

22023-L07-SW

Chris Alessandra
Dragonfly
594 Manchester Old Road
Middleton
Manchester M24 4PW

22/09/2025

Dear Chris,

PALL MALL COURT – PLANT NOISE EMISSIONS

Thank you for forwarding the queries received from Manchester City Council relating to plant noise emissions at Pall Mall Court.

I note that their response references our letter L04 dated 8th May 2024. This was superseded by letter L05A dated 15th May 2024 which took into account additional mitigation which was included in the scheme.

Nonetheless, this letter presents information on the modelling process and results to allay the concerns raised by MCC.

Prediction Methodology

Given the number of noise sources and the complexity of the site, noise emissions were predicted using a computer model created using the Soundplan 9.1 software package. The model includes all externally mounted plant and all external inlet and discharge points, with appropriate corrections for silencers based on the selections made by Caice and attenuation to the HVRF units where fitted.

The HVRF units on the Marsden Street and King Street roof plant areas are fitted with the manufacturer's YNW noise reduction kit which is understood to provide an 8dB reduction in the A-weighted sound pressure level of the equipment. This has been included in the model where appropriate.

There is insufficient space to install this kit to HVRF units on the Tower roof as the kits have a depth of 300mm and are required on all sides of the unit. In addition, 300mm clear space is required on all sides for servicing. This additional 600mm allowance cannot be accommodated given that there are 42 units and a limited roof area.

The use of acoustic screens has been considered, but will be ineffective in mitigating noise to the upper floors of the office buildings at One Marsden Street, which overlooks the Tower Roof, and 30 Brown Street, which overlooks the 6th floor Marsden Street roof plant area.

Screenshots from the model are shown as Figures 1 and 2, below. The model includes the reselected AHU-RF-01.

