Noise & Vibration Monthly Report

Barangaroo Cutaway Cultural Facility

3847.04

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Customer Name:	FDC Construction
Report Number:	3847.04
Reporting Period	26/08/2024 to 25/09/2024
Issue Date:	26/09/2024

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1 Executive Summary

Noise and vibration associated with construction activities were monitored between 26th August and 25th September 2024. There were zero instances where noise levels exceeded the alarm level for high noise emission, with a selection of notable noise events from construction activities which did not exceed the alarm level.

There were two instances where vibration levels exceeded established alerting or alarming levels, but these were isolated events that occurred near the site level vibration sensor. Therefore, the vibration levels are not expected to pose a potential threat to nearby residential or heritage buildings.

Noise levels at sensitive receivers along Merriman Street will continue to be monitored closely to ensure a reasonable acoustic amenity is maintained.

NoiseNet should be informed in advance of any planned activities likely to cause high levels of vibration, such as piling or rock breaking. Key personnel should continue to observe alerting and alarming via email and SMS, as established in installation report reference *3847_Installation_Report_Barangaroo_Cutaway_FDC_Construction_R02*.

2 Noise

Over the reporting period, there were zero instances where noise exceeded the established levels for high emission.

Four instances of elevated noise activity have been outlined in Table 1 with the primary sources of noise over the reporting period identified as noise from fixed mechanical plants such as generators, mobile machinery, jackhammering, power tools, metal banging together and other general impulsive noise. Site activity generally begins at 7am in accordance with operating restrictions, which are generally adhered to. Particular care should be taken to keep noise to a minimum prior to 7:00am (and 8:00am on Saturdays).

Noise impacts to sensitive receivers on Merriman Street are the most common cause for concern over the duration of the project, and will be monitored closely to ensure a reasonable amenity is maintained.

A selection of notable noises that were observed over the reporting period are showed in Table 1 below, with reference recordings provided.

Filename	Date	Time	Description	Merriman Street Receiver Levels		Munn Street Offices Receiver Levels	
				LA_{eq} (dB)	LA_{max} (dB)	LA_{eq} (dB)	LA_{max} (dB)
2024-08-28T08_05_31+1000.wav	28/8/2024	7:50-8:20	Heavy machinery.	74	84	69	89
2024-08-29T20_02_10+1000.wav	29/8/2024	20:00-20:20	Fireworks reported in the area.	60	81	74	96
2024-08-30T08_29_33+1000.wav	30/8/2024	8:00-8:45	Heavy machinery and other construction noise.	72	91	60	78
2024-09-02T14_15_17+1000.wav	2/9/2024	14:00-14:30	Heavy machinery.	66	80	74	85

Table 1: Most notable noises during the reporting period.

3 Vibration

Over the reporting period, there were two instances where vibration from construction activities at the Barangaroo Cutaway exceeded warning or alarm levels. The first instance occurred at 2:15 pm 3/9/2024 and was reported to be placing of steel on ground next to the site ground level sensor, the audio was reviewed and the same conclusion was drawn. The extreme magnitude of vibration measured at device 1004v is attributed to the proximity of the activity to the vibration monitor (less than 5m). The second instance occurred at 4:15pm 25/9/2024 and was reported to be during rockbolting activities. The audio was reviewed for this period and power tools, metal banging together and other banging sounds were heard. No significant vibrations were measured on other vibration sensors at street level, and thus neither vibration event is expected to pose a potential threat to nearby residential or heritage buildings.

NoiseNet should be informed in advance of any planned activities likely to cause high levels of vibration, such as piling or rock breaking.

The most notable vibrations observed are reported in Table 2 below.

Date	Time	Description	Street Level Peak Vibration Velocity Peak mm/s	Site Ground Level Velocity Peak mm/s
3/9/2024	14:15	Placing steel on ground next to 1004V (ground level vibration sensor).	0.26	311.770
7/9/2024	6:00	Unknown.	0.947	0.480
14/9/2024	10:05	Unknown.	-	1.726
14/9/2024	12:25	Unknown.	-	2.801
16/9/2024	10:30	Unknown.	-	0.950
25/9/2024	9:05	Unknown.	1.45	-
25/9/2024	16:15	Power tools, metal banging together and other banging sounds.	0.18	38.69

Table 2: Most notable vibrations during the reporting period.

4 Report Issue Log

Document Title	Reference	Reporting Period	Issue Date
~~3847_Installation_Report_Barangaroo_Cutaway_FDC_Construction_R01~~ (Superseded)	3847	13/06/2024	24/06/2024
3847_01_NVMR_Barangaroo_Cutaway_FDC_Construction_R01	3847_01	13/06/2024 to 24/06/2024	24/06/2024
3847_Installation_Report_Barangaroo_Cutaway_FDC_Construction_R02	3847	11/07/2024	25/07/2024
3847_02_NVMR_Barangaroo_Cutaway_FDC_Construction_R01	3847_02	25/06/2024 to 24/07/2024	25/07/2024
~~3847_03_NVMR_Barangaroo_Cutaway_FDC_Construction_R01~~ (Superseded)	3847_03	25/07/2024 to 26/08/2024	26/08/2024
3847_03_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_03	25/07/2024 to 26/08/2024	26/08/2024

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