fisher acoustics

Technical Note

Project:	Plot F2, Great Jackson Street, Manchester
Document Reference:	T02-PR0660-MPF
Date:	11/09/2026
Author:	Matt Fisher
Subject:	Golf Simulator internal noise transfer

INTRODUCTION

Condition 23a of the planning permission for Plot F2, Great Jackson Street, Manchester (planning reference 143143/JO/2025), dated 18 February 2026 states:

- *23) a) The residential amenity areas, including any gymnasium, within Phase 1 shall be acoustically insulated and treated to limit the break out of noise in accordance with a noise study of the premises and a scheme of acoustic treatment that has been submitted to and approved in writing by the City Council as local planning authority. The scheme shall be implemented in full before first occupation of the premises within Phase 1.*

  Where entertainment noise is proposed the LAeq (entertainment noise) shall be controlled to 5dB below the LA90 (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63 Hz and 125 Hz octave frequency bands shall be controlled so as not to exceed (in habitable rooms) 47dB and 41dB (Leq,5min), respectively.

  Reason - To safeguard the amenities of the occupiers of the building and occupiers of nearby properties, pursuant to policies SP1 and DM1 of the Core Strategy.'

Fisher Acoustics' report 'Plot F2, Great Jackon Street, Manchester, Amenity Noise Impact Assessment', dated 11 June 2026 has been submitted to Manchester City Council to respond to condition 23a. The report identifies the maximum allowable music noise levels in the various amenity areas within the building such that compliance with the noise criteria in the condition can be achieved. However, Manchester City Council requested that additional information is provided in relation to the proposed gold simulator room. In particular, the following was emailed to Renaker on 16 July 2026:

- Further to the above application [OTH-2026-000678 - Discharge of Condition 23a (Residential Amenity Noise Insulation) within Phase 1 - Car Park Great Jackson Street], we have considered the submitted report (Fisher Acoustics, F2-FAC-A180-RP-XX-002 P02, June 2026).

  We cannot recommend discharge of condition 23a at this time due to the following:

  In addition to the information provided you need to confirm how music playback levels will be controlled within the internal amenity spaces and on the terrace. You also need to provide an assessment of impact noise due to the use of the golf simulator as we suspect the sound of golf balls being hit and rebounding off the walls could be audible and annoying in the apartment above.

In response, the following information was issued by email to Manchester City Council (email issued 14 August 2026):

- With regard to the control of music playback levels within the amenity spaces, the loudspeakers within each amenity space and on the terrace will be linked to the amenity sound system control amplifier which is to be housed within a locked cabinet. This cabinet is only accessible by the building management. The building staff have access to a control app which is installed on an ipad. The app is used to turn the music on and off and also controls the sound system volume to each individual amenity space and the external terrace, up to the maximum allowed by the control amplifier, as established by the acoustic report.

  With regard to the control of potential impact noise from the golf simulator, the wall directly in front of the tee is protected from ball impacts by a flexible impact screen spaced 300 mm in front of the wall. The side walls that sit forward of the tee are protected from ball impacts by 65mm deep impact cushions. In addition, all side walls are hung with full height curtains. Given the above measures, there is no opportunity for a golf ball to strike the side walls and thus no opportunity for impact noise on the walls to be transmitted to the apartments above.

In response to the above information, Decision Notice OTH-2026-000678, dated 2 September 2026 has been issued by Manchester City Council, which states:

- With regard to the sound system, the controls set out within the applicant's email of 14/08/2026 are accepted.

  With regard to the indoor golf simulator, whilst the proposed impact screen, wall cushions and curtains would assist in preventing direct ball strikes to the side walls, the information provided does not adequately demonstrate that impact noise and structure-borne vibration from the golf simulator would not adversely affect the residential accommodation above. The assessment focuses on preventing ball impacts to the walls but does not consider other potential impact noise sources including ball impacts to the simulator impact screen, club-ball impacts, vibration from the simulator structure, rebound impacts, or transmission through the floor structure.

