



BRAIDEN ACOUSTICS LTD

Innovation Forum // 51 Frederick Road // Salford // Manchester // M6 6FP

NOISE VERIFICATION REPORT

Prepared for : K&S Property Rentals Ltd

Date : 8 Jul 2025

Site : 528 - 532 Hyde Rd, Gorton

Report No. : 11382revC

1 INTRODUCTION

Braiden Acoustics has been commissioned by K&S Property Rentals Ltd to undertake a Verification Noise Survey at the site of 528 - 532 Hyde Rd, Gorton in order to discharge a noise-related planning condition.

1.1 PLANNING PERMISSION

Planning application 138129/FO/2023 proposed "Elevational alterations in connection with sub-division of ground floor to create 3 retail units (Class E) together with change of use of first and second floor to create 4 x 1-bedroom flats and 1 x 3-bedroom flat (Class C3)". The application was approved with conditions on the 19 December 2023.

The relevant condition(s) is / are:

6) a) Prior to the flats hereby approved being occupied, a scheme for acoustically insulating the proposed residential accommodation against noise from Hyde Road and surrounding commercial uses, shall be submitted to and approved in writing by the City Council as Local planning authority. The potential for overheating shall also be assessed and the noise insulation scheme should take this into account. The approved noise insulation and ventilation scheme shall be completed before any of the approved flats are occupied.

b) Prior to first occupation of the residential units, a verification report shall be required to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that the internal noise criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the internal noise criteria.

Reason - In order to safeguard the amenity of existing and future occupiers of nearby residential accommodation, pursuant to saved policy DC26 of the Unitary Development Plan for the City of Manchester and policies SP1, H1 and DM1 of the Core Strategy.

This report shall deal with the comments above. To summarise,

- i. Details of the ventilation systems
- ii. Confirm all acoustic mitigation measures have been implemented
- iii. Internal noise levels measured to confirm compliance.

1.2 AIM

This report aims to discharge part b) of Condition 6 above.

2 DESCRIPTION OF SITE

2.1 PROPOSED USE

It was proposed to convert the upper floors into 5no. apartments.



Figure 1
Proposed first and second floor layouts

2.2 NOISE IMPACT ASSESSMENT

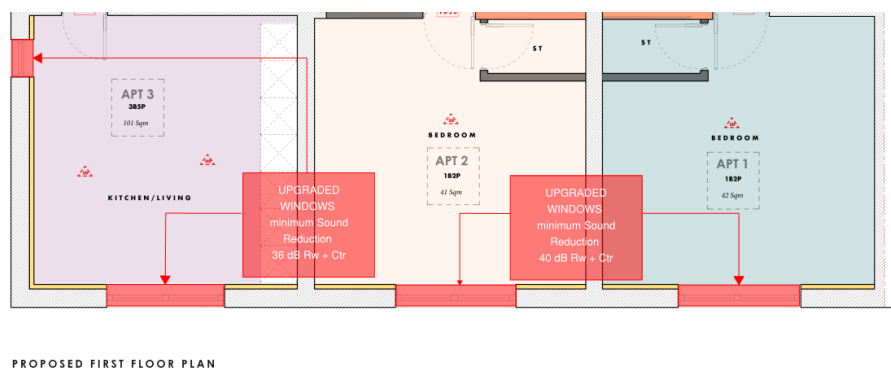
For the original planning application, there was a Noise Impact Assessment by Braiden Acoustics dated August 2024, report number 11303.NIA.

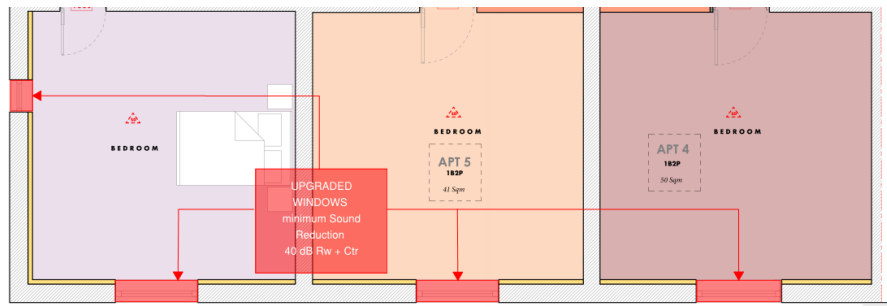
2.2.1 Glazing

Upgraded double glazing is required for all habitable rooms on the front / side elevations with minimum sound reduction indices of:

Bedrooms $40 \text{ dB } R_w + C_{tr}$

Living Rooms $36 \text{ dB } R_w + C_{tr}$





PROPOSED SECOND FLOOR PLAN

Figure 2
Proposed glazing specifications front / side

The Mitigation and Conclusion sections of the report state that standard 4mm double glazing will suffice for the rear elevation.

2.2.2 Ventilation

Habitable rooms facing Hyde Road will require alternative mechanical ventilation.

The Sonair 3 units from Titon have been installed in the habitable rooms to the front of the property.



Figure 3
Titon Sonair 3 mechanical ventilation unit, installed at 528 – 532 Hyde Road

3 ACOUSTIC CRITERIA AND METHODOLOGY

This is a residential development that may be susceptible to environmental noise. Potential mitigation measures are determined by recommended indoor noise levels from BS 8233 “Sound insulation and noise reduction for buildings” [1] which, in turn, takes guidance from the research-based World Health Organisation “Guidelines for Community Noise”.

Noise level thresholds are usually given for the night-time – 2300-0700 hrs and day time – 0700-2300 hrs.

3.1 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

The National Planning Policy Framework is the current document for planning guidance. Paragraph 123 of the NPPF says that planning decisions should aim to:



- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- mitigate and reduce to a minimum, other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

3.2 BS 8233: 2014

The British Standard BS 8233:2014 “Guidance on sound insulation and noise reduction for buildings” gives guidance on recommended indoor ambient noise levels for residential dwellings.

Room	Criterion	$L_{Aeq,T}$	
		night	day
Bedroom	Sleeping	30	35
Dining Room/Area	Dining	--	40
Living Room	Resting	--	35

Table 1

Recommending indoor ambient noise level thresholds from anonymous noise (taken from Table 4, BS 8233:2014)

NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

Internal noise levels in habitable rooms are calculated using either the simple or rigorous method as described in Annex G in BS 8233:2104.

3.2.1 Noise levels in external living areas

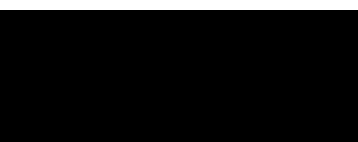
For external living areas such as gardens and balconies, BS 8233:2014 § 7.7.3.2 recommends an upper limit of 55dB $L_{Aeq,day}$ although there is a caveat:

However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.

3.2.2 Maximum noise levels

In the 2014 edition of the Standard, the criterion of 45dB L_{AFMax} inside bedrooms has been removed although there is Note 4:

NOTE 4 regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,P}$ depending on the character and number of events per night. Sporadic noise events could require separate values.



The use of the phrases ‘may be set’ and ‘could require’ imply that this is a discretionary criterion.

3.3 COUNCIL CRITERIA

It is usual that Councils adhere to noise levels given in BS 8233.

L_{Aeq} 35 dB 16 hours – indoors, daytime (07.00-23.00)

L_{Aeq} 30 dB 8 hours – indoors, night-time (23.00-07.00)

L_{Aeq} 55 dB 16 hours – indoors, daytime (07.00-23.00)

4 MONITORING DETAILS

4.1 MONITORING DETAILS

Personnel: John Braiden, BSc & MSc Acoustics, MIOA.

Equipment: NTi XL2 integrated real time analyser & B&K 4231 calibrator.

Date and time: Wednesday 19th February at 18:00 for 22 hours.

The sound level meter was calibrated before after the measurements with no significant drift reported.

4.2 INTERNAL NOISE MONITORING

Noise measurements focussed on noise from within habitable rooms facing the front.

Monitoring was unmanned but audio was recorded.

