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Architectural & Environmental Acousticians

Noise & Vibration Engineers

Discharge of Condition 19

Bircherley Green, Hertford

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Discharge of Condition 19

Project: BIRCHERLEY GREEN, HERTFORD

Report reference: RP03-20631-R2

Client:
CHASE NEW HOMES
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REVISION	ISSUE DATE	REPORT BY	CHECKED BY	NOTES
0	21 July 2021	Matthew Hill, BSc AMIOA, Acoustics Consultant	Chris McNeillie, MSc CEng MIOA, Director	Initial issue
1	04 April 2022	Chris McNeillie, MSc CEng MIOA, Director	-	Minor amendment to tenant acoustic clause
2	19 April 2023	Chris McNeillie, MSc CEng MIOA, Director	-	Change in condition number

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1. INTRODUCTION

1.1 Cass Allen has been instructed by Chase New Homes to assess the acoustic design of a new development at Bircherley Green, Hertford.

1.2 The assessment has been carried out in accordance with the requirements of Planning Condition 19 imposed on the development (Decision Notice 3/22/0712/VAR). The condition states:

> *"Before any of the A3/ A4 uses have been brought into use, a scheme of sound attenuation works shall be submitted to and approved in writing by the Local Planning Authority. Once these details are agreed they shall be installed and retained in the approved form thereafter. The scheme of works shall be capable of restricting noise breakout from the A4 use to the flat above to levels complying with the following:*
>
> - *Bedrooms. Noise Rating Curve NR20 (2300 to 0700 hrs)*
> - *Living Rooms. Noise Rating Curve NR25 (0700 to 2300 hrs)*
>
> *The Noise Rating Curve shall be measured as a 15 minute linear Leq at the octave band centre frequencies 31.5 Hz to 8 kHz.*
>
> *Reason: In order to ensure an adequate level of amenity for nearby residents in accordance with policy EQ2 of the East Herts District Plan 2018."*

1.3 To address the requirements of Planning Condition 19, the sound insulation provided between the residential units and the A3/ A4 commercial uses has been assessed.

1.4 This report contains technical terminology; a glossary of terms can be found at www.cassallen.co.uk/glossary.

2. PROJECT DESCRIPTION

2.1 The site is located in a mixed use area. It is bounded to the north by the River Lea. Retail and residential properties bound the site to the south/west. A multi-storey car park and bus station are to be retained to the east.

2.2 The development comprises two blocks of residential apartments (Blocks A and B) above ground floor commercial units and a new hotel at the south-east of the site. The assessment in this report relates to the noise breakout from the ground floor commercial units to the residential apartments of Blocks A and B above. The acoustic design of the hotel will be carried out by others in due course.

2.3 The following residential apartments are situated above the commercial units:

- Block A – First floor – Plot 01 to Plot 14
- Block B – First floor – Plot 55 to Plot 65

3. A3/ A4 NOISE AFFECTING RESIDENTIAL

3.1 The commercial units are permitted to include Class A3 or A4 use. Class A3 relates to restaurants and cafes. Class A4 relates to drinking establishments (e.g. pubs and wine bars) but excludes nightclubs.

3.2 The criteria given in Condition 13 is summarised in Table 1 below:

Table 1 Condition 13 - Noise Level Criteria

Location	Time	Criteria
Bedroom	23:00 – 07:00	NR20
Living room	07:00 – 23:00	NR25

3.3 To comply with the requirements of Condition 13, the separating floors between the commercial and residential uses have been assessed against the above criteria.

Predicted internal levels

3.4 In order to assess compliance with the above criteria it is first necessary to predict the noise levels that could be generated in the A3/A4 commercial units. It is reasonable to assume that A4 commercial uses would have the potential to generate higher noise levels than A3 uses.

3.5 In our view a noise level of 85 dB LAeq,T is representative of a typical A4 use, being the typical noise level in a busy bar with low to moderate level background music (as measured on previous Cass Allen projects).

3.6 Chase New Homes are building to shell and core only and therefore the fit out of the individual units will be the responsibility of the future occupants. The sound insulation performance between the commercial units and the apartments will be dictated by the combination of the 'base build' (provided by Chase New Homes) and the fit out (provided by the tenant).

3.7 Based on the noise level for a busy bar as above, the base build will be designed to allow noise levels of up to 85 dB LAeq,T in the commercial units. Should noisier commercial uses ultimately want to use the space (e.g. a busy bar with loud music), they will be required to increase the sound insulation performance of the floor as part of the fit out of the commercial units. This is achievable by adding acoustic ceilings to the commercial units.