Figure 1: Screenshot from Noise Model, 2D

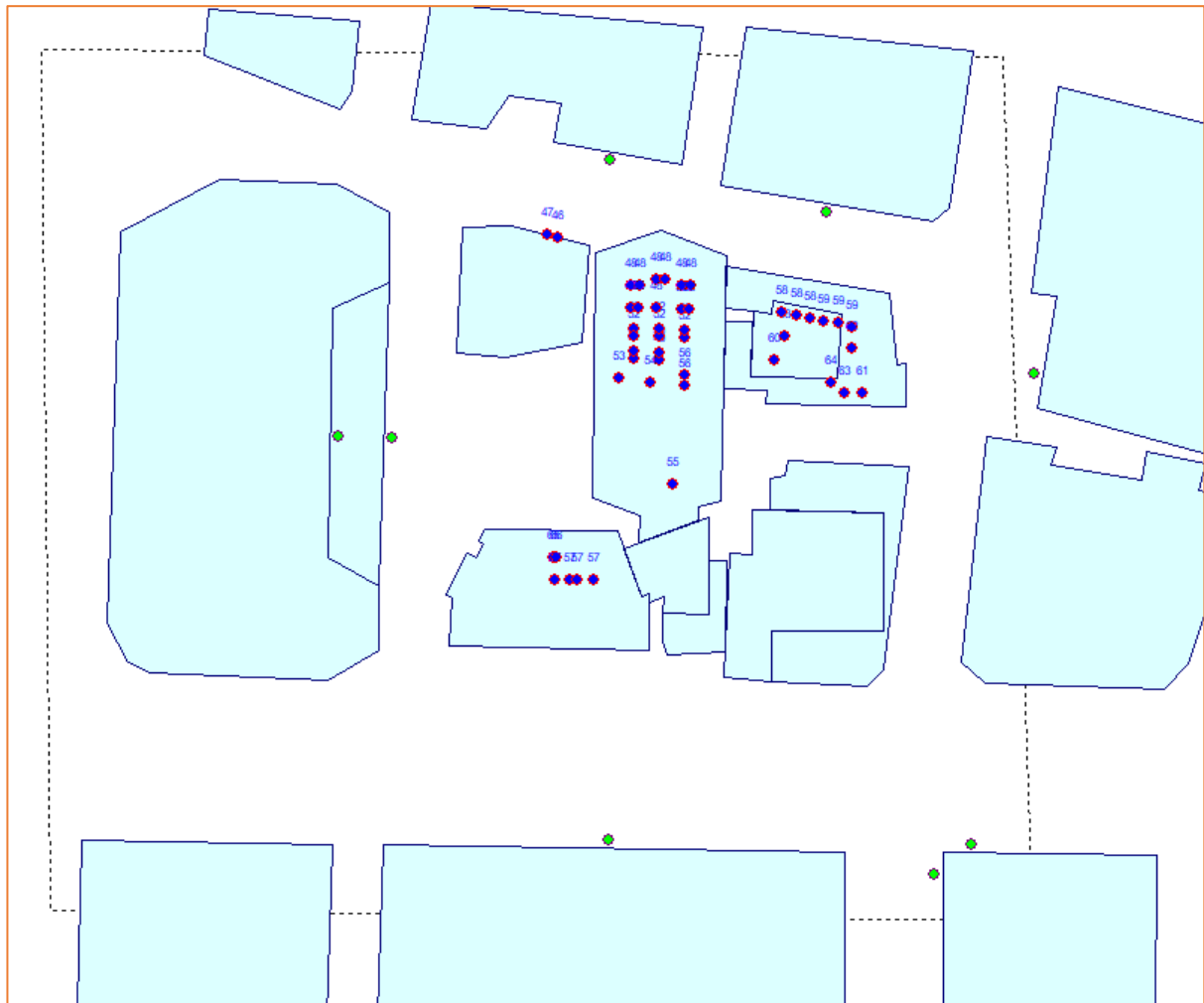
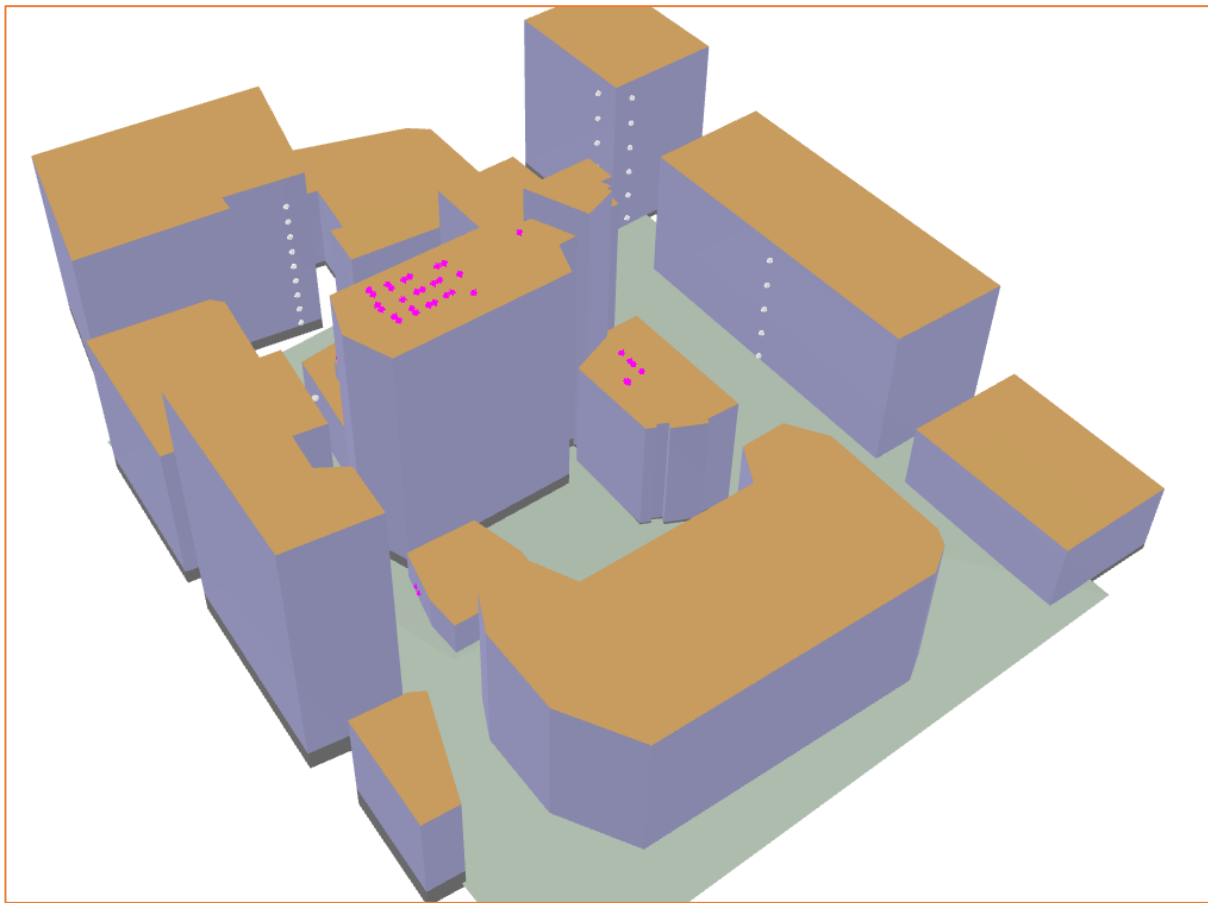


Figure 2: Screenshot from Noise Model, 3D



The plant included within the model is summarised in Table 1, below.

Table 1: Plant Included in Model

Location	Item	Make / Model	Sound Power Level, $dBL_{W,A}$
Tower Roof (11 th Floor)	AHU01	AirSource	Inlet 80 Exhaust 86
	MVHR RL-01	Nuaire XBC-15	51 combined inlets and exhausts (with attenuation)
	9no. ASHP	CAHV-P500YB-HPB	76
	HVRF LG-01	Mitsubishi PURY-EM350YNW-A1	83
	HVRF-GF-01	Mitsubishi PURY-EM250YNW-A1	80
	HRVF-01-01 HRVF-02-01 HRVF-01-01	Mitsubishi PURY-EM400YNW-A1	88

