Monday, 29 January 2024

Project number: S230621
Reference: S230621LT2

Michael Wright
Kane Constructions
2 John Street
Waterloo NSW 2017 Australia

Dear Michael,

Parramatta Eels Centre of Excellence Construction Noise Monitoring

1 Introduction

Resonate Consultants Pty Ltd (Resonate) was engaged by Kane Constructions to conduct attended noise measurements at residential receiver locations surrounding the Parramatta Eels Community Facilities and Centre of Excellence construction site located at Kellyville Memorial Park, 8 Memorial Avenue, Kellyville to determine noise levels associated with construction related activities related to the site.

The attended noise monitoring was undertaken between 2:30 pm and 4:30 pm on 22 January 2024 at the most affected residential receivers surrounding the site.

This report presents the results of the attended noise measurements in accordance with the Construction Noise and Vibration Management Plan (CNVMP). The intention of the measurements is to confirm that the predicted noise levels at the nearest residential receivers were in accordance with the CNVMP and to assess whether works were being conducted in line with the approvals granted based on the predicted levels.

2 Site description

The site is located at Kellyville Memorial Park, 8 Memorial Avenue, Kellyville. It is bound by Memorial Avenue to the north and Stone Mason Drive to the east. The site is primarily surrounded by residential receivers, with other receivers including medical, commercial buildings and a childcare centre. The most affected Noise Sensitive Receivers (NSR) are summarised alongside a description of the land use, as shown in Figure 1.

