



BRAIDEN ACOUSTICS LTD

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

NOISE IMPACT ASSESSMENT

Prepared For : Saleem Architects

Date : 21 Aug 2024

Site : 528-532 Hyde Rd, Gorton

Report No. : 11303.NIA

1 INTRODUCTION

Braiden Acoustics has been commissioned by Saleem Architects to undertake an acoustic survey at the site of 528-532 Hyde Rd, Gorton in discharge noise conditions relating to planning application 138129/FO/2023 which proposes “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 pertinent planning conditions 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.

7) a) Any externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to commencement of the use hereby approved the scheme shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the site. The scheme shall be implemented in full before the use commences or as otherwise agreed in writing by the City Council as local planning authority.

b) Prior to the operation of the scheme a verification report shall be submitted to and approved in writing by the City Council as local planning authority to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic report. The report shall also undertake post completion testing to confirm that the 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 agreed noise criteria.

Reason - To minimise the impact of the development and to prevent a general increase in preexisting background noise levels around the site, pursuant to policies SP1 and DM1, of the Manchester Core Strategy and saved policy DC26 of the Unitary Development Plan for the City of Manchester.

To summarise the two above conditions:

Condition 6	Assess noise break-in
Condition 7	Assess external plant noise

1.1 AIM

This report assesses noise break in and external plant noise and suggest mitigation, where necessary, so the above Conditions can be partially discharged (Part a).

2 DESCRIPTION OF SITE

The site is a collection of three adjacent properties, as shown in Figure 1.



Figure 1
Proposed site street view

2.1 SITE LOCATION AND SURROUNDING AREA

The site is bounded by Hyde Road to the north, Chatsworth Road to the east, more commercial / residential properties directly to the west and an alleyway to the rear.

Hyde Road is a busy four lane arterial route in to / out of Manchester. Hyde Road is predominantly commercial with the side roads mostly residential.

Some 100m west is Belle Vue train station.

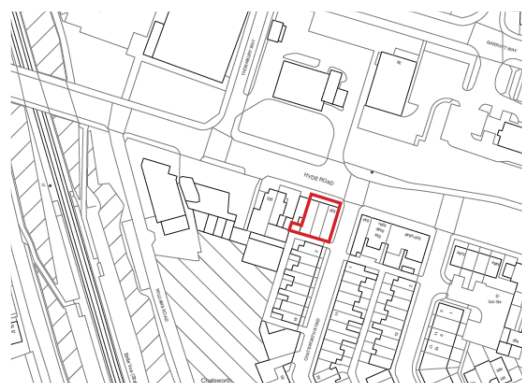


Figure 2
Site location and surrounding area

2.2 PROPOSED USE

The proposal is to create 3no. commercial units at ground floor level and residential apartments above.





Figure 3
Proposed front elevation

Apt 1	1 bedroom
Apt 2	1 bedroom
Apt 3	3 bedroom
Apt 4	1 bedroom
Apt 5	1 bedroom.

3 ACOUSTIC CRITERIA AND METHODOLOGY

Below are relevant standards and guidance.

3.1 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

The National Planning Policy Framework is the current document for planning guidance. Paragraph 180 of the revised NPPF states:

180. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a) mitigate and reduce to a minimum, potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
- b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
- c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

Paragraph 180 refers to the Noise Policy Statement for England which shall be briefly discussed in the next Section.

3.2 NOISE POLICY STATEMENT FOR ENGLAND

The main aim of the Noise Policy Statement is to:



Therefore, the NPSE is mainly concerned with environmental noise.

The document sets out categories in order to help distinguish if there is an adverse effect due to noise and if there is, how significant it is.

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur

It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.

3.3 BS 4142

BS 4142:1999 “Method for rating industrial noise affecting mixed residential and industrial areas” [1] assesses industrial noise with regards to nearby residential dwellings. The guidance is commonly used to compare the equivalent noise from an industrial source only (specific noise level), L_{Aeq} , to the background noise level, L_{A90} , at the nearest sensitive receptor (NSR).

