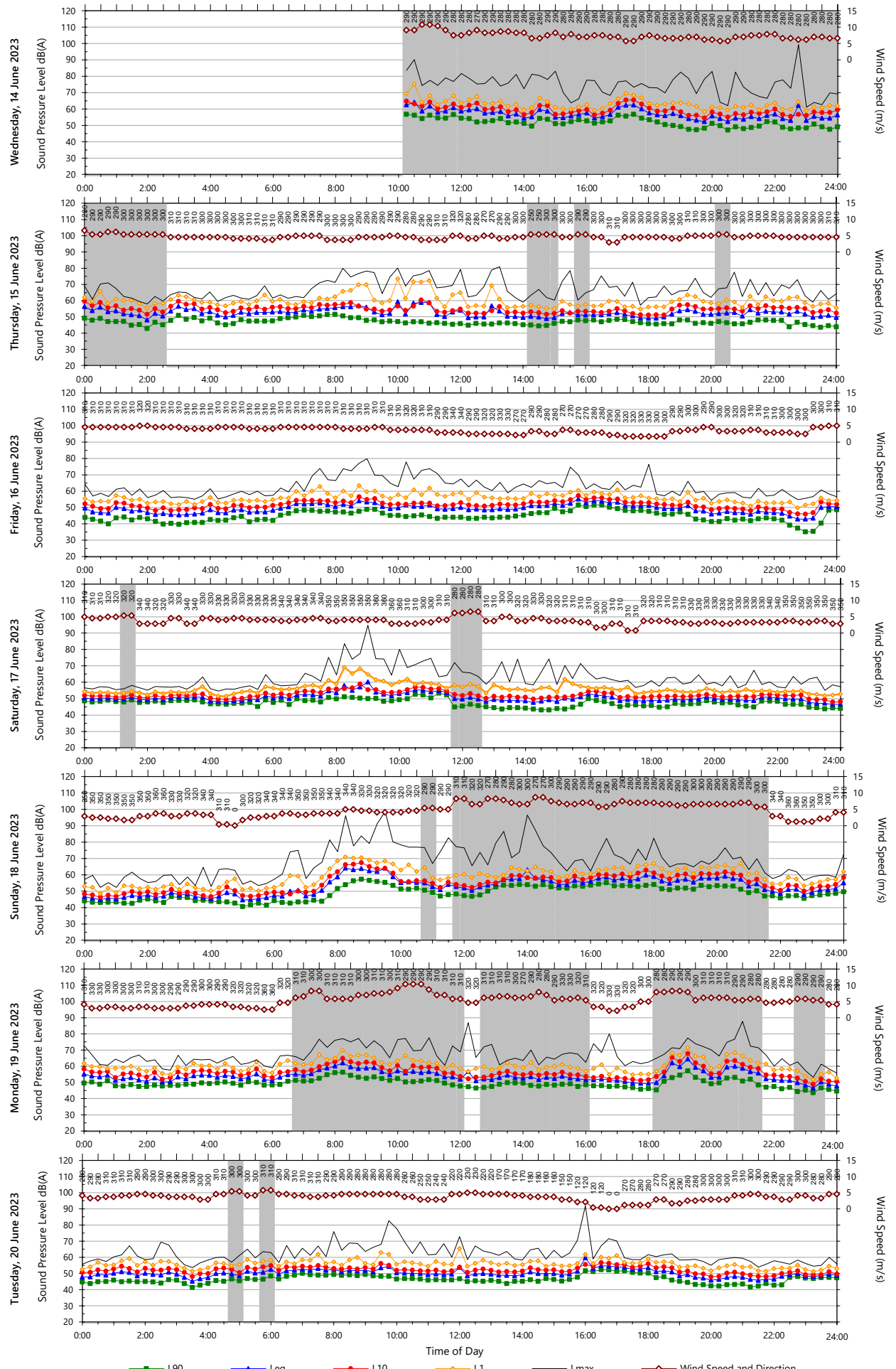


Logger location map



Unattended Monitoring Results

Location: Front yard



Monitoring ID: PCNM15
Address: 1025 Meroo Road, Meroo Meadow
Description: Front yard

