



Technical Memo

16 October 2020

Joule Logic

5473a_AC_R_R1
AJM

Attn: [REDACTED]

Dear Madam,

RE: Port Latta Wind Farm pre-construction environmental noise survey methodology.

Please find below the proposed pre-construction environmental noise survey methodology for the Port Latta Wind Farm.

1. INTRODUCTION

Joule Logic Pty Ltd has commissioned Tarkarri Engineering to undertake a pre-construction environmental noise survey for their Port Latta Wind Farm.

This technical memo presents a proposed survey methodology to meet the requirements of conditions N4 1.1 of the sites Permit Conditions - Environmental (PCE).

2. SITE DESCRIPTION

The Port Latta Wind Farm is located south-west of the Port Latta iron ore processing facility on to adjacent land blocks; 365 Mawbanna Rd, Black River and 551 Mawbanna Rd, Mawbanna.

Residential properties are located to the north and north-east of the wind farm at Cowrie Point and Crayfish Creek. The sites PCE (see details in section 3 of this technical memo) states that monitoring is to be conducted at 2 properties prior to construction as follows:-

- 20286 Bass Hwy, Cowrie Point.
- 20049 Bass Hwy, Crayfish Creek.

Figures 2-1 and 2-2 below provide aerial views of the wind farm land (highlighted in yellow) and surrounds with the measurement positions marked. Table 2-1 presents details of the noise measurement positions to be utilised.

NB: The location of the measurement positions on the land at each of the properties may vary following site inspection.



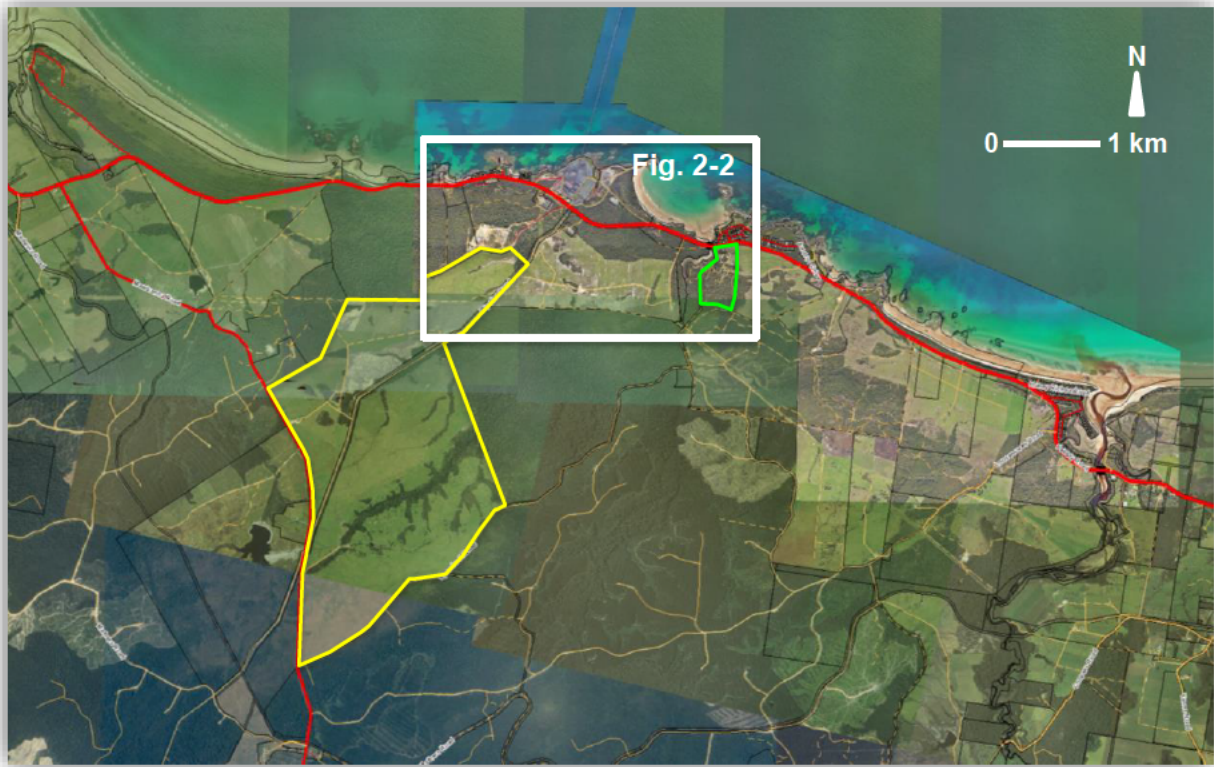


Figure 2-1: Aerial view of the Port Latta Wind Farm site and surrounds with the extent of Figure 2-2 marked.



