



Acoustic & Engineering Consultants Limited

Suite 316, 3rd Floor, Broadstone Mill, Broadstone Road, Stockport, SK5 7DL
Telephone 0161 449 5900 mail@aecltd.co.uk www.aecltd.co.uk

Ref: P4510/L01/RDC

09 August 2022

To:	Nick Muir	of:	Salthouse Pub Company Ltd
Cc:	As per email distribution list	of:	

Dear Nick

Café / Restaurant at 437 Wilmslow Road, Withington, Manchester – Verification of Noise Level Limits

Further to AEC's site visit on Monday 8 August 2022 to carry out a noise assessment to verify appropriate internal operating noise levels at the above development, please find my comments below.

Introduction & Criteria

The above development has undergone a material change of use from a bank into a new restaurant / café. Following the noise assessment that was issued in relation to the proposed development (AEC Ref: P4510/R1b/RDC, dated 22 March 2022), planning conditions were placed on the scheme by Manchester City Council (MCC) that related to ensuring that internal operating noise level limits within the venue were set, in order to limit noise breakout.

These noise level limits were based on achieving the following two criteria, as per MCC's document, *Planning & Noise – Technical Guidance (P&NTG)* (2015):

Criteria 1

In relation to locations that are structurally connected, PNTG states that:

"Music noise levels in the 63Hz and 125Hz octave centre frequency bands (L_{eq}) should be controlled so as to not exceed (in habitable rooms) 47dB and 41dB (L_{eq}), respectively".

Criteria 2

In relation to locations that are not structurally connected, PNTG states that:

"Entertainment noise (LA_{eq}) should be controlled to 10dB below the background noise level (LA_{90}) without the entertainment noise present, in each octave band at the nearest noise sensitive location".

In relation to Criteria 1, the proposed development shares a separating wall with 2 Swinbourne Grove and, therefore, this criterion is applicable. For Criteria 2, there is a four-storey apartment block at 4 Swinbourne Grove that is approximately 2m away to the west of the proposed development and this criterion will be applied here.

It is understood that the proposed development will play low level background music noise and any assessment of proposed operating noise level limits has been based on this.

Noise Survey & Assessment

Both sets of Criterion have been discussed separately, below.

Criteria 1

In order to determine suitable operating noise level limits within the proposed development, AEC attended site on Monday 8 August 2022. Measurements were undertaken both inside the proposed restaurant / café and within two of the rooms that share a separating wall within 2 Swinbourne Grove.

To begin with, a suitable operating music noise level within the restaurant / café was set and the ambient noise level measured (and the corresponding frequency spectrum) during this is presented in Table 1, below.

Table 1 – Internal Noise Level Limits within Restaurant / Café

Source Type	Overall, dB(A)	Noise Level, dB @ Octave Band Centre Frequency, Hz							
		63	125	250	500	1k	2k	4k	8k
Ambient, L_{eq}	76	64	70	71	73	73	64	55	50

With this music noise playing, ambient noise levels within the two rooms of 2 Swinbourne Grove were both 33dB $L_{Aeq,30s}$ (during the same chorus of song).

In the absence of any music noise, the contributing noise source within the rooms of 2 Swinbourne Grove was intermittent road traffic. Therefore, the above measurements were undertaken during periods when no road traffic passed by in order to form a robust assessment.

The measured ambient noise level frequency spectrums for these measurements is presented in Table 2, below, alongside the MCC criteria to not exceed 47dB and 41dB in the 63Hz and 125Hz frequency bands, respectively.

Table 2 – Noise Level Limits within 2 Swinbourne Grove

Element	Noise Level, dB @ Octave Band Centre Frequency, Hz							
	63	125	250	500	1k	2k	4k	8k
Room 1 – 2 Swinbourne Grove	40	34	34	30	29	23	16	13
Room 1 – 2 Swinbourne Grove	43	33	34	30	29	25	18	13
MCC Noise Level Limit	47	41	-	-	-	-	-	-

As identified in Table 2, the above noise level limits were not exceeded in either the 63Hz or 125Hz frequency bands. As a result, by ensuring that the ambient noise level spectra do not exceed the levels presented in Table 1, the MCC criteria will not be exceeded. In order to ensure this, a limiter has been installed on-site and set to these levels.

It should be noted that the rooms within 2 Swinbourne Grove were still undergoing refurbishment works and, therefore, once furnished, noise levels as a result of music noise from the proposed development could be 3dB lower in these rooms. Therefore, it may be possible to increase the noise levels presented in Table 1, however, a further assessment would be required.

Criteria 2

During the above site survey, with the same operating noise level presented in Table 1, above, noise levels were measured externally to 4 Swinbourne Grove, with and without the music noise playing.

In the absence of music noise playing, ambient and background noise levels were 56dB_{LAeq,30s} and 53dB_{LA90,1m}, respectively. The prevailing noise climate was entirely due to distant road traffic and plant noise.

With the music noise switched on and set to the levels presented in Table 1, ambient noise levels remained unchanged and were 56dB_{LAeq,30s} and the music noise was inaudible.

As music noise was inaudible against the prevailing noise climate, they are in effect 10dB quieter than those without music noise playing. Therefore, calculations have been undertaken to determine the noise level breaking out from music noise and these indicate that noise levels would be no greater than 43dB_{LAeq,T} external to the receptor at 4 Swinbourne Grove.

A comparison of the frequency spectra for the determined noise level breaking out from the proposed development with music playing, against the frequency spectra of the prevailing background noise level without music playing, is presented in Table 3, below. The calculations have been based of SRI data of standard wall constructions as well as single glazing with a sound insulation performance of 29dB_{Rw}.

Table 3 – Noise Level Breakout to 4 Swinbourne Grove

Element	Noise Level, dB @ Octave Band Centre Frequency, Hz							
	63	125	250	500	1k	2k	4k	8k
Determined Breakout Noise, L _{Aeq} (Music Playing)	37	38	35	31	25	15	13	13
Existing Background Noise Level, L _{A90} (No Music Playing)	53	48	52	49	47	44	38	27
Exceedances	16	10	17	18	22	29	25	14

As identified in Table 3, above, in all frequency bands, entertainment noise has been appropriately controlled to be 10dB below the existing background noise level at the receptor. As a result, Criteria 2 of MCC's requirements has been met.

Summary & Conclusions

Based on the above assessment, an appropriate noise level limit has been set for amplified music noise within the proposed development that would ensure that the Manchester City Council criteria would not be exceeded. With the use of a limiter installed on-site, these noise level limits cannot be exceeded.

Yours sincerely



Ross Chamberlain

Checked by: DMT