Technical Report – Noise and Vibration

Virya Energy

Yanco Delta Wind Farm
29 June 2022



Executive summary

Virya Energy is proposing to construct, operate and maintain the Yanco Delta Wind Farm (the Project). Approval is sought under Division 4.7 of Part 4 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and Part 9, Division 1 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Project would involve the construction, operation and maintenance of a wind farm with up to 208 wind turbine generators (WTGs), a battery energy storage system (BESS) and associated electrical infrastructure. The generating capacity of the wind farm is approximately 1,500 megawatts (MW).

This noise and vibration impact assessment has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) relating to noise and vibration impact and will assist the Minister for Planning to make a determination on whether or not to approve the Project. This assessment provides an assessment of potential noise and vibration impacts of the Project and outlines proposed management measures.

Existing environment

The Project area is located about 10 kilometres north-west of the town of Jerilderie, within the Murrumbidgee Council and Edward River Council Local Government Areas (LGAs). The Project area is located entirely within the proposed South-West Renewable Energy Zone (REZ), in New South Wales.

The Project area and surrounding areas are currently zoned as RU1 Primary Production under the Conargo Local Environmental Plan 2013 and the Jerilderie Local Environmental Plan 2012. The Project area is used predominately for sheep grazing and agriculture.

Land use surrounding the Project area is described as follows:

- The surrounding area is predominantly comprised of farmland or unused land with very few receivers which are sparsely distributed
- The rural town of Jerilderie is located about 10 kilometres to the south-east of the Project, which features predominantly residential and commercial properties, along with a small airstrip
- Oolambeyan National Park is located about 35 kilometres north-west of the Project, as well as scattered nature reserves as well as scattered nature reserves located further than 35 kilometres away.

Background noise monitoring was not conducted for the Project. As such, guidance from the *Noise Policy for Industry* (NSW EPA, 2017) (NPI) was adopted to determine the appropriate background noise levels for assessment. Table 2.1 of the NPI details its own 'Minimum assumed rating background noise levels (RBLs)', the lowest RBLs to be adopted for an assessment under the policy. In the absence of actual monitoring data, these minimum assumed RBLs have been adopted as the RBLs for all receivers within the Project area.

The usage of the minimum assumed rating background noise levels is considered a conservative assumption. However, as the Project area and the immediate surrounding areas are generally rural and undeveloped, the minimum levels have also been considered to be an appropriate representation of the local acoustic environment.

Identified noise sensitive receivers

A total of 20 receivers have been identified within 8 kilometres from Project infrastructure (i.e. WTGs) , along with two receivers along the proposed transmission line to Dinawan Terminal Station.

Four of these receivers are Host Receivers that have signed fully secured option agreements to host WTGs and associated infrastructure on their properties. Seven dwellings are Associated Receivers, which have signed a neighbour or participation agreement. Nine dwellings are Non-associated Receivers, which have not entered into neighbour agreements. Both receivers along the proposed transmission line are also Non-associated.

Summary of predicted noise impacts

Construction

During construction, noise impacts at the receivers have been assessed against the noise management levels (NMLs) for standard construction hours, as well as out of hours periods.

Noise impacts at the adjacent receivers associated with the construction of the Project have been assessed against the NMLs for standard construction hours, as well as out of hours periods. Generally, construction phases 2, 4 and 7 produced the highest noise impacts at receivers, primarily due to the sound power level of the activities involved and the spatial extent of work. Four Host or Associated receivers (R01, R02, R03 and R06) were identified as experiencing noise greater than NMLs at certain stages. Of these, two receivers (R01 and R06) were predicted to be the most impacted, with noise levels potentially reaching up to 16 dB(A) above the NMLs during the evening and night period. Noise levels greater than the respective NMLs have not been predicted at any Non-associated receiver.

No Non-associated receivers were identified as experiencing noise greater than the NML at any stage or time of day.

Along the majority of roads, due to the distances between the receivers and roads, the overall noise level is lower than the assessment criterion. However, at two roads where receivers are closer to the road and construction traffic is expected to be a significant noise contributor, Kidman Way and Jerilderie Street, construction traffic noise has been predicted to be greater than the NSW Road Noise Policy (RNP) (DECCW, 2011) assessment criteria.

All vibration-sensitive receivers are predicted to sit well beyond the setbacks distances of all vibration-intensive construction activities. Due to this, no vibration impacts are expected to occur during construction of the Project. Nevertheless, vibration mitigation strategies from *Assessing Vibration: a technical guideline*, (DECC, 2006) have been provided as general advice for the Project to manage vibration impacts.

Operation

At all Non-associated Receivers, WTGs have not been predicted to produce noise impacts greater than the 35 dB(A) baseline criteria established in *Wind Energy: Noise Assessment Bulletin* (NSW DPE, 2016) ('the Bulletin'), hence no mitigation has been deemed necessary for these receivers. However, noise at R01 and R02, two Host Receivers, has been predicted to be 1dB(A) greater than 35 dB(A).

No low frequency or tonal noise impacts have been predicted to result from the WTGs, and as such no mitigation targeting these noise characteristics has been deemed necessary.

Noise from the substation and BESS options has not been predicted to result in any exceedances of the NPI's noise limits. As such, no mitigation to address substation and BESS noise has been deemed necessary. Likewise, no low frequency or tonal noise impacts have been predicted to result from the substation and BESS options, and as such no mitigation targeting these noise characteristics has been found to be necessary.

Decommissioning

Decommissioning activities have also been predicted to produce noise and vibration to a similar extent as was predicted for construction. As such, construction mitigation measures have been deemed appropriate to address decommission noise and vibration.

Cumulative

Due to the proximity of the project to other existing and in-construction projects in the region, cumulative impacts with these projects have not been predicted to occur. However, three projects, Dinawan Energy Hub (announced), Victoria to NSW Interconnector West (announced) and Project EnergyConnect (approved), would be located significantly closer to the project and may pose a cumulative noise risk during construction (if construction schedules coincide) and during operation (cumulative noise between both BESS and ancillary infrastructure, as well as cumulative turbine noise).

Due to the Dinawan Energy Hub and VNI West both being in the early stages of design, it is not possible at this stage to predict cumulative noise impacts with these projects.

Construction and operational noise impacts from Project EnergyConnect, as detailed in *EnergyConnect (NSW – Eastern Section) Technical Paper 10 – Noise and Vibration Impact Assessment* (WSP, 2021) have been compared to this project's predicted noise.

During the construction of the Project EnergyConnect transmission line, 823 Fernbank Road, Argoon (approximately 11 kilometres from the nearest WTG of this project) would become impacted by noise up to 60 dB(A). During the construction of this Project, noise levels at this receiver have not been predicted to exceed 30 dB(A) under any construction phase. As such it has been deemed unlikely to result in a cumulative construction noise impact at these receivers. The assessment also found that no receivers would be impacted by noise greater than the NMLs during the construction of Dinawan Terminal Station. Given the distance between the substation to this project's receivers, cumulative construction noise impacts have been deemed unlikely.

Operational noise at Dinawan Terminal Station was assessed from 211 Liddles Lane and 137 Cadell Road, Jerilderie (both approximately 13 kilometres from the nearest WTG). Operational noise levels were determined to be less than 20 dB(A) at both of these receivers. Likewise, it was identified that the transmission lines involved in Project EnergyConnect may produce a 'crackling', tonal noise under certain conditions, which may result in one residence, 823 Fernbank Road, Argoon (approximately 11 kilometres from the nearest WTG) being impacted by noise of up to 38 dB(A). The above receivers sit well outside of both the 30 dB(A) noise contour of the wind farm under the highest noise conditions as well as ancillary facility noise, and as such it is unlikely that a cumulative noise impact would occur.

Management measures

Since the operational noise levels are not predicted to exceed any operational noise limits and hence are not expected to cause any non-compliances, operational noise mitigation has not been found to be necessary.

However, as a number of construction noise impacts have been predicted at the nearest residential receivers, noise management measures should be employed to address these impacts. Measures adopted from the *Construction Noise and Vibration Guidelines* (RMS, 2016) have been provided to address these impacts.

No vibration impacts are expected to occur during the construction of the Project. Nevertheless, vibration mitigation strategies from *Assessing Vibration: a technical guideline*, (DECC, 2006) have been provided as general advice for the Project.

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Glossary and terms

<table>
<tr><th>Term</th><th>Definition</th></tr>
<tr><td>ABS</td><td>Australian Bureau of Statistics</td></tr>
<tr><td>Acoustic Spectrum</td><td>The sound pressure level (or sound power level) as a function of frequency (e.g. octave band, 1/3 octave or narrow band).</td></tr>
<tr><td>Background Noise Level</td><td>The lower ambient noise level, usually defined as the value of the time varying ambient noise level exceeded for 90% of the measurement time. Usually defined in the dB(A) scale - L_{A90}.</td></tr>
<tr><td>Bulletin, the</td><td>Wind Energy: Noise Assessment Bulletin (DPE, 2016)</td></tr>
<tr><td>Construction activities</td><td>Activities that are related to the establishment phase of a development and that will occur on a site for only a limited period of time.</td></tr>
<tr><td>Compliance</td><td>The process of checking that source noise levels meet with the noise limits in a statutory context.</td></tr>
<tr><td>dB</td><td>Sound pressure levels are expressed in decibels as a ratio between the measured sound pressure level and the reference pressure. The reference pressure is 20×10^{-6} Pascal (Newtons per square metre). Some typical noise levels are presented below:
<table>
<tr><th>Sound Pressure Level, dB(A)</th><th>Example</th></tr>
<tr><td>130</td><td>Threshold of pain</td></tr>
<tr><td>120</td><td>Jet aircraft take-off at 100 m</td></tr>
<tr><td>110</td><td>Power tool at 1 m</td></tr>
<tr><td>100</td><td>Nightclub</td></tr>
<tr><td>90</td><td>Heavy trucks at 5 m</td></tr>
<tr><td>80</td><td>Kerbside of busy street</td></tr>
<tr><td>70</td><td>Loud radio (in typical domestic room)</td></tr>
<tr><td>60</td><td>Office</td></tr>
<tr><td>50</td><td>Domestic fan heater at 1m</td></tr>
<tr><td>40</td><td>Living room</td></tr>
<tr><td>30</td><td>Theatre</td></tr>
<tr><td>20</td><td>Rural environment on still night</td></tr>
<tr><td>10</td><td>Sound insulated test chamber</td></tr>
<tr><td>0</td><td>Threshold of hearing</td></tr>
</table></td></tr>
<tr><td>dB(A)</td><td>The A-weighted sound pressure level in decibels, denoted dB(A) is the unit generally used for the measurement of environmental, transportation or industrial noise. The A-weighting scale approximates the sensitivity of the human ear when it is exposed to normal levels and correlates well with subjective perception over a number of different types of sounds.
An increase or decrease in sound level of approximately 10 dB corresponds to a subjective doubling or halving in loudness. A change in sound level of 3 dB is considered to be just noticeable.</td></tr>
</table>

Term	Definition
dB(C)	The unit used for measuring occupational health and safety maximum industrial noise levels in Australia is the C-weighted sound pressure level in decibels, denoted dB(C). C-weighting has a relatively flat response when compared to an A-weighting network.
Feasible and reasonable	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account mitigation benefits and cost of mitigation versus benefits provided, community views and nature and extent of potential improvements.
Frequency	The rate of repetition of a sound wave. The unit of frequency is the Hertz (Hz),defined as one cycle per second. Human hearing ranges approximately from 20 Hz to 20,000 Hz. For design purposes, the octave bands between 63 Hz to 8 kHz are generally used. The most commonly used frequency bands are octave bands. For more detailed analysis each octave band may be split into three one-third octave bands or in some cases, narrow frequency bands.
Ground Vibration	The level of vibration measured in the ground anywhere on a sensitive site. The measurement point should be at least the longest dimension of the foundations of a building or structure away from the building or structure if possible. If this is not possible, the site should be chosen to be as far from the building or structure as is practical.
Heavy Vehicle	A truck or other transport vehicle with a gross vehicle weight above a specified level (for example: over 8 tonnes).
ICNG	Interim Construction Noise Guidelines (DECC, 2009)
L_{A90}	The A weighted sound pressure level that is exceeded for 90% of the measurement period. Usually used to represent the background noise level.
L_{Aeq}	The time-averaged sound pressure level. The value of the A-weighted sound pressure level of a continuous steady sound that, with a measurement time interval.
L_{AMax}	The maximum sound pressure level of an event, with a measurement time interval.
Low frequency	Noise containing major components in the low-frequency range (10 Hertz [Hz] to 160 Hz) of the frequency spectrum.
NML	Noise Management Level
Non-compliance	Any exceedance of a consent/licence limit is considered a non-compliance. However, the type of regulatory action taken by a regulatory authority will depend on a number of factors, in accordance with the authority's prosecution policies and guidelines.
NPI	Noise Policy for Industry (EPA, 2017)
PANL	Project Amenity Noise Level
PINL	Project Intrusiveness Noise Level
PNTL	Project Noise Trigger Level

Term	Definition
PPV	Peak Particle Velocity – the highest instantaneous sum of velocity vectors (measured in millimetres per second, mm/s) of the ground movement caused by the passage of vibration.
Rating Background Level (RBL)	Defined in the NSW *Noise Policy for Industry* published by the Environment Protection Authority, 2017. The overall single figure background noise level representing each assessment period (Day/Evening/Night) over the whole monitoring period. This is the level used for assessment purposes. It is defined as the median of Assessment Background Noise Levels (ABLs) for each of the measurement periods (Day / Evening / Night).
Receiver	The noise-sensitive land use at which noise from a development can be heard.
Residence	A lawful and permanent structure erected in a land-use zone that permits residential use (or for which existing use rights under the EP&A Act apply) where a person/s permanently reside and is not, nor associated with, a commercial undertaking such as caretakers' quarters, hotel, motel, transient holiday accommodation or caravan park.
RNP	NSW Road Noise Policy (DECCW, 2011)
Sound Level Meter	An instrument consisting of a microphone, amplifier and data analysis package for measuring and quantifying noise.
SWL	Sound power level
Tonality	Noise containing a prominent frequency and characterised by a definite pitch.
Vibration	Vibration may be expressed in terms of displacement, velocity and acceleration. Velocity and acceleration are most commonly used when assessing structureborne noise or human comfort respectively. Vibration amplitude may be quantified as a peak value, or as a root mean squared (rms) value. Vibration amplitude can be expressed as an engineering unit value eg 1 mms^{-1} or as a ratio on a logarithmic scale in decibels: $vibration\ velocity\ level = 20 \times log_{10}(V/V_{ref})\ (dB).$ the preferred reference level, V_{ref}, for vibration velocity = 10^{-9} m/s. The Vibration Dose value (VDV) is also becoming an accepted measure of vibration, being the cumulative vibration level received over a continuous 8-hour or 16-hour period.

1. Introduction

1.1 Background

Virya Energy is proposing to construct, operate and maintain the Yanco Delta Wind Farm (the Project). Approval is being sought under Division 4.7 of Part 4 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and Part 9, Division 1 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Project would involve the construction, operation and maintenance of a wind farm with up to 208 wind turbine generators (WTGs), a battery energy storage system (BESS) and associated electrical infrastructure. The generating capacity of the wind farm is approximately 1,500 megawatts (MW). The Project would be located within the South-West Renewable Energy Zone (REZ), 10 kilometres north-west of the town of Jerilderie, within the Murrumbidgee Council and Edward River Council Local Government Areas (LGAs) (refer to **Figure 1-1**).

The Project area is defined as the property boundaries of Project landowners (i.e. landowners that have entered into agreements with Virya Energy to have WTGs or associated infrastructure on their properties).

1.2 Project description

The Project would include the following key features:

- Up to 208 WTGs to a maximum tip height of 270 metres
- Generating capacity of approximately 1500 MW
- BESS, approximately 800 MW/800 megawatt hours (MWh) (type yet to be determined)
- Permanent ancillary infrastructure, including operation and maintenance facility, internal roads, hardstands, underground and overhead cabling, wind monitoring masts, central primary substation and up to eight collector substations
- Temporary facilities, including site compounds, laydown areas, stockpiles, gravel borrow pit(s) and concrete batch plants.

An indicative Project layout is provided in **Figure 1-2.**

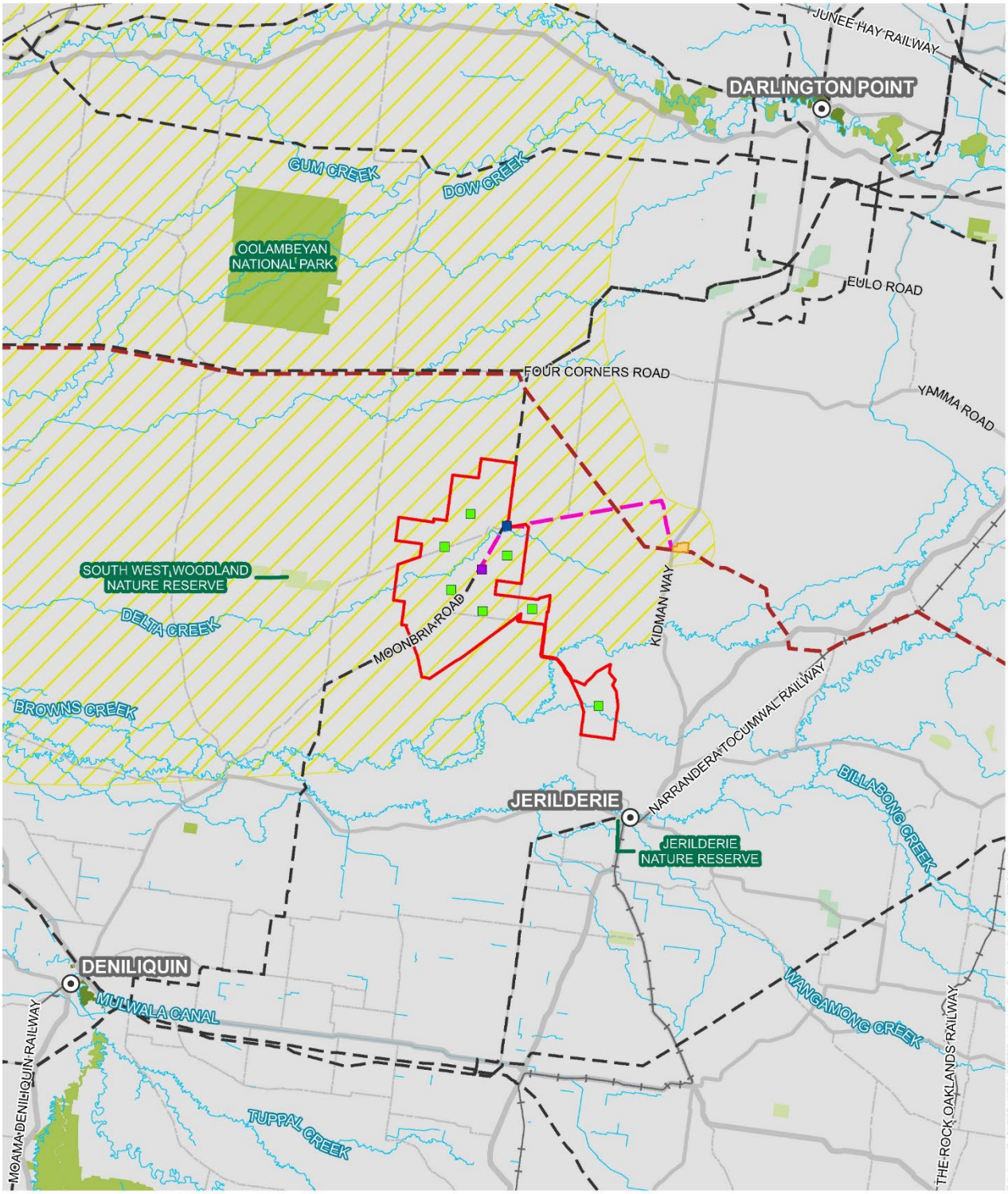


Figure 1-1 Regional context of the Project

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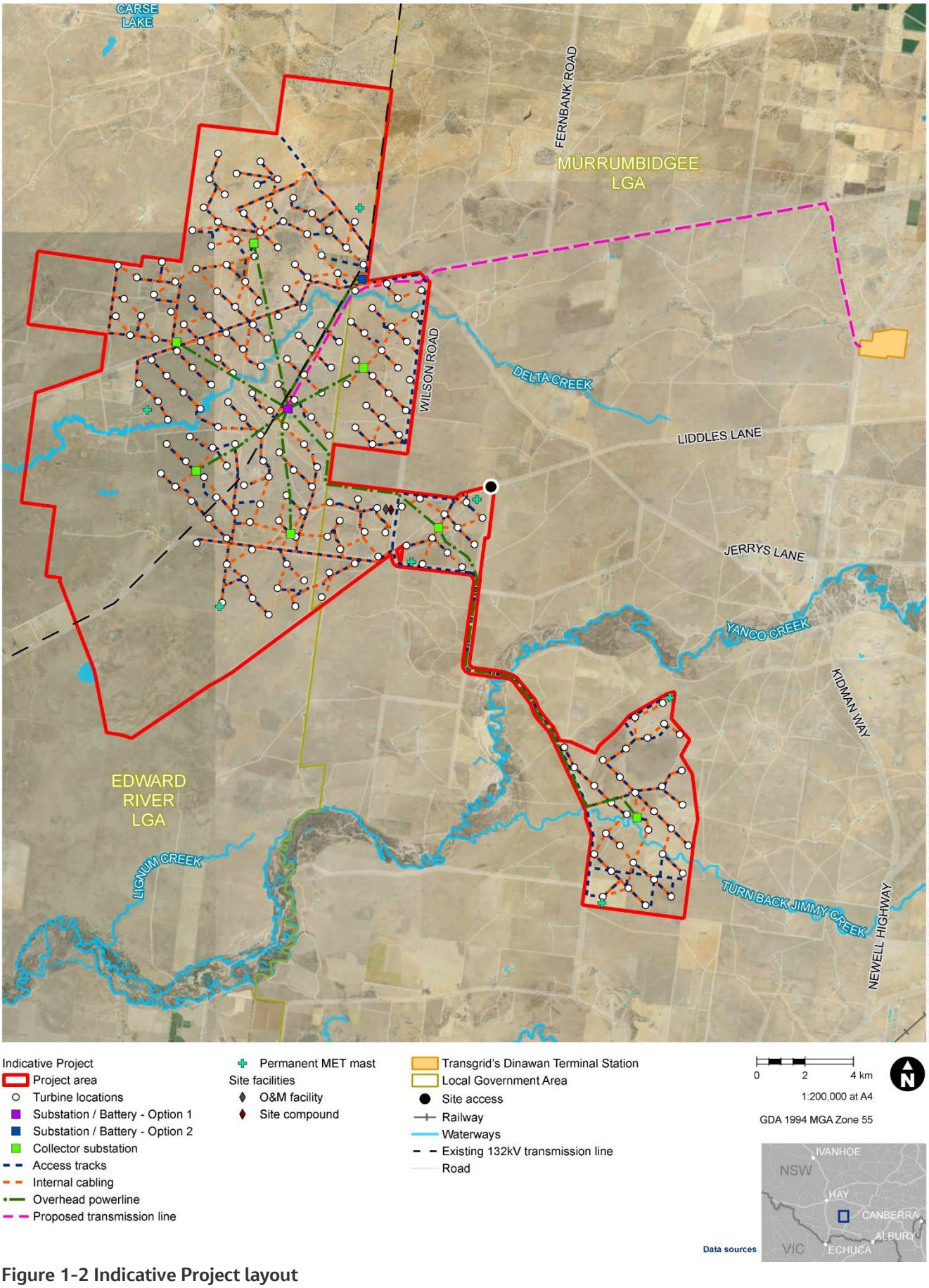


Figure 1-2 Indicative Project layout

1.3 Secretary's Environmental Assessment Requirements

This assessment forms part of the environmental impact statement (EIS) for the Project. The EIS has been prepared under Division 4.7 of the EP&A Act. This assessment has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) (SSD-41743746) relating to noise and vibration impact and will assist the Minister for Planning to make a determination on whether or not to approve the Project.

Table 1-1 outlines the SEARs relevant to this assessment along with a reference to where these are addressed.

Table 1-1 SEARs relevant to noise and vibration impact

Secretary's requirement	Where addressed in this report
Noise and Vibration – including:	
▪ An assessment of the wind turbine noise in accordance with the NSW Wind Energy: Noise Assessment Bulletin (EPA/DPE, 2016)	An assessment of wind turbine noise during operation of the Project is presented in **Section 6.1.** Further information on wind turbine noise criteria is provided in **Section 2.3.** The assessment methodology is provided in **Section 3.9**.
▪ An assessment of the noise generated by ancillary infrastructure in accordance with the NSW Noise Policy for Industry (EPA, 2017)	An assessment of substation and BESS noise during operation of the Project is presented in **Section 6.2.** Further information on substation and BESS project noise trigger levels is provided in **Section 2.4.** The assessment methodology is provided in **Section 3.10.**
▪ Assessment of the construction noise under the Interim Construction Noise Guideline (DECC, 2009) and a draft noise management plan if the assessment shows construction noise is likely to exceed applicable criteria)	An assessment of noise during construction of the Project is presented in **Section 5.1.** Further information on the construction noise management levels is provided in **Section 2.1.** The assessment methodology is provided in **Section 3.5.** The construction noise and vibration management plan to address construction impacts has been provided in **Appendix A.**
▪ Assessment of the traffic noise under the NSW Road Noise Policy (DECCW, 2011)	An assessment of traffic noise during construction of the Project is presented in **Section 5.2.** Further information on the construction traffic assessment criteria is provided in **Section 2.1.2.** The assessment methodology is provided in **Section 3.7.**
▪ An assessment of vibration under the Assessing Vibration: A Technical Guideline (DECC, 2006)	An assessment of vibration during construction of the Project is presented in **Section 5.3.** Further information on the construction vibration criteria is provided in **Section 2.5.** The assessment methodology is provided in **Section 3.8.**
▪ Assessment of the cumulative noise impacts (considering other developments in the area)	A review of nearby developments which may pose ac cumulative noise impact has been performed in **Chapter 7.**

1.4 Structure of this report

The structure and content of this report are outlined in **Table 1-2**.

Table 1-2 Structure and content

Chapter	Description
Chapter 1 Introduction	Outlines key elements of the Project, SEARs and the structure of this report (this Chapter)
Chapter 2 Legislative and policy context	Provides an outline of the statutory context, including applicable legislation and planning policies
Chapter 3 Assessment methodology	Provides a description of the assessment methodology for this assessment
Chapter 4 Existing environment	Provides a preliminary description of the existing environment
Chapter 5 Potential construction impacts	Presents the outcomes of the construction impact assessment
Chapter 6 Potential operational impacts	Presents the outcomes of the operational impact assessment
Chapter 7 Cumulative impacts	Presents the qualitative assessment of potential cumulative construction and operational noise impacts with other projects near the Project
Chapter 8 Environmental management measures	Presents the noise and vibration management measures applicable for the Project
Chapter 9 Conclusion	Summarises the findings of this report
References	Provides details of external resources used
Appendix A Draft construction noise and vibration management plan	Presents the preliminary Construction Noise and Vibration Management Plan required to address the requirements of the SEARs
Appendix B Tonality tables	Provides a full analysis of the tonal aspects of the wind farm and substations
Appendix C Construction noise contours	Presents maps displaying the spatial extent of predicted construction noise from the Project
Appendix D Wind turbine noise contours	Presents maps displaying the spatial extent of predicted WTG noise from the Project
Appendix E Substation noise contours	Presents maps displaying the spatial extent of predicted ancillary facility noise from the Project

2. Legislative and policy context

2.1 Interim construction noise guideline

2.1.1 Noise management levels

The *Interim Construction Noise Guideline* (ICNG) (Department of Environment and Climate Change [DECC], 2009) provides guidance for assessing noise from construction activities in NSW. It establishes noise management levels (NMLs) for recommended standard construction hours and for hours outside of the recommended standard hours.

Construction is considered to have the potential to cause a noise impact if the predicted noise exceeds the applicable noise management level. **Table 2-1** lists ICNG guidance for establishing construction NMLs at residential receivers.

Table 2-1 ICNG guidance for establishing construction NMLs at residential receivers

Time of Day	Management level $L_{Aeq\ (15\ min)}$	How to apply
Recommended standard hours (SH): Monday to Friday 7:00 am to 6:00 pm Saturday 8:00 am to 1:00 pm No work on Sundays or public holidays	Noise affected: Rating Background Level (RBL) + 10 dB(A)	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured $L_{Aeq(15\ min)}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. The proponent should also inform all potentially impacted residents of the nature of work to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected: 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: times identified by the community when they are less sensitive to noise (such as before and after school for work near schools, or mid-morning or mid-afternoon for work near residences if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours (OoH) – All other times including public holidays	Noise affected: RBL + 5 dB(A)	A strong justification would typically be required for work outside the recommended standard hours. The proponent should apply all feasible and reasonable work practices to meet the noise affected level. Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community. For guidance on negotiating agreements see Section 7.2.2 of the ICNG.

Considering the adopted minimum RBLs presented in **Table 4-1**, the NMLs for the identified surrounding residential receivers are presented in **Table 2-2**.

Table 2-2 Construction noise management levels (residential receivers)

Receiver	NML $L_{eq\ 15min}$ dB(A)			
	Day (during standard hours) 7:00 am – 6:00 pm Weekdays, 8:00 am – 1:00 pm Saturdays	Day (outside of standard hours) 7:00 am – 6:00 pm Outside of Standard Hours	Evening 6:00 pm – 10:00 pm	Night 10:00 pm – 7:00 am
All Receivers	45*	40*	35*	35*

** RBLs used in NML derivation adopted from the NSW EPA Noise Policy for Industry minimum assumed RBLs (Table 2.1 of NPI).*

The ICNG also provides construction NMLs for non-residential land uses. These are presented in **Table 2-3**.

Table 2-3 ICNG NMLs for non-residential receivers

Non-residential receiver type	Noise management level, $L_{Aeq(15min)}$ (applies when properties are occupied and are in use)
Commercial	External Noise Level – 70 dB(A)
Industrial	External Noise Level – 75 dB(A)
Educational facilities	Internal Noise Level – 45 dB(A)
Hospital / Medical	Internal Noise Level – 45 dB(A)
Place of Worship	Internal Noise Level – 45 dB(A)
Passive Recreation	External Noise Level – 60 dB(A)
Active Recreation	External Noise Level – 65 dB(A)

It should be noted that the NSW EPA is developing a new construction noise guideline, the Construction Noise Guideline, which is currently in-draft. When released, the Construction Noise Guideline will replace the ICNG.

2.1.2 Sleep disturbance

For premises where night construction (and operation) occur, the potential for noise levels to lead to sleep disturbance should be considered. Section 4.3 of the ICNG discusses the method for assessing and managing sleep disturbance. This guidance references further information in the *NSW Road Noise Policy* (RNP) (DECCW, 2011) that discusses criteria for the assessment of sleep disturbance.

Where noise levels from a construction (or industrial) source at a residential receptor at night exceeds the following, a maximum noise level event assessment should be undertaken:

- $L_{Aeq,15min}$ 40 dB(A) or the RBL + 5 dB(A), whichever is greater, and/or
- L_{AFMax} 52 dB(A) or the RBL +15 dB(A), whichever is greater.

Acknowledging the minimum RBLs adopted for the Project, the RBL +5 and RBL +15 criterion are well below the respective indicative criteria listed above. Based on this guidance, **Table 2-4** presents the sleep disturbance screening criterion for the residential receivers surrounding the Project.

Table 2-4 Sleep disturbance criterion

Receiver	$L_{Aeq, 15min}$ Sleep disturbance criterion	L_{AMax} Sleep disturbance criterion
All Residential Receivers	40	52

2.1.3 'Annoying' noise characteristics

Equipment that has the potential to produce a tonal noise, an impulsive noise or any other type of noise defined by the ICNG as 'particularly annoying', the noise level for that particular equipment would receive a + 5 dB(A) penalty.

As per guidance from the NPI, the penalty for impulsive noise (i.e. the hammers, packers, and compactors) would only be applied during night periods. The penalty for tonal noise (i.e. road saws and grinders) would apply for all periods.

2.2 *NSW road noise policy*

Road traffic noise impacts due to the construction (and operation) of the Project were assessed against the following guidance from the application notes of the RNP:

> *'…for existing residences and other sensitive land uses affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise level as a result of the development should be limited to 2 dB above that of the noise level without the development. This limit applies wherever the noise level without the development is within 2 dB of, or exceeds, the relevant day or night noise assessment criterion.'*

In reference to the day or night assessment criterion above, the assessment refers to the criterion provided in the RNP, displayed in **Table 2-5** below.

Table 2-5 Relevant road noise policy assessment criteria

Road Category	Type of project/land use	Assessment Criteria – dB(A)	
		Day (7am – 10pm)	Night (10pm – 7am)
Freeway/arterial/ sub-arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq, (15\ hour)}$ 60 dB(A)	$L_{Aeq, (9\ hour)}$ 55 dB(A)
Local Roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{Aeq, (1\ hour)}$ 55 dB(A)	$L_{Aeq, (1\ hour)}$ 50 dB(A)

2.3 Wind energy: noise assessment bulletin

In order to manage wind farm noise in NSW, the NSW Department of Planning and Environment (DPE) developed the *Wind Energy: Noise Assessment Bulletin* (NSW DPE, 2016) ('the Bulletin'). The Bulletin adopts the guidance from the South Australian *Wind farms – environmental noise guidelines* (SA 2009) in order to produce a standard for wind farm noise assessment in NSW.

2.3.1 Wind turbine noise criteria

2.3.1.1 Non-associated Receivers

Non-associated Receivers refer to residences located outside the Project area and where landowners have not signed agreements with the Project.

Based on guidance of noise limit derivation detailed in *Wind farms – environmental noise guidelines* (SA 2009), along with consideration of how rural land use differs in NSW compared to South Australia, the Bulletin develops its own noise limits for the assessment of WTG noise. The noise limits applicable to wind turbine projects in NSW, as described in the Bulletin, is displayed below:

> *"The predicted equivalent noise level ($L_{Aeq,10\ minute}$)*, adjusted for tonality and low frequency noise in accordance with these guidelines, should not exceed 35 dB(A) or the background noise ($L_{A90(10\ minute)}$) by more than 5 dB(A), whichever is the greater, at all relevant receivers for wind speed from cut-in to rated power of the wind turbine generator and each integer wind speed in between.*
>
> ** Determined in accordance with SA 2009, Section 4."*

As background noise monitoring was not performed for the assessment, the base criteria of $L_{Aeq,10\ minute}$ 35 dB(A) specified above has been adopted for all Non-associated Receivers identified in **Section 3.1** under all meteorological conditions.

2.3.1.2 Host and Associated Receivers

In addition to the Non-associated Receivers, owners of a number of residences located nearer to the Project have signed a neighbour or participation agreements with Virya Energy.

The Bulletin does not provide a specific criterion for Host and Associated Receivers. Instead, the Bulletin notes that wind energy proponents can negotiate agreements pertaining to noise limits with landowners where achieving the standard noise limits is not possible. As an indicative noise criteria for Host and Associated Receivers, *Wind farms – environmental noise guidelines* (SA 2009) references the World Health Organisation's *Environmental noise guidelines for the European region* (WHO, 2018):

> *"For average noise exposure, the GDG conditionally recommends reducing noise levels produced by wind turbines below **45 dB L_{den}**, as wind turbine noise above this level is associated with adverse health effects."*

The WHO uses a L_{den} criteria which consists of averaged hourly levels, in a defined way over a 24-hour period. The Bulletin adopts a shorter, 10-minute averaging period, which is considered a more appropriate measure to reflect the immediate impact on residencies. As such, adopting a $L_{Aeq,10\ minute}$ 45 dB(A) criteria for Host and Associated Receivers would sit in line with advice provided by the WHO.

2.3.2 Summarised noise criteria

Based on the sections above, the criteria for Host, Associated and Non-associated Receivers are displayed in **Table 2-6**.

Table 2-6 Wind turbine noise limits

Residency type	Time period	$L_{Aeq,10\ minute}$ Noise criteria
Non-associated Receivers	24-Hour	35
Host and Associated Receivers	24-Hour	45

2.3.3 Special noise characteristics

While WTG noise has been subjected to the criteria specified in **Section 2.3**, certain noise characteristics, specifically tonality and low frequency noise, would also be subject to their own criterion. These are detailed in the subsections below.

2.3.3.1 Tonality

The Bulletin states:

> *"In NSW, in addition to the SA 2009 requirements, for both environmental assessment and compliance purposes, the presence of excessive tonality (a special noise characteristic) shall be consistent with the methodology described in ISO 1996.2: 2007 Acoustics - Description, measurement and assessment of environmental noise – Determination of environmental noise levels (Annex D – Objective method for assessing the audibility of tones in noise – Simplified method). Tonality is defined as when the level of one-third octave band exceeds the level of the adjacent bands on both sides by:*
>
> - *5 dB or more if the centre frequency of the band containing the tone is in the range 500 Hz to 10,000 Hz;*
> - *8 dB or more if the centre frequency of the band containing the tone is in the range 160 Hz to 400 Hz; and/or*
> - *15 dB or more if the centre frequency of the band containing the tone is in the range 25 Hz to 125 Hz.*
>
> *If tonality is found to be a repeated characteristic of the wind turbine noise, 5 dB(A) should be added to measured noise levels from the wind energy project. The tonal characteristic penalty applies only if the tone from the wind turbine is audible at the relevant receiver. Absence of tone in noise emissions measured at an intermediate location is sufficient proof the wind energy project noise is not tonal at a receiver location. The assessment for tonality should only be made for frequencies of concern from 25 Hz to 10,000 Hz and for sound pressure levels above the threshold of hearing (as defined in ISO 389.7:2005 Acoustics – Reference zero for the calibration of audiometric equipment – Part 7: Reference threshold of hearing under free-field and diffuse-field listening conditions)."*

Based on the description provided in the Bulletin above, where any tones in line with the above criterion are predicted at any residences, a +5 dB correction would be applied to those levels.

2.3.3.2 Low frequency noise

The Bulletin states:

> *"The presence of excessive low frequency noise that is a repeated characteristic* [i.e. noise from the wind farm that is repeatedly greater than 60 dB(C)] will incur a 5 dB(A) penalty, to be added to the measured noise level for the wind farm, unless a detailed low frequency noise assessment to the satisfaction of the Secretary demonstrates compliance with the proposed criteria for the assessment of low frequency noise disturbance (UK Department for Environment, Food and Rural Affairs (DEFRA, 2005)) for a steady state noise source."*

Based on the above description, where a residence has been predicted to receive noise greater than $L_{Aeq,10\ minute}$ 60 dB(C).

2.4 Noise policy for industry

The assessment of noise from the substations and BESS proposed to be operated alongside the WTGs was performed in accordance with the NSW EPA's *Noise Policy for Industry* (NPI) (EPA, 2017), which seeks to regulate noise impact from 'industrial activity' pertaining to noise from fixed industry and mechanical plant. To achieve this, the NPI applies two separate assessment noise levels:

- Assessment noise levels aimed at limiting the intrusiveness of the Project's noise against the prevailing background noise, and
- Assessment noise levels aimed at achieving suitable acoustic amenity for the surrounding land uses from industry.

The more stringent of these is used to define the operational project noise trigger levels (PNTLs) for a Project.

2.4.1 Project intrusiveness noise levels

A noise source would be deemed non-intrusive if the monitored $L_{Aeq\ (15\ minute)}$ noise level of the development does not exceed the RBL by more than 5 dB(A). **Table 2-7** presents the Project noise intrusiveness levels (PINLs) for the surrounding receivers, based on the minimum RBLs (see **Table 4-1**).

PINLs are not used directly as regulatory criterion. They are used in combination with the Project amenity noise levels to assess the potential impact of noise, assess reasonable and feasible mitigation options and subsequently determine achievable noise requirements.

Table 2-7 NPI project intrusiveness noise levels

Receiver	Time of day	L_{90} (RBL) dB(A)	Allowance	Project intrusiveness noise level, $L_{eq\ 15\text{-}minute}$ dB(A)
All receivers	Day (7:00 am to 6:00 pm)	35	+5 dB(A)	40
	Evening (6:00 pm to 10:00 pm)	30		35
	Night (10:00 pm to 7:00 am)	30		35

2.4.2 Project amenity noise levels

As per the NPI (2017), the recommended amenity noise levels represent the objective for total industrial noise at a receiver location, whereas the project amenity noise level (PANL) represents the objective for noise from a single industrial development at a receiver location. PANLs ensure that industrial noise levels remain within the recommended amenity noise levels for an area.

PANLs are not used directly as regulatory criterion. They are used in combination with the PINLs to assess the potential impact of noise, assess reasonable and feasible mitigation options, and subsequently determine achievable noise requirements.

Table 2-8 presents the recommended amenity noise levels for residential receivers as per the NPI, and the PANLs (recommended amenity noise level minus 5 dB, plus 3 dB to convert from a period level to a 15-minute noise level). **Table 2-8** also presents the amenity noise levels for non-residential land usage.

Based on the existing environment surrounding the Project area, being almost exclusively rural land or undeveloped land, the 'Rural' residential receiver classification for PANLs have been adopted for all receivers surrounding the Project area.

Table 2-8 NPI project amenity noise levels

Receiver	Time of day	Recommended amenity noise level, $L_{Aeq\ (time\ period)}$ dB(A)	Project amenity noise level, $L_{eq\ 15\text{-}minute}$ dB(A)
Residential receivers (rural)	Day (7 am to 6 pm)	50	48
	Evening (6 pm to 10 pm)	45	43
	Night (10 pm to 7 am)	40	38
Residential receivers (suburban)	Day (7 am to 6 pm)	55	53
	Evening (6 pm to 10 pm)	45	43
	Night (10 pm to 7 am)	40	38
Residential receivers (urban)	Day (7 am to 6 pm)	60	58
	Evening (6 pm to 10 pm)	50	48
	Night (10 pm to 7 am)	45	43
Commercial	When in use	65	63
Industrial	When in use	70	68
Educational / childcare	Noisiest 1-hour period when in use	35 (internal), 45 (external)	33 (internal), 43 (external)
Hospital / medical	Noisiest 1-hour period	35 (internal), 50 (external)	33 (internal), 48 (external)
Place of worship	When in use	40 (internal), 50 (external)	38 (internal), 48 (external)
Passive recreation	When in use	50	48
Active recreation	When in use	55	53

2.4.3 Project noise trigger level

The NPI recommends that the more stringent values between PINLs and PANLs be applied for an operational noise assessment. Considering the PINLs and PANLs outlined in **Section 2.4.1** and **Section 2.4.2**, **Table 2-9** presents the PNTLs adopted the Project and this assessment. As the minimum RBLs had been adopted for the assessment, the resulting PINLs are more are more stringent during all time periods than the PANLs and thus has been adopted.

Table 2-9 NPI project noise trigger levels

Receiver	Time of Day	Project intrusiveness noise level, $L_{eq\ 15\ minute}$ dB(A)	Project amenity noise level, $L_{eq\ 15\text{-}minute}$ dB(A)	Project noise trigger level, $L_{Aeq,\ 15\ minute}$ dB(A)
All Receivers	Day (7:00 am to 6:00 pm)	40	48	40
	Evening (6:00 pm to 10:00 pm)	35	43	35
	Night (10:00 pm to 7:00 am)	35	38	35

2.4.4 Sleep disturbance

The NPI (2017) also derives its guidance for the sleep disturbance screening criteria from the RNP (NSW EPA, 2011), and as such the criteria adopted for the construction phase (refer to **Table 2-4**) are also applicable for the operations phase.

2.4.5 'Annoying' noise characteristics

'Annoying' noise characteristics associated with the operation of industrial facilities are addressed in Fact Sheet C of the NPI. Where an 'annoying' noise characteristic is identified, a positive correction will be applied to the noise levels to account for it. For this assessment, the two most likely 'annoying' noise characteristics are tonality and low frequency noise.

