

# SANDY BROWN

*Consultants in Acoustics, Noise & Vibration*

**16094-R04-A**

**17 June 2022**

## Ancoats Gardens, Manchester

*Planning discharge report for condition 14*

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|---------|-----------|---------------------------|------------------|------------------|
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## Disclaimer

This report has been prepared for the sole benefit and use of our client based on their instructions and requirements. Sandy Brown Ltd extends no liability in respect of the information contained in the report to any third party.

## Summary

Sandy Brown have been appointed by Beech Design and Build Ltd to provide acoustic consultancy services in relation to Ancoats Gardens, Manchester.

This report sets out relevant information to discharge part Planning condition 15 (of MCC decision notice 123371/JO/2019).

The internal noise limits for the gym are based on the indicated floor construction build-up indicated in the RCP. For commercial units, the RCP indicated that the finishes are shell and core, and internal noise limits are based on the basis of a 230 mm thick (assumed  $\geq 2340 \text{ kg/m}^3$ ) concrete slab.

There is no clear information in relation to the sound insulation performance of the external glazing facade to the gym and commercial units. In line with our design report a minimum sound insulation performance of  $R_w+C_{tr}$  28 dB has been assumed.

The limits set out in line with MCC requirements for the gym ( $L_{Aeq}$  83 dB) and commercial units ( $L_{Aeq}$  78 dB), would typically be suitable for a cafe/restaurant or gym with background music. The exact amplified noise limits shall be determined following pre-completion sound insulation and that electronic limiters are used for each commercial unit and the gym.

Guidance on work enhancements have been provided in case tenants would like to produce higher noise levels.

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## 1 Introduction

Sandy Brown have been appointed by Beech Design and Build Ltd to provide acoustic consultancy services in relation to Ancoats Gardens, Manchester.

This report sets out relevant information to discharge of planning condition 14 for the development (of MCC decision notice 123371/JO/2019).

## 2 Planning condition 14

Planning condition 14 of Manchester City Council decision notice 123371/JO/2019 the following:

*Notwithstanding the noise assessment stamped as received by the City Council, as Local Planning Authority, on the 7 November 2017 and update stamped as received by the City Council, as Local Planning Authority, on the 5 January 2018,*

- (a) Prior to the first use of the commercial units and gym area as indicated on drawing 103\_101 Rev P6 stamped as received by the City Council, as Local Planning Authority, on the 31 January 2018, a scheme of acoustic insulation shall be submitted for approval in writing by the City Council, as Local Planning Authority.*
- (b) The approved scheme shall then be implemented and a post completion survey submitted for approval in writing by the City Council, as Local Planning Authority, prior to the first use of each of the commercial units and the gym area. The measures implemented shall be retained and maintained for as long as the development remains in use.*

*Reason: In order to limit the outbreak of noise from the commercial premises pursuant to policies SP1 and DM1 of the Core Strategy (2007) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).*

## 3 Basis of the review

The review has been based on the following documents:

- Sandy Brown acoustic planning report 17287-R01-C
- Sandy Brown acoustic design report 17287-R03-A
- Ancoats CW Technical Submission Pack
- 103-17\_002-DRAFT09022022\_Level 00 - Ground Floor
- Condition Discharge Schedule - Ancoats Gardens V12 (05.11.2021)

## 4 Summary of demises

The following units are located at ground floor level and connected to the facade and residential apartments above.

- Gym
- Commercial unit 01 and 02.

## 5 Acoustic design requirements

### 5.1 Entertainment noise egress limits

In line with the criteria set out in our acoustic design report, the following applies to this development:

*‘Entertainment noise ( $L_{Aeq}$ ) should be controlled to 10 dB below the background noise level ( $L_{A90}$ ) without the entertainment noise present, in each octave band at the nearest noise sensitive location.’*

The wording of Planning Condition does not explicitly state the above criteria, though this is how MCC would typically assess external noise egress from entertainment noise and is the basis of the acoustic design for this element.

