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Our ref: P3548/L07/RDC
Your ref:

18 October 2019

Mr N Muir
Edinburgh Castle
Native Leisure
17 Blossom Street
Manchester
M4 5AN

Dear Steve,

Edinburgh Castle Public House, Blossom Street – Plant Noise Assessment

Acoustic and Engineering Consultants Limited (AEC) has been appointed by Edinburgh Castle to undertake a plant noise assessment of the proposed kitchen extract fan to be installed at the Edinburgh Castle public house, 17 Blossom Street, Manchester.

This report considered the baseline noise levels measured by others and provides an assessment of the potential impact of the noise source considering relevant guidance and the Local Authority's requirements.

The noise level limit used in this assessment is presented in Hepworth Acoustics Noise Impact Assessment report P15-360-R01v1, dated July 2015.

This noise impact assessment is required to accompany a planning application to Manchester City Council (MCC) and is presented below.

Introduction

Based on the information provided, it is understood that the kitchen extract fan will exhaust via a roof top flue. The proposed location is identified on Figure 1.

AEC understands that the units could operate between 1100 to 2200h, Monday to Sunday.

Following a review of the site it would appear that the nearest noise sensitive properties to the flue are part of the new residential development across Henry Street, to the south, and would be around 8m from the flue.

Acoustic terminology is presented in brief in Appendix A.

Previous Noise Assessment and Noise Level Limit

Hepworth Acoustics measured noise levels around the proposed development site between approximately 1600h on Wednesday 15 July 2015 and 1530h on Thursday 16 July 2015.

Based on these measured background noise levels and guidance presented in Manchester City Council document GD 03 '*Environmental and Public Protection Information for Developers'* (v1.01) dated February 2014, Hepworth Acoustics state that noise from plant should not exceed 42dB$L_{Aeq,T}$ external to the nearest noise sensitive receptor during the daytime period.

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Proposed Plant Noise Levels and Assessment

Based on the information provided by ACE Mechanical Services, it is understood that the kitchen extract fan will emit a sound pressure level of 55dBA at 1m.

The calculated free-field noise level external to the nearest noise sensitive receptor (8m away), taking into account distance attenuation of -18dB, would be around 37dB$L_{Aeq,T}$.

Comparing this level with the noise level limit presented in the Hepworth Acoustics report of 42dB$L_{Aeq,T}$, indicates that noise from the kitchen extract fan would be suitably controlled, and therefore, comply with Manchester City Councils requirements.

I trust the above is clear and of assistance at this stage, however, if you have any queries please give me a call.

Yours sincerely

Ross Chamberlain

Checked by PJK

FIGURE 1 – Existing Site Showing Monitoring Locations



APPENDIX A – Acoustic Terminology in Brief

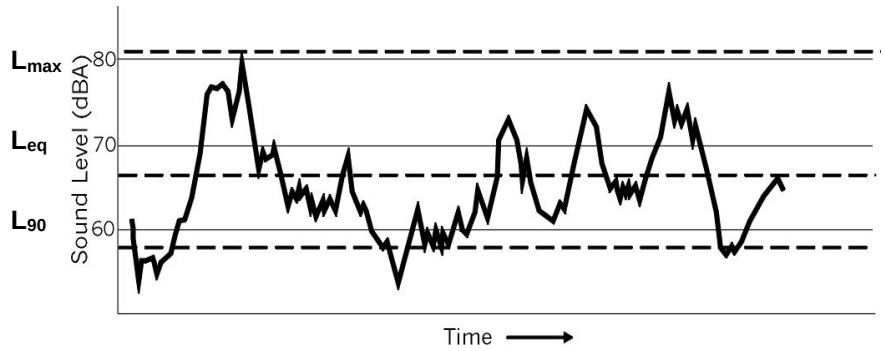
Sound is produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air. The rate at which the pressure fluctuations occur determines the pitch or *frequency* of the sound. The frequency is expressed in Hertz *(Hz)*, that is, cycles per second. The human ear is sensitive to sounds from about 20 Hertz to 20,000 Hertz. Although sound can be of one discreet frequency - a 'pure tone' - most sound is made up of many different frequencies.

The human ear is more sensitive to some frequencies than others, and modern instruments can measure sound in the same subjective way. This is the basis of the A-weighted sound pressure level *dBA,* normally used to assess the effect of noise on people. The dBA weighting emphasises or reduces the importance of certain frequencies within the audible range.

Sound Units

In order to assess environmental noise, measurements are carried out by sampling over specific periods of time, such as fifteen minutes or one hour, the statistically determined results being used to quantify various aspects of the sound.

The figure below shows an example of sound level varying with time. Because of this time variation the same period of sound can be described by several different levels. The most common of these are described below. It should be noted that in many instances in the main body of text, the unit will be proceeded by a dB descriptor in the report e.g. $L_{Aeq,T}$ could be written dB$L_{Aeq,T}$



Example of Sound Level Varying With Time

$L_{Aeq,T}$ The equivalent continuous (A-weighted) sound level. It may be thought of as the "average" sound level over a given time, T. It is used for assessing noise from various sources: industrial and commercial premises, construction sites, railways and other intermittent noises and can be considered as the "ambient" noise level.

$L_{A90,T}$ The (A-weighted) sound level exceeded for 90% of a measurement period. It is the value often used to describe background noise.

L_{Amax} The maximum (A-weighted) sound level measured during a given time. 'Fast' or 'Slow' meter response should be cited.

Free-field Level This refers to the sound level measured outside, away from reflecting surfaces.

Façade Level This refers to the sound level measured outside, at 1m from a hard reflecting surface, typically 3dB greater than the free-field level.