Where a tonal noise is predicted to be generated from a noise source, a one-third octave analysis should be performed using the methodology detailed in *ISO 1996-2:2007 Annex D: Objective Method for Assessing the Audibility of Tones in Noise*. Where the level of one-third octave band exceeds the level of the adjacent bands on both sides by:

- 5 dB or more if the centre frequency of the band containing the tone is in the range 500–10,000 Hz;
- 8 dB or more if the centre frequency of the band containing the tone is in the range 160–400 Hz; or
- 15 dB or more if the centre frequency of the band containing the tone is in the range 25–125 Hz.

Then a correction of 5 dB should be applied to the noise source.

Low Frequency Noise is accounted for using a two-step assessment of the A-weighted and C-weighted noise levels. A correction for low frequency noise would be applied where:

1) The C-weighted noise contribution is 15 dB greater than the A-weighted noise source contribution at a noise receiver, **AND**
2) Any of the third octave noise levels presented in Table C2 of Fact Sheet C are exceeded at the noise receiver.

Where the exceedance of the third octave noise levels is less than or equal to 5 dB, a correction of 2 dB would be applied during the evening and night periods, and where the exceedance of the third octave noise levels is greater than 5 dB, a correction of 5 dB would be applied during the evening and night periods.

2.5 Assessing vibration: a technical guideline and related standards

2.5.1 Overview

Vibration arising from construction activities can result in impacts on human comfort or the damage of physical structures. These two outcomes have different criterion, with the effects of vibration on human comfort having a lower threshold.

2.5.2 Human comfort

With respect to human comfort, vibration arising from construction activities must comply with criteria presented in "Assessing Vibration: a technical guideline", (DECC, February 2006) and *British Standard 6472-1: 2008 Guide to evaluation of human exposure to vibration in buildings Part 1: Vibration sources other than blasting* [BS 6472-1: 2008]. Assessing Vibration: a technical guideline (DECC, 2006) identifies three different forms of vibration associated with construction activities:

- Continuous: uninterrupted vibration occurring over a defined period
- Impulsive: short-term (typically less than two seconds) bursts of vibration which occurs up to three times over an assessment period
- Intermittent: interrupted periods of continuous or repeated impulsive vibration, or continuous vibration that varies significantly in magnitude.

Continuous vibration may result from steady road traffic or steady use of construction equipment (i.e. generator). Impulsive vibration may arise during the loading or unloading of heavy equipment or materials or infrequent use of hammering equipment. Intermittent vibration may arise from the varied use of construction equipment (i.e. a dump truck moving around a site, idling while being loaded with materials, and then dumping the materials) or repeated high-noise activities such as hammering, piling or cutting.

Preferred and maximum values of human exposure for continuous and impulsive vibrations are listed in **Table 2-10** (DECC, 2006), for relevant receivers to this Project. As per DECC, daytime is between 7:00 am and 10:00 pm, and night is between 10:00 pm and 7:00 am.

Table 2-10 Preferred and maximum weighted Root Mean Square (RMS) values for continuous and impulsive vibration acceleration (m/s^2) 1-80 Hz (from

Location	Assessment period[1]	Preferred values		Maximum values	
		z-axis[2]	X and y axis[2]	z-axis	x and y axis
Continuous vibration					
Residences	Day	0.010	0.0071	0.020	0.014
	Night	0.007	0.005	0.014	0.010
Impulsive vibration					
Residences	Day	0.30	0.21	0.60	0.42
	Night	0.10	0.071	0.20	0.14

[1] Daytime is 7:00 am to 10:00 pm. Night-time is 10:00 pm to 7:00 am

[2] z-axis refers to vertical vibration, while the x and y axes refer to horizontal vibration.

Intermittent vibration is assessed differently using vibration dose values (VDV). Preferred and maximum VDVs for different types of receivers have been reproduced in **Table 2-11** for relative receivers in this assessment.

Table 2-11 Preferred and maximum VDVs for intermittent vibration (m/s$^{1.75}$), (DECC, 2006)

Location	Day time (7:00 am to 10:00 pm)		Night time (10:00 pm to 7:00 am)	
	Preferred VDV	Maximum VDV	Preferred VDV	Maximum VDV
Residences	0.20	0.40	0.13	0.26

2.5.3 Buildings and structures

Section J4.4.3 of *Australian Standard AS2187.2 – 2006 Explosives – Storage and use Part 2: Use of explosives* provides frequency-dependent guide levels for cosmetic damage to structures arising from vibration. These levels are adopted from *British Standard BS7385: 1990 Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from groundborne vibration* [BS7385-2:1993] and are presented in **Table 2-12**.

Table 2-12 Transient vibration guideline values for cosmetic damage

Type of building	Peak particle velocity (PPV) mm/s		
	4 to 15 Hz	15 to 40 Hz	40 Hz and above
Reinforced or framed structures industrial and heavy commercial buildings	50		
Un-reinforced or light-framed structures residential or light commercial type buildings	15 to 20	20 to 50	50

Guidance for more sensitive structures is presented in the German standard, *DIN 4150-3 Vibrations in buildings – Part 3: Effects on structures* (DIN 4150-3: 2016). Vibration velocities not exceeding 3 mm/s at 1 to 10 Hz are recommended in this standard.

2.5.4 Construction noise and vibration guideline

Section 7 of the Construction Noise and Vibration Guideline (CNVG), (Roads and Maritime Services, 2016) provides guidance for safe working distances to achieve human comfort (*Assessing Vibration: a technical guideline*, (DECC, 2006) and cosmetic building damage (BS7385-2:1993) criteria for a range of different plant and equipment. These safe working distances are relevant for some plant and equipment that may be used during construction of the Project, and so this guidance (presented below in **Table 2-13**) is recommended for vibration management during construction of the Project.

Table 2-13 Recommended safe setback distances

Plant	Rating / description	Safe working distance (metres)	
		Cosmetic damage (Ref: BS7385-2: 1993)	Human response (Ref: DECC, 2006)
Vibratory Roller	<50 kN (typically 1-2 tonne) <100 kN (typically 2-4 tonne) <200 kN (typically 4-6 tonne) <300 kN (typically 7-13 tonne) >300 kN (typically 13-18 tonne) >300 kN (> 18 tonne)	5 m 6 m 12 m 15 m 20 m 25 m	15 m to 20 m 20 m 40 m 100 m 100 m 100 m

Plant	Rating / description	Safe working distance (metres)	
		Cosmetic damage (Ref: BS7385-2: 1993)	Human response (Ref: DECC, 2006)
Small hydraulic hammer	300 kg – 5 to 12 tonne excavator	2 m	7 m
Medium hydraulic hammer	900 kg – 12 to 18 tonne excavator	7 m	23 m
Large hydraulic hammer	1600 kg – 18 to 34 tonne excavator	22 m	73 m
Vibratory pile driver	Sheet piles	2 m to 20 m	20 m
Pile boring	≤800 mm	2 m (nominal)	4 m
Jackhammer	Handheld	1 m (nominal)	2 m

3. Assessment methodology

3.1 Noise sensitive receivers

Noise sensitive receivers are defined as a noise-sensitive land use (such as a residence, school, church or recreation area) at which noise from a development can be heard. All sensitive noise receivers were identified within a 8 kilometre buffer from the WTGs to ensure a robust assessment of noise and vibration impacts of the Project.

As described in **Section 2.3.1**, receivers have been broken down into the following groups:

- **Host Receivers** – refers to residences within the Project area and located on land hosting WTGs or related infrastructure, and owners and occupiers of land required for access during construction and/or operation. Each have signed Option to Lease agreements. Noting that one Host Landowner has a dwelling at R20
- **Associated Receivers** – refers to residences not located on land within the Project Area or hosting infrastructure, however the Proponent has a negotiated agreement in place with the landowner regarding Project impacts, and are therefore associated with the Project
- **Non-associated Receivers** – refers to residences located outside the Project area and not associated with the Project (i.e. no negotiated agreement is in place).

3.2 Noise model setup

The noise impacts from the Project were predicted using the SoundPLAN 8.2 acoustic modelling software.

Within the noise modelling software, construction noise was predicted using the CONCAWE noise propagation algorithm. For the operational wind farm noise, noise levels were predicted using the ISO9613-2 noise propagation algorithm. These algorithms were selected based on Jacobs' understanding of the different prediction methods being more suited to calculation of noise propagation for the different types of noise sources.

CONCAWE and ISO9613-2 consider noise propagation and attenuation by:

- Geometrical spreading
- Atmospheric absorption
- Ground effects
- Meteorological conditions conducive of the propagation of noise
- Barriers
- Topography and distance between the source and receptor.

A number of inputs and assumptions have been adopted in order to model noise from the Project. These are provided in **Table 3-1**.

Table 3-1 Noise model inputs and assumptions

Model input	Details
Topography	Terrain data were derived from a combination of the NSW Land Property Information (LPI) 10m resolution bare earth Digital Elevation Model (DEM)
Receivers	Noise sensitive receivers were identified in **Table 4-2**, **Table 4-3**, and **Figure 4-1.** Buildings were assumed to be 5 m in height and single floor (3 m per floor plus 2 m for the roof).
Ground Absorption	Hard Ground: (Absorption coefficient = 0.00)

Model input	Details
Noise Sources	Construction Noise: **Section 3.2** Operational Noise**: Section 3.10** Wind Farm Noise: **Section 3.9**
Meteorological Conditions	**Construction and Operational Noise** 'Noise-Enhancing' Meteorological conditions, as defined by the *Noise Policy for Industry* (EPA, 2017): ▪ Air Temperature: 10°C ▪ Humidity: 70% ▪ Air Pressure: 1013.3 mbar ▪ Wind Speed: 2 m/s ▪ Wind Direction: Source to Receiver ▪ Pasquill Stability Class: F **Wind Farm Noise** 'Conservative Approach' from *Wind farms – environmental noise guidelines* (SA 2009): ▪ Air Temperature: 10°C ▪ Humidity: 80% ▪ Air Pressure: 1013.3 mbar ▪ ISO9613-2 default wind (Source to Receiver) ▪ Cmet value = -2.0

3.3 Project schedule

If successful in obtaining planning approval and grid connection agreement, the construction of the Project would begin in 2024/2025. For the assessment, the expected construction duration of the Project would be 36 months. An indicative construction schedule is provided as **Table 3-2**, however the precise timing of construction activities would be adapted based on construction needs.

Table 3-2 Indicative construction schedule

Construction phase	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Site set-up and civil work												
Road construction												
Excavation & foundation construction												
Electrical installation												
Turbine delivery and erection												
Turbine commissioning and testing												
Construct electrical substations												
Construct transmission line												
Commission operational infrastructure												
Decommission temporary structures												

3.4 Project construction hours

The ICNG recommends standard hours for construction work as outlined in **Section 2.1.1**. This would be used for the Project, except where an exemption is granted by the relevant authority.

It has been noted by the proponent that there will be instances where construction may need to be carried out outside of the recommended standard construction hours. This is particularly relevant for wind farm construction, as the cranes used for installation of WTGs cannot operate in high winds. In order to minimise delays in construction program, work outside of standard construction hours would be required to make up for time lost during high wind days. Other activities that would be carried out outside of the standard daytime construction hours or extended hours may include:

- Work to prevent damage to concrete tower bases and trenches
- Work to reduce the safety risk of open trenches and reduce the risk of tower self-oscillation
- Concrete pours, in-ground electrical work and WTG installation
- Work determined to comply with the relevant NML at the nearest sensitive receiver
- The delivery of materials outside approved hours as required by the NSW Police or other authorities for safety reasons
- Emergency situations where it is required to avoid the loss of lives and properties and/or to prevent environmental harm
- Situations where agreement is reached with Project landowners and neighbours.

Due to the above, the construction noise assessment has been compared against NMLs for all out of standard hours periods.

3.5 Construction noise inventory

Sound power levels were estimated for the significant noise-generating phases of Project construction. Sound power levels for each construction phase were determined by developing an inventory of noise producing equipment and the estimated numbers of equipment based on the work taking place. The sound emissions of each piece of equipment were estimated based on sound power levels presented in national and international standards and guidelines, as well as from a Jacobs measurement database.

The indicative construction phases for the Project are presented in **Table 3-3**. Locations of work described in **Table 3-3** are in reference to **Figure 1-2.**

Table 3-3 Construction noise inventory

Phase	Work	Location	Equipment	Number of equipment	Individual equipment SWL (dB(A))	Usage Factor (%)	Phase L_{Aeq} SWL (dB(A))	Phase L_{AMax} SWL (dB(A)) Sleep Disturbance Only)
1	Site set-up and civil work	Site Compound Areas	Generator	1	101	100%	111	111
			Truck	3	97	75%		
			Excavator (large)	1	108	100%		
			Low loader truck	1	106	75%		
2	Road construction	Access tracks	Roller	1	100	50%	112	113
			Low loader truck	1	106	75%		
			Dump truck	3	103	75%		
			Excavator (large)	1	109	75%		
			Truck	3	97	75%		
3	Excavation and foundation construction	Turbine locations	Excavator (large)	1	109	75%	115	116
			Front end loader	1	112	75%		
			Concrete pump	1	106	50%		
			Concrete truck	1	106	100%		
			Mobile crane	1	100	75%		
			Truck	3	97	75%		
			Dump truck	3	103	75%		
4	Electrical installation	Internal cabling	Concrete truck	1	106	100%	113	114
			Low loader truck	1	106	75%		

Phase	Work	Location	Equipment	Number of equipment	Individual equipment SWL (dB(A))	Usage Factor (%)	Phase L_{Aeq} SWL (dB(A))	Phase L_{AMax} SWL (dB(A)) Sleep Disturbance Only)
			Excavator (large)	1	109	75%		
			Dump truck	3	103	75%		
			Mobile crane	1	100	75%		
5	Turbine delivery and erection	Turbine locations	Extendable trailer truck	1	106	75%	109	110
			Low loader truck	1	106	75%		
			Mobile crane	1	100	75%		
			Support crane	1	99	75%		
			Grinder	1	98	50%		
			Rattle gun	1	99	50%		
6	Construct electrical substation and O&M facility	Substations and O&M Facility	Mobile crane	1	100	100%	111	112
			Welder	1	97	50%		
			Generator	1	101	100%		
			Concrete truck	1	106	100%		
			Excavator (large)	1	109	75%		
			Power Tools	1	96	75%		
			Truck	3	97	75%		
7	Construct transmission lines (internal)	Overhead powerlines	Power tools	1	96	75%	107	109
			Concrete Truck	1	106	25%		
			Generator	1	101	100%		

Phase	Work	Location	Equipment	Number of equipment	Individual equipment SWL (dB(A))	Usage Factor (%)	Phase L_{AeqSWL} (dB(A))	Phase L_{AMax} SWL (dB(A)) Sleep Disturbance Only)
			Mobile crane	1	100	100%		
			Truck	3	97	75%		
8	Construct transmission lines (to Dinawan Terminal Station)	Transmission line alignment	Power tools	1	96	75%	107	109
			Concrete Truck	1	106	25%		
			Generator	1	101	100%		
			Mobile crane	1	100	100%		
			Truck	3	97	75%		
9	Decommission temporary structures	Site Compound Areas	Power tools	1	96	75%	106	106
			Truck	3	97	75%		
			Telehandler	1	92	75%		
			Mobile crane	1	100	75%		
			Generator	1	101	100%		
10	Batching	Site Compound Areas	Front end loader	1	112	75%	111	112
			Transport truck	3	97	75%		
11	Concrete pours	Site Compound Areas	Generator	1	101	100%	107	108
			Transport truck	3	97	75%		
			Concrete pump	1	106	75%		

3.6 Decommissioning noise inventory

Many factors of decommissioning activities, including the work undertaken and equipment used will remain generally consistent with those proposed to be used for the construction of the Project. As such, the equipment and work phases adopted in **Table 3-3** have been deemed an appropriate representation of the likely decommissioning activities.

3.7 Construction traffic noise inventory

Traffic generated by the Project will primarily take place during the construction stage, involving the movement of material and equipment in and out of the Project area. The primary route to access the Project area would be through six roads:

- Liddles Lane
- Jerrys Lane
- Kidman Way
- Newell Highway
- Jerilderie Street
- Sturt Highway.

The six roads have been predicted to experience an increase in both light and heavy vehicle traffic during construction. The predicted construction vehicle movements have been provided in **Table 3-4**.

Table 3-4 Construction traffic inventory

Road	Time	Direction	Existing traffic		Construction traffic	
			Light vehicles	Heavy vehicles	Light vehicles	Heavy vehicles
Liddles Lane	Day (7am – 10pm)	Eastbound	0	0	80	30
		Westbound	1	0	5	30
	Night (10pm-7am)	Eastbound	1	0	5	2
		Westbound	0	0	85	2
Jerrys Lane	Day (7am – 10pm)	Eastbound	0	0	220	55
		Westbound	1	0	5	55
	Night (10pm-7am)	Eastbound	1	0	5	3
		Westbound	0	0	225	3
Kidman Way	Day (7am – 10pm)	Northbound	38	18	30	170
		Southbound	43	24	270	170
	Night (10pm-7am)	Northbound	4	19	275	5
		Southbound	10	17	35	5
Newell Highway	Day (7am – 10pm)	Northbound	92	73	5	120
		Southbound	66	73	270	120
	Night (10pm-7am)	Northbound	41	100	275	5
		Southbound	63	29	5	5

Road	Time	Direction	Existing traffic		Construction traffic	
			Light vehicles	Heavy vehicles	Light vehicles	Heavy vehicles
Jerilderie Street	Day (7am – 10pm)	Northbound	92	73	5	120
		Southbound	66	73	260	120
	Night (10pm-7am)	Northbound	41	100	265	5
		Southbound	63	29	5	5
Sturt Highway	Day (7am – 10pm)	Eastbound	70	45	5	50
		Westbound	70	59	5	50
	Night (10pm-7am)	Eastbound	28	67	5	0
		Westbound	51	86	5	0

3.8 Construction vibration inventory

Based on the construction noise inventory in **Table 3-3**, one piece of equipment with the potential to produce vibration impacts have been identified, a vibratory roller. The phases in which the construction work would take place, and the associated safe working distances are given in **Table 3-5**.

Table 3-5 Vibration intensive equipment inventory

Equipment	Construction phase	Human comfort setback distance (m)	Cosmetic damage setback distance (m)
Vibratory roller (large)	Phase 2	100	25

3.9 Wind turbine noise inventory

A number of different WTG elements outside of source noise levels can impact on noise propagation from the turbines. Details of these elements which have been adopted for noise modelling are given in **Table 3-6**.

Table 3-6 Wind turbine elements adopted for noise modelling

Element	Detail
Number of units	208 Units
Generation capacity per unit	8.0 MW
Tip height	270 metres
Rotor diameter	220 metres
Hub height	180 metres*
Blade length	110 metres*

**Note the combination of the rotor diameter/blade length and hub height would be a maximum of 270 metres*

Wind turbines have variable sound power levels associated with the local wind speed. The variance of WTG noise levels, from wind conditions ranging from 3 m/s to the cut-off (13 m/s) are given in **Table 3-7**.

Note that the noise spectra for the turbines at various wind speeds were based on the noise emission spectrum at wind speed of 12 m/s, and was linearly adjusted to match the overall sound power levels in

dB(A) at other wind speeds. Additionally, due to a lack of data for noise in the 31.5 Hz band, the noise level at 63 Hz was adopted for 31.5 Hz.

Table 3-7 Wind turbine acoustic data

Wind speed	Overall SWL (dB(A))	1/1 Octave noise spectra SWL (dB(Z))								
		31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
3 m/s	92.0	98.7	98.7	95.5	90.7	87.1	87.8	84.7	78.3	70.1
4 m/s	92.0	98.7	98.7	95.5	90.7	87.1	87.8	84.7	78.3	70.1
5 m/s	94.5	101.2	101.2	98	93.2	89.6	90.3	87.2	80.8	72.6
6 m/s	98.4	105.1	105.1	101.9	97.1	93.5	94.2	91.1	84.7	76.5
7 m/s	101.8	108.5	108.5	105.3	100.5	96.9	97.6	94.5	88.1	79.9
8 m/s	104.7	111.4	111.4	108.2	103.4	99.8	100.5	97.4	91	82.8
9 m/s	106.0	112.7	112.7	109.5	104.7	101.1	101.8	98.7	92.3	84.1
10 m/s	106.0	112.7	112.7	109.5	104.7	101.1	101.8	98.7	92.3	84.1
11 m/s	106.0	112.7	112.7	109.5	104.7	101.1	101.8	98.7	92.3	84.1
12 m/s	106.0	112.7	112.7	109.5	104.7	101.1	101.8	98.7	92.3	84.1
13 m/s and up to cut-off	106.0	112.7	112.7	109.5	104.7	101.1	101.8	98.7	92.3	84.1

3.10 Substation and BESS noise inventory

In addition to the operation of the WTGs themselves, a central primary substation and BESS (2 options being considered) and up to eight collector substations within the Project area will also be operated. The location of the proposed substations and BESS are shown in **Figure 1-2.**

An indicative sound power level for each substation was developed based on the loudest equipment predicted to be installed at each substation.

Based on this, the assumed noise emission from each collector substation was the sound power level spectrum of 8 33/500kV 120MVA Power Transformers and 8 132/500kV 200MVA Power Transformers. Noise emission from the central primary substation and BESS setup was based on the same 8 33/500kV 120MVA Power Transformers and 8 132/500kV 200MVA Power Transformers in addition to 192 BESS Power Control Systems (each containing a 0.8/33kV 4.4 MVA Power Transformer. Sound power levels and spectra were developed based on data provided by supplier along with Jacobs' experience with similarly sized transformers in previous noise impact assessments. A summary of substation noise levels are provided in **Table 3-8**.

Cabling and transmission lines will also be installed as part of the project. However, noting proximity to receivers of these components and the lack of/low level of noise that these components would emit, it is highly unlikely for these components to produce noise impacts and hence noise from these sources has not been assessed.

Table 3-8 Substation and BESS noise source

Noise Source	Overall SWL (dB(A))	1/3 octave noise spectra (dB(Z))									
		16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Collector Substation	102	88	88	89	97	102	103	94	89	84	76
Central Primary Substation and BESS	115	112.5	115.5	123.5	121.5	119.5	114.5	102.5	96.5	91.5	85.5

3.11 Operational traffic noise

Traffic generated by the operation the Project will primarily take the form of maintenance and inspection vehicles, alongside delivery vehicles. Heavy vehicle movements to site are likely to be sporadic in nature and as required. Due to this, vehicle movements during operation will likely be negligible in nature and would not warrant assessment.

4. Existing environment

4.1 Surrounding land uses

The Project area and surrounding areas are currently zoned as RU1 Primary Production under the Conargo Local Environmental Plan 2013 and the Jerilderie Local Environmental Plan 2012. The Project area is used predominately for sheep grazing and agriculture.

Land use surrounding the Project area is described as follows:

- The surrounding area is predominantly comprised of farmland or unused land with very few receivers which are sparsely distributed
- The rural town of Jerilderie is located 10 kilometres to the south-east of the Project, which features predominantly residential and commercial properties, along with a small airstrip
- Oolambeyan National Park is located about 35 kilometres north-west of the Project, as well as scattered nature reserves located further than 35 kilometres away.

The surrounding land uses, and noise sensitive receivers are shown in **Figure 1-1** and **Figure 4-1** respectively.

4.2 Background noise

4.2.1 Background noise levels

Background noise monitoring was not conducted for the Project. As such, guidance from the *Noise Policy for Industry* (NSW EPA, 2017) (NPI) was adopted to determine the appropriate background noise levels for assessment. Table 2.1 of the NPI defines the 'Minimum assumed rating background noise levels (RBLs)', which are the lowest RBLs to be adopted for an assessment under the policy. In the absence of actual monitoring data, these minimum assumed RBLs have been adopted as the RBLs for all identified receivers.

The usage of the minimum assumed rating background noise levels is considered a conservative assumption. However, as the Project area and the immediate surrounding areas are generally rural and undeveloped, for the Project the minimum levels are considered to be an appropriate representation of the local acoustic environment. The minimum assumed rating background noise levels adopted for the assessment are detailed in **Table 4-1**.

Table 4-1 Assumed RBLs at all receivers

Location	Rating background noise level (L_{A90} dB(A))		
	Day (7:00 am to 6:00 pm)	Evening (6:00 pm to 10:00 am)	Night (10:00 pm to 7:00 am)
All receivers (minimum assumed rating background noise level)	35	30	30

4.3 Noise sensitive receivers

A total of 20 noise sensitive receivers were identified within 8km of the project. All receivers are residential buildings, the details of which are provided in **Table 4-2**. The spatial distribution of the receivers is shown in **Figure 4-1.**

Of the identified receivers, four are Host Receivers, seven are Associated Receivers and nine are Non-associated Receivers.

Table 4-2 Noise sensitive receivers adopted for the noise assessment

Receiver	Classification	Nearest turbine	Nearest turbine distance (m)
R01	Host Receiver	W-008	2030.2
R02	Host Receiver	W-142	2062.4
R03	Host Receiver	W-134	2660.3
R04	Non-associated Receiver	W-153	3642.8
R05	Non-associated Receiver	W-001	4061.6
R06	Associated Receiver	W-185	4203.7
R07	Associated Receiver	W-202	4338.2
R08	Associated Receiver	W-185	4457.1
R09	Non-associated Receiver	W-205	4599.2
R10	Associated Receiver	W-202	4714.6
R11	Associated Receiver	W-046	5512.8
R12	Non-associated Receiver	W-153	5680.1
R13	Non-associated Receiver	W-177	5770.9
R14	Non-associated Receiver	W-177	6171.9
R15	Associated Receiver	W-202	6446.6
R16	Non-associated Receiver	W-177	6545.6
R17	Non-associated Receiver	W-177	6607.3
R18	Non-associated Receiver	W-177	7212.1
R19	Associated Receiver	W-205	7307.1
R20	Host Receiver (outside of Project area)	W-205	7535.0

In addition to the receivers above, another two receivers have been identified adjacent to the proposed transmission line between the Project and Transgrid's Dinawan Terminal Station. As such, noise at these two receivers will also be assessed for construction activities. These receivers are detailed in **Table 4-3** and are also shown in **Figure 4-1.**

Table 4-3 Noise sensitive receivers adjacent to the transmission line adopted for the noise assessment

Receiver	Classification	Distance to transmission line (m)
R35	Non-associated Receiver	2667.7
R36	Non-associated Receiver	4631.7

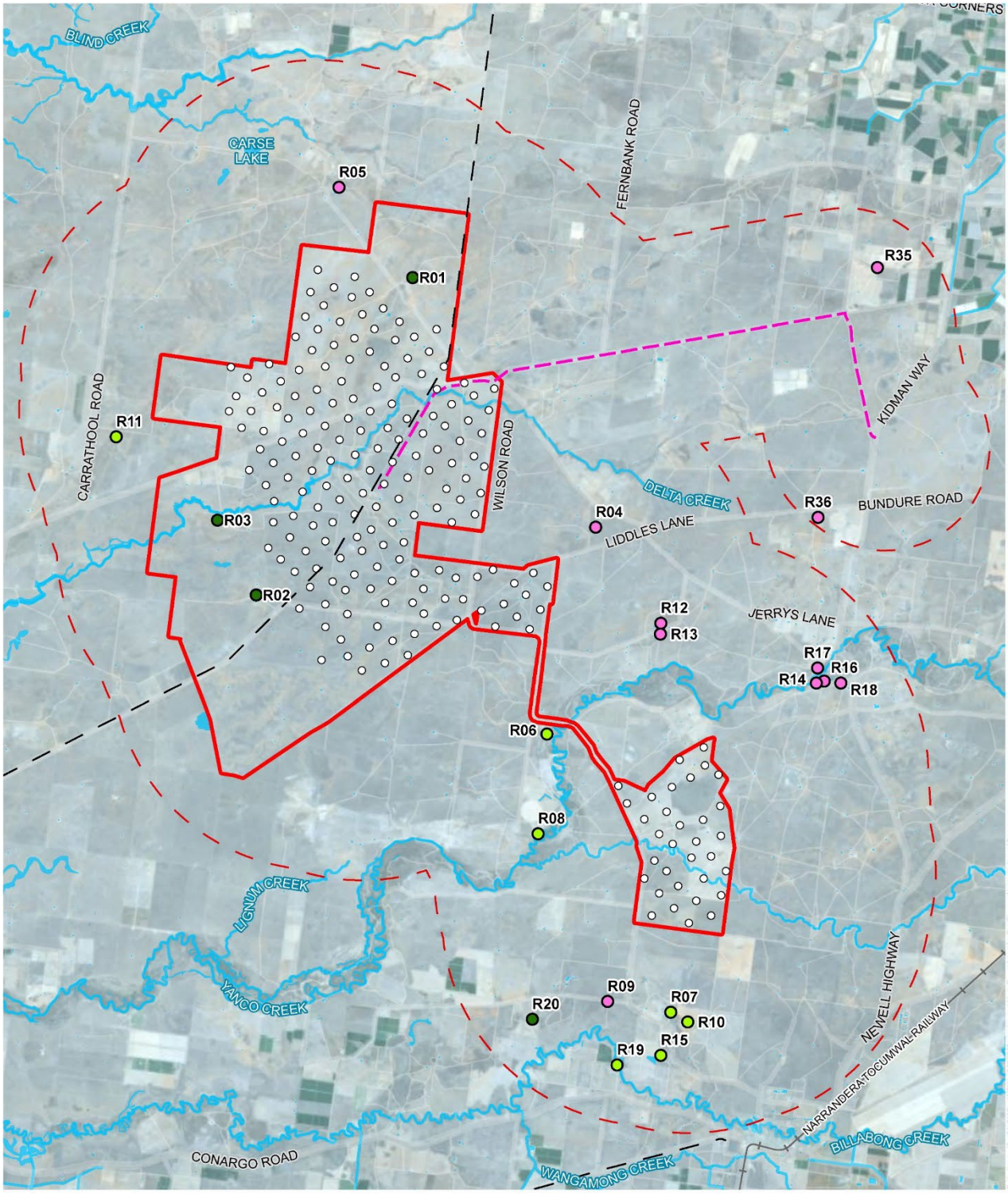


Figure 4-1 Noise sensitive receivers identified in the vicinity of the Project

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4.4 Vibration sensitive receivers

Certain receivers and structures, such as medical centres, precision industry and heritage structures are typically more susceptible to vibration and are subject to more stringent criteria. The nearest medical centre to the Project is Jerilderie Medical Centre which is located approximately 10 kilometres south-east of the Project area. The closest listed-heritage item to the Project area is The Yanco Store, located approximately 6 kilometres from the Project. No precision industries have been identified within the vicinity of the Project area. At these distances, no vibration impacts from the Project have been predicted.

5. Potential construction and decommission impacts

In order for the project to be constructed, a number of noise and vibration generating activities will be required to be undertaken. These activities include construction works themselves, as well as noise from traffic related to construction.

Additionally, activities related to the decommission and demolition of the Project will also produce noise and vibration impacts. These activities will generally remain consistent with the activities completed during construction and are likely to have similar noise and vibration impacts.

5.1 Construction noise

Estimated noise levels were predicted from the anticipated noise levels generated during each construction phase (refer to **Section 3.5** for construction phases) of the Project. These noise levels were then compared with the NMLs to understand which receivers might be the most affected during each construction phase.

This assessment assumes all plant and equipment for each activity would be operated concurrently while positioned at the location closest to each individual receiver. This is considered to be a conservative approach and, while this may provide for the determination of conservative noise levels, actual construction noise levels should be lower than predicted in this assessment.

Furthermore, the highest construction noise levels that would occur at receivers would typically be of brief duration for transient construction noise events. It is also important to note that the construction NMLs are not noise limits or threshold noise criteria to be achieved, rather they are a trigger noise level that requires the Project to implement reasonable and practicable noise mitigation measures.

Section 5.1.1 presents the results for construction that would be undertaken during standard hours. Similarly, the day out of hours results are presented in **Section 5.1.2**. The evening and night hours results are then presented in **Section 5.1.3**, with sleep disturbance impacts detailed in **Section 5.1.4**. Noise contour maps displaying the predicted noise propagation are displayed in **Appendix C**.

5.1.1 Standard construction hours

Standard construction hours are defined as Monday to Friday, 7 am – 6 pm, and Saturday, 8 am – 1 pm.

A summary of the key findings include (refer to **Table 5-1**):

- Construction phases 2, 4 and 7 are the stages that have been predicted to impact receivers with noise greater than the NML. All other construction phases have been predicted to have no receivers experience noise greater than the NML
- R01, R02 and R06 are the closest receivers to the majority of work and, as such, are consistently the receivers experiencing the greatest construction noise levels from the Project. Noise at R01 may be up to 6 dB(A) over the NML, while noise at R06 may also be up to 5 dB(A) greater than the NML
- Noise levels greater than the NMLs have been restricted to the Host and Associated Receivers, with no Non-associated Receivers predicted to experience noise greater than the NML.

Table 5-1 Predicted construction noise levels at residential receivers - standard hours, dB(A)

Receiver	Standard hours construction NML (dB(A))	Predicted noise levels dB(A)																					
		Construct. phase 1		Construct. phase 2		Construct. phase 3		Construct. phase 4		Construct. phase 5		Construct. phase 6		Construct. phase 7		Construct. phase 8		Construct. phase 9		Construct. phase 10		Construct. phase 11	
		Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML
R01	45	0	-	50	5	44	-	51	6	38	-	27	-	23	-	20	-	0	-	0	-	0	-
R02		7	-	40	-	44	-	42	-	38	-	34	-	29	-	11	-	2	-	7	-	3	-
R03		0	-	37	-	40	-	38	-	34	-	29	-	25	-	11	-	0	-	0	-	0	-
R04		18	-	32	-	35	-	33	-	29	-	24	-	20	-	11	-	13	-	18	-	14	-
R05		0	-	32	-	34	-	32	-	28	-	17	-	12	-	2	-	0	-	0	-	0	-
R06		15	-	31	-	32	-	30	-	26	-	20	-	50	5	0	-	10	-	15	-	11	-
R07		0	-	29	-	32	-	29	-	26	-	13	-	9	-	0	-	0	-	0	-	0	-
R08		0	-	29	-	31	-	29	-	25	-	17	-	24	-	0	-	0	-	0	-	0	-
R09		0	-	28	-	31	-	28	-	24	-	13	-	9	-	0	-	0	-	0	-	0	-
R10		0	-	27	-	30	-	28	-	24	-	12	-	8	-	0	-	0	-	0	-	0	-
R11		0	-	25	-	27	-	26	-	21	-	14	-	9	-	0	-	0	-	0	-	0	-
R12		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R13		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R14		0	-	21	-	24	-	21	-	18	-	6	-	2	-	0	-	0	-	0	-	0	-
R15		0	-	20	-	23	-	21	-	17	-	6	-	2	-	0	-	0	-	0	-	0	-
R16		0	-	21	-	25	-	22	-	19	-	5	-	4	-	0	-	0	-	0	-	0	-
R17		0	-	19	-	22	-	20	-	16	-	4	-	1	-	0	-	0	-	0	-	0	-
R18		0	-	17	-	20	-	18	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R19		0	-	17	-	20	-	17	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R20		0	-	17	-	19	-	16	-	13	-	3	-	4	-	0	-	0	-	0	-	0	-
R35		0	-	0	-	0	-	0	-	0	-	0	-	0	-	32	-	0	-	0	-	0	-
R36		0	-	0	-	3	-	0	-	0	-	0	-	0	-	22	-	0	-	0	-	0	-

Note: dark green shading = Host Receiver, light green = Associated Receiver, red = Non-associated Receiver

5.1.2 Day outside of standard construction hours

Day outside of construction hours are defined as all other day hours between 7 am and 6 pm outside of standard construction hours, i.e., Saturday 1 pm – 6 pm as well as Sundays and public holidays between 7 am and 6 pm.

A summary of the key findings include (refer to **Table 5-2**):

- Construction phases 2, 3, 4 and 7 are the stages that have been predicted to impact receivers with noise greater than the NML. All other construction phases have been predicted to have no receivers experience noise greater than the NML
- R01, R02 and R06 are the closest receivers to the majority of work and, as such, are consistently the receivers experiencing the greatest construction noise levels from the Project. Noise at R01 may be up to 11 dB(A) over the NML, noise at R02 may be up to 4 dB(A) over the NML, while noise at R06 may be up to 10 dB(A) greater than the NML
- Noise levels greater than the NMLs have been restricted to the Host and Associated Receivers, with no Non-associated Receivers predicted to experience noise greater than the NML.

Table 5-2 Predicted construction noise levels at residential receivers – day outside of standard hours, dB(A)

Receiver	Day out of hours NML (dB(A))	Predicted noise levels dB(A)																					
		Construct. phase 1		Construct. phase 2		Construct. phase 3		Construct. phase 4		Construct. phase 5		Construct. phase 6		Construct. phase 7		Construct. phase 8		Construct. phase 9		Construct. phase 10		Construct. phase 11	
		Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML
R01	40	0	-	50	10	44	4	51	11	38	-	27	-	23	-	20	-	0	-	0	-	0	-
R02		7	-	40	-	44	4	42	2	38	-	34	-	29	-	11	-	2	-	7	-	3	-
R03		0	-	37	-	40	-	38	-	34	-	29	-	25	-	11	-	0	-	0	-	0	-
R04		18	-	32	-	35	-	33	-	29	-	24	-	20	-	11	-	13	-	18	-	14	-
R05		0	-	32	-	34	-	32	-	28	-	17	-	12	-	2	-	0	-	0	-	0	-
R06		15	-	31	-	32	-	30	-	26	-	20	-	50	10	0	-	10	-	15	-	11	-
R07		0	-	29	-	32	-	29	-	26	-	13	-	9	-	0	-	0	-	0	-	0	-
R08		0	-	29	-	31	-	29	-	25	-	17	-	24	-	0	-	0	-	0	-	0	-
R09		0	-	28	-	31	-	28	-	24	-	13	-	9	-	0	-	0	-	0	-	0	-
R10		0	-	27	-	30	-	28	-	24	-	12	-	8	-	0	-	0	-	0	-	0	-
R11		0	-	25	-	27	-	26	-	21	-	14	-	9	-	0	-	0	-	0	-	0	-
R12		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R13		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R14		0	-	21	-	24	-	21	-	18	-	6	-	2	-	0	-	0	-	0	-	0	-
R15		0	-	20	-	23	-	21	-	17	-	6	-	2	-	0	-	0	-	0	-	0	-
R16		0	-	21	-	25	-	22	-	19	-	5	-	4	-	0	-	0	-	0	-	0	-
R17		0	-	19	-	22	-	20	-	16	-	4	-	1	-	0	-	0	-	0	-	0	-
R18		0	-	17	-	20	-	18	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R19		0	-	17	-	20	-	17	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R20		0	-	17	-	19	-	16	-	13	-	3	-	4	-	0	-	0	-	0	-	0	-
R35		0	-	0	-	0	-	0	-	0	-	0	-	0	-	32	-	0	-	0	-	0	-
R36		0	-	0	-	3	-	0	-	0	-	0	-	0	-	22	-	0	-	0	-	0	-

Note: dark green shading = Host Receiver, light green = Associated Receiver, red = Non-associated Receiver

5.1.3 Evening and night outside of standard construction hours

As the NML is equivalent for both evening and night, both have been assessed simultaneously. Evening construction hours are 6 pm – 10 pm and night construction hours are 10 pm – 7 am.

A summary of the key findings include (refer to **Table 5-3**):

- Construction phases 2, 3, 4, 5 and 7 are the stages that have been predicted to impact receivers with noise greater than the NML. All other construction phases have been predicted to have no receivers experience noise greater than the NML
- R01, R02, R03 and R06 are the closest receivers to the majority of work and, as such, are consistently the receivers experiencing the greatest construction noise levels from the Project. Noise at R01 may be up to 16 dB(A) over the NML, noise at R02 may be up to 9 dB(A) over the NML, noise at R03 may be up to 5 dB(A) over the NML while noise at R06 may be up to 15 dB(A) greater than the NML
- Noise levels greater than the NMLs have been restricted to the Host and Associated Receivers, with no Non-associated Receivers predicted to experience noise greater than the NML.

Table 5-3 Predicted worst-case construction noise levels at residential receivers – evening and night outside of standard hours, dB(A)

Receiver	Evening and night out of hours NML (dB(A))	Predicted noise levels dB(A)																					
		Construct. phase 1		Construct. phase 2		Construct. phase 3		Construct. phase 4		Construct. phase 5		Construct. phase 6		Construct. phase 7		Construct. phase 8		Construct. phase 9		Construct. phase 10		Construct. phase 11	
		Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML
R01	35	0	-	50	15	44	9	51	16	38	3	27	-	23	-	20	-	0	-	0	-	0	-
R02		7	-	40	5	44	9	42	7	38	3	34	-	29	-	11	-	2	-	7	-	3	-
R03		0	-	37	2	40	5	38	3	34	-	29	-	25	-	11	-	0	-	0	-	0	-
R04		18	-	32	-	35	-	33	-	29	-	24	-	20	-	11	-	13	-	18	-	14	-
R05		0	-	32	-	34	-	32	-	28	-	17	-	12	-	2	-	0	-	0	-	0	-
R06		15	-	31	-	32	-	30	-	26	-	20	-	50	15	0	-	10	-	15	-	11	-
R07		0	-	29	-	32	-	29	-	26	-	13	-	9	-	0	-	0	-	0	-	0	-
R08		0	-	29	-	31	-	29	-	25	-	17	-	24	-	0	-	0	-	0	-	0	-
R09		0	-	28	-	31	-	28	-	24	-	13	-	9	-	0	-	0	-	0	-	0	-
R10		0	-	27	-	30	-	28	-	24	-	12	-	8	-	0	-	0	-	0	-	0	-
R11		0	-	25	-	27	-	26	-	21	-	14	-	9	-	0	-	0	-	0	-	0	-
R12		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R13		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R14		0	-	21	-	24	-	21	-	18	-	6	-	2	-	0	-	0	-	0	-	0	-
R15		0	-	20	-	23	-	21	-	17	-	6	-	2	-	0	-	0	-	0	-	0	-
R16		0	-	21	-	25	-	22	-	19	-	5	-	4	-	0	-	0	-	0	-	0	-
R17		0	-	19	-	22	-	20	-	16	-	4	-	1	-	0	-	0	-	0	-	0	-
R18		0	-	17	-	20	-	18	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R19		0	-	17	-	20	-	17	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R20		0	-	17	-	19	-	16	-	13	-	3	-	4	-	0	-	0	-	0	-	0	-
R35		0	-	0	-	0	-	0	-	0	-	0	-	0	-	32	-	0	-	0	-	0	-
R36		0	-	0	-	3	-	0	-	0	-	0	-	0	-	22	-	0	-	0	-	0	-

Note: dark green shading = Host Receiver, light green = Associated Receiver, red = Non-associated Receiver

5.1.4 Sleep disturbance

As described in **Section 3.4**, while the majority of construction work is expected to be done in standard hours, there is the potential for some work to be conducted at night. When construction is done at night, residents at receivers have the potential to experience sleep disturbance.

As shown in **Table 2-4**, the criterion for sleep disturbance are $L_{Aeq\ (15\ minute)}$ 40 dB(A) and L_{AMax} 52 dB(A). As an assessment against the criteria of $L_{Aeq\ (15\ minute)}$ of 40 dB(A) has already been assessed in **Section 5.1.2**, only a comparison to the L_{AMax} 52 dB(A) criteria has been discussed in this section.