When measuring the Background Noise Level, the Standard states:

Choose outdoor measurement locations that will give results that are representative of the ambient sound and residual sound at the assessment location(s). Make the measurement of the ambient sound level, the residual sound level and the background sound level at a height of 1.2 m to 1.5 m above the ground, unless there is a specific reason to use an alternative height (which should be justified), and under similar conditions, e.g. similar influence of reflections and measurement height above the ground. Where practical, minimize the influence of reflections by making the measurements at least 3.5 m from any reflecting surface other than the ground.

Where it is necessary to undertake measurements above ground floor level, choose a location which is approximately 1 m from the facade on the relevant floor of the building if it is not practical to make the measurements at least 3.5 m from the facade at this elevation. NOTE When measurements for distant sources are made at 1 m from a facade, the measured level can be adjusted to an equivalent free-field level by subtracting a 3 dB correction factor. For sources that are relatively close or not perpendicular to the facade the correction may be 1 dB or 2 dB, in which case the reasons for not using a correction of 3 dB ought to be explained.

Essentially, background noise measurement should be made free field. If measurements are made at the façade, then a correction should be made in order to represent the free field.

This Standard has been recently updated, BS 4142:2014 “Methods for rating and assessing industrial and commercial sound” [2]. Whereas the old standard added 5dB ‘penalty’ to the Specific Noise Level (SNL) if the noise source has a ‘character’ that can draw attention that may be described as tonal, intermittent or impulsive, the new standard gives clearer guidance on noise ‘character’. Furthermore, the previous Standard gave only one 5 dB penalty whereas the new Standard may not. When added to the specific noise level it forms the rating level. The new Standard gives the guidance for the following types of noise character:



Where appropriate, establish a rating penalty for sound based on a subjective assessment of its characteristics. This would also be appropriate where a new source cannot be measured because it is only proposed at that time, but the characteristics of similar sources can subjectively be assessed.

Correct the specific sound level if a tone, impulse or other characteristic occurs, or is expected to be present, for new or modified sound sources.

NOTE 1 The prominence of tonal or impulsive sound from a source can be masked by residual sound. In many cases the amount of masking varies as the residual sound changes in level and possibly character. The source's tonal and/or impulsive characteristics could also vary with time.

Consider the subjective prominence of the character of the specific sound at the noise-sensitive locations and the extent to which such acoustically distinguishing characteristics will attract attention.

Tonality

For sound ranging from not tonal to prominently tonal the Joint Nordic Method gives a correction of between 0 dB and +6 dB for tonality. Subjectively, this can be converted to a penalty of 2 dB for a tone which is just perceptible at the noise receptor, 4 dB where it is clearly perceptible and 6 dB where it is highly perceptible.

Impulsivity

A correction of up to +9 dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level. Subjectively, this can be converted to a penalty of 3 dB for impulsivity which is just perceptible at the noise receptor, 6 dB where it is clearly perceptible and 9 dB where it is highly perceptible.

Other sound characteristics

Where the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

NOTE 2 Where tonal and impulsive characteristics are present in the specific sound within the same reference period then these two corrections can both be taken into account. If one feature is dominant then it might be appropriate to apply a single correction. Where both features are likely to affect perception and response, the corrections ought normally to be added in a linear fashion.

Intermittency

When the specific sound has identifiable on/off conditions, the specific sound level ought to be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time. This can necessitate measuring the specific sound over a number of shorter sampling periods that are in combination less than the reference time interval in total, and then calculating the specific sound level for the reference time interval allowing for time when the specific sound is not present. If the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

Once a penalty for noise character is added to the Specific Noise Level then this is termed the Rating Level.

The background level is then compared to the rating level. It is usual that the rating level due to the source should be below the background noise level at the nearest sensitive receptor; indeed BS 4142 states:

“The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.”

3.4 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)

3.5 COUNCIL NOISE CRITERIA

3.5.1 Residential noise criteria

For residential developments, the noise thresholds are taken from BS8233:

- *Bedrooms (night time - 23.00 - 07.00) 30 dB LAeq (individual noise events should not normally exceed 45 dB L_{Amax,F} by more than 15 times)*
- *Living Rooms (daytime - 07.00 - 23.00) 35 dB LAeq*
- *Gardens and terraces (daytime) 55 dB LAeq*

3.5.2 Industrial noise criteria

For external plant the noise criterion is as follows:

‘The development should be designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location’.

