SANDY BROWN
Consultants in Acoustics, Noise & Vibration

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Tribeca Plot B & C
Planning Condition 34
Building envelope sound insulation - residential

This memo provides an overview of the design proposals relating to the sound insulation performance of the building envelope in residential areas of Plot C2.

Planning condition

Camden Council have granted planning permission for the development subject a number of planning conditions. Planning condition 34 relates to the residential dwellings in Plot C2 and states:

> *"Prior to commencement of above ground works to Plot C of the relevant buildings, detailed technical specifications of the building envelope (glazed and non-glazed elements) shall be submitted to and approved in writing by the local planning authority. The assessment shall include full details of the proposed building construction and composite façade calculations to predict the internal noise level in habitable rooms. Internal noise levels in habitable rooms hall comply with BS8233:2014 and Appendix 3: Noise Thresholds of the Local Plan."*

Criteria

Sound insulation performance requirements for the building envelope have been set out in Sandy Brown report *22293-R05-B Stage 4 Acoustic design report*.

The requirements have been set to achieve the internal noise level limits set out in BS 8233: 2014 and in line with Camden Council requirements.

The sound insulation performance requirements have been determined based on the results of site surveys and noise modelling to determine the external noise levels at the facade of the proposed development.

The dwellings are to be mechanically ventilated so there are no passive ventilation openings.

The minimum facade sound insulation performance requirements to be achieved to the residential dwellings in Plot C2 are given in Table 1.

Table 1 Residential Facade sound insulation performance requirements

Level	Room type	Minimum sound insulation performance	
		Building fabric $R_w + C_{tr}$ (dB)	Glazing $R_w + C_{tr}$ (dB)
1,2	Bedroom	45	34
	Living room	45	32
3,4,5	Bedroom	45	32
	Living room	45	30
6,7,8,9,10	Bedroom	45	30
	Living room	45	27

Studio flats have been assessed as bedroom spaces, and the glazing for these units shall be compatible with the sound insulation performances specified for bedrooms.

The development includes several bedroom and living room doors leading to terraces, the performance of these doors is also required to be compatible with the corresponding glazing sound insulation performances listed in Table 1.

Proposals

Building fabric

The solid elements of the external facade of Plot C2 are set out to follow:

- 102 mm clay bricks with cavity wall ties
- 80-220 mm mineral fibre slab insulation
- 200 mm light steel framing system with 1 x 12 mm sheathing board, 85 mm mineral wool insulation and 1 x plasterboard internal lining (consisting of 1 layer of 15mm Gtec DB board either side of a 65mm C stud)
- 1 x independent plasterboard lining forming a 65 mm cavity

Based on the above build-up the solid facades are expected to achieve a sound insulation performance in excess of $R_w + C_{tr}$ 60 dB and will therefore provide the required sound insulation performance for the solid facade.

Glazing and external doors

The minimum performance requirements set out in Table 1 form part of the Employers Requirements for the project to be provided by the contractor, Ardmore.

The requirements are not particularly onerous. The lowest performance requirements of $R_w + C_{tr}$ 27 dB can be achieved by standard thermal double glazing. The highest performance requirement of $R_w + C_{tr}$ 34 dB can be achieved with 8.8 mm acoustic laminate glass/16 mm cavity/10 mm glass or similar, which can be accommodated in a standard depth window profile.

Given the early stage of construction, specific glazing selections have not yet been made. These will be selected to achieve the minimum acoustic performances set out in the Employers Requirements, as well as the other required design parameters. It is likely that performance requirements other than acoustics will drive the selection of glazing where sound insulation performances less than $R_w + C_{tr}$ 34 dB are required.