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week ³	57	54

Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

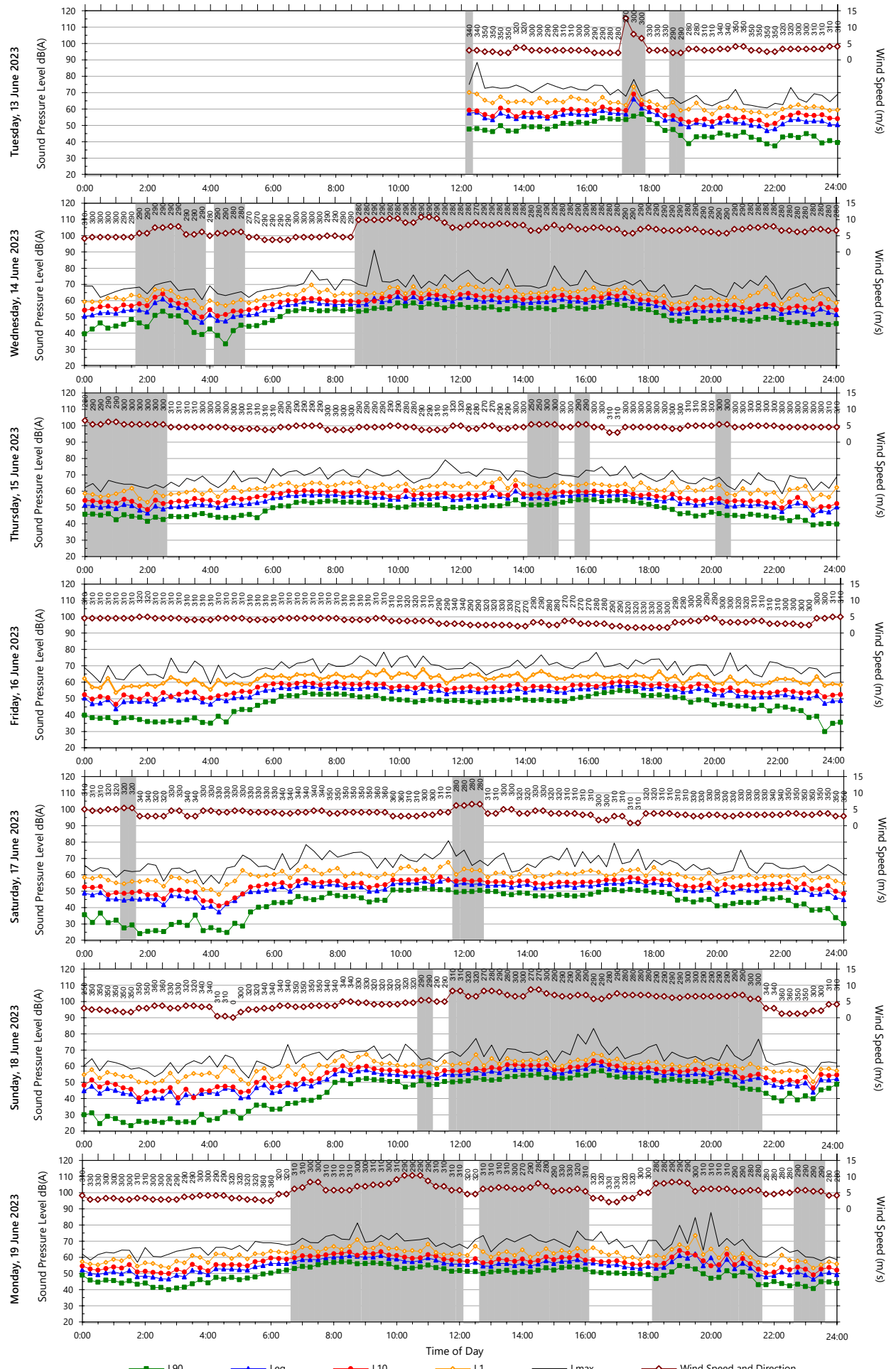


Logger location map



Unattended Monitoring Results

Location: Front yard

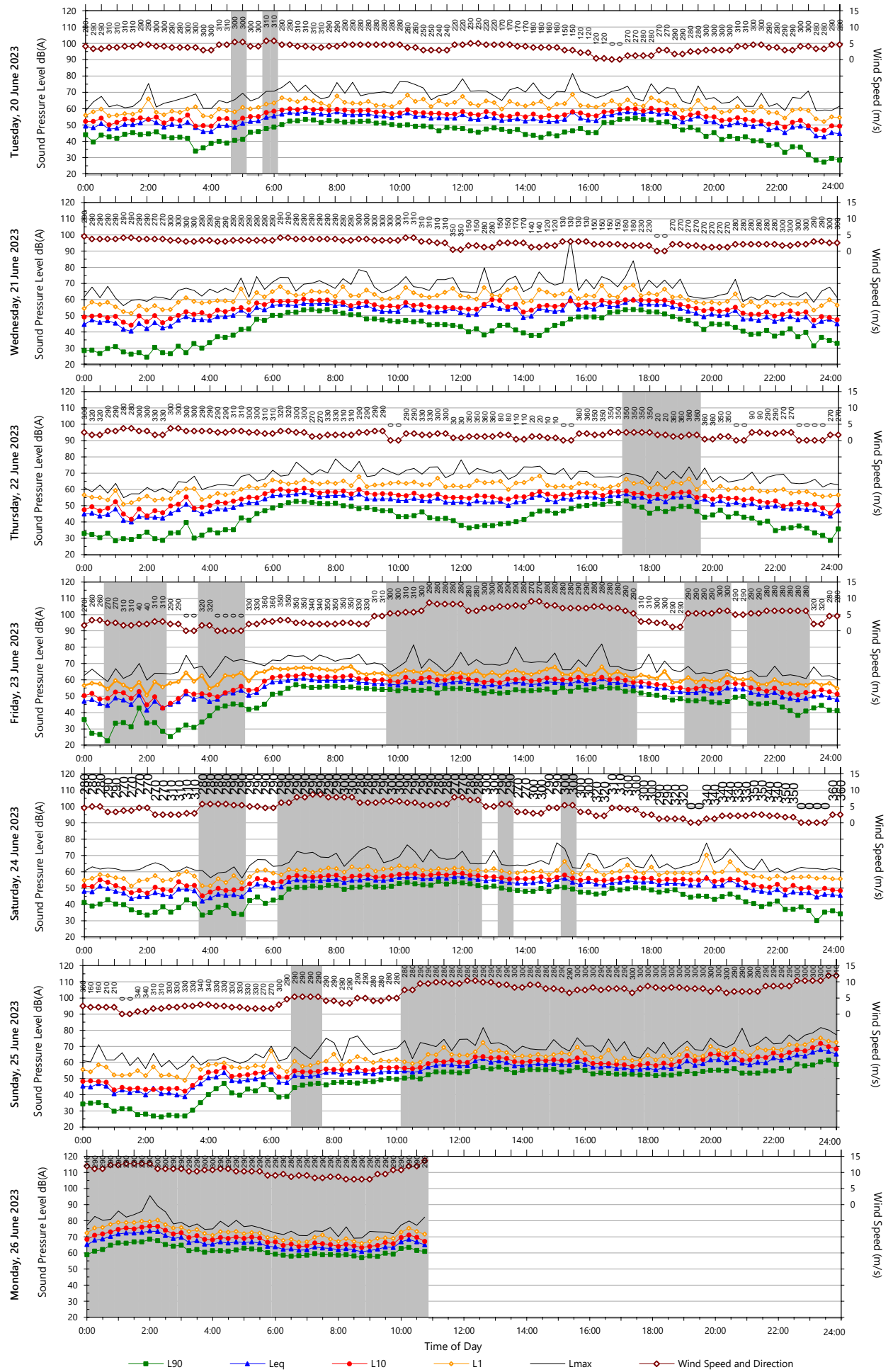


Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Unattended Monitoring Results