4 MONITORING DETAILS

As part of the acoustic assessment, the following noise measurements have been undertaken:

1. external ambient noise at the front.
2. external ambient noise at the back.

4.1 NOSIE MONITORING – FRONT

4.1.1 Overview

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

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

Weather 14- 18degC, <5m/s wind, 40-60% cloud

Time / Date: Thursday 18/07/2024 at 11:05:04 for over 24 hours.

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

Monitoring was unmanned.

Background noise (L_{A90}), ‘average’ noise levels (L_{Aeq}) and maximum noise levels (L_{Amax}) were taken in 15-minute intervals.



4.1.2 Monitoring Location

Noise monitoring took place on the northern elevation of the site, location '1' in Figure 4. The microphone was 1m from a first-floor window.



Figure 4
Site showing monitoring locations

4.1.3 Monitoring results

The clearly prevalent noise source at the front of the site was road traffic noise from Hyde Road.

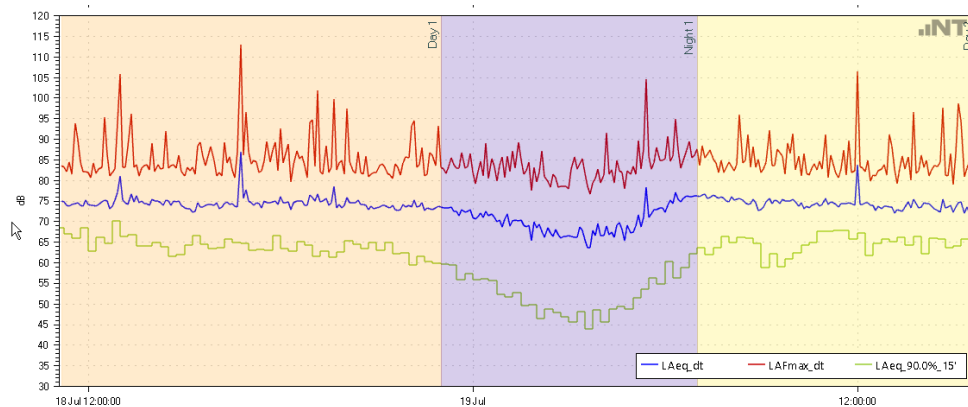


Figure 5
Time history

A summary of the overall noise levels is given in Table 2

Day	Time		Duration	Time Period	L_{A90} dB	L_{Aeq} dB	L_{Amax} dB
	Start	Finish					
Thurs	11:05:04	23:00:00	11:54:56	day	63.9	74.3	101.7
	23:00:00	07:00:00	08:00:00	night	50.3	71.2	94.9
	07:00:00	15:41:06	08:41:06	day	64.6	74.3	98.7

Table 2
Summary of noise monitoring results - FRONT

The night time max level is the level that is not exceeded more than 10 times during the night time period.



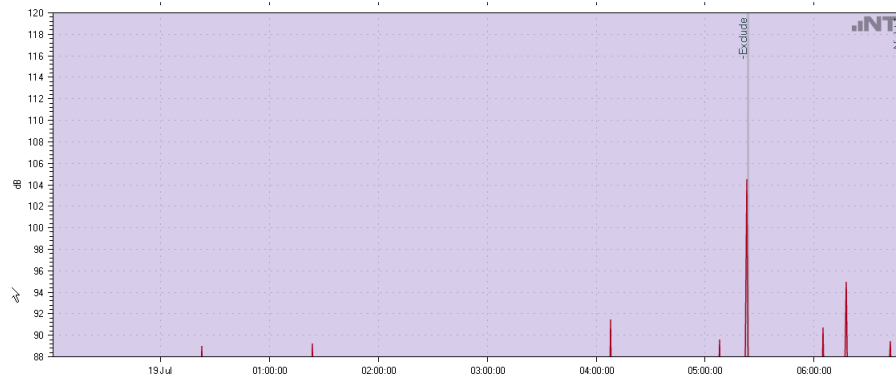


Figure 6
Max levels that were exceed no more than 10 times during the night.

