

138-144 Friar Street, Reading Fire Engineering Review

KM3513/js/fch
05th August 2026

1.0 INTRODUCTION

1.1 Description

138-144 Friar Street is a new single-building (B+G+5) residential development in Reading containing 145 co-living units. The topmost habitable storey of the building will be 15.5 m approximately measured from the Ground Floor. Based on the number of floors and the provided building height, this building scheme would not be considered as a High-risk Building (HRB) under the Building Safety Act 2022.

The following accommodation are provided on each level:

- Basement: Heating Plant room, Cold Water Plant Room, Smoke Vent Plant Room, Comms Room Cycle Parking, Multi-media, Staff Room and Laundry Room.
- Ground: Studio flats, Co-workspaces¹, Co-work café, Post storage room, Dining Area, Gym, Shared lounge, Refuse store and Substation
- First to Fifth: Co-living studio flats
- Roof: Indoors plant, green roof and external PV panels

It has been confirmed by the design team these co-workspaces will not be accessible by the public and will only be coming from the studio flats above. The maximum number of occupants these co-workspaces can accommodate will be based on the has been assessed in Section 3.2. Refer to Figures 1 to 4 for more details on the provided accommodation on each floor.

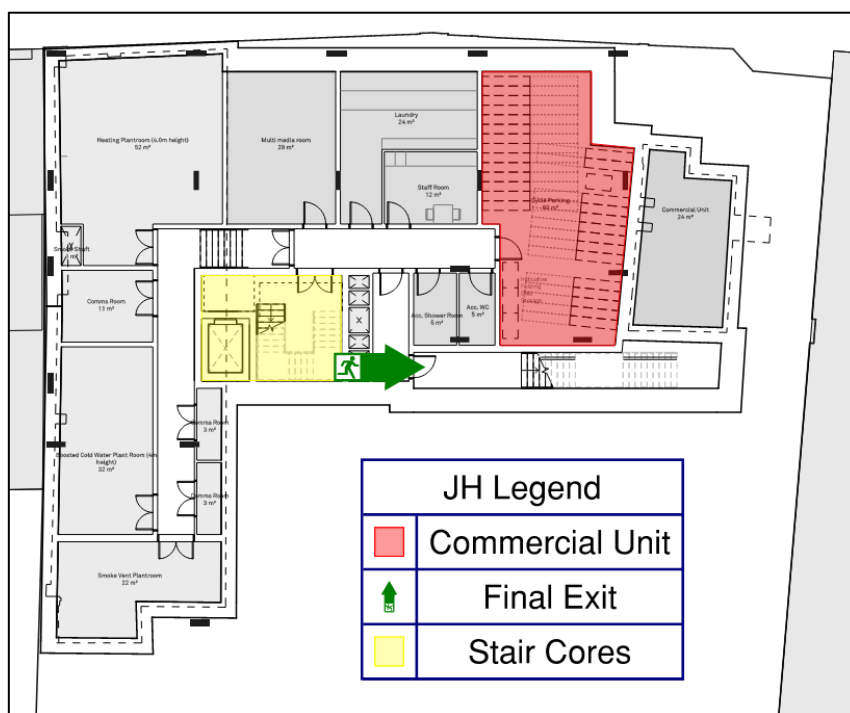


Figure 1: Proposed Basement Plan

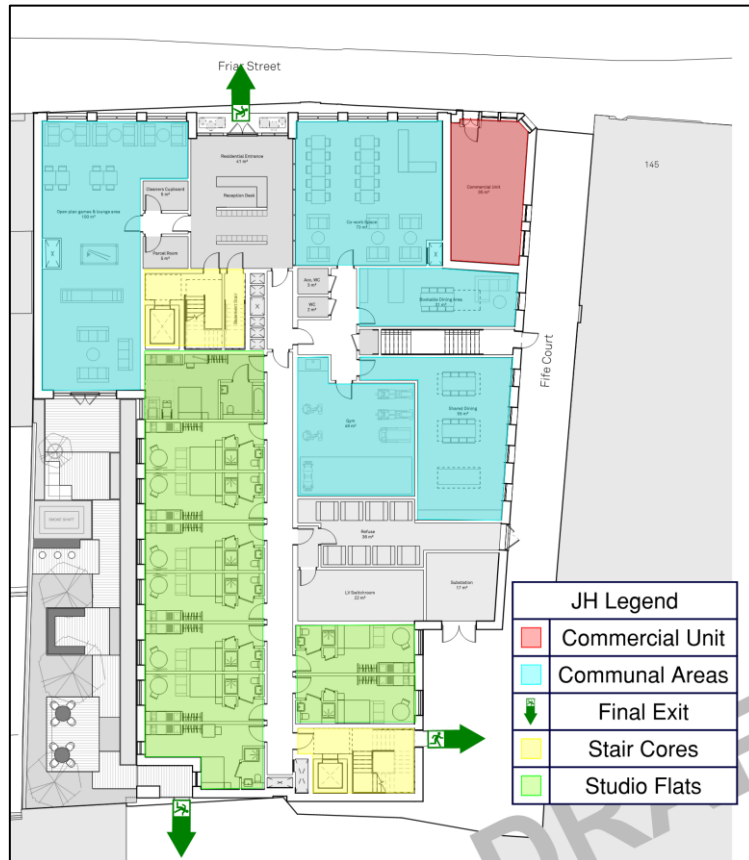


Figure 2: Proposed Ground Floor Plan



Figure 3: Proposed Typical Upper Floor Plan (First Floor shown)

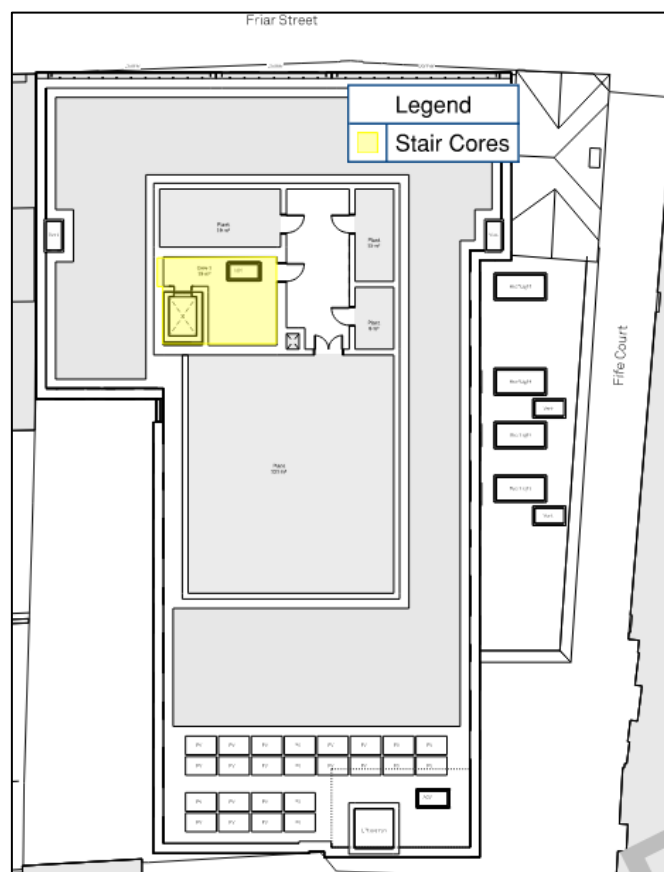


Figure 4: Proposed Roof

1.2 Aim of Report

This report describes the key fire strategy principles for the buildings and is intended to identify the main fire safety features, firefighter access facilities and fire strategy principles supporting the Stage 2 design.

