



Ancoats Mobility Hub

Planning Condition Discharge (Noise)

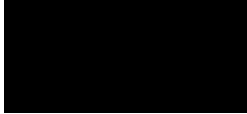
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REVISION HISTORY

Revision	Date	Revision Details	Author	Checked
R01	23/06/2025	Original Issue	 Ben Tomlin BSc MIOA	 Susan Witterick BSc MIOA

2 INTRODUCTION

- 2.1 dBx Acoustics has been appointed by Popup Bikes Ltd to discharge planning condition 17 associated with planning application reference 130627/FO/2021 for the ground floor commercial space at Ancoats Mobiliy Hub, Manchester M4 6BR.
- 2.2 This condition contains two elements; an assessment of the proposed scheme prior to occupation, and verification measurements once open. This report details the initial assessment only.
- 2.3 This report presents an assessment of the ground floor commercial space only, which is to be used as a cycle repair shop and café.
- 2.4 A glossary of acoustic terminology is presented in Appendix A.

3 BASIS OF ASSESSMENT

Manchester City Council

- 3.1 This report presents an assessment of noise impact in accordance with Condition 17 of planning application reference 138438/FO/2023, reproduced below:

‘17) (a) Notwithstanding the Noise Assessment prepared by Sandy Brown stamped as received by the City Council, as Local Planning Authority, on the 3 June 2021, prior to the first use of each the commercial unit as indicated on drawing 9032-BA-XX-00-DR-A-(04)000 Rev P0 stamped as received by the City Council, as Local Planning Authority, on the 3 June 2021, a scheme of acoustic insulation for that commercial unit shall be submitted for approval in writing by the City Council, as Local Planning Authority.

Where entertainment noise is proposed the LAeq (entertainment noise) shall be control led to 10dB below the LA90 (without entertainment noise) in each octave band at the façade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63HZ and 125Hz octave frequency bands shall be controlled so as not to exceed (in habitable rooms) 47dB and 41dB, respectively

(b) Prior to the first use of the commercial unit, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. A verification report and measures shall be agreed until such a time as the development complies with part (a) of this planning condition.

Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.

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)”

3.2 The use of the space has been described by the proprietor as follows;

"We provide maintenance, servicing and repairs of bicycles and then sale of coffee, hot drinks and snacks (with no cooking on the premises. I would say the loudest thing we have is the air compressor which is a Vevor 25L Portable Air Compressor operating at 58dB. We use this maybe 4 or 5 times a week for tubeless tyre seating. The rest of tools and machinery are hand tools (spanners, screwdrivers etc) with the occasional use of the grinder which is lower noise than the compressor.

Other noise would be general talking and the music in the cafe area which would be 'cafe style' to allow people to talk and chat"

