New Century Hall Manchester

Environmental Noise Survey and Noise Impact Assessment Report

32956/NIA

9 October 2026

For:
New Century Hall Ltd



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration

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Document Control

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Appendix A – Acoustic Terminology

1.0 Introduction

A new music venue, as part of the New Century Hall development, was granted planning subject to a number of conditions. The scheme is now close to practical completion and the pre-occupation conditions need to be discharged prior to the first use of the building.

One of these conditions (Condition 4b) relates to noise egress from the newly installed building services plant and states that a verification report is required to validate the work undertaken as part of Condition 4a.

As such, Hann Tucker Associates has been appointed to undertake a post completion plant noise impact assessment, now that the plant has been installed and commissioned, with the aim of discharging condition 4b set by Manchester City Council.

2.0 Objectives

To visit site to carry out noise measurements of the operational plant installation and surrounding background noise levels

Calculate the cumulative noise levels of the operational plant items at the nearest affected premises.

Based on the calculated cumulative noise levels of the operational plant items, determine whether the installation is in line with the approved scheme and the requirements of Planning Condition 4b.

3.0 Acoustic Terminology

For an explanation of the acoustic terminology used in this report please refer to Appendix A enclosed.

4.0 Site Description

4.1 Location

The site is located in central Manchester. The location is shown in Figure 1.

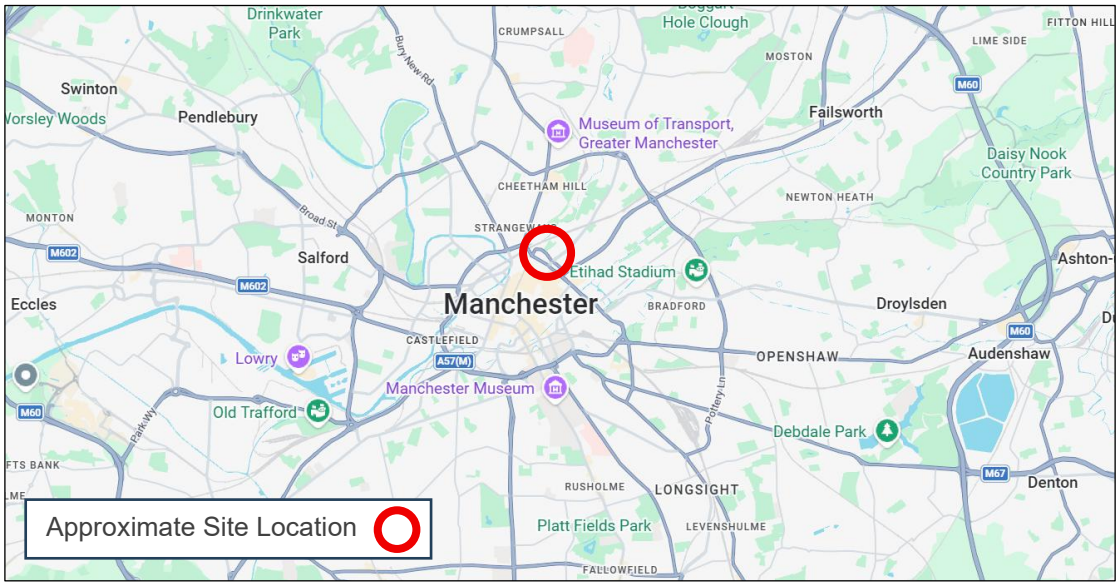


Figure 1: Map Location (Imagery ©2026, Map data ©2026 Google)

The site falls within the jurisdiction of Manchester City Council.

4.2 Description

The site is the New Century Hall located in central Manchester and is surrounded primarily by commercial, office and mixed-use buildings.

The site is bounded by several significant road links, including the city centre Ring Road (A665), Hanover Street and Dantzic Street. Road traffic noise is therefore expected to be the dominant source of the prevailing noise climate, with additional contribution from general activity associated with activity on Saddlers Yard.