Location: Front yard



Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Monitoring ID: PCNM16
Address: 50A Emerald Drive, Meroo Meadow
Description: Paddock at rear of dwelling

Road Monitoring Results (at one metre from façade ⁴)		
L _{Aeq} Noise Levels ⁴		
	Day ¹	Night ²
Representative Week³	55	52

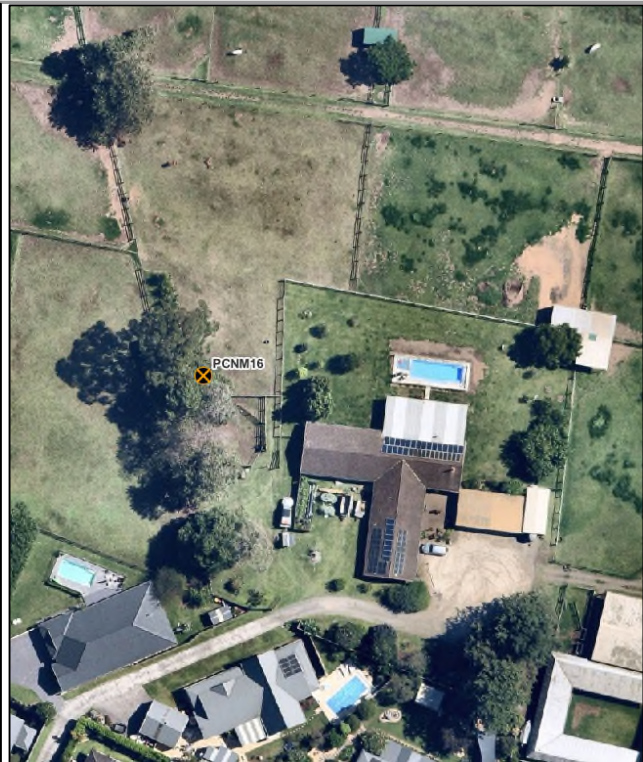
Notes:

1. Day is 7:00am to 10:00pm 2. Night is 10:00pm to 7:00am 3. Median of daily L_{Aeq}
4. Values are calculated at the facade. 2.5dB is added to results if logger is placed in the free field

Logger location photograph

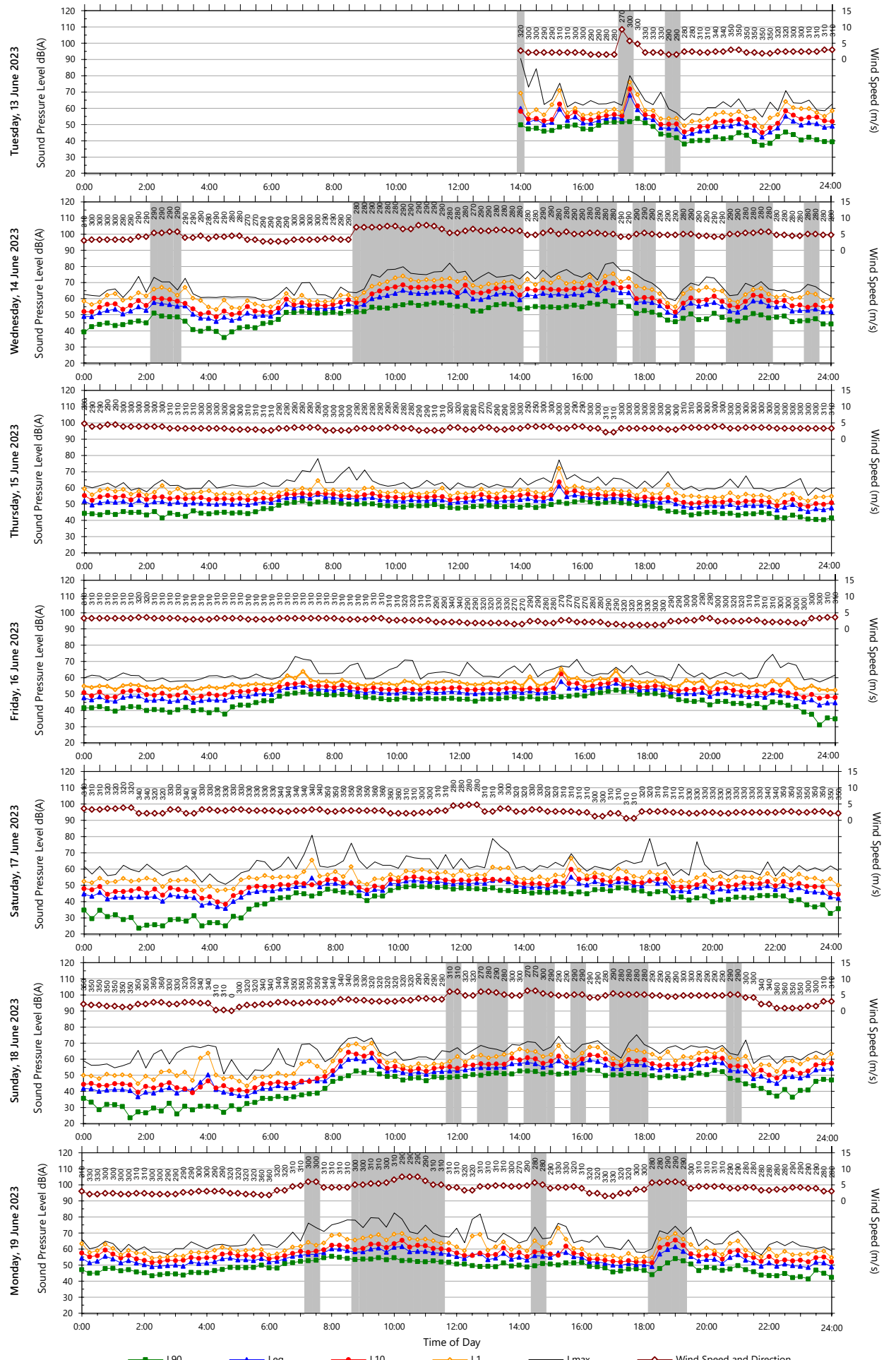


Logger location map



Unattended Monitoring Results

