

Memo

To: Manchester City Council - Local Planning Authority

Cc: Ed Britton – Deliotte LLP

From: Alec Storey, Technical Director

Date: 03 March 2022

Project: Plot F, Great Jackson Street

File ref: MEM-1921985-5A-AS-20220303-HSE Gateway One Response

HSE Substantive Response pgo-0684 (Planning Application 132199/FO/2021)

Following receipt of the HSE substantive response [Document reference: *pgo-0684 (HSE Substantive Response) LPA REF 132199_FO_2021*, dated 17/01/2022] in relation to the Plot F, Great Jackson Street Planning submission, the purpose of this document is to provide responses and clarifications to the points raised by the HSE.

The points raised within the HSE substantive response are set out sequentially below, utilising the numbering from the original document, along with the corresponding responses and clarifications by the design team.

1 – Fire Service access and facilities

1.1 – Section 13 of the fire statement states in relation to water hydrants:

'Existing statutory fire hydrants are located in proximity to each site within Great Jackson Street, as indicated via the yellow 'H's on the Fire Service site plan in 14 below – the exact flow rates are subject to confirmation of suitability.'

If existing hydrants do not provide sufficient water flow rates, water tanks will be needed to provide water for the wet rising fire mains (two tanks cumulatively holding 45,000 litres per building). Resolving this issue may require installation of tanks which may affect land use planning considerations such as landscape, car parking provision, and layout of the building.

RESPONSE:

The comment is noted. To confirm, it is intended that the condition and flow rates of the existing hydrants will be verified at the next design stage and the local Fire Service consulted with regards to 'adopted' hydrants. It is not intended that tanked water will be provided, so any works to the hydrants necessary to meet flow rates will be undertaken, if required.

1.2 – The ground floor drawing of building F2 shows that the corridor leading to the firefighting stair contains doors opening into ancillary accommodation. Where a firefighting stair is accessed via a corridor, the corridor should not be used as a circulation space, and should be separated from adjoining accommodation by lobbies. This is necessary to prevent fire or smoke entering the stair and inhibiting

escape routes or firefighting operations. Similarly, the corridor leading to the firefighting lift does not appear appropriately separated from ancillary accommodation. The route to and from a firefighting lift at the fire service access level should be via a separate fire protected route leading outside the building. Resolving this issue may affect land use planning considerations such as design and layout of the building.

RESPONSE:

The Ground floor amenity, staff and 'back of house' areas have yet to be finalised in terms of layout. However, as part of the design development it is agreed that all ancillary accommodation accessed from the firefighting stair discharge corridor will be separated from the firefighting stair discharge corridor by means of protected lobbies (with ventilation where necessary for higher risk rooms), in line with Figure 20b) of BS 9999 (2017). Furthermore, any service risers on this route will be enclosed in 120 minute fire-resisting construction (including FD120S fire doors, if access is required). Any such internal layout changes are not considered to affect the external appearance of the building.

Fire Service access to the firefighting lobby and firefighting stair at Ground floor will be available via the main entrance space and via the firefighting stair access/discharge corridor. It is also noted that in the event of a fire within Ground floor ancillary accommodation, it is expected that the Fire Service would undertake firefighting activities directly from outside, rather than via the firefighting shaft.

To clarify with regards to the firefighting lift, the firefighting lobby arrangement will be maintained at Ground floor, with the lobby separated from the main entrance space via 120 minute construction and FD60S doors (or fire and smoke curtain linked to localised detection). Fire Service access to the firefighting lobby and firefighting lift at Ground floor will be available via the entrance space and via the firefighting stair access/discharge corridor. This considered to be in line with Figure 20 of BS 9999 (2017).

1.3 – Section 11 of the fire statement asks if the emergency vehicle route within the site to the siting points for fire appliances is clear and unobstructed. The answer 'no' is given. The planning authority may wish to clarify this with the applicant as if fire appliance access routes are obstructed this may compromise the effectiveness of fire service intervention. Resolving this issue may affect land use planning considerations such as landscaping, car parking provision, and highway safety.

RESPONSE:

To clarify, Fire Service vehicle access to the building is intended to be from the adjacent public highways, (as indicated in Section 14 of the fire statement) and, therefore, as vehicle access onto the site is not proposed, hence has not been considered within the site.

1.4 – The ground floor plan drawing of building F1 shows that fire service access is via a gated enclosure. It should be ensured that fire service access is not inhibited by inaccessible enclosures. Resolving this issue may affect land use planning considerations such as landscaping.

RESPONSE:

It is acknowledged that, as the entry door directly into the firefighting stair is accessed via the 'walled garden', the security hardware on the garden door (e.g. maglock linked to fire alarm and/or sprinkler flow devices) and the building management procedures in the event of fire will need to be carefully considered during detailed design and discussed with the local Fire Service to ensure that the Fire Service personnel have unrestricted access to the firefighting stair from their vehicle parking location on the adjacent public highway. It is noted, however, that the building is intended to have 24/7 staffing and that access to the firefighting shaft will also be available via the main entrance space.