A summary of the key findings include (refer to **Table 5-4**):

- Construction phase 4 has been predicted to impact R01 with noise up to but not exceeding the sleep disturbance criteria.
- Likewise, construction phase 7 has been predicted to impact R06 with noise up to but not exceeding the sleep disturbance criteria.
- All other construction phases have been predicted to produce noise lower than the sleep disturbance criteria at all receivers

Table 5-4 Predicted construction noise levels at residential receivers - sleep disturbance, dB(A)

Receiver	Sleep disturbance criteria (dB(A))	Predicted noise levels dB(A)																					
		Construct. phase 1		Construct. phase 2		Construct. phase 3		Construct. phase 4		Construct. phase 5		Construct. phase 6		Construct. phase 7		Construct. phase 8		Construct. phase 9		Construct. phase 10		Construct. phase 11	
		Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML
R01	52	0	-	51	-	45	-	52	-	39	-	28	-	25	-	22	-	0	-	0	-	0	-
R02		7	-	41	-	45	-	43	-	39	-	35	-	31	-	13	-	2	-	8	-	4	-
R03		0	-	38	-	41	-	39	-	35	-	30	-	27	-	13	-	0	-	0	-	0	-
R04		18	-	33	-	36	-	34	-	30	-	25	-	22	-	13	-	13	-	19	-	15	-
R05		0	-	33	-	35	-	33	-	29	-	18	-	14	-	4	-	0	-	0	-	0	-
R06		15	-	32	-	33	-	31	-	27	-	21	-	52	-	0	-	10	-	16	-	12	-
R07		0	-	30	-	33	-	30	-	27	-	14	-	11	-	0	-	0	-	0	-	0	-
R08		0	-	30	-	32	-	30	-	26	-	18	-	26	-	0	-	0	-	0	-	0	-
R09		0	-	29	-	32	-	29	-	25	-	14	-	11	-	0	-	0	-	0	-	0	-
R10		0	-	28	-	31	-	29	-	25	-	13	-	10	-	0	-	0	-	0	-	0	-
R11		0	-	26	-	28	-	27	-	22	-	15	-	11	-	0	-	0	-	0	-	0	-
R12		8	-	24	-	27	-	24	-	21	-	16	-	20	-	0	-	3	-	9	-	5	-
R13		8	-	24	-	27	-	24	-	21	-	16	-	20	-	0	-	3	-	9	-	5	-
R14		0	-	22	-	25	-	22	-	19	-	7	-	4	-	0	-	0	-	0	-	0	-
R15		0	-	21	-	24	-	22	-	18	-	7	-	4	-	0	-	0	-	0	-	0	-
R16		0	-	22	-	26	-	23	-	20	-	6	-	6	-	0	-	0	-	0	-	0	-
R17		0	-	20	-	23	-	21	-	17	-	5	-	3	-	0	-	0	-	0	-	0	-
R18		0	-	18	-	21	-	19	-	15	-	4	-	2	-	0	-	0	-	0	-	0	-
R19		0	-	18	-	21	-	18	-	15	-	4	-	1	-	0	-	0	-	0	-	0	-
R20		0	-	18	-	20	-	17	-	14	-	4	-	6	-	0	-	0	-	0	-	0	-
R35		0	-	0	-	0	-	0	-	0	-	0	-	0	-	34	-	0	-	0	-	0	-
R36		0	-	0	-	4	-	1	-	0	-	0	-	0	-	24	-	0	-	0	-	0	-

Note: dark green shading = Host Receiver, light green = Associated Receiver, red = Non-associated Receiver

5.2 Construction traffic noise

Construction traffic noise from the Project was assessed through the Roads and Maritime Services' *Construction and Maintenance Noise Estimator Tool*. Road traffic noise predictions were made at the nearest noise sensitive receivers to each of the roads in the primary route (see **Section 3.7**).

Noise from construction traffic increases the overall traffic noise by more than 2 dB along the majority of roads (**see Table 5-5**). However, due to the distances between receivers and the roads, the overall noise level would be lower than the assessment criterion. At Kidman Way and Jerilderie Street, where receivers are closer to the road and construction traffic is expected to be a significant noise contributor, construction traffic noise has been predicted to be greater than the RNP assessment criteria.

Table 5-5 Predicted construction traffic noise level at nearest noise sensitive receiver

Road	Time	Existing traffic noise level (dB(A))	Construction traffic noise level (dB(A))	Increase in noise level (dB)	Traffic noise criteria (dB(A))	Exceedance of criteria?
Liddles Lane	Day (7am – 10pm)	11.2	38.4	27.2	60	No
	Night (10pm – 7am)	15.1	30.5	15.4	55	No
Jerrys Lane	Day (7am – 10pm)	1.7	31.2	29.5	60	No
	Night (10pm – 7am)	5.6	32.5	26.9	55	No
Kidman Way	Day (7am – 10pm)	52.9	62.0	9.1	60	Yes
	Night (10pm – 7am)	55.7	59.9	4.2	55	Yes
Newell Highway	Day (7am – 10pm)	45.1	49.3	4.2	60	No
	Night (10pm – 7am)	48.5	50.0	1.5	55	No
Jerilderie Street	Day (7am – 10pm)	57.2	61.4	4.2	60	Yes
	Night (10pm – 7am)	59.7	60.7	1.0	55	No
Sturt Highway	Day (7am – 10pm)	51.2	53.7	2.5	60	No
	Night (10pm – 7am)	56.3	56.3	0.0	55	No

5.3 Construction vibration

Vibration impacts have the potential to occur during construction as a result of the usage of the vibratory roller, which would be employed during the access road construction. The nearest receiver is R06, located approximately 650 metres away. At these distances, no vibration impacts have been predicted. This has been summarised in **Table 5-6**.

Table 5-6 Predicted construction vibration at nearby receivers

Equipment	Human comfort setback distance	Cosmetic damage setback distance	Nearest receiver	Distance to receiver	Vibration impact likely?
Vibratory Roller (Large)	100m	25m	R06	647m	No

5.4 Decommissioning noise

As stated in **Section 3.6**, the activities and equipment adopted for the assessment of construction noise are an appropriate representation of the noise-producing activities during decommissioning, though the decommissioning will be undertaken under a shorter timeframe and hence noise and vibration impacts will be less temporally intensive. As such, the construction noise impacts displayed in **Section 5.1** are an appropriate representation of decommissioning noise.

6. Potential operational impacts

6.1 Wind turbine noise

6.1.1 Compliance at receivers

Noise levels predicted during operation at each of the Project sensitive receivers are presented in **Table 6-1**.

A summary of key findings include:

- Only receivers R01, R02, R03 and R04 have been predicted to receive noise levels greater than 30 dB(A), and of those, only R01 and R02 would experience noise levels greater than the criterion of 35 dB(A) defined in the Bulletin (NSW DPE, 2016). As those receivers are Host Receivers, they are subject to the less stringent indicative negotiated criteria of 45 dB(A), though a lower criterion could also be negotiated with the landowners while still maintaining compliance
- All other receivers, both Host/Associated and Non-associated have been predicted to experience noise compliant with the 35 dB(A) criterion.

Noise contour maps displaying the predicted noise propagation are displayed in **Appendix D**.

Table 6-1 Predicted WTG noise level at receivers

Receiver	Landowner type	Criteria (dB(A))	Noise level at wind speed (dB(A))											Exceedance of criteria?
			3m/s	4m/s	5m/s	6m/s	7m/s	8m/s	9m/s	10m/s	11m/s	12m/s	Cutoff	
R01	Host Receiver	45	22	22	25	28	32	35	36	36	36	36	36	No
R02	Host Receiver	45	22	22	24	28	32	35	36	36	36	36	36	No
R03	Host Receiver	45	21	21	23	27	31	34	35	35	35	35	35	No
R04	Non-associated Receiver	35	17	17	19	23	27	30	31	31	31	31	31	No
R05	Non-associated Receiver	35	15	15	18	22	25	28	29	29	29	29	29	No
R06	Associated Receiver	45	15	15	17	21	25	28	29	29	29	29	29	No
R07	Associated Receiver	45	13	13	15	19	23	26	27	27	27	27	27	No
R08	Associated Receiver	45	14	14	16	20	24	27	28	28	28	28	28	No
R09	Non-associated Receiver	35	12	12	15	19	22	25	26	26	26	26	26	No
R10	Associated Receiver	45	12	12	15	19	22	25	26	26	26	26	26	No
R11	Associated Receiver	45	15	15	17	21	24	27	29	29	29	29	29	No
R12	Non-associated Receiver	35	14	14	16	20	24	27	28	28	28	28	28	No
R13	Non-associated Receiver	35	13	13	16	20	23	26	27	27	27	27	27	No
R14	Non-associated Receiver	35	11	11	14	17	21	24	25	25	25	25	25	No
R15	Associated Receiver	45	10	10	12	16	20	23	24	24	24	24	24	No
R16	Non-associated Receiver	35	11	11	13	17	21	24	25	25	25	25	25	No
R17	Non-associated Receiver	35	11	11	13	17	20	23	25	25	25	25	25	No
R18	Non-associated Receiver	35	10	10	13	16	20	23	24	24	24	24	24	No
R19	Associated Receiver	45	9	9	11	15	19	22	23	23	23	23	23	No
R20	Host Receiver (outside of Project area)	45	9	9	12	16	19	22	23	23	23	23	23	No

6.1.2 Special noise characteristics

As discussed in **Section 2.3.3**, two noise characteristics (low frequency noise and tonal noise) occasionally associated with WTG noise may lead to noise impacts that may be potentially intrusive at receivers. As such, if these characteristics are present, the WTG noise may be subject to a penalty.

6.1.2.1 Low frequency noise

Where predicted noise levels greater than 60 dB(C) are predicted at a noise sensitive receiver, the WTG noise would be subject to a low frequency noise penalty. As displayed in **Table 6-2**, no receivers have been predicted to experience noise levels greater than 60 dB(C), and hence no low frequency noise penalty has been adopted.

Table 6-2 Predicted low frequency WTG noise level at receivers

Receiver	Landowner type	Criteria (dB(C))	Noise level at wind speed (dB(C))										Penalty triggered?
			3m/s	4m/s	5m/s	6m/s	7m/s	8m/s	9m/s	10m/s	11m/s	12m/s	Cutoff	
R01	Host Receiver	60	40	40	43	47	50	53	54	54	54	54	54	No
R02	Host Receiver		40	40	43	47	50	53	54	54	54	54	54	No
R03	Host Receiver		40	40	42	46	50	53	54	54	54	54	54	No
R04	Non-associated Receiver		37	37	40	44	47	50	51	51	51	51	51	No
R05	Non-associated Receiver		36	36	39	43	46	49	50	50	50	50	50	No
R06	Associated Receiver		36	36	38	42	46	49	50	50	50	50	50	No
R07	Associated Receiver		34	34	36	40	43	46	48	48	48	48	48	No
R08	Associated Receiver		35	35	38	42	45	48	49	49	49	49	49	No
R09	Non-associated Receiver		34	34	36	40	43	46	48	48	48	48	48	No
R10	Associated Receiver		33	33	36	40	43	46	47	47	47	47	47	No
R11	Associated Receiver		36	36	39	42	46	49	50	50	50	50	50	No
R12	Non-associated Receiver		36	36	38	42	46	48	50	50	50	50	50	No
R13	Non-associated Receiver		35	35	38	42	45	48	49	49	49	49	49	No
R14	Non-associated Receiver		33	33	36	40	43	46	47	47	47	47	47	No
R15	Associated Receiver		32	32	34	38	42	45	46	46	46	46	46	No
R16	Non-associated Receiver		33	33	36	40	43	46	47	47	47	47	47	No
R17	Non-associated Receiver		33	33	36	40	43	46	47	47	47	47	47	No
R18	Non-associated Receiver		33	33	35	39	43	45	47	47	47	47	47	No
R19	Associated Receiver		31	31	34	38	41	44	45	45	45	45	45	No
R20	Host Receiver (outside of Project area)		32	32	35	39	42	45	46	46	46	46	46	No

6.1.2.2 Tonal noise

Tonal impacts may take place where noise in a particular octave band is greater than the adjacent bands by a significant degree. Where a tone at a noise sensitive receiver, generated by a WTG is predicted to trigger the criteria (refer to **Section 2.4.5**) then a tonal noise penalty would apply.

The tonal assessment at R01 and R04, the most impacted associated receiver and non-associated receiver, respectively, have been displayed in **Table 6-3**. The tonal assessment at every receiver has been provided in **Appendix B.1**. No tonal noise impacts have been predicted, and hence no tonal noise penalty needs to be applied.

Table 6-3 Predicted tonal WTG noise level at R01 and R04

Receiver	Wind Speed	Measurement	1/3 octave band frequencies (dB(Z))																						
			25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1k Hz	1.25k Hz	1.6k Hz	2k Hz	2.5k Hz	3.15k Hz	4k Hz	5k Hz
R01 (Most impacted Associated receiver)	3 m/s	Predicted SPL	38.6	33.3	28.5	36.8	32.8	29.1	31.1	28	25.3	22.5	20.2	18.2	14.8	13.2	11.9	9.9	9.1	8.5	-6.7	-7	-7	-56.6	-56.4	-56
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	4 m/s	Predicted SPL	38.6	33.3	28.5	36.8	32.8	29.1	31.1	28	25.3	22.5	20.2	18.2	14.8	13.2	11.9	9.9	9.1	8.5	-6.7	-7	-7	-56.6	-56.4	-56
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	5 m/s	Predicted SPL	41.1	35.8	31	39.3	35.3	31.6	33.6	30.5	27.8	25	22.7	20.7	17.3	15.7	14.4	12.4	11.6	11	-4.2	-4.5	-4.5	-54.1	-53.9	-53.5
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	6 m/s	Predicted SPL	45	39.7	34.9	43.2	39.2	35.5	37.5	34.4	31.7	28.9	26.6	24.6	21.2	19.6	18.3	16.3	15.5	14.9	-0.3	-0.6	-0.6	-50.2	-50	-49.6
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	48.4	43.1	38.3	46.6	42.6	38.9	40.9	37.8	35.1	32.3	30	28	24.6	23	21.7	19.7	18.9	18.3	3.1	2.8	2.8	-46.8	-46.6	-46.2
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	8 m/s	Predicted SPL	51.3	46	41.2	49.5	45.5	41.8	43.8	40.7	38	35.2	32.9	30.9	27.5	25.9	24.6	22.6	21.8	21.2	6	5.7	5.7	-43.9	-43.7	-43.3
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	9 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	12 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A

Receiver	Wind Speed	Measurement	1/3 octave band frequencies (dB(Z))																						
			25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1k Hz	1.25k Hz	1.6k Hz	2k Hz	2.5k Hz	3.15k Hz	4k Hz	5k Hz
	13 m/s to cutoff	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level above left neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
R04 (Most impacted Non-associated receiver)	3 m/s	Predicted SPL	36.3	31	26.2	34.3	30.3	26.6	27.6	24.6	21.8	17	14.8	12.7	6.8	5.2	3.8	-1.5	-2.3	-2.9	-26.5	-26.7	-26.8	-106.8	-106.6	-106.2
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	4 m/s	Predicted SPL	36.3	31	26.2	34.3	30.3	26.6	27.6	24.6	21.8	17	14.8	12.7	6.8	5.2	3.8	-1.5	-2.3	-2.9	-26.5	-26.7	-26.8	-106.8	-106.6	-106.2
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	5 m/s	Predicted SPL	38.8	33.5	28.7	36.8	32.8	29.1	30.1	27.1	24.3	19.5	17.3	15.2	9.3	7.7	6.3	1	0.2	-0.4	-24	-24.2	-24.3	-104.3	-104.1	-103.7
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	6 m/s	Predicted SPL	42.7	37.4	32.6	40.7	36.7	33	34	31	28.2	23.4	21.2	19.1	13.2	11.6	10.2	4.9	4.1	3.5	-20.1	-20.3	-20.4	-100.4	-100.2	-99.8
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	46.1	40.8	36	44.1	40.1	36.4	37.4	34.4	31.6	26.8	24.6	22.5	16.6	15	13.6	8.3	7.5	6.9	-16.7	-16.9	-17	-97	-96.8	-96.4
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	8 m/s	Predicted SPL	49	43.7	38.9	47	43	39.3	40.3	37.3	34.5	29.7	27.5	25.4	19.5	17.9	16.5	11.2	10.4	9.8	-13.8	-14	-14.1	-94.1	-93.9	-93.5
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	9 m/s	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A

Receiver	Wind Speed	Measurement	1/3 octave band frequencies (dB(Z))																						
			25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1k Hz	1.25k Hz	1.6k Hz	2k Hz	2.5k Hz	3.15k Hz	4k Hz	5k Hz
	12 m/s	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to cut-off	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level above left neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level above right neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A

6.2 Substation and BESS noise

6.2.1 Compliance at receivers

As shown in **Section 3.10**, noise produced by the proposed BESS, collector and central substations (in particular the transformers proposed to be operated in the substations and PCS units) have the potential to produce noise which may be noticeable at the nearby receivers.

Noise levels associated with the substation options at each nearby receiver have been predicted and displayed in **Table 6-4**. Under both options all receivers experience noise below the most stringent PNTL (35 dB(A)), with only four receivers (R01, R02, R03 and R04) predicted to receive noise 20 dB(A) or greater. As such, noise from the Project substations is not predicted to result in noise impacts which would lead to a non-compliance with the PNTLs as defined by the NPI.

Noise contour maps displaying the predicted noise propagation are displayed in **Appendix E**.

Table 6-4 Predicted substation and BESS noise level at receivers

Receiver	Predicted noise level (dB(A))		Night project noise trigger level (dB(A))	Exceedance of PNTL?
	Option 1	Option 2		
R01	23	29	35	No
R02	27	25		No
R03	25	23		No
R04	20	21		No
R05	<20	<20		No
R06	<20	<20		No
R07	<20	<20		No
R08	<20	<20		No
R09	<20	<20		No
R10	<20	<20		No
R11	<20	<20		No
R12	<20	<20		No
R13	<20	<20		No
R14	<20	<20		No
R15	<20	<20		No
R16	<20	<20		No
R17	<20	<20		No
R18	<20	<20		No
R19	<20	<20		No
R20	<20	<20		No

Note: dark green shading = Host Receiver, light green = Associated Receiver, red = Non-associated Receiver

6.2.2 'Annoying' noise characteristics

As with WTGs, the substations may produce low frequency noise and tonal noise, both of which may result in a penalty to the overall noise levels.

6.2.2.1 Low frequency noise

As per **Section 2.1.3**, low frequency noise is assessed under the NPI through a two-step process. Firstly, the predicted C-weighted noise level is compared to the predicted A-weighted noise level at a receiver. Where the dB(C) level is not 15 dB greater than the dB(A) noise level, there is no low frequency noise impact. Where the dB(C) noise level is 15 dB or more greater than the dB(A) noise level, the third octave noise levels predicted at the receiver would be compared to the low frequency noise spectra presented in Table C2 of the NPI's Fact Sheet C. If the low frequency noise spectra predicted at a receiver is greater than the spectra displayed in Table C2, a penalty will apply.

As shown in **Table 6-5**, for both options the dB(C) noise level was at least 15 dB greater than the dB(A) noise level at the majority of receivers. As such, the octave data at these receivers have been compared to the spectra in Table C2 of the NPI's Fact Sheet C.

Table 6-5 Substation and BESS low frequency noise assessment - dB(A) and dB(C) comparison

Receiver	Option 1				Option 2			
	Predicted noise level (dB(A))	Predicted noise level (dB(C))	Difference in noise level (dB)	Further investigation required?	Predicted noise level (dB(A))	Predicted noise level (dB(C))	Difference in noise level (dB)	Further investigation required?
R01	22.6	35.8	13.2	No	29.4	42.3	12.9	No
R02	27.1	38.9	11.8	No	25.4	35.0	9.6	No
R03	25.4	38.4	13	No	23.1	34.7	11.6	No
R04	20.3	35.3	15	No	20.7	35.7	15	No
R05	14.5	32.2	17.7	Yes	18.4	35.1	16.7	Yes
R06	17.0	32.8	15.8	Yes	15.6	31.1	15.5	Yes
R07	9.2	27.2	18	Yes	8.4	17.1	8.7	No
R08	13.3	30.6	17.3	Yes	12.5	29.2	16.7	Yes
R09	8.9	27.6	18.7	Yes	7.7	16.7	9	No
R10	8.3	27.0	18.7	Yes	7.2	16.3	9.1	No
R11	15.6	33.3	17.7	Yes	13.4	31.6	18.2	Yes
R12	14.3	32.1	17.8	Yes	13.9	31.7	17.8	Yes
R13	13.8	31.9	18.1	Yes	13.3	31.5	18.2	Yes
R14	7.3	28.6	21.3	Yes	7.3	28.6	21.3	Yes
R15	3.5	13.4	9.9	No	3.5	13.4	9.9	No
R16	7.0	28.5	21.5	Yes	6.9	28.5	21.6	Yes
R17	7.0	28.6	21.6	Yes	7.0	28.7	21.7	Yes
R18	6.3	28.2	21.9	Yes	6.3	28.2	21.9	Yes

Receiver	Option 1				Option 2			
	Predicted noise level (dB(A))	Predicted noise level (dB(C))	Difference in noise level (dB)	Further investigation required?	Predicted noise level (dB(A))	Predicted noise level (dB(C))	Difference in noise level (dB)	Further investigation required?
R19	4.6	26.7	22.1	Yes	1.7	12.5	10.8	No
R20	5.5	27.5	22	Yes	1.9	13.0	11.1	No

Note: dark green shading = Host Receiver, light green = Associated Receiver, red = Non-associated Receiver

Table 6-6 compares the low frequency octave bands predicted at each receiver to the spectra displayed in Table C2 of the NPI. As displayed in the table, the predicted noise levels sit well below the spectra in Table C2, and, as such, no low frequency noise penalty needs to be applied for either option.

Table 6-6 Substation and BESS low frequency noise assessment - octave band comparison

Option	Receiver	1/3 octave band frequencies (dB(Z))												
		10 Hz	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz
	NPI Table C2 Threshold Level	92	89	86	77	69	61	54	50	50	48	48	46	44
Option 1	R05	-	24.8	18.1	11.9	25.5	20.2	15.4	30.6	26.6	22.9	22.2	19.2	16.4
	R06	-	25.0	18.4	12.1	25.7	20.5	15.7	30.9	26.9	23.2	22.9	19.9	17.1
	R07	-	22.2	15.5	9.3	22.2	16.9	12.1	25.9	21.9	18.2	12.5	9.5	6.7
	R08	-	24.0	17.3	11.0	24.4	19.2	14.4	29.2	25.1	21.4	19.4	16.4	13.6
	R09	-	22.5	15.8	9.6	22.5	17.3	12.5	26.4	22.3	18.6	13.2	10.2	7.4
	R10	-	22.2	15.5	9.3	22.1	16.9	12.1	25.7	21.6	18.0	11.9	8.8	6.1
	R11	-	25.5	18.8	12.5	26.2	21.0	16.2	31.6	27.5	23.8	24.2	21.1	18.4
	R12	-	24.8	18.1	11.9	25.4	20.2	15.4	30.5	26.5	22.8	22.1	19.1	16.3
	R13	-	24.7	18.0	11.8	25.3	20.1	15.3	30.4	26.4	22.7	21.8	18.8	16.0
	R14	-	23.0	16.3	10.1	23.3	18.0	13.2	27.5	23.5	19.8	15.1	12.1	9.3
	R16	-	23.0	16.3	10.0	23.2	17.9	13.1	27.4	23.4	19.7	14.9	11.8	9.1
	R17	-	23.1	16.4	10.1	23.3	18.0	13.2	27.6	23.5	19.8	15.2	12.1	9.4
	R18	-	22.9	16.2	9.9	23.0	17.8	13.0	27.2	23.1	19.4	14.2	11.2	8.4
	R19	-	22.1	15.4	9.2	22.0	16.8	12.0	25.6	21.5	17.9	10.5	7.4	4.7
	R20	-	22.5	15.8	9.6	22.6	17.3	12.5	26.5	22.4	18.8	12.5	9.5	6.8
Option 2	R05	-	26.5	19.8	13.6	27.4	22.2	17.3	33.0	29.0	25.3	26.8	23.8	21.0
	R06	-	24.1	17.4	11.2	24.6	19.3	14.5	29.3	25.3	21.6	19.9	16.9	14.1
	R08	-	23.2	16.6	10.3	23.5	18.2	13.4	27.7	23.7	20.0	16.8	13.8	11.0
	R11	-	24.5	17.8	11.6	25.1	19.8	15.0	30.1	26.0	22.3	21.2	18.2	15.4
	R12	-	24.6	17.9	11.7	25.2	19.9	15.1	30.2	26.1	22.4	21.5	18.4	15.7
	R13	-	24.5	17.8	11.5	25.0	19.8	15.0	30.0	26.0	22.3	21.0	18.0	15.2
	R14	-	23.0	16.3	10.1	23.2	18.0	13.2	27.4	23.4	19.7	15.0	12.0	9.2
	R16	-	23.0	16.3	10.1	23.2	17.9	13.1	27.4	23.3	19.6	14.8	11.7	9.0
	R17	-	23.1	16.4	10.1	23.3	18.0	13.2	27.6	23.5	19.8	15.2	12.2	9.4
	R18	-	22.9	16.2	9.9	23.0	17.8	13.0	27.2	23.1	19.4	14.2	11.2	8.4

Note: light green shading = associated receiver, red = non-associated receiver

6.2.2.2 Tonal noise

Tonal impacts resulting from the substations and BESS were assessed through the same method as assessing tonal impacts from WTGs. Where a tone at a noise sensitive receiver is identified via the assessment described in **Section 2.4.5**, a tonal noise penalty would apply.

The tonal assessment at the most impacted associated and non-associated receiver in both option have been displayed in **Table 6-6**. The tonal assessment at every receiver has been provided in **Appendix B.2**. As displayed in the tables, no tonal noise impacts have been predicted, and hence no tonal noise penalty needs to be applied for either option.

Table 6-7 Predicted tonal substation and BESS noise impact at most impacted receivers

Option	Receiver	Measurement	1/3 octave band frequencies (dB(Z))																						
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
Option 1	R02 (Most impacted associated receiver)	Predicted SPL	29.6	24.3	19.5	35.4	31.4	27.7	31.2	28.2	25.4	29.1	26.8	24.8	23.8	22.3	20.9	6.2	5.3	4.7	-13.3	-13.5	-13.5	-56.2	-56	-55.6
		Level above left neighbour	-	-5.3	-4.8	15.9	-4	-3.7	3.5	-3	-2.8	3.7	-2.3	-2	-1	-1.5	-1.4	-15	-0.9	-0.6	-18	-0.2	0	-42.7	0.2	0.4
		Level above right neighbour	5.3	4.8	-16	4	3.7	-3.5	3	2.8	-3.7	2.3	2	1	1.5	1.4	14.7	0.9	0.6	18	0.2	0	42.7	-0.2	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R04 (Most impacted non-associated receiver)	Predicted SPL	27.5	22.2	17.4	33	29	25.3	27	24	21.3	23.2	20.9	18.9	15.1	13.5	12.1	-5.2	-6	-6.6	-34	-34.3	-34.3	-107.2	-107	-106.5
		Level above left neighbour	-	-5.3	-4.8	15.6	-4	-3.7	1.7	-3	-2.7	1.9	-2.3	-2	-3.8	-1.6	-1.4	-17	-0.8	-0.6	-27.4	-0.3	0	-72.9	0.2	0.5
		Level above right neighbour	5.3	4.8	-16	4	3.7	-1.7	3	2.7	-1.9	2.3	2	3.8	1.6	1.4	17.3	0.8	0.6	27.4	0.3	0	72.9	-0.2	-0.5	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
Option 2	R01 (Most impacted associated receiver)	Predicted SPL	32.4	27.1	22.3	38.6	34.5	30.8	35.6	32.5	29.8	32.9	30.6	28.6	23.8	22.2	20.9	2.4	1.6	1	-25	-25.2	-25.3	-90.4	-90.1	-89.7
		Level above left neighbour	-	-5.3	-4.8	16.3	-4.1	-3.7	4.8	-3.1	-2.7	3.1	-2.3	-2	-4.8	-1.6	-1.3	-19	-0.8	-0.6	-26	-0.2	-0.1	-65.1	0.3	0.4
		Level above right neighbour	5.3	4.8	-16	4.1	3.7	-4.8	3.1	2.7	-3.1	2.3	2	4.8	1.6	1.3	18.5	0.8	0.6	26	0.2	0.1	65.1	-0.3	-0.4	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R04 (Most impacted non-associated receiver)	Predicted SPL	27.7	22.4	17.6	33.3	29.3	25.6	27.5	24.5	21.7	23.6	21.4	19.3	15.2	13.6	12.3	-5.1	-6	-6.5	-34	-34.3	-34.3	-107.2	-107	-106.5
		Level above left neighbour	-	-5.3	-4.8	15.7	-4	-3.7	1.9	-3	-2.8	1.9	-2.2	-2.1	-4.1	-1.6	-1.3	-17	-0.9	-0.5	-27.5	-0.3	0	-72.9	0.2	0.5
		Level above right neighbour	5.3	4.8	-16	4	3.7	-1.9	3	2.8	-1.9	2.2	2.1	4.1	1.6	1.3	17.4	0.9	0.5	27.5	0.3	0	72.9	-0.2	-0.5	-
		Penalty triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A

7. Cumulative impacts

Cumulative impacts have the potential to occur when impacts from a project interact or overlap with impacts from other projects and can potentially result in a larger overall effect (positive or negative) on the environment, businesses or local communities. Cumulative impacts may occur during construction stages when projects are constructed concurrently or consecutively. Projects constructed consecutively (or sequentially) can result in construction activities occurring over an extended period of time with little or no break in construction activities, potentially causing increased impacts and construction fatigue for local communities.

In the context of noise, cumulative impacts may occur when noise producing equipment or activities are undertaken together, amplifying the overall noise from the activities and potentially leading to combined noise limit exceedances. As such, cumulative noise impacts must be carefully managed by all proponents to assure intrusive noise is kept to a minimum. The following sections detail projects identified around the Project which may present a cumulative noise impact risk.

7.1 Project EnergyConnect

Project EnergyConnect is an approved project that involves the construction and operation of a high voltage interconnector between NSW and SA. The transmission project's eastern section includes new transmission lines between Wagga Wagga and Buronga, with a new Dinawan Terminal Station to be located next to Kidman Way about 55 kilometres south of Darlington Point. Noise impacts from the project has been assessed as part of the *EnergyConnect (NSW – Eastern Section) Technical Paper 10 – Noise and Vibration Impact Assessment* (WSP, 2021).

7.1.1 Construction noise

During the construction of the Project EnergyConnect transmission line, 823 Fernbank Road, Argoon (approximately 11 kilometres from the nearest WTG) would become impacted by noise up to 60 dB(A) (11 – 20 dB(A) greater than NMLs).

During the construction of this Project, noise levels at this receiver have not been predicted to exceed 30 dB(A) under any construction phase. As such it has been deemed unlikely to result in a cumulative construction noise impact at these receivers. No receivers identified in this Project were identified in the transmission line construction noise assessment, and due to the distances between the receivers and the transmission line, noise from the transmission line construction has been deemed to result in negligible noise at the receivers.

The assessment also found that no receivers would be impacted by noise greater than the NMLs during the construction of Dinawan Terminal Station. Given the distance between the substations and BESS to this project's receivers, cumulative construction noise impacts have been deemed unlikely.

7.1.2 Operational noise

Operational noise at Dinawan Terminal Station was assessed from 211 Liddles Lane and 137 Cadell Road, Jerilderie (both approximately 13 kilometres from the nearest WTG). Operational noise levels at these receivers were determined to be less than 20 dB(A) at both of these receivers. Both of these receivers sit well outside of the 30 dB(A) noise contour of the wind farm under the highest noise conditions. As such, a cumulative operational noise impact from the Dinawan Terminal Station and the Project has been deemed unlikely.

It has been identified that the transmission lines involved in Project EnergyConnect may produce a 'crackling', tonal noise during wet meteorological conditions. One residence, 823 Fernbank Road, Argoon (approximately 11 kilometres from the nearest WTG) may be impacted by transmission line noise of up to 38 dB(A). As 823 Fernbank Road sits well outside of the 30 dB(A) noise contour of the wind farm under the highest noise conditions, and that these conditions which induce transmission line noise are sporadic in nature, it is unlikely that a cumulative noise impact would occur.

General maintenance would also be undertaken along the transmission lines and at the substation. These noise impacts would be minor and transient in nature and would be unlikely to pose a cumulative noise impact.

7.1.3 Dinawan Energy Hub

The Dinawan Energy Hub (DEH) Project would involve the construction and operation of a hybrid wind, solar and battery storage project, with capacity up to 2.5GW, to be located between Coleambally and Jerilderie, west of the Kidman Way. The energy hub would connect to Project EnergyConnect.

An in-depth environmental impact assessment has yet to be performed for the DEH, however the proposed site boundary for the DEH indicates that the DEH would border the wind farm to the north and east, as would also extend further east of the Project. As the layout of the DEH is not yet determined, it is not possible to determine the overall cumulative construction and operational noise impact posed by DEH and the Project.

7.1.4 Victoria to NSW Interconnector West (VNI West)

The VNI West project is a proposed new interconnector between Victoria and NSW including a series of high voltage transmission lines and terminal stations that would link the regions of Murray River, Western Victoria, and South West NSW. The WNI West transmission route is indicated to link the Dinawan Terminal Station to Kerang, Bendigo and Ballarat, where the Western Victoria Transmission Network Project would be constructed.

While the transmission route is not yet finalised, it is understood that the transmission line would run south of the Dinawan Terminal Station, east of the Project. The extent of noise impacts can be predicted to be similar to construction and operation of the transmission lines of Project EnergyConnect (i.e. about 250 metres to each side of the transmission line alignment). Depending on the final alignment selection cumulative and/or operational noise impacts may occur. The development of the final route should be monitored to assess this risk.

7.2 Other identified projects and Projects

A number of other projects have also been identified around the Project, which have been predicted to not result in cumulative noise impacts. These projects have been displayed included in **Table 7-1**.

Table 7-1. Projects considered in the cumulative impact assessment

Project (approval status)	Brief project description	Potential cumulative impact?	Assessment of noise risk
Coleambally BESS (Planning)	Construction and operation of a 100MW / 200-400 MWh BESS including ancillary infrastructure in Coleambally, NSW. The BESS footprint would be about four hectares and is located near Kidman Way with proposed transmission connection to the Transgrid Coleambally substation.	No	The Coleambally BESS scoping report indicated that noise from the construction of the Project may have impacts up to 2km from the BESS' project site, with operational noise likely contributing less (though a general noise impact assessment buffer of 2km was adopted as well). As the BESS' boundary is 42km from the nearest receiver of this assessment (R05), cumulative impacts have been deemed unlikely.
Woodland BESS (Planning)	Construction and operation of a 200MW / 800MWh BESS located about 10 kilometres south of Darlington Point. This project is located next to the Darlington Point Solar Farm.	No	The Woodland BESS scoping report indicated that operational noise from the Project would not be audible at the BESS' site boundary. As the BESS' boundary is over 56km from the nearest receiver of this assessment (R05), cumulative operational noise impacts have been deemed unlikely. Construction noise impacts were not indicated, however noting the distance between projects, cumulative construction noise impacts have also been deemed unlikely.
Micro Solar Farm (Approved)	Construction and operation of a 5MW micro solar farm and associated infrastructure, located within the Coleambally Irrigation Area.	No	The Statement of Environmental Effects for the Micro Solar Farm indicated that impacts from the construction of the Project would not be above expected noise from surrounding agricultural activities. The operational noise has been predicted to be unlikely to cause a detrimental acoustic impact at any receiver in a 2km radius of the solar farm. As the solar farm's boundary is approximately 56km from the nearest receiver of this assessment (R05), cumulative impacts have been deemed unlikely.
Riverina and Darlington Point BESS (Approved)	Construction and operation of a combined 150MW / 300MWh three independent but co-located BESS projects.	No	A review of the Darlington Point BESS NVIA and modification NIA reports indicated that construction and operation noise impacts were isolated to the boundary of the BESS. As the BESS' boundary is nearly 56km from the nearest receiver of this assessment (R05) cumulative impacts have been deemed unlikely.

Project (approval status)	Brief project description	Potential cumulative impact?	Assessment of noise risk
Keri Keri Solar Farm (Planning)	Solar farm with a maximum insalled capacity of 500MW_p (MW-peak) and an alternating current capacity of up to 400 MW_n (MW- nominal). The project will also include ancillary infrastructure.	No	The Project and the proposed Keri Keri Solar Farm are located approximately 145km from one another. At these distances, cumulative noise impacts would be highly unlikely.
Keri Keri Wind Farm (Planning)	Construction, operation and maintenance of a wind farm with up to 176 wind turbine generators, BESS (up to 200 MW/800 MWh) and associated infrastructure.	No	The Project and the proposed Keri Keri Wind Farm are located approximately 130km from one another. At these distances, cumulative noise impacts would be highly unlikely.
Bullawah Wind Farm (Announced)	Construction, operation and maintenance of a wind farm with up to 170 wind turbine generators (up to 300m tip height), BESS and associated infrastructure. The project will have a capacity of 1000MW.	No	The southeasternmost extent of the True Blew Wind Farm property is located approximately 15km from the R11, and is 14km from the 30 dB(A) noise level from this Project's worst case WTG noise scenario. At these distances, it is unlikely that the WTG noise from the two projects would result in a significant cumulative noise impact.
Baldon Wind Farm (Planning)	Construction, operation and maintenance of a wind farm with up to 162 wind turbine generators, BESS and associated infrastructure.	No	The Project and the proposed Baldon Wind Farm are located approximately 115km from one another. At these distances, cumulative noise impacts would be highly unlikely.

7.3 Construction traffic noise

Although most of the construction and operational activities detailed above are not predicted to produce a cumulative noise impact with the project, a number of roads to be utilised to access the project (such as the Newell Highway, Jerilderie Street, Kidman Way and Sturt Highway) may be used by other projects in the area. As such, contractors should discuss haulage routes and road access to determine if any cumulative construction traffic impacts may occur during the construction of the projects.

7.4 Mitigation measures

A number of mitigation measures can be adopted between Virya Energy and the proponents of other projects to manage potential cumulative noise impacts from the construction and operation of the projects. These have been included into the environmental management measures listed in **Chapter 8**.

8. Environmental management measures

The following management measures detailed in **Table 8-1** have been developed to specifically manage potential noise and vibration impacts which have been predicted during construction of the Project. As such, a number of standard noise mitigation measures from the *Construction Noise and Vibration Guidelines* (RMS, 2016) have been recommended to address these potential impacts.

No vibration impacts have been predicted as a result of the construction of the Project. However, mitigation measures from *Assessing Vibration: a technical guideline*, (DECC, 2006) have been provided in the event that the proponents seeks to further control vibration impacts.

These mitigation measures will also be appropriate for addressing noise and vibration impacts during the decommissioning process.

Table 8-1 Noise and vibration environmental management measures

Impact	Reference	Environmental management measure	Responsibility	Timing
Construction noise	NV1	A Construction Noise Management Plan will be developed as part of the CEMP to address noise where it is likely to be greater than the applicable NMLs.	Proponent	Prior to construction
General construction and operational noise and vibration	NV2	A complaints line will be established for nearby residents to contact regarding noise from the construction and operation of the Project.	Proponent	Prior to construction
General construction noise and vibration	NV3	Where reasonable and feasible, standard noise mitigation measures from the Construction Noise and Vibration Guidelines (RMS, 2016) will be adopted, including: ▪ Wherever possible and safe, limit work to standard hours of construction ▪ Select low-noise plant and equipment ▪ Ensure equipment mufflers operate in a proper and efficient manner ▪ Where possible, use quieter and less vibration emitting construction methods ▪ Only have necessary equipment on-site and turn off when not in use ▪ Where possible, concentrate noisy activities at one location and move to another as quickly as possible ▪ Vehicle movements, including deliveries outside standard hours, would be minimised and avoided where possible ▪ All plant and equipment is to be well maintained and, where possible, fitted with silencing devices ▪ Use only the necessary size and powered equipment for tasks ▪ Implement training to induct staff on noise sensitivities ▪ Where possible, consider the application of less intrusive alternatives to reverse beepers such as 'squawker' or 'broadband' alarms ▪ Consider the installation of temporary construction noise barriers or earth mounds for concentrated, noise-intensive activities ▪ Where practicable, install enclosures around noisy mobile and stationary equipment as necessary	Contractor, Proponent	Prior to construction, construction, operation, decommissioning

Impact	Reference	Environmental management measure	Responsibility	Timing
		▪ Where possible, avoid simultaneous operation of two or more noisy plant close to receivers ▪ The offset distance between noisy plant and sensitive receivers would be maximised ▪ Plan traffic flow, parking and loading/unloading areas to minimise reversing movements ▪ Complete routine monitoring to evaluate construction noise levels and evaluate whether the mitigation measures in place are adequate or require revision		
General construction vibration	NV4	Where reasonable and feasible, standard vibration mitigation measures will be adopted from the *Assessing Vibration: a technical guideline*, (DECC, 2006), including: ▪ Choosing alternative, lower-impact equipment or methods wherever possible ▪ Scheduling the use of vibration-causing equipment at the least sensitive times of the day (wherever possible) ▪ Locating high vibration sources as far away from sensitive receiver areas as possible ▪ Sequencing operations so that vibration-causing activities do not occur simultaneously ▪ Keeping equipment well maintained ▪ Do not conduct vibration intensive work within the recommended safe setback distances ▪ Informing nearby receivers about the nature of construction phases and the vibration-generating activities.	Contractor, Proponent	Prior to construction, construction, operation, decommissioning
Construction traffic noise	NV5	To minimise construction traffic noise, the following will be implemented where required: ▪ Revising vehicle routes and scheduling to reduce heavy vehicle traffic along roads predicted to experience construction traffic noise impacts ▪ Avoiding the use of compression brakes ▪ Ensuring vehicles are adequately silenced before leaving or accessing the Project area.	Proponent, Other Project Proponent(s), Contractor	Prior to construction, construction, operation, decommissioning
Operational noise	NV6	Once the wind turbine, BESS and substation layouts are finalised and the final WTG, BESS and substation components and technology is selected, noise modelling will be revised and predicted noise levels will be updated to ensure it will comply with the criteria.	Proponent, Other Project Proponent(s), Contractor	Detailed design
	NV7	In the event that turbine emissions are found to exceed the contracted values from the turbine supplier, the supplier will be required to implement measures to reduce the noise to the contracted	Proponent, Other Project	Detailed design

Impact	Reference	Environmental management measure	Responsibility	Timing
		value. This can include measures to rectify manufacturing defects or appropriate control settings. The determination of the control settings should be performed through a noise assessment, considering the potential controls required at each turbine to address noise non-compliances most effectively. It is noted that the turbines selected feature 'Low Noise Operations' modes, which could be utilised to manage the settings and noise levels of the turbines where it has been identified as necessary.	Proponent(s), Contractor	
	NV8	An Operational Noise Management Plan will be developed and will include: ▪ Demonstration of compliance with noise criteria ▪ Noise testing procedures Reporting details and timeframes.	Proponent, Other Project Proponent(s), Contractor	Prior to operation
	NV9	Noise monitoring will be undertaken in accordance with the NSW Noise Assessment Bulletin to ensure compliance with criteria.	Proponent, Other Project Proponent(s), Contractor	Operation
Cumulative noise impacts	NV10	Work schedules and timings will be discussed with the proponents of other nearby developments to gain an understanding of when noisy work may take place concurrently. Should respectively project schedules and work priorities change, proponents will seek to commit to regular meetings to ensure all proponents are aware of the changes.	Proponent, Other Project Proponent(s), Contractor	Prior to construction, construction
	NV11	Where possible, work will be scheduled to occur at different times of the day to prevent multiple noisy activities from taking place at the same time.	Proponent, Other Project Proponent(s), Contractor	Construction
	NV12	Where possible, schedule work to take place at different locations within the Project area to prevent noisy activities from taking place in close proximity to one another which will limit the amplification of the noise.	Proponent, Other Project Proponent(s), Contractor	Construction

9. Conclusion

9.1 Construction

Noise impacts at the adjacent receivers associated with the construction of the Project have been assessed against the NMLs for standard construction hours, as well as out of hours periods. Generally, construction phases 2, 4 and 7 produced the highest noise impacts at receivers, primarily due to the sound power level of the activities involved and the spatial extent of work. Four Host or Associated receivers (R01, R02, R03 and R06) were identified as experiencing noise greater than NMLs at certain stages. Of these, two receivers (R01 and R06) were predicted to be the most impacted, with noise levels potentially reaching up to 16 dB(A) above the NMLs during the evening and night period. Noise levels greater than the respective NMLs have not been predicted at any non-associated receiver.