It is intended to support the Planning submission and should be read in conjunction with the Fire Statement submitted for the scheme. It is also intended to support the design team in the ongoing development of the scheme and can be used to support initial discussion with Building Control and the Fire Service.

This report addresses life safety only and not property protection or insurance requirements.

1.3 Building Regulations Guidance

The Building Regulations requires buildings to be designed to achieve a reasonable standard of safety for occupants in and around the building. The following sections describe the fire strategy arrangements that will be provided in each of the plots to achieve this.

The fire strategy design primarily draws from contemporary guidance including the Approved Document B, Volume 1 (ADB V1). For the co-workspaces and the gym on the Ground Floor, Approved Document B, Volume 2 (ADB V2) will be referenced to instead.

Where there are aspects of the design which do not comply with the recommendations of code guidance, alternative fire engineered solutions have been developed and are discussed in this report to support a more efficient design whilst still achieving the requisite standard of safety to meet the functional requirements of the Building Regulations.

2.0 ACTIVE FIRE SAFETY SYSTEMS

2.1 Purpose Group

The building is considered to fall under Purpose Group 1(a) – Flats, due to the provision of self-contained residential units.

In addition, areas intended for shared or communal use, located on ground floor, may be classified under Purpose Group 3 – Office, where applicable.

2.2 Sprinklers

ADB Vol. 1 requires all residential buildings with a topmost habitable storey of 11 m. The proposed building has a topmost habitable floor of more than 11m above ground and it should be sprinklered throughout.

Sprinklers are designed to control fires and restrict the maximum size the fire could grow to, and they may even extinguish the fire. The risks and consequences of a fire on residents' safety are greatly reduced in sprinklered buildings.

Sprinklers should be provided in studio flats in accordance with BS 9251:2024. Assuming the building is designed to be student accommodation, a Category 3 system should be provided.

The communal and ancillary residential areas should be sprinklered. Any non-fire sterile communal areas should be provided with a Category 3 system as above.

In general, residential sprinkler systems can only be provided to non-residential compartments limited to a floor area of less than 100m². To avoid the need for a commercial sprinkler system, such areas are to be provided with compartmentation to limit the floor area to less than 100m². This is currently achieved in all building areas except the basement plant compartment. It is proposed the basement plant should be subdivided into smaller compartments to limit the maximum compartment floor area.

2.3 Automatic Fire detection and Alarm System

The residential areas should be provided with an automatic fire alarm system meeting the following standards:

- | | | | |
|---|----|-----------------|-------------|
| • In studio flats | - | LD1 | (BS 5839-6) |
| • In common corridors and escape routes | - | L5 | (BS 5839-1) |
| • Elsewhere (co-workspaces, co-work café, amenity, plant etc.)- | L3 | (BS 5839-1) | |
| • Commercial Unit | - | L3 ¹ | (BS 5839-1) |

Note 1: The baseline minimum requirement for commercial units is a Category M, manual system. However, as a good fire engineering practice and future proof design, a minimum Category L3 should be provided instead.

2.4 Emergency Lighting

Emergency lighting should be provided in accordance with BS 5266-1:2016.

2.5 Emergency Signage

Emergency signage should be provided in accordance with BS 5499-4:2013 and BS ISO 3864-1.

2.6 Back-up Power

All life safety systems within the building should be provided with back-up power in line with the recommendations of BS 9991:2024, which has been adopted as the basis for this design approach where not covered by ADB Vol. 1.

3.0 MEANS OF ESCAPE

3.1 Evacuation Strategy

3.1.1 Residential Areas

The residential parts of the building should operate a 'defend-in-place' strategy, whereby only occupants in the fire flat evacuate in the first instance. However, there should be the means to evacuate other parts of the building if deemed necessary. The provisions provided within residential buildings are designed to reduce and minimise the risk of fire spread meaning the residential levels as well as the means of escape from the residential levels should be protected from both fire and smoke which allows for the residents to remain safely within their apartments. The residential areas would not be evacuated immediately for a fire in the non-residential parts of the building.

It is proposed the building to be provided with evacuation lifts serving the residential and residential ancillary areas and associated emergency voice communication systems (EVCs) should be provided on all floors apart from ground. It should also therefore be necessary to develop a suitable and robust management strategy that will ensure the safe evacuation of all residents, including any assistance necessary with the use of evacuation lifts and the EVC systems. Personal Emergency Evacuation Plans (PEEPS) may need to be incorporated where necessary.

The building should be provided with an emergency evacuation alert system in line with BS:8629 which will allow a full or partial evacuation of the building under the operation of the fire services.

3.1.2 Amenity and Ancillary Spaces

All residential ancillary areas and commercial unit on Ground Floor level should operate a simultaneous evacuation strategy upon confirmation of fire within the common areas. This means that when a fire is detected in any ancillary, amenity, or other common area, all these spaces should evacuate simultaneously. These areas are as follows:

- Basement: Heating Plant room, Cold Water Plant Room, Smoke Vent Plant Room, Comms Room Cycle Parking, Multi-media, Staff Room and Laundry Room
- Ground Floor: residential co-working spaces, co-work café, private dining, shared lounge, post storage room, residential entrance lobby, gym, shared dining, refuse store, substation, and commercial unit.

The residential units (studios) will not evacuate upon detection within any ancillary or ancillary spaces.

3.1.3 Evacuation Alert System

Evacuation Alert Systems (EAS) are required for buildings above 18 m in height in accordance with Clause 15.17 in BS 9991. Although this is not a requirement for this building scheme to be compliant, it is an industrial recommendation to provide an EAS for student residential buildings to provide improved building functionality and accommodate full building evacuation.

3.2 Occupancy

It should be ensured the building has enough escape capacity for occupants simultaneously evacuating from the communal areas. The expected occupancy of the areas adopting a simultaneous evacuation strategy are listed below. The occupant density is calculated based on the allocated seatings on GA plans provided by the architects. For areas without any assigned seatings, floor space factors mentioned in Table D1 of ADB Vol.1 are adopted.

The following occupant load for each floor for simultaneously evacuated areas has been calculated in Table 1 below.

Floor	Space	Area (m ²)	Occupant Density (m ² /person)	Occupancy
Basement	Cycle Parking	60	30	2
	Laundry	24	7	4
	Multi media room	29	1	29
Ground	Residential Entrance and Reception Desk	41	Allocated Seating	1
	Open plan games & lounge area	100	Allocated Seating	33
	Co-working Spaces	73	Allocated Seating	32
	Bookable Dining Area	31	Allocated Seating	12
	Shared Dining	55	Allocated Seating	16
	Gym	49	Allocated equipment	7
	Cleaners Cupboard	5	30	1
	Parcel Room	5	30	1
Total Occupancy				138

Table 1 - Occupancy Table

It has been confirmed by the design team the co-working spaces and other ancillary accommodation will not be accessed by the public. The maximum expected occupancy of the building during an event of simultaneous evacuation will be a total of 138 occupants, based on floor space factors and allocated seatings by the architects.

