Noise & Vibration Monthly Report

Barangaroo Cutaway Cultural Facility

3847.10

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Customer Name:	FDC Construction
Report Number:	3847.10
Reporting Period	27/1/2025 to 26/02/2025
Issue Date:	27/02/2025

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1 Executive Summary

Noise and vibration associated with construction activities were monitored between 27th of January and 26th of February 2025 (inclusive).

There were twelve instances where noise levels exceeded the alarm level for high noise emission, with levels reducing significantly after 3 hours of site activity. All respite periods were observed.

There were thirty one instances where vibration levels exceeded established alerting or alarming levels, and reached extreme magnitudes. All instances were reviewed to and found to be from localised activity in the direct vicinity of the sensor, and are not expected to pose a threat to nearby residential or heritage buildings.

Over this monitoring period, sensors 1001V and 1002V were moved and have not yet been installed appropriately in a new location. Also sensor 1004V was unplugged from its power supply and stopped communicating, resolution ongoing.

NoiseNet must be consulted prior to relocation of sensors or any changes to power configurations. Failure to meet suitable install conditions or monitoring locations will result in any data being null and void, and may result in failure to meet DA conditions.

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 twelve instances where noise exceeded the established levels for high emission.

Noise during general work hours was typically observed to be from drilling and/or jackhammering, movement of plant and equipment as well as general construction noise such as reverse beepers and power tools.

High noise emissions after site hours was from heavy rain noise not related to activities being carried out by FDC.

Any applicable periods of high noise emission were within allowable hours and appropriate respite periods were observed.

It should be noted that skylight noise monitor 5038 had its power turned off and on multiple times over the monitoring period (see Table 1 for start and end times of offline periods).

Start of offline period	End of offline period
9:00 30/1/2025	17:00 30/1/2025
9:00 31/1/2025	16:00 4/2/2025
9:00 7/2/2025	12:00 14/2/2025
7:00 15/2/2025	9:30 24/2/2025

Table 1: Offline periods for monitor 5038.

All periods of high noise emissions are outlined in Table 2.

Noise impacts were both to sensitive receivers along Merriman Street, and commercial receivers near Munn Street due to work undertaken near the land bridge entrance. In all cases, noise levels returned to acceptable levels within a reasonable time and all required respite periods were observed.

A selection of notable noises that were observed over the reporting period are showed in Table 2 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)
2025-01-27T19_18_06.wav	27/1/2025	19:10-19:39	Monitor 5039. Heavy rain.	62	85	76	91
2025-01-30T12_38_42.wav	30/1/2025	12:24-12:54	Monitor 5048. Movement around skylights, heavy machinery.	86	78	-	-
2025-01-30T14_56_52.wav	30/1/2025	13:25-15:22	Monitor 5048. Movement around skylights, heavy machinery.	79	88	-	-
2025-02-10T09_56_59.wav	10/2/2025	8:50-10:40	Monitor 5039. Heavy machinery, drilling GRC brackets into land bridge at facade entry.	-	-	75	85
2025-02-10T11_41_15.wav	10/2/2025	11:28-12:14	Monitor 5039. Heavy machinery, hammering and drilling GRC brackets into land bridge at facade entry.	-	-	76	91
2025-02-11T11_26_24.wav	11/2/2025	11:01-12:15	Monitor 5039. Drilling GRC brackets into land bridge at facade entry.	-	-	83	96
2025-02-11T13_32_31.wav	11/2/2025	13:10-14:20	Monitor 5039. Heavy machinery.	-	-	85	96
2025-02-12T08_35_50.wav	12/2/2025	8:29-8:44	Monitor 5039. Heavy machinery.	-	-	76	82
2025-02-17T09_09_02.wav	17/2/2025	9:05-9:20	Monitor 5037. Steel Installation at skylights.	76	97	-	-
2025-02-17T12_50_43.wav	17/2/2025	12:36-13:28	Monitor 5037. Banging, nearby plant movement and monitor knocked by EWP. Not related to noise at 5039.	80	97	81	88
2025-02-17T13_14_32.wav	17/2/2025	12:36-13:28	Monitor 5039. Heavy machinery. Not related to noise occurring at 5037.	80	97	81	88
2025-02-19T10_05_10.wav	19/2/2025	9:59-10:16	Monitor 5039. Installation of ATF Fencing across facade entry at monitor level.	-	-	77	101

Table 2: Most notable noises during the reporting period.

