

FW: Renaissance Residential - 132088 HSE Comments

Harvey, Ed (Avison Young - UK) <Ed.Harvey@avisonyoung.com>

Mon 06/12/2021 14:55

To: Angela Leckie <angela.leckie@manchester.gov.uk>

Cc: Neary, Lauren (Avison Young - UK) <Lauren.Neary@avisonyoung.com>

Hi Angela,

Please see below responses from the appointed fire consultant to the comments of HSE. I've asked them to also issue an updated fire statement report to reflect these responses where relevant. This hasn't been received as yet so I'd suggest sharing the below with HSE in the meantime. I'll send across the updated report asap once received.

Thanks,

Ed

Ed Harvey

Associate Director

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From: Jack Dubbey <jack@designfireconsultants.co.uk>

Sent: 02 December 2021 10:39

To: Harvey, Ed (Avison Young - UK) <Ed.Harvey@avisonyoung.com>;

Subject: Re: Renaissance Residential - 132088 HSE Comments

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Hi Ed,

Please see below our responses.

	HSE Comment	DFC Response
1.	The Fire Statement (section 8) refers to a “non-firefighting stair” at level 13 and comments on the lack of an AOV (automatic opening vent) at the highest level of it. Both stairs should be firefighting stairs due to the height and floor area of storeys they serve. The documents, attached on LPA's webpage, indicate a floor area of over 900m² for each of the upper storeys from first to the thirteenth floor. A minimum of two firefighting shafts should be provided to each storey that has a floor area of 900m² or more and is above 18m in height. The proposal of a single firefighting shaft is not appropriate for the size and use of this building. It is unsafe and can fatigue firefighters before they reach the scene of operations in a fire scenario. This issue must be addressed to ensure suitable fire service access can be achieved to the building which could impact on design, layout and density of the building.	Apologies. The identification of the stair as ‘non firefighting’ is not applicable and will be amended as the stair is suitable firefighting except for the omission of the AOV due to the landlocked nature of the stair. The freighting arrangements for the building are as follows: • Both stairs are enclosed in 120 minutes fire resistance. • To support firefighting operations both stairs are provided with wet fire main outlets and therefore suitable hose coverage is provided throughout. • Hose laying distances from the main stair measure 65m to the furthest point which is an 8.3% increase over the permitted 60m in accordance with BS 9991. Hose laying distances from the second stair do not exceed 40m to the same point. • Suitable wayfinding signage is provided to both stairs.