  Therefore, in order to discharge condition 23a, further information should be submitted demonstrating that noise and vibration associated with operation of the golf simulator would not result in adverse impacts on the residential accommodation above. This should be provided in the form of a technical acoustic note and would need to be submitted as part of a new application to discharge the condition.

  Given the above, condition 23a is not hereby discharged.

RESPONSE TO DECISION NOTICE OTH-2026-000678

In response to Decision Notice OTH-2026-000678, the following can be advised:

The flooring within the golf simulator room from the golf projection screen to six metres in front of the screen is 30 mm thick astro turf. In addition, at the two metres by three metres golf tee, a 10 mm thick resilient floor layer that achieves an impact sound reduction of 25dB Lw is laid beneath the astroturf. This flooring build-up provides impact sound reduction for both potential golf club impacts and the golf balls when they drop to the floor after hitting the screen.

The screen comprises two layers. The outer visible layer is attached to the inner layer only at the perimeter such that there is a small air gap between the inner and outer layers. The inner layer is then attached to the screen frame only by bungee cords, such that any vibrations from the screen due to ball impacts are not directly transmitted to the frame but are attenuated by virtue of the inherent flexibility of the bungee cords. There is therefore no efficient path for structureborne noise from the golf screen to the apartments above.

The separating floor between the golf room and the apartment rooms above is a 250 mm thick concrete slab with a solid plasterboard ceiling that is suspended 1.1 m below the slab. The calculated potential noise level in the apartment rooms above the golf room due to the striking of a golf ball with a golf club is 22 dB LAmax. This is 8 dB(A) lower than the target 'average' noise level of 30 dB LAeq in bedrooms during the night and 23 dB(A) lower than the target maximum noise level of 45 dB LAmax in bedrooms during the night and is therefore considered to be acceptable.

Given the above measures, it is considered that the risk of disturbance of residents above the golf simulator room is minimal.

Fit-out drawings and 3D rendered image of the golf simulator room are provided below.



Figure 1: 3D image of the golf simulator room (note: impact cushions to the ceiling are not shown)