### 5.2 Apartment internal noise criteria

Where entertainment noise is a factor in the noise climate, MCC states the following:

*‘These criteria apply to both music noise from existing Music noise levels in the 63 Hz and 125 Hz octave centre frequency bands should be controlled so as not to exceed (in habitable rooms) 47 dB and 41 dB ( $L_{eq}$ ), respectively.’*

From discussions with MCC it is understood that the low frequency noise criteria only applies to living-areas during the daytime (07:00-23:00) and to bedrooms during night-time (23:00-07:00).

The wording of Planning Condition does not explicitly state the above criteria, though this is how MCC would typically assess external noise egress from entertainment noise and is the basis of the acoustic design for this element.

### 5.3 Facade sound insulation

In line with the acoustic design report a minimum overall facade sound insulation performance of  $R_w+C_{tr}$  28 dB to the commercial units, the gym and amenity area.

The glazing manufacturer will need to provide details demonstrating that the minimum overall sound insulation performance has been achieved.

## 5.4 Floors from commercial unit/ gym to level 1 apartments

Based on the proposed reflected ceiling plan Level 00 ground floor in drawing 103\_17\_002 Rev C1, the following floor construction build-up is proposed between Amenity area, Gym and residential apartments above.

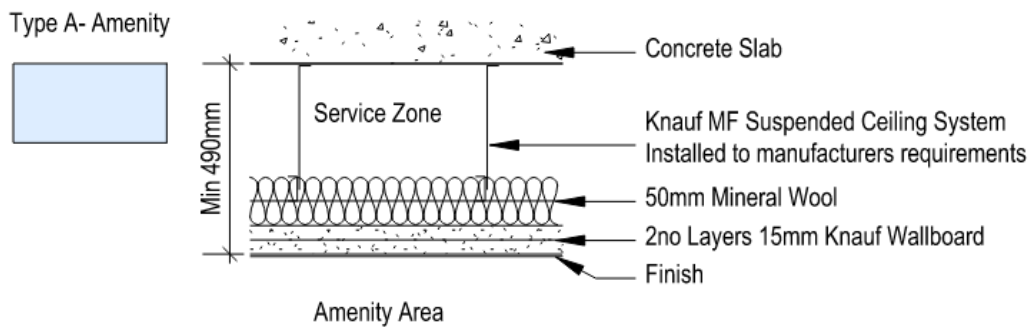


Figure 1 Excerpt of the proposed reflected ceiling plant level 00 ground floor drawing 103\_17\_002 Rev C1

On the basis that the concrete slab is of a minimum 230 mm thick concrete slab. This is consistent with achieving a floor sound insulation performance of  $D_{nT,w} + C_{tr}$  55 dB.

The floor construction and enhancements for commercial units is not indicated. Drawing 103\_17\_002 Rev C1 indicates a shell and core soffit finish, this is shown in Figure 2. On the basis that the concrete slab has a minimum thickness of 230 mm (assumed  $\geq 2340 \text{ kg/m}^3$ ) and no enhancements are proposed, this is expected to be capable of achieving the minimum sound insulation performance of  $D_{nT,w} + C_{tr}$  50 dB.