3.8 The inclusion of these treatments, if required, will be controlled via the imposition of the following acoustics-related clause on the lease agreements for the commercial units:

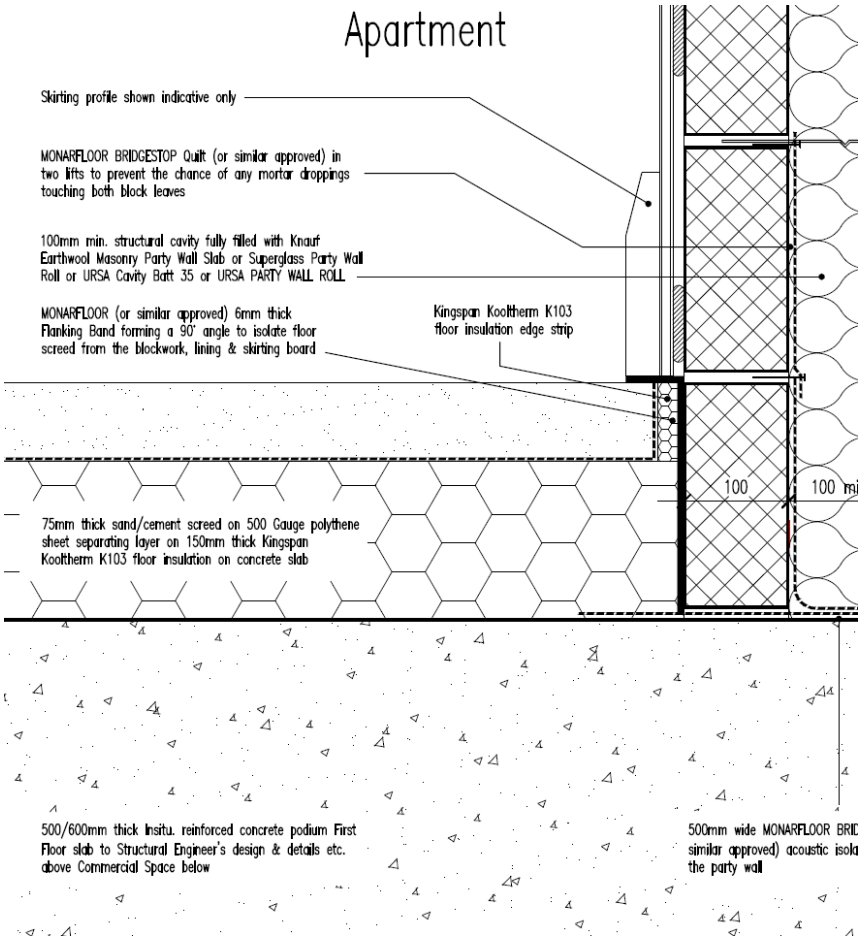
> *"Not to permit the noise level within the unit to exceed 85 dB LAeq,T without the Landlords prior written approval to the appropriate sound attenuation measures, such approval not to be unreasonably withheld or delayed".*

3.9 The use of clauses in lease agreements to ensure compliance with acoustic planning requirements is very common where the final use of commercial spaces are not known at the time they are built.

Shell & Core Design

3.10 The separating floors between the residential apartments and the commercial units in the base build will be as follows:

Figure 1 Separating floors between Commercial uses and Residential apartments



3.11 The airborne sound insulation of this construction has been calculated to be approximately 65 dB DnTw + Ctr using INSUL v9.0 partition modelling software.

3.12 Calculations show that this level of sound insulation performance would reduce the anticipated bar noise (85 dB LAeq,T) in the commercial unit to approximately NR15 in bedrooms and living rooms above.

3.13 This predicted level is compliant with the criteria in Planning Condition 19 of NR20 in bedrooms during the night and NR25 in living rooms during the day. The proposed design of the separating floors is therefore considered to be acceptable and compliant with the requirements of Planning Condition 19.

3.14 The design of the development will also continue to be reviewed as the design progresses to ensure that the sound insulation provided by the separating constructions is not degraded by flanking sound transmission through junction details.

4. CONCLUSIONS

4.1 Cass Allen was instructed by Chase New Homes to assess the acoustic design of the development in accordance with the requirements of Planning Condition 19.

4.2 Internal noise level criteria of NR20 for bedrooms (23:00 – 07:00) and NR25 for living rooms (07:00 – 23:00) are given in Planning Condition 19 for the sound insulation performance between residential apartments and commercial units.

4.3 A commercial noise level of 85 dB LAeq,T was chosen to inform the assessment. This is representative of a typical A4 use, being the typical noise level in a busy bar with low to moderate level background music (as measured on previous Cass Allen projects).

4.4 If noisier commercial uses were to occupy the spaces then the sound insulation performance may need to be increased as part of the fit out of the units. This will be the responsibility of future tenants and will be controlled via the imposition of a clause in the tenancy agreements for the commercial uses as set out in this report. This is a standard approach for the common situation where the final use of commercial spaces are not known at the time they are built.

4.5 Calculations have shown that the sound insulation performance of the floor to the commercial units will be sufficiently high to comply with the criteria in Planning Condition 19, based on the anticipated noise level in the commercial units.

4.6 It is our view therefore that Planning Condition 19 can be discharged.

4.7 The design of the development will continue to be reviewed as the design progresses to ensure that the sound insulation provided by the separating constructions is not degraded by flanking sound transmission through junction details.

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