The nearest residential receptors have been identified as 86 Miller Street Apartments, New Vic and The Linx Building, the nearest being New Vic approximately 75m West. As the plant is to the north of the site the nearest receptor is 4 Angel Square located to the north west of the site. This is understood to be used as offices and is therefore considered noise sensitive during daytime hours only.

The site in relation to its surroundings is shown in Figure 2.



Figure 2 Site Location and receptors (©2026 Google, Map data ©2026)

The worst affected nearby noise sensitive premises are the 4 buildings described in the table below

Table 1: Noise sensitive receptors

Receptor	Location
NSR1	The east façade of New Vic Apartments. (@ 104m)
NSR2	The west façade of 86 miller street (@ 136m)
NSR3	The southeast façade of 4 Angel Square. (@ 55m)
NSR4	The southwest façade of the Linx (@ 204m)

5.0 Project Proposals

The proposed plant comprised 2No MVHR units located within the music venue area. These units are indicated in Figure 3 and described in Table 2.

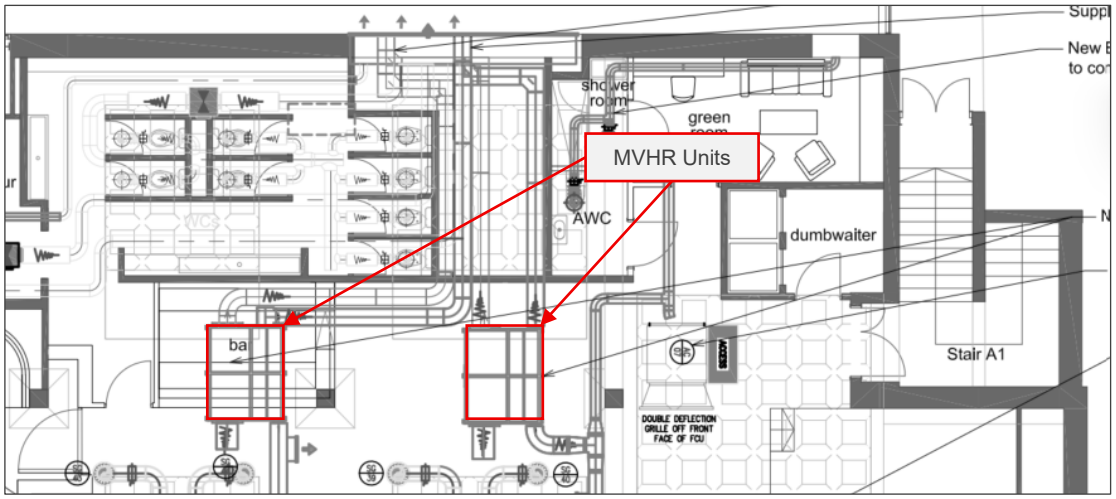


Figure 3 Location of Proposed Plant)

Table 2 Description of Plant

Plant Description	Model Number
MVHR	LGH-250RVXT3-E

6.0 Planning Condition 4b

The application for external alterations and plant equipment has been approved for development. The local Authority have included a condition relating to noise from building services plant n condition 4b as detailed below:

"Prior to the first use of the plant hereby approved, a verification report, which will include post-completion testing, shall be submitted to and approved in writing by the Local Planning Authority to validate that the plant equipment achieves a rating level of 5dB (LAeq) below the typical background (LA90) level in each octave band at the nearest noise sensitive location. c) In the event of non-conformity with a rating level of 5dB (LAeq) below the typical background (LA90) level in each octave band, then any measures/changes required to achieve conformity shall be carried out. Any required measures/changes and verification shall continue until conformity has been achieved and agreed in writing by the Local Planning Authority, before the use can commence. Reason - To safeguard the amenities of nearby residents, pursuant to policies SP1 and DM1 of the Manchester Core Strategy."

7.0 Established Plant Noise Emission Limits

A Previous noise impact assessment was undertaken by Hann Tucker Associates in 2026. Baseline background sound level was measured to be 56 dB L_{90} during the daytime and 43 dB L_{90} during nighttime.