No Non-associated receivers were identified as experiencing noise greater than the NML at any stage or time of day.

Along the majority of roads, due to the distances between the receivers and roads, the overall noise level is lower than the assessment criterion. However, at two roads where receivers are closer to the road and construction traffic is expected to be a significant noise contributor, Kidman Way and Jerilderie Street, construction traffic noise has been predicted to be greater than the NSW Road Noise Policy (RNP) (DECCW, 2011) assessment criteria.

The construction sites where vibration-intensive construction activities are expected to occur are located at significant distances from the nearest vibration-sensitive receivers. Due to these significant distances, no vibration impacts are expected to occur during the construction of the Project. Nevertheless, vibration mitigation strategies from *Assessing Vibration: a technical guideline*, (DECC, 2006) have been provided as general advice for the Project.

9.2 Operation

Wind turbines have not been predicted to produce noise impacts greater than the Bulletin's 35 dB(A) baseline criteria at any non-associated receiver, hence no mitigation has been deemed necessary for these receivers. However, noise at R01 and R02, two Associated Receivers, has been predicted to be slightly 1dB(A) greater than 35 dB(A).

No low frequency or tonal noise impacts have been predicted to result from the WTGs, and as such no mitigation targeting these noise characteristics has been deemed necessary.

As with WTG noise, noise from the two substation and BESS options have not been predicted to result in any exceedances of the NPI's noise limits. As such, no mitigation to address the substations' noise impacts have been found to be necessary.

Likewise, no low frequency or tonal noise impacts have been predicted to result from the substation and BESS options, and as such no mitigation targeting these noise characteristics has been found to be necessary.

9.3 Decommissioning

Decommissioning activities have been predicted to produce noise and vibration to a similar extent as was predicted for construction. As such, construction mitigation measures have been deemed appropriate to address decommission noise and vibration.

9.4 Cumulative noise

Due to the proximity of the project to other existing and in-construction projects in the region, cumulative impacts with these projects have not been predicted to occur. However, three projects, Dinawan Energy Hub (announced), Victoria to NSW Interconnector West (announced) and Project EnergyConnect (approved), will be located significantly closer to the project and may pose a cumulative noise risk during construction (if construction schedules coincide) and during operation (cumulative noise between both BESS and ancillary infrastructure, as well as cumulative turbine noise).

Due to the Dinawan Energy Hub and VNI West both being in the early stages of design, it is not possible at this stage to predict cumulative noise impacts with these projects.

Construction and operational noise impacts from Project EnergyConnect, as detailed in *EnergyConnect (NSW – Eastern Section) Technical Paper 10 – Noise and Vibration Impact Assessment* (WSP, 2021) have been compared to this project's predicted noise. It was found that during both construction and operation, cumulative noise impacts are unlikely to occur.

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Appendix A. Draft construction noise and vibration management plan

Construction Noise and Vibration Management Plan

Virya Energy

Yanco Delta Wind Farm
29 June 2022



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1. Introduction

1.1 Context

This Draft Construction Noise and Vibration Management Plan (CNVMP) has been developed to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the Yanco Delta Wind Farm ('The Project') on 30th May 2022 by the Planning Secretary of the NSW Department of Planning and Environment (DPE). The SEARs specifically refer to the preparation of a draft noise management plan in the event that construction noise impacts were identified. The full noise SEARs are detailed below.

> *"Assessment of the construction noise under the Interim Construction Noise Guideline (DECC, 2009) and a draft noise management plan if the assessment shows construction noise is likely to exceed applicable criteria)."*

The Project would be located within the South-West Renewable Energy Zone (REZ), 10 kilometres north-west of the town of Jerilderie, within the Murrumbidgee Council and Edward River Council Local Government Areas (LGAs) (refer to **Figure 1-1**).

1.1.1 Purpose

The purpose of this CNVMP is to provide details on the framework of mitigation and management measures proposed to address potential noise and vibration impact resulting from the construction of the Project. It is not the intention of this CNMP to reproduce assessment methodology and noise impact prediction and this CNVMP should be read in conjunction with the *Yanco Delta Wind Farm Technical Report - Noise and Vibration* (Jacobs, 2022) to the extent necessary.

1.1.2 Scope

This CNVMP has been developed to address construction works specifically occurring in relation to the Project under a prospective approval provided by DPE in order to fulfil the requirements of the SEARs. The scope of the CNVMP will continue to be developed through the incorporation of Conditions of Approval and licence requirements, as well as updated Project information throughout the detailed design process.

1.1.3 Objectives

The CNVMP has been prepared to ensure that all Conditions of Approval (CoAs), management and mitigation measures detailed in the Environmental Impact Statement (EIS) and Response to Submissions (RtS) report and all other licence and permit requirements have been adequately described, assigned and scheduled. The documents with requirements that have been addressed include:

- The EIS prepared for the Yanco Delta Wind Farm (when accepted by DPE)
- RtS (when accepted by DPE)
- Conditions of Approval (upon receipt)
- Environmental Protection Licence (upon receipt).

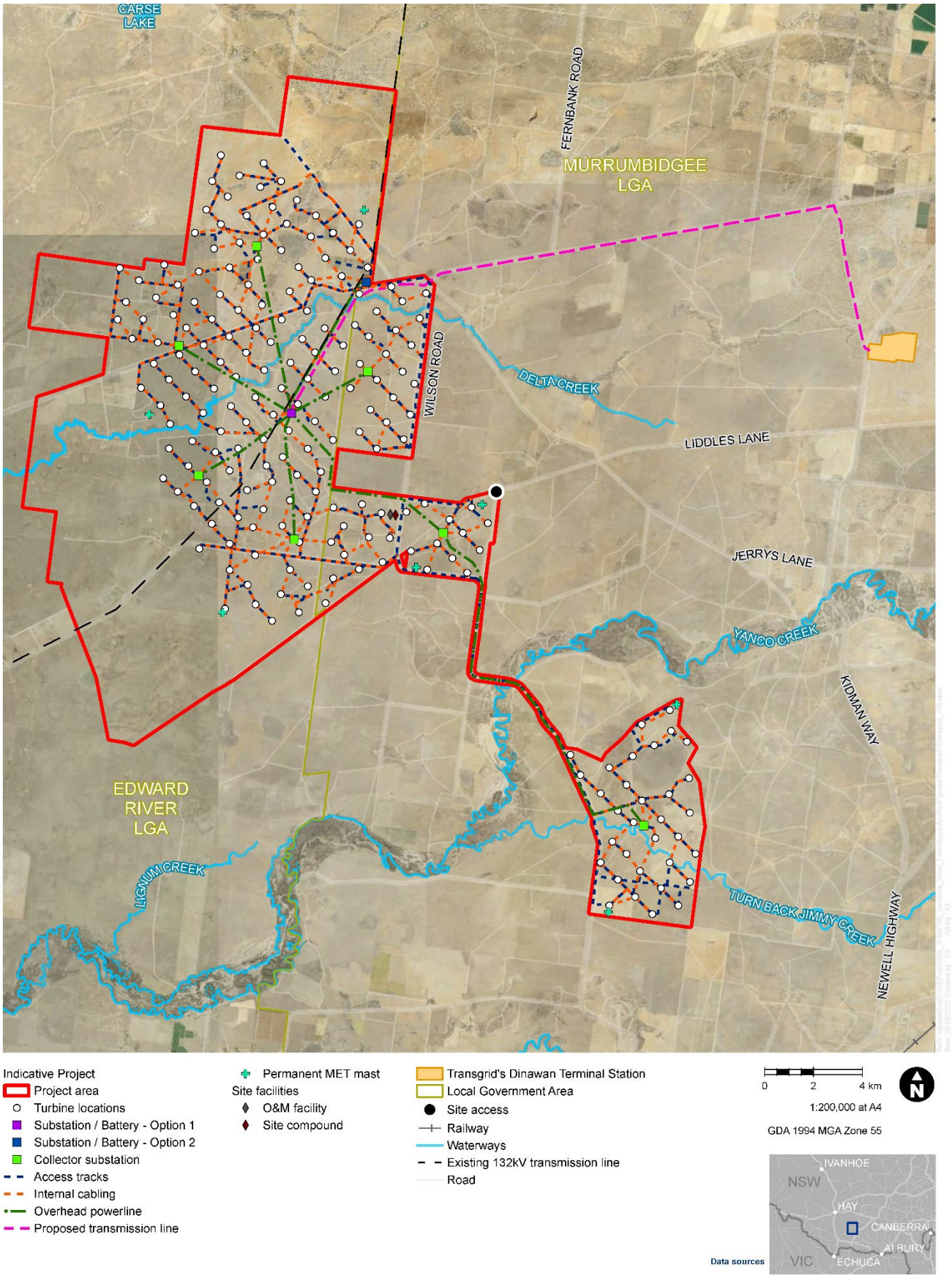


Figure 1-1 Project area and layout

1.1.4 Goals and targets

The following goals and targets have been established to guide the management of noise and vibration impacts from the construction of the Project:

- Compliance with all CoAs, Environment Protection Licence (EPL) requirements and all other regulatory requirements
- Consideration of all construction-related noise mitigation measures detailed in the EIS and RtS report
- Ensure training and inductions pertaining to noise and vibration management are provided to all staff working on site prior to starting work
- Assure all noise and vibration impacts are implemented in an efficient manner
- Avoid noise complaints and manage all community noise concerns in a timely manner
- Produce no exceedances of relevant noise and vibration limits.

1.2 Project background and description

1.2.1 Project description

The Project involves the construction, operation and maintenance of a wind farm comprising of up to 208 WTGs with a maximum tip height of 270 meters and hub height of 180 metres. The wind farm would have a capacity of up to approximately 1500 megawatts (MW).

The major ancillary infrastructure that is part of the Project would be a 800 MW/800 MWh Battery Energy Storage System (BESS). The Project also includes the following supporting permanent ancillary infrastructure and temporary facilities:

- Permanent ancillary infrastructure:
  - Operation and Maintenance facility
  - Internal roads
  - Hardstands
  - Underground and overhead cabling
  - Wind monitoring masts
  - Central primary substations with up to 8 collector substations.
- Temporary facilities:
  - Site compounds
  - Laydown areas
  - Stockpiles
  - Gravel borrow pit(s) and concrete batch plants.

The Project would connect to a separate Project, the Transgrid Dinawan substation, which is scheduled to be completed as part of the Transgrid Project EnergyConnect (Eastern) in 2025.

1.2.2 Project objectives

The Project would contribute to meeting Commonwealth and NSW government renewable energy objectives and would be located within the South-West REZ, a defined area planned for renewable energy development.

Specific Project objectives include:

- Contribute to and support the development of the South-West REZ by providing renewable energy generation capacity and improving the security, stability and resilience of the National Electricity Market (NEM)

- Facilitate the NSW shift away from coal fired power generation and supporting local communities in this transition towards clean and renewable sources of energy
- Avoid, minimise and mitigate adverse impacts on the environment and community during construction and operation
- Establish a strong network of positive and long-term relationships within the local community and contribute to economic and social growth
- Provide energy storage for sustainable renewable energy to enable continuous and reliable electricity output as part of a rapidly expanding industry in NSW.

1.2.3 Construction works

The construction methodology for the Project will be developed in more detail during the preparation of the detailed design however it is expected to involve:

- Site set-up and civil works, including lay down areas, across the whole Project area
- The construction of the internal road network connecting each turbine location
- Excavation at each turbine location and constructing the foundation for the turbine
- Construction and installation of underground electrical cabling for the internal electrical network
- Delivery, installation and erection of the turbines
- Testing and commissioning activities
- Construction of electrical substations
- Construction and installation of overhead transmission lines for connection to the power grid proposed Dinawan Terminal Substation
- Decommissioning of temporary structures and rehabilitation of construction areas

1.2.3.1 Construction program

The Yanco Delta Wind Farm is expected to enter construction in late 2024/2025 (subject to approval) and have a duration of approximately 3 years. Construction works would generally be completed during the standard construction hours of:

- Monday-Friday 0700-1800
- Saturday 0800-1300.

With some works potentially being completed out of standard hours, including evenings and night construction. These activities include:

- Work to prevent damage to concrete tower bases and trenches
- Work to reduce the safety risk of open trenches and reduce the risk of tower self-oscillation
- Concrete pours, in-ground electrical work and WTG installation
- Work determined to comply with the relevant NML at the nearest sensitive receiver
- The delivery of materials outside approved hours as required by the NSW Police or other authorities for safety reasons
- Emergency situations where it is required to avoid the loss of lives and properties and/or to prevent environmental harm
- Situations where agreement is reached with Project landowners and neighbours.

1.2.3.2 Construction workforce

The Project is anticipated to require the recruitment and training of a construction workforce of up to 300 people during peak construction periods.

2. Existing environment

As part of the *Yanco Delta Wind Farm Noise Impact Assessment Report* (Jacobs, 2022), the pre-existing land use around the site was delineated and the nearby noise and vibration sensitive receivers were identified, as detailed below.

2.1 Land use context

The Project area and surrounding areas are currently zoned as RU1 Primary Production under the Conargo Local Environmental Plan 2013 and the Jerilderie Local Environmental Plan 2012. The Project area is used predominately for sheep grazing and agriculture.

Land use surrounding the Project area is described as follows:

- The surrounding area is predominantly comprised of farmland or unused land with very few receivers which are sparsely distributed
- The rural town of Jerilderie is located 10 kilometres to the south-east of the Project, which features predominantly residential and commercial properties, along with a small airstrip
- Oolambeyan National Park is located about 35 kilometres north-west of the Project, as well as scattered nature reserves located further than 35 kilometres away.

2.2 Existing noise context

Background noise monitoring was not conducted for this Project. As such, guidance from the Noise Policy for Industry (NSW EPA, 2017) (NPI) was adopted to determine the appropriate background noise levels to adopt for assessment. Table 2.1 of the NPI defines 'Minimum assumed rating background noise levels (RBLs)', which are the lowest RBLs to be adopted for an assessment under the Policy. In the absence of actual monitoring data, these minimum assumed RBLs have been adopted as the RBLs for all receivers within the Project area.

The usage of the minimum assumed rating background noise levels is considered a conservative assumption. However, as the Project and the immediate surrounding areas are generally rural and undeveloped, the minimum levels have also been considered to be an appropriate representation of the local acoustic environment. The minimum assumed rating background noise levels adopted for the assessment are detailed in **Table 2-1** below.

Table 2-1 Project assumed RBLs

Location	Rating background noise level L_{A90} dB(A)		
	Day (7:00 am to 6:00 pm)	Evening (6:00 pm to 10:00 am)	Night (10:00 pm to 7:00 am)
All receivers (Minimum assumed rating background noise level)	35	30	30

2.3 Noise sensitive receivers

Receivers have been broken down into the following groups:

- **Host Receivers** – refers to residences within the Project area and located on land hosting WTGs or related infrastructure, and owners and occupiers of land required for access during construction and/or operation. Each have signed Option to Lease agreements. Noting that one Host Landowner has a dwelling at R20
- **Associated Receivers** – refers to residences not located on land within the Project Area or hosting infrastructure, however the Proponent has a negotiated agreement in place with the landowner regarding Project impacts, and are therefore associated with the Project

- **Non-associated Receivers** – refers to residences located outside the Project area and not associated with the Project (i.e. no negotiated agreement is in place).

A total of 20 receivers have been identified within 8 kilometres from Project infrastructure (i.e. WTGs) , along with two receivers along the proposed transmission line to Dinawan Terminal Station. All receivers are residential and are displayed in **Table 2-2** and **Figure 2-1**.

Table 2-2 Noise sensitive receivers identified in the vicinity of the Project

Receiver	Classification	Nearest turbine	Nearest turbine distance (m)
R01	Host Receiver	W-008	2030.2
R02	Host Receiver	W-142	2062.4
R03	Host Receiver	W-134	2660.3
R04	Non-Associated Receiver	W-153	3642.8
R05	Non-Associated Receiver	W-001	4061.6
R06	Associated Receiver	W-185	4203.7
R07	Associated Receiver	W-202	4338.2
R08	Associated Receiver	W-185	4457.1
R09	Non-Associated Receiver	W-205	4599.2
R10	Associated Receiver	W-202	4714.6
R11	Associated Receiver	W-046	5512.8
R12	Non-Associated Receiver	W-153	5680.1
R13	Non-Associated Receiver	W-177	5770.9
R14	Non-Associated Receiver	W-177	6171.9
R15	Associated Receiver	W-202	6446.6
R16	Non-Associated Receiver	W-177	6545.6
R17	Non-Associated Receiver	W-177	6607.3
R18	Non-Associated Receiver	W-177	7212.1
R19	Associated Receiver	W-205	7307.1
R20	Host Receiver (outside of Project area)	W-205	7535.0
R35	Non-Associated Receiver	N/A	>1km (from transmission line)
R36	Non-Associated Receiver	N/A	>1km (from transmission line)

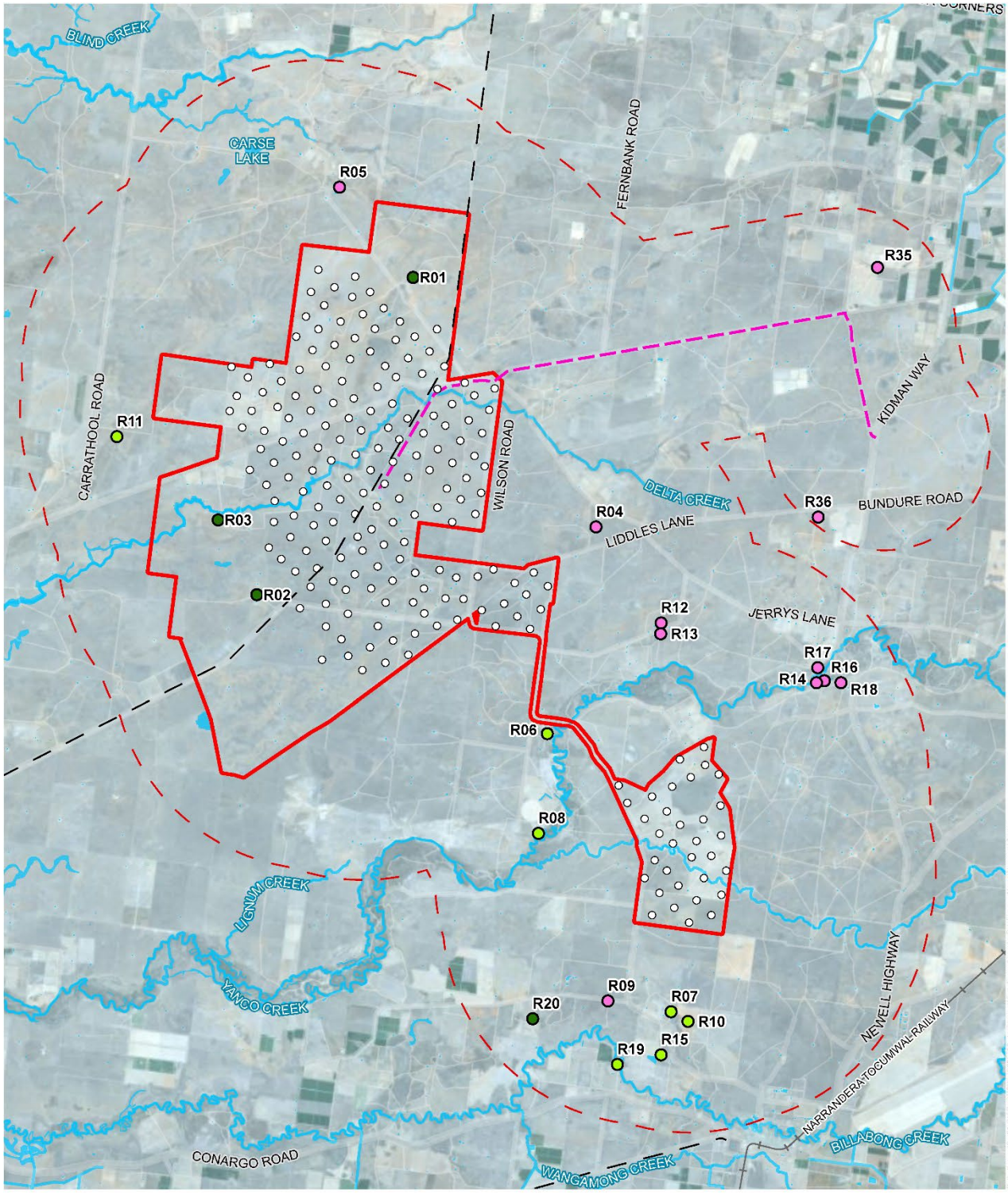


Figure 2-1 Noise sensitive receivers identified in the vicinity of the Project

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2.4 Vibration sensitive receivers

Certain receivers and structures, such as medical centres, precision industry and heritage structures are typically more susceptible to vibration and are subject to more stringent criteria. The nearest medical centre to the Project site is Jerilderie Medical Centre which is located approximately 10 kilometres south-east of the site. The closest heritage item that has been identified in the vicinity of the Project area is The Yanko Store, located approximately 6 kilometres from the Project. No precision industries have been identified within the vicinity of the Project area. At these distances, no vibration impacts from the Project have been predicted.

3. Regulatory requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation

Legislation applicable to the development and implementation of the CNVMP includes:

- EP&A Act as enforced through application of CoA
- Protection of the Environment Operations Act as enforced through applicable Environmental Protection Licence.

3.1.2 Guidelines

The main guidelines, standards and policies relevant to this CNVMP include:

- NSW Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009)
- NSW Road Noise Policy (Department of Environment and Climate Change, 2011)
- Roads and Maritime: Construction Noise and Vibration Guideline (RMS, 2016)
- Assessing Vibration: A technical guideline (Department of Environment and Conservation, 2006)
- British Standard BS 7385-2:1993 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from ground borne vibration
- British Standard BS 6472-1: 2008 Guide to evaluation of human exposure to vibration in buildings Part 1: Vibration sources other than blasting
- German Standard DIN 4150-3:2016 Vibrations in buildings – Part 3: Effects on structures.

3.2 Minister's conditions of approval

Following the approval of the Project and the development of the CoA, the CoAs relevant to the CNVMP will be listed in this section.

3.3 Other requirements relevant to the development of this plan

Following the lodgement of the EIS and RtS report, the finalised environmental requirements will be listed in this section.

3.4 Consultation

This plan is to be provided to the relevant authorities and landholders as required by the received CoAs.

3.5 Cumulative noise impacts

Due to the proximity of the project to other existing and in-construction projects in the region, cumulative impacts with these projects have not been predicted to occur. However, three projects, Dinawan Energy Hub (announced), Victoria to NSW Interconnector West (announced) and Project EnergyConnect (approved), will be located significantly closer to the project and may pose a cumulative noise risk during construction (if construction schedules coincide) and during operation (cumulative noise between both BESS and ancillary infrastructure, as well as cumulative turbine noise).

Due to the Dinawan Energy Hub and VNI West both being in the early stages of design, it is not possible at this stage to predict cumulative noise impacts with these projects.

Construction and operational noise impacts from Project EnergyConnect, as detailed in *EnergyConnect (NSW – Eastern Section) Technical Paper 10 – Noise and Vibration Impact Assessment* (WSP, 2021) have been compared to this project's predicted noise. It was found that during both construction and operation, cumulative noise impacts are unlikely to occur.

Where construction activities in the vicinity of the Project are identified, consultation with the proponents will be undertaken to coordinate the works to minimise construction noise impacts in accordance with any relevant CoAs.

4. Noise and Vibration Objectives

4.1 Summary of Objectives

The relevant policies and standards used to determine construction noise and vibration mitigation and management objectives are listed in **Table 4-1**.

Table 4-1 Summary of noise and vibration objectives

Impact	Relevant policy, standard and/or guideline used to establish noise and vibration management levels
Work Hours	Conditions of Approval EPLs
Airborne Noise	Conditions of Approval Interim Construction Noise Guideline
Human Comfort Vibration Impact	Conditions of Approval Assessing Vibration: A technical guideline
Cosmetic Building Damage Vibration Impact	Conditions of Approval BS 7385-2:1993 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from ground borne vibration AS2187.2 – 2006 Explosives – Storage and use Part 2: Use of explosives
Heritage Structure Damage Vibration Impact	Conditions of Approval DIN 4150-3 Vibrations in buildings – Part 3: Effects on structures
Buried Services Damage Vibration Impact	Conditions of Approval DIN 4150-3 Vibrations in buildings – Part 3: Effects on structures

4.2 Construction hours

Construction work has been scheduled to take place predominately during the Interim Construction Noise Guideline's standard construction hours (i.e. Monday to Friday 7 am to 6 pm as well as Saturday 8 am to 1 pm), with the potential of some work being conducted outside these hours. Construction hours are nominated as part of the impact assessment process and will be finalised by the determination of the CoAs.

If any works must unavoidably take place outside of the standard hours and where required by CoAs, an Out-of-Hours Work Protocol would be prepared to identify a process for the consideration, management and approval of work which is outside those hours, as well as any hours approved under the CoAs or EPL.

4.3 Airborne construction noise objectives

4.3.1 Noise management levels

The ICNG establishes noise management levels (NMLs) for recommended standard construction hours and for outside of the recommended standard hours. Construction is considered to have the potential to cause a noise impact if the predicted noise exceeds the applicable noise management level. Considering the adopted RBLs presented in **Table 2-1**, the NMLs for the identified surrounding residential receivers are presented in **Table 4-2**.

Table 4-2 Construction noise management levels (residential receivers)

Receiver	NML $L_{eq\ 15min}$ dB(A)			
	Day (during standard hours) 7:00 am – 6:00 pm Weekdays, 8:00 am – 1:00 pm Saturdays	Day (outside of standard hours) 7:00 am – 6:00 pm Outside of Standard Hours	Evening 6:00 pm – 10:00 pm	Night 10:00 pm – 7:00 am
All Receivers	45*	40*	35*	35*

The ICNG also provides construction NMLs for non-residential land uses. These are presented in **Table 4-3**.

Table 4-3 ICNG NMLs for non-residential receivers

Non-residential receiver type	Noise management level, $L_{Aeq(15min)}$ (applies when properties are being used)
Commercial	External Noise Level – 70 dB(A)
Industrial	External Noise Level – 75 dB(A)
Educational facilities	Internal Noise Level – 45 dB(A)
Hospital / Medical	Internal Noise Level – 45 dB(A)
Place of Worship	Internal Noise Level – 45 dB(A)
Passive Recreation	External Noise Level – 60 dB(A)
Active Recreation	External Noise Level – 65 dB(A)

4.3.2 Sleep disturbance

For premises where noise impacts from night construction (and operations) may occur, the potential for noise levels to lead to sleep disturbance should be considered. Section 4.3 of the ICNG discusses the method for assessing and managing sleep disturbance. This guidance references further information in the RNP that discusses criteria for the assessment of sleep disturbance.

Where noise levels from a construction (or industrial) source at a residential receptor at night exceeds the following, a maximum noise level event assessment should be undertaken:

- $L_{Aeq,15min}$ 40 dB(A) or the RBL + 5 dB(A), whichever is greater, and/or
- L_{AFMax} 52 dB(A) or the RBL +15 dB(A), whichever is greater.

Acknowledging the minimum RBLs adopted for the Project, the RBL +5 and RBL +15 criterion are well below the respective indicative criteria listed above. Based on this guidance, **Table 4-4** presents the sleep disturbance screening criterion for the receivers surrounding the Project.

Table 4-4 Sleep disturbance criterion

Receiver	$L_{Aeq,\ 15min}$ Sleep disturbance criterion	L_{AMax} Sleep disturbance criterion
All Receivers	40	52

4.3.3 Annoying noise characteristics

Equipment that has the potential to produce a tonal noise, an impulsive noise or any other type of noise defined by the ICNG as 'particularly annoying', the noise level for that particular equipment will receive a + 5 dB(A) penalty.

As per guidance from the NPI, the penalty for intermittent noise (e.g., impact piling, hammers, packers and compactors) would only be applied during night periods. The penalty for tonal noise (e.g., roadsaws and grinders) will apply for all periods.

4.4 Construction vibration criteria

4.4.1 Human comfort

With respect to human comfort, criteria for vibration arising from construction activities are presented in "Assessing Vibration: A technical guideline", (DECC, February 2006) and *British Standard 6472-1: 2008 Guide to evaluation of human exposure to vibration in buildings Part 1: Vibration sources other than blasting* [BS 6472-1: 2008]. DECC, 2006 identifies three different forms of vibration associated with construction activities:

- Continuous: uninterrupted vibration occurring over a defined period
- Impulsive: short-term (typically less than two seconds) bursts of vibration which occurs up to three times over an assessment period
- Intermittent: interrupted periods of continuous or repeated impulsive vibration, or continuous vibration that varies significantly in magnitude.

Continuous vibration may result from steady road traffic or steady use of construction equipment (e.g., generator). Impulsive vibration may arise during the loading or unloading of heavy equipment or materials or infrequent use of hammering equipment. Intermittent vibration may arise from the varied use of construction equipment (i.e., a dump truck moving around a site, idling while being loaded with materials, and then dumping the materials) or repeated high-noise activities such as hammering, piling or cutting.

Assessing Vibration: A technical guideline (DECC, 2006) (AV:ATG) recommends that continuous and impulsive vibration is to be assessed using vibration acceleration (m/s2) whereas intermittent vibration is to be assessed using vibration dose values (VDV).

The AV:ATG criteria for preferred and maximum values of human exposure for continuous and impulsive vibrations are listed in **Table 4-5**, for relevant types of receivers.

Table 4-5: Preferred and maximum weighted Root Mean Square (RMS) values for continuous and impulsive vibration acceleration (m/s^2) 1-80 Hz (DECC, 2006)

Location	Assessment period[1]	Preferred values		Maximum values	
		z-axis[2]	x and y axis[2]	z-axis	x and y axis
Continuous vibration					
Residences	Day	0.010	0.0071	0.020	0.014
	Night	0.007	0.005	0.014	0.010
Impulsive vibration					
Residences	Day	0.30	0.21	0.60	0.42
	Night	0.10	0.071	0.20	0.14

[1] Daytime is 7:00 am to 10:00 pm. Night-time is 10:00 pm to 7:00 am

[2] z-axis refers to vertical vibration, while the x and y axes refer to horizontal vibration.

The criteria for intermittent vibration, provided as preferred and maximum VDVs are reproduced in **Table 4-6** for relevant types of receivers.

Table 4-6 Preferred and maximum VDV's for intermittent vibration (m/s$^{1.75}$), (DECC, 2006)

Location	Day time (7:00 am to 10:00 pm)		Night time (10:00 pm to 7:00 am)	
	Preferred VDV	Maximum VDV	Preferred VDV	Maximum VDV
Residences	0.20	0.40	0.13	0.26

4.4.2 Cosmetic building damage

Section J4.4.3 of *Australian Standard AS2187.2 – 2006 Explosives – Storage and use Part 2: Use of explosives* provides frequency-dependent guide levels for cosmetic damage to structures arising from vibration. These levels are adopted from *British Standard BS7385: 1990 Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from groundborne vibration* [BS7385-2:1993] and are presented in **Table 4-7**.

Table 4-7 Transient vibration guideline values for cosmetic damage

Type of building	Peak particle velocity (PPV) mm/s		
	4 to 15 Hz	15 to 40 Hz	40 Hz and above
Reinforced or framed structures industrial and heavy commercial buildings	50		
Un-reinforced or light-framed structures residential or light commercial type buildings	15 to 20	20 to 50	50

4.4.3 Heritage item impact

Guidance for more sensitive structures is presented in the German standard, *DIN 4150-3 Vibrations in buildings – Part 3: Effects on structures* (DIN 4150-3: 2016). Vibration velocities not exceeding 3 mm/s at 1 to 10 Hz are recommended in this standard for heritage structures.

4.4.4 Buried services

DIN 4150-3:2016 also provides guidance for evaluating the effects of short-term vibration on buried services. This guidance has been reproduced below in **Table 4-8**.

Table 4-8 DIN 4150-3: 2016 guidance for evaluating effects of short-term vibration on buried services

Pipe material	Guideline value for velocity measured on the pipe (mm/s)
Steel (including welded pipes)	100
Clay, concrete, reinforced concrete, pre-stressed concrete, metal (with or without flange)	80
Masonry, plastic	50

5. Construction noise and vibration impacts

5.1 Context

As further described in Sections 5 and 6 of the *Yanco Delta Wind Farm Noise and Vibration Impact Assessment* (Jacobs, 2022), noise impacts resulting from the construction of the Project have been assessed by computer noise modelling, while vibration impacts have been assessed through the use of vibration setback distances consistent with guidance from the RMS Construction Noise and Vibration Guideline (CNVG).

The following subsections detail the predicted impacts of the construction phases. It should be noted that the construction scheduling and equipment usage was based on what was accurate during the EIS stage and may be superseded by the time construction activities have been finalised.

5.2 Construction noise impact

Estimated noise levels were predicted from the anticipated noise levels generated during each construction phase (refer to Section 3.6 of *Yanco Delta Wind Farm Noise and Vibration Impact Assessment* (Jacobs, 2022) for construction phases) of the Project. These noise levels were then compared with the NMLs to understand which receivers might be the most affected during each construction phase.

This assessment assumes all plant and equipment for each activity would be operated concurrently while positioned at the location closest to each individual receiver. This is considered to be a conservative approach and, while this may provide for the determination of conservative noise levels, actual construction noise levels should be lower than predicted in this assessment.

Furthermore, the highest construction noise levels that would occur at receivers would typically be of brief duration for transient construction noise events. It is also important to note that the construction NMLs are not noise limits or threshold noise criteria to be achieved, rather they are a trigger noise level that requires the Project to implement reasonable and practicable noise mitigation measures.

Section 5.2.1 presents the results for construction that would be undertaken during standard hours. Similarly, the day out of hours results are presented in **Section 5.2.2**. The evening and night hours results are then presented in **Section 5.2.3**, with sleep disturbance impacts detailed in **Section 5.2.4**. Noise contour maps displaying the predicted noise propagation are displayed in **Appendix A**.

5.2.1 Standard construction hours

Standard construction hours are defined as Monday to Friday, 7 am – 6 pm, and Saturday, 8 am – 1 pm.

A summary of the key findings include (refer to **Table 5-1**):

- Construction phases 2, 4 and 7 are the stages that have been predicted to impact receivers with noise greater than the NML. All other construction phases have been predicted to have no receivers experience noise greater than the NML
- R01, R02 and R06 are the closest receivers to the majority of work and, as such, are consistently the receivers experiencing the greatest construction noise levels from the Project. Noise at R01 may be up to 6 dB(A) over the NML, while noise at R06 may also be up to 5 dB(A) greater than the NML
- Noise levels greater than the NMLs have been restricted to the Host and Associated Receivers, with no Non-associated Receivers predicted to experience noise greater than the NML.

Table 5-1 Predicted construction noise levels at residential receivers - standard hours, dB(A)

Receiver	Standard hours construction NML (dB(A))	Predicted noise levels dB(A)																					
		Construct. phase 1		Construct. phase 2		Construct. phase 3		Construct. phase 4		Construct. phase 5		Construct. phase 6		Construct. phase 7		Construct. phase 8		Construct. phase 9		Construct. phase 10		Construct. phase 11	
		Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML
R01	45	0	-	50	5	44	-	51	6	38	-	27	-	23	-	20	-	0	-	0	-	0	-
R02		7	-	40	-	44	-	42	-	38	-	34	-	29	-	11	-	2	-	7	-	3	-
R03		0	-	37	-	40	-	38	-	34	-	29	-	25	-	11	-	0	-	0	-	0	-
R04		18	-	32	-	35	-	33	-	29	-	24	-	20	-	11	-	13	-	18	-	14	-
R05		0	-	32	-	34	-	32	-	28	-	17	-	12	-	2	-	0	-	0	-	0	-
R06		15	-	31	-	32	-	30	-	26	-	20	-	50	5	0	-	10	-	15	-	11	-
R07		0	-	29	-	32	-	29	-	26	-	13	-	9	-	0	-	0	-	0	-	0	-
R08		0	-	29	-	31	-	29	-	25	-	17	-	24	-	0	-	0	-	0	-	0	-
R09		0	-	28	-	31	-	28	-	24	-	13	-	9	-	0	-	0	-	0	-	0	-
R10		0	-	27	-	30	-	28	-	24	-	12	-	8	-	0	-	0	-	0	-	0	-
R11		0	-	25	-	27	-	26	-	21	-	14	-	9	-	0	-	0	-	0	-	0	-
R12		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R13		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R14		0	-	21	-	24	-	21	-	18	-	6	-	2	-	0	-	0	-	0	-	0	-
R15		0	-	20	-	23	-	21	-	17	-	6	-	2	-	0	-	0	-	0	-	0	-
R16		0	-	21	-	25	-	22	-	19	-	5	-	4	-	0	-	0	-	0	-	0	-
R17		0	-	19	-	22	-	20	-	16	-	4	-	1	-	0	-	0	-	0	-	0	-
R18		0	-	17	-	20	-	18	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R19		0	-	17	-	20	-	17	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R20		0	-	17	-	19	-	16	-	13	-	3	-	4	-	0	-	0	-	0	-	0	-
R35		0	-	0	-	0	-	0	-	0	-	0	-	0	-	32	-	0	-	0	-	0	-
R36		0	-	0	-	3	-	0	-	0	-	0	-	0	-	22	-	0	-	0	-	0	-

Note: dark green shading = host receiver, light green = associated receiver, red = non-associated receiver

5.2.2 Day outside of standard construction hours

Day outside of construction hours are defined as all other day hours between 7 am and 6 pm outside of standard construction hours, i.e., Saturday 1 pm – 6 pm as well as Sundays and public holidays between 7 am and 6 pm.

A summary of the key findings include (refer to **Table 5-2**):

- Construction phases 2, 3, 4 and 7 are the stages that have been predicted to impact receivers with noise greater than the NML. All other construction phases have been predicted to have no receivers experience noise greater than the NML
- R01, R02 and R06 are the closest receivers to the majority of work and, as such, are consistently the receivers experiencing the greatest construction noise levels from the Project. Noise at R01 may be up to 11 dB(A) over the NML, noise at R02 may be up to 4 dB(A) over the NML, while noise at R06 may be up to 10 dB(A) greater than the NML
- Noise levels greater than the NMLs have been restricted to the Host and Associated Receivers, with no Non-associated Receivers predicted to experience noise greater than the NML.

Table 5-2 Predicted construction noise levels at residential receivers - out of hours day, dB(A)

Receiver	Day out of hours NML (dB(A))	Predicted noise levels dB(A)																					
		Construct. phase 1		Construct. phase 2		Construct. phase 3		Construct. phase 4		Construct. phase 5		Construct. phase 6		Construct. phase 7		Construct. phase 8		Construct. phase 9		Construct. phase 10		Construct. phase 11	
		Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML
R01	40	0	-	50	10	44	4	51	11	38	-	27	-	23	-	20	-	0	-	0	-	0	-
R02		7	-	40	-	44	4	42	2	38	-	34	-	29	-	11	-	2	-	7	-	3	-
R03		0	-	37	-	40	-	38	-	34	-	29	-	25	-	11	-	0	-	0	-	0	-
R04		18	-	32	-	35	-	33	-	29	-	24	-	20	-	11	-	13	-	18	-	14	-
R05		0	-	32	-	34	-	32	-	28	-	17	-	12	-	2	-	0	-	0	-	0	-
R06		15	-	31	-	32	-	30	-	26	-	20	-	50	10	0	-	10	-	15	-	11	-
R07		0	-	29	-	32	-	29	-	26	-	13	-	9	-	0	-	0	-	0	-	0	-
R08		0	-	29	-	31	-	29	-	25	-	17	-	24	-	0	-	0	-	0	-	0	-
R09		0	-	28	-	31	-	28	-	24	-	13	-	9	-	0	-	0	-	0	-	0	-
R10		0	-	27	-	30	-	28	-	24	-	12	-	8	-	0	-	0	-	0	-	0	-
R11		0	-	25	-	27	-	26	-	21	-	14	-	9	-	0	-	0	-	0	-	0	-
R12		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R13		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R14		0	-	21	-	24	-	21	-	18	-	6	-	2	-	0	-	0	-	0	-	0	-
R15		0	-	20	-	23	-	21	-	17	-	6	-	2	-	0	-	0	-	0	-	0	-
R16		0	-	21	-	25	-	22	-	19	-	5	-	4	-	0	-	0	-	0	-	0	-
R17		0	-	19	-	22	-	20	-	16	-	4	-	1	-	0	-	0	-	0	-	0	-
R18		0	-	17	-	20	-	18	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R19		0	-	17	-	20	-	17	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R20		0	-	17	-	19	-	16	-	13	-	3	-	4	-	0	-	0	-	0	-	0	-
R35		0	-	0	-	0	-	0	-	0	-	0	-	0	-	32	-	0	-	0	-	0	-
R36		0	-	0	-	3	-	0	-	0	-	0	-	0	-	22	-	0	-	0	-	0	-

Note: dark green shading = host receiver, light green = associated receiver, red = non-associated receiver

5.2.3 Evening and night outside of standard construction hours

As the NML is equivalent for both evening and night, both have been assessed simultaneously. Evening construction hours are 6 pm – 10 pm and night construction hours are 10 pm – 7 am.

A summary of the key findings include (refer to **Table 5-3**):

- Construction phases 2, 3, 4, 5 and 7 are the stages that have been predicted to impact receivers with noise greater than the NML. All other construction phases have been predicted to have no receivers experience noise greater than the NML
- R01, R02, R03 and R06 are the closest receivers to the majority of work and, as such, are consistently the receivers experiencing the greatest construction noise levels from the Project. Noise at R01 may be up to 16 dB(A) over the NML, noise at R02 may be up to 9 dB(A) over the NML, noise at R03 may be up to 5 dB(A) over the NML while noise at R06 may be up to 15 dB(A) greater than the NML
- Noise levels greater than the NMLs have been restricted to the Host and Associated Receivers, with no Non-associated Receivers predicted to experience noise greater than the NML.

Table 5-3 Predicted construction noise levels at residential receivers - out of hours evening and night, dB(A)

Receiver	Evening and night out of hours NML (dB(A))	Predicted noise levels dB(A)																					
		Construct. phase 1		Construct. phase 2		Construct. phase 3		Construct. phase 4		Construct. phase 5		Construct. phase 6		Construct. phase 7		Construct. phase 8		Construct. phase 9		Construct. phase 10		Construct. phase 11	
		Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML
R01	35	0	-	50	15	44	9	51	16	38	3	27	-	23	-	20	-	0	-	0	-	0	-
R02		7	-	40	5	44	9	42	7	38	3	34	-	29	-	11	-	2	-	7	-	3	-
R03		0	-	37	2	40	5	38	3	34	-	29	-	25	-	11	-	0	-	0	-	0	-
R04		18	-	32	-	35	-	33	-	29	-	24	-	20	-	11	-	13	-	18	-	14	-
R05		0	-	32	-	34	-	32	-	28	-	17	-	12	-	2	-	0	-	0	-	0	-
R06		15	-	31	-	32	-	30	-	26	-	20	-	50	15	0	-	10	-	15	-	11	-
R07		0	-	29	-	32	-	29	-	26	-	13	-	9	-	0	-	0	-	0	-	0	-
R08		0	-	29	-	31	-	29	-	25	-	17	-	24	-	0	-	0	-	0	-	0	-
R09		0	-	28	-	31	-	28	-	24	-	13	-	9	-	0	-	0	-	0	-	0	-
R10		0	-	27	-	30	-	28	-	24	-	12	-	8	-	0	-	0	-	0	-	0	-
R11		0	-	25	-	27	-	26	-	21	-	14	-	9	-	0	-	0	-	0	-	0	-
R12		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R13		8	-	23	-	26	-	23	-	20	-	15	-	18	-	0	-	3	-	8	-	4	-
R14		0	-	21	-	24	-	21	-	18	-	6	-	2	-	0	-	0	-	0	-	0	-
R15		0	-	20	-	23	-	21	-	17	-	6	-	2	-	0	-	0	-	0	-	0	-
R16		0	-	21	-	25	-	22	-	19	-	5	-	4	-	0	-	0	-	0	-	0	-
R17		0	-	19	-	22	-	20	-	16	-	4	-	1	-	0	-	0	-	0	-	0	-
R18		0	-	17	-	20	-	18	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R19		0	-	17	-	20	-	17	-	14	-	3	-	0	-	0	-	0	-	0	-	0	-
R20		0	-	17	-	19	-	16	-	13	-	3	-	4	-	0	-	0	-	0	-	0	-
R35		0	-	0	-	0	-	0	-	0	-	0	-	0	-	32	-	0	-	0	-	0	-
R36		0	-	0	-	3	-	0	-	0	-	0	-	0	-	22	-	0	-	0	-	0	-

Note: dark green shading = host receiver, light green = associated receiver, red = non-associated receiver

5.2.4 Sleep disturbance

As described in **Section 5.2.1**, while the majority of construction work is expected to be done in standard hours, there is the potential for some work to be conducted at night. When construction is done at night, residents at receivers have the potential to experience sleep disturbance.