4.2.1 Location

The microphone was approximately 1.2 m from local ground and placed in the middle of a second-floor habitable room with the **doors and windows closed but the Sonair 3 unit on.**

Monitoring Location 1 (ML 1) was at the front of the property.

NB It should be noted that the room was unfurnished and without carpets so reverberation noise contributed to the measured noise levels. When the room is fully furnished then the reverberation noise will decrease and therefore the overall noise level in the rooms will also decrease.**



Figure 4
Internal noise monitoring



4.2.2 Results

Noise monitoring took place during a typical weekday (Wednesday), that included an evening, and morning, rush hour traffic.

The internal noise levels within the front habitable room of Apartment 5 are shown below.

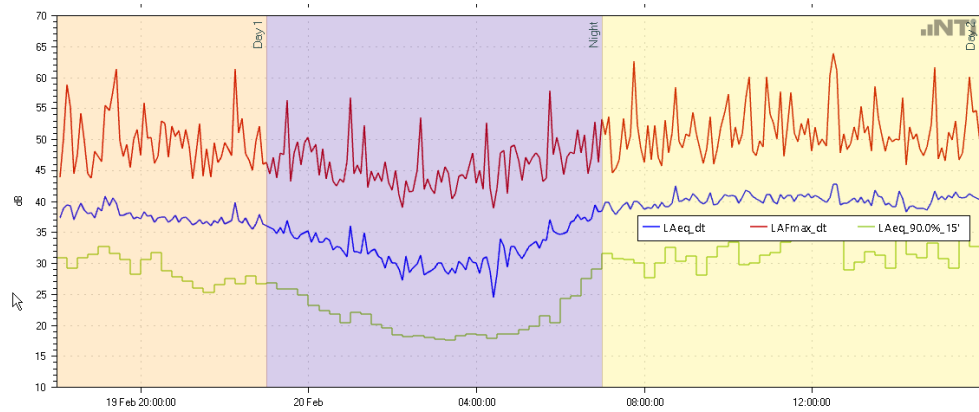


Figure 5
Internal noise monitoring -- FRONT

NB It should be noted that noise from the Sonair mechanical vent was only barely audible at a distance of 0.5m.**

A summary of the night and day noise levels is:

Night 34dB(A)
Day 39 dB(A)

The day and night time noise levels were 4dB over the limits of 35 and 30dB, respectively.

Upon closer inspection, it became apparent that the glazing specification was not sufficient, with only 6mm double glazed units fitted.

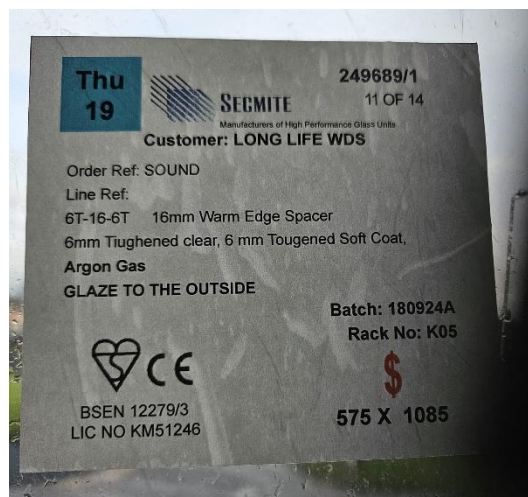


Figure 6
Glazing specification



5 ACOUSTIC ASSESSMENT

5.1 INTERNAL NOISE LEVELS

5.1.1 Glazing

According to Table B.1 in BS 12354-3 (see Appendix), the acoustic performance of 6mm double glazed units is 27 dB $R_w + C_{tr}$, therefore an improvement of at least 4 dB is required.

The 6mm double glazed units were substituted for 10/10/8.8mm glazed units.