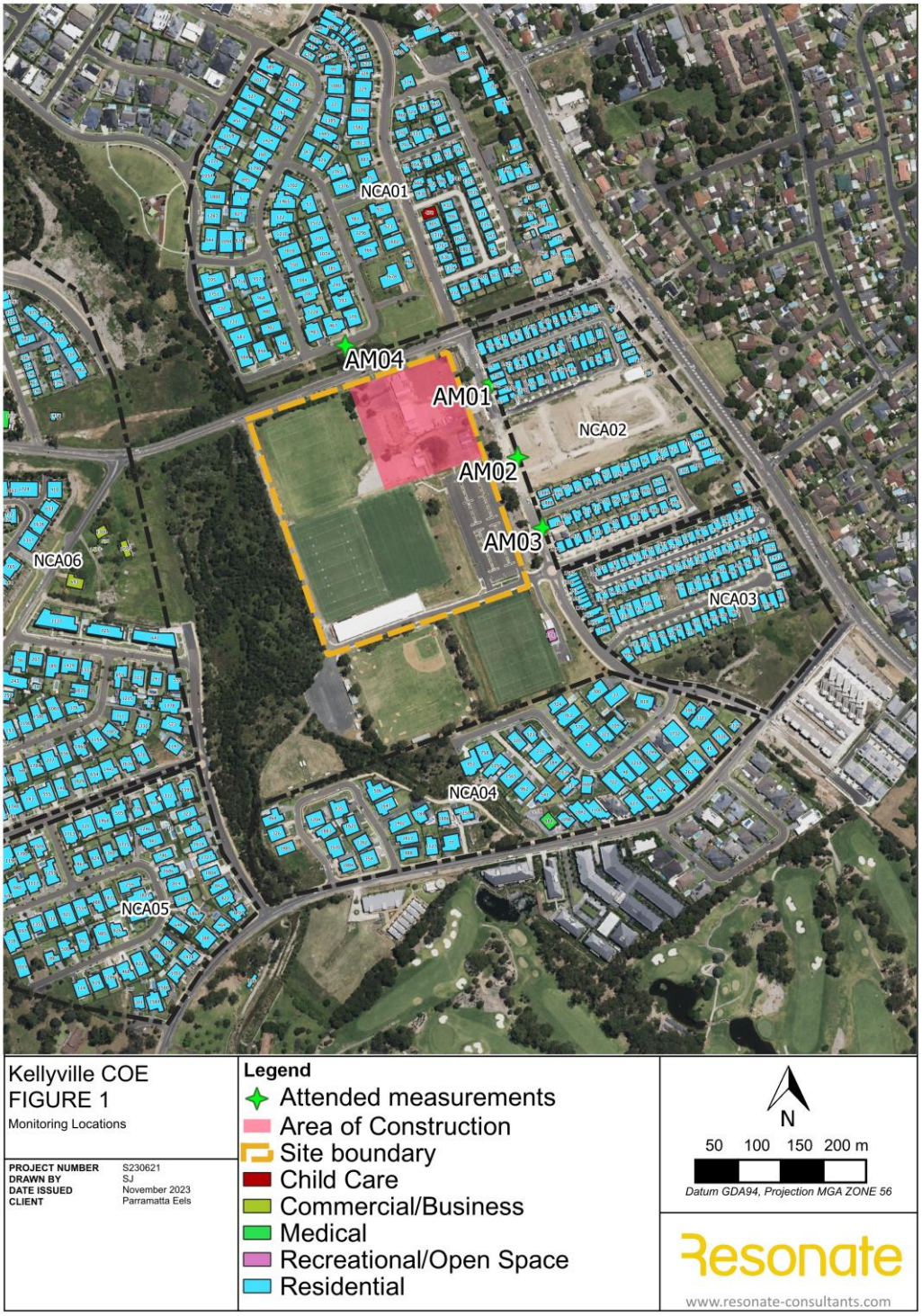

Figure 1 Site location and attended measurement locations

3 Noise management levels

Construction noise in New South Wales is assessed using the Department of Environment & Climate Change's (now Environment Protection Authority) *Interim Construction Noise Guideline* (ICNG).

The ICNG aims to manage noise from construction works regulated by the EPA. It is also intended to provide guidance to other interested parties in the management of construction noise and has therefore been adopted for this construction noise assessment. The ICNG prescribes $L_{eq,15min}$ Noise Management Levels (NML) for sensitive receivers as part of a quantitative construction noise assessment. Where the predicted or measured construction noise level exceeds these management levels, then all feasible and reasonable work practices should be implemented to reduce construction noise, and community consultation regarding construction noise is required to be undertaken.

Any noise generated during construction of the development must not be offensive noise within the meaning of the Protection of the Environment Operations Act 1997 or exceed approved noise limits for the site. Noise limits for the site are the NML stated below. The ICNG recommends standard working hours for construction as follows:

- Monday to Friday, 7 am to 6 pm
- Saturday, 8 am to 1 pm
- No work on Sundays or Public Holidays

Table 1 summarises the project specific NMLs applicable to sensitive land uses surrounding the site during the construction phase. The NMLs are based on the background noise levels from unattended monitoring. For a full description of the derivation of NMLs refer to the project CNVMP (*Ref: S230621RP1A Dated: 11 September 2023).*

Table 1 Noise management levels

NCA	NML for time period, dB(A)			
	Standard Working Hours	**Out of Hours Day(1) (Saturday afternoon, Sundays and public holidays)**	**Out of Hours Evening(2)**	**Out of Hours Night3**
01, 02 and 03	54	49	44	36
04, 05 and 06	52	47	44	36

(1) Any out of hours work occurring between 7 am and 6 pm.

(2) Any out of hours work occurring between 6 pm and 10 pm.

(3) Any out of hours work occurring between 10 pm and 7 am.

4 Noise measurement locations

Resonate attended site on Monday 22 January 2024 to conduct attended noise measurements. Measurements were conducted at four receiver locations adjacent to the project site. The noise measurement locations are provided in Table 2 and shown in Figure 1.

During the time of measurement, there were additional construction works and external noise sources, such as traffic, not associated with the Kane construction site.

Table 2 Noise measurement locations

ID	Location
AM01	NCA02 stone mason drive and Abbottsford
AM02	NCA02 stone mason drive
AM03	NCA02 stone mason drive and gauge avenue
AM04	NCA01 to the north 19 Gormon Ave, Kellyville

5 Instrumentation

Attended noise measurements were conducted using a Brüel & Kjær 2250 sound level meter (serial number: 3028219) and Casella CEL-120/1 field calibrator (serial number: 0254838). The sound level meter holds current calibration certifications. Calibration of the sound level meter was checked both prior and post measurement and no significant noise level drift was observed.

Short-term noise measurements were taken with the sound level meter mounted on a tripod at 1.5 m above ground level at locations shown in Figure 1.

