

25 June 2021  
Document No. 60.00741.05 LTR4R1.DOCX

Jackson Environment and Planning Pty Ltd  
Suite 102, Level 1  
25 - 29 Berry Street  
North Sydney  
NSW 2060

**Attention: Mark Jackson**

Dear Mark

**Consultant Advice Notice**  
**Kariong Sand and Soil Supplies**  
**Noise & Vibration Impact Assessment**

## **1 Introduction**

Waves Acoustic Consulting Pty Ltd (Waves Consulting) provided a Noise & Vibration Impact Assessment (Document No. 60.00741.05 RPT1R3.DOCX) as part of the EIS for the Kariong Sand & Soil Supplies Facilities Upgrade, 90 Gindurra Road, Somersby, NSW.

Following the EIS exhibition the Department of Planning, Industry & Environment (DPIE) have provided questions from an internal DPIE reviewer regarding noise and vibration impacts from the site. Waves Consulting provided responses to these questions via three (3) addendum reports. Following these reports Waves Consulting and Jackson Environment and Planning had a teleconference meeting with representatives from the DPIE on 09 June 2021. This meeting was followed up with a separate teleconference between Waves Consulting and the DPIE noise expert on 10 June 2021. The outcome of these teleconferences can be summarised as below:

- The noise model in the EIS does not include the latest design information for the proposal. The EIS modelled open-ended sheds around the crusher and mulcher plant; however, the latest design shows the crusher and mulcher sheds are to be fully enclosed.
- The noise model in the EIS has used source noise levels for the main items of plant which are too conservative.
- The noise model in the EIS has not applied corrections for impulsive noise events as per AS1055:2018. While it is noted that the NSW NPI dated 2017 does not specifically require assessment of impulsive noise events the DPIE will be looking for impulsive noise assessment in all future projects.

Based on the above discussions with DPIE, Waves Consulting have undertaken new noise modelling and impact assessments. The following sections describes the new noise model inputs and assumptions as well as the new noise impacts.

---

**Waves Acoustic Consulting Pty Ltd**

Level 7, 1 York Street, Sydney, NSW 2000  
ABN 80 610 696 449

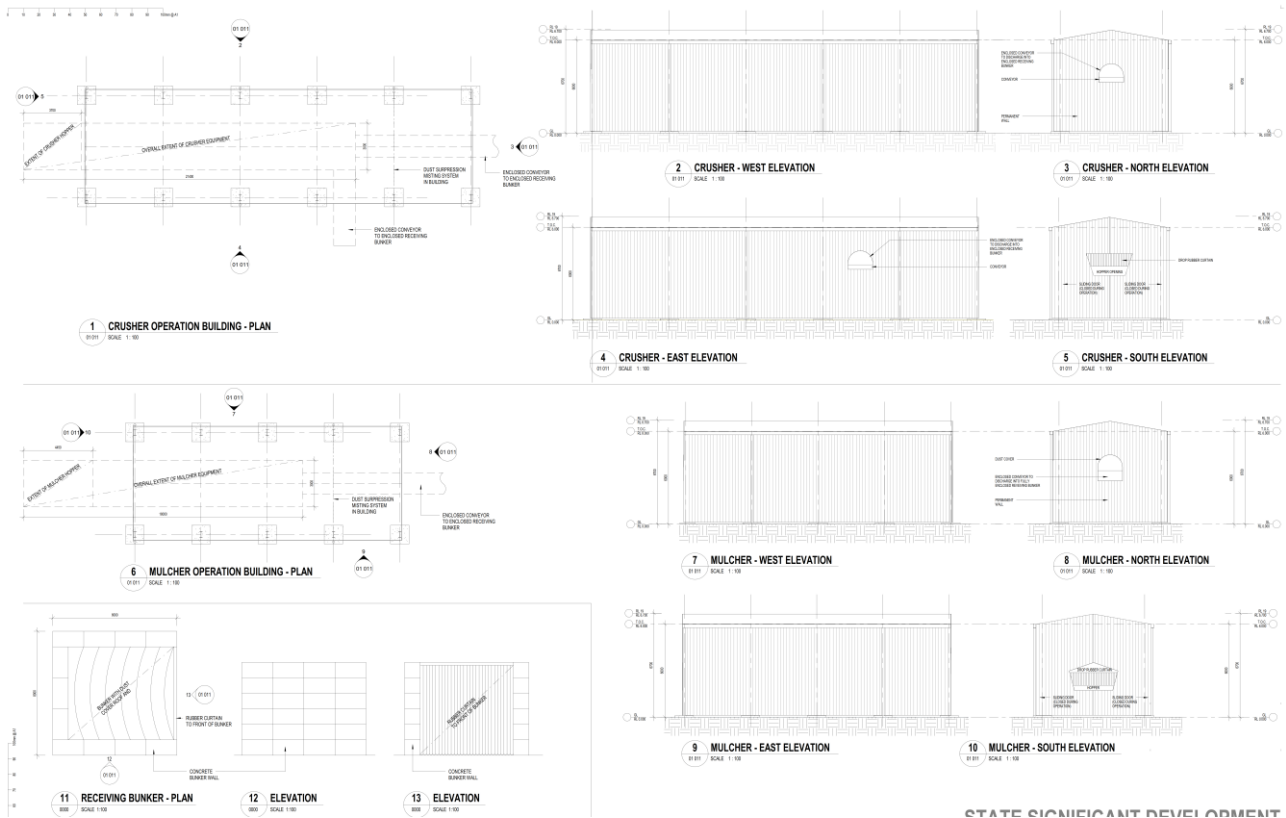
+61 2 7900 5548  
info@wavesconsulting.com.au  
www.wavesconsulting.com.au