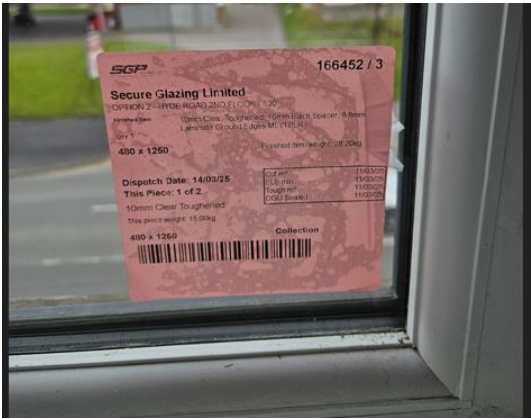


Figure 7
Substituted glazing

The acoustic performance of the improved glazing is 33 dB $R_w + C_{tr}$ which is an improvement of 6dB which is higher than the required 4dB and hence the new glazing is compliant.

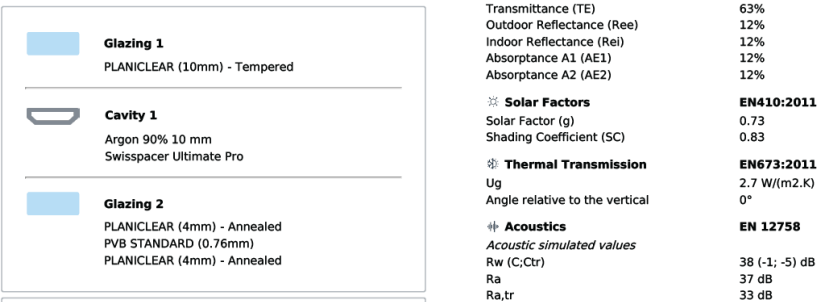


Figure 8
Glazing specifications

5.1.2 Ventilation

The Sonair 3 mechanical ventilators were installed in habitable rooms to the front of the building and measured internal noise levels were within Council guidelines when switched on.

Therefore, Condition 6 can now be fully discharged.

6 CONCLUSION

A verification acoustic survey has taken place at 528 - 532 Hyde Rd, Gorton to fully discharge Condition 6 of planning application 138129/FO/2023 for the change of use to residential dwellings.

Adequate glazing has now been installed in the property.

Furthermore, the Sonair 3 mechanical ventilators were installed in habitable rooms to the front of the building.



Measured internal noise levels, **with windows shut but the ventilator on**, Internal noise levels are within the Council's guidelines

Therefore, Condition 6 can now be fully discharged.

7 REFERENCES

[1] BS8233: 2014

Sound Insulation and noise reduction for buildings – Code of Practice,
British Standards Institute, 2014.



Appendix

A1 GLAZING ACOUSTIC PERFORMANCE – BS 12354-3

Table B.1 - Examples of the sound reduction index of glazing

Glazing type	Sound reduction index (dB)						
	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	R_w (C; C _{tr}) dB
Single panes (mm)							
3	14	19	25	29	33	25	28 (-1; -4)
4	17	20	26	32	33	26	29 (-2; -3)
5	19	22	29	33	29	31	30 (-1; -2)
6	18	23	30	35	27	32	31 (-2; -3)
8	20	24	29	34	29	37	32 (-2; -3)
10	23	26	32	31	32	39	33 (-2; -3)
12	27	29	31	32	38	47	34 (0; -2)
Laminated panes (mm) + plastic laminate (0,5 to 1) mm							
6+	20	23	29	34	32	38	32 (-1; -3)
8+	20	25	32	35	34	42	33 (-1; -3)
10+	24	26	33	33	35	44	34 (-1; -3)
Double pane units with single or laminated panes (mm); air filled cavity from (6 to 16) mm							
4-(6-16)-4	21	17	25	35	37	31	29 (-1; -4)
6-(6-16)-4	21	20	26	38	37	39	32 (-2; -4)
6-(6-16)-6	20	18	28	38	34	38	31 (-1; -4)
8-(6-16)-4	22	21	28	38	40	47	33 (-1; -4)
8-(6-16)-6	20	21	33	40	36	48	35 (-2; -6)
10-(6-16)-4	24	21	32	37	42	43	35 (-2; -5)
10-(6-16)-6	24	24	32	37	37	44	35 (-1; -3)
6-(6-16)-6+	20	19	30	39	37	46	33 (-2; -5)
6-(6-16)-10+	24	25	33	39	40	49	37 (-1; -5)
NOTE 1 This selection and the values are in accordance with prEN 12758-1. The single number ratings are deduced from results in 1/3-octave bands and therefore single number ratings deduced from the given octave band data might result in values which differ 1 dB at the most.							
NOTE 2 Though it is known that for a given double pane unit the sound reduction increases with increasing cavity width, this effect has been found to be too small to take into account here for air filled cavities in the light of the inherent spread in results for nominally identical units.							