The Ground Floor Commercial Unit is a completely separated space from the building and is provided with its own exits. Thus, occupancies from the unit will be excluded. The Commercial Unit is served by only a single means of escape so it should be always limited to 60 occupants. This is expected to be sufficient for the use of this space. Further details will be provided as the scheme progresses in later design stages.

The rooftop terrace should be limited to 60 people due to the single means of escape.

3.3 Studio Flats

All of the apartments will be designed as studios, where the living and sleeping areas of the dwelling are located within the same space (i.e., no inner rooms are present).

- The travel distance should be limited to 9m from any point to the flat entrance; and
- Cooking hobs should be remote from flat entrance and do not impede the escape route.

Each studio will have an open plan kitchen with cooking appliances, which ADB Vol. 1 does not provide a detailed guidance on acceptable separation distances for cooking appliances. Therefore, Clause 5.6 of BS 9991 has been referenced to inform the design approach. As such, the edge of the cooking hobs should be at least 1.8m from any door or a means of escape route to an escape door, escape routes within studio flats should be not less than 0.9m in width even any fixed obstructions like radiators or cupboards etc., a gap of 0.3m should be provided between the leading edge of the exit door and the 1.8m zone from the cooking hob.

The cooking hobs should be provided with automatic shut-off devices in accordance with BS EN 50615:2015, which will be linked to the detection within the studio. The cooking facilities should be located at the most remote part of the studio and adjacent to the building elevation to meet the recommendations set out above.

However, where most of the studio configurations, the cooking facilities are located such that there is a small area within the flat where occupants may start their escape past the cooking facilities within the 1.8m zone. The arrangement is proposed based on the following:

- The placement of the cooking hobs should follow the principles of BS 9991:2024 guidance that all cooking apparatus are to be located as far away from the escape route as possible, particularly for studios where the distance within the room is limited. The cooking facilities have been located adjacent to the elevation at the farthest part of the room from the exit door. However, the compact layout of the studios ensures that residents are always in immediate proximity to potential fire sources, meaning any incident will be detected almost instantly through visual, heat or smoke cues. This immediate awareness should allow occupants to initiate an evacuation at the earliest possible stage, which compensates for the reduced width of the escape route.

- Furniture placement should be carefully restricted to ensure all seating and sleeping areas remain outside the 1.8m zone and closer to the exit door than the cooking facilities themselves. This strategic arrangement physically prevents occupants from being situated in remote areas deep within the flat where they might otherwise be forced to travel toward a fire to reach the exit door. By keeping residents within this immediate detection range and away from “dead-end” risks, the design simplifies the escape route and aligns with the safety intent of BS 9991:2024, even where standard dimensional recommendations are adapted for the unit’s width.
- It is noted that currently, not all kitchen hobs are located within 1.8m zone from the escape route, therefore, it is proposed to do calculations on the minimum separation distance for the untenable heat radiation levels.

The typical studio apartment layout with travel distances and escape route is shown in the figure below.

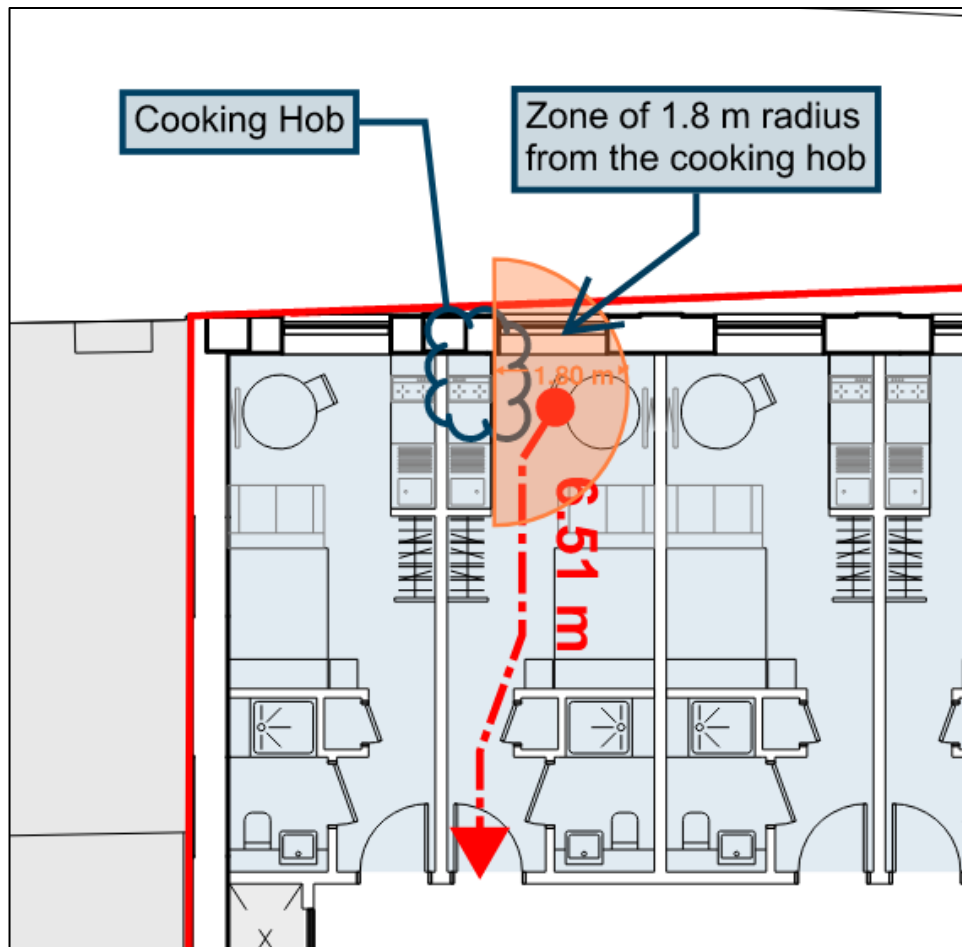


Figure 5: Open-plan flat layout

3.4 Travel Distances

3.4.1 Common Corridors

Travel distances in common areas should be limited to 7.5 m and 30 m in single-direction and multiple directions respectively. This is currently achieved in Figure 6.

3.4.2 Ancillary Areas

Ancillary areas are observed to be provided within the building. They should follow the below requirements:

- Communal Areas (e.g. Co-working spaces, games & lounge, courtyard and basement plant, etc.): Limited to 18m and 45m in single-direction and multiple directions respectively.
- External Rooftop area: Limited to 60m and 100m in single-direction and multiple directions respectively.