3.3 The operating hours are;

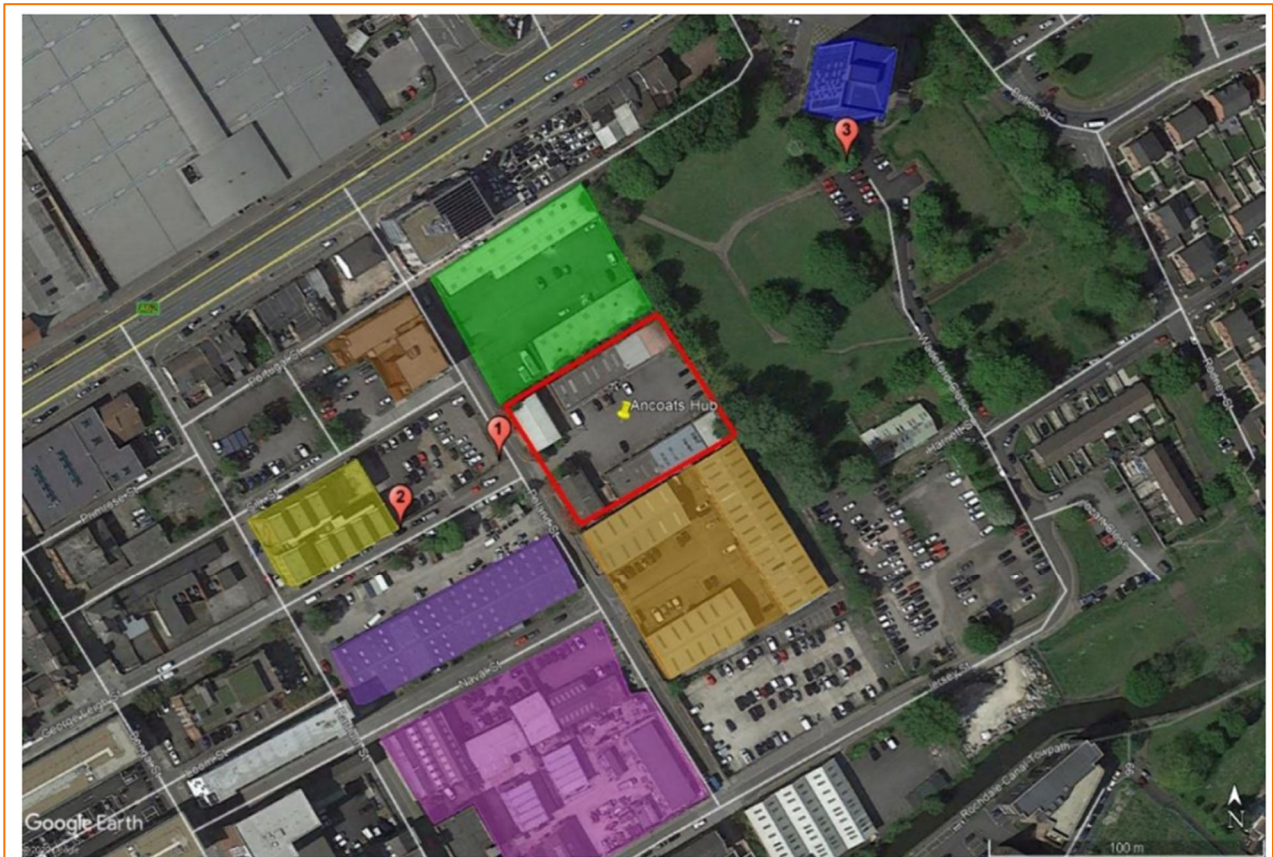
- Monday to Friday 7.30am to 7.30pm
- Saturday 9.00am to 5.00pm
- Sunday 10.00am to 4.00pm

3.4 These all fall within the daytime period (07:00h-23:00h).

4 SITE LOCATION AND NOISE CLIMATE

- 4.1 The café is located on the ground floor of a multi-storey car park on Poland Street, Ancoats, Manchester, M4 6BR.
- 4.2 A noise survey and assessment were undertaken in 2021 by Sandy Brown Acoustics (SBA), and detailed in their report ref 20291-R05-D, dated 27 May 2021, which forms the basis of this assessment.
- 4.3 Figure 1, below, shows the proposed café and the nearby noise sensitive receptors identified by SBA, at which background noise level measurements were undertaken.

Figure 1: Site Location Plan



- 4.4 A summary of the nearby premises are set out below in reference to Figure 1 (quoted from the SBA report):
 - 1. Residential premises at 11 Radium Street (highlighted in yellow)
 - 2. Residential premises at 2 Poland Street (highlighted in brown)
 - 3. Residential premises at Tribe Ancoats (highlighted in navy blue)
 - 4. Trading estate at City Court (highlighted in orange)
 - 5. Crown industrial estate (highlighted in green)
 - 6. Commercial area including site offices and depot (highlighted in pink)
 - 7. Factories on George Leigh St and Naval St (highlighted in purple).

- 4.7 The nearest residential building is 11 Radium Street, which is around 90m from the café, and completely screened by the structure of Ancoats Mobility Hub.
- 4.8 Based on the SBA noise survey, the daytime and evening background noise levels are consistently around $45\text{dB}_{\text{LA90,T}}$.

