

SANDY BROWN

Consultants in Acoustics, Noise & Vibration

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Pitch, Manchester Goods Yard

Plant noise egress assessment

This document provides an assessment of plant noise egress associated with internal plant items with atmosphere side terminations for the proposed development the Pitch, Manchester Goods Yard to partially discharge Planning Condition 21 under 131318/JO/2021.

The predicted plant noise egress levels at the nearest noise sensitive premises meet the planning noise limits, and no additional mitigation measures are expected to be required. On this basis, Planning Condition 21 can be partially discharged.

Basis

The assessment is based on the following information

- Sandy Brown 18346-R01-A *Acoustic planning report* dated 28 September 2018
- MEP ventilation layouts received via email from CBG consultants on 14 July 2025
 - 12273-CBG-XX-00-DR-M-20001
 - 12273-CBG-XX-M1-DR-M-20001
 - 12273-CBG-XX-M1-DR-M-20002
 - 12273-CBG-XX-M1-DR-M-20003
 - 12273-CBG-XX-M1-DR-M-20004
- MEP plant and attenuator selection received via email from CBG consultants on 29 July 2025

The site and noise sensitive premises

The site location in relation to its surroundings is outlined in yellow in Figure 1. The nearest noise sensitive premises to the proposed development are summarised below.

- Union Co-living apartments approximately 10 m to the west, highlighted in red in Figure 1.
- Bonded Warehouse approximately 55 m to the south from the proposed plant atmosphere side louvre terminations, highlighted in blue in Figure 1.
- Marriot Hotel approximately 65 to the west, highlighted in green in Figure 1 the worst affected windows are screened from the proposed plant atmosphere side louvre terminations (west, highlighted in pink in Figure 1) and not considered a sensitive premise.
- Old Granada Studios Hotel development is fully screened from the proposed plant atmosphere side louvre terminations (west, highlighted in pink in Figure 1) and not considered a sensitive premise.

The Manchester Goods Yard building (which houses Pitch and includes offices on the upper floors) is constructed of a fully sealed facade. Based on this, Manchester Goods Yard itself is not considered a noise sensitive receptor within this assessment.

The Old Granada Studios studio block immediately adjacent to the site is constructed from a solid masonry box-in-box construction which provides a high sound insulation performance. This receptor has therefore been excluded from the assessment as a noise sensitive receptor.

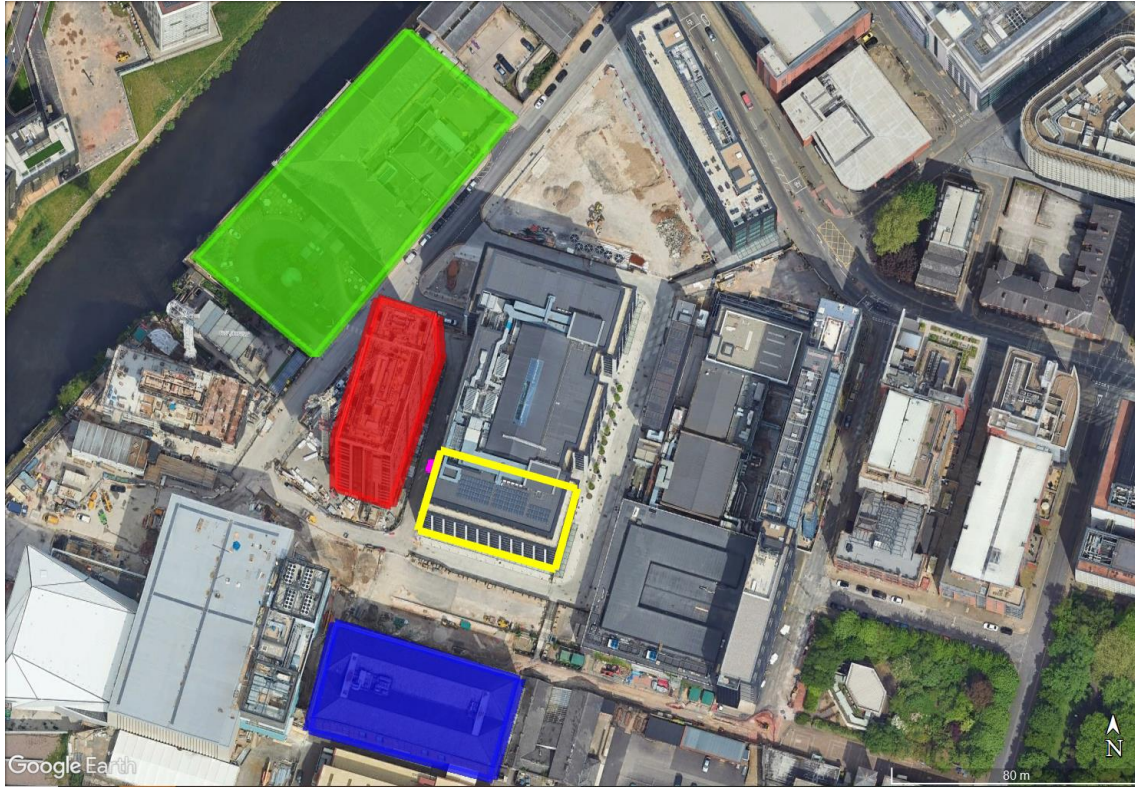


Figure 1 Aerial view of site (courtesy of Google Earth Pro)

