Tim Farnworth
Halliday Meecham Architects Ltd
111 Piccadilly
Manchester
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November 22, 2023

Our Ref: CSGA-C2129-T1

FAO: Tim Farnworth

Emailed to: tf@hallidaymeecham.com, jamie.huen@warden.co.uk, adrian.atkinson@warden.co.uk

Dear Tim,

Re: Sound Insulation Review of Replacement Cladding – Garden House

CSG Acoustics Ltd have been commissioned by Halliday Meecham Architects to provide a sound insulation review of changes to cladding at Garden House, Manchester.

The existing cladding on Garden House, Manchester is to be replaced and this letter details a review of the changes in terms of sound insulation. This is to assess any change in sound insulation caused by the works to the façade and ensure the proposed changes do not reduce the sound insulation performance.

The original façade acoustic performance requirement and the external noise levels are unknown and therefore no absolute noise break-in levels have been assessed. This assessment reviews the likely difference in acoustic performance due to the change and provides a specification for materials, where necessary.

Yours Sincerely,

Andy Ryan BSc(Hons) MIOA
Associate Consultant
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1 Façade Sound Insulation Review

The appended drawings from Halliday Meecham show the proposed changes to the façade cladding. INSUL Sound insulation software has been used to assess the existing and proposed constructions to allow direct comparison.

The following table details our sound insulation assessment of each type. The assessment includes a low frequency correction (C_{tr}) to account for the possibility of low frequency traffic noise.

The façade consists of facing brickwork and insulated cladding panels. The development will have the brickwork carefully removed to install cavity barriers and then the facing elements will be reinstalled. Therefore, no degradation of sound insulation is expected for these areas of the façade, as no fundamental changes are being made to the construction.

The insulated cladding panel areas are being fully replaced. The original cladding panel is insulated with polystyrene infill. The cladding panel is being replaced and a Rockwool mineral wool slab installed as insulation.

Halliday Meecham drawings *'5540-HMA-GH-ZZ-DR-A-21102_P1 External Wall Treatment – Cladding at Window Reveal'* & *'5540-HMA-GH-ZZ-DR-A-21203_P2 – External Wall Treatment – Cladding to Projected Façade'* detail the proposed changes and are appended to this letter. All existing windows will be refitted and resealed.

Table 1.1: Sound Insulation Assessment

Façade Type	Cladding Details		Sound Insulation Prediction
Cladding Existing Insulated panel	Existing	□ Existing Insulated Cladding panel □ 10.5mm Cement Board □ Bitumastic board □ 150mm SFS Section □ Insulation □ 2 x 12.5mm Plasterboard	R_w 54 dB C_{tr} -2 dB **$R_w + C_{tr}$ = 52dB**
Cladding New cladding system	Proposed	□ New insulated cladding system with recessed joints □ New Cavity Barrier □ 50mm Rockwool Duoslab □ New 10.5mm Cement board □ New Calcium Silicate board □ 150mm SFS Section □ 2 x 12.5mm plasterboard □ Existing windows refitted and sealed	R_w 55 dB C_{tr} -2 dB **$R_w + C_{tr}$ = 53 dB**

As seen in the table above, the calculated sound insulation performance the proposed changes to the façade cladding shows a marginal improvement in performance.

This therefore demonstrates that provided the reinstalled windows are suitably sealed and all elements are suitably installed, the overall façade sound insulation should not show any degradation in terms of sound insulation performance.