5 ASSESSMENT

- 5.1 It is understood that the repair activities will utilise hand tools only, with the occasional use of a compressor, which has a noise level of around 58dB (assumed to mean $58\text{dBL}_{\text{Aeq,T}}$ @ 1m).
- 5.2 This would therefore result in a total ambient noise level in the café of around $55\text{dBL}_{\text{Aeq,T}}$, albeit for short periods of time.
- 5.3 In terms of café activity noise levels, with the use of background music only, this would be expected to be no higher than around $65\text{dBL}_{\text{Aeq,T}}$ as an absolute worst case. For reference, BS8233:2014 “*Guidance on sound insulation and noise reduction for buildings*” states that typical ambient noise levels in a ‘restaurant’ are around $45\text{--}55\text{dBL}_{\text{Aeq,T}}$.
- 5.4 The glazing understood to have been installed comprises 9.5mm laminate glass/12mm argon/6mm glass, with a stated sound insulation performance of 36dBR_w . The doors would reduce this slightly. The composite sound insulation performance of the façade is assumed to achieve around 30dBR_w .
- 5.5 On this basis, calculations indicate that the noise level at the rear of nearest industrial building would be around $20\text{dBL}_{\text{Aeq,T}}$. This is around 25dB lower than the background noise level.
- 5.6 At the nearest residential receptor, the predicted noise level is below $5\text{dBL}_{\text{Aeq,T}}$.
- 5.7 On this basis, noise from the café would meet Manchester City Council’s criterion, and be completely inaudible at all nearby noise sensitive receptors.

6 SUMMARY AND CONCLUSION

- 6.1 dBx Acoustics has been appointed by Popup Bikes (PB) to discharge planning condition 17 associated with planning application reference 130627/FO/2021 for the ground floor commercial space at Ancoats Mobiliy Hub, Manchester M4 6BR.
- 6.2 This condition contains two elements; an assessment of the proposed scheme prior to occupation, and verification measurements once open. This report details the initial assessment only.
- 6.3 This report presents an assessment of the ground floor commercial space only, which is to be used as a cycle repair shop and café.
- 6.4 The nearest noise sensitive receptors are residential units, around 90m from the café, and completely screened by the Ancoats Mobility Hub. There are also industrial units around 13m from the café.
- 6.5 Based on information provided by the tenant, the noise level within the café would be no higher than around $65\text{dBL}_{\text{Aeq,T}}$. The glazing has a sound insulation performance of around 36dBR_w , although the door will reduce this to around 30dBR_w .
- 6.6 On this basis, the predicted noise level at the industrial units is around $20\text{dBL}_{\text{Aeq,T}}$. This is around 25dB lower than the background noise level.
- 6.7 At the nearest residential receptor, the predicted noise level is below $5\text{dBL}_{\text{Aeq,T}}$.
- 6.8 On this basis, noise from the café would meet Manchester City Council's criterion, and be completely inaudible at all nearby noise sensitive receptors.
- 6.9 The first part of Planning Condition 17 can therefore be discharged.

APPENDIX A – GLOSSARY OF ACOUSTIC TERMINOLOGY

Decibel, dB	A unit of level derived from the logarithm of the ratio between the value of a quantity and a reference value. For sound pressure level (L_p) the reference quantity is 2×10^{-5} N/m ² . The sound pressure level existing when microphone measured pressure is 2×10^{-5} N/m ² is 0 dB, the threshold of hearing.
L	Instantaneous value of Sound Pressure Level (L_p) or Sound Power Level (L_w).
Frequency	Number of cycles per second, measured in hertz (Hz), related to sound pitch.
A-weighting	Arithmetic corrections applied to values of L_p according to frequency. When logarithmically summed for all frequencies, the resulting single "A weighted value" becomes comparable with other such values from which a comparative loudness judgement can be made, then, without knowledge of frequency content of the source.
$L_{eq,T}$	Equivalent continuous level of sound pressure which, if it actually existed for the integration time period T of the measurement, would possess the same energy as the constantly varying values of L_p actually measured.
$L_{Aeq,T}$	Equivalent continuous level of A weighted sound pressure which, if it actually existed for the integration time period, T, of the measurement would possess the same energy as the constantly varying values of L_p actually measured.
$L_{n,T}$	L_p which was exceeded for n% of time, T.
$L_{An,T}$	Level in dBA which was exceeded for n% of time, T.
L_{Fmax}	The instantaneous maximum sound pressure level which occurred during the measurement. F indicates that the fast time-weighting is used.
L_{AFmax}	The instantaneous maximum A weighted sound pressure level which occurred during the measurement. F indicates that the fast time-weighting is used.
$L_{Ar,Tr}$	The rating level: the equivalent continuous A-weighted sound pressure level of the noise, plus any adjustment for the characteristic features of the noise.
Reverberation Time, T	The time that would be required for the sound pressure level to decrease by 60 dB after the sound source has stopped. The descriptor T, often includes other nomenclature to describe the type of reverberation time measurement or if the reverberation time is an average taken for specific frequencies. For example, a T_{mf} is the mid-frequency reverberation time.
Absorption Coefficient, α	The fraction of reverberant sound energy absorbed by a material. It is expressed as a value between 1.0 which equates to perfect absorption and 0 which equates to zero absorption.
Acoustic Class, A - E	Classification of sound absorbers into Sound Absorption Classes A-E, according to BS EN ISO 11654, including frequencies 200-5000 Hz
NRC	A single-number rating system used to compare the sound-absorbing characteristics of building materials. A measurement of the acoustical absorption performance of a material, calculated by averaging its Sound Absorption Coefficients at 250, 500, 1000 and 2000 Hz
STI	Speech Transmission Index , Metric ranging between 0 and 1 representing the transmission quality of speech with respect to intelligibility by a speech transmission channel
R	Sound Reduction Index , the laboratory measured sound insulation properties of a material or building element in octave or third octave bands.
R_w	Weighted Sound Reduction Index , a single number which represents the sound reduction of a material. It is derived by plotting the sound reduction index against a set of reference curves. The curves are shifted until a best-fit is established and the curve which best fits the sound reduction spectrum is used to represent the single figure value.
D_w	Weighted Level Difference , the weighted level difference between a pair of rooms, stated as a single figure.