		The corridor leading to the stair at ground level is enclosed in 120 minutes fire resistant construction The omission of the AOV has been discussed preliminarily with Greater Manchester Fire and Rescue service and no objections were raised.
2.	The Fire Statement (section 8) suggests mechanical smoke ventilation systems (MSVS) are proposed for the communal corridors/lobbies and basements and stair. The application of the MSVS is dependent on the outcome of a computational fluid dynamic (CFD) analysis. There is a risk that the outcome of the CFD analysis may not support the inclusion of MSVS. The LPA may wish to seek further information from the applicant about the assumptions made in relation to this aspect of the design to understand better the likelihood of the need for changes that could impact on the design, layout and appearance of the building.	Agreed. Since Fire Statement completion the CFD modelling has been completed as part of the RIBA Stage 4 design and has demonstrated suitable conditions for the means of escape and firefighting phases of a fire. This assessment is currently with Building Control and GMFRS for review and acceptance. Prior to undertaking the CFD analysis DFC sought agreement from both Building Control and Greater Manchester Fire Service on the modelling, approach and acceptance criteria. All have been agreed resulting in limited latent risk.
3.	The Fire Statement (section 11) makes no reference to access to level -01 and -02. The plans on the LPA website indicate that both firefighting stairs serve upper floors and the two levels below fire service access level. People on the 14th floor and above are, in effect, in single stair conditions. Fires in basements can produce significant amounts of heat and smoke which can affect upper levels of the building should the stairs become compromised. Such compromise can occur when firefighters enter a basement level where there is a fire. Electrical vehicles, and charging points for them, may be present in the Level-02 car park. The nature of the lithium-ion batteries that are used in electric vehicles makes them particularly dangerous in a fire scenario. Lithium-ion batteries may suffer thermal runaway and cell rupture if overheated or overcharged, and in extreme cases this can lead to combustion. If they burn, it is very difficult to put out the fire which creates toxic fumes. A large amount of water is needed to flow on the batteries, because they are prone to reigniting, even after it appears the fire has been extinguished, and this can take many hours. Furthermore, there is a danger of electrical shock for firefighters tackling a fire due to the high voltage used in this type of vehicle. Therefore, the presence of any electrical vehicle in a covered car park could represent a risk to fire safety. The proposed arrangements should be discussed, and agreements secured with the approval authorities at the planning stage as this may impact on the design and layout of the proposed development.	Section 11 does not refer to these levels as firefighting access would be akin to the upper levels where firefighters could attach to wet fire main outlets within each of the stairs and MSVS provided to the stair lobbies – protecting them against the ingress of smoke. This will be made clearer in a revised fire statement if needed. Whilst sub ground levels the use of the levels is not akin to a typical basement in a building where it is predominately plant room and higher fire risk areas. At Level -01 the floor plate is 60% residential accommodation, 25% bike storage, 12% amenity space and 3% plant room areas. Therefore, the risk is not as high as per a typical basement arrangement. Additionally, the lower levels are similar to a sloping site where only parts are below ground. The East and South elevations have a finished floor level is less than 1200mm from ground and the remaining facades are open to the River Irwell area. At Level -02 the internal plant rooms are water tanks room and therefore pose a low fire risk. The remaining internal area is staff welfare accommodation. The car park is proposed to be provided with electrical charges points but the risk of a fire compromising the residential stairs is mitigated by the following: Car Park is designed in accordance with BS 9991 where a mechanical smoke ventilation system is provided along with a BS 12845 sprinkler system.

		• The car park although provided with a mechanical smoke ventilation system is open along the River Irwell façade and therefore the opportunity for products of combustion to build up is reduced in comparison to a typical basement car park where all sides are enclosed. • Multiple points of entry into the car park which are not just from the residential building. This will give attending fire crews flexibility on how they would fight a fire within the car park.
4.	The Fire Statement (section 15) direct access to the entire east elevation is indicated. The ground floor arrangement plan indicates that there will be a gate between the road/pavement and the final exit door on the East face that allows access to the protected corridor that leads to the eastern firefighting stair. Consideration should be given to this arrangement as it could prohibit firefighters being able to rapidly access the stair and/or connect hoses to the wet rising main inlets. Wherever possible access routes for firefighters and fire appliances should not pass through or across the land of another party. Resolving this issue may affect land use planning considerations such as layout, design, and appearance of the building.	Comment noted and yes this has been considered by the team. The gate will be provided with FB key access to always allow firefighting access. The whole site is under the control of the same development Joint Venture. Whilst the end use service yard is under the control of the Hotel management there is an acceptance and understanding that the service yard must be used by residential and office building management. This has been discussed and agreed with all project stakeholders including the Greater Manchester Fire and Rescue Service.

Kind Regards,

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From: Angela Leckie <angela.leckie@manchester.gov.uk>

Sent: 30 November 2021 09:38

To: Harvey, Ed (Avison Young - UK) <Ed.Harvey@avisonyoung.com>

Cc: Lucas, Neil (Avison Young - UK) <Neil.Lucas@avisonyoung.com>

Subject: Renaissance Residential - 132088 HSE Comments

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Hi Ed

See attached comments for your response - again I think this is one to prioritise in terms of timescales and us going back to the HSE

Best Wishes

Angela

Angela Leckie
Senior Planner
City Centre Team

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Due to working compressed hours my current working times are Tuesday to Friday 0700 - 16.30/ 1700

I am available to dial into pre -arranged meetings via Zoom, Microsoft Teams or Google Meet

Upcoming Leave

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