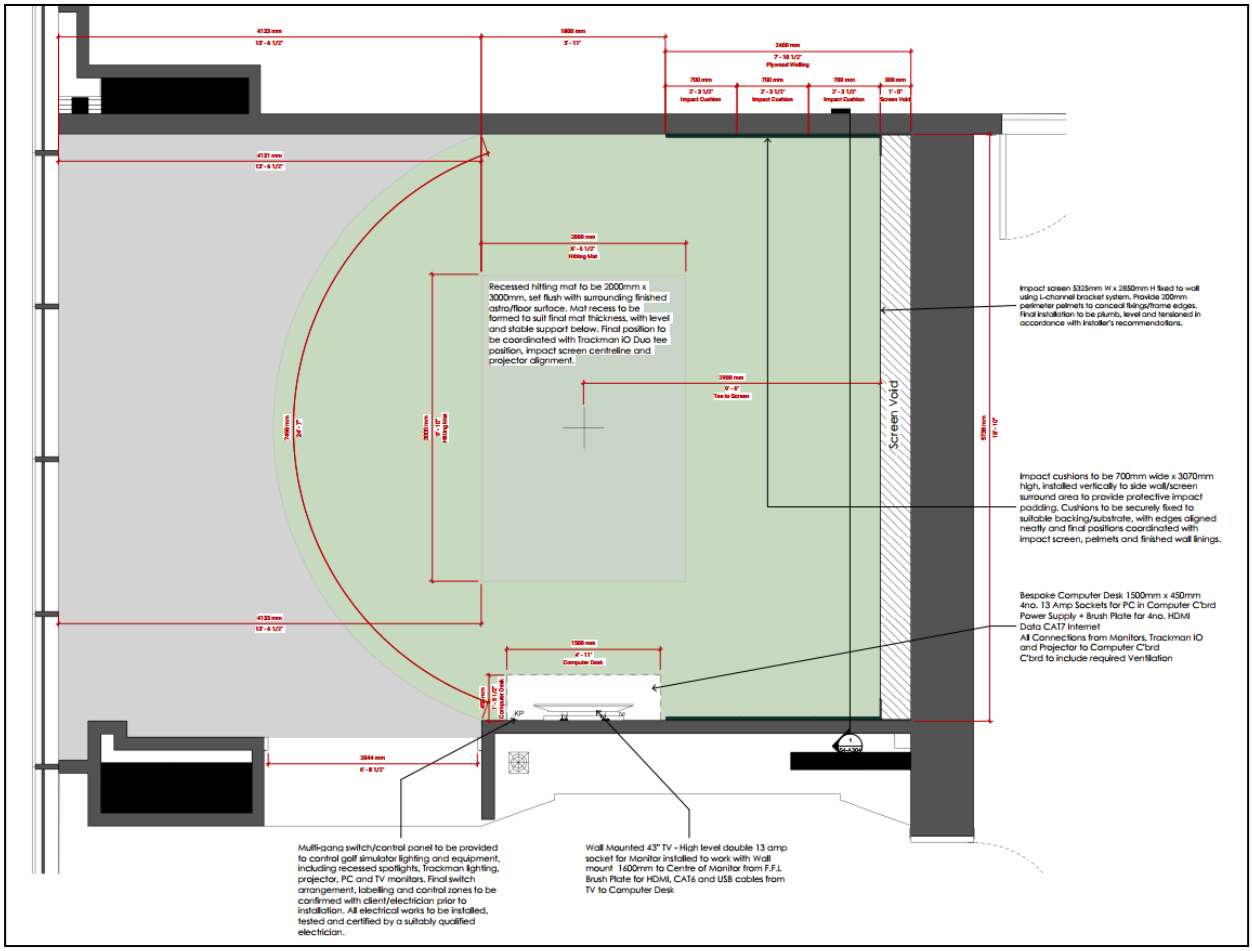


Figure 2: Golf simulator room finishes plan showing screen, floor finishes and impact cushions to side walls

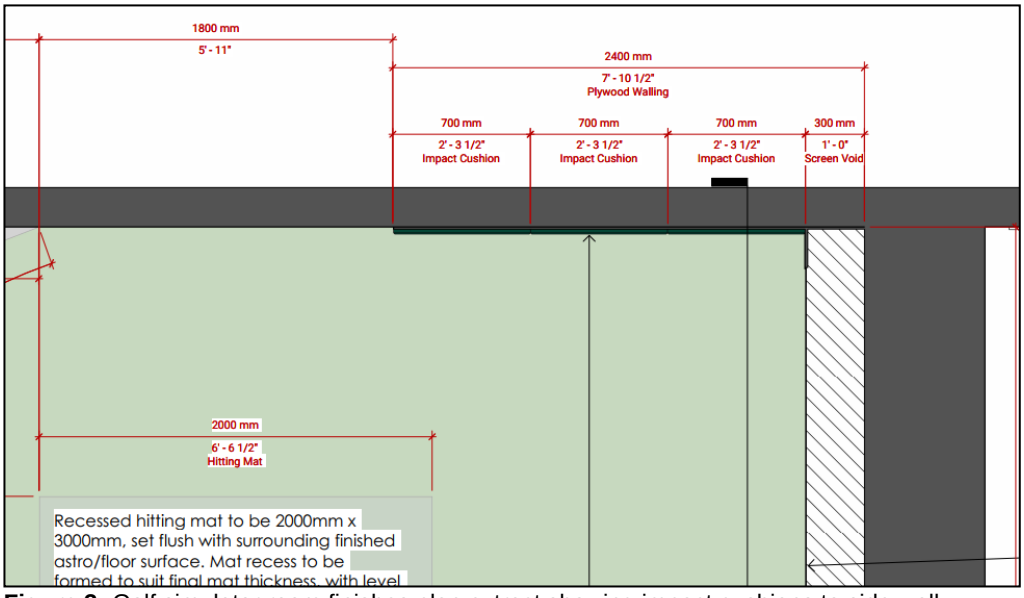


Figure 3: Golf simulator room finishes plan extract showing impact cushions to side wall