Figure 6 shows that the max level of 88dB was not exceeded more than 10 times during the night period.

The overall free field¹ noise levels are as follows:

L_{Aeq} (night) $71 - 3 = 68$ dB(A)

L_{Aeq} (day) $74 - 3 = 71$ dB

$L_{Amax, <10}$ (night) $88 - 3 = 85$ dB

4.2 REAR

4.2.1 Monitoring overview

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

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

Weather 14- 21degC, <5m/s wind, 40-60% cloud

Time / Date: Friday 19/07/2024 at 16:03:30 for over 43 hours.

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

Monitoring was unmanned.

Background noise (L_{A90}), 'average' noise levels (L_{Aeq}) and maximum noise levels (L_{Amax}) where taken in 15-minute intervals.

4.2.2 Monitoring location

The microphone was 1m from a rear first-floor window, as shown in Figure 4.

¹ Monitoring was not made in a free field location



4.2.3 Monitoring results

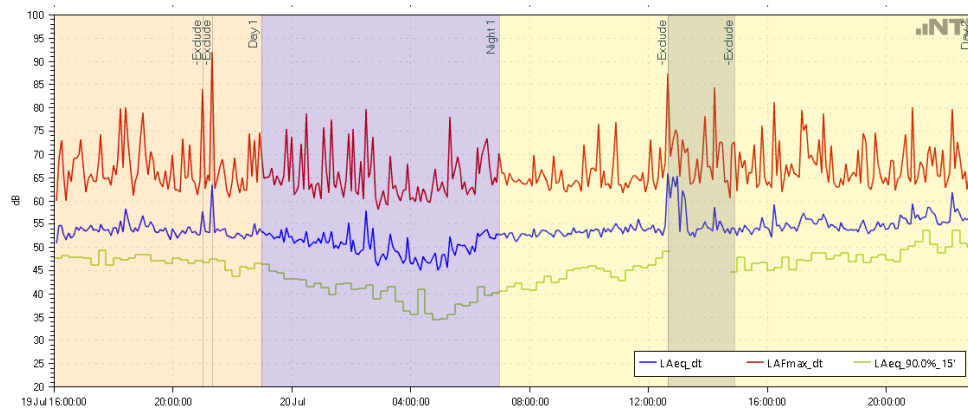


Figure 7
Time history

Some data were excluded from the dataset which included sirens and on-site construction noise.

A summary of the overall noise levels is given in Table 2

Day	Time		Duration	Time Period	L _{A90} dB	L _{Aeq} dB	L _{Amax} dB
	Start	Finish					
Friday	16:03:30	23:00:00	06:56:05	day	46.9	53.7	80.1
	23:00:00	07:00:00	08:00:00	night	38.4	51.0	79.7
	07:00:00	06:42:15	13:42:15	day	45.8	54.7	81.1

Table 3
Summary of noise monitoring results - REAR

The night time max level is the level that is not exceeded more than 10 times during the night time period.

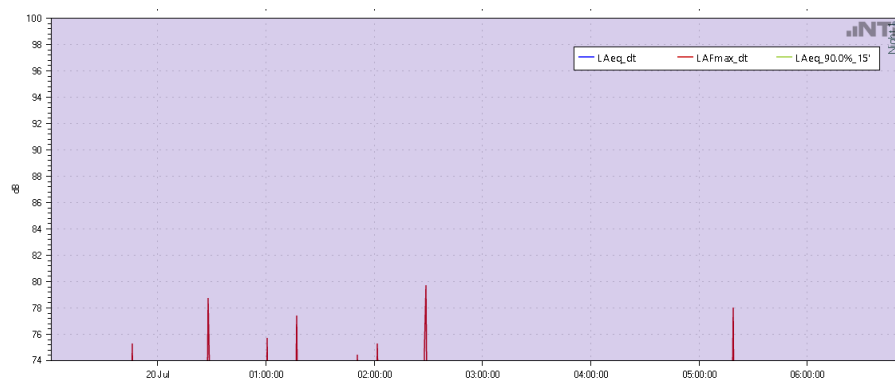


Figure 8
Max levels that were exceed no more than 10 times during the night.