10 FT (10 Argon 90) 44.2 [Swisspacer Ultimate Pro]

Computed by: gillian harris Computed on: 14/03/2025 Product catalog: United Kingdom Norms: EN410:2011

Glazing type



	Glazing 1 PLANICLEAR (10mm) - Tempered
	Cavity 1 Argon 90% 10 mm Swisspacer Ultimate Pro
	Glazing 2 PLANICLEAR (4mm) - Annealed PVB STANDARD (0.76mm) PLANICLEAR (4mm) - Annealed

Swisspacer Ultimate Pro Psi-values (Ψg) for double glazing	
For windows	
Metal with thermal break	0.036 W/(m.K)
Plastic	0.031 W/(m.K)
Wood	0.031 W/(m.K)
Wood / Metal	0.033 W/(m.K)
For facade profiles	
Wood / Metal	0.055 W/(m.K)
Metal with thermal break (di = 100mm)	0.074 W/(m.K)
Metal with thermal break (di = 200mm)	0.078 W/(m.K)
Source: ift Rosenheim directive WA-08/3 and WA-22/2 ("Warm edge" working group) / Bundesverband Flachglas (German Flat Glass Association) window data sheets	

Simulated performance datas

	Luminous Factors Light Transmittance (TL) Outdoor Reflectance (RLe) Indoor Reflectance (RLi)	CIE015:2018 80% 14% 15%
	Energy Factors Transmittance (TE) Outdoor Reflectance (Ree) Indoor Reflectance (Rel) Absorptance A1 (AE1) Absorptance A2 (AE2)	EN410:2011 63% 12% 12% 12% 12%
	Solar Factors Solar Factor (g) Shading Coefficient (SC)	EN410:2011 0.73 0.83
	Thermal Transmission Ug Angle relative to the vertical	EN673:2011 2.7 W/(m2.K) 0°
	Acoustics Acoustic simulated values Rw (C;Ctr) Ra Ra,tr STC (ASTM E413) OITC (ASTM E1332)	EN 12758 38 (-1; -5) dB 37 dB 33 dB 38 31
	Color Rendering Transmission (Ra) Reflection (Ra)	CIE015:2018 97 96.4
	Safety Class Pendulum Body Resistance	EN12600 1C1/1B1
	Anti-Burglary Burglar Resistance	EN356 NPD/P2A
	Manufacturing Sizes Nominal Thickness Weight	 28.8 mm 46 kg/m²
	Sustainability Carbon footprint <i>The value is calculated regarding the composition computed based on the standard EN 15804+A2 (2019)</i> Global Warming Potential (GWP) - A1-A3 (kg, CO ₂ eq./m²) European average	EN 15804+A2 (2019) 72



Calumen® calculates the photometric characteristics and thermal transmission of glass using calculation algorithms which comply with the following standards: the European standards EN 410 and EN 673, the international standard ISO9050, the Japanese standard JIS R 3106/3107 and the Korean standard KS L 2514/2525. The functional output and calculation rules of Calumen® for standards EN 410 and EN 673 have been validated by TÜV Rheinland (report 89212153-01). The technical performances obtained according to these standards are provided for information only and are subject to amendment.
Only the values entered in the performance declaration available on the CE marking site of Saint-Gobain Glass are official.
The sound attenuation indices are measured under laboratory conditions according to the standards EN ISO 10140 and EN 12758. The calculated indices are provided for information only. The accuracy for Rw index lies within a range of +/-2dB. The glass thickness calculations comply with the 2012 version of the DTU39-P4 description. The USER is responsible for ensuring that the correct calculation hypotheses are entered and the DTU39 is applied appropriately for the project concerned.