The above recommendations appear to be achieved on the Ground and upper floors. However, with reference to Figure 9, the Smoke Vent Plantroom and Boosted Cold Water Plant Room exceeds the 18 m single-direction travel distance limit. Although it is a non-compliance, the arrangement can be justified to remain based on the following engineered judgement:

- The plant rooms will only be accessed by technicians doing routine maintenance checks
- The plant rooms will only be accessed transiently
- The maximum occupants within the plant rooms will not exceed 10 persons at any time

Please note the above fire engineered justification is subjected to approval from Building Control and will carry an approvals risk. It is recommended Building Control is informed at an early stage.

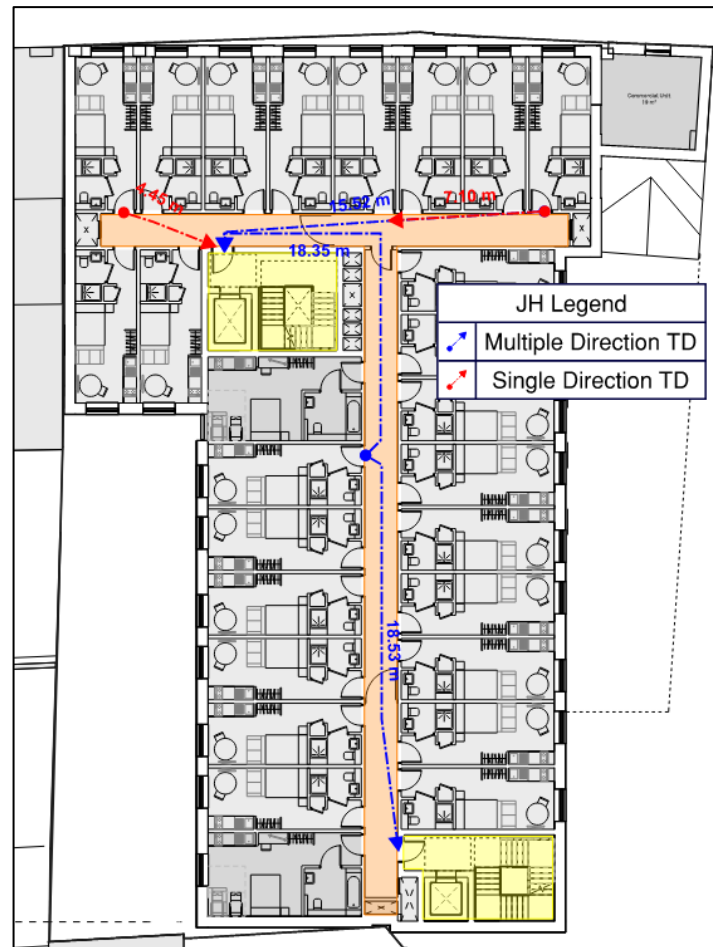


Figure 6: Travel distances within the common corridor on a typical floor

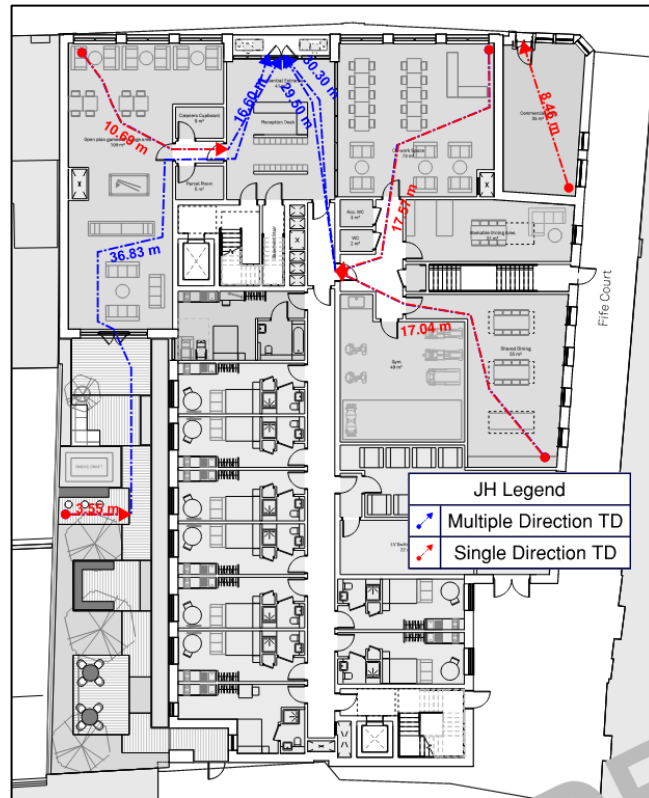


Figure 7: Travel distances within the common areas on Ground Floor

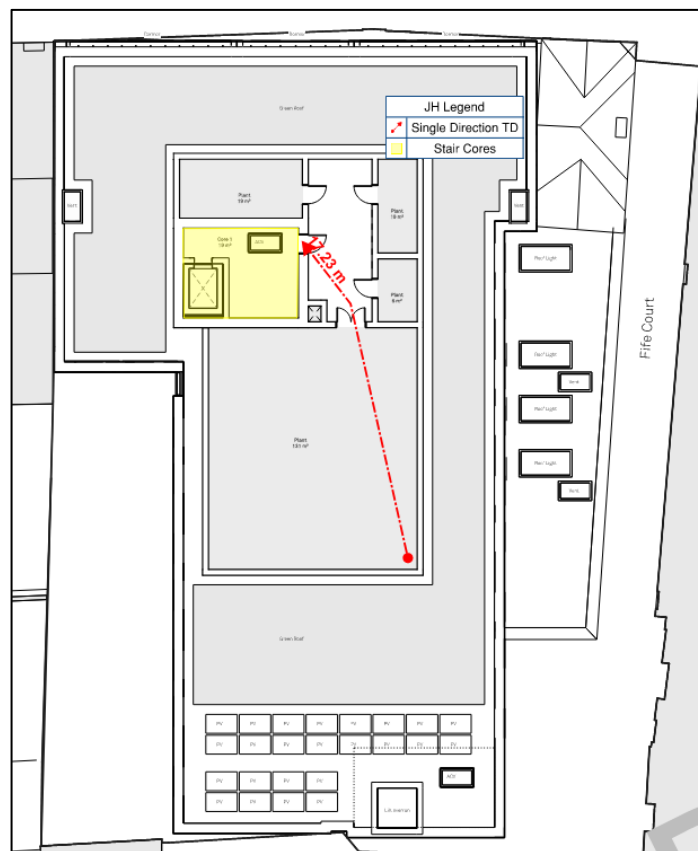


Figure 8: Travel distances on the Roof

- Although the residential floors areas are intended to operate under a 'stay put' evacuation strategy, some occupants may choose to evacuate in the event of a fire starts in somewhere else. In such cases, if Core 1 is used, there is a risk that the residential entrance space could become smoke-logged and hinders their escape. To mitigate this, it is proposed to provide a smart emergency signage system within the residential area which can approach Core 1. This system should be linked to the fire detection and alarm system and will activate in the event of smoke detection within the residential entrance space, warning occupants not to use Core 1 for escape.

Please note that the above fire engineered solution carries an approvals risk and should be agreed with from Building Control at an early stage.

3.5 Mobility-Impaired Occupants

The minimum clear width of any door should be no less than 850 mm to support the independent evacuation of disabled occupants.