As shown in **Table 4-4**, the criterion for sleep disturbance are $L_{Aeq\ (15\ minute)}$ 40 dB(A) and L_{AMax} 52 dB(A). As an assessment against the criteria of $L_{Aeq\ (15\ minute)}$ of 40 dB(A) has already been assessed in **Section 5.2.2**, only a comparison to the L_{AMax} 52 dB(A) criteria has been discussed in thissection.

A summary of the key findings include (refer to **Table 5-4**):

- Construction phase 4 has been predicted to impact R01 with noise up to but not exceeding the sleep disturbance criteria.
- Likewise, construction phase 7 has been predicted to impact R06 with noise up to but not exceeding the sleep disturbance criteria.
- All other construction phases have been predicted to produce noise lower than the sleep disturbance criteria at all receivers

Table 5-4 Predicted construction noise levels at residential receivers - sleep disturbance, L_{Amax}, dB(A)

Receiver	Sleep disturbance criteria (dB(A))	Predicted noise levels dB(A)																					
		Construct. phase 1		Construct. phase 2		Construct. phase 3		Construct. phase 4		Construct. phase 5		Construct. phase 6		Construct. phase 7		Construct. phase 8		Construct. phase 9		Construct. phase 10		Construct. phase 11	
		Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML	Predicted noise level	Noise level greater than NML
R01	52	0	-	51	-	45	-	52	-	39	-	28	-	25	-	22	-	0	-	0	-	0	-
R02		7	-	41	-	45	-	43	-	39	-	35	-	31	-	13	-	2	-	8	-	4	-
R03		0	-	38	-	41	-	39	-	35	-	30	-	27	-	13	-	0	-	0	-	0	-
R04		18	-	33	-	36	-	34	-	30	-	25	-	22	-	13	-	13	-	19	-	15	-
R05		0	-	33	-	35	-	33	-	29	-	18	-	14	-	4	-	0	-	0	-	0	-
R06		15	-	32	-	33	-	31	-	27	-	21	-	52	-	0	-	10	-	16	-	12	-
R07		0	-	30	-	33	-	30	-	27	-	14	-	11	-	0	-	0	-	0	-	0	-
R08		0	-	30	-	32	-	30	-	26	-	18	-	26	-	0	-	0	-	0	-	0	-
R09		0	-	29	-	32	-	29	-	25	-	14	-	11	-	0	-	0	-	0	-	0	-
R10		0	-	28	-	31	-	29	-	25	-	13	-	10	-	0	-	0	-	0	-	0	-
R11		0	-	26	-	28	-	27	-	22	-	15	-	11	-	0	-	0	-	0	-	0	-
R12		8	-	24	-	27	-	24	-	21	-	16	-	20	-	0	-	3	-	9	-	5	-
R13		8	-	24	-	27	-	24	-	21	-	16	-	20	-	0	-	3	-	9	-	5	-
R14		0	-	22	-	25	-	22	-	19	-	7	-	4	-	0	-	0	-	0	-	0	-
R15		0	-	21	-	24	-	22	-	18	-	7	-	4	-	0	-	0	-	0	-	0	-
R16		0	-	22	-	26	-	23	-	20	-	6	-	6	-	0	-	0	-	0	-	0	-
R17		0	-	20	-	23	-	21	-	17	-	5	-	3	-	0	-	0	-	0	-	0	-
R18		0	-	18	-	21	-	19	-	15	-	4	-	2	-	0	-	0	-	0	-	0	-
R19		0	-	18	-	21	-	18	-	15	-	4	-	1	-	0	-	0	-	0	-	0	-
R20		0	-	18	-	20	-	17	-	14	-	4	-	6	-	0	-	0	-	0	-	0	-
R35		0	-	0	-	0	-	0	-	0	-	0	-	0	-	34	-	0	-	0	-	0	-
R36		0	-	0	-	4	-	1	-	0	-	0	-	0	-	24	-	0	-	0	-	0	-

Note: dark green shading = host receiver, light green = associated receiver, red = non-associated receiver

5.3 Construction traffic noise

Construction traffic noise from the Project was assessed through the Roads and Maritime Services' *Construction and Maintenance Noise Estimator Tool*. Road traffic noise predictions were made at the nearest noise sensitive receivers to each of the roads in the primary route (see Section 3.7 of *Yanco Delta Wind Farm Noise and Vibration Impact Assessment* (Jacobs, 2022)).

Noise from construction traffic increases the overall traffic noise by more than 2 dB along the majority of roads (**see Table 5-5**). However, due to the distances between receivers and the roads, the overall noise level would be lower than the assessment criterion. At Kidman Way and Jerilderie Street, where receivers are closer to the road and construction traffic is expected to be a significant noise contributor, construction traffic noise has been predicted to be greater than the RNP assessment criteria.

Table 5-5 Predicted construction traffic noise level at nearest noise sensitive receiver

Road	Time	Existing traffic noise level (dB(A))	Construction traffic noise level (dB(A))	Increase in noise level (dB)	Traffic noise criteria (dB(A))	Exceedance of criteria?
Liddles Lane	Day (7am – 10pm)	11.2	38.4	27.2	60	No
	Night (10pm – 7am)	15.1	30.5	15.4	55	No
Jerrys Lane	Day (7am – 10pm)	1.7	31.2	29.5	60	No
	Night (10pm – 7am)	5.6	32.5	26.9	55	No
Kidman Way	Day (7am – 10pm)	52.9	62.0	9.1	60	Yes
	Night (10pm – 7am)	55.7	59.9	4.2	55	Yes
Newell Highway	Day (7am – 10pm)	45.1	49.3	4.2	60	No
	Night (10pm – 7am)	48.5	50.0	1.5	55	No
Jerilderie Street	Day (7am – 10pm)	57.2	61.4	4.2	60	Yes
	Night (10pm – 7am)	59.7	60.7	1.0	55	No
Sturt Highway	Day (7am – 10pm)	51.2	53.7	2.5	60	No
	Night (10pm – 7am)	56.3	56.3	0.0	55	No

5.4 Vibration assessment

Vibration impacts have the potential to occur during construction as a result of the usage of the vibratory roller, which would be employed during the access road construction. The nearest receiver is R06, located approximately 650 metres away. At these distances, no vibration impacts have been predicted. This has been summarised in **Table 5-6**.

Table 5-6 Predicted construction vibration at nearby receivers

Equipment	Human comfort setback distance (m)	Cosmetic damage setback distance (m)	Nearest receiver	Distance to receiver (m)	Vibration impact likely?
Vibratory Roller (Large)	100m	25m	R06	647m	No

6. Noise and vibration control measures

6.1 Mitigation and management measures

Mitigation measures will be implemented to address the impacts predicted in **Chapter 5**. If required, mitigation measures will be updated following the submission of the EIS and RtS reports, in addition to the determination of CoAs.

Measures to address construction noise impacts include the standard noise mitigation measures adopted from the *Construction Noise and Vibration Guidelines* (RMS, 2016). Alongside, mitigation measures from *Assessing Vibration: a technical guideline*, (DECC, 2006) for vibration impacts, if the risk of vibration impacts arises during the construction phase. Finally, measures to address potential cumulative construction noise impact have also been considered.

Table 6-1 Construction noise and vibration management measures

ID	Measure/Requirement	When to implement	Responsibility	Reference	Evidence
NVIA1	Develop a noise management plan to address noise is likely to be greater than the applicable NMLs	Prior to construction	Proponent	SEAR, EIS	This Plan
NVIA2	Establish a complaints line for nearby residents to contact regarding noise from the construction of the proposal	Prior to construction	Proponent	EIS	EIS Section 6
NVIA3	Where reasonable and feasible, adopt standard noise mitigation measures from the *Construction Noise and Vibration Guidelines* (RMS, 2016), including: ▪ Wherever possible and safe, limit work to standard hours of construction ▪ Select low-noise plant and equipment ▪ Ensure equipment mufflers operate in a proper and efficient manner ▪ Where possible, use quieter and less vibration emitting construction methods ▪ Only have necessary equipment on-site and turn off when not in use ▪ Where possible, concentrate noisy activities at one location and move to another as quickly as possible ▪ Vehicle movements, including deliveries outside standard hours, should be minimised and avoided where possible ▪ All plant and equipment is to be well maintained and where possible, fitted with silencing devices ▪ Use only the necessary size and powered equipment for tasks ▪ Implement training to induct staff on noise sensitivities ▪ Where possible, consider the application of less intrusive alternatives to reverse beepers such as 'squawker' or 'broadband' alarms ▪ Consider the installation of temporary construction noise barriers or earth mounds for concentrated, noise-intensive activities ▪ Where practicable, install enclosures around noisy mobile and stationary equipment as necessary	Prior to construction, construction	Contractor, Proponent	EIS	EIS Section 6

ID	Measure/Requirement	When to implement	Responsibility	Reference	Evidence
	▪ Where possible, avoid simultaneous operation of two or more noisy plant close to receivers ▪ The offset distance between noisy plant and sensitive receivers should be maximised ▪ Plan traffic flow, parking and loading/unloading areas to minimise reversing movements ▪ Complete routine monitoring to evaluate construction noise levels and evaluate whether the mitigation measures in place are adequate or require revision.				
NVIA4	Where reasonable and feasible, adopt standard vibration mitigation measures from the *Assessing Vibration: a technical guideline*, (DECC, 2006), including: • Choosing alternative, lower-impact equipment or methods wherever possible • Scheduling the use of vibration-causing equipment at the least sensitive times of the day (wherever possible) • Locating high vibration sources as far away from sensitive receiver areas as possible • Sequencing operations so that vibration-causing activities do not occur simultaneously. • Keeping equipment well maintained • Do not conduct vibration intensive work within the recommended safe setback distances ▪ Informing nearby receivers about the nature of construction phases and the vibration-generating activities.	Prior to construction, construction	Contractor, Proponent	EIS	EIS Section 6
NVIA5	▪ Revise vehicle routes and scheduling to reduce heavy vehicle traffic along roads predicted to experience construction traffic noise impacts ▪ Avoiding the use of compression brakes ▪ Ensuring vehicles are adequately silenced before allowing site access	Prior to construction, construction	Contractor, Proponent	EIS	EIS Section 6
NVIA6	Discuss work schedules and timings with the proponents of other work to gain an understanding of when noisy work surrounding the Project would take place. Should respectively project schedules and work priorities change, proponents should commit to regular meetings to ensure all proponents are aware of the changes.	Prior to construction, construction	Contractor, Proponent	EIS	EIS Section 6

ID	Measure/Requirement	When to implement	Responsibility	Reference	Evidence
NVIA7	Where possible, schedule work to occur at different times of the day to prevent multiple noisy activities from taking place at the same time.	Prior to construction, construction	Contractor, Proponent	EIS	EIS Section 6
NVIA8	Where possible, schedule work to take place at different locations on the Project sites to prevent noisy activities from taking place in close proximity to one another which would limit the amplification of the noise.	Prior to construction, construction	Contractor, Proponent	EIS	EIS Section 6

6.2 Mitigation and management of out of standard construction hours work

Where works are unavoidably required to take place outside the standard construction hours in accordance with the confirmed CoAs, an Out of Hours Work (OOHW) Protocol will be developed. The OOHW Protocol will be developed in accordance with all relevant CoAs pertaining to the OOHW.

6.3 Construction noise and vibration impact statements

As detailed in **Section 5.1**, it is possible that the works program to be undertaken may differ from the anticipated works as described in the EIS, RtS and CNVMP. Where works are expected to result in a greater noise impact than those predicted in the CNVMP, a CNVIS should be undertaken.

Construction Noise and Vibration Impact Statements (CNVIS) will be employed in order to inform and direct noise and vibration management for high noise and/or vibration impacts that have not been otherwise addressed in this CNVMP. CNVIS will be progressively produced if and when required to assess all noise and vibration risks associated with each relevant construction Phase(s) and to prescribe any appropriate mitigation and management measures to be undertaken.

Each CNVIS would be developed in accordance with the requirements of the received CoAs, and would also contain:

- Details of the scope of works covered by the CNVIS
- Details of the nearest noise and vibration sensitive receivers
- Provide justification for any OOHW, if required
- Provide the noise and vibration objectives and criteria
- Details of the predicted noise and vibration impacts
- Provide appropriate noise and vibration management measures and monitoring requirements.

7. Compliance management

7.1 Roles and responsibilities

The overall organisational structure and responsibilities regarding this CNVMP will be developed as part of the associated CEMP.

7.2 Training

All staff and contractors working on the construction of the Project will undergo education and training regarding noise and vibration impacts and management. Training would include:

- Toolbox Talks
- Work Inductions
- Meetings between contractors and environmental staff
- Posters and Educational Items.

Training should detail:

- The contents of this CNVMP
- Legislation pertaining to noise and vibration impact and management
- Construction hours
- Nearby noise sensitive locations
- Complaints reporting
- Management measures listed in this CNVMP
- Specific responsibilities regarding the mitigation measures.

7.3 Monitoring

Routine inspection would be undertaken by the Virya or construction contractor environmental staff. Details of the inspections will be developed in the CEMP. Noise and vibration monitoring would also be undertaken if and when required, for instance in response to complaints and/or to pro-actively confirm compliance with noise and vibration targets. The results of monitoring would be compared against the predicted noise impacts and the NMLs. Where monitoring has found noise and vibration impacts to be above the relevant targets, the following actions may be undertaken in order to reduce impacts:

- Stoppage of work that has been identified as the cause of the exceedance of target(s)
- Determine if any non-Project noise sources may be causing the exceedance of target(s)
- Determine if a particular piece of equipment is the cause of the exceedance of target(s), and if any options exist to mitigate or replace the equipment
- Adopt any other mitigation or management measures where reasonable and feasible to reduce noise
- Review the work practices undertaken against the CNVMP
- Adopt any lessons learnt into future modelling, mitigation actions and training.

7.3.1 Noise monitoring

Noise monitoring, including the monitoring specifications and parameters, locations of monitoring, and the reporting of monitoring data will be determined in accordance with the confirmed CoAs and EPL. A preliminary noise monitoring program has been established in the subsections below.

7.3.1.1 Attended noise monitoring

Attended noise monitoring will be undertaken in the following situations:

- At the commencement of activities where it has been identified that verification monitoring is required, such as confirming that noise levels are consistent with those predicted and to confirm the effectiveness of mitigation
- In response to a complaint received regarding construction noise (where determined appropriate)
- Where there is a change in methodology that may result in an increase in noise levels
- As directed by the EPA
- As required by a CNVIS
- Ongoing, case-by-case spot checks for noise intensive plant and equipment will be undertaken throughout construction to ensure compliance with the noise levels.

Locations for noise monitoring will be determined on a case by case basis, in response to complaints and/or the locations of predicted noise impacts. Likewise, the duration and amount of noise monitoring will ultimately be dependent on the scale of the construction activities and extent of expected noise impacts. Noise monitoring will cover a 'representative period' of the construction activity, wherein the plant and equipment operating is consistent with the full range of plant and equipment modelled in the noise assessment (i.e. the monitoring will not be undertaken when key noise producing equipment is not in operation). Where possible, monitoring will be undertaken at or near the most affected noise sensitive receiver. Noise monitoring locations factors include:

- Proximity of the receiver to the works
- Noise sensitivity of the receiver
- Location of previous monitoring
- Expected duration of the impact
- Background noise levels
- Safety of personnel undertaking the measurements.

7.3.1.2 Out of standard construction hours protocol noise monitoring

Monitoring in accordance with the Out of Hours Protocol will be determined following the confirmation of CoAs.

7.3.1.3 EPL noise monitoring

Monitoring in accordance with the Out of Hours Protocol will be determined following the receipt of an EPL.

7.3.1.4 Quality assurance

All monitoring will be undertaken by suitably trained and competent personnel, who are experienced in undertaking noise measurements.

Noise monitoring equipment used will be at least Class 2 instruments or better and calibrated in accordance with manufacturer specifications and/or relevant Australian Standards. Records of equipment laboratory calibration will be maintained by Virya Energy and the construction contractor throughout the delivery of the Project. The calibration of the monitoring equipment will be checked in the field before and after the noise measurement period.

Noise measurements while winds are greater than 5 m/s at 10 m above ground level or while rainfall is present should be discarded, in line with the monitoring requirements of the *Noise Policy for Industry* (EPA, 2017).

Noise monitoring will be undertaken and recorded in accordance with the relevant noise measurement requirements in the reference standards and documents listed in **Section 3.1**. All monitoring records will be retained throughout the delivery of the Project by Virya Energy. Noise monitoring records will be completed to record:

- Name of person undertaking the measurement
- Date and time of measurement, length of measurement and any measurement time intervals
- Type and model number of monitoring instrumentation
- Results of field calibration checks
- Measurement location details and number of measurements at each location
- Weather conditions during measurements
- Operation and activities of the noise sources under investigation
- Estimated contribution of the Project's activities
- Noise due to other extraneous and environmental sources (e.g. traffic, aircraft, trains, dogs barking, insects).

7.4 Complaints

The complaint response, recording and management procedure will be detailed in the CEMP

7.5 Reporting

Reporting requirements and responsibilities will be determined in accordance with the confirmed CoAs and EPL.

8. Review and improvement

8.1 Continuous improvement

Continuous improvement of the CNVMP will be carried out through the continued evaluation of mitigation and management measures against environmental policies, objectives and targets and identifying where opportunities exist for improvement.

The continuous improvement process will include:

- Identifying opportunities to improve environmental management measures and performance
- Identify the causes of any non-compliances with the relevant criteria
- Develop an effective plan to address any identified non-compliances
- Determine the effectiveness of applied mitigation measures
- Document any changes to work procedures undertaken to control non-compliances and/or improve efficiencies
- Compare work process results with the relevant objectives and targets.

8.2 Review and amendment

Where necessary, the CNVMP will be reviewed and where necessary updated. Review and updates are expected to be required at the following times:

- On receipt of approvals to incorporate CoA and EPL requirements
- As part of detailed design in response to more detailed plant and equipment lists and schedules
- In the event of any modification of approval
- In response to confirmed non-conformance with CoA.

The process to update the CNVMP will be detailed in the CEMP.