Therefore, the plant should achieve a cumulative plant noise egress level of 51 dB during the daytime and 38 dB during nighttime.

Measurement Location	Plant Noise Emission Criteria, $L_{Ar,Tr}$-(dB)		
	Daytime (07:00 – 23:00 hours)	Evening (19:00 – 23:00 hours)	Night-time (23:00 – 07:00 hours)
1	51	49	38
2	50	46	38

8.0 Plant Noise Survey

8.1 Procedure

A Fully attended noise survey was undertaken by Jake Howarth BEng (Hons), MIOA and George Grenfell MSc, BSc(Hons), MIOA, on Tuesday 22 September 2026.

Weather conditions were considered suitable for obtaining representative readings of plant noise, with low winds and no periods of rainfall.

8.2 Measurement Location

The location of each measurement location is indicated on the plan shown below in Figure 4.

Noise measurements were taken in the plant area, 1.5 meters away from the louvre the MVHR units are connected to. Measurements were taken with the newly installed plant on and off to establish noise levels with and without the plant running. However, please note, existing plant was also running during the measurements.

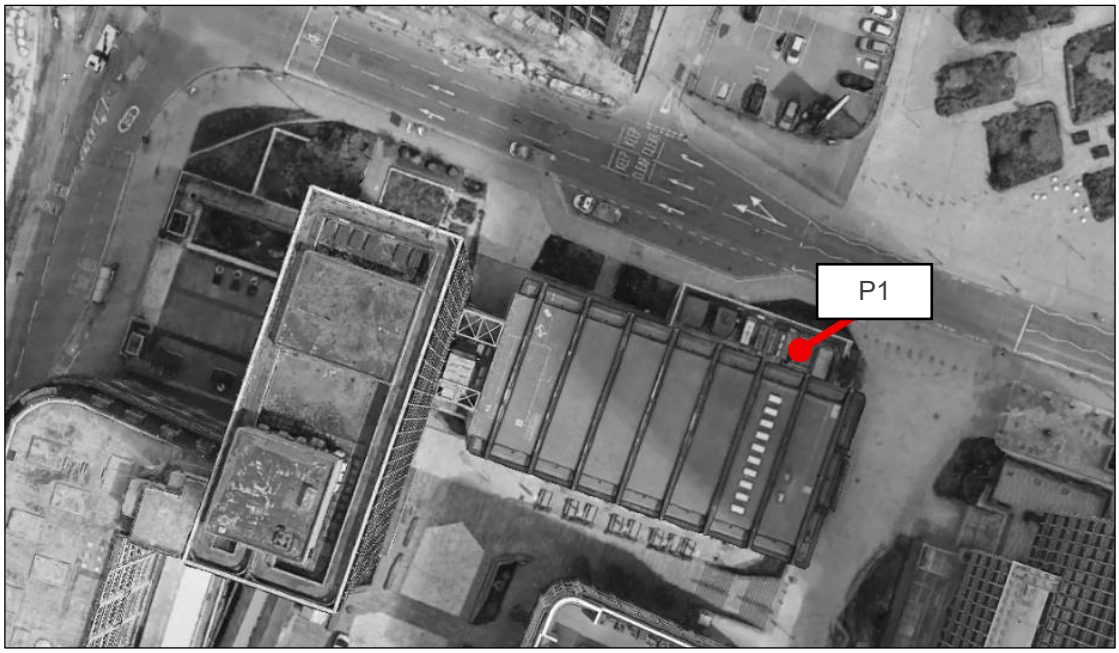


Figure 4: Measurement Position

8.3 Instrumentation

During the testing, the following equipment was used.

Table 3 Instrumentation and Calibration Information

Position	Manufacturer	Unit Type	Model	Serial No	Calibrated
1	Larson Davis	Sound Level Meter	LxT	5104	28/04/2026
	PCB	Preamp	PRML x TL1	69922	
	PCB	Microphone	377B02	317684	
1	Larson Davis	Type 1 Calibrator	CAL200	3083	04/03/2026

Each sound level meter, including the extension cable, was calibrated prior to and on completion of the surveys. No significant changes were found to have occurred (no more than 0.3 dB).

