

Addendum 01 to Report LRG-CDL-ZZ-XX-T-AS-45260

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1.0 Introduction

This document is a technical addendum to the Internal Noise Level Commissioning Report, reference LRG-CDL-ZZ-XX-T-AS-45260, issued on 10 July 2025.

The original report was prepared and submitted to Manchester City Council (MCC) to present the results of internal noise levels within habitable rooms of the new dwellings at 123 Levenshulme Road, with respect to demonstrating compliance with planning condition 11) b).

The findings of the initial report identified that additional noise mitigation measured would be required to the MVHR units in Plot 1 (similarly in Plots 2, 3, and 6) and Plot 20 (similarly in 9, 10, 25, 14, 15, 29, 21, and 34).

This report addendum summarises the mitigation works undertaken since the original report was issued, including details of noise levels measured before and after the implementation of these works.

The site was revisited on Thursday 31 July 2025 where short-term noise measurements were undertaken.

Noise measurements were made using an NTi-XL2 Class 1 sound level meter which was field-calibrated before and after the survey period.

Measurements were taken at the same positions at those described in the original report, with additional measurements undertaken at various locations within the cupboards housing the MVHR units as deemed appropriate.

The mitigation measures applied in Plot 1 have demonstrated that the resultant noise levels in Bedroom 1 are circa 2 dB lower than those measured prior to the mitigation being adopted. Accordingly, the internal ambient noise levels in Bedroom 1 of Plot 1 are now considered compliant with the MCC internal noise limits.

The mitigation measures applied in Plot 20 did not demonstrate the expected reductions to the noise levels in the Bedroom. However, further observations have identified that reducing the airborne noise level inside the storeroom housing the MVHR unit are likely to be more beneficial than mitigating the structure-borne transmission path as previously considered.

Accordingly, implementing similar mitigation measures, as those carried out in Plot 1, are expected to reduce internal ambient noise levels in the Bedroom by at least 2 dB, which would then be compliant with the MCC internal noise limits.

2.0 Plot 1

2.1 Recommended mitigation

The original report recommended the following mitigation measures:

A secondary enclosure, as indicated below in Figure 5-1, formed of a single layer of plasterboard, plywood, MDF or similar, with a mass of at least 10 kg/m² and lined internally (facing the MVHR unit) with a 25mm tissue faced mineral wool or foam material, would reduce the noise levels within the cupboard space by at least 3 dBA.

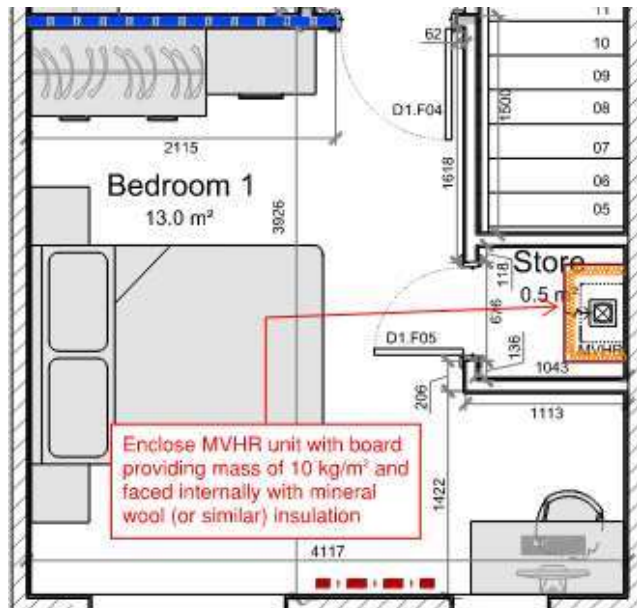


Figure 5-1: Noise mitigation to Plot 1 MVHR unit

2.2 Implemented mitigation measures

Figure 2-1, right, indicates the duct connections off the top of the MVHR unit being completely boxed-in with additional mineral wool insulation packed around the sides and top of the MVHR unit (which will then be boxed-in as per the ductwork above, leaving the main face and bottom of the MVHR unit exposed for access and maintenance).

2.3 Mitigated noise levels

Table 2-1, below summarises the noise levels measured with and without the mineral wool (acoustically absorbent) lagging encompassing the MVHR unit.

Condition	Measured noise level, dB LAeq,T	
	Inside cupboard	In Bedroom 1
Prior to mitigation measures applied	54	38
With mitigation measures included	48	36

Table 2-1: Noise levels with and without mitigation applied



Figure 2-1: Plot 1 Mitigation measures

The mitigation measures applied, even prior to final boxing-out, has resulted in the MVHR unit noise level reducing by 6 dB within the utility cupboard.

Observations on site during these repeat tests have identified that the dominant source of the MVHR unit noise emissions is emitted from the back sides of the unit. The acoustically absorbent mineral wool insulation lagging the sides of the MVHR unit and packed up the rear wall of the cupboard provide a significant reduction to these noise emitting elements of the MVHR unit.

Further reductions to the noise levels inside the utility cupboard are anticipated once the mineral wool insulation is boxed-in with a suitable lining, however, it is deemed that the insulation alone has provided sufficient noise mitigation and the linings will no longer need to meet the minimum mass requirements specified in the original report.

2.4 Results

As a result of the additional acoustically absorbent insulation applied around the MVHR unit, the resultant noise level inside the bedroom has reduced by 2 dB (some contribution is still present from the supply air grille in the bedroom ceiling).