Figure 6 shows that the max level of 74dB was not exceeded more than 10 times during the night period.

The overall free field² noise levels are as follows:

² Monitoring was not made in a free field location



$$L_{Aeq}(\text{night}) \quad 54 - 3 = 51 \text{ dB}$$

$$L_{Aeq}(\text{day}) \quad 51 - 3 = 48 \text{ dB}$$

$$L_{Amax, <10}(\text{night}) \quad 74 - 3 = 71 \text{ dB}$$

4.2.3.1 Background noise level

There is one item of external plant which is a condenser for a fridge for the proposed butchers at 528 Hyde Road; therefore, the typical Background Noise Level for the night time period is required.

Background Noise Levels (BNL) were recorded in 15-minute intervals throughout the night time period and a histogram was generated to determine the 'typical' BNL for the night time period.

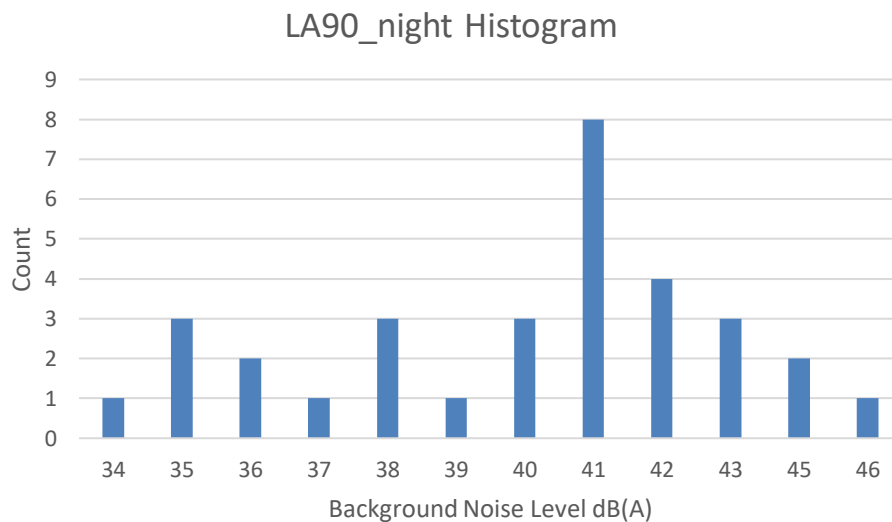


Figure 9
Background Noise Level Histogram

The typical night-time Background Level at the rear was 41dB $L_{A90,15min}$.

5 ACOUSTIC ASSESSMENT

The following are to be assessed:

- noise break-in front and rear
- noise from the proposed condenser unit at the rear.

5.1 EXTERNAL PLANT NOISE

The location of the external condenser unit is shown in Figure 10.





Figure 10
Location of the external condenser unit

The make and model of the condenser unit is shown in Figure 11.

J&E Hall JEHR-0100-B1-M-1



Figure 11
Spec of the condenser unit

It was not possible to take in-situ noise measurements of the condenser unit due to high background noise levels. However, when the unit was turned on it was barely audible at a distance of 2m. It is highly likely that noise from the condenser unit will be inaudible at the nearest habitable window.

The starting point for the BS4142 assessment is to determine the Specific Noise Level of the condenser unit from the unit's technical datasheet.

1/1 Octave Sound Pressure Levels @ 1 meter from the unit							
Frequency							
125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	A (dBA)
54.0	52.9	45.7	40.1	34.8	26.5	25.2	47.5

Figure 12
Noise data for condenser unit

Figure 12 shows that the noise level from the unit is 48 dB(A).

The distance to the nearest habitable window as shown in Figure 10 is 5m.

Grazing incidence is assumed due potential partial line of sight.

The unit is not tonal neither does it generate impulsive sounds, although it may be intermittent.