Appendix A. Predicted construction noise contours

Appendix B. Tonality tables

B.1 Wind turbine tonal assessment

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
R01	3 m/s	Predicted SPL	38.6	33.3	28.5	36.8	32.8	29.1	31.1	28	25.3	22.5	20.2	18.2	14.8	13.2	11.9	9.9	9.1	8.5	-6.7	-7	-7	-56.6	-56.4	-56
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	4 m/s	Predicted SPL	38.6	33.3	28.5	36.8	32.8	29.1	31.1	28	25.3	22.5	20.2	18.2	14.8	13.2	11.9	9.9	9.1	8.5	-6.7	-7	-7	-56.6	-56.4	-56
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	5 m/s	Predicted SPL	41.1	35.8	31	39.3	35.3	31.6	33.6	30.5	27.8	25	22.7	20.7	17.3	15.7	14.4	12.4	11.6	11	-4.2	-4.5	-4.5	-54.1	-53.9	-53.5
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	6 m/s	Predicted SPL	45	39.7	34.9	43.2	39.2	35.5	37.5	34.4	31.7	28.9	26.6	24.6	21.2	19.6	18.3	16.3	15.5	14.9	-0.3	-0.6	-0.6	-50.2	-50	-49.6
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	48.4	43.1	38.3	46.6	42.6	38.9	40.9	37.8	35.1	32.3	30	28	24.6	23	21.7	19.7	18.9	18.3	3.1	2.8	2.8	-46.8	-46.6	-46.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	8 m/s	Predicted SPL	51.3	46	41.2	49.5	45.5	41.8	43.8	40.7	38	35.2	32.9	30.9	27.5	25.9	24.6	22.6	21.8	21.2	6	5.7	5.7	-43.9	-43.7	-43.3
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	9 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
		Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
R02	12 m/s	Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to Cutoff	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45.1	42	39.3	36.5	34.2	32.2	28.8	27.2	25.9	23.9	23.1	22.5	7.3	7	7	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	2	-3.1	-2.7	-2.8	-2.3	-2	-3.4	-1.6	-1.3	-2	-0.8	-0.6	-15.2	-0.3	0	-49.6	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-2	3.1	2.7	2.8	2.3	2	3.4	1.6	1.3	2	0.8	0.6	15.2	0.3	0	49.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	3 m/s	Predicted SPL	38.6	33.3	28.5	36.8	32.8	29.1	31	28	25.2	22.3	20.1	18.1	14.5	13	11.6	9.7	8.9	8.3	-6.5	-6.8	-6.8	-56.6	-56.4	-56
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
	3 m/s	Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	4 m/s	Predicted SPL	38.6	33.3	28.5	36.8	32.8	29.1	31	28	25.2	22.3	20.1	18.1	14.5	13	11.6	9.7	8.9	8.3	-6.5	-6.8	-6.8	-56.6	-56.4	-56
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	5 m/s	Predicted SPL	41.1	35.8	31	39.3	35.3	31.6	33.5	30.5	27.7	24.8	22.6	20.6	17	15.5	14.1	12.2	11.4	10.8	-4	-4.3	-4.3	-54.1	-53.9	-53.5
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	6 m/s	Predicted SPL	45	39.7	34.9	43.2	39.2	35.5	37.4	34.4	31.6	28.7	26.5	24.5	20.9	19.4	18	16.1	15.3	14.7	-0.1	-0.4	-0.4	-50.2	-50	-49.6
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	48.4	43.1	38.3	46.6	42.6	38.9	40.8	37.8	35	32.1	29.9	27.9	24.3	22.8	21.4	19.5	18.7	18.1	3.3	3	3	-46.8	-46.6	-46.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	8 m/s	Predicted SPL	51.3	46	41.2	49.5	45.5	41.8	43.7	40.7	37.9	35	32.8	30.8	27.2	25.7	24.3	22.4	21.6	21	6.2	5.9	5.9	-43.9	-43.7	-43.3
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	9 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45	42	39.2	36.3	34.1	32.1	28.5	27	25.6	23.7	22.9	22.3	7.5	7.2	7.2	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45	42	39.2	36.3	34.1	32.1	28.5	27	25.6	23.7	22.9	22.3	7.5	7.2	7.2	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
		Neighbour																								
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45	42	39.2	36.3	34.1	32.1	28.5	27	25.6	23.7	22.9	22.3	7.5	7.2	7.2	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	12 m/s	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45	42	39.2	36.3	34.1	32.1	28.5	27	25.6	23.7	22.9	22.3	7.5	7.2	7.2	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to Cutoff	Predicted SPL	52.6	47.3	42.5	50.8	46.8	43.1	45	42	39.2	36.3	34.1	32.1	28.5	27	25.6	23.7	22.9	22.3	7.5	7.2	7.2	-42.6	-42.4	-42
		Level Above Left Neighbour	-	-5.3	-4.8	8.3	-4	-3.7	1.9	-3	-2.8	-2.9	-2.2	-2	-3.6	-1.5	-1.4	-1.9	-0.8	-0.6	-14.8	-0.3	0	-49.8	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.3	4	3.7	-1.9	3	2.8	2.9	2.2	2	3.6	1.5	1.4	1.9	0.8	0.6	14.8	0.3	0	49.8	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
R03	3 m/s	Predicted SPL	38.4	33.2	28.4	36.6	32.6	28.9	30.7	27.6	24.9	21.5	19.3	17.3	13	11.4	10.1	7	6.2	5.6	-12.5	-12.7	-12.8	-74.1	-73.9	-73.5
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	4 m/s	Predicted SPL	38.4	33.2	28.4	36.6	32.6	28.9	30.7	27.6	24.9	21.5	19.3	17.3	13	11.4	10.1	7	6.2	5.6	-12.5	-12.7	-12.8	-74.1	-73.9	-73.5
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	5 m/s	Predicted SPL	40.9	35.7	30.9	39.1	35.1	31.4	33.2	30.1	27.4	24	21.8	19.8	15.5	13.9	12.6	9.5	8.7	8.1	-10	-10.2	-10.3	-71.6	-71.4	-71
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	6 m/s	Predicted SPL	44.8	39.6	34.8	43	39	35.3	37.1	34	31.3	27.9	25.7	23.7	19.4	17.8	16.5	13.4	12.6	12	-6.1	-6.3	-6.4	-67.7	-67.5	-67.1
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	48.2	43	38.2	46.4	42.4	38.7	40.5	37.4	34.7	31.3	29.1	27.1	22.8	21.2	19.9	16.8	16	15.4	-2.7	-2.9	-3	-64.3	-64.1	-63.7
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	8 m/s	Predicted SPL	51.1	45.9	41.1	49.3	45.3	41.6	43.4	40.3	37.6	34.2	32	30	25.7	24.1	22.8	19.7	18.9	18.3	0.2	0	-0.1	-61.4	-61.2	-60.8
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	9 m/s	Predicted SPL	52.4	47.2	42.4	50.6	46.6	42.9	44.7	41.6	38.9	35.5	33.3	31.3	27	25.4	24.1	21	20.2	19.6	1.5	1.3	1.2	-60.1	-59.9	-59.5
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	52.4	47.2	42.4	50.6	46.6	42.9	44.7	41.6	38.9	35.5	33.3	31.3	27	25.4	24.1	21	20.2	19.6	1.5	1.3	1.2	-60.1	-59.9	-59.5
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	52.4	47.2	42.4	50.6	46.6	42.9	44.7	41.6	38.9	35.5	33.3	31.3	27	25.4	24.1	21	20.2	19.6	1.5	1.3	1.2	-60.1	-59.9	-59.5
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	12 m/s	Predicted SPL	52.4	47.2	42.4	50.6	46.6	42.9	44.7	41.6	38.9	35.5	33.3	31.3	27	25.4	24.1	21	20.2	19.6	1.5	1.3	1.2	-60.1	-59.9	-59.5
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to Cutoff	Predicted SPL	52.4	47.2	42.4	50.6	46.6	42.9	44.7	41.6	38.9	35.5	33.3	31.3	27	25.4	24.1	21	20.2	19.6	1.5	1.3	1.2	-60.1	-59.9	-59.5
		Level Above Left Neighbour	-	-5.2	-4.8	8.2	-4	-3.7	1.8	-3.1	-2.7	-3.4	-2.2	-2	-4.3	-1.6	-1.3	-3.1	-0.8	-0.6	-18.1	-0.2	-0.1	-61.3	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-8.2	4	3.7	-1.8	3.1	2.7	3.4	2.2	2	4.3	1.6	1.3	3.1	0.8	0.6	18.1	0.2	0.1	61.3	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
R04	3 m/s	Predicted SPL	36.3	31	26.2	34.3	30.3	26.6	27.6	24.6	21.8	17	14.8	12.7	6.8	5.2	3.8	-1.5	-2.3	-2.9	-26.5	-26.7	-26.8	-106.8	-106.6	-106.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	4 m/s	Predicted SPL	36.3	31	26.2	34.3	30.3	26.6	27.6	24.6	21.8	17	14.8	12.7	6.8	5.2	3.8	-1.5	-2.3	-2.9	-26.5	-26.7	-26.8	-106.8	-106.6	-106.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	5 m/s	Predicted SPL	38.8	33.5	28.7	36.8	32.8	29.1	30.1	27.1	24.3	19.5	17.3	15.2	9.3	7.7	6.3	1	0.2	-0.4	-24	-24.2	-24.3	-104.3	-104.1	-103.7
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	6 m/s	Predicted SPL	42.7	37.4	32.6	40.7	36.7	33	34	31	28.2	23.4	21.2	19.1	13.2	11.6	10.2	4.9	4.1	3.5	-20.1	-20.3	-20.4	-100.4	-100.2	-99.8
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
	6 m/s	Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	46.1	40.8	36	44.1	40.1	36.4	37.4	34.4	31.6	26.8	24.6	22.5	16.6	15	13.6	8.3	7.5	6.9	-16.7	-16.9	-17	-97	-96.8	-96.4
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	8 m/s	Predicted SPL	49	43.7	38.9	47	43	39.3	40.3	37.3	34.5	29.7	27.5	25.4	19.5	17.9	16.5	11.2	10.4	9.8	-13.8	-14	-14.1	-94.1	-93.9	-93.5
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	9 m/s	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	12 m/s	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to Cutoff	Predicted SPL	50.3	45	40.2	48.3	44.3	40.6	41.6	38.6	35.8	31	28.8	26.7	20.8	19.2	17.8	12.5	11.7	11.1	-12.5	-12.7	-12.8	-92.8	-92.6	-92.2
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4	-3.7	1	-3	-2.8	-4.8	-2.2	-2.1	-5.9	-1.6	-1.4	-5.3	-0.8	-0.6	-23.6	-0.2	-0.1	-80	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-8.1	4	3.7	-1	3	2.8	4.8	2.2	2.1	5.9	1.6	1.4	5.3	0.8	0.6	23.6	0.2	0.1	80	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	3 m/s	Predicted SPL	35.2	30	25.2	33.1	29.1	25.4	26.3	23.2	20.5	15.4	13.1	11.1	4.9	3.4	2	-3.7	-4.6	-5.2	-31	-31.3	-31.3	-119.9	-119.7	-119.3
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	4 m/s	Predicted SPL	35.2	30	25.2	33.1	29.1	25.4	26.3	23.2	20.5	15.4	13.1	11.1	4.9	3.4	2	-3.7	-4.6	-5.2	-31	-31.3	-31.3	-119.9	-119.7	-119.3
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	5 m/s	Predicted SPL	37.7	32.5	27.7	35.6	31.6	27.9	28.8	25.7	23	17.9	15.6	13.6	7.4	5.9	4.5	-1.2	-2.1	-2.7	-28.5	-28.8	-28.8	-117.4	-117.2	-116.8
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	6 m/s	Predicted SPL	41.6	36.4	31.6	39.5	35.5	31.8	32.7	29.6	26.9	21.8	19.5	17.5	11.3	9.8	8.4	2.7	1.8	1.2	-24.6	-24.9	-24.9	-113.5	-113.3	-112.9
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	45	39.8	35	42.9	38.9	35.2	36.1	33	30.3	25.2	22.9	20.9	14.7	13.2	11.8	6.1	5.2	4.6	-21.2	-21.5	-21.5	-110.1	-109.9	-109.5
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
R05	8 m/s	Predicted SPL	47.9	42.7	37.9	45.8	41.8	38.1	39	35.9	33.2	28.1	25.8	23.8	17.6	16.1	14.7	9	8.1	7.5	-18.3	-18.6	-18.6	-107.2	-107	-106.6
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	9 m/s	Predicted SPL	49.2	44	39.2	47.1	43.1	39.4	40.3	37.2	34.5	29.4	27.1	25.1	18.9	17.4	16	10.3	9.4	8.8	-17	-17.3	-17.3	-105.9	-105.7	-105.3
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	49.2	44	39.2	47.1	43.1	39.4	40.3	37.2	34.5	29.4	27.1	25.1	18.9	17.4	16	10.3	9.4	8.8	-17	-17.3	-17.3	-105.9	-105.7	-105.3
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	49.2	44	39.2	47.1	43.1	39.4	40.3	37.2	34.5	29.4	27.1	25.1	18.9	17.4	16	10.3	9.4	8.8	-17	-17.3	-17.3	-105.9	-105.7	-105.3
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	12 m/s	Predicted SPL	49.2	44	39.2	47.1	43.1	39.4	40.3	37.2	34.5	29.4	27.1	25.1	18.9	17.4	16	10.3	9.4	8.8	-17	-17.3	-17.3	-105.9	-105.7	-105.3
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to Cutoff	Predicted SPL	49.2	44	39.2	47.1	43.1	39.4	40.3	37.2	34.5	29.4	27.1	25.1	18.9	17.4	16	10.3	9.4	8.8	-17	-17.3	-17.3	-105.9	-105.7	-105.3
		Level Above Left Neighbour	-	-5.2	-4.8	7.9	-4	-3.7	0.9	-3.1	-2.7	-5.1	-2.3	-2	-6.2	-1.5	-1.4	-5.7	-0.9	-0.6	-25.8	-0.3	0	-88.6	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-7.9	4	3.7	-0.9	3.1	2.7	5.1	2.3	2	6.2	1.5	1.4	5.7	0.9	0.6	25.8	0.3	0	88.6	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
R07	3 m/s	Predicted SPL	34.9	29.7	24.9	32.7	28.7	25	25.6	22.5	19.8	15.5	13.3	11.3	4.2	2.6	1.3	-6.5	-7.4	-8	-39.9	-40.1	-40.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																						
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	4 m/s	Predicted SPL	34.9	29.7	24.9	32.7	28.7	25	25.6	22.5	19.8	15.5	13.3	11.3	4.2	2.6	1.3	-6.5	-7.4	-8	-39.9	-40.1	-40.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	37.4	32.2	27.4	35.2	31.2	27.5	28.1	25	22.3	18	15.8	13.8	6.7	5.1	3.8	-4	-4.9	-5.5	-37.4	-37.6	-37.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	41.3	36.1	31.3	39.1	35.1	31.4	32	28.9	26.2	21.9	19.7	17.7	10.6	9	7.7	-0.1	-1	-1.6	-33.5	-33.7	-33.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	44.7	39.5	34.7	42.5	38.5	34.8	35.4	32.3	29.6	25.3	23.1	21.1	14	12.4	11.1	3.3	2.4	1.8	-30.1	-30.3	-30.4	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	47.6	42.4	37.6	45.4	41.4	37.7	38.3	35.2	32.5	28.2	26	24	16.9	15.3	14	6.2	5.3	4.7	-27.2	-27.4	-27.5	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s 9 m/s	Predicted SPL	48.9	43.7	38.9	46.7	42.7	39	39.6	36.5	33.8	29.5	27.3	25.3	18.2	16.6	15.3	7.5	6.6	6	-25.9	-26.1	-26.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	48.9	43.7	38.9	46.7	42.7	39	39.6	36.5	33.8	29.5	27.3	25.3	18.2	16.6	15.3	7.5	6.6	6	-25.9	-26.1	-26.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	48.9	43.7	38.9	46.7	42.7	39	39.6	36.5	33.8	29.5	27.3	25.3	18.2	16.6	15.3	7.5	6.6	6	-25.9	-26.1	-26.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	48.9	43.7	38.9	46.7	42.7	39	39.6	36.5	33.8	29.5	27.3	25.3	18.2	16.6	15.3	7.5	6.6	6	-25.9	-26.1	-26.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
R08	13 m/s to Cutoff	Predicted SPL	48.9	43.7	38.9	46.7	42.7	39	39.6	36.5	33.8	29.5	27.3	25.3	18.2	16.6	15.3	7.5	6.6	6	-25.9	-26.1	-26.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	0.6	-3.1	-2.7	-4.3	-2.2	-2	-7.1	-1.6	-1.3	-7.8	-0.9	-0.6	-31.9	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-0.6	3.1	2.7	4.3	2.2	2	7.1	1.6	1.3	7.8	0.9	0.6	31.9	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	3 m/s	Predicted SPL	32.7	27.4	22.6	30.4	26.4	22.7	23.5	20.5	17.7	13.3	11.1	9.1	3.4	1.8	0.5	-5.4	-6.2	-6.8	-34.3	-34.6	-34.6	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	32.7	27.4	22.6	30.4	26.4	22.7	23.5	20.5	17.7	13.3	11.1	9.1	3.4	1.8	0.5	-5.4	-6.2	-6.8	-34.3	-34.6	-34.6	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	35.2	29.9	25.1	32.9	28.9	25.2	26	23	20.2	15.8	13.6	11.6	5.9	4.3	3	-2.9	-3.7	-4.3	-31.8	-32.1	-32.1	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	39.1	33.8	29	36.8	32.8	29.1	29.9	26.9	24.1	19.7	17.5	15.5	9.8	8.2	6.9	1	0.2	-0.4	-27.9	-28.2	-28.2	-123.9	-123.7	-123.3
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-95.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	95.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	42.5	37.2	32.4	40.2	36.2	32.5	33.3	30.3	27.5	23.1	20.9	18.9	13.2	11.6	10.3	4.4	3.6	3	-24.5	-24.8	-24.8	-120.5	-120.3	-119.9
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-95.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	95.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	8 m/s	Predicted SPL	45.4	40.1	35.3	43.1	39.1	35.4	36.2	33.2	30.4	26	23.8	21.8	16.1	14.5	13.2	7.3	6.5	5.9	-21.6	-21.9	-21.9	-117.6	-117.4	-117
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-95.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	95.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	9 m/s	Predicted SPL	46.7	41.4	36.6	44.4	40.4	36.7	37.5	34.5	31.7	27.3	25.1	23.1	17.4	15.8	14.5	8.6	7.8	7.2	-20.3	-20.6	-20.6	-116.3	-116.1	-115.7
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-95.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	95.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	46.7	41.4	36.6	44.4	40.4	36.7	37.5	34.5	31.7	27.3	25.1	23.1	17.4	15.8	14.5	8.6	7.8	7.2	-20.3	-20.6	-20.6	-116.3	-116.1	-115.7
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-95.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	95.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
R09	11 m/s	Predicted SPL	46.7	41.4	36.6	44.4	40.4	36.7	37.5	34.5	31.7	27.3	25.1	23.1	17.4	15.8	14.5	8.6	7.8	7.2	-20.3	-20.6	-20.6	-116.3	-116.1	-115.7
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-95.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	95.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	12 m/s	Predicted SPL	46.7	41.4	36.6	44.4	40.4	36.7	37.5	34.5	31.7	27.3	25.1	23.1	17.4	15.8	14.5	8.6	7.8	7.2	-20.3	-20.6	-20.6	-116.3	-116.1	-115.7
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-95.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	95.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to Cutoff	Predicted SPL	46.7	41.4	36.6	44.4	40.4	36.7	37.5	34.5	31.7	27.3	25.1	23.1	17.4	15.8	14.5	8.6	7.8	7.2	-20.3	-20.6	-20.6	-116.3	-116.1	-115.7
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.8	-3	-2.8	-4.4	-2.2	-2	-5.7	-1.6	-1.3	-5.9	-0.8	-0.6	-27.5	-0.3	0	-95.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.8	3	2.8	4.4	2.2	2	5.7	1.6	1.3	5.9	0.8	0.6	27.5	0.3	0	95.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	3 m/s	Predicted SPL	34.4	29.1	24.3	32.1	28.1	24.4	24.9	21.8	19.1	13.6	11.3	9.3	2.9	1.3	0	-6.3	-7.1	-7.7	-35.1	-35.3	-35.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	34.4	29.1	24.3	32.1	28.1	24.4	24.9	21.8	19.1	13.6	11.3	9.3	2.9	1.3	0	-6.3	-7.1	-7.7	-35.1	-35.3	-35.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	36.9	31.6	26.8	34.6	30.6	26.9	27.4	24.3	21.6	16.1	13.8	11.8	5.4	3.8	2.5	-3.8	-4.6	-5.2	-32.6	-32.8	-32.9	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	40.8	35.5	30.7	38.5	34.5	30.8	31.3	28.2	25.5	20	17.7	15.7	9.3	7.7	6.4	0.1	-0.7	-1.3	-28.7	-28.9	-29	-125.4	-125.1	-124.7
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-96.4	0.3	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	96.4	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	7 m/s	Predicted SPL	44.2	38.9	34.1	41.9	37.9	34.2	34.7	31.6	28.9	23.4	21.1	19.1	12.7	11.1	9.8	3.5	2.7	2.1	-25.3	-25.5	-25.6	-122	-121.7	-121.3
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-96.4	0.3	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	96.4	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	8 m/s	Predicted SPL	47.1	41.8	37	44.8	40.8	37.1	37.6	34.5	31.8	26.3	24	22	15.6	14	12.7	6.4	5.6	5	-22.4	-22.6	-22.7	-119.1	-118.8	-118.4
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-96.4	0.3	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	96.4	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	9 m/s	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.9	35.8	33.1	27.6	25.3	23.3	16.9	15.3	14	7.7	6.9	6.3	-21.1	-21.3	-21.4	-117.8	-117.5	-117.1
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-96.4	0.3	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	96.4	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.9	35.8	33.1	27.6	25.3	23.3	16.9	15.3	14	7.7	6.9	6.3	-21.1	-21.3	-21.4	-117.8	-117.5	-117.1
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-96.4	0.3	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	96.4	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.9	35.8	33.1	27.6	25.3	23.3	16.9	15.3	14	7.7	6.9	6.3	-21.1	-21.3	-21.4	-117.8	-117.5	-117.1
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-96.4	0.3	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	96.4	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	12 m/s	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.9	35.8	33.1	27.6	25.3	23.3	16.9	15.3	14	7.7	6.9	6.3	-21.1	-21.3	-21.4	-117.8	-117.5	-117.1
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-96.4	0.3	0.4
	12 m/s	Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	96.4	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to Cutoff	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.9	35.8	33.1	27.6	25.3	23.3	16.9	15.3	14	7.7	6.9	6.3	-21.1	-21.3	-21.4	-117.8	-117.5	-117.1
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.5	-3.1	-2.7	-5.5	-2.3	-2	-6.4	-1.6	-1.3	-6.3	-0.8	-0.6	-27.4	-0.2	-0.1	-96.4	0.3	0.4
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.5	3.1	2.7	5.5	2.3	2	6.4	1.6	1.3	6.3	0.8	0.6	27.4	0.2	0.1	96.4	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
R10	3 m/s	Predicted SPL	32.7	27.5	22.6	30.4	26.3	22.7	23.2	20.1	17.4	12.4	10.2	8.2	1.9	0.3	-1	-7.7	-8.5	-9.1	-38.5	-38.7	-38.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	32.7	27.5	22.6	30.4	26.3	22.7	23.2	20.1	17.4	12.4	10.2	8.2	1.9	0.3	-1	-7.7	-8.5	-9.1	-38.5	-38.7	-38.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	35.2	30	25.1	32.9	28.8	25.2	25.7	22.6	19.9	14.9	12.7	10.7	4.4	2.8	1.5	-5.2	-6	-6.6	-36	-36.2	-36.3	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	39.1	33.9	29	36.8	32.7	29.1	29.6	26.5	23.8	18.8	16.6	14.6	8.3	6.7	5.4	-1.3	-2.1	-2.7	-32.1	-32.3	-32.4	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	7 m/s	Predicted SPL	42.5	37.3	32.4	40.2	36.1	32.5	33	29.9	27.2	22.2	20	18	11.7	10.1	8.8	2.1	1.3	0.7	-28.7	-28.9	-29	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	45.4	40.2	35.3	43.1	39	35.4	35.9	32.8	30.1	25.1	22.9	20.9	14.6	13	11.7	5	4.2	3.6	-25.8	-26	-26.1	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	46.7	41.5	36.6	44.4	40.3	36.7	37.2	34.1	31.4	26.4	24.2	22.2	15.9	14.3	13	6.3	5.5	4.9	-24.5	-24.7	-24.8	-124.7	-124.5	-124
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-99.9	0.2	0.5
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	99.9	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	10 m/s	Predicted SPL	46.7	41.5	36.6	44.4	40.3	36.7	37.2	34.1	31.4	26.4	24.2	22.2	15.9	14.3	13	6.3	5.5	4.9	-24.5	-24.7	-24.8	-124.7	-124.5	-124
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-99.9	0.2	0.5
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	99.9	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	11 m/s	Predicted SPL	46.7	41.5	36.6	44.4	40.3	36.7	37.2	34.1	31.4	26.4	24.2	22.2	15.9	14.3	13	6.3	5.5	4.9	-24.5	-24.7	-24.8	-124.7	-124.5	-124
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-99.9	0.2	0.5
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	99.9	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	12 m/s	Predicted SPL	46.7	41.5	36.6	44.4	40.3	36.7	37.2	34.1	31.4	26.4	24.2	22.2	15.9	14.3	13	6.3	5.5	4.9	-24.5	-24.7	-24.8	-124.7	-124.5	-124
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-99.9	0.2	0.5
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	99.9	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	13 m/s to Cutoff	Predicted SPL	46.7	41.5	36.6	44.4	40.3	36.7	37.2	34.1	31.4	26.4	24.2	22.2	15.9	14.3	13	6.3	5.5	4.9	-24.5	-24.7	-24.8	-124.7	-124.5	-124
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4.1	-3.6	0.5	-3.1	-2.7	-5	-2.2	-2	-6.3	-1.6	-1.3	-6.7	-0.8	-0.6	-29.4	-0.2	-0.1	-99.9	0.2	0.5
		Level Above Right Neighbour	5.2	4.9	-7.8	4.1	3.6	-0.5	3.1	2.7	5	2.2	2	6.3	1.6	1.3	6.7	0.8	0.6	29.4	0.2	0.1	99.9	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
R11	3 m/s	Predicted SPL	32.2	27	22.2	30	25.9	22.2	22.9	19.9	17.1	12.4	10.2	8.2	2	0.5	-0.9	-7.4	-8.3	-8.9	-38.6	-38.8	-38.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	32.2	27	22.2	30	25.9	22.2	22.9	19.9	17.1	12.4	10.2	8.2	2	0.5	-0.9	-7.4	-8.3	-8.9	-38.6	-38.8	-38.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																						
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	5 m/s	Predicted SPL	34.7	29.5	24.7	32.5	28.4	24.7	25.4	22.4	19.6	14.9	12.7	10.7	4.5	3	1.6	-4.9	-5.8	-6.4	-36.1	-36.3	-36.4	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	38.6	33.4	28.6	36.4	32.3	28.6	29.3	26.3	23.5	18.8	16.6	14.6	8.4	6.9	5.5	-1	-1.9	-2.5	-32.2	-32.4	-32.5	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	42	36.8	32	39.8	35.7	32	32.7	29.7	26.9	22.2	20	18	11.8	10.3	8.9	2.4	1.5	0.9	-28.8	-29	-29.1	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	44.9	39.7	34.9	42.7	38.6	34.9	35.6	32.6	29.8	25.1	22.9	20.9	14.7	13.2	11.8	5.3	4.4	3.8	-25.9	-26.1	-26.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	46.2	41	36.2	44	39.9	36.2	36.9	33.9	31.1	26.4	24.2	22.2	16	14.5	13.1	6.6	5.7	5.1	-24.6	-24.8	-24.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	46.2	41	36.2	44	39.9	36.2	36.9	33.9	31.1	26.4	24.2	22.2	16	14.5	13.1	6.6	5.7	5.1	-24.6	-24.8	-24.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	46.2	41	36.2	44	39.9	36.2	36.9	33.9	31.1	26.4	24.2	22.2	16	14.5	13.1	6.6	5.7	5.1	-24.6	-24.8	-24.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	46.2	41	36.2	44	39.9	36.2	36.9	33.9	31.1	26.4	24.2	22.2	16	14.5	13.1	6.6	5.7	5.1	-24.6	-24.8	-24.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	46.2	41	36.2	44	39.9	36.2	36.9	33.9	31.1	26.4	24.2	22.2	16	14.5	13.1	6.6	5.7	5.1	-24.6	-24.8	-24.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4.1	-3.7	0.7	-3	-2.8	-4.7	-2.2	-2	-6.2	-1.5	-1.4	-6.5	-0.9	-0.6	-29.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4.1	3.7	-0.7	3	2.8	4.7	2.2	2	6.2	1.5	1.4	6.5	0.9	0.6	29.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
R12	3 m/s	Predicted SPL	35.2	29.9	25.1	33	29	25.3	25.8	22.8	20	14	11.7	9.7	1.8	0.2	-1.1	-9.9	-11	-11	-46.1	-46.3	-46.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	35.2	29.9	25.1	33	29	25.3	25.8	22.8	20	14	11.7	9.7	1.8	0.2	-1.1	-9.9	-11	-11	-46.1	-46.3	-46.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
	4 m/s	Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	37.7	32.4	27.6	35.5	31.5	27.8	28.3	25.3	22.5	16.5	14.2	12.2	4.3	2.7	1.4	-7.4	-8.2	-8.8	-43.6	-43.8	-43.9	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	41.6	36.3	31.5	39.4	35.4	31.7	32.2	29.2	26.4	20.4	18.1	16.1	8.2	6.6	5.3	-3.5	-4.3	-4.9	-39.7	-39.9	-40	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	45	39.7	34.9	42.8	38.8	35.1	35.6	32.6	29.8	23.8	21.5	19.5	11.6	10	8.7	-0.1	-0.9	-1.5	-36.3	-36.5	-36.6	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	47.9	42.6	37.8	45.7	41.7	38	38.5	35.5	32.7	26.7	24.4	22.4	14.5	12.9	11.6	2.8	2	1.4	-33.4	-33.6	-33.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	49.2	43.9	39.1	47	43	39.3	39.8	36.8	34	28	25.7	23.7	15.8	14.2	12.9	4.1	3.3	2.7	-32.1	-32.3	-32.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	49.2	43.9	39.1	47	43	39.3	39.8	36.8	34	28	25.7	23.7	15.8	14.2	12.9	4.1	3.3	2.7	-32.1	-32.3	-32.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	49.2	43.9	39.1	47	43	39.3	39.8	36.8	34	28	25.7	23.7	15.8	14.2	12.9	4.1	3.3	2.7	-32.1	-32.3	-32.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	49.2	43.9	39.1	47	43	39.3	39.8	36.8	34	28	25.7	23.7	15.8	14.2	12.9	4.1	3.3	2.7	-32.1	-32.3	-32.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	49.2	43.9	39.1	47	43	39.3	39.8	36.8	34	28	25.7	23.7	15.8	14.2	12.9	4.1	3.3	2.7	-32.1	-32.3	-32.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.9	-4	-3.7	0.5	-3	-2.8	-6	-2.3	-2	-7.9	-1.6	-1.3	-8.8	-0.8	-0.6	-34.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.9	4	3.7	-0.5	3	2.8	6	2.3	2	7.9	1.6	1.3	8.8	0.8	0.6	34.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	3 m/s	Predicted SPL	34.9	29.6	24.8	32.6	28.6	24.9	25.3	22.2	19.5	13	10.8	8.8	0.7	-0.8	-2.2	-11	-12	-12	-47.4	-47.6	-47.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	34.9	29.6	24.8	32.6	28.6	24.9	25.3	22.2	19.5	13	10.8	8.8	0.7	-0.8	-2.2	-11	-12	-12	-47.4	-47.6	-47.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	37.4	32.1	27.3	35.1	31.1	27.4	27.8	24.7	22	15.5	13.3	11.3	3.2	1.7	0.3	-8.4	-9.2	-9.8	-44.9	-45.1	-45.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	41.3	36	31.2	39	35	31.3	31.7	28.6	25.9	19.4	17.2	15.2	7.1	5.6	4.2	-4.5	-5.3	-5.9	-41	-41.2	-41.3	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	44.7	39.4	34.6	42.4	38.4	34.7	35.1	32	29.3	22.8	20.6	18.6	10.5	9	7.6	-1.1	-1.9	-2.5	-37.6	-37.8	-37.9	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
R13	8 m/s	Predicted SPL	47.6	42.3	37.5	45.3	41.3	37.6	38	34.9	32.2	25.7	23.5	21.5	13.4	11.9	10.5	1.8	1	0.4	-34.7	-34.9	-35	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	48.9	43.6	38.8	46.6	42.6	38.9	39.3	36.2	33.5	27	24.8	22.8	14.7	13.2	11.8	3.1	2.3	1.7	-33.4	-33.6	-33.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	48.9	43.6	38.8	46.6	42.6	38.9	39.3	36.2	33.5	27	24.8	22.8	14.7	13.2	11.8	3.1	2.3	1.7	-33.4	-33.6	-33.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
		Neighbour																								
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	48.9	43.6	38.8	46.6	42.6	38.9	39.3	36.2	33.5	27	24.8	22.8	14.7	13.2	11.8	3.1	2.3	1.7	-33.4	-33.6	-33.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	48.9	43.6	38.8	46.6	42.6	38.9	39.3	36.2	33.5	27	24.8	22.8	14.7	13.2	11.8	3.1	2.3	1.7	-33.4	-33.6	-33.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	48.9	43.6	38.8	46.6	42.6	38.9	39.3	36.2	33.5	27	24.8	22.8	14.7	13.2	11.8	3.1	2.3	1.7	-33.4	-33.6	-33.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.4	-3.1	-2.7	-6.5	-2.2	-2	-8.1	-1.5	-1.4	-8.7	-0.8	-0.6	-35.1	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.4	3.1	2.7	6.5	2.2	2	8.1	1.5	1.4	8.7	0.8	0.6	35.1	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
R14	3 m/s	Predicted SPL	34.4	29.1	24.3	32.1	28.1	24.4	24.7	21.6	18.9	12.4	10.2	8.1	0.2	-1.4	-2.8	-11	-12	-13	-47.9	-48.2	-48.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	34.4	29.1	24.3	32.1	28.1	24.4	24.7	21.6	18.9	12.4	10.2	8.1	0.2	-1.4	-2.8	-11	-12	-13	-47.9	-48.2	-48.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	36.9	31.6	26.8	34.6	30.6	26.9	27.2	24.1	21.4	14.9	12.7	10.6	2.7	1.1	-0.3	-8.9	-9.7	-10	-45.4	-45.7	-45.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	40.8	35.5	30.7	38.5	34.5	30.8	31.1	28	25.3	18.8	16.6	14.5	6.6	5	3.6	-5	-5.8	-6.4	-41.5	-41.8	-41.8	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	44.2	38.9	34.1	41.9	37.9	34.2	34.5	31.4	28.7	22.2	20	17.9	10	8.4	7	-1.6	-2.4	-3	-38.1	-38.4	-38.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
R14	8 m/s	Predicted SPL	47.1	41.8	37	44.8	40.8	37.1	37.4	34.3	31.6	25.1	22.9	20.8	12.9	11.3	9.9	1.3	0.5	-0.1	-35.2	-35.5	-35.5	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																						
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.7	35.6	32.9	26.4	24.2	22.1	14.2	12.6	11.2	2.6	1.8	1.2	-33.9	-34.2	-34.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.7	35.6	32.9	26.4	24.2	22.1	14.2	12.6	11.2	2.6	1.8	1.2	-33.9	-34.2	-34.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.7	35.6	32.9	26.4	24.2	22.1	14.2	12.6	11.2	2.6	1.8	1.2	-33.9	-34.2	-34.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.7	35.6	32.9	26.4	24.2	22.1	14.2	12.6	11.2	2.6	1.8	1.2	-33.9	-34.2	-34.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	48.4	43.1	38.3	46.1	42.1	38.4	38.7	35.6	32.9	26.4	24.2	22.1	14.2	12.6	11.2	2.6	1.8	1.2	-33.9	-34.2	-34.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	0.3	-3.1	-2.7	-6.5	-2.2	-2.1	-7.9	-1.6	-1.4	-8.6	-0.8	-0.6	-35.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-0.3	3.1	2.7	6.5	2.2	2.1	7.9	1.6	1.4	8.6	0.8	0.6	35.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
R15	3 m/s	Predicted SPL	32.7	27.5	22.7	30.3	26.2	22.5	22.4	19.3	16.6	10	7.7	5.7	-2.3	-3.9	-5.2	-14	-15	-16	-52.3	-52.5	-52.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	32.7	27.5	22.7	30.3	26.2	22.5	22.4	19.3	16.6	10	7.7	5.7	-2.3	-3.9	-5.2	-14	-15	-16	-52.3	-52.5	-52.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	35.2	30	25.2	32.8	28.7	25	24.9	21.8	19.1	12.5	10.2	8.2	0.2	-1.4	-2.7	-12	-13	-13	-49.8	-50	-50.1	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	39.1	33.9	29.1	36.7	32.6	28.9	28.8	25.7	23	16.4	14.1	12.1	4.1	2.5	1.2	-7.8	-8.6	-9.2	-45.9	-46.1	-46.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	7 m/s	Predicted SPL	42.5	37.3	32.5	40.1	36	32.3	32.2	29.1	26.4	19.8	17.5	15.5	7.5	5.9	4.6	-4.4	-5.2	-5.8	-42.5	-42.7	-42.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	45.4	40.2	35.4	43	38.9	35.2	35.1	32	29.3	22.7	20.4	18.4	10.4	8.8	7.5	-1.5	-2.3	-2.9	-39.6	-39.8	-39.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	46.7	41.5	36.7	44.3	40.2	36.5	36.4	33.3	30.6	24	21.7	19.7	11.7	10.1	8.8	-0.2	-1	-1.6	-38.3	-38.5	-38.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	46.7	41.5	36.7	44.3	40.2	36.5	36.4	33.3	30.6	24	21.7	19.7	11.7	10.1	8.8	-0.2	-1	-1.6	-38.3	-38.5	-38.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
R15	11 m/s	Predicted SPL	46.7	41.5	36.7	44.3	40.2	36.5	36.4	33.3	30.6	24	21.7	19.7	11.7	10.1	8.8	-0.2	-1	-1.6	-38.3	-38.5	-38.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	46.7	41.5	36.7	44.3	40.2	36.5	36.4	33.3	30.6	24	21.7	19.7	11.7	10.1	8.8	-0.2	-1	-1.6	-38.3	-38.5	-38.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	46.7	41.5	36.7	44.3	40.2	36.5	36.4	33.3	30.6	24	21.7	19.7	11.7	10.1	8.8	-0.2	-1	-1.6	-38.3	-38.5	-38.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.6	-4.1	-3.7	-0.1	-3.1	-2.7	-6.6	-2.3	-2	-8	-1.6	-1.3	-9	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.6	4.1	3.7	0.1	3.1	2.7	6.6	2.3	2	8	1.6	1.3	9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
R16	3 m/s	Predicted SPL	31.2	25.9	21.1	28.7	24.7	21	21.1	18.1	15.3	9.4	7.1	5.1	-2.7	-4.2	-5.6	-15	-16	-16	-54.8	-55.1	-55.1	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	31.2	25.9	21.1	28.7	24.7	21	21.1	18.1	15.3	9.4	7.1	5.1	-2.7	-4.2	-5.6	-15	-16	-16	-54.8	-55.1	-55.1	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	5 m/s	Predicted SPL	33.7	28.4	23.6	31.2	27.2	23.5	23.6	20.6	17.8	11.9	9.6	7.6	-0.2	-1.7	-3.1	-12	-13	-14	-52.3	-52.6	-52.6	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	37.6	32.3	27.5	35.1	31.1	27.4	27.5	24.5	21.7	15.8	13.5	11.5	3.7	2.2	0.8	-8.5	-9.3	-9.9	-48.4	-48.7	-48.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	41	35.7	30.9	38.5	34.5	30.8	30.9	27.9	25.1	19.2	16.9	14.9	7.1	5.6	4.2	-5.1	-5.9	-6.5	-45	-45.3	-45.3	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	43.9	38.6	33.8	41.4	37.4	33.7	33.8	30.8	28	22.1	19.8	17.8	10	8.5	7.1	-2.2	-3	-3.6	-42.1	-42.4	-42.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	45.2	39.9	35.1	42.7	38.7	35	35.1	32.1	29.3	23.4	21.1	19.1	11.3	9.8	8.4	-0.9	-1.7	-2.3	-40.8	-41.1	-41.1	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	45.2	39.9	35.1	42.7	38.7	35	35.1	32.1	29.3	23.4	21.1	19.1	11.3	9.8	8.4	-0.9	-1.7	-2.3	-40.8	-41.1	-41.1	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	45.2	39.9	35.1	42.7	38.7	35	35.1	32.1	29.3	23.4	21.1	19.1	11.3	9.8	8.4	-0.9	-1.7	-2.3	-40.8	-41.1	-41.1	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	45.2	39.9	35.1	42.7	38.7	35	35.1	32.1	29.3	23.4	21.1	19.1	11.3	9.8	8.4	-0.9	-1.7	-2.3	-40.8	-41.1	-41.1	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	45.2	39.9	35.1	42.7	38.7	35	35.1	32.1	29.3	23.4	21.1	19.1	11.3	9.8	8.4	-0.9	-1.7	-2.3	-40.8	-41.1	-41.1	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4	-3.7	0.1	-3	-2.8	-5.9	-2.3	-2	-7.8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.5	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4	3.7	-0.1	3	2.8	5.9	2.3	2	7.8	1.5	1.4	9.3	0.8	0.6	38.5	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
R17	3 m/s	Predicted SPL	30.5	25.3	20.4	28.2	24.2	20.5	22.3	19.2	16.5	11	8.8	6.8	-1.2	-2.7	-4.1	-13	-14	-15	-53.4	-53.6	-53.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	30.5	25.3	20.4	28.2	24.2	20.5	22.3	19.2	16.5	11	8.8	6.8	-1.2	-2.7	-4.1	-13	-14	-15	-53.4	-53.6	-53.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	33	27.8	22.9	30.7	26.7	23	24.8	21.7	19	13.5	11.3	9.3	1.3	-0.2	-1.6	-11	-12	-12	-50.9	-51.1	-51.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	36.9	31.7	26.8	34.6	30.6	26.9	28.7	25.6	22.9	17.4	15.2	13.2	5.2	3.7	2.3	-7	-7.8	-8.4	-47	-47.2	-47.3	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	40.3	35.1	30.2	38	34	30.3	32.1	29	26.3	20.8	18.6	16.6	8.6	7.1	5.7	-3.6	-4.4	-5	-43.6	-43.8	-43.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	43.2	38	33.1	40.9	36.9	33.2	35	31.9	29.2	23.7	21.5	19.5	11.5	10	8.6	-0.7	-1.5	-2.1	-40.7	-40.9	-41	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	44.5	39.3	34.4	42.2	38.2	34.5	36.3	33.2	30.5	25	22.8	20.8	12.8	11.3	9.9	0.6	-0.2	-0.8	-39.4	-39.6	-39.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	44.5	39.3	34.4	42.2	38.2	34.5	36.3	33.2	30.5	25	22.8	20.8	12.8	11.3	9.9	0.6	-0.2	-0.8	-39.4	-39.6	-39.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	44.5	39.3	34.4	42.2	38.2	34.5	36.3	33.2	30.5	25	22.8	20.8	12.8	11.3	9.9	0.6	-0.2	-0.8	-39.4	-39.6	-39.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
R18	12 m/s	Predicted SPL	44.5	39.3	34.4	42.2	38.2	34.5	36.3	33.2	30.5	25	22.8	20.8	12.8	11.3	9.9	0.6	-0.2	-0.8	-39.4	-39.6	-39.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	44.5	39.3	34.4	42.2	38.2	34.5	36.3	33.2	30.5	25	22.8	20.8	12.8	11.3	9.9	0.6	-0.2	-0.8	-39.4	-39.6	-39.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.8	-4	-3.7	1.8	-3.1	-2.7	-5.5	-2.2	-2	-8	-1.5	-1.4	-9.3	-0.8	-0.6	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.8	4	3.7	-1.8	3.1	2.7	5.5	2.2	2	8	1.5	1.4	9.3	0.8	0.6	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	3 m/s	Predicted SPL	32.6	27.3	22.5	30.1	26	22.3	22	18.9	16.2	9.1	6.9	4.8	-3.7	-5.3	-6.6	-17	-17	-18	-57.1	-57.3	-57.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	32.6	27.3	22.5	30.1	26	22.3	22	18.9	16.2	9.1	6.9	4.8	-3.7	-5.3	-6.6	-17	-17	-18	-57.1	-57.3	-57.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	35.1	29.8	25	32.6	28.5	24.8	24.5	21.4	18.7	11.6	9.4	7.3	-1.2	-2.8	-4.1	-14	-15	-15	-54.6	-54.8	-54.9	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	39	33.7	28.9	36.5	32.4	28.7	28.4	25.3	22.6	15.5	13.3	11.2	2.7	1.1	-0.2	-10	-11	-12	-50.7	-50.9	-51	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	42.4	37.1	32.3	39.9	35.8	32.1	31.8	28.7	26	18.9	16.7	14.6	6.1	4.5	3.2	-6.7	-7.5	-8.1	-47.3	-47.5	-47.6	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	45.3	40	35.2	42.8	38.7	35	34.7	31.6	28.9	21.8	19.6	17.5	9	7.4	6.1	-3.8	-4.6	-5.2	-44.4	-44.6	-44.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	46.6	41.3	36.5	44.1	40	36.3	36	32.9	30.2	23.1	20.9	18.8	10.3	8.7	7.4	-2.5	-3.3	-3.9	-43.1	-43.3	-43.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
R19	10 m/s	Predicted SPL	46.6	41.3	36.5	44.1	40	36.3	36	32.9	30.2	23.1	20.9	18.8	10.3	8.7	7.4	-2.5	-3.3	-3.9	-43.1	-43.3	-43.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	46.6	41.3	36.5	44.1	40	36.3	36	32.9	30.2	23.1	20.9	18.8	10.3	8.7	7.4	-2.5	-3.3	-3.9	-43.1	-43.3	-43.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	46.6	41.3	36.5	44.1	40	36.3	36	32.9	30.2	23.1	20.9	18.8	10.3	8.7	7.4	-2.5	-3.3	-3.9	-43.1	-43.3	-43.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	46.6	41.3	36.5	44.1	40	36.3	36	32.9	30.2	23.1	20.9	18.8	10.3	8.7	7.4	-2.5	-3.3	-3.9	-43.1	-43.3	-43.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.6	-4.1	-3.7	-0.3	-3.1	-2.7	-7.1	-2.2	-2.1	-8.5	-1.6	-1.3	-9.9	-0.8	-0.6	-39.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.6	4.1	3.7	0.3	3.1	2.7	7.1	2.2	2.1	8.5	1.6	1.3	9.9	0.8	0.6	39.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	3 m/s	Predicted SPL	32.2	26.9	22.1	29.6	25.6	21.9	21.4	18.4	15.6	8.4	6.2	4.1	-4.8	-6.3	-7.7	-18	-19	-20	-61.7	-61.9	-62	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	32.2	26.9	22.1	29.6	25.6	21.9	21.4	18.4	15.6	8.4	6.2	4.1	-4.8	-6.3	-7.7	-18	-19	-20	-61.7	-61.9	-62	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	34.7	29.4	24.6	32.1	28.1	24.4	23.9	20.9	18.1	10.9	8.7	6.6	-2.3	-3.8	-5.2	-16	-17	-17	-59.2	-59.4	-59.5	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	6 m/s	Predicted SPL	38.6	33.3	28.5	36	32	28.3	27.8	24.8	22	14.8	12.6	10.5	1.6	0.1	-1.3	-12	-13	-13	-55.3	-55.5	-55.6	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	42	36.7	31.9	39.4	35.4	31.7	31.2	28.2	25.4	18.2	16	13.9	5	3.5	2.1	-8.5	-9.3	-9.9	-51.9	-52.1	-52.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	8 m/s	Predicted SPL	44.9	39.6	34.8	42.3	38.3	34.6	34.1	31.1	28.3	21.1	18.9	16.8	7.9	6.4	5	-5.6	-6.4	-7	-49	-49.2	-49.3	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	46.2	40.9	36.1	43.6	39.6	35.9	35.4	32.4	29.6	22.4	20.2	18.1	9.2	7.7	6.3	-4.3	-5.1	-5.7	-47.7	-47.9	-48	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	46.2	40.9	36.1	43.6	39.6	35.9	35.4	32.4	29.6	22.4	20.2	18.1	9.2	7.7	6.3	-4.3	-5.1	-5.7	-47.7	-47.9	-48	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	46.2	40.9	36.1	43.6	39.6	35.9	35.4	32.4	29.6	22.4	20.2	18.1	9.2	7.7	6.3	-4.3	-5.1	-5.7	-47.7	-47.9	-48	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	46.2	40.9	36.1	43.6	39.6	35.9	35.4	32.4	29.6	22.4	20.2	18.1	9.2	7.7	6.3	-4.3	-5.1	-5.7	-47.7	-47.9	-48	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	46.2	40.9	36.1	43.6	39.6	35.9	35.4	32.4	29.6	22.4	20.2	18.1	9.2	7.7	6.3	-4.3	-5.1	-5.7	-47.7	-47.9	-48	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.5	-4	-3.7	-0.5	-3	-2.8	-7.2	-2.2	-2.1	-8.9	-1.5	-1.4	-11	-0.8	-0.6	-42	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.5	4	3.7	0.5	3	2.8	7.2	2.2	2.1	8.9	1.5	1.4	10.6	0.8	0.6	42	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
R20	3 m/s	Predicted SPL	30.9	25.7	20.8	28.3	24.3	20.6	20.3	17.3	14.6	7.8	5.6	3.5	-5.2	-6.8	-8.1	-19	-20	-20	-63.6	-63.8	-63.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	4 m/s	Predicted SPL	30.9	25.7	20.8	28.3	24.3	20.6	20.3	17.3	14.6	7.8	5.6	3.5	-5.2	-6.8	-8.1	-19	-20	-20	-63.6	-63.8	-63.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	5 m/s	Predicted SPL	33.4	28.2	23.3	30.8	26.8	23.1	22.8	19.8	17.1	10.3	8.1	6	-2.7	-4.3	-5.6	-17	-17	-18	-61.1	-61.3	-61.4	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Receiver	Wind Speed	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	6 m/s	Predicted SPL	37.3	32.1	27.2	34.7	30.7	27	26.7	23.7	21	14.2	12	9.9	1.2	-0.4	-1.7	-13	-13	-14	-57.2	-57.4	-57.5	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	7 m/s	Predicted SPL	40.7	35.5	30.6	38.1	34.1	30.4	30.1	27.1	24.4	17.6	15.4	13.3	4.6	3	1.7	-9.2	-10	-11	-53.8	-54	-54.1	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	8 m/s	Predicted SPL	43.6	38.4	33.5	41	37	33.3	33	30	27.3	20.5	18.3	16.2	7.5	5.9	4.6	-6.3	-7.1	-7.7	-50.9	-51.1	-51.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	9 m/s	Predicted SPL	44.9	39.7	34.8	42.3	38.3	34.6	34.3	31.3	28.6	21.8	19.6	17.5	8.8	7.2	5.9	-5	-5.8	-6.4	-49.6	-49.8	-49.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	10 m/s	Predicted SPL	44.9	39.7	34.8	42.3	38.3	34.6	34.3	31.3	28.6	21.8	19.6	17.5	8.8	7.2	5.9	-5	-5.8	-6.4	-49.6	-49.8	-49.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	11 m/s	Predicted SPL	44.9	39.7	34.8	42.3	38.3	34.6	34.3	31.3	28.6	21.8	19.6	17.5	8.8	7.2	5.9	-5	-5.8	-6.4	-49.6	-49.8	-49.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	12 m/s	Predicted SPL	44.9	39.7	34.8	42.3	38.3	34.6	34.3	31.3	28.6	21.8	19.6	17.5	8.8	7.2	5.9	-5	-5.8	-6.4	-49.6	-49.8	-49.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	13 m/s to Cutoff	Predicted SPL	44.9	39.7	34.8	42.3	38.3	34.6	34.3	31.3	28.6	21.8	19.6	17.5	8.8	7.2	5.9	-5	-5.8	-6.4	-49.6	-49.8	-49.9	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	7.5	-4	-3.7	-0.3	-3	-2.7	-6.8	-2.2	-2.1	-8.7	-1.6	-1.3	-11	-0.8	-0.6	-43.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-7.5	4	3.7	0.3	3	2.7	6.8	2.2	2.1	8.7	1.6	1.3	10.9	0.8	0.6	43.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

B.2 Substation and BESS tonal assessment

Option	Receiver	Measurement	1/3 Octave Band Frequencies (dB(Z))																						
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
Option 1	R01	Predicted SPL	27.6	22.3	17.5	33.1	29.1	25.4	27.5	24.4	21.7	24.9	22.7	20.6	19	17.4	16.1	-0.3	-1.1	-1.7	-26.5	-26.7	-26.8	-90.7	-90.5	-90
		Level Above Right Neighbour	-	-5.3	-4.8	15.6	-4	-3.7	2.1	-3.1	-2.7	3.2	-2.2	-2.1	-1.6	-1.6	-1.3	-16	-0.8	-0.6	-24.8	-0.2	-0.1	-63.9	0.2	0.5
		Level Above Right Neighbour	5.3	4.8	-16	4	3.7	-2.1	3.1	2.7	-3.2	2.2	2.1	1.6	1.6	1.3	16.4	0.8	0.6	24.8	0.2	0.1	63.9	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R02	Predicted SPL	29.6	24.3	19.5	35.4	31.4	27.7	31.2	28.2	25.4	29.1	26.8	24.8	23.8	22.3	20.9	6.2	5.3	4.7	-13.3	-13.5	-13.5	-56.2	-56	-55.6
		Level Above Left Neighbour	-	-5.3	-4.8	15.9	-4	-3.7	-3.5	-3	-2.8	3.7	-2.3	-2	-1	-1.5	-1.4	-15	-0.9	-0.6	-18	-0.2	0	-42.7	0.2	0.4
		Level Above Right Neighbour	5.3	4.8	-16	4	3.7	-3.5	3	2.8	-3.7	2.3	2	1	1.5	1.4	14.7	0.9	0.6	18	0.2	0	42.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R03	Predicted SPL	29.4	24.1	19.3	35.2	31.2	27.5	30.9	27.8	25.1	28.1	25.9	23.8	21.2	19.6	18.3	2.1	1.3	0.7	-21.8	-22	-22.1	-77.3	-77.1	-76.6
		Level Above Left Neighbour	-	-5.3	-4.8	15.9	-4	-3.7	3.4	-3.1	-2.7	3	-2.2	-2.1	-2.6	-1.6	-1.3	-16	-0.8	-0.6	-22.5	-0.2	-0.1	-55.2	0.2	0.5
		Level Above Right Neighbour	5.3	4.8	-16	4	3.7	-3.4	3.1	2.7	-3	2.2	2.1	2.6	1.6	1.3	16.2	0.8	0.6	22.5	0.2	0.1	55.2	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R04	Predicted SPL	27.5	22.2	17.4	33	29	25.3	27	24	21.3	23.2	20.9	18.9	15.1	13.5	12.1	-5.2	-6	-6.6	-34	-34.3	-34.3	-107.2	-107	-106.5
		Level Above Left Neighbour	-	-5.3	-4.8	15.6	-4	-3.7	1.7	-3	-2.7	1.9	-2.3	-2	-3.8	-1.6	-1.4	-17	-0.8	-0.6	-27.4	-0.3	0	-72.9	0.2	0.5
		Level Above Right Neighbour	5.3	4.8	-16	4	3.7	-1.7	3	2.7	-1.9	2.3	2	3.8	1.6	1.4	17.3	0.8	0.6	27.4	0.3	0	72.9	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R05	Predicted SPL	25.5	20.2	15.4	30.6	26.6	22.9	22.2	19.2	16.4	16.7	14.4	12.4	8.8	7.2	5.9	-13	-14	-15	-52.5	-52.7	-52.8	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	15.2	-4	-3.7	-0.7	-3	-2.8	0.3	-2.3	-2	-3.6	-1.6	-1.3	-19	-0.8	-0.6	-37.8	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-15	4	3.7	0.7	3	2.8	-0.3	2.3	2	3.6	1.6	1.3	19.2	0.8	0.6	37.8	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R06	Predicted SPL	25.7	20.5	15.7	30.9	26.9	23.2	22.9	19.9	17.1	20.2	18	16	11.4	9.8	8.5	-10	-11	-11	-45.7	-45.9	-46	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	15.2	-4	-3.7	-0.7	-3	-2.8	3.1	-2.2	-2	-4.6	-1.6	-1.3	-19	-0.8	-0.6	-34.3	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-15	4	3.7	0.3	3	2.8	-3.1	2.2	2	4.6	1.6	1.3	18.5	0.8	0.6	34.3	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R07	Predicted SPL	22.2	16.9	12.1	25.9	21.9	18.2	12.5	9.5	6.7	11.6	9.4	7.3	4.8	3.2	1.9	-17	-18	-19	-57.1	-57.3	-57.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	13.8	-4	-3.7	-5.7	-3	-2.8	4.9	-2.2	-2.1	-2.5	-1.6	-1.3	-19	-0.9	-0.6	-38.5	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-14	4	3.7	5.7	3	2.8	-4.9	2.2	2.1	2.5	1.6	1.3	19	0.9	0.6	38.5	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R08	Predicted SPL	24.4	19.2	14.4	29.2	25.1	21.4	19.4	16.4	13.6	15.6	13.3	11.3	8.4	6.8	5.5	-13	-14	-14	-48.4	-48.6	-48.7	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	14.8	-4.1	-3.7	-2	-3	-2.8	2	-2.3	-2	-2.9	-1.6	-1.3	-18	-0.8	-0.6	-34.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-15	4.1	3.7	2	3	2.8	-2	2.3	2	2.9	1.6	1.3	18.3	0.8	0.6	34.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R09	Predicted SPL	22.5	17.3	12.5	26.4	22.3	18.6	13.2	10.2	7.4	11.2	8.9	6.9	4	2.4	1.1	-18	-19	-20	-59.3	-59.5	-59.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	13.9	-4.1	-3.7	-5.4	-3	-2.8	3.8	-2.3	-2	-2.9	-1.6	-1.3	-19	-0.8	-0.6	-39.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-14	4.1	3.7	5.4	3	2.8	-3.8	2.3	2	2.9	1.6	1.3	19.3	0.8	0.6	39.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R10	Predicted SPL	22.1	16.9	12.1	25.7	21.6	18	11.9	8.8	6.1	10.7	8.4	6.4	3.4	1.8	0.5	-19	-20	-20	-60.8	-61	-61.1	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	13.6	-4.1	-3.6	-6.1	-3.1	-2.7	4.6	-2.3	-2	-3	-1.6	-1.3	-20	-0.8	-0.6	-40.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-14	4.1	3.6	6.1	3.1	2.7	-4.6	2.3	2	3	1.6	1.3	19.5	0.8	0.6	40.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R11	Predicted SPL	26.2	21	16.2	31.6	27.5	23.8	24.2	21.1	18.4	18.6	16.4	14.3	6.9	5.3	4	-16	-17	-18	-56.9	-57.2	-57.2	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	15.4	-4.1	-3.7	0.4	-3.1	-2.7	0.2	-2.2	-2.1	-7.4	-1.6	-1.3	-20	-0.9	-0.5	-39.3	-0.3	0	-	-	-
		Level Above Right Neighbour	5.2	4.8	-15	4.1	3.7	-0.4	3.1	2.7	-0.2	2.2	2.1	7.4	1.6	1.3	20.2	0.9	0.5	39.3	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R12	Predicted SPL	25.4	20.2	15.4	30.5	26.5	22.8	22.1	19.1	16.3	16.9	14.7	12.6	7.3	5.8	4.4	-15	-16	-16	-52.5	-52.7	-52.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	15.1	-4	-3.7	-0.7	-3	-2.8	0.6	-2.2	-2.1	-5.3	-1.5	-1.4	-19	-0.9	-0.5	-36.5	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-15	4	3.7	0.7	3	2.8	-0.6	2.2	2.1	5.3	1.5	1.4	19	0.9	0.5	36.5	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Option	Receiver	Measurement	1/3 Octave Band Frequencies (dB(Z))																						
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	R13	Predicted SPL	25.3	20.1	15.3	30.4	26.4	22.7	21.8	18.8	16	16.3	14	12	6.6	5.1	3.7	-15	-16	-17	-53.3	-53.5	-53.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	15.1	-4	-3.7	-0.9	-3	-2.8	0.3	-2.3	-2	-5.4	-1.5	-1.4	-19	-0.8	-0.6	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-15	4	3.7	0.9	3	2.8	-0.3	2.3	2	5.4	1.5	1.4	18.9	0.8	0.6	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R14	Predicted SPL	23.3	18	13.2	27.5	23.5	19.8	15.1	12.1	9.3	8.9	6.7	4.6	-1.6	-3.2	-4.5	-26	-27	-27	-75.1	-75.4	-75.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	14.3	-4	-3.7	-4.7	-3	-2.8	-0.4	-2.2	-2.1	-6.2	-1.6	-1.3	-21	-0.8	-0.6	-48	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-14	4	3.7	4.7	3	2.8	0.4	2.2	2.1	6.2	1.6	1.3	21.2	0.8	0.6	48	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R15	Predicted SPL	6	0.7	-4.1	4	-0.1	-3.8	6.2	3.2	0.4	7.4	5.1	3.1	-1.5	-3.1	-4.4	-25	-26	-27	-74.3	-74.5	-74.6	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4.1	-3.7	10	-3	-2.8	7	-2.3	-2	-4.6	-1.6	-1.3	-21	-0.8	-0.6	-47.5	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-8.1	4.1	3.7	-10	3	2.8	-7	2.3	2	4.6	1.6	1.3	21	0.8	0.6	47.5	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R16	Predicted SPL	23.2	17.9	13.1	27.4	23.4	19.7	14.9	11.8	9.1	8.4	6.1	4.1	-2.5	-4.1	-5.4	-27	-28	-28	-77.7	-77.9	-78	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	14.3	-4	-3.7	-4.8	-3.1	-2.7	-0.7	-2.3	-2	-6.6	-1.6	-1.3	-22	-0.8	-0.6	-49.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-14	4	3.7	4.8	3.1	2.7	0.7	2.3	2	6.6	1.6	1.3	21.5	0.8	0.6	49.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R17	Predicted SPL	23.3	18	13.2	27.6	23.5	19.8	15.2	12.1	9.4	8.3	6.1	4	-3.2	-4.8	-6.1	-28	-29	-29	-80.1	-80.3	-80.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	14.4	-4.1	-3.7	-4.6	-3.1	-2.7	-1.1	-2.2	-2.1	-7.2	-1.6	-1.3	-22	-0.8	-0.6	-50.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-14	4.1	3.7	4.6	3.1	2.7	1.1	2.2	2.1	7.2	1.6	1.3	21.9	0.8	0.6	50.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R18	Predicted SPL	23	17.8	13	27.2	23.1	19.4	14.2	11.2	8.4	7.4	5.2	3.2	-3.9	-5.4	-6.8	-29	-30	-30	-81.5	-81.8	-81.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	14.2	-4.1	-3.7	-5.2	-3	-2.8	-1	-2.2	-2	-7.1	-1.5	-1.4	-22	-0.8	-0.6	-51.4	-0.3	0	-	-	-
		Level Above Right Neighbour	5.2	4.8	-14	4.1	3.7	5.2	3	2.8	1	2.2	2	7.1	1.5	1.4	21.9	0.8	0.6	51.4	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R19	Predicted SPL	22	16.8	12	25.6	21.5	17.9	10.5	7.4	4.7	6.1	3.8	1.8	-3.9	-5.5	-6.8	-29	-29	-30	-81.2	-81.4	-81.5	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	13.6	-4.1	-3.6	-7.4	-3.1	-2.7	1.4	-2.3	-2	-5.7	-1.6	-1.3	-22	-0.8	-0.6	-51.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-14	4.1	3.6	7.4	3.1	2.7	-1.4	2.3	2	5.7	1.6	1.3	21.8	0.8	0.6	51.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R20	Predicted SPL	22.6	17.3	12.5	26.5	22.4	18.8	12.5	9.5	6.8	7.1	4.8	2.8	-4	-5.6	-6.9	-29	-30	-30	-81.5	-81.7	-81.8	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	14	-4.1	-3.6	-6.3	-3	-2.7	0.3	-2.3	-2	-6.8	-1.6	-1.3	-22	-0.8	-0.6	-51.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-14	4.1	3.6	6.3	3	2.7	-0.3	2.3	2	6.8	1.6	1.3	21.8	0.8	0.6	51.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
Option 2	R01	Predicted SPL	32.4	27.1	22.3	38.6	34.5	30.8	35.6	32.5	29.8	32.9	30.6	28.6	23.8	22.2	20.9	2.4	1.6	1	-25	-25.2	-25.3	-90.4	-90.1	-89.7
		Level Above Left Neighbour	-	-5.3	-4.8	16.3	-4.1	-3.7	4.8	-3.1	-2.7	3.1	-2.3	-2	-4.8	-1.6	-1.3	-19	-0.8	-0.6	-26	-0.2	-0.1	-65.1	0.3	0.4
		Level Above Right Neighbour	5.3	4.8	-16	4.1	3.7	-4.8	3.1	2.7	-3.1	2.3	2	4.8	1.6	1.3	18.5	0.8	0.6	26	0.2	0.1	65.1	-0.3	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R02	Predicted SPL	26.1	20.9	16.1	31.2	27.2	23.5	25.2	22.1	19.4	26.1	23.9	21.8	23.4	21.9	20.5	6.1	5.3	4.7	-13.3	-13.5	-13.5	-56.2	-56	-55.6
		Level Above Left Neighbour	-	-5.2	-4.8	15.1	-4	-3.7	1.7	-3.1	-2.7	6.7	-2.2	-2.1	1.6	-1.5	-1.4	-14	-0.8	-0.6	-18	-0.2	0	-42.7	0.2	0.4
		Level Above Right Neighbour	5.2	4.8	-15	4	3.7	-1.7	3.1	2.7	-6.7	2.2	2.1	-1.6	1.5	1.4	14.4	0.8	0.6	18	0.2	0	42.7	-0.2	-0.4	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R03	Predicted SPL	26.5	21.2	16.4	31.7	27.7	24	25.4	22.4	19.6	24.7	22.4	20.4	20.5	18.9	17.6	1.9	1.1	0.5	-21.8	-22	-22.1	-77.3	-77.1	-76.6
		Level Above Left Neighbour	-	-5.3	-4.8	15.3	-4	-3.7	1.4	-3	-2.8	5.1	-2.3	-2	0.1	-1.6	-1.3	-16	-0.8	-0.6	-22.3	-0.2	-0.1	-55.2	0.2	0.5
		Level Above Right Neighbour	5.3	4.8	-15	4	3.7	-1.4	3	2.8	-5.1	2.3	2	-0.1	1.6	1.3	15.7	0.8	0.6	22.3	0.2	0.1	55.2	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A
	R04	Predicted SPL	27.7	22.4	17.6	33.3	29.3	25.6	27.5	24.5	21.7	23.6	21.4	19.3	15.2	13.6	12.3	-5.1	-6	-6.5	-34	-34.3	-34.3	-107.2	-107	-106.5
		Level Above Left Neighbour	-	-5.3	-4.8	15.7	-4	-3.7	1.9	-3	-2.8	1.9	-2.2	-2.1	-4.1	-1.6	-1.3	-17	-0.9	-0.5	-27.5	-0.3	0	-72.9	0.2	0.5
		Level Above Right Neighbour	5.3	4.8	-16	4	3.7	-1.9	3	2.8	-1.9	2.2	2.1	4.1	1.6	1.3	17.4	0.9	0.5	27.5	0.3	0	72.9	-0.2	-0.5	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A