Planning Condition

Planning condition 21 under 131318/JO/2021 states the following:

‘To confirm, plant associated with ventilation systems, chillers and the kitchen extraction system are all required to be assessed under this condition. This would include any internally located plant associated with any louvred extract or located behind any louvred extract.

An acoustic assessment of any plant associated with the use of the unit will need to be submitted to demonstrate compliance with the condition in order to address part a) of the condition. Details of any attenuation measures will need to be recommended where required’.

Acoustic criteria

Background noise levels

An environmental noise survey has been carried out by Sandy Brown, the measurement results are noise egress limits are set out in 18346-R01-A *Acoustic planning report* dated 28 September 2018.

The lowest background noise levels measured during the survey at the nearest noise sensitive premises were $L_{Aeq,5min}$ 50 dB during the day and $L_{Aeq,5min}$ 44 dB at night.

The octave band sound pressure levels corresponding to the minimum background L_{A90} (dB) level measured are provided in Table 1.

Table 1 Octave band background noise levels for lowest measured background noise levels

Time period	Minimum background noise level, $L_{90,5min}$ (dB)						
	Octave band centre frequency (Hz)						
	63	125	250	500	1000	2000	4000
Daytime (07:00 – 23:00)	52	49	48	43	47	41	27
Night-time (23:00 – 07:00)	49	46	44	39	39	34	24

Plant noise limits

Plant noise egress criteria for Pitch are provided in Table 2. These limits apply at the surrounding noise sensitive premises. These are set to be 8 dB below the background noise levels in octave bands to account for contributions associated with other tenants and landlord plan associated with the Manchester Goods Yard building.

Table 2 Maximum plant noise egress limits at nearest noise sensitive premises (tenant plant)

Time period	Maximum sound pressure level at 1 m from noise sensitive premises, $L_{eq,5min}$ (dB)						
	Octave band centre frequency (Hz)						
	63	125	250	500	1000	2000	4000
Daytime (07:00 – 23:00)	44	41	40	35	39	33	19
Night-time (23:00 – 07:00)	41	38	36	31	31	26	16

Based on the above, the maximum noise egress levels from plant operation at the nearest noise sensitive levels results in $L_{Aeq,5min}$ 41 dB during the day and $L_{Aeq,5min}$ 35 dB at night.

Proposal

Plant operation

The proposed opening hours are between 10:00 – 01:00 hrs Monday to Sunday including bank holidays.

Plant information

The proposed ventilation layouts indicate 3 x MVHR 740 l/s @ 200 Pa (Flaktgroup vQS030s-RFPVHC/vQS030s-L-FPV) ducted to louvres on the west elevation of the building. In-duct attenuators are proposed to all of these atmosphere side connections on the layouts.

The ventilation layout in Figure 2 shows MVHR location in green, in-duct attenuators in blue and atmosphere side terminations in pink.