The sound level meter was secure on a tripod and the microphone was fitted with a windshield for all measurements.

8.4 Results

Table 4 below shows the measured levels of the plant and the calculated specific plant noise level.

Table 4: Survey Results

Plant Description	Measured Sound Pressure Level (dB) at 1.5 meter at Octave Band Centre Frequency (Hz)								dBA
	63	125	250	500	1k	2k	4k	8k	
MVHR Plant on	68	66	63	59	54	48	39	30	61
MVHR Plant off	65	64	62	58	54	48	38	28	60
Specific Plant Noise Level	65	62	56	52	51	45	35	26	54

9.0 Plant Noise Assessment

9.1 Assessment

Calculations of the cumulative plant noise egress to the nearest sensitive premises have been carried out. These are NSR1, NSR2, NSR3 and NSR4 as indicated in Table 1 and Figure 2.

Below Table 5 provides a summary of the Plant Noise Rating level at these receptors.

Table 5: Plant Noise Assessment Summary

Calculation	Sound Pressure Level (dB)			
	NSR 1	NSR 2	NSR 3	NSR4
Cumulative Daytime Plant Noise Rating Level at Receptor, L_{Aeq}	15	12	23	9
Daytime Plant Noise Limits, L_{Aeq}	51	50	51	50
Difference to criteria	-36	-38	-28	-41
Cumulative Nighttime Plant Noise Rating Level at Receptor, L_{Aeq}	15	12	23	9
Nighttime Plant Noise Limits, L_{Aeq}	38	38	38	38
Difference to criteria	-23	-26	-15	-29

The calculations above show the measured Plant Noise Rating levels comply with the limits at all 4No receptors throughout the daytime and night-time periods. As such, no specific attenuation would be required to control plant noise egress.

10.0 Conclusion

Plant noise measurements were undertaken of the complete building services plant installation.

A subsequent assessment has been carried out to determine the plant noise emissions at the nearest noise sensitive receptor.

The assessment indicates that the installed plant achieves the plant noise criteria at all noise sensitive receptors.

The installed plant should therefore be considered in line with the planning requirement of Planning Condition 4b.

Appendix A

Acoustic Terminology

The acoustic terms used in this report are defined as follows:

dB — Decibel - Used as a measurement of sound level. Decibels are not an absolute unit of measurement but an expression of ratio between two quantities expressed in logarithmic form. The relationships between Decibel levels do not work in the same way that non-logarithmic (linear) numbers work (e.g. 30dB + 30dB = 33dB, not 60dB).

dBA — The human ear is more susceptible to mid-frequency noise than the high and low frequencies. The 'A'-weighting scale approximates this response and allows sound levels to be expressed as an overall single figure value in dBA. The $_A$ subscript is applied to an acoustical parameter to indicate the stated noise level is A-weighted

It should be noted that levels in dBA do not have a linear relationship to each other; for similar noises, a change in noise level of 10dBA represents a doubling or halving of subjective loudness. A change of 3dBA is just perceptible.

$L_{90,T}$ — L_{90} is the noise level exceeded for 90% of the period *T* (i.e. the quietest 10% of the measurement) and is often used to describe the background noise level.

$L_{eq,T}$ — $L_{eq,T}$ is the equivalent continuous sound pressure level. It is an average of the total sound energy measured over a specified time period, *T*.

L_{max} — L_{max} is the maximum sound pressure level recorded over the period stated. L_{max} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the L_{eq} noise level.

L_p — Sound Pressure Level (SPL) is the sound pressure relative to a standard reference pressure of 2×10^{-5} Pa. This level varies for a given source according to a number of factors (including but not limited to: distance from the source; positioning; screening and meteorological effects).

L_w — Sound Power Level (SWL) is the total amount of sound energy inherent in a particular sound source, independent of its environment. It is a logarithmic measure of the sound power in comparison to a specified reference level (usually 10^{-12} W).