Location	Item	Make / Model	Sound Power Level, dBL _{W,A}
	HVRF-03-01 HVRF-04-01 HVRF-05-01 HVRF-07-01 HVRF-08-01 HVRF-09-01 HVRF-10-01	Mitsubishi PURY-EM500YNW-A1	84
	DX-01-01 DX-02-01 DX-03-01	PUZ-ZM60VHA2	
Rooftop (6 th Floor) – North (Marsden Roof)	AHU03	AirSource	Inlet 74 Exhaust 80
	AHU04	AirSource	Inlet 73 Exhaust 78
	HRVF-GF-02 HRVF-01-03 HRVF-05-02	Mitsubishi PURY-EM200YNW-A1	78
	HRVF-02-03 HRVF-03-03 HRVF-04-03	Mitsubishi PURY-EM250YNW-A1	80
Rooftop (6 th Floor) – South (King St)	HRVF-01-02 HRVF-02-02 HRVF-03-02 HRVF-04-02	Mitsubishi PURY-EM250YNW-A1	80
5 th Floor Plantroom	AHU02	AirSource	Inlet 73 Exhaust 79
Basement Plantroom	MVHR B-01 and MVHR B-02	Nuaire XBC-25	63 combined inlets and exhausts (with attenuation)

Plant Noise Emission Limits and Model Results

Planning Condition 9 requires that “externally mounted plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.”

Plant noise emission limits were set in the noise impact assessment report submitted to the Local Authority on this basis (dBx Acoustics report reference 22023-Pall Mall Court-R01A dated 25th April 2022) on the basis of a noise survey carried out by dBx Acoustics Ltd in March 2022, however, the daytime plant noise emission limits set within this report were on the basis of potential plant operation during the period 07:00h-23:00h. We understand that plant is generally expected to operate only during the hours 09:00h-17:00h.

On this basis, we have revisited the survey data to establish the background noise level during the period of plant operation. Table 2, below, summarises the typical background noise level at each receptor location during this period, the associated plant noise emission limit, and the predicted rating level for plant with attenuation as described.

Table 2: Background Noise Level and Plant Noise Emission Limits, 09:00h-17:00h

Receptor	Background Noise Level, $dBL_{A90,T}$	Plant Noise Emission Limit, $dBL_{Ar,Tr}$	Predicted Rating Level, $dBL_{Ar,Tr}$
One Marsden St	51	46	46
30 Brown St	51	46	50
King St	52	47	42
King St (Hotel Gotham)	53	48	41

The background noise levels (and hence plant noise emission limits) remain unchanged from those presented in the noise impact assessment, which is believed to be due to the influence of building services plant from the surrounding premises.

Discussion

The results of the plant noise emission model indicate that the building services noise emission limits will be met for the receptors at King St (including Hotel Gotham) and Marsden Street, but will be slightly exceeded at 30 Brown Street, where a building services noise level of up to $50dBL_{Ar,Tr}$ is predicted for the upper floors. This does not exceed the existing background noise level at this receptor which, given the context of a noise climate already affected by building services noise, would indicate that an adverse noise impact is unlikely.

As described above, no further mitigation of plant noise is practically achievable.

The noise survey was carried out when the existing building services plant at Pall Mall Court had been decommissioned, and therefore did not include noise from these items, including chillers, which would previously have impacted on the Marsden St / Brown Street receptors.

A previous planning application, reference 106696/FO/2014 was submitted to Manchester City Council (MCC) for replacement chillers located on the Tower Roof. A noise impact assessment was submitted by RandTech Consulting (ref MDR/J2469a dated 11th August 2014) which indicated that noise levels from these units at the Marsden St / Brown St receptors would be “62dBA” [sic]. It can be seen, therefore, that the replacement plant leads to a reduction in noise levels at the façade of these buildings of at least 12dB compared to the previously operating plant.

The facades of these buildings have sealed (non-openable) windows. Assuming basic thermally insulating double glazed units, it is reasonable to expect that noise from the exterior to interior of the offices would be reduced by at least 25dB, leading to a worst-case internal noise level from plant of $25dBL_{Aeq,T}$.

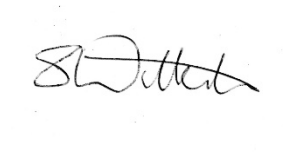
In accordance with BS8233:2014, building services noise levels within an open plan office would typically be designed to $45-50dBL_{Aeq,T}$, and $35-40dBL_{Aeq,T}$ within an executive office. Noise intrusion to these buildings from plant associated with Pall Mall Court would consequently be expected to be significantly below the indoor ambient noise level within these offices and therefore inaudible.

Conclusion

Externally mounted and discharging plant at Pall Mall Court has been selected to limit noise emissions as far as is practically achievable. This includes attenuation to air handling and MVHR units, as well as noise reduction kits to HVRF units on the lower roof areas. No further mitigation can practically be included within the design.

Whilst the building services noise emissions to the office building 30 Brown Street do not comply with the requirement of Planning Condition 9, it is demonstrated that noise emissions will have no adverse impact on occupants of these buildings, and will also be lower than when roof plant at Pall Mall Court was previously operational.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'Susan Witterick', written over a faint, light blue circular stamp.

Susan Witterick

Director, dBx Acoustics Ltd