6 Noise measurement results

The measured noise levels and discussion of key observations are presented in Table 3. A predicted level at the receivers has been calculated by Resonate to account for advised combinations of works. During the measurement period, the Leq noise level was influenced from a combination of construction noise as well as noise sources including noise from the construction site. For construction activities associated with the Kane site, the measured noise levels were observed to be closely aligned with the predicted noise levels.

Table 3 Attended noise measurements

Reference	Time	Noise Management Level $L_{Aeq\ (15\ min)}$ dB(A)	Measured Noise Level $L_{Aeq\ (15\ min)}$ dB(A)	Construction Activity Noise Contribution $L_{Aeq\ (15\ minute)}$ dB(A)	Comments[1]
AM01	14:25	54	55	52	• Kane site works: – Rock breakers – Excavators – Truck loading – Garden work • Daracon site main contributor to Leq • Noise contribution from site mainly rock breaker, as well as reverse squawker on truck. • Lmax from Daracon construction truck passbys on adjacent stone mason drive.

Reference	Time	Noise Management Level $L_{Aeq\ (15\ min)}$ dB(A)	Measured Noise Level $L_{Aeq\ (15\ min)}$ dB(A)	Construction Activity Noise Contribution $L_{Aeq\ (15\ minute)}$ dB(A)	Comments(1)
AM02	14:42		54	50	• Kane site works: – Rock breakers – Excavators – Truck loading – Garden work • Daracon site main contributor to Leq • Additional noise contribution from residential construction adjacent to site. • Noise contribution from site mainly rock breaker and gardening tools, with peaks from truck movements and loading/unloading.
AM03	14:58		55	53	• Kane site works: – Rock breakers – Excavators – Truck loading – Garden work • Daracon site barely audible • Additional noise contribution from residential construction adjacent to site. • Noise contribution from site mainly excavator engine and movements, as well as reverse squawker on truck.
AM04	15:28		62	50	• Daracon site and traffic on Mason dominant Leq noise sources • Traffic 60-63dB(A) • Heavy traffic 65-72 dBA (busses and trucks) • Noise contribution from Kane site approximately 52 dB(A) main source rock breaker. • Rock breaker was not in operation the entire time.

(1) Observations are in dB(A) and refer to L_{Af} levels unless otherwise stated

7 Summary and observations

It was observed that construction works were being conducted at the northern corner of the site. The main noise contributors from the Kane site were the use of excavators, rock breakers, gardening tools and a loading/unloading trucks. Other noise sources not associated with the site included additional construction works by Daracon on Gorman Avenue, residential construction on Gauge Avenue and local traffic in the area. Noise level contributions from the Kane construction site were calculated to be below the predicted noise level stated in the CNVMP at all measured locations.

The CNVMP recommends the following for nearby residential receivers:

- Where the predicted or measured construction noise level exceeds the noise affected level, all feasible and reasonable work practices should be applied to meet the noise affected level.
- All residents potentially impacted by the works should be informed of the nature of the works, the expected noise levels and duration, and provided with site contact details.

The noise measurements confirmed that the noise mitigation implemented in accordance with the CNVMP were generally appropriate and effective. It is recommended that the following site and equipment work practices continue to be implemented to assist in reducing noise levels and impacts to nearby residences, and to maintain compliance with the NMLs and predicted noise levels for approved works:

- processes that generate lower noise levels should be selected where feasible.
- noisy plant should be located as far away from residences as is practical to allow efficient and safe completion of the task.
- the potential shielding provided by site topography and intervening buildings should be considered in locating equipment.
- site compounds should be located as far away as possible from residences.
- equipment that is used intermittently should be shut down or throttled down to a minimum during periods where it is not in use.
- works should be planned to minimise the reduce the noise from reversing signals.
- warning horns should not be used as signalling devices.
- two-way radios should be set to the minimum effective volume.
- noise associated with packing up plant and equipment at the end of works should be minimised.
- audible movement alarms of a type that would minimise noise impacts on surrounding noise sensitive receivers.
- selection of low-noise plant and equipment where possible.
- equipment should be well maintained.
- equipment should have quality mufflers and silencers installed where relevant.
- equipment not in use on site should be shut down.
- tasks should be completed using the minimum feasible power and equipment.

Please let me know if you have any queries or wish to discuss the above.

Yours sincerely,

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