Option	Receiver	Measurement	1/3 Octave Band Frequencies (dB(Z))																						
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	R05	Predicted SPL	27.4	22.2	17.3	33	29	25.3	26.8	23.8	21	21.5	19.3	17.3	10.1	8.6	7.2	-13	-13	-14	-52.5	-52.7	-52.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	15.7	-4	-3.7	1.5	-3	-2.8	0.5	-2.2	-2	-7.2	-1.5	-1.4	-20	-0.9	-0.5	-38.6	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-16	4	3.7	-1.5	3	2.8	-0.5	2.2	2	7.2	1.5	1.4	19.7	0.9	0.5	38.6	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R06	Predicted SPL	24.6	19.3	14.5	29.3	25.3	21.6	19.9	16.9	14.1	18.4	16.1	14.1	11.2	9.7	8.3	-10	-11	-11	-45.7	-45.9	-46	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	14.8	-4	-3.7	-1.7	-3	-2.8	4.3	-2.3	-2	-2.9	-1.5	-1.4	-18	-0.9	-0.5	-34.3	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-15	4	3.7	1.7	3	2.8	-4.3	2.3	2	2.9	1.5	1.4	18.3	0.9	0.5	34.3	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R07	Predicted SPL	7.8	2.6	-2.2	5.9	1.9	-1.8	9.2	6.1	3.4	11.5	9.3	7.3	4.8	3.2	1.9	-17	-18	-19	-57.1	-57.3	-57.4	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	8.1	-4	-3.7	11	-3.1	-2.7	8.1	-2.2	-2	-2.5	-1.6	-1.3	-19	-0.9	-0.6	-38.5	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-8.1	4	3.7	-11	3.1	2.7	-8.1	2.2	2	2.5	1.6	1.3	19	0.9	0.6	38.5	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R08	Predicted SPL	23.5	18.2	13.4	27.7	23.7	20	16.8	13.8	11	14.9	12.6	10.6	8.4	6.8	5.5	-13	-14	-14	-48.4	-48.6	-48.7	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	14.3	-4	-3.7	-3.2	-3	-2.8	3.9	-2.3	-2	-2.2	-1.6	-1.3	-18	-0.8	-0.6	-34.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-14	4	3.7	3.2	3	2.8	-3.9	2.3	2	2.2	1.6	1.3	18.3	0.8	0.6	34.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R09	Predicted SPL	7.9	2.7	-2.1	6	2	-1.7	8.9	5.9	3.1	11	8.8	6.7	4	2.4	1.1	-18	-19	-20	-59.3	-59.5	-59.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	8.1	-4	-3.7	10.6	-3	-2.8	7.9	-2.2	-2.1	-2.7	-1.6	-1.3	-19	-0.8	-0.6	-39.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-8.1	4	3.7	-11	3	2.8	-7.9	2.2	2.1	2.7	1.6	1.3	19.3	0.8	0.6	39.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R10	Predicted SPL	7.6	2.4	-2.5	5.6	1.5	-2.1	8.5	5.5	2.7	10.6	8.3	6.3	3.4	1.8	0.5	-19	-20	-20	-60.8	-61	-61.1	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.9	8.1	-4.1	-3.6	10.6	-3	-2.8	7.9	-2.3	-2	-2.9	-1.6	-1.3	-20	-0.8	-0.6	-40.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.9	-8.1	4.1	3.6	-11	3	2.8	-7.9	2.3	2	2.9	1.6	1.3	19.5	0.8	0.6	40.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R11	Predicted SPL	25.1	19.8	15	30.1	26	22.3	21.2	18.2	15.4	16.1	13.9	11.9	6.3	4.7	3.4	-16	-17	-18	-56.9	-57.2	-57.2	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	15.1	-4.1	-3.7	-1.1	-3	-2.8	0.7	-2.2	-2	-5.6	-1.6	-1.3	-20	-0.9	-0.6	-39.1	-0.3	0	-	-	-
		Level Above Right Neighbour	5.3	4.8	-15	4.1	3.7	1.1	3	2.8	-0.7	2.2	2	5.6	1.6	1.3	19.7	0.9	0.6	39.1	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R12	Predicted SPL	25.2	19.9	15.1	30.2	26.1	22.4	21.5	18.4	15.7	16.4	14.2	12.2	7.3	5.7	4.4	-15	-16	-16	-52.5	-52.7	-52.8	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	15.1	-4.1	-3.7	-0.9	-3.1	-2.7	0.7	-2.2	-2	-4.9	-1.6	-1.3	-19	-0.9	-0.5	-36.5	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-15	4.1	3.7	0.9	3.1	2.7	-0.7	2.2	2	4.9	1.6	1.3	19	0.9	0.5	36.5	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R13	Predicted SPL	25	19.8	15	30	26	22.3	21	18	15.2	15.7	13.4	11.4	6.6	5	3.7	-15	-16	-17	-53.3	-53.5	-53.6	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	15	-4	-3.7	-1.3	-3	-2.8	0.5	-2.3	-2	-4.8	-1.6	-1.3	-19	-0.9	-0.5	-36.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-15	4	3.7	1.3	3	2.8	-0.5	2.3	2	4.8	1.6	1.3	18.9	0.9	0.5	36.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R14	Predicted SPL	23.2	18	13.2	27.4	23.4	19.7	15	12	9.2	8.9	6.6	4.6	-1.6	-3.2	-4.5	-26	-27	-27	-75.1	-75.4	-75.4	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	14.2	-4	-3.7	-4.7	-3	-2.8	-0.3	-2.3	-2	-6.2	-1.6	-1.3	-21	-0.8	-0.6	-48	-0.3	0	-	-	-
		Level Above Right Neighbour	5.2	4.8	-14	4	3.7	4.7	3	2.8	0.3	2.3	2	6.2	1.6	1.3	21.2	0.8	0.6	48	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R15	Predicted SPL	6	0.7	-4.1	4	-0.1	-3.8	6.2	3.2	0.4	7.4	5.1	3.1	-1.5	-3.1	-4.4	-25	-26	-27	-74.3	-74.5	-74.6	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	8.1	-4.1	-3.7	10	-3	-2.8	7	-2.3	-2	-4.6	-1.6	-1.3	-21	-0.8	-0.6	-47.5	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-8.1	4.1	3.7	-10	3	2.8	-7	2.3	2	4.6	1.6	1.3	21	0.8	0.6	47.5	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R16	Predicted SPL	23.2	17.9	13.1	27.4	23.3	19.6	14.8	11.7	9	8.4	6.1	4.1	-2.5	-4	-5.4	-24	-25	-26	-75.2	-75.4	-75.5	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	14.3	-4.1	-3.7	-4.8	-3.1	-2.7	-0.6	-2.3	-2	-6.6	-1.5	-1.4	-19	-0.8	-0.6	-49.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-14	4.1	3.7	4.8	3.1	2.7	0.6	2.3	2	6.6	1.5	1.4	19	0.8	0.6	49.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Option	Receiver	Measurement	1/3 Octave Band Frequencies (dB(Z))																							
			25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
	R17	Predicted SPL	23.3	18	13.2	27.6	23.5	19.8	15.2	12.2	9.4	8.3	6.1	4	-3.2	-4.8	-6.1	-28	-29	-29	-80.1	-80.3	-80.4	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	14.4	-4.1	-3.7	-4.6	-3	-2.8	-1.1	-2.2	-2.1	-7.2	-1.6	-1.3	-22	-0.8	-0.6	-50.7	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-14	4.1	3.7	4.6	3	2.8	1.1	2.2	2.1	7.2	1.6	1.3	21.9	0.8	0.6	50.7	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R18	Predicted SPL	23	17.8	13	27.2	23.1	19.4	14.2	11.2	8.4	7.4	5.2	3.2	-3.9	-5.4	-6.8	-29	-30	-30	-81.5	-81.8	-81.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	14.2	-4.1	-3.7	-5.2	-3	-2.8	-1	-2.2	-2	-7.1	-1.5	-1.4	-22	-0.8	-0.6	-51.4	-0.3	0	-	-	-
		Level Above Right Neighbour	5.2	4.8	-14	4.1	3.7	5.2	3	2.8	1	2.2	2	7.1	1.5	1.4	21.9	0.8	0.6	51.4	0.3	0	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R19	Predicted SPL	6.4	1.1	-3.7	4.1	0.1	-3.6	5.3	2.3	-0.5	5.8	3.6	1.6	-3.9	-5.5	-6.8	-29	-29	-30	-81.2	-81.4	-81.5	-	-	-
		Level Above Left Neighbour	-	-5.3	-4.8	7.8	-4	-3.7	8.9	-3	-2.8	6.3	-2.2	-2	-5.5	-1.6	-1.3	-22	-0.8	-0.6	-51.2	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.3	4.8	-7.8	4	3.7	-8.9	3	2.8	-6.3	2.2	2	5.5	1.6	1.3	21.8	0.8	0.6	51.2	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
	R20	Predicted SPL	7.2	2	-2.8	5	1	-2.7	5.8	2.8	0	6.1	3.9	1.9	-4	-5.6	-6.9	-29	-30	-30	-81.5	-81.7	-81.8	-	-	-
		Level Above Left Neighbour	-	-5.2	-4.8	7.8	-4	-3.7	8.5	-3	-2.8	6.1	-2.2	-2	-5.9	-1.6	-1.3	-22	-0.8	-0.6	-51.4	-0.2	-0.1	-	-	-
		Level Above Right Neighbour	5.2	4.8	-7.8	4	3.7	-8.5	3	2.8	-6.1	2.2	2	5.9	1.6	1.3	21.8	0.8	0.6	51.4	0.2	0.1	-	-	-	-
		Penalty Triggered?	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Appendix C. Construction noise contours

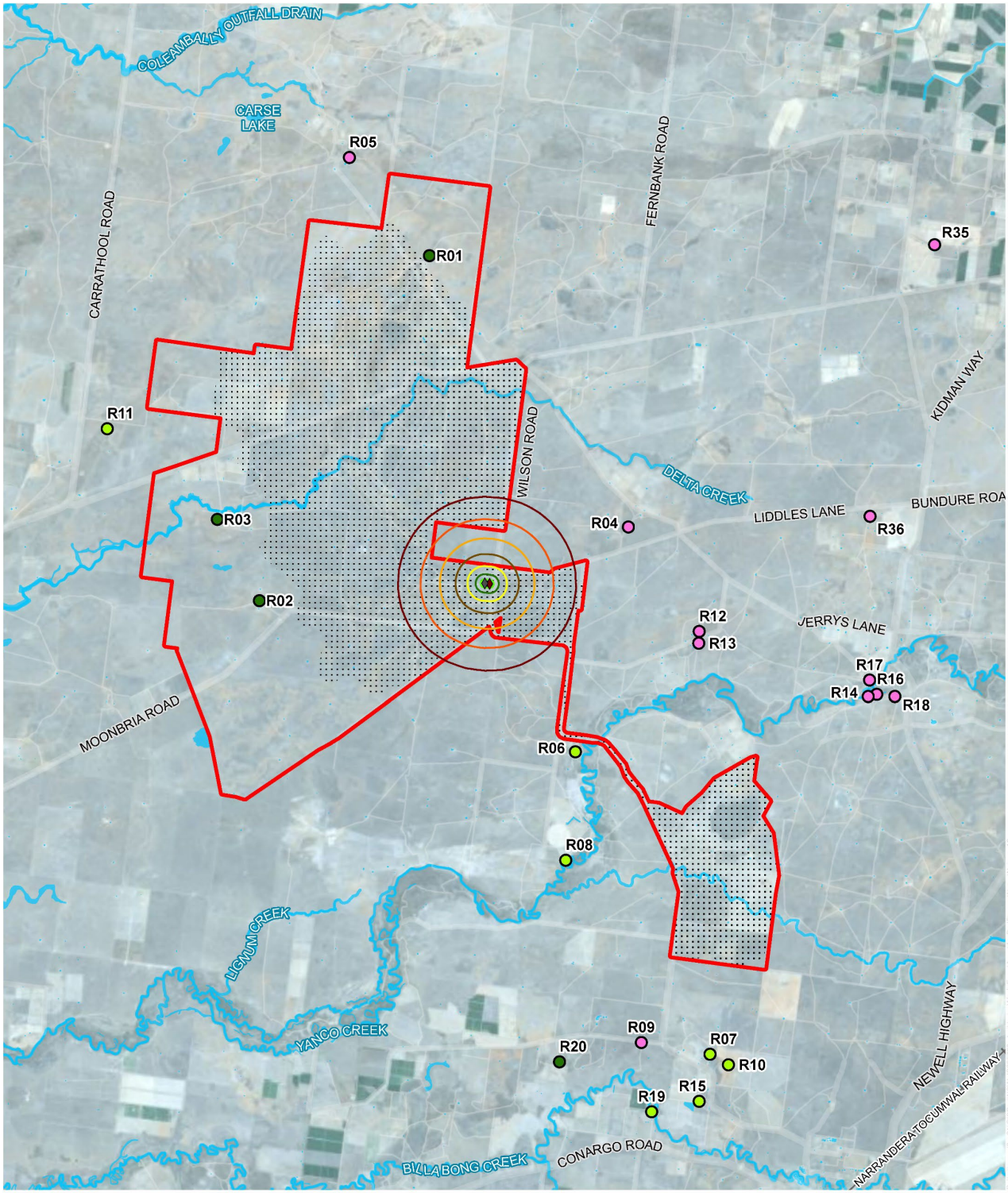
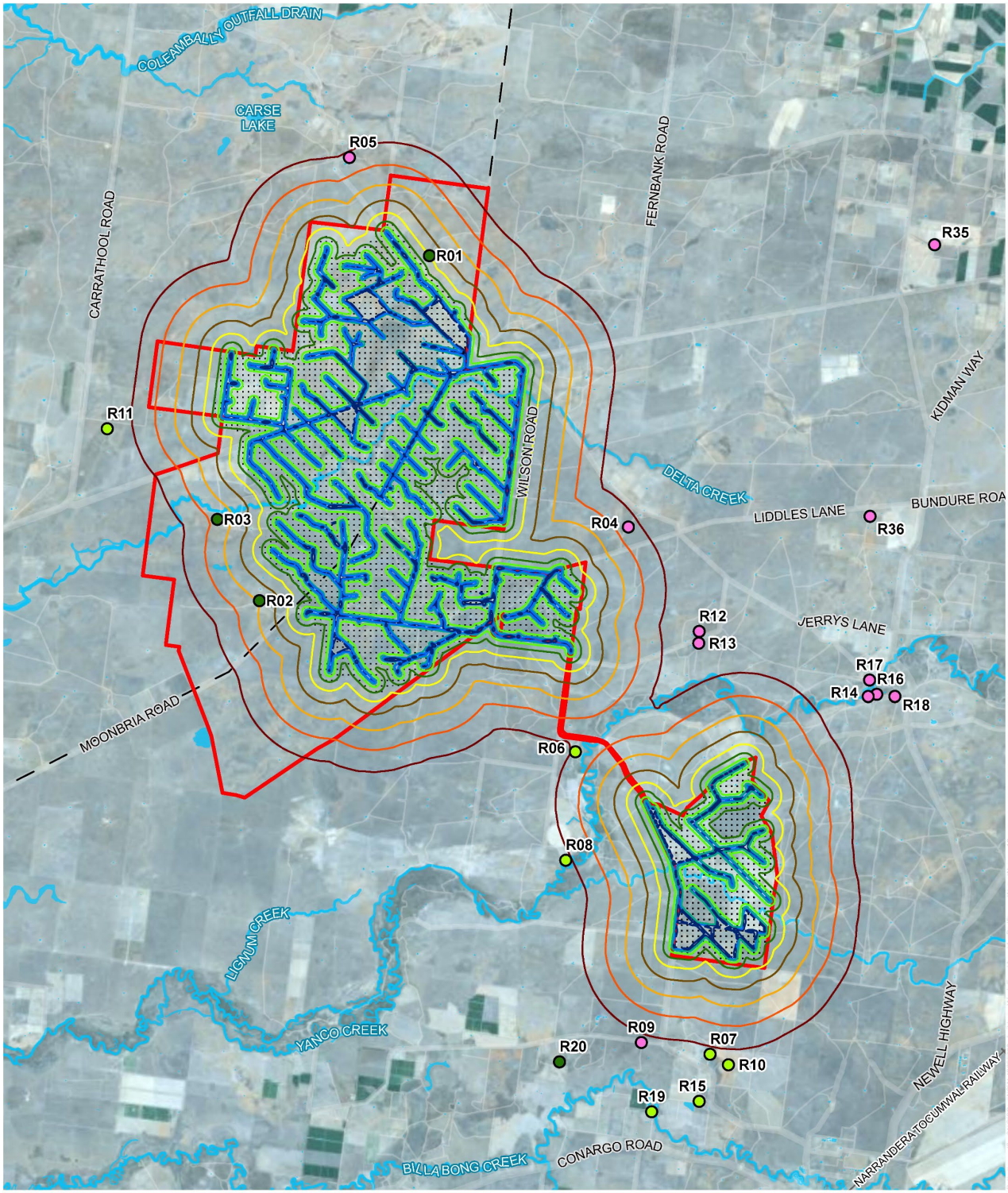


Figure C-1 Phase 1

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Indicative Project
- Project area
- Construction extent
- Access tracks

Dwellings
- Host receiver
- Associated receiver
- Non-associated receiver

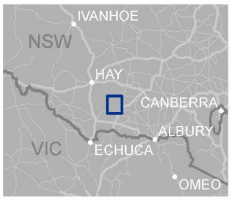
Noise level
- 30 dB(A)
- 35 dB(A)
- 40 dB(A)
- 45 dB(A)
- 50 dB(A)
- 55 dB(A)
- 60 dB(A)
- 65 dB(A)
- 70 dB(A)
- 75 dB(A)

- Railway
- Waterways
- Existing 132kV transmission line
- Road

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



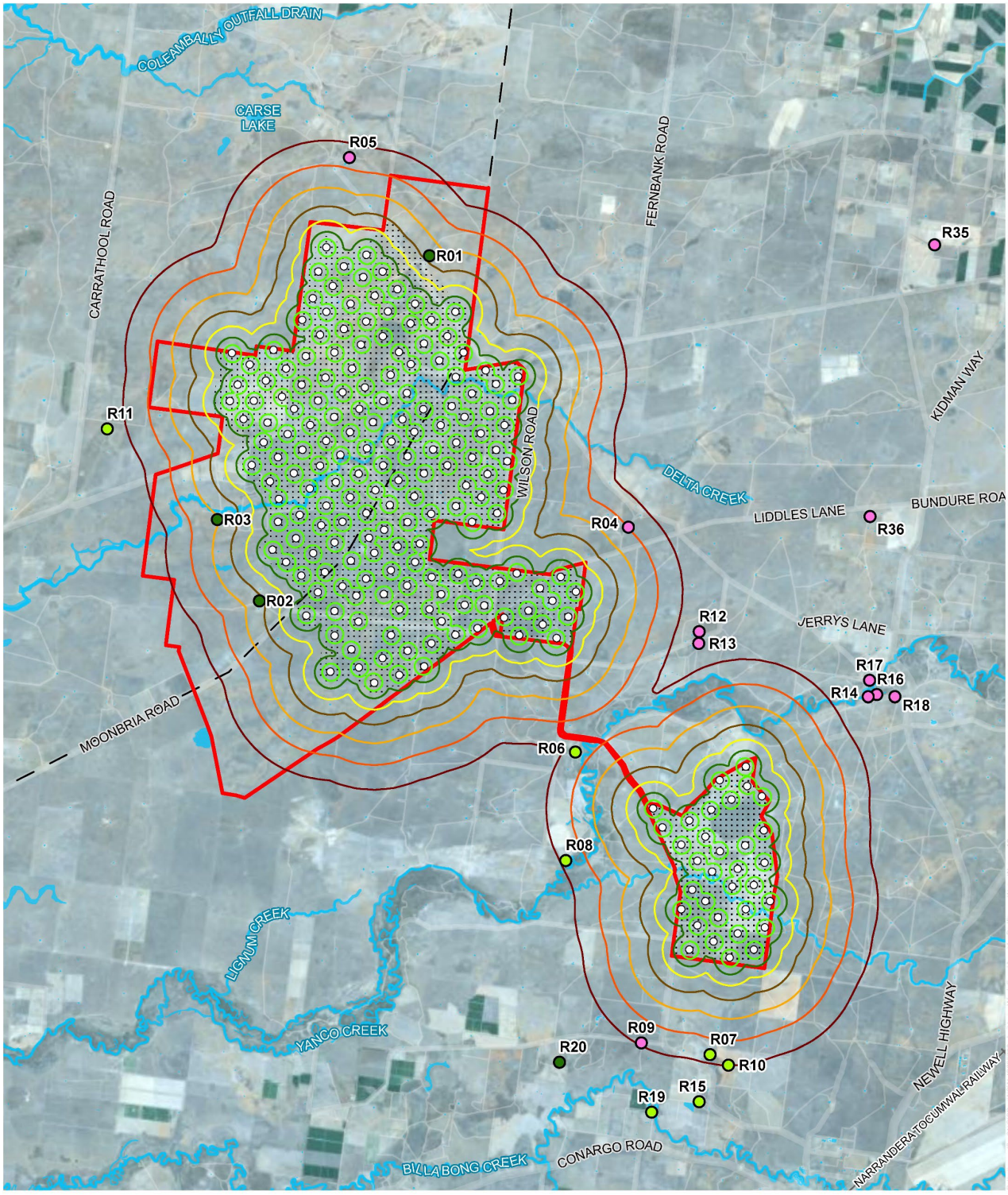
Data sources

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Figure C- 2 Phase 2

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Indicative Project
- Project area
- Construction extent
- Turbine locations

Dwellings
- Host receiver
- Associated receiver
- Non-associated receiver

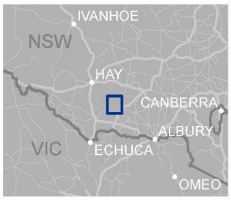
Noise level
- 30 dB(A)
- 35 dB(A)
- 40 dB(A)
- 45 dB(A)
- 50 dB(A)
- 55 dB(A)
- 60 dB(A)

- Railway
- Waterways
- Existing 132kV transmission line
- Road

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



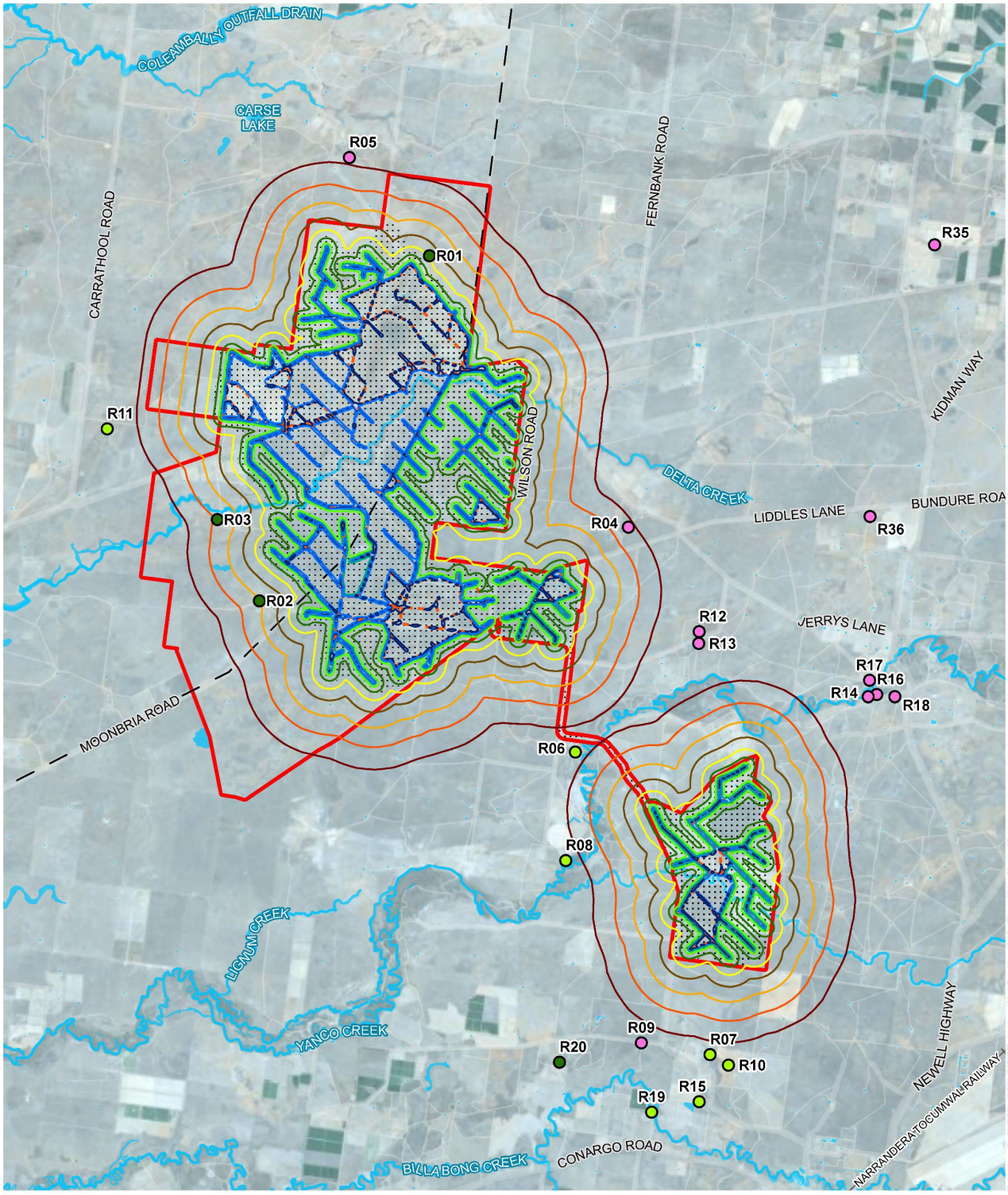
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Figure C- 3 Phase 3

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Indicative Project
- Project area
- Construction extent
- Internal cabling

Dwellings
- Host receiver
- Associated receiver
- Non-associated receiver

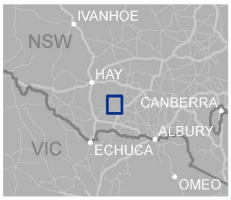
Noise level
- 30 dB(A)
- 35 dB(A)
- 40 dB(A)
- 45 dB(A)
- 50 dB(A)
- 55 dB(A)
- 60 dB(A)
- 65 dB(A)
- 70 dB(A)
- 75 dB(A)

- Railway
- Waterways
- Existing 132kV transmission line
- Road

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



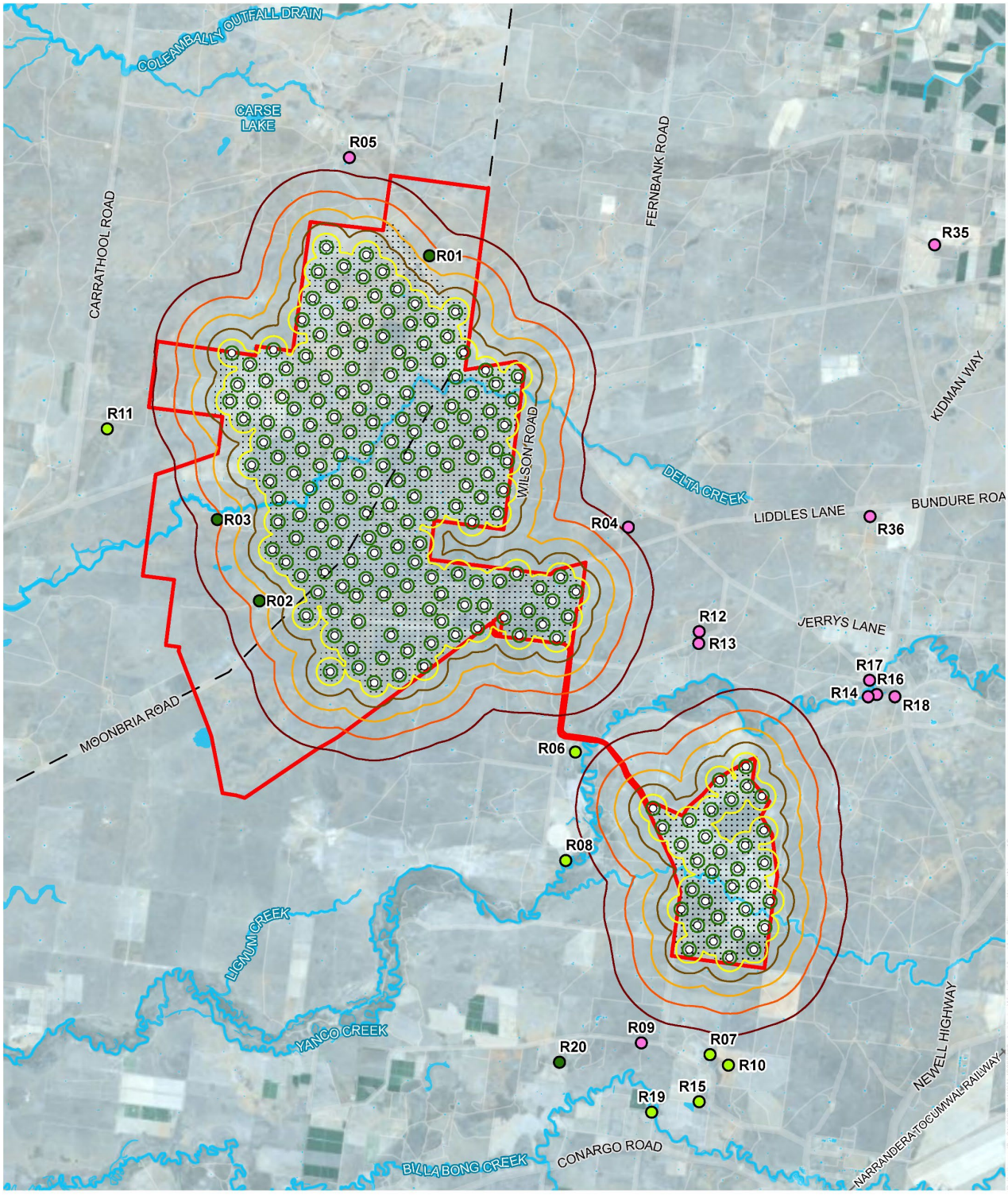
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Figure C- 4 Phase 4

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Indicative Project
- Project area
- Construction extent
- Turbine locations

Dwellings
- Host receiver
- Associated receiver
- Non-associated receiver

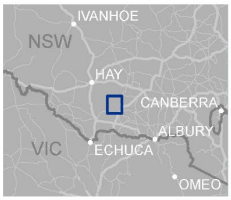
Noise level
- 30 dB(A)
- 35 dB(A)
- 40 dB(A)
- 45 dB(A)
- 50 dB(A)
- 55 dB(A)
- 60 dB(A)

- Railway
- Waterways
- Existing 132kV transmission line
- Road

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



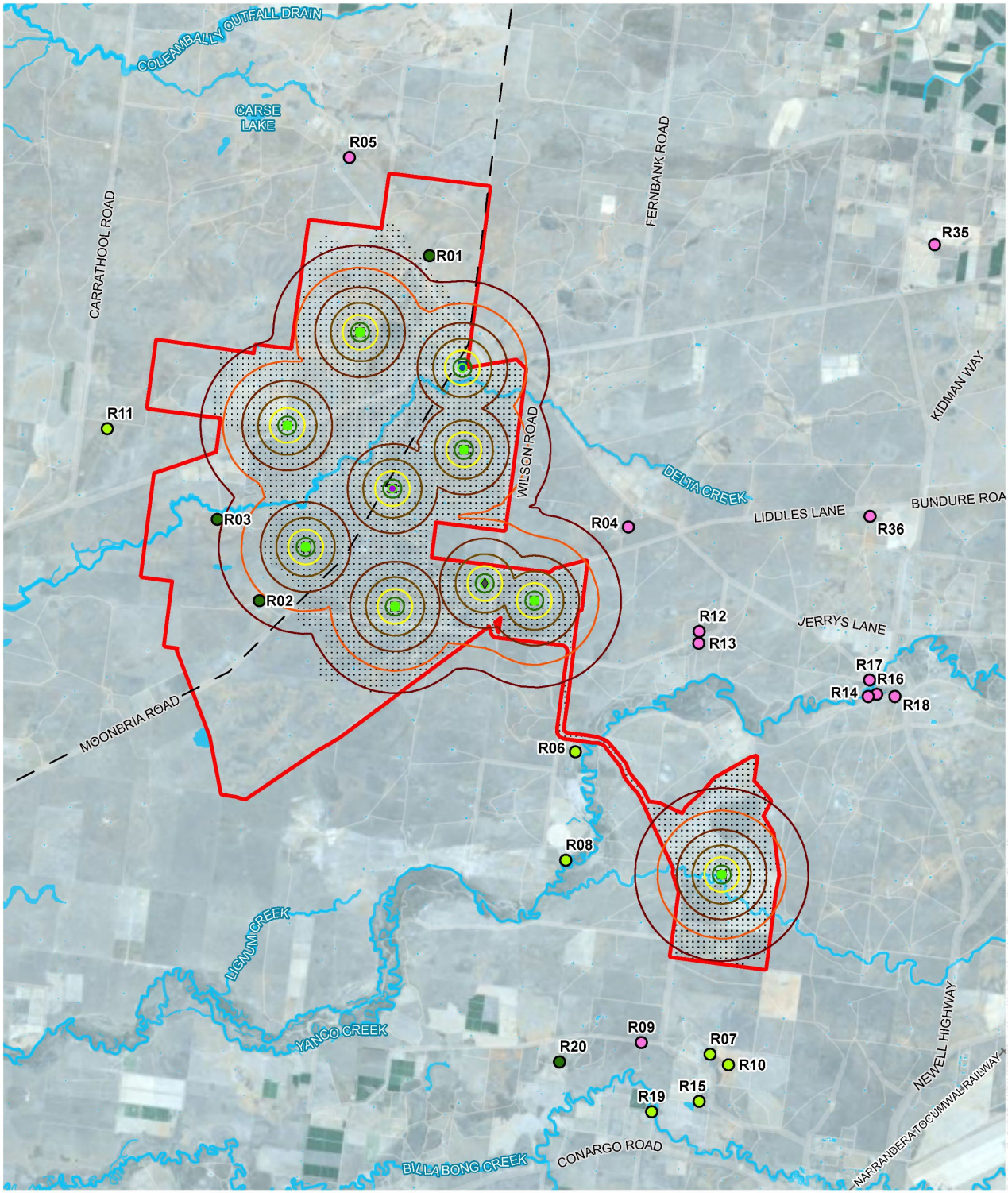
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Figure C- 5 Phase 5

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Indicative Project
- Project area
- Construction extent
- Substation / Battery - Option 1
- Substation / Battery - Option 2
- Collector substation

Site facilities
- O&M facility

Dwellings
- Host receiver
- Associated receiver
- Non-associated receiver

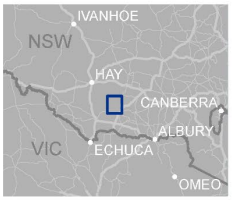
Noise level
- 30 dB(A)
- 35 dB(A)
- 40 dB(A)
- 45 dB(A)
- 50 dB(A)
- 55 dB(A)
- 60 dB(A)

- Railway
- Waterways
- Existing 132kV transmission line
- Road

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



Data sources

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Figure C- 6 Phase 6

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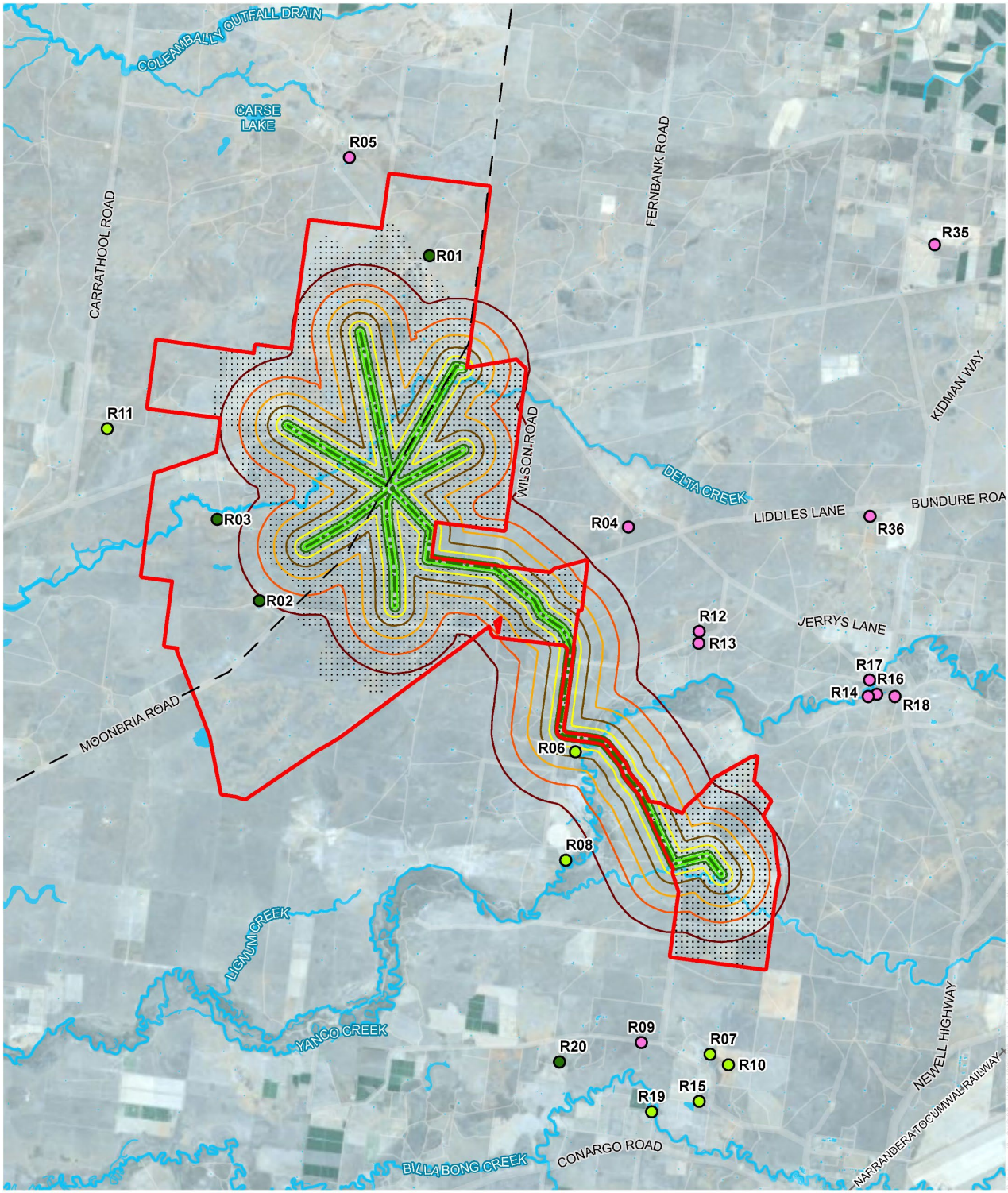


Figure C- 7 Phase 7

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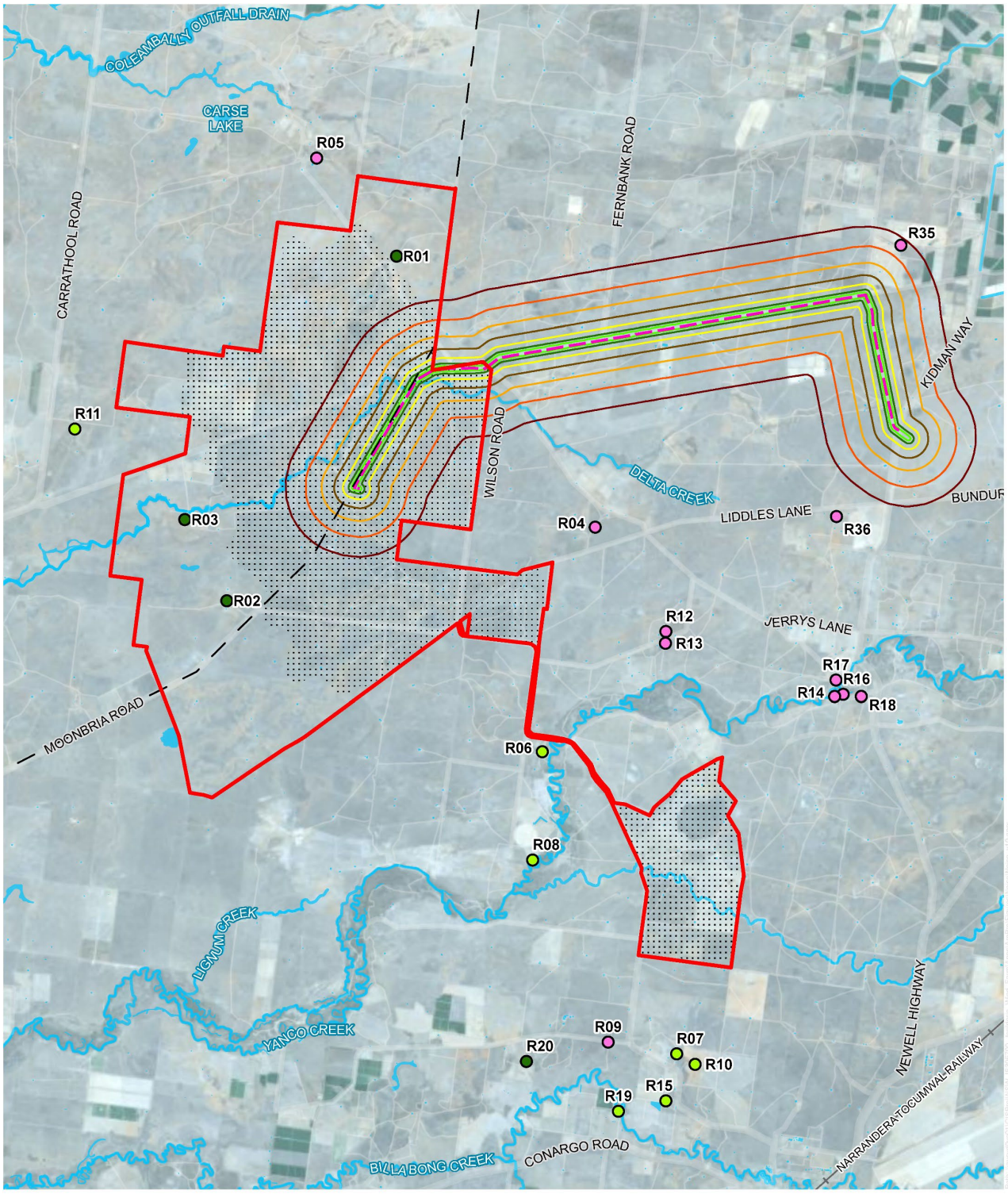
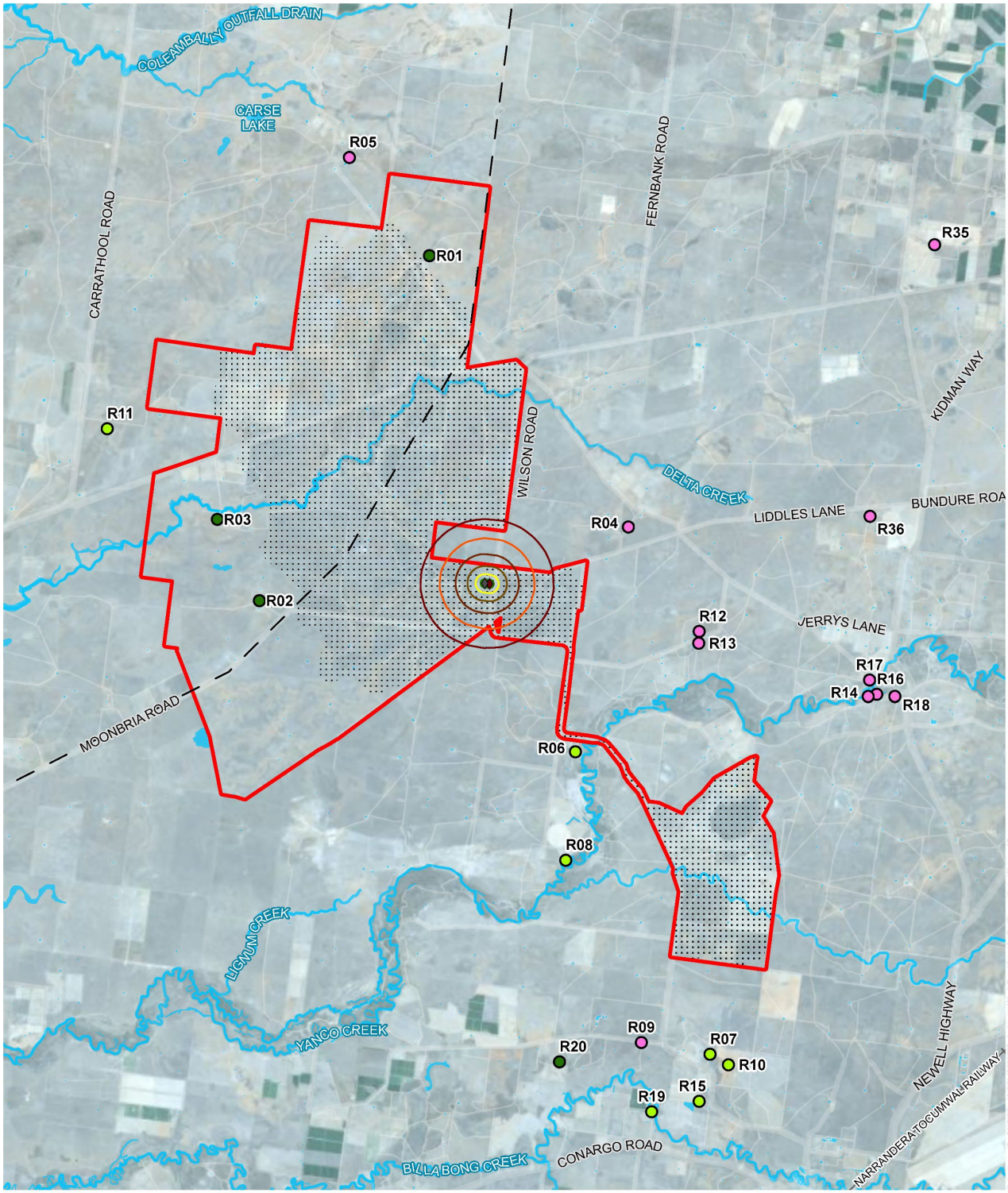