Description	Value	Noise Level dB
SPL @ 1m	1	48
Distance to resi (m)	5	-14
Reflections (surfaces)	1	3
Barrier	yes	-5
Specific Noise Level @ res		32
BS 4141		
Tonality	0/2/4/6	0
Impulsivity	0/3/6/9	0
Intermittency	0,3	3
Rating Level @ res		35
Background Level		day 41
Difference		-6

Table 4
BS4142 assessment

The Rating Level is 6dB below the Background Level and thus meets the Council's -5dB criterion. No mitigation is required for the condenser unit.

5.2 ENVIRONMENTAL NOISE BREAK-IN

Given the external noise levels, the initial glazing scheme can be suggested. However, it should be noted that this assumes windows closed in order to achieve the internal noise levels based on BS8233:2014.

The amount of attenuation from the building façades were readily computed using the simple method in Appendix G of BS 8233:2014 whereby the sound insulation index (SRI) of the glazing (the weakest element of the building façade, acoustically) is determined by simply deducting the required internal noise level from the external free field noise level.

5.2.1 Façade effect

A 3dB façade correction was necessary as the noise monitoring was not free field.

5.2.2 Distance correction

There was no distance correction applied as the monitoring location was representative of the location proposed residential dwellings.

5.2.3 Barrier effect

There is no barrier correction due to direct line of sight to the noise sources.

5.2.4 BS 8233 assessment

The weakest structural element is the glazing. The required glazing was calculated using recommended internal values. The Table below shows the required Sound Reduction Indices (SRI) for the bedrooms (night) and living areas (day) on each relevant elevation.

Front / Side

$L_{Aeq}(\text{night})$ $71 - 3 = 68 \text{ dB(A)}$

$L_{Aeq}(\text{day})$ $74 - 3 = 71 \text{ dB}$



$$L_{Amax, <10} \text{ (night)} \quad 88 - 3 = 85 \text{ dB}$$

Rear

$$L_{Aeq} \text{ (night)} \quad 54 - 3 = 51 \text{ dB}$$

$$L_{Aeq} \text{ (day)} \quad 51 - 3 = 48 \text{ dB}$$

$$L_{Amax, <10} \text{ (night)} \quad 74 - 3 = 71 \text{ dB}$$

Façade	period	room	External Levels measured / calc'd		Internal Levels recommended		Required glazing	
			L_{Aeq} (dB)	L_{Amax} (dB)	L_{Aeq} (dB)	L_{Amax} (dB)	SRI ($R_w + C_{tr}$)	Example Spec ³
REAR	night	bedroom	51	71	30	45	26	4 (20) 4 mm
	day	lounge	48		35		13	4 / (6-16) / 4 mm
FRONT	night	bedroom	68	85	30	45	40	10 (16) 10.8 mm
	day	lounge	71		35		36	10 (12) 12 mm

Table 5
Calculated SRI values and recommended glazing

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

Bedrooms 40 dB $R_w + C_{tr}$

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

5.2.5 Ventilation

For habitable rooms facing Hyde Road will require alternative mechanical ventilation. Such a unit is the Sonair 3, which will need to be installed in all six habitable rooms facing Hyde Road.

The Sonair 3 by Titon is a mechanical acoustic vent.

The brochure (see Appendix) states:

Sonair provides mechanical input ventilation when switched on, when switched off provides background trickle ventilation which includes a controllable shutter.

³ Example glazing build up and performance from Saint Gobain – specifications and performance shown in Appendix. Other glazing build-ups available.





Figure 13
In-situ Titon Sonair acoustic vent

The Sonair unit provides a minimum sound reduction index of $50 \text{ dB } D_{n,e,w} + C_{tr}$ – this clearly achieves the minimum required of 40 dB.

The unit can also clean the air via filters. More details can be found at:

https://www.titon.com/uk/products/ventilation-systems/supply_ventilation/sonair3/

NB The above mechanical ventilation should be installed in all habitable rooms to the front / side elevations.**

Installation guidance should be sought from the manufacturer above.

6 CONCLUSION

An acoustic survey has taken place at the 528-532 Hyde Rd, Gorton to partially discharge noise conditions related to a planning application for the change of use to 3no. commercial units at ground level with five apartments above.