## 2 Changes to the Noise Model

### 2.1 New Enclosed Crusher and Mulcher Sheds

Figure 1 below illustrates the fully enclosed crusher and mulcher sheds used in the new noise model.

Figure 1. Proposed Fully Enclosed Crusher and Mulcher Sheds



## 2.2 New Source Levels

Table 1 below summarises the new source sound power levels used in the new noise models.

**Table 1. New Source Sound Power Levels**

Description	Overall LWA (dB re 1pW)	Octave Band Centre Frequency (Hz) Lw (dB re 1 pW)							
		63	125	250	500	1000	2000	4000	8000
Volvo L150 Front End Loader - Manoeuvring	108	98	106	108	104	104	99	93	92
Volvo L150 Front End Loader - Handling Materials	114	104	112	114	110	110	105	99	98
CAT 329F Excavator - Manoeuvring	105	107	107	103	104	99	96	88	76
CAT 329F Excavator - Handling Materials	111	113	113	109	110	105	102	94	82
Rubble Master RM100 Crusher	114	121	121	119	109	104	103	98	97
Kleeman Screen	116	119	117	114	114	109	109	106	99
Combined Crusher & Screen	118	123	122	120	115	110	110	107	101
Wood Shredder 2710D	119	112	112	112	112	112	112	112	112
B-Double / Semi Trailer - Maximum Engine Load	106	108	109	104	103	101	98	95	92
B-Double / Semi Trailer - Reversing Beeper	102					102			

## 2.3 Noise Model Assumptions

The noise model assumptions include the following:

- All fixed plant operating for 100% of the time at full load.
- All mobile plant will use 50% of the time handling materials, 50% of the time manoeuvring. All operations at full load.
- Truck manoeuvring will comprise 50% of the time at full load, with reversing beepers operating for 50% of the time.
- Processing plant building with 35 dB Rw walls and roof.
- Fully enclosed crusher and mulcher sheds with 35 dB Rw walls and roof (indicative wall and roof construction to comprise 1 mm corrugated steel sheet outer skin with 12 mm CFC sheeting as the inner skin. Final design to be confirmed during detailed design to satisfy 35 dB Rw rating).
- +5 dB impulsiveness penalty added to all buildings ie processing plant, crusher/screen and mulcher (AS1055:2018 estimated +5dB penalty).
- +5 dB tonality penalty added to reversing alarms (NPI Fact sheet C).

### 3 Noise Model Predictions

The new noise model inputs and assumptions will only affect the day-time operations. The new noise level predictions are provided in Table 2 below and compared against the criteria applicable to each receiver.

**Table 2. New Noise Model Predictions**

Receiver Name	Overall LAeq	PNTL Criteria	Exceedance
5 Kowara Road	27	48	0
9 Kowara Road	31	48	0
10 Acacia Road	46	48	0
12 Acacia Road	45	48	0
16 Acacia Road	44	48	0
31 Kowara Road	26	48	0
32 Acacia Road	42	48	0
41 Kowara Road	32	48	0
51 Kowara Road	33	48	0
59 Kowara Road	32	48	0
125 Debenham Road South	19	48	0
127 Debenham Road South	24	48	0
129 Debenham Road South	36	48	0
184 Debenham Road South	32	48	0
198 Debenham Road South	33	48	0
214 Debenham Road South	36	48	0
223 Debenham Road South	42	48	0
242 Debenham Road South	48	48	0
252 Debenham Road South	42	48	0
Central Coast Riding for the Disabled	41	53	0
Industrial NW	48	63	0
Industrial SW	47	63	0
Industrial W	42	63	0
Kariong Correctional Facility	41	48	0
Keane Ceramics	36	68	0

The noise model predictions show the PNTL criteria are satisfied at all of the nearest noise sensitive receivers.

Receiver 242 Debenham Rd South is the only property which equals the criteria, however; it still complies with the criteria ie 0 dB exceedance.

Since there are no exceedances of the PNTL criteria, the noise control measures are sufficient and no further measures are necessary as a result.

---

## 4 Conclusion

If the above results are satisfactory, an updated version of the EIS Noise Impact Assessment can be provided to include the new noise source data and noise model assumptions with the updated noise predictions / impacts.

---

I trust this letter provides sufficient detail for your current requirements. If you have any questions, please do not hesitate to contact me.

Yours sincerely



Tom Cockings  
Director | Acoustic Engineer

T: +61 2 7900 5548  
M: +614 3121 2614  
E: tom@wavesconsulting.com.au

Waves Acoustic Consulting Pty Ltd