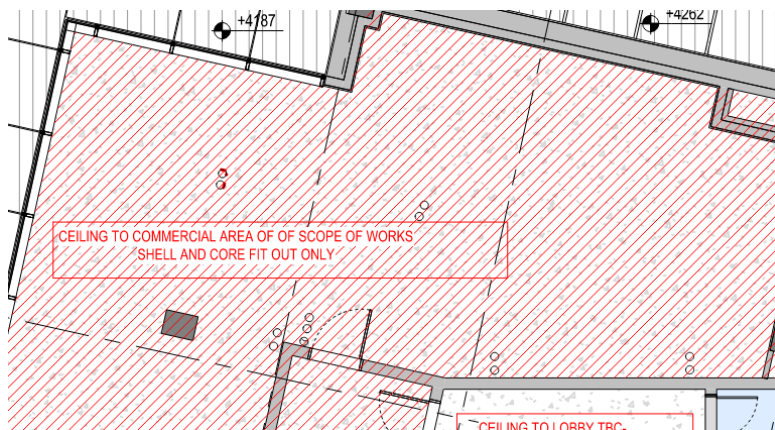


Figure 2 Indicated ceiling to Commercial units (1 & 2) at ground level

## 6 Operational noise limits

### 6.1 Noise egress to nearby noise sensitive premises

The cumulative noise level resulting from amplified sound egress at 1 m from the most affected windows of the nearest noise sensitive premises shall not exceed 10 dB below the existing background ( $L_{eq}$ ). These limits are set out in our planning report 17287-R01-C and presented in Table 1 for reference.

Table 1 Amplified music limits at 1m from the nearest noise sensitive premises

| Period                   | Maximum sound pressure level at 1 m from noise sensitive premises, $L_{eq}$ (dB),<br>Octave band centre frequency (Hz) |     |     |     |    |    |    |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|----|----|----|
|                          | 63                                                                                                                     | 125 | 250 | 500 | 1k | 2k | 4k |
| Daytime (07:00-23:00)    | 52                                                                                                                     | 43  | 42  | 40  | 42 | 36 | 29 |
| Night-time (23:00-07:00) | 43                                                                                                                     | 34  | 34  | 32  | 34 | 29 | 18 |

### 6.2 Operational noise limits

The maximum operational noise levels ( $L_{eq}$ ) from amplified sound within the proposed commercial and gym units are set out in Table 2 (with and without independent linings to perimeter flanking walls within the commercial unit). These are given as guidance only and will need to be finalised following pre-completion testing.

Maximum internal sound pressure levels ( $L_{Fmax}$ ) shall be limited to values 5 dB above those set out below.

These limits are based on the following:

- Meeting the noise egress criteria set out in Section 6.1 during the daytime and the external noise limits in Section 6.1.
- A minimum overall facade sound insulation performance of  $R_w+C_{tr}$  28 dB to the commercial units.
- Meeting the noise transfer criteria set out in Section 5.1
- The minimum internal sound insulation performances set out in Section 5.4.

Table 2 Maximum operational noise limits in commercial unit and gym areas (for guidance only)

| Period          | Maximum operational noise limits, $L_{eq}$ (dB) |     |     |     |    |    |    |
|-----------------|-------------------------------------------------|-----|-----|-----|----|----|----|
|                 | Octave band centre frequency (Hz)               |     |     |     |    |    |    |
|                 | 63                                              | 125 | 250 | 500 | 1k | 2k | 4k |
| Gym             | 84                                              | 80  | 74  | 73  | 75 | 76 | 78 |
| Commercial unit | 80                                              | 80  | 69  | 68  | 70 | 71 | 74 |

Based on the MCC criteria this would enable levels within the commercial units of around  $L_{Aeq}$  78 dB and gym of around  $L_{Aeq}$  83 dB.

This would typically be suitable for a cafe/restaurant or gym with background music. It should be noted that if loud amplified music is proposed, Manchester City Council would typically require a door lobby arrangement to be included to control noise breakout.

The exact amplified noise limits shall be determined following pre-completion sound insulation and that electronic limiters are used for each commercial unit and the gym. These limits would typically be included in a tenant lease agreement to control noise transfer and minimise disturbance to the residents of the apartments above the commercial units and the gym. Final sound levels should be set during commissioning of electronic sound limiters in the commercial units and the gym to ensure the MCC requirements are met.

## 6.2.1 Possible tenant enhancement works

If the tenant would like produce noise levels higher than those noted above, they would need to carry out additional enhancement works in order that the MCC criteria are still met. Typical enhancement works would be expected to include:

- Independent lining to the external flanking walls – where it has not been provided
- Independent lining to all internal flanking elements (columns – where it has not been provided, existing walls running between floors)
- Provision of an additional sound insulating ceiling
- Secondary glazing to windows
- Lobbied external doors. This would typically be required for any space with loud amplified music.