Where escape is reliant on a stair, disabled refuges should be provided. Disabled refuges should be at least 900mm by 1,400mm and located so that they do not encroach on the required escape path or reduce the required exit width.

Although not clearly written in ADB, BS 9991 states that at least one evacuation lift should be provided for each escape stairway if the lift is already provided as a passenger lift. Updates for the future ADB version are out for public consultation and they show similar requirements for evacuation lifts within each core. To future proof the building design and align with the expected guidance change, we would recommend both lifts in Cores 1 and 2 should be designed as evacuation lifts.

Evacuation lifts should be designed and operated in accordance with BS EN 81-20.

3.6 Refuse Stores

Where the refuse store can be accessed internally on Ground Floor level, the refuse store must be separated from the common corridor by a protected lobby with at least 0.2m² permanent ventilation or mechanical equivalent.

3.7 Miscellaneous

3.7.1 Subdivision of corridors

Common corridors connecting two or more storey exits should be sub-divided with a FD30S fire doors fitted with self-closing device.

3.7.2 External escape route

From the final exit from Core 2, occupants will need to travel along an external escape route to reach Friar Street. The external walls within 1.8m of this external escape route up to 1.1 m height should be protected in 30 minutes (REI).

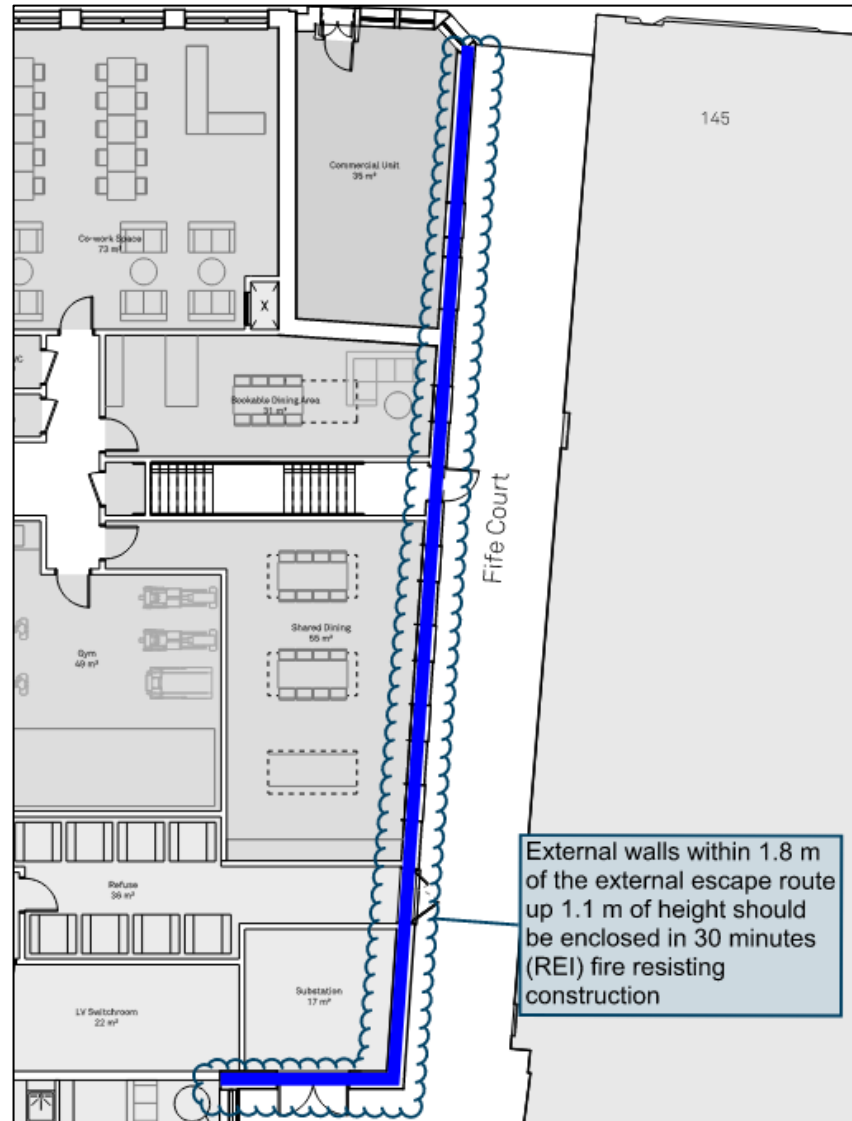


Figure 10: 30-minute fire resisting construction enclosing the external escape route

4.0 SMOKE CONTROL PROVISIONS

4.1 General

The smoke extract system should comprise of a combination of AOVs and smoke shafts, where best suited. They should achieve the following:

- Natural AOVs – Automatically opening vents located on the external elevation should provide an aerodynamic minimum free area of at least 1.5m^2 . Automatically opening vents on the head of stair should be provided with a minimum free area of 1m^2 .
- Natural Smoke Shafts – The shaft should have a free area of at least 1.5m^2 , with a minimum dimension of 0.85m in any direction. The shaft should open at the roof level, extending at least 0.5m above any surrounding structure within 2m horizontally. It should also extend a minimum of 2.5m above the ceiling of the highest storey served. The vent into the shaft will achieve a free area of at least 1m^2 .
- Mechanical System – A mechanical system can also be used for the above, they should meet the requirements set out in BS EN 12101-6.

4.2 Basement

- The basement should be provided with natural smoke outlets connected externally. The outlets should be evenly distributed across the basement, and the combined cross-sectional area of the outlets achieve at least 1/40 of the basement floorplate.
- Smoke shafts serving both basement and upper levels should be provided with smoke control dampers.
- As an alternative to a natural venting, a mechanical smoke extract system can be provided, it should achieve the following:
 1. Reach 10 ACH;
 2. Capable to handle gas temperatures of 300°C not less than an hour; and
 3. It should do either of the following:
 - Activates automatically under sprinkler actuation.
 - Be activated by an automatic fire detection system that conforms to BS 5839-1 with minimum of L3 detection system.

4.3 Ground Floor

- The corridor section opening into Core 2 requires smoke ventilation.
- To achieve the above, it is proposed to utilise the smoke shaft opening into the common corridor as a smoke extraction point. The fresh air will be provided to the corridor when the occupant in the flat on fire opens the staircase door to escape. Doors leading into the stair core should be constructed as a pressure calibrated 'floppy' door to achieve the above.
- As escape from Core 1 is not discharged directly outside, the reception area is to be designed as a fire-sterile area which achieves similar purpose as a protected escape route. All rooms opening into this reception area should be provided with smoke ventilated lobbies.
- 0.2m^2 permanent ventilation should be provided to the refuse lobby.
- Refer to Figure 11 for more details.

4.4 Typical Upper Floor

- Smoke ventilation to the common corridor sections opening into the stair cores as follows:
 1. Corridor opening into Stair Core 1:
 - Only the corridor section leading into Core 1 will require smoke ventilation.
 - The smoke shaft to the left will provide an extract point located remote from the entrance to Stair Core 1.
 2. Corridor opening into Stair Core 2:
 - Only the corridor section leading into Core 2 will require smoke ventilation.
 - The current smoke shaft opening into Core 2 can be utilised as a smoke extraction point.
- Fresh air replacement for both arrangements will be provided via the opening of the stair door by occupants during escape. Both doors leading into the stair core should be constructed as a pressure calibrated 'floppy' door to achieve the above.
- Refer to Figure 12 for more details.

