1. INTRODUCTION

This document has been prepared to provide details of the Noise emissions from the proposed develpoment

2. PLANNING CONDITION 12 : Acoustic Insulation of Plant

Prior to occupation of the development a scheme for the acoustic insulation of any plant or externally mounted ancillary equipment to ensure that it achieves a background noise level of 5dB below the existing background (La90) in each octave band at the nearest noise sensitive location 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 equipment. The approved scheme shall be implemented prior to occupancy and shall remain operational

3. Specialist Report Completion

To ascertain all noise sources by building services throughout the building an acoustic design report was completed by by Sixense 26th August 2020. Document Reference SIX-M&R-SXA002-TRP-0004-00

The report presents findings of the noise level criteria limits thoughtout the day/night time on all areas of the building.The report should be read in conjunction with this statement ensuring all plant noise emissions are adhered to. Please refer to the report.P

The report presents findings of the external background noise levels and sets out the mechanical plant noise emission Limits for La90 day time & night time free-field sounds levels. Refer to extracts below item 1 & the conclusion item 2.

Item 1.

Table 3.1: Baseline Noise Levels

Parameter	Free-Field Sound Levels (Ref 2 X 10^{-5} Pa)
$L_{Aeq,16hr}$ Day	68 dB
$L_{Aeq,8hr}$ Night	62 dB
Typical $L_{AF90,16hr}$ Day	59 dB
Typical $L_{AF90,8hr}$ Night	52 dB

The $L_{A90,T}$ background sound level is the sound level exceeded for 90% of the time in the absence of any sound from the specific source of interest.

The "typical" background sound levels as described in BS 4142:2014 have been established for the purposes of this noise assessment, from the $L_{A90,15min}$ measurement data at the unattended monitoring location. In practice, there is no single level for a background sound level as this is a fluctuating parameter, although the Standard recommends that a representative value for the period should be used, noting that this is not usually the lowest value of $L_{A90,15min}$.

The free field background sound levels measured at LT1 during the daytime (07:00 to 23:00) ranged between 52 and 66 dB $L_{A90, 15min}$. The daytime background sound level adopted for the purpose of this assessment is 59dB $L_{A90, 15min}$.

The free field background sound levels measured at LT1 during the night-time (23:00 to 07:00) ranged between 47 and 56 dB $L_{A90, 15min}$. The night-time background sound level adopted for the purpose of this assessment is 52 dB $L_{A90, 15min}$.

The adopted background sound levels for the daytime and night time periods are considered representative for all noise sensitive receptors pertinent to this assessment.

Item 2.

6 CONCLUSIONS

As part of the ongoing acoustic design for Maldron Hotel, Charles Street, Manchester, Sixense has been appointed by McAleer & Rushe to undertake an assessment of the proposed MEP services to ensure that the requirements of the planning condition 12 for external noise emissions are met.

Details for MEP have been provided by Caldwell Consulting including drawings, schedules and equipment selections. It is noted that this report specifically deals only with the external noise levels from MEP plant. All assessments pertaining to internal emissions are dealt with in a separate report.

This noise assessment considers the following aspects:

- Manchester City Council Plant emission requirements (condition 12)
- Proposed MEP services in terms of equipment selections, general arrangements etc.
- Calculation of resultant noise levels at nearest sensitive occupancies from proposed MEP services specific to ventilation and AC units.
- An assessment of noise levels using the criteria in relevant standards (BS4142), to predict whether noise impacts are likely and recommend mitigation measures as practicable.

Based on the above, assessments of noise emissions of the proposed development have been undertaken and mitigation measures, where required, have been proposed. The resulting calculated levels indicate that the plant emission limits as set by condition 12 are met at all noise sensitive receptors.

4. PROPOSAL

It is our proposal to ensure that all external plant is specified and installed within the limits measured by the Sixense Acoustic Design Report.

The following measures will be employed:

Kitchen extract will terminate a roof level with acoustic attenuation on discharge and break out noise from mechanical fans will be restricted.

Air conditioning condensers mounted externally on the roof will be selected to minimise noise emissions and fall below the required levels. Condensers will be located in the centre of the building to maximise separation distance from surrounding buidings.

External Louvres where required will have acoustic attenuators and isolate the break out noise from fans and internal building noise to the external building envelope.

Boiler plant shall be installed within the building fabric at roof level. Flue systems will discharge at roof level and be designed to operate within required limits.

Please refere to the acoustic report attached stating a full acompliance with planning condition 12.

SIGNED *Dermot Mc Laughlin*

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