VALIDATION TESTING TECHNICAL LETTER

Our Ref: 7888PG

To: Pegasus Planning Group Ltd.

From: Mr. Michael Caley, MSc, MIOA, Acoustic Consultant

Approved By: Mr. A T Martin, MSc, MIOA, MIET, MInstSCE, MCIEH, Director

Date: 09/06/2022

Subject: Validation Testing for the Noise Breakout from a Restaurant / Take Away Development

Site Address: 75 Deansgate, Manchester, M3 2BW

Brief:

NOVA Acoustics Ltd has been commissioned to measure and assess the breakout noise emissions from the restaurant / takeaway development at 75 Deansgate, Manchester, M3 2BW. The applicant has received conditional planning approval for application 124440/FO/2019 – '*Change of use to restaurant and hot food takeaway (sui generis) and the installation of an extraction and ventilation system'* from Manchester City Council. The following planning condition requires discharging:

"8.) Prior to first occupation, the premises shall be acoustically insulated and treated to limit the breakout of noise in accordance with a noise study of the premises and a scheme of acoustic treatment that has been submitted to and approved in writing by the City Council as local planning authority. 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.

Where entertainment noise is proposed the LAeq (entertainment noise) shall be controlled to 10dB below the LA90 (without entertainment noise) in each octave band at the facade 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.

Upon completion of the development a verification report will 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 acceptable criteria has 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 safeguard the amenities of the occupiers of nearby properties in accordance with saved policy DC26 of the Unitary Development Plan for the City of Manchester and policies SP1 and DM1 of the Core Strategy."

The purpose of this technical letter is to assess whether the development complies with the condition shown above.

Breakout Noise Assessment:

Specific Noise Level

Spot measurements were taken on 26/05/22 within the restaurant and directly in front of the main entrance. The microphone of the sound level meter was placed at a height of approximately 1.5m, and at least 1m from any walls or other large reflective surfaces. During the measurement periods, music was played at typical operational levels through the in-house sound system. The sound system comprises of one small Bose speaker

which is used to play background music at relatively low levels. Measurements were also taken with the music turned off in order to calculate the specific noise breakout. The results are shown in the table below.

Noise Breakout and Internal Noise Levels								
Description	**Octave Band $L_{eq,t}$ (Hz, dB)**							**$L_{Aeq,t}$ (dB)**
	63	**125**	**250**	**500**	**1k**	**2k**	**4k**	
Internal Noise Level in Restaurant	63.0	65.0	64.0	63.0	65.0	60.0	55.0	68.0
External Noise Level Infront of Doorway (Music Playing)	60.0	54.0	54.0	52.0	51.0	48.0	42.0	55.0
External Noise Level Infront of Doorway (Music Not Playing)	57.0	53.0	53.0	50.0	47.0	44.0	41.0	52.0
Calculated Specific Noise Level Infront of Doorway (Music Playing)	57.0	47.0	47.0	48.0	49.0	46.0	35.0	52.0

Table 1.0 – Noise Breakout and Internal Noise Levels

Background Noise Levels

The octave band background noise levels that will be used in the assessment will be taken from the original acoustic report for the development (ref: 4801PG). The background noise levels can be seen in the table below.

Background Noise Levels								
Description	**Octave Band $L_{90,t}$ (Hz, dB)**							**$L_{A90,t}$ (dB)**
	63	**125**	**250**	**500**	**1k**	**2k**	**4k**	
Background Noise Levels – 30/09/18 – 21:00 to 00:00	57.0	53.0	52.0	49.0	45.0	40.0	33.0	51.0

Table 2.0 – Octave Band Background Noise Levels

Analysis

The closest NSR (Noise Sensitive Receptor) is thought to be a minimum of 7m from the restaurant. The calculated breakout noise levels at the closest NSR are compared with the background noise levels in the table below.

Breakout Noise Analysis								
Description	**Octave Band $L_{eq,t}$ (Hz, dB)**							**$L_{Aeq,t}$ (dB)**
	63	**125**	**250**	**500**	**1k**	**2k**	**4k**	
Calculated Specific Noise Level Infront of Door (Music Playing)	57.0	47.0	47.0	48.0	49.0	46.0	35.0	52.0
Distance Correction (7m)	-17.0	-17.0	-17.0	-17.0	-17.0	-17.0	-17.0	-17.0
Noise Level at NSR	40.0	30.0	30.0	31.0	32.0	29.0	18.0	35.0
Background Noise Level (L_{90})	57.0	53.0	52.0	49.0	45.0	40.0	33.0	51.0 (L_{A90})
Exceedance of Background Noise Level	-17.0	-23.0	-22.0	-18.0	-13.0	-11.0	-15.0	-16.0

Table 3.0 – Breakout Noise Levels

Discussion

As can be seen in the table above, the breakout noise from the development is a minimum of 11 dB below the background noise levels in all octave band frequencies. Further to this, the measured noise levels are below the Moorhouse curve in the 63Hz and 125Hz frequency bands, and when considering the attenuation provided by a partially open window (-15 dB according to BS8233:2014), any low frequency noise breaking out of the development is expected to be inaudible within any nearby residential property. This is compliant with Condition 8 of the approved planning application, and as such, it is thought that the condition should be discharged.

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