3 Vibration

Over the reporting period, there were thirty one instances where vibrations from construction activities at the Barangaroo Cutaway exceeded warning or alarm levels.

There were extreme magnitudes of vibration measured on multiple occasions (sometimes in exceedance of 400mm/s), and all vibration events were investigated and confirmed to be from highly localised activities directly adjacent to sensors. No other sensors measured significant vibrations when these activities were occurring, hence these activities are not 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.

It should be noted that vibration sensor 1002V had to be removed from its original location to a new location on 13/2/2025 and has still not been appropriately installed in the new location. For this reason the results are excluded from this report from this date. NoiseNet was informed of this move on 14/2/2025.

Similarly, 1001V had to be removed from its original on 25/2/2025 and has still not been appropriately installed in a new location. For this reason the results past this date will be excluded from this report. NoiseNet was informed of this move on 26/2/2025.

As well as this, vibration sensor 1004V was offline between 10:00 pm 2/2/2025 and 8:30 am 3/2/2025, and has been offline since 6:30 pm 23/2/2025.

The most notable vibrations observed are reported in Table 3 below.

Date	Time	Description	Street Level Peak Vibration	Site Ground Level
			Velocity Peak mm/s	Velocity Peak mm/s
30/1/2025	15:54-16:02	Sensor 1001V. Installation of skylight steel and drilling bolt locations for rigging steel.	Eighteen exceedances ranging from 17.0 – 176.9	-
30/1/2025	10:40-16:02	Sensor 1001V. Installation of skylight steel and drilling bolt locations for rigging steel.	52.0	-
31/1/2025	7:56-8:31	Sensor 1001V. Heavy machinery.	22.9	-
4/2/2025	10:20-10:26	Sensor 1000V. Skylight 4 formwork.	9.7	-
13/2/2025	12:49-12:51	Sensor 1004V. General movement of plant in corridors of back of house.	42.8	-
13/2/2025	15:06-15:18	Sensor 1000V. Survey in skylights for bolt locations.	430.56	-
13/2/2025	15:18-15:21	Sensor 1000V. Survey in skylights for bolt locations.	122.4	-
18/2/2025	8:29-8:31	Sensor 1004V. General movement of plant in corridors	-	24.7
18/2/2025	14:19-14:49	Sensor 1000V. Formwork being installed - general drilling noise near monitor.	Six exceedances ranging from 6.3 – 163.1	-
19/2/2025	8:15-8:17	Sensor 1004V. General movement of plant in corridors	-	20.5
19/2/2025	15:28	Sensor 1004V. General movement of plant in corridors	-	2.2

Table 3: 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
3847_04_NVMR_Barangaroo_Cutaway_FDC_Construction	3847_04	26/08/2024 to 25/09/2024	25/09/2024
~~3847_05_NVMR_Barangaroo_Cutaway_FDC_Construction~~ (Superseded)	3847_05	26/09/2024 to 25/10/2024	25/10/2024
3847_05_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_05	26/09/2024 to 25/10/2024	31/10/2024
3847_06_NVMR_Barangaroo_Cutaway_FDC_Construction	3847_06	25/10/2024 to 11/11/2024	12/11/2024
~~3847_07_NVMR_Barangaroo_Cutaway_FDC_Construction~~ (Superseded)	3847_07	12/11/2024 to 26/11/2024	26/11/2024
3847_07_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_07	12/11/2024 to 26/11/2024	27/11/2024
3847_08_NVMR_Barangaroo_Cutaway_FDC_Construction	3847_08	27/11/2024 to 18/12/2024	18/12/2024
~~3847_09_NVMR_Barangaroo_Cutaway_FDC_Construction~~ (Superseded)	3847_09	19/12/2024 to 26/1/2025	27/1/2025
3847_09_NVMR_Barangaroo_Cutaway_FDC_Construction_R02	3847_09	19/12/2024 to 26/1/2025	28/1/2025

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5 Noise and Vibration Data

5.1 27/1/2025 – 4/2/2025

5.2 5/2/2025 – 12/2/2025

5.3 13/2/2025 – 19/2/2025

5.4 20/2/2025 – 26/2/2025