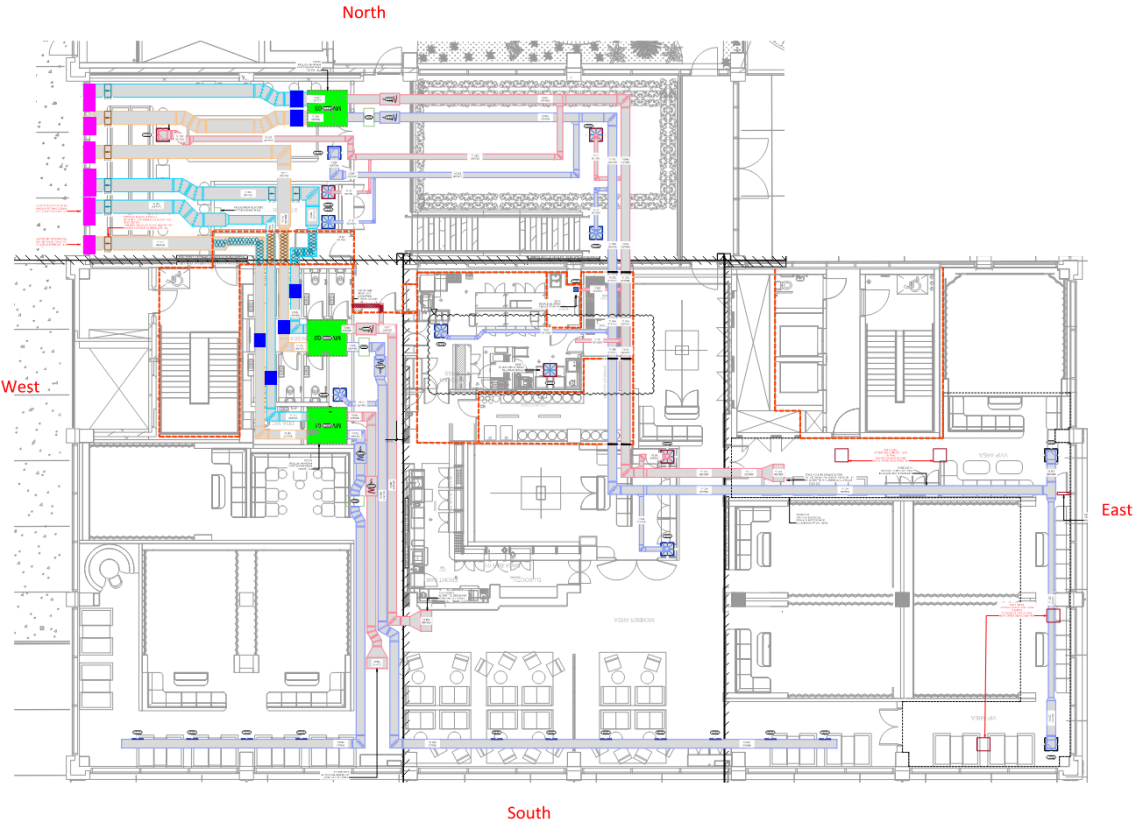


Figure 2 Proposed ventilation layout showing MVRH, attenuator and plant atmosphere side locations

The noise data received for the proposed MVHR selection (Fläktgroup vQS030s-RFPVHC/vQS030s-L-FPV units) is summarised in Table 3. The presented data have been un-weighted from the received A-weighted data.

Table 3 MVHR in-duct sound power levels

MVHR	Sound power levels L_w (dB)						
	Octave band centre frequency (Hz)						
	125	250	500	1000	2000	4000	8000
Intake	68	66	58	49	44	49	48
Discharge	70	68	60	51	46	52	51

The development will use chilled water from the existing rooftop landlord chillers, which were included as part of the base build planning application and are not part of this assessment.

Attenuators

Details of the proposed Caice in-duct attenuators are set out below:

- MVHR.01 and MVHR.02 (intake & exhaust attenuators):
 - Rectangular LG01V/3C/L/S
 - Dimensions (W x H x L) 525 x 475 x 600 mm
 - 0.74 (m³/s) and 33 Pa
- MVHR.03 (intake & exhaust attenuators):
 - Rectangular LG01H/3C/L/S
 - Dimensions (W x H x L) 750 x 375 x 600 mm
 - 0.74 (m³/s) and 32 Pa

Based on the above and using the manufacturer's attenuator selection software, the insertion losses are shown in Table 4.

Table 4 Caice attenuator insertion losses

Attenuator	Insertion loss D_i (dB)							
	Octave band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
LG01V/3C/L/S 0.74 m ³ /s and 33 Pa	3	5	9	16	17	15	9	6
LG01H/3C/L/S 0.74 m ³ /s and 32 Pa	3	6	8	14	21	20	15	10

Noise egress assessment

This section presents a noise egress assessment, and takes into account the following:

- MVHR and attenuator acoustic data set out in Table 3 and Table 4.
- Atmosphere side termination locations and areas
- Distance and screening (where correspond) to the nearest noise sensitive premises
- Assumed to be in operation during the day and at night (worst-case)
- 3 dB facade corrections.

Predicted plant noise egress levels

The predicted cumulative noise levels at the worst affected nearby noise sensitive premises are given in Table 5.

Table 5 Predicted plant noise egress at the nearest noise sensitive premises

Location	Sound pressure level L_{eq} (dB)						
	Octave-band centre frequency (Hz)						
	125	250	500	1000	2000	4000	8000
Union Co-living apartments (west)	38	33	20	17	13	19	19

The predicted noise egress levels from plant operation are below the noise limits in every octave band without additional mitigation measures.

If plant items contain tonal or attention catching features, which is not evident from the noise data provided or proposed operations, appropriate corrections will be required in line with BS4142.

The Marriot Hotel is located further away and is partially screened by the Union Co-living apartments. On this basis, plant noise egress levels at the Marriot Hotel are expected to be lower than those predicted at the Union Co-living apartments.

On this basis, provided the proposed plant selection and attenuators are installed, noise egress limits are expected to be achieved at the nearest noise sensitive premises and Planning Condition 21 can be partially discharged.