Environmental Noise Break In assessment revealing the following glazing requirements

Front

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

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

Rear

Bedrooms $46 \text{ dB } R_w + C_{tr}$

Living Rooms $13 \text{ dB } R_w + C_{tr}$

All habitable rooms to the rear can achieved adequate noise levels with standard 4mm double glazing.

All habitable windows to the front / side will need a significant upgrade. Any proposed upgraded glazing needs to be confirmed with Braiden Acoustics.

In addition to the upgrade glazing, the habitable rooms to the front also need alternative ventilation. Therefore, the following mechanical ventilation unit is recommended:

The Sonair 3 by Titon mechanical acoustic vent.

The external condenser unit at the rear of 528 Hyde Road has been assessed via BS4142 and the noise level is within the Council's -5dB criterion, so no mitigation is required.



A BS4142 assessment has been carried out and a 3m acoustic barrier has been recommended for the southern boundary of the site.

The exact height of the acoustic barrier will need to be checked on site so that there are no lines of sight from any opening of the industrial unit to any habitable window of the nearby houses to the south.

Pending the mitigation detailed in this report, part a) of the following conditions can be discharged

Condition 6 noise insulation and ventilation

Condition 7 externally mounted ancillary plant.

7 REFERENCES

[1] BS 4142: 1997

Method for Rating industrial noise affecting mixed residential and industrial areas

British Standards Institute, 1997.

[2] BS 4142: 2014

Methods for rating and assessing industrial and commercial sound

British Standards Institute, 2014.



A1 DRAWINGS

A1.1 First floor



A1.2 Second Floor



PROPOSED SECOND FLOOR PLAN
1:50 @ A2



Dimensioning

Figured dimensions only to be taken from these drawings and drawings. Work to annotated dimensions only. All dimensions to be checked on site. Architectural drawings to be informed immediately of any discrepancies before work proceeds. Drawings are to be read in conjunction with relevant specifications, structural engineers and service engineers' drawings.

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A2

SALEEM
ARCHITECTS

Rev	Date	Description
-	03/09/23	Issued to client for comments
A	10/09/23	Issued for Planning
B	10/10/23	Revised Drawing