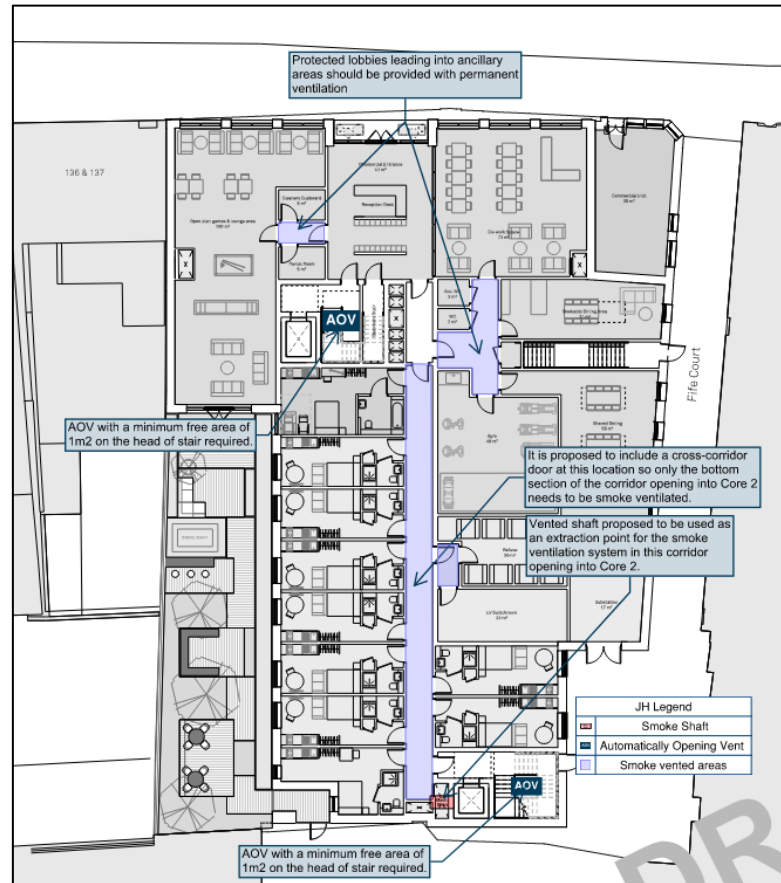


Figure 11: Ground Floor smoke control strategy

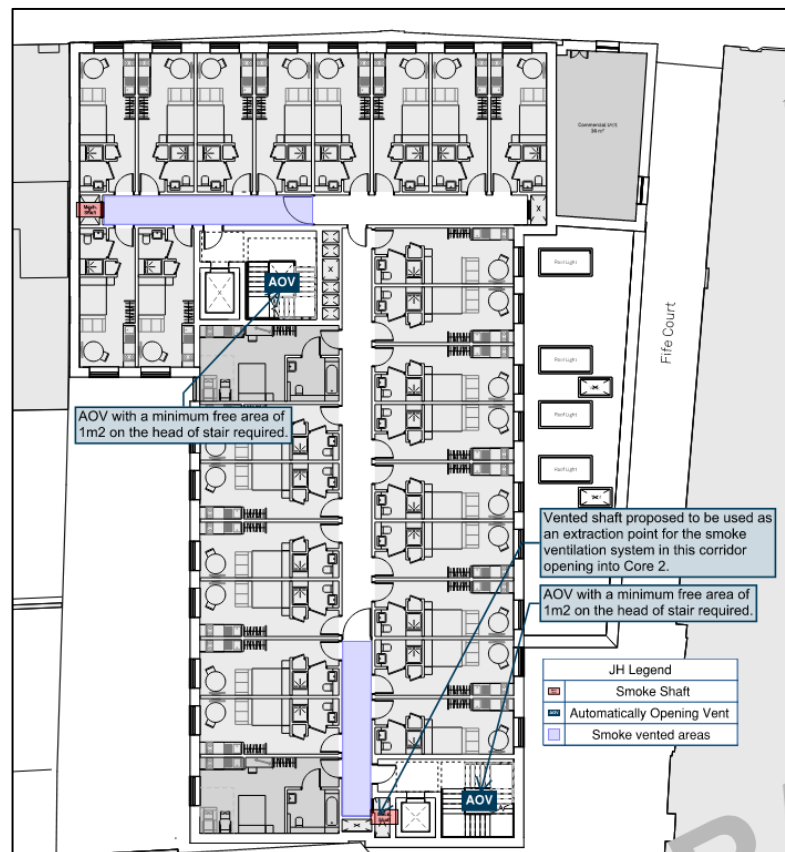


Figure 12: Typical Upper Floor smoke control strategy

5.0 CONSTRUCTION

5.1 Structure

The building's top storey is below 18 m above ground. All elements of structure such as the structural frame, loadbearing walls and structural floors will be designed to achieve at least 60 minutes fire resistance.

Structure supporting the roof, where the roof will not be used for means of escape, supports plant space or support the external walls will not need to be fire resisting.

As part of the current scheme, PV Panels will be provided on the roof. The construction supporting the portion of roof with PV panels and access routes will be fire rated to achieve 60 minutes fire resistance.

5.2 Compartmentation

The compartmentation within the building should achieve the following requirements:

Part of Building	Fire Resistance Period
Compartment floors	60 minutes
Compartment walls separating each studio flat and the commercial unit	60 minutes
Enclosure of protected shafts (stairs, lifts, service risers, smoke shafts, etc.)	60 minutes
Storage areas (refuse, cycle, etc.)	60 minutes
Protected corridors and lobbies	30 minutes
Laundry Room	30 minutes
Areas within 1.8 m of an external escape route, up to 1.1 m in height	30 minutes
Plant Rooms (except life safety equipment plant, which will require 2 hours of fire rating)	30 minutes

Table 2: Compartmentation Within the Building

5.3 Services, Fire Stopping and Cavity Barriers

Where services pass through compartment lines, they should either be fully enclosed in fire resisting construction to the same period as the compartment, or be fire stopped to the same period at the compartment line. Cavity barriers and fire stopping should be provided in line with the guidance in Section 8 in ADB.

Junctions between compartment lines, penetrations within compartment lines, or where compartment lines meet the external wall should be fire stopped to the same period of fire resistance as the compartment construction.

5.4 Walls and Linings

New wall and ceiling linings should achieve at least the following classifications:

- Rooms no larger than 4m² - Class D-s3, d2
- Small rooms of not more than 30m² - Class D-s3, d2
- Circulation areas - Class B-s3, d2
- Other Rooms - Class C-s3, d2

5.5 Internal Angles and Returns

Where two separate spaces, such as individual units or an escape stair/route, form an angle of less than 135°, at least 1m (measured horizontally) from the corner of one elevation will be provided with fire resistant construction achieving 60-minutes fire resistance.