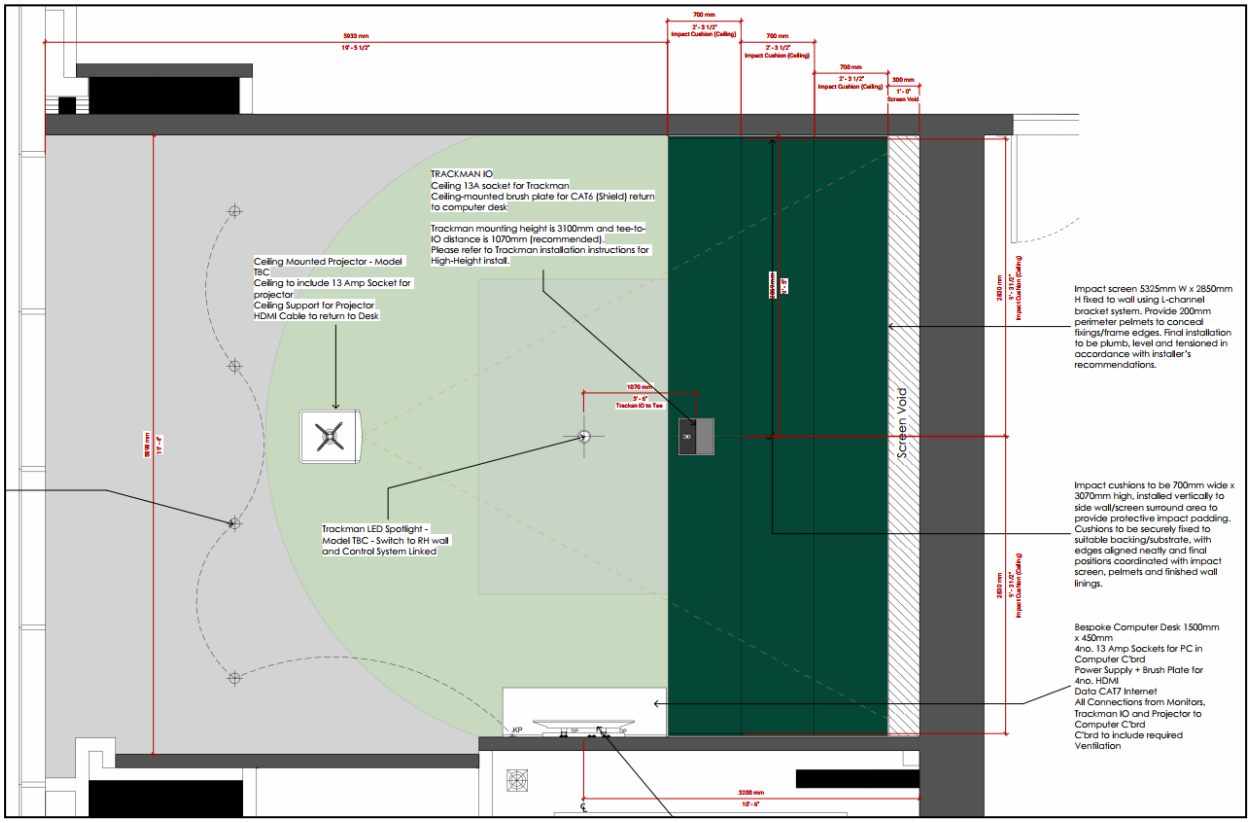


Figure 4: Ceiling finishes plan showing screen and impact cushions to ceiling