CLIENT:
Property Owner

PROJECT:
528-532 Hyde Road,
Manchester
M18 7AA

TITLE:
Proposed 02 Plan

SCALE:
1:150 @ A2
DRAWING NO.
A402

REV:
B

DATE:
Aug 2023

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Acoustic Consultant

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A2 GLAZING – SAINT GOBAIN

SAINT-GOBAIN GLASS										SAINT-GOBAIN GLASS									
Glass	Thicknes	Laborato	Year	Test Numbe	R _w	R _a	R _{a,1K}	63Hz	125H	250H	500H	1000H	2000H	4000H	R _w	R _w +	R _w +C _{tr}	R (C;C _{tr})	
10 (12) 12	34	CDI	1995	624703	39	38	36	20	34	34	38	36	41	50	39	38	36	39(-1;-3)	
6 (15) 8.4A	29	CDI	2003		41	40	36								41	40	36	41(-1;-5)	
6 (15) 8.8A	30	CDI	2003		41	40	36								41	40	36	41(-1;-5)	
6 (16) 12.4A	34	CSTC	2002	2002253	42	40	36		24	30	39	48	45	54	42	40	36	42(-2;-6)	
8 (10) 8.4A	26	CDI	2005		40	40	36								40	40	36	40(-0;-4)	
6.4A (9) 10.4A	26	CDI	1996		40	39	36	26	27	28	35	45	50	56	40	39	36	40(-1;-4)	
8 (6) 8.4A	22	CDI	2006		39	39	36	27	28	29	33	42	45	53	39	39	36	39(-0;-3)	
6 (12) 8.8A	27	CDI	2006		40	40	36								40	40	36	40(-0;-4)	
8 (6) 8.8A	23	CDI	2006		39	39	36	25	26	28	33	42	44	50	39	38	36	39(-1;-3)	
17.5(12) 13.5	43	CDI	2001		43	42	36								43	42	36	43(-1;-7)	
8 (10) 10.8A	29	CDI	2006		41	39	35	18	31	30	39	46	45	57	42	40	36	42(-2;-6)	
6 (10) 12.8A	29	CDI	1996	624943	40	39	36	16	31	31	37	45	41	53	40	39	36	40(-1;-4)	
12 (16) 8.4A	34	CDI	2005		40	39	36								40	39	36	40(-1;-4)	
6 (16) 12.8	35	CDI	2003		40	39	36								40	39	36	40(-1;-4)	
10 (20) 16.8	47	CDI	2006		41	40	36								41	40	36	41(-1;-5)	
12 (16) 17.5	46	CDI	1998		41	40	36	22	24	38	39	39	48	59	41	40	36	41(-1;-5)	
10 (16) 8.8	35	CDI	2006		40	39	36	20	29	30	39	42	43	56	40	39	36	40(-1;-4)	
15 (12) 12.8	40	CDI	2006		39	39	36								39	39	36	39(-0;-3)	
10 (12) 13.8	36	CDI	1996		40	39	36	21	25	33	39	37	43	54	40	39	36	40(-1;-4)	
8.8 (12) 12.8	37	TNO	2003	2003195	40	39	36	26	27	32	39	39	40	53	40	39	36	40(-1;-4)	
8 (20) 10.8	39	CDI	2006		40	38	36								40	39	36	40(-1;-4)	
8 (16) 12.4A	36	CDI	2005		44	43	40								44	43	40	44(-1;-4)	
10 (18) 10.8	37	CDI	2002		45	44	40								45	44	40	45(-1;-5)	
8.4A (20) 10.4A	39	CDI	1998		46	44	40	23	27	36	41	49	54	60	46	44	40	46(-2;-6)	
8.8A (20) 64.2A	40	CDI	1997		47	45	40	28	27	36	43	52	55	59	47	45	40	47(-2;-7)	
10.4A (20) 8.4A	39	CDI	1999		46	44	40	20	29	37	43	50	55	64	46	44	40	46(-2;-6)	
10.8 (20) 8.8A	40	CDI	2001		45	44	40								45	44	40	45(-1;-5)	
10 (16) 16.8A	43	CDI	1998		45	43	40	25	31	38	43	44	49	62	45	43	40	45(-2;-5)	

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Sonair 3

Acoustic (sound attenuating) filtered air supply units

For use fitted through walls

Sonair 3 provides mechanical input ventilation when switched on, when switched off provides background trickle ventilation which includes a controllable shutter.

It is designed with sound attenuating features to reduce noise transferring from outside to inside the home

Sonair 3 is a wall mounted input fan featuring a detachable remote control with an LED speed indicator.

- Sonair 3 ventilates and filters the air
- Independently tested for acoustic performance
- Exceptional sound attenuation (up to 58dB)
- Air cleaning
- Low energy

Sonair 3



Features & Benefits

- Meets guidelines for occupant accessibility
- Increase occupant awareness of system operation
- Discreet design
- power lead is 1.8m long and fitted with a 3 pin plug
- Supplied with a flexible 1.8m long cable with a 13 amp 3 pin plug fitted with a 3 amp fuse

Performance

Approximate input airflow rate (m^3/h) – 20-150 m^3/h

Acoustic $D_{n,e,w} (v, \cdot) - D_{n,e,w} (C; Ctr) 58(-1;-2)dB^*$

Tested to the 'Noise Insulation Regulations'.

Background ventilation rate of 2400EA when the unit is switched off, recirculation flap closed and with the shutter open

*Sound insulating tube D100 required

Product	Product Code
Sonair 3 including G4/ISO Coarse 60%	352004
Sonair 3 Filter G4/ISO Coarse 60%	535083
Sonair 3 Sound Insulating Tube D100	110361
100mm dia (non-sound insulating) duct 350mm long	8960097
White external grille	8960105
Brown external grille	8960102
Beige external grille	8960103

All items supplied separately

Control

The Sonair 3's portable remote control lets you control the amount of freshly supplied outdoor air. The Sonair 3 has 10 ventilation settings.

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