2 – Specific technical complexities

2.1 – Section 7 of the fire statement discusses the provision of a smoke control system in the basement car park levels. However, the information provided does not indicate where smoke would be vented outside. It is important that smoke vented from a basement fire is not able to re-enter the building, affect escape routes or fire service access points. Resolving this issue may affect land use planning considerations such as landscaping and appearance of the building.

RESPONSE:

Please refer to Figures 1 and 2 below, which highlight the basement smoke extract discharge points (shown in blue). These have been located such that they are not in close proximity to means of escape routes and Fire Service access points (both shown in green).

Figure 1 – Building F1

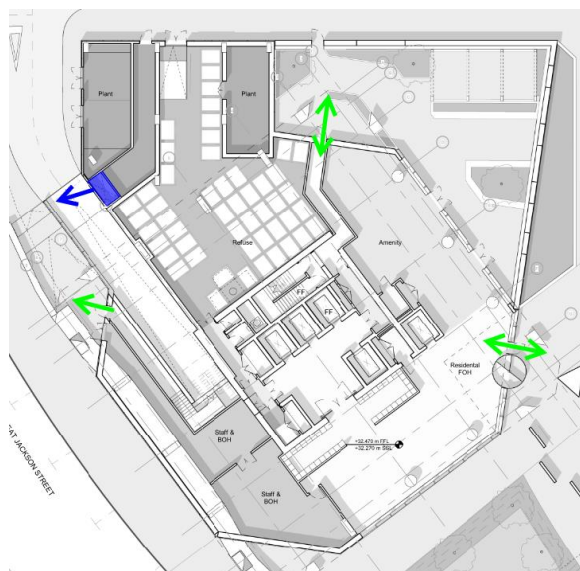
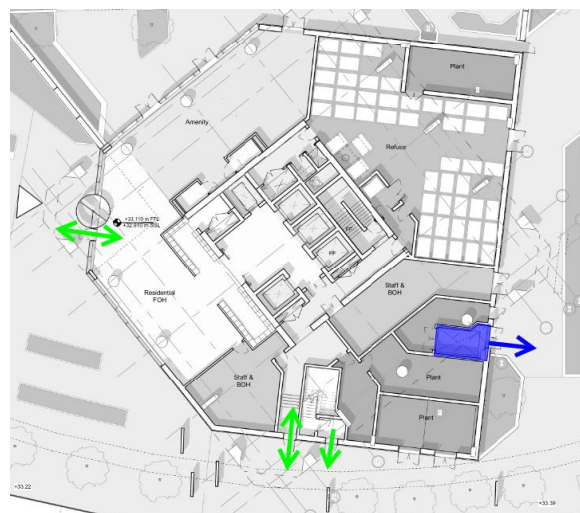


Figure 2 – Building F2



3 - Supplementary information

3.1 – The following points do not contribute to HSE's overall headline response and are meant only for guidance/clarification purposes. These comments identify items that may have implications for planning and could usefully be considered now.

RESPONSE:

Noted - no response required.

3.2 – It is noted that the proposed basements contain several car parking levels. Given the current transition to electric vehicles it may be advisable to consider the implications for firefighting posed by electric vehicle fires several storeys below ground. Fires involving electric vehicles pose particular challenges for fire and rescue services, including difficulty in extinguishing fires, the potential re-ignition due to the chemistry involved, extended use of large volumes of firefighting water, emission of combustible and toxic gases, and the challenge of removing a vehicle which may re-ignite when moved. Any consequent design changes may affect land use planning considerations such as appearance and layout of the building and car parking provision.

RESPONSE:

Despite the ongoing transition to EV's it is noted that the current car park design guidance provides little or no information with regards EV's and, therefore, the basement car park design proposals and fire safety provisions (i.e. mechanical smoke extract and sprinklers) have been based on recent engagement with Greater Manchester Fire Service and Local Authority Building Control for previous developments.

3.3 – Plan drawings show what appear to be storey-height windows separated by small distances between floors. This may require further fire engineering analysis to consider whether fire or smoke protruding from one large window, and adhering to the external surface, can quickly spread back into the building through the window above. Any design changes following engineering analysis may affect land use planning considerations such as appearance of the building.

RESPONSE:

It is noted that consideration of the external wall in such a scenario is not a requirement of the Building Regulations guidance for residential buildings and where similar guidance is provided within HTM 05-02 for hospitals the requirements are negated where both compartments are provided with sprinklers (i.e. as will be the case in these residential buildings).

Notwithstanding, when considering such a scenario, it is noted that the provision of sprinklers will act to limit fire growth and reduce temperatures within the apartment/compartment of fire origin and the stringent thermal and safety requirements for the multi-layered external glazing panels will mean that the likelihood of complete glazing failure in the event of a sprinklered fire will be low (i.e. the risk of flames protruding from the apartment/compartment of fire origin and directly impinging on the glazing of the apartment/compartment above is low). Furthermore, the upper apartment/compartment will be provided with sprinklers if fire were to spread in this way. Therefore, the arrangement is considered reasonable and to meet the functional requirements of the Building Regulations