This principle as shown in BS 9991:2024 is shown in the figure below, as well as an indicative internal angle between apartments with the 60 minutes fire resistance in red.

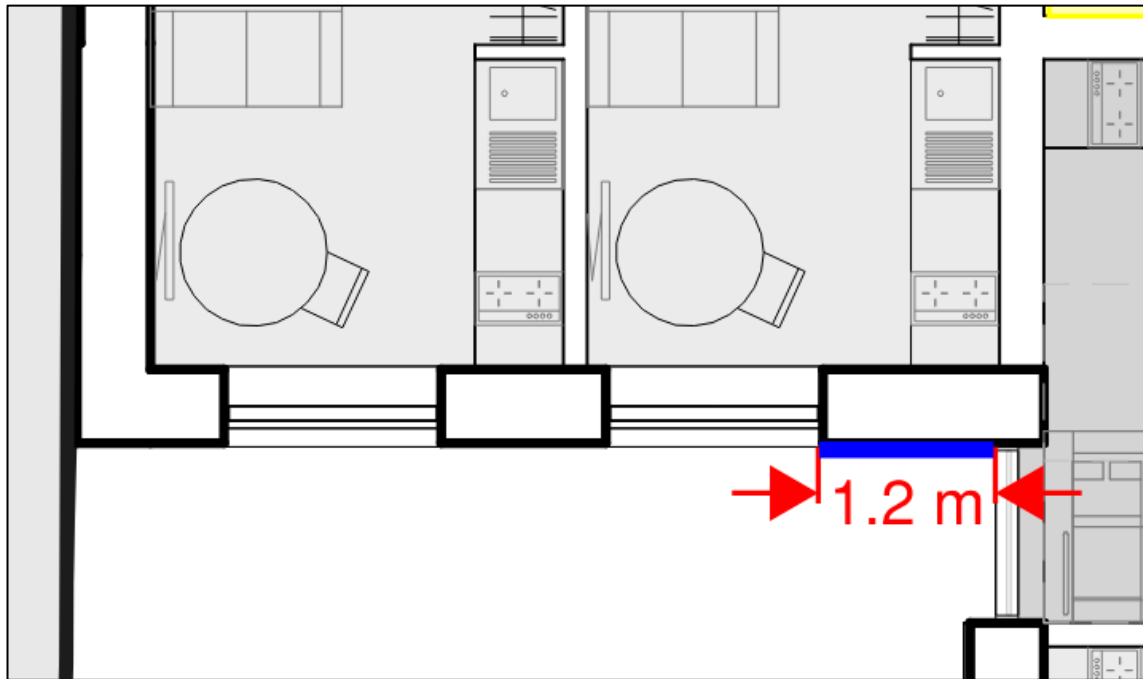


Figure 13: Internal Angle between Apartments

6.0 EXTERNAL WALLS

Initial calculations of the permitted unprotected areas on the building's elevations have been carried out using the enclosing rectangle method described in BRE 187. The amount of permitted unprotected area allowed has been assessed on the basis of sprinkler suppression provided to all areas within the building. Refer to Figure 14 for more details.

- North Elevation: Measured towards centreline of Friar Street, can remain 100% unprotected.
- East Elevation: Measured towards the external façade of neighbouring 145-148 Friar Street building, can remain 100% unprotected.
- South Elevation: Measured towards the external façade of the adjacent building. In addition, on upper floors, the left bottommost studio flat is provided with a window opened facing the adjacent building. A cooking hob is arranged in close proximity to the window. The shortest distance of the external façade of this flat to the adjacent building is only approximately 0.9 m. There is a potential risk of fire spread to the neighbouring façade. The south façade of this studio flat should be fully protected on all levels. All other areas of the external façade on this elevation can be 100% unprotected.
- West Elevation: There are sections of the façade on this elevation sharing the same party wall with the neighbouring building. These sections will have 0% unprotected area. For other sections, it can remain 100% unprotected. The west elevation façade of the left bottommost studio flat should be 0% unprotected to align with the recommendations given on the south elevation.

A more detailed analysis should be undertaken as the scheme progresses.

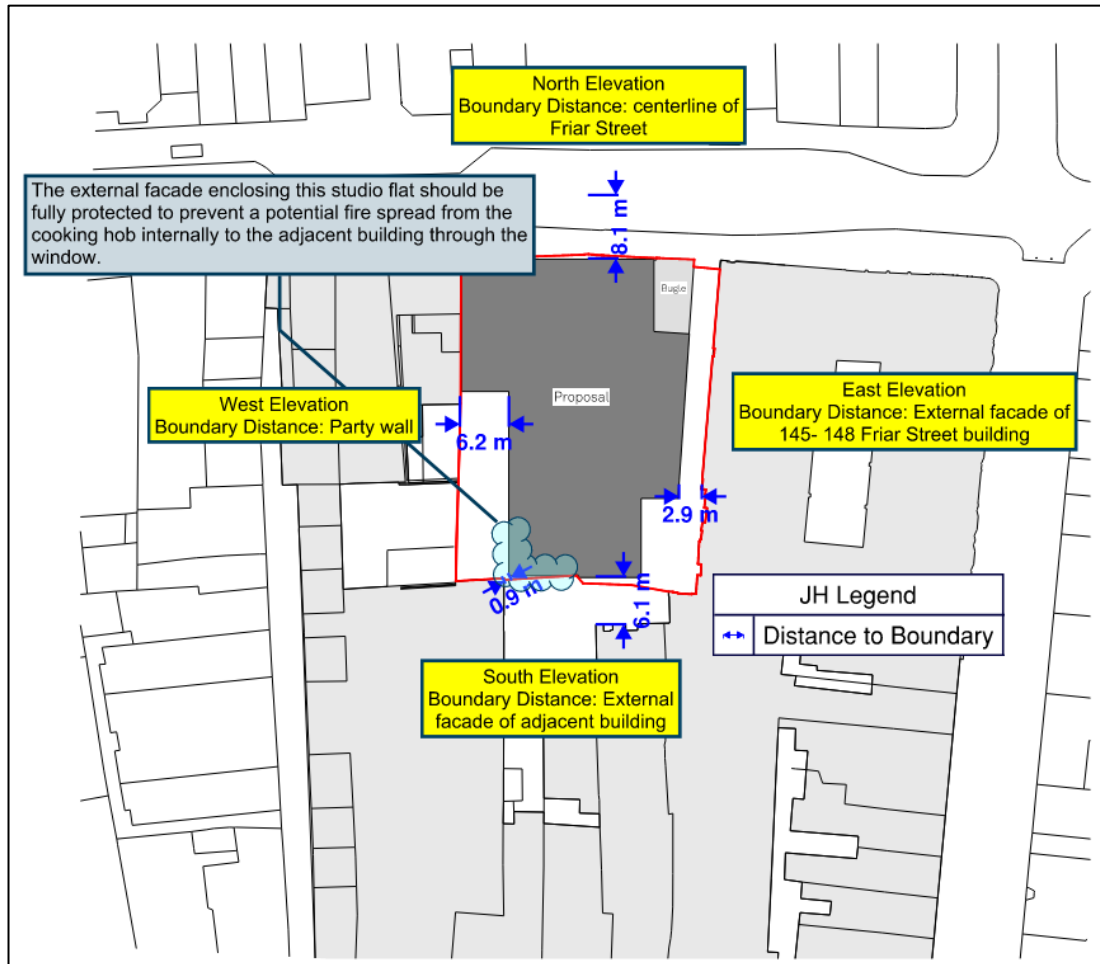


Figure 14: Boundary Distances

6.1 External Wall Construction

All materials used in the construction of the external wall will achieve European Class A2-s1, d0 or Class A1, except for sealants, gaskets, doors and windows (including frames); (see regulation 7(3) for the full list of exemptions).

