



Design Review of Acoustic Specifications at Radclyffe Park PCT, Ordsall

Background

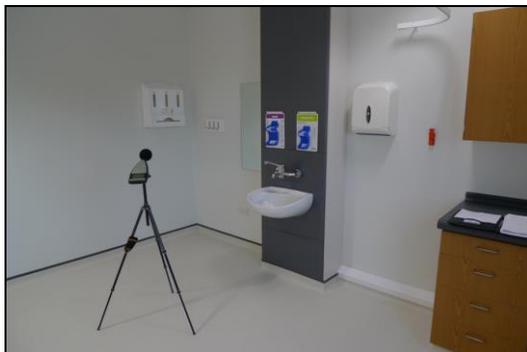
Miller Goodall Ltd was appointed to undertake a full design review of a new two storey health centre in relation to acoustics, to enable the credits under BREEAM Healthcare 2008 and the performance requirements of Technical Design Manual 4032:0:3 to be met.

Radclyffe Park PCT is located on Trafford Road, Ordsall and forms part of the Radclyffe Park development off Phoebe Street, which includes residential apartments, shops and a Travelodge hotel. The health centre building houses doctors' surgeries, consultation rooms and a dental practice. The project targeted a BREEAM rating of Very Good and also needed to achieve the acoustic performance requirements of Technical Design Manual 4032:0:3 England (which replaced Health Technical Memorandum 08-01: Acoustics).

Action Taken

The development is located on the busy Trafford Road, so noise ingress into the building needed to be controlled to appropriate levels. Using the results of a pre-development noise survey, supplemented by additional noise measurements undertaken by Miller Goodall, specifications were provided for the building envelope construction materials, including glazing, walls and the lightweight membrane roof. Mechanical ventilation was specified to rooms on the noisiest Trafford Road elevation, although noise modelling indicated that rooms located on internal courtyards could be naturally ventilated while still achieving the internal noise criteria.

Specifications were provided for the necessary internal wall, floor and door constructions to achieve the required sound insulation and privacy criteria. Junction details were developed to ensure that flanking sound transmissions did not undermine the in situ performance. In particular, the junctions of partition heads with the profiled composite floor deck, and a high number of penetrations in walls due to steel beams and purlins, needed to be addressed.



Although the client's original preference was for plasterboard ceilings to all consultation and treatment rooms within the development, this would have resulted in excessive reverberation in rooms and the forfeit of a valuable BREEAM credit. With the selection of a suitable ceiling tile, it was possible to achieve the required acoustic absorption with a suspended MF ceiling, whilst also meeting appropriate infection control parameters. The ceiling tile also had excellent sound insulation properties which provided additional protection against flanking sound transmissions at the partition head.

Comprehensive noise and vibration specifications were developed for the plant serving the building, including AHUs, extract fans and cooling condensers. This was particularly important not only for the comfort of occupants and visitors to the PCT building, but also because of the close proximity of new residential apartments adjacent to the roof top plant.

Summary of Findings

Final commissioning testing demonstrated full compliance with TDM 4032:0:3, BREEAM criteria and the Local Authority's planning conditions relating to noise.



For more information about us, visit our website at www.millergoodall.co.uk. If you would like to discuss how we can help your project, please contact Miller Goodall on 01204 596166 or email info@millergoodall.co.uk.