D_{nT}	Standardised Level Difference, a frequency-dependent measurement of airborne sound insulation, calculated using the following formula: $D_{nT} = L_1 - L_2 + 10\log(T/T_0)$ dB Where: L_1 is the energy-averaged sound pressure level due to the pink noise source measured in the source room using a sweep technique. L_2 is the energy-averaged sound pressure level measured in the receiving room using a sweep technique. T is the mean receiving room reverberation time (derived from T_{30} measured in seconds). T_0 is the reference reverberation time (= 0.5s for dwellings).
$D_{nT,w}$	Weighted Standardised Level Difference, a single-figure value of airborne sound insulation performance, derived according to procedures in BS EN ISO 717-1, based on the D_{nT} values at different frequencies (100-3150 Hz third octave bands).
$D_{nF,w}$	Weighted, Normalised Flanking Level Difference, the normalised, weighted difference in sound level between a pair of rooms via a flanking element, such as mullion or ceiling detail. The level difference in octave bands is first normalized to a reference amount of absorption and then plotted against a set of reference curves to establish a single figure value.
D_{ne}	Normalised Element Level Difference. The normalised difference in sound level between a pair of rooms via a small element such as a trickle ventilator. The level difference in octave bands is normalized to a reference amount of absorption.
$D_{n,e,w}$	Weighted, Normalised Element Level Difference. The normalised, weighted difference in sound level between a pair of rooms via a small element such as a trickle ventilator, stated as a single figure. The level difference in octave bands is normalized to a reference amount of absorption and then plotted against a set of reference curves to establish a single figure value.
C_{tr}	Spectrum Adaptation Term, a correction term applied to the sound insulation single-number values (R_w, D_w, and $D_{nT,w}$) in accordance with BS EN ISO 717-1. Applying the C_{tr} penalises a construction's performance if its low frequency performance is poor in relation its performance at higher frequencies.
Impact Sound	The noise generated by an impact on a structure. This is normally used to describe the noise created by people walking or moving furniture on a floor structure.
L_{nT}	Standardised Impact Sound Pressure Level, a frequency dependent measurement of impact sound insulation, calculated using the following formula: $L_{nT} = L_1 + 10\log(T/T_0)$ dB Where: L_1 is the mean sound pressure level due to the tapping machine measured in the receiving room using a sweep technique. T is the mean receiving room reverberation time (derived from T_{30} measured in seconds). T_0 is the reference reverberation time (0.5s for dwellings)
$L'_{nT,w}$	Weighted Standardised Impact Sound Pressure Level, a single-figure value (@ 500 Hz) of impact sound insulation, performance, derived according to BS EN ISO 717-2, based on the L_{nT} values at different frequencies (100Hz- 3150 Hz third octave bands).
Insertion Loss, IL	The reduction of noise level due to the presence of a noise control device such as an attenuator, excluding any regeneration noise created by its presence.
NR	The Noise Rating level. This is a single figure value derived by plotting a noise spectrum against a set of curves. The curve under which the spectrum fits is the resulting NR level.

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