Figure 2-2: Aerial view with the survey positions marked.



Measurement positions		
Position number	Location	Coordinates (MGA, Zone 55 G)
1	20286 Bass Highway	362843 / 5476470
2	20049 Bass Highway	364910 / 5475382

Table 2-1: Survey measurement locations.

3. PERMIT CONDITIONS - ENVIRONMENTAL

The following conditions for noise apply under the sites Permit Part B Permit Conditions – Environmental No. 9889:-

N1	Noise Control - Noise emission limits	Noise emissions from the activity when measured at any noise sensitive premises in other ownership and expressed as the equivalent continuous A-weighted sound pressure level must not exceed the greater of:
		1.1 5 dB(A) above the L_{A90} of all other noise; or
		1.2 40 dB(A)
		2. L_{A90} is the A-weighted sound level that is exceeded 90% of the time.
		3. The time interval over which noise levels are averaged must be 10 minutes or an alternative time interval specified in writing by the Director.
		4. Unless otherwise approved in writing by the Director, measured sound levels must be adjusted for tonality, impulsiveness, modulation and low frequency in accordance with the Tasmanian Noise Measurement Procedures Manual.
N2	Noise Control - Provision of sound power test data and emission characteristics	5. Unless otherwise approved in writing by the Director, all methods of measurement must be in accordance with the Tasmanian Noise Measurement Procedures Manual.
		1. Unless otherwise approved in writing by the Director, certified sound power level characteristics, including A-weighted level, one-third octave band, narrow band spectra and tonality, of the wind turbine model to be installed at the site must be provided to the Director prior to the commencement of construction. The test data must be consistent with International Standard IEC 61400-11.
		2. The test data requested by N2.1 must demonstrate that the sound power level of the turbine model to be installed at the site is equal to or less than the sound power levels as presented in Table 2 of Appendix 16 of the DPEMP. The test data must confirm that the turbine model to be installed has no tonality or special audible characteristics.
N3	Noise Control - Emission characteristics noise survey	At the request of the Director, a noise survey will be required should the sound power level characteristics provided in N2 exceed those provided in the Development Proposal and Environmental Management Plan.
N4	Noise Control - Pre-construction and post-commissioning noise surveys	1. Noise surveys must be undertaken in accordance with a survey methodology approved in writing by the Director:
		1.1 Prior to construction to determine background noise levels at 20286 and 20049 Bass Highway; and



		1.2 Within 3 months after the completion of commissioning to determine the noise of the Activity at 20286 and 20049 Bass Highway.
		2. The specific location of monitoring equipment must be in accordance with any requirements of the Director.
		3. Data and reports relating to the noise monitoring undertaken in accordance with conditions N4. 1.1 and N4. 1.2 must be provided to the Director within 3 weeks of the completion of monitoring.

4. ENVIRONMENTAL NOISE SURVEY METHODOLOGY

The measurement approach taken by Tarkarri Engineering would be as follows:-

- Logging of unobserved 10-minute noise statistics at each of the 2 measurement locations (see Table 2-1 and Figures 2-1 and 2-2 for locations) for a period of 2-weeks. As a minimum, equivalent continuous (L_{eq}) and L_1 , L_{10} , L_{50} , L_{90} and L_{99} A-weighted sound pressure levels would be recorded.
- During set-up and decommissioning of the monitoring system at each measurement location, minimum 1-minute observed 1/3-octave band and narrow band spectra would be recorded. Narrow band measurements would be taken across the following range:-
 - Narrow band data 0 to 1000 Hz (0.15625 Hz resolution)
- A subjective description of the noise environment would be made during set-up and decommissioning of the monitoring system at each measurement location along with details of meteorological conditions relevant to noise propagation.
- Logged data at each measurement position would be filtered on the basis of meteorological data from the closest relevant Bureau of Meteorology station (i.e. filtered for rain and high winds).
- Logged data would be assessed on the basis of the 'extended measurement procedure' for determining background noise levels under the Tasmanian Noise Measurement Procedures Manual.

4.1 Reporting

A written report detailing the above and to meet the requirements of condition N4(3) of the PCE.

5. EQUIPMENT

Unobserved logging:-

- Larson Davis SoundAdvisor Portable Noise Monitoring System, Model NMS044, utilising a Model 831C Class 1 sound level meter.

Observed spectra:-

- Larson Davis 831 Class 1 sound level meter.



I hope this information meets your immediate requirements.

Please contact me directly if you have any questions concerning this work.

Yours faithfully,
Tarkarri Engineering Pty Ltd

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