Figure C- 8 Phase 8

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Indicative Project
Project area
Construction extent

Site facilities
O&M facility
Site compound

Dwellings
Host receiver
Associated receiver
Non-associated receiver

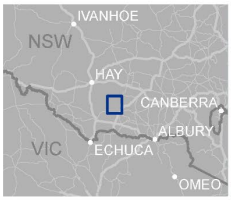
Noise level
30 dB(A)
35 dB(A)
40 dB(A)
45 dB(A)
50 dB(A)
55 dB(A)
60 dB(A)

Railway
Waterways
Existing 132kV transmission line
Road

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



Data sources

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Figure C- 9 Phase 9

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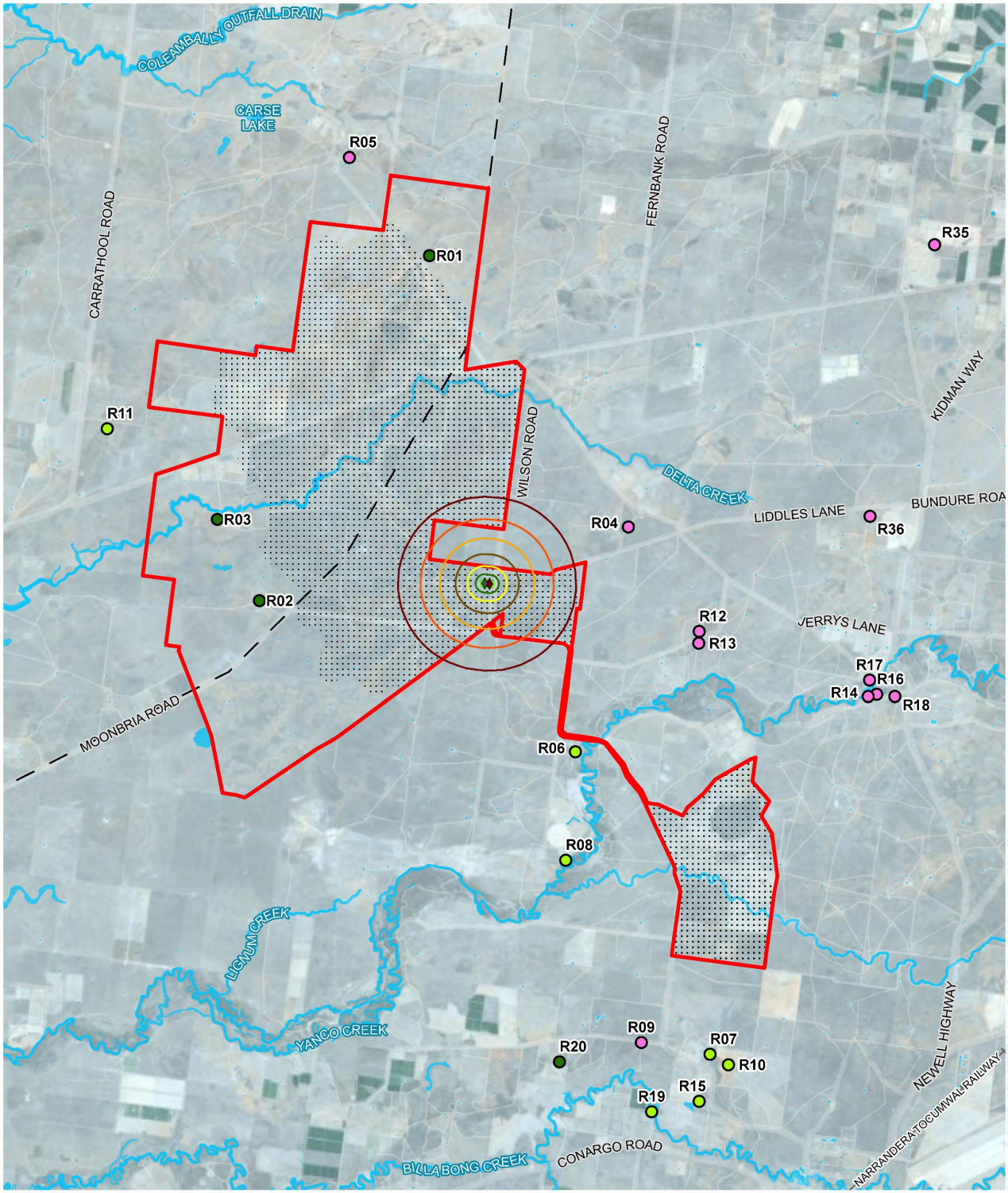
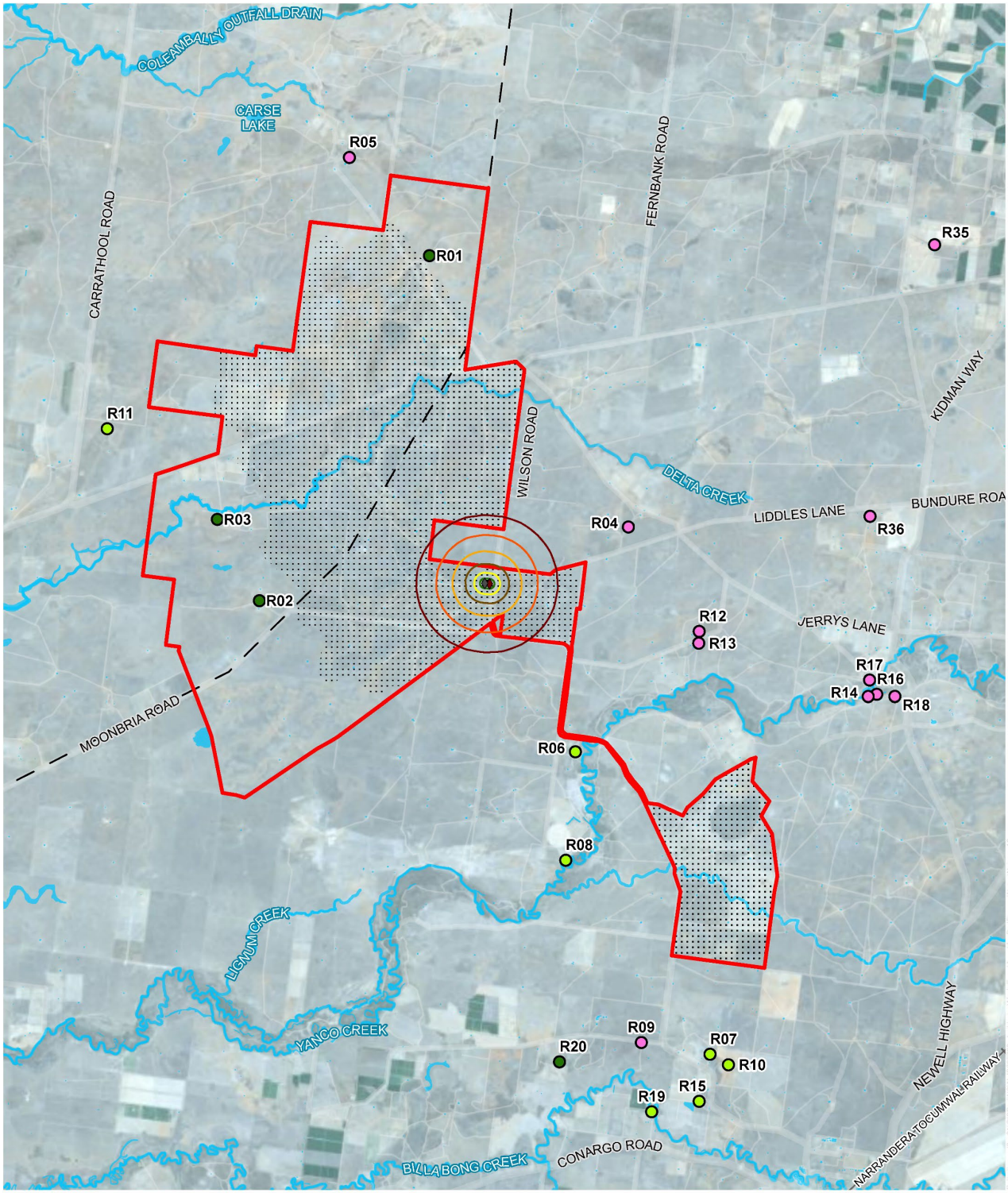


Figure C- 10 Phase 10

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Indicative Project
Project area
Construction extent

Site facilities
O&M facility
Site compound

Dwellings
Host receiver
Associated receiver
Non-associated receiver

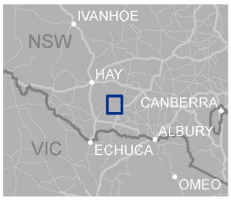
Noise level
30 dB(A)
35 dB(A)
40 dB(A)
45 dB(A)
50 dB(A)
55 dB(A)
60 dB(A)

Railway
Waterways
Existing 132kV transmission line
Road

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



Data sources

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Figure C- 11 Phase 11

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Appendix D. Wind turbine noise contours

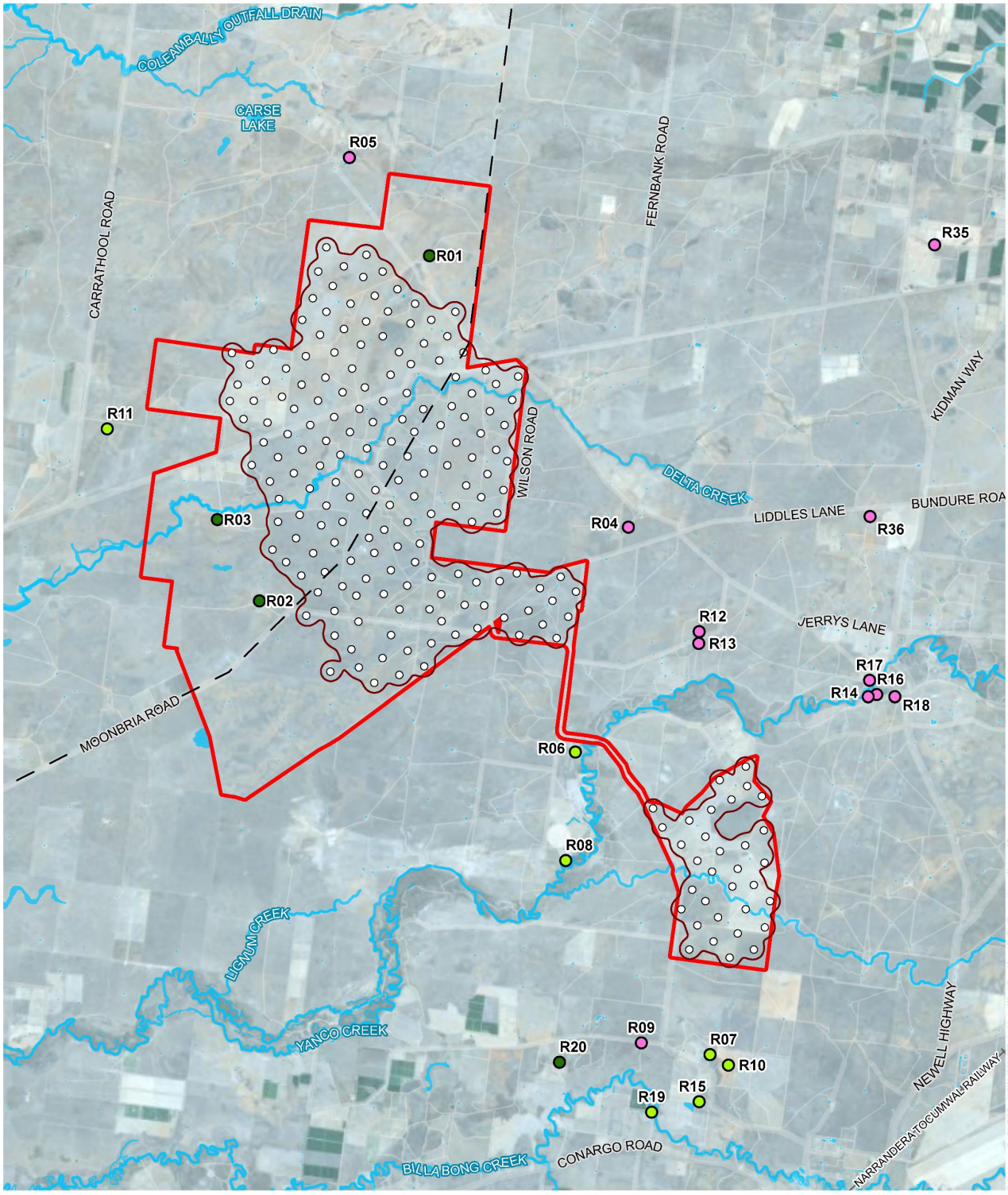


Figure D-1 Predicted noise levels, WTGs at 3- 4m/s wind speed

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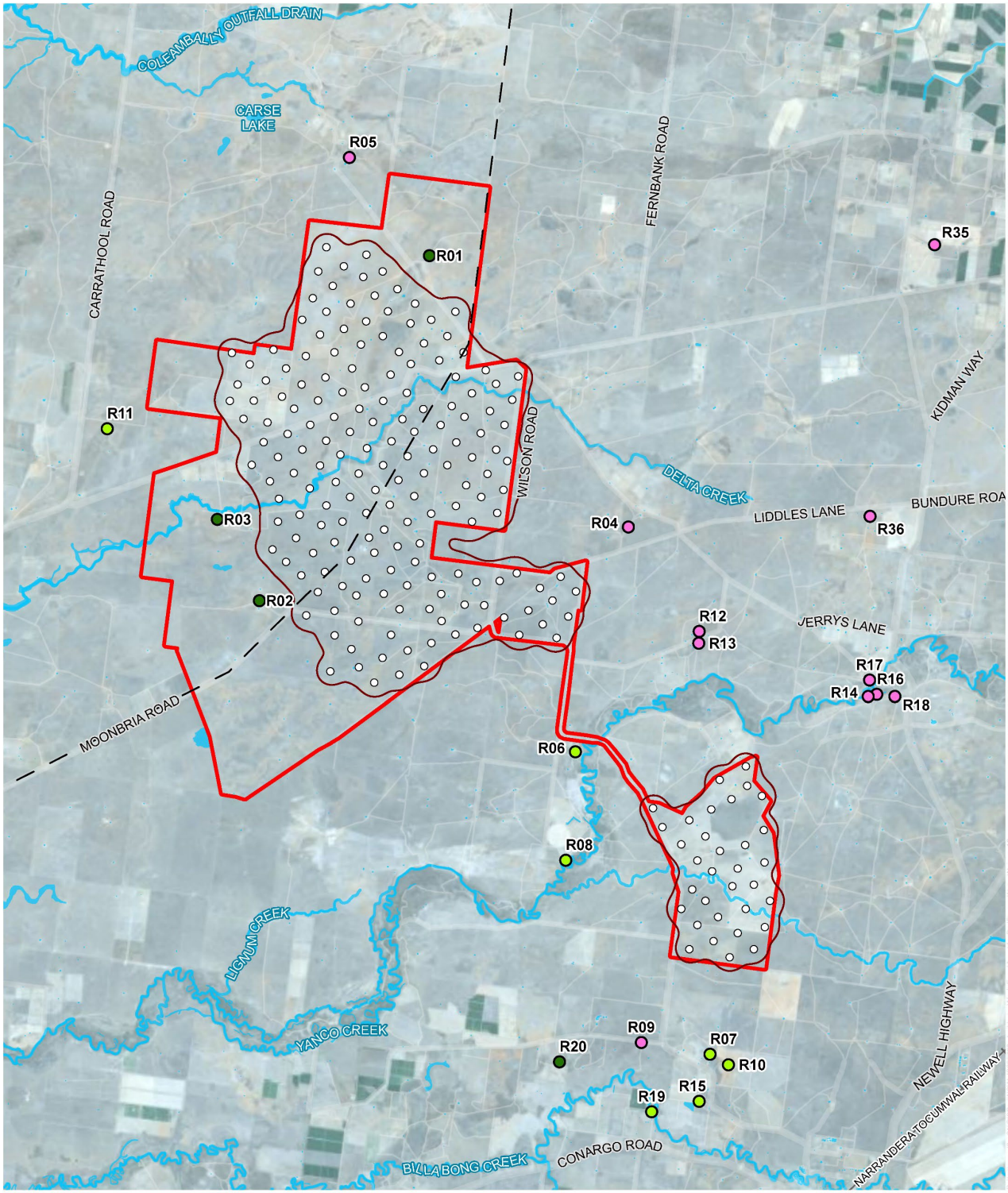


Figure D-2 Predicted noise levels, WTGs at 5m/s wind speed

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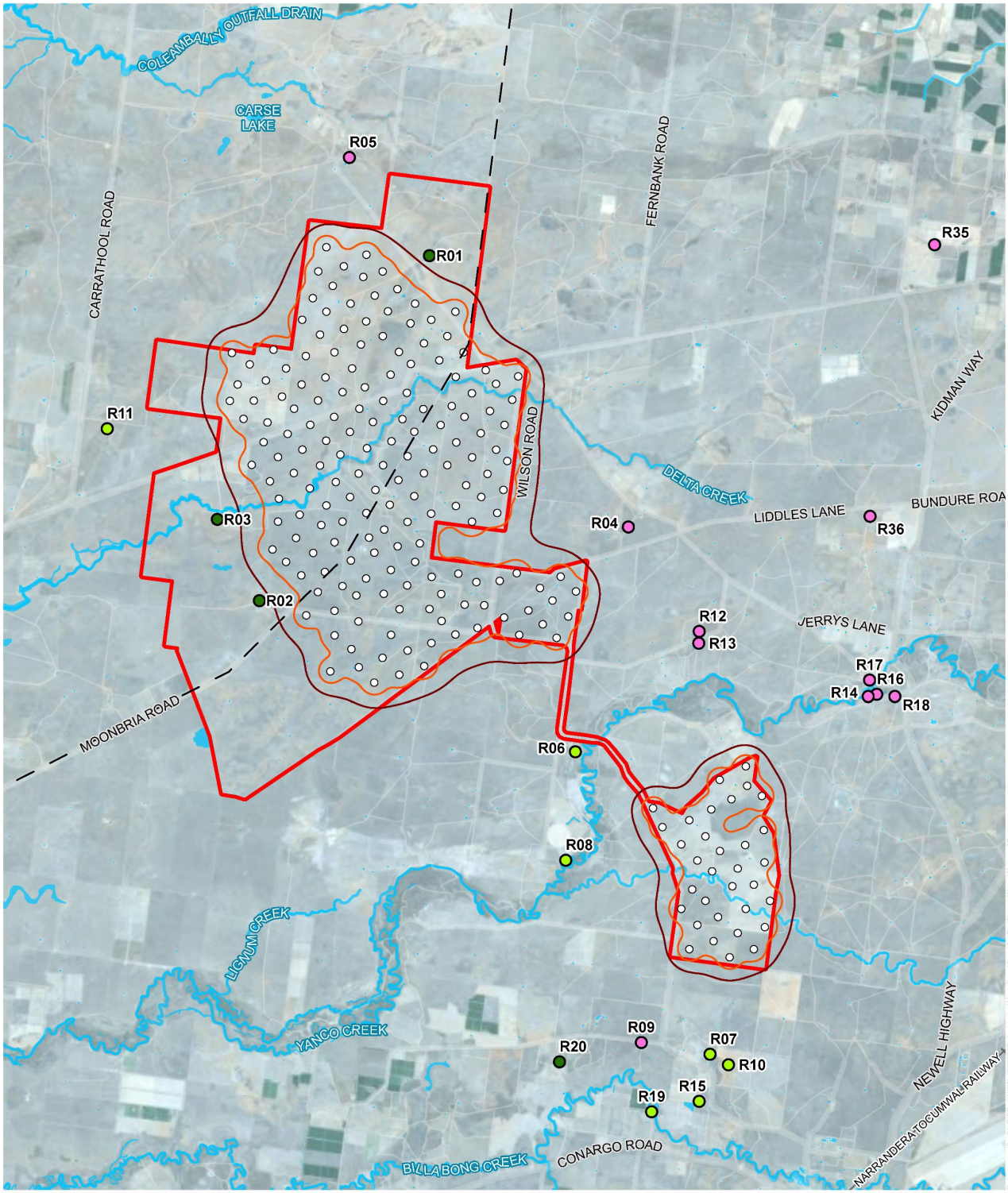


Figure D-3 Predicted noise levels, WTGs at 6m/s wind speed

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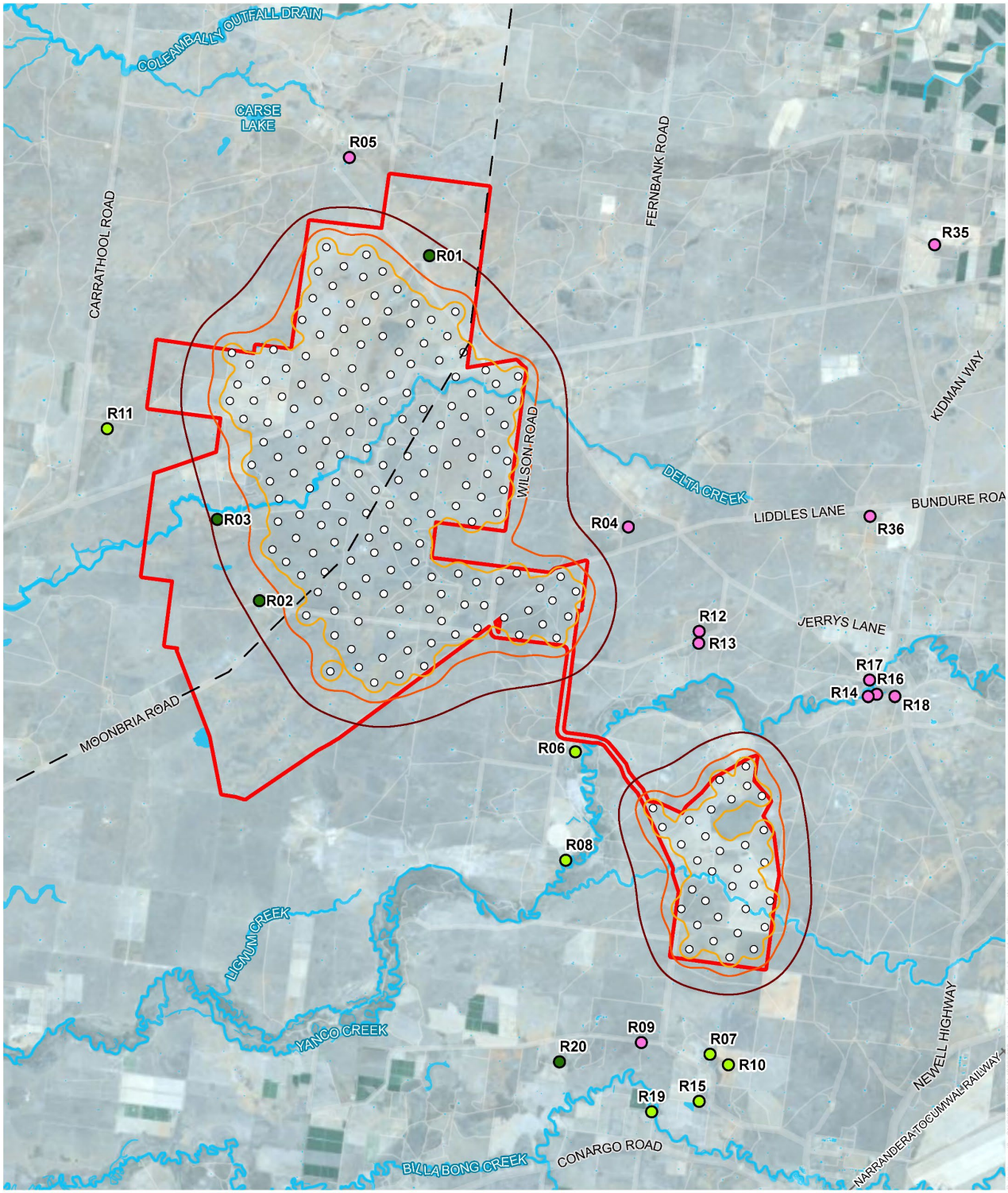
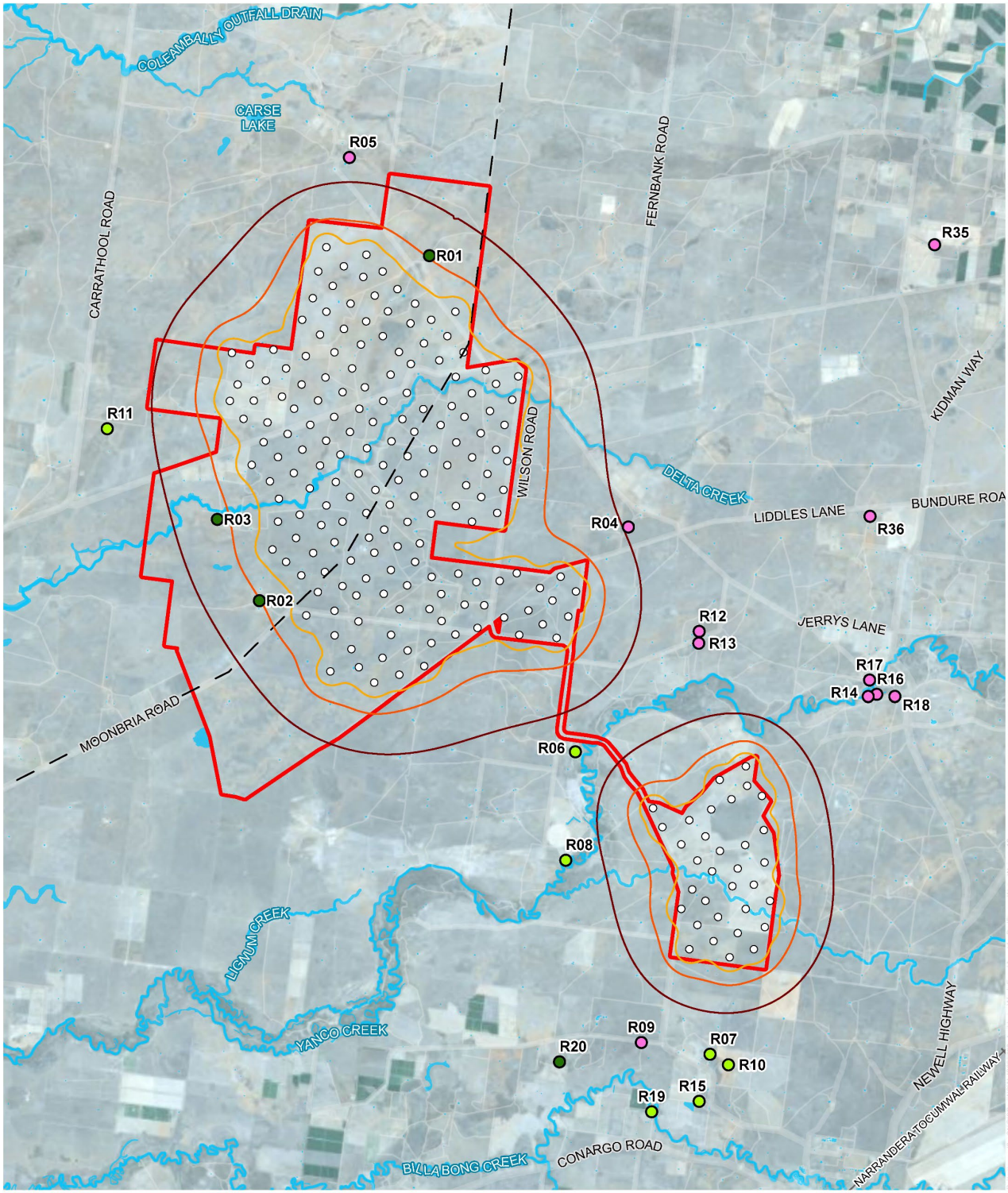


Figure D-4 Predicted noise levels, WTGs at 7m/s wind speed

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Indicative Project
Project area
Turbine locations

Dwellings
Host receiver
Associated receiver
Non-associated receiver

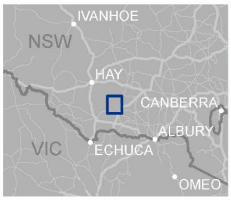
Noise level
30 dB(A)
35 dB(A)
40 dB(A)

Railway
Waterways
Existing 132kV transmission line
Road

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



Data sources

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Figure D-5 Predicted noise levels, WTGs at 8m/s wind speed

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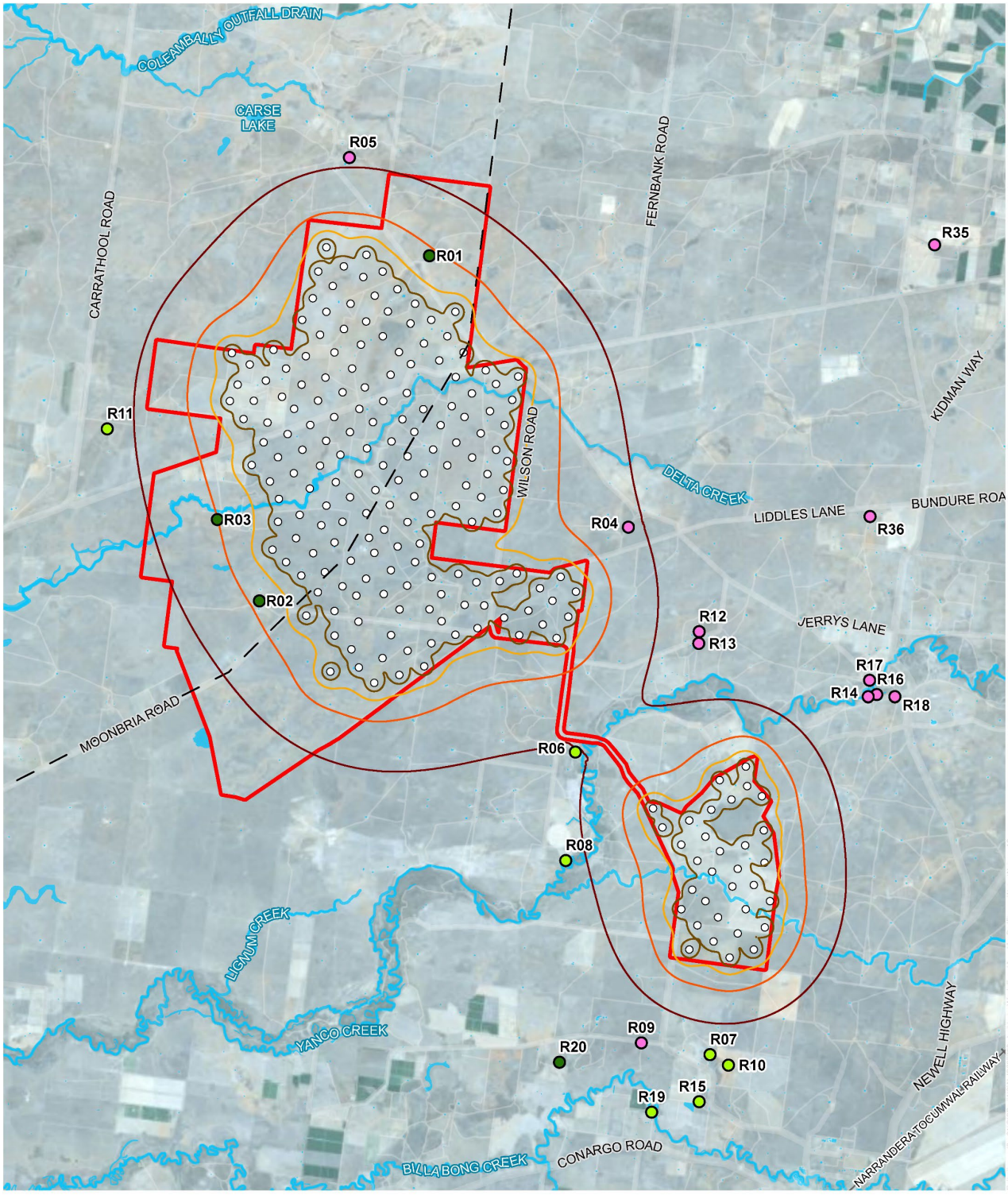
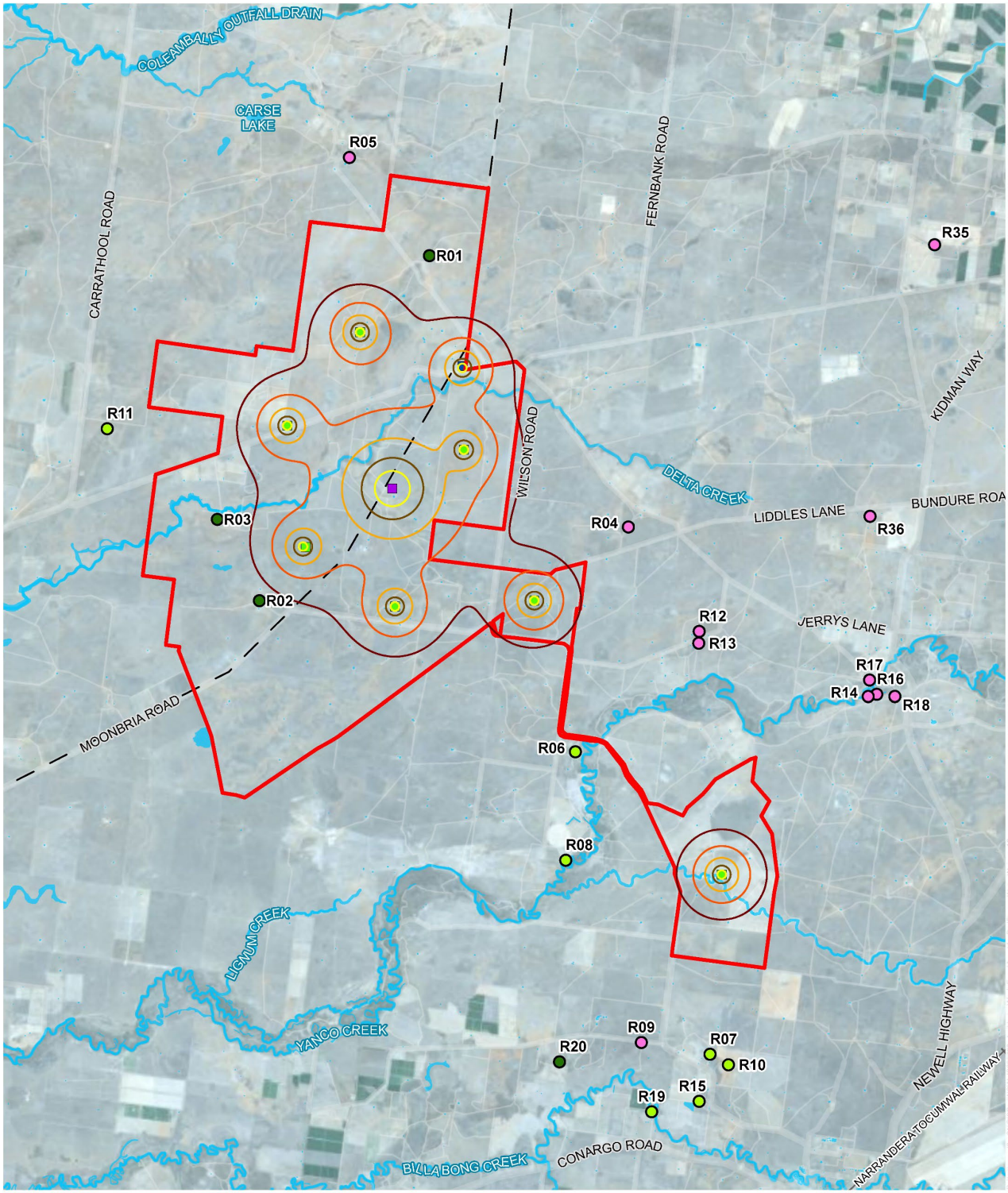


Figure D-6 Predicted noise levels, WTGs at 9-12 m/s

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Appendix E. Substation and BESS noise contours



Indicative Project
- Project area
- Substation / Battery - Option 1
- Substation / Battery - Option 2
- Collector substation

Dwellings
- Host receiver
- Associated receiver
- Non-associated receiver

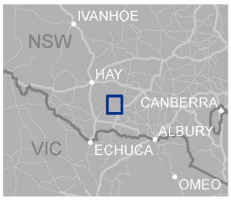
Noise level
- 30 dB(A)
- 35 dB(A)
- 40 dB(A)
- 45 dB(A)
- 50 dB(A)

- Railway
- Waterways
- Existing 132kV transmission line

0 2 4 km

1:230,000 at A4

GDA 1994 MGA Zone 55



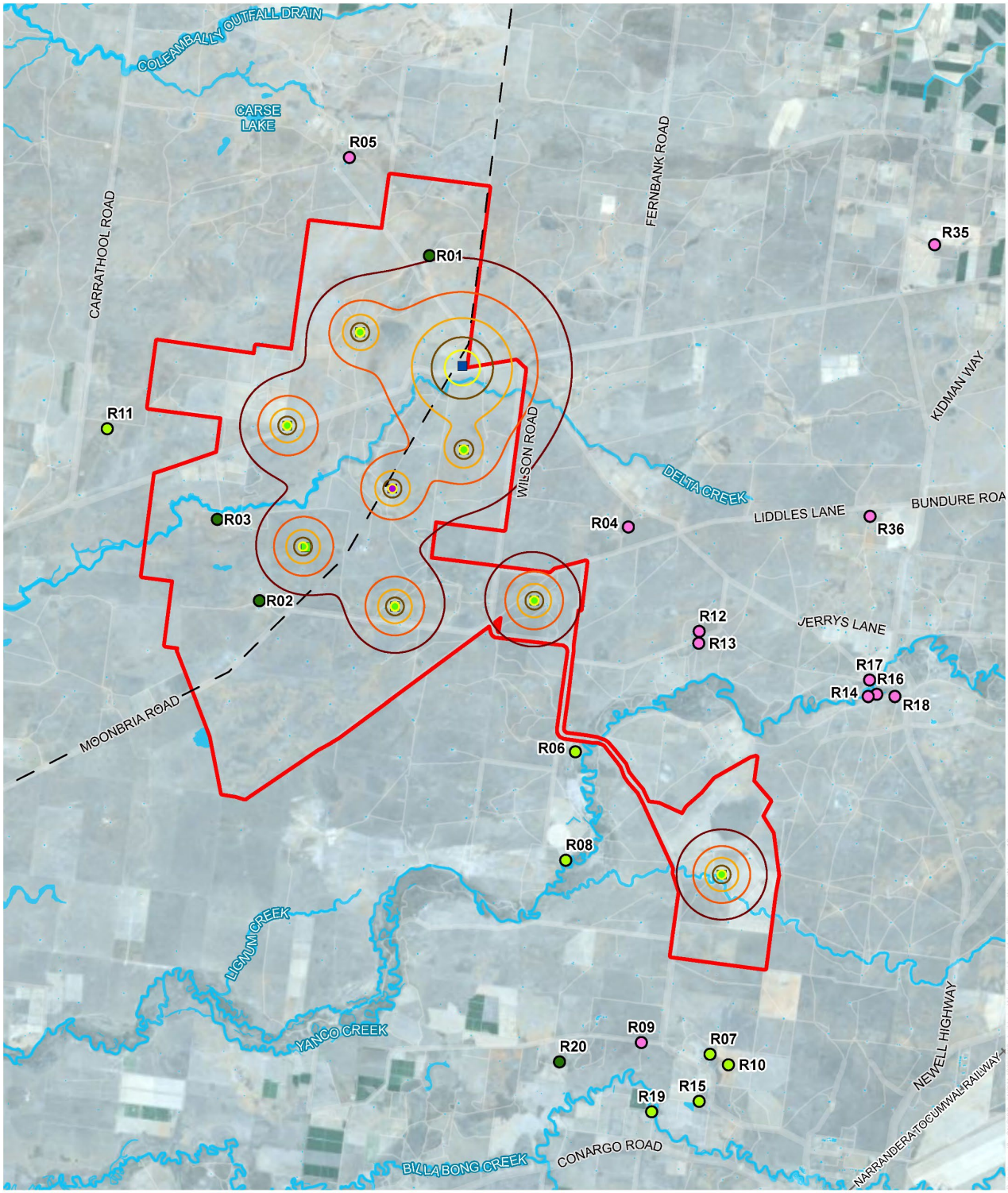
Data sources

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Figure E 1 Predicted noise levels - Option 1 central primary substation/BESS

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Indicative Project
- Project area
- Substation / Battery - Option 1
- Substation / Battery - Option 2
- Collector substation

Dwellings
- Host receiver
- Associated receiver
- Non-associated receiver

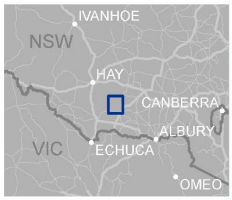
Noise level
- 30 dB(A)
- 35 dB(A)
- 40 dB(A)
- 45 dB(A)
- 50 dB(A)

- Railway
- Waterways
- Existing 132kV transmission line

0 2 4 km

1:230,000 at A4

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Data sources

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Figure E-2 Predicted noise levels - Option 2 central primary substation/BESS

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