Location: Paddock at rear of dwelling

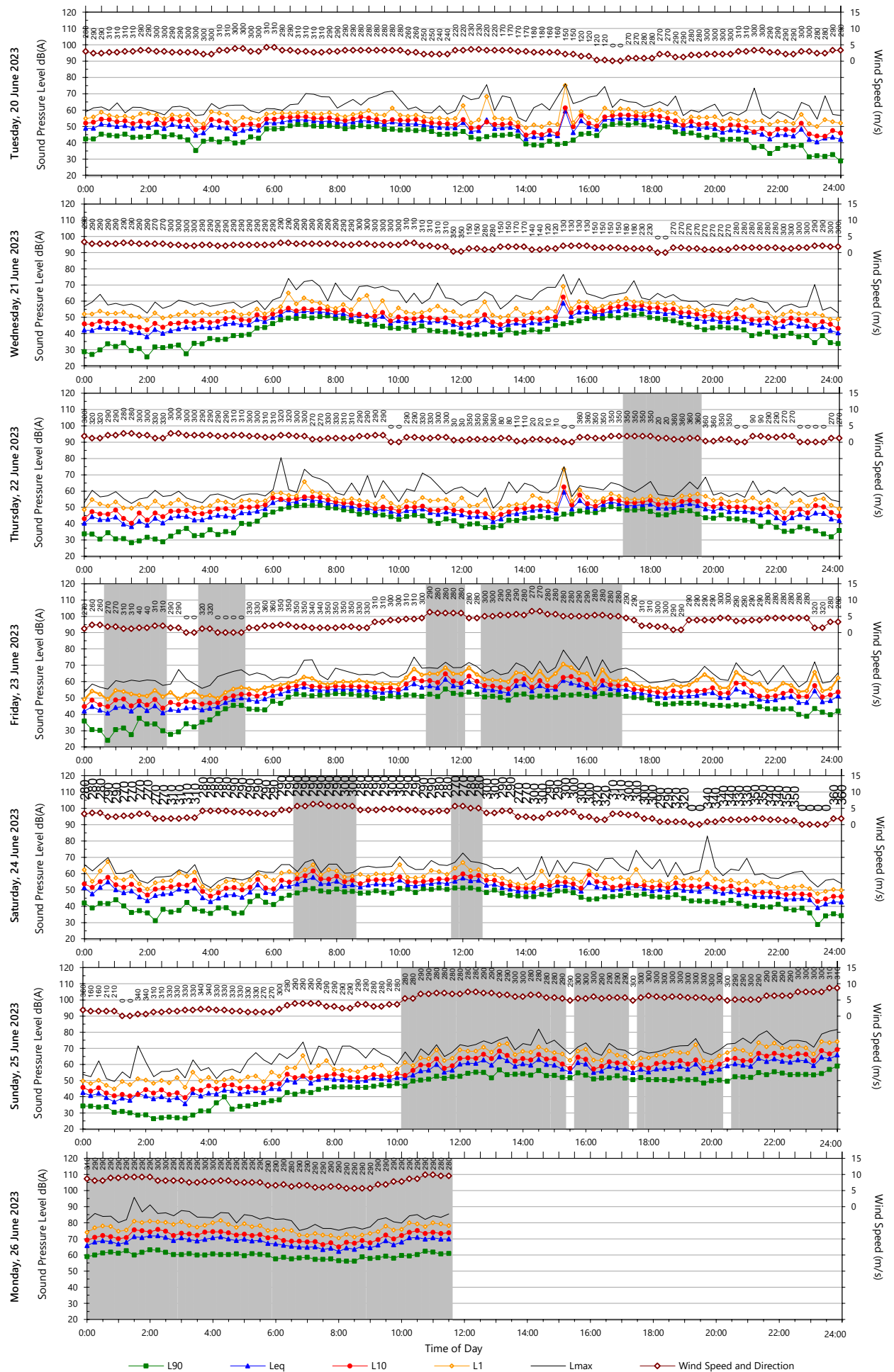


Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)

Unattended Monitoring Results

Location: Paddock at rear of dwelling



Data File: 2023-06-13_SLM_000_123_Rpt_Report.txt

Template: QTE-26 Logger Graphs Program (r42)