This reduction, in combination with the future furnishing of the bedroom, will therefore be sufficient to see that the internal ambient noise levels in Bedroom 1 of Plot 1 will comply with the MCC internal noise limits.

As per the original report, the mitigation measures that have been applied within Plot 1 shall be replicated in Plots 2, 3, and 6.

3.0 Plot 20

3.1 Recommended mitigation

The original report recommended the following mitigation measures:

It is therefore recommended that the MVHR unit is structurally isolated from the partition with the Bedroom. This could either be achieved by means of an independent frame fixed to the floor/ceiling of the store room, or by relocating the MVHR unit to the adjacent wall of the store room, as indicated in Figure 5-2, below.

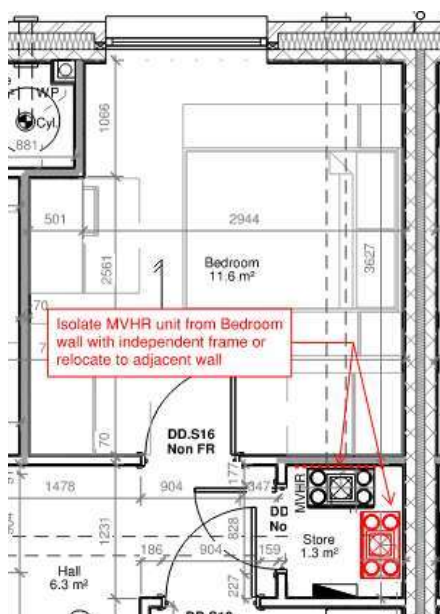


Figure 5-2: Noise mitigation to Plot 20 MVHR unit

Eliminating the structure-borne noise component from the MVHR unit is expected to result in a noticeable reduction to the ambient noise level in the Bedroom

3.2 Implemented mitigation measures

Due to the duct routings, it was not practical to relocate the MVHR unit to a different wall.

Instead, Figure 3-1, right, shows an additional layer of dense plasterboard mounted between the MVHR unit and the internal bedroom wall – the upper bracket supporting the MVHR unit (not visible in photo) includes rubber furring's and is fixed to this additional board.

The MVHR unit is hung from the upper bracket, peg mounts at the bottom of the MVHR space the unit away from the wall but are not mechanically fixed.

3.3 Mitigated noise levels

The measured noise levels inside the bedroom, following the mitigation measures shown above, did not demonstrate any significant change (< 1.0 dB) to the noise levels measured prior to the works being undertaken.

Additional observations carried out during the site visit have identified that the noise levels transmitting into the Bedroom of Plot 20 are actually more influenced by direct airborne sound transmission through the internal wall than structure-borne noise as originally anticipated.

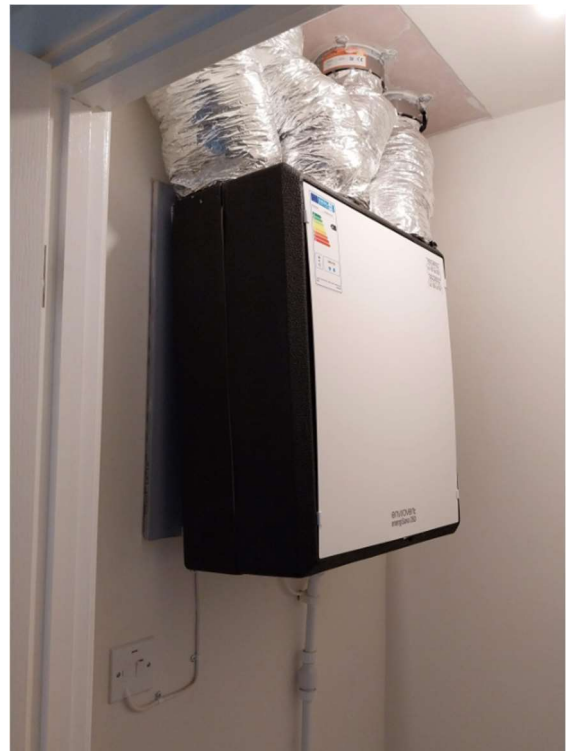


Figure 3-1: Plot 20 Mitigation measures

3.4 Further mitigation

To mitigate the MVHR noise levels in the Bedroom, it will therefore be necessary to reduce the noise level within the storeroom in which the MVHR unit is located.

The mitigation measures undertaken in Plot 1 have demonstrated that a significant reduction to the noise levels within the utility cupboards can be achieved through the inclusion of acoustically absorbent insulation lagging the rear sides of the MVHR unit.

Similar insulation measures shall therefore be undertaken to those in Plot 1.

If, due to the relative position of the MVHR unit to the storeroom door, it will not be feasible to utilise mineral wool insulation with associated boxing-in, an alternative acoustic insulation product can be considered that is more robust and would not require additional linings/encasement.

A Class O open cell acoustic foam could be applied to the rear wall of the storeroom, behind and around the MVHR unit. Provided the foam insulation product is thick enough to overlap the sides of the unit around its edges, it should provide a similar performance to the mineral wool insulation installed in Plot 1.

Based on the measured noise level change in Plot 1, the application of similar mitigation measures in Plot 20 are expected to reduce the internal ambient noise levels in the Bedroom by at least 2 dB which would then be compliant with the MCC internal noise limits.

As per the original report, the mitigation measures to be applied within Plot 20 shall be replicated in Plots 9, 10, 25, 14, 15, 29, 21, and 34.