

NOTES ADDRESSING HSE COMMENTS

STITCH ARCHITECTS

INCLUDING COMMENTARY FROM CLARKE BANKS FIRE ENGINEERS

Date: 26 October 2022

Project no: 21235 – Avonmouth House – First application (Appeal scheme)

1.1 The fire statement (section 2) states that the above ground floors will be served by a single stair core, which will be designed as a firefighting stair. The plan drawings illustrate the proposed stair continuing down to the basement level 2 and connecting with the ancillary areas. The fire safety guidance and standard require that, in single stair buildings, the stair should not continue down to the basement and the same applies to the firefighting lifts. This is due to the risk of smoke and heat from the basement compromising the means of escape and fire service access. Additionally, where a common stair forms part of the only escape route from a flat, it should not serve any ancillary accommodation. The proposed solution, illustrated on the ground floor plan, to separate the stairs at the ground level is acceptable only in small buildings, under 11 m height. Resolving this issue may affect land use planning considerations such as design and layout of the building.

Stitch response to comment 1.1

The internal arrangement at ground floor has been redesigned. The staircase serving the upper student accommodation floors is now separated from the staircase serving the basement -2 level. At ground floor, each staircase has its own separate independent egress route directly to the external fire escape route along the north-west side of the building.

1.2 The fire statement (section 6) states that the proposed building is over 50 m and that a dry fire main will serve the firefighting shaft (fire statement, section 10). Where there are floors higher than 50 m above firefighting access level, wet fire mains should be installed because of the pressures required to provide adequate water supplies at the landing valves at upper floors and to ensure that water is immediately available at all floor levels. The provision of a wet fire main will require water tanks and pumps which is likely to affect land use planning considerations such as design and layout of the building.

Stitch response to comment 1.2

The finished level of the topmost habitable floor is 49.65m from ground level. We understand therefore that a wet riser is not required.

1.3 The ground floor plan illustrates the final exit for the escape route from the common stairs next to the bin store. The fire standard states that the access to refuse storage chambers should not be sited adjacent to escape routes or final exits. Further engineering analysis may be necessary to determine if a fire emanating from the bin store, could impede escape from the residential accommodation. Any consequent design changes may affect land use planning considerations such as design and appearance of the building.

Stitch response to comment 1.3

The amended design to address comment 1.2 results in the relocation of fire escape exit doors and a clear escape route directly to the street without any need to pass the bin store.

1.4 The ground floor plan illustrates the access for firefighters to the firefighting shaft via the concierge which connects with ancillary accommodation. The entry to a firefighting shaft should be available either directly from the open air or by way of a protected corridor, which should not be used as a circulation space and should be separated from adjoining accommodation by lobbies. Resolving this issue may affect land use planning considerations such as design and layout of the building.

Stitch response to 1.4: The amended design removes the ancillary accommodation.

1.5 The upper floor plan drawings illustrate each floor having a flat with the exit door directly to the firefighting lobby. The access to the accommodation from the firefighting lift or stair should be through a firefighting lobby, as a single fire door cannot provide adequate protection to the firefighting stair and lift, from a fire in the accommodation. Resolving this issue may affect land use planning considerations such as design and layout of the building.

Clarke Banks response to 1.5: The upper floor plans do show a flat entrance and exit discharging into the Firefighting lobby. This complies with guidance as detailed in BS 9991 where diagram 35 also shows a flat entrance and exit discharging into the firefighting lobby.

If you compare the scheme plans and the diagram presented by British Standards, these two diagrams show the same layout in principle ie. A flat entrance and exit discharging into the firefighting lobby. In simple terms this means that the drawn layout indicates compliance with BS 9991 as the lift and the staircase are protected by the flat entrance door and the fire door provided on both the staircase shaft and the lift shaft (two lines of protection and not a single line as noted in the HSE comments).

This also means that the internal layout of the building is compliant with BS 9991, will be approved by the Building Control body and the local Fire Service Department and no internal changes are required when BS 9991 : 20015 is applied.

Additional amendments to be noted in the HSE review:

Minor design amends have been made to upper student accommodation floors to ensure all kitchens are located at the remote end of the corridor away from the final exit to the cluster.