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Date: 7th April 2025
Reference: R11044-1 Rev 1

Dear Ben,

RE: 24-28 Bloomsbury Way, London – Updated Terrace Assessment

I am pleased to provide our technical summary relating to the acoustic assessment of the new terrace barrier fence proposed at the above site.

1.0 SITE DESCRIPTION

1.1 24-28 Bloomsbury Way is a five-storey office building located to the north of the A40, opposite Barter Street, within the London Borough of Camden.

1.2 The site has consent (ref. 2023/5351/P) to construct a new terrace on the roof of the fourth floor to provide an outdoor seating space for office users and neighbouring residents. Figure 1 shows the site layout.

1.3 It is proposed to amend the noise barrier which was included in the consented application due to concerns with wind loading associated with the solid barrier.

2.0 ALTERNATIVE BARRIER ASSESSMENT

2.1 Instead of a solid barrier it is proposed to use a hit & miss fencing system which meets the below criteria:

- Minimum 1.8 m height above terrace;
- The fence will be made up of horizontal slats;
- Fence will be continuous around the perimeter of the terrace with no breaks in the structure (as shown in Figure 1). Where the fence meets the existing brick walls it will be fitted up to the brick with no gap between the fence and the walls;
- Each 300mm tall horizontal slat will overlap the adjacent slats by a minimum of 30%;
- The gap between the front and back slats will not be more than 100 mm;
- The inside of the external slats (facing the terrace) will be covered in a Class A absorptive material.

2.2 A drawing describing the construction of the new fence is shown in Figure 2 with the extent of the fence shown in Figure 1.

2.3 Calculations have been undertaken based on the proposed barrier construction and the reduced capacity of the terrace (44 people, down from 48).

2.4 Calculations have been undertaken to predict the noise level from people on the proposed roof terrace, based on the following source noise levels, with reference to the definitions in ANSI S3.5.

- A single 'normal' voice sound pressure level of 60 dBA at 1 m;

2.5 Noise levels have been calculated at the windows of the nearest residential properties at the Russell Chambers building and on Bloomsbury Square, taking into account losses due to distance (approximately 15 m and 20 m from centre of the terrace, respectively) and acoustic screening. The terrace has seating capacity for up to 44 people. The calculations have assumed full capacity, and that approximately 50% of the people (i.e. 22 people) would be talking with raised voices at a time. This is considered a reasonable assumption for when the terrace is fully occupied.

2.6 The results of the calculations are summarised in Table 1 below, compared to the measured existing ambient noise levels during the proposed operating hours.

Location	**Ambient Noise Level (dB L_{Aeq})**	**Predicted Noise Level (dB L_{Aeq})**	**Resultant Noise Level (dB L_{Aeq})**	**Increase (dB L_{Aeq})**
Russel Chambers	52.0	40.9	52.3	**0.3**
Bloomsbury Square	52.0	38.4	52.2	**0.2**

Table 1: Assessment of Speech Noise Levels

2.7 The results in Table 2 demonstrate that the increase in noise level, from people using the proposed terrace during the proposed operating hours, would be less than 0.5 dBA at the nearest residential receptors, which is negligible. The predicted increase in noise level is the same or lower than those predicted for the lower, consented fence and hence acceptable.

I trust the above is in order. Please feel free to get in touch if you have any questions.

