Chartered Building Consultancy

Acoustic South East

Planning Conditions

Client:	**Moretons Investments**
Site Address:	**97-99 Montague Street, Worthing**
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Report by: George Orton BEng(Hons) MIOA

Issue 1	21/10/2026

1 Summary and Conclusion

Acoustic Southeast has been instructed to assess the acoustic design relating to the proposed development.

1.1 Planning Conditions

The 1st floor apartments have gained planning approval with the following condition that relates to sound insulation and internal sound levels:

Condition 3 – The use hereby permitted shall not commence unless and until an insulation scheme for protecting the upper floor residential units from noise has been submitted to and approved by the local planning authority. The scheme shall achieve a minimum airborne sound insulation value of 50dB (DnTw + Ctr dB) for all floors, have regard to the principles contained within the World Health Organisation community noise guidelines and ensure the standards within Table 4 of BS8233:2014 are achieved in the residential units above. Following approval and implementation of the scheme, a test for compliance shall be undertaken. All works, which form part of the approved scheme, shall be completed before the use commences.

1.2 Internal Sound Insulation

Sound tests were completed between the part complete ground floor commercial area and the 1st floor residential areas above. Two tests were completed and the test results easily achieved the planning conditions criteria.

1.3 Internal Sound Levels

In order for the BS8233 and WHO criteria to be achieved the building envelope will have to achieve a sound reduction level of 18-21dB

For the front façade the existing windows were replaced with Alitherm Heritage windows (Double glazed)For the rear façade the existing double glazed windows were retained.

Details in the AVOG publication shows that the minimum façade sound insulation level should be at least 21dB for typical windows with standard trickle vents

Therefore the sound reduction target of 18-21dB has been achieved.

Based on the above points it is considered that the criteria within planning condition 3 have been achieved.

2 Acoustic Criteria

The criteria detailed in planning condition 3 have been copied below.

2.1 ADE E1 Criteria

Approved Document E of the Building Regulations (2003 Edition) specifies minimum performance values of Weighted Standardised Level Difference (DnT,w + Ctr) for airborne noise transmission through party floors. The criteria in the condition ask for a higher level of sound insulation.

It should be noted that with airborne sound insulation it is the level difference that is being measured between rooms and the higher the result the better the insulation.

Requirements of:	**Element**	**Airborne Sound Insulation (DnT,w + Ctr)**	**Impact Sound Insulation (LnT,w)**
Commercial/Dwelling	**Floor**	**≥50dB**	**N/A**

Figure 1: Condition Sound Insulation Criteria

2.2 BS8233 Noise Criteria

Table 5 of BS8233 provides the following guideline values:

Activity	**Location**	**Time period of day**	
		07:00-23:00	**23:00-07:00**
Resting	Living Rooms	35dB $L_{Aeq,16hour}$	-
Dining	Dining Room/Area	40dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	35dB $L_{Aeq,16hour}$	30dB $L_{Aeq,8hour}$

Figure 2: BS8233 Criteria

3 Separating Floor Sound Insulation

3.1 Initial Stage Recommendations

Prior to the conversion works being completed the following recommendations were made:

The majority of the floor area is an existing concrete slab (around 200mm min.). As ceiling heights are sufficient the best option for upgrading the floors is for a metal furring (MF) grid ceiling system to be installed. British Gypsum's "Casoline" system would be suitable although others are available:

- Any floor finish (impact sound insulation not required as commercial area on lower floor)
- Existing concrete slab
- MF ceiling
- 50-100mm Insulation
- 15mm Wallboard or 2x12.5mm Wallboard

3.2 Pre-Completion Sound Insulation Tests

For full detail the sound insulation tests please see the separate ANC registered report. A summary of the tests and results can be found below. The sound test were completed when the upper floor dwellings were nearly complete.

3.2.1 Details

Tests were completed on the 21st January 2026 by Josh Robinson (Who is and was a registered tester on the ANC Advance scheme)

All the procedures in Annex B of Approved Document E of The Building Regulations were followed

The tests detailed in the report were carried out in full accordance with ISO 140-4 and ISO 140-7

Test Methods and Procedures detailed within the ANC Practice Guidance for sound insulation testing were followed.

3.2.2 Results

The results of the floor sound insulation tests can be seen below:

Test	Source Room	Receive Room	Airborne Sound Insulation DnT,w + Ctr	
			Target	Achieved
1	**GF Commercial**	**Flat A bedroom**	**≥50dB**	**57dB**
2	**GF Commercial**	**Flat A bedroom**	**≥50dB**	**57dB**

Figure 3: Sound Test Results

The above shows the planning condition criteria have been easily achieved

4 Indoor Sound Level Assessments

4.1 External Sound Level

For this initial assessment sound levels from previous Montague street projects have been used (the levels were averages for three separate multi-day surveys. The levels across the three locations are fairly similar):

Building No.	Day	Night
100-108	57	50
30	55	48
22	56	45
Ave:	**56**	**48**

Figure 4: Montague Street Sound Surveys

It is assumed that the sound level at the rear of the property will be at a similar level or lower. There are also existing heat pumps at the rear of the adjacent building as shown below:



d	Lw	dBA
10	70	42.0
10	70	42.0
8	70	43.9
8	70	43.9
Total:		49.1

Figure 5: Existing Plant

Assuming the units are at the higher end of the noise level range would result in a sound power level of around 70dBA. The closer units are around 8m from room windows with the further units being around 10m away. Ignoring barrier attenuation, but adding a 3dB correction for reflections) results in a total sound level of around 49dBA. As these are AC units (not cellar coolers) they will likely only operate during the day. The predicted level should be below the existing environmental sound levels.

4.2 Condition Criteria

The planning condition does not contain specific numbers but does state that "*ensure the standards within Table 4 of BS8233:2014 are achieved*" Based on Table 4 of BS8233/WHO the maximum internal noise level for each area is as follows:

- Bedrooms ≤35/30dBA Day/Night (Inside)
- Lounges ≤35dBA Day (Inside)

4.3 Required Sound Reduction

In order for the BS8233 and WHO criteria to be achieved the building envelope will have to achieve the following levels of sound insulation (SRI). The required sound reduction levels are detailed in the table below:

Room	Ext level dBA	Required Sound Reduction	
	Day/Night	07:00-23:00	23:00-07:00
Lounge	56	21	-
Bedroom	56/48	21	18

Figure 6: Required Sound Reduction

It is likely that for the rear façade a similar or marginally lower sound reduction is likely to be required. To simplify the assessment the above values have been used for both facades

4.4 Completed Mitigation Measures

For the front façade the existing windows were replaced with Alitherm Heritage windows (Double glazed)

For the rear façade the existing double glazed windows were retained.

4.5 Façade Sound Insulation

The following table has been copied from the AVOG guide. The table estimates the sound façade reduction values for different glazing and ventilation scenarios:

Table B-2 Potential level differences associated with different ventilation Systems from ADF

Ventilation System from ADF	Cont. equiv. (L_{Aeq}) or events (L_{AFmax})	Level Difference, external free field level – internal reverberant level, dB	
		Typical windows and vent	Higher acoustic performance windows and vent
1, 2	L_{Aeq}	21	31
	L_{AFmax}	22	35
3 (with trickle vent)	L_{Aeq}	23	33
	L_{AFmax}	24	38
4 (no trickle vent)	L_{Aeq}	27	38
	L_{AFmax}	31	45

Figure 7: AVOG Table B2

The above shows that the minimum façade sound insulation level should be at least 21dB for typical windows with standard trickle vents

4.6 Assessment

The above shows that the sound reduction target of 18-21dB has been achieved.