Yours sincerely,

For 24 Acoustics Ltd

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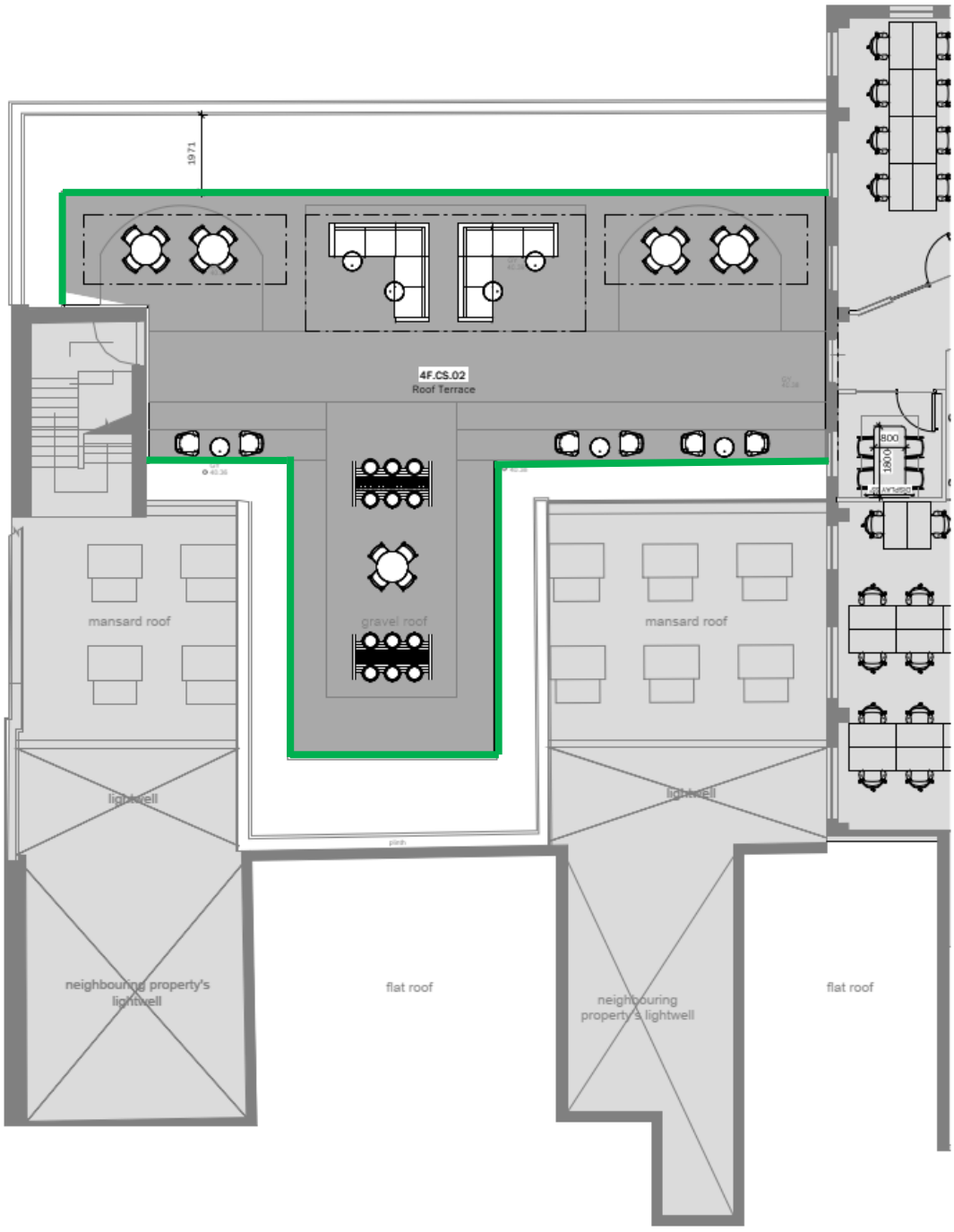
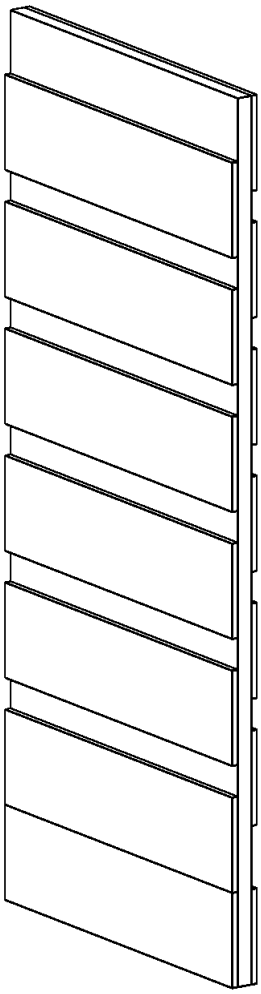


Extent of Fence Around Terrace

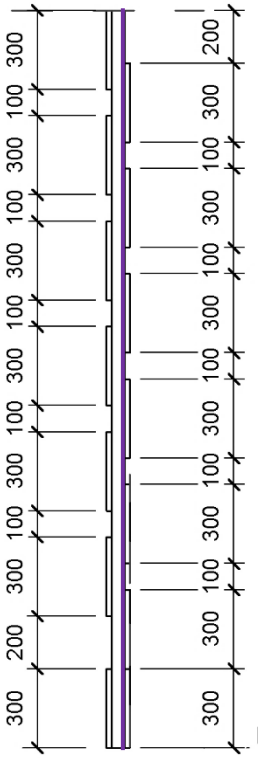
Project: 24-28 Bloomsbury Way, London	**Title**: Terrace Layout & Extent of Fence	
DWG No: Figure 1	**Scale:** N.T.S.	**Rev**: 0
Date: April 2025	**Drawn By:** MH	**Job No**: 11044

Front View



Extent of Absorption

Terrace



Shared Lightwell

Side View

Project: 24-28 Bloomsbury Way, London	**Title**: Proposed Alternative Fence Construction	
DWG No: Figure 2	**Scale:** N.T.S.	**Rev**: 0
Date: April 2025	**Drawn By:** MH	**Job No**: 11044

APPENDIX A: ACOUSTIC TERMINOLOGY

Noise is defined as unwanted sound. The range of audible sound is from 0 to 140 dB. The frequency response of the ear is usually taken to be around 18 Hz (number of oscillations per second) to 18000 Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than the lower and higher frequencies and because of this, the low and high frequency components of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most widely used and which correlates best with subjective response to noise is the dBA weighting. This is an internationally accepted standard for noise measurements.

For variable sources, such as traffic, a difference of 3 dBA is just distinguishable. In addition, a doubling of traffic flow will increase the overall noise by 3 dBA. The 'loudness' of a noise is a purely subjective parameter, but it is generally accepted that an increase/ decrease of 10 dBA corresponds to a doubling/ halving in perceived loudness.

External noise levels are rarely steady, but rise and fall according to activities within an area. In attempt to produce a figure that relates this variable noise level to subjective response, a number of noise indices have been developed. These include:

i) The L_{Amax} noise level

This is the maximum noise level recorded over the measurement period.

ii) The L_{Aeq} noise level

This is "equivalent continuous A-weighted sound pressure level, in decibels" and is defined in British Standard BS 7445 as the " value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time internal, T, has the same mean square sound pressure as a sound under consideration whose level varies with time".

It is a unit commonly used to describe construction noise and noise from industrial premises and is the most suitable unit for the description of other forms of environmental noise. In more straightforward terms, it is a measure of energy within the varying noise.

iii) The L_{A10} noise level

This is the noise level that is exceeded for 10% of the measurement period and gives an indication of the noisier levels. It is a unit that has been used over many years for the measurement and assessment of road traffic noise.

iv) The L_{A90} noise level

This is the noise level that is exceeded for 90% of the measurement period and gives an indication of the noise level during the quieter periods. It is often referred to as the background noise level and is used in the assessment of disturbance from industrial noise.