Membranes within the external wall will achieve a minimum Class B-s3, d0.

External surfaces should also meet the recommendations given in Approved Document B, Volume 1, Table 12.1, for surface spread of flame.

6.2 PV Panels

Arrays of photovoltaic (PV) solar panels will be provided on the roof externally. If these will be located above a concrete structural deck or non-combustible roof materials, with no significant risk of fire spreading down into the building, and they are not considered to present any significant life safety concern.

However, the manufacturer of the solar panels should be consulted for input on any associated fire risk with their products and suitable mitigation measures to reduce the risk and impact of a solar panel fire.

Property protection recommendations for PV panels and installations can be found in RC62: Recommendations for fire safety with PV panel installations.

Based on the guidance in Fire Safety Guideline for Building Applied Photovoltaic Systems on Flat Roofs (May 2024) also recommends the following to aid firefighting operations that will be provided as part of the works:

- No PV panels next to the edge of the roof on any side, and aisles free of PV panels to enable uninterrupted walking path from any access point on the roof.
- Extension of firewalls to avoid unexpected fire development, sufficiently strong roof construction, and main system shut-off to reduce electrocution concerns.
- The successful application of extinguishing medium requires proximity, as the PV panels will otherwise block the application stream and are thus linked to the two previous requisites. If environmental concerns are of particular importance, this becomes even more crucial, as the amount of water used should be limited.

The purpose of the recommendation is to aid firefighting efforts in case of fire. The M&E design team has confirmed that a firefighter cutoff switch will be provided as part of the design to isolate the panels from the wider system at the ground floor.

7.0 FIREFIGHTING

7.1 Fire Vehicle Access

Fire Vehicle Access should comply with Section 13 of ADB. From our review, the Fire Vehicle should access the building via Friar Street on the North Elevation.

There is a small road which also serves as the external escape route if occupants choose to escape via the Core 2 final exit or from the alternative escape of the Courtyard. However, the width of the road measured from kerb to kerb is 3.2 m, which is under the minimum road width of 3.7 m advised in Table 13.1 of ADB. Thus, it is not expected that Fire Vehicles can drive into this small road for easier access into the buildings.

Access into the building's dry riser inlet from the Fire Vehicle should be within 18m.

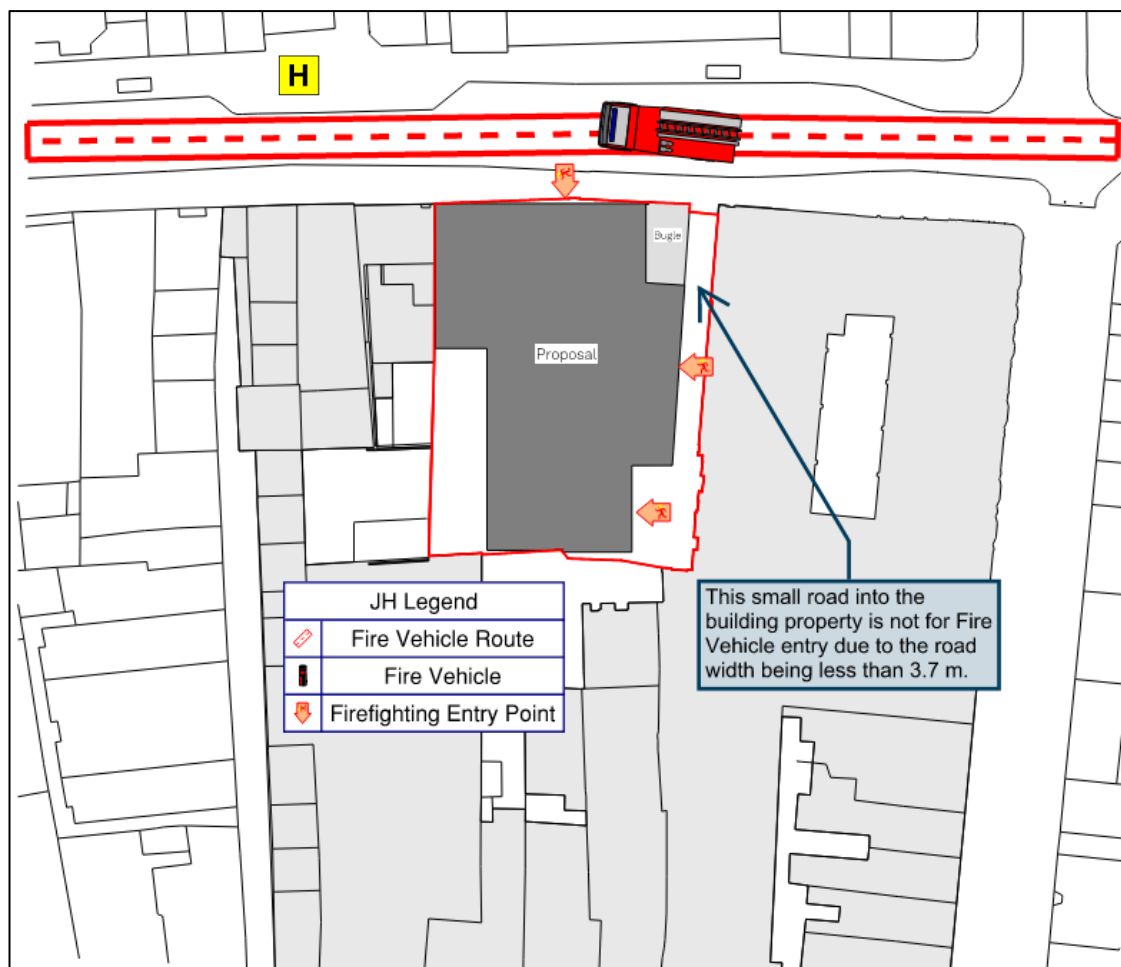


Figure 15: Firefighting Access to the building

7.2 Firefighting Facilities

The building should be provided with a dry riser main. With reference to Section 7.1, it is recommended to provide the dry riser main inlet on the North Elevation near the Residential Entrance, ensuring it is visible and within 18m of the fire appliance parking position. Dry riser main outlets should be provided within Stair Core 1 enclosure at every level, including the basement and all upper floor levels.

Hose distances should be within 60 m as the building is provided with sprinklers throughout. The hose distances appear to be sufficient to the furthest point on each floor if the dry riser main outlet is provided with Core 1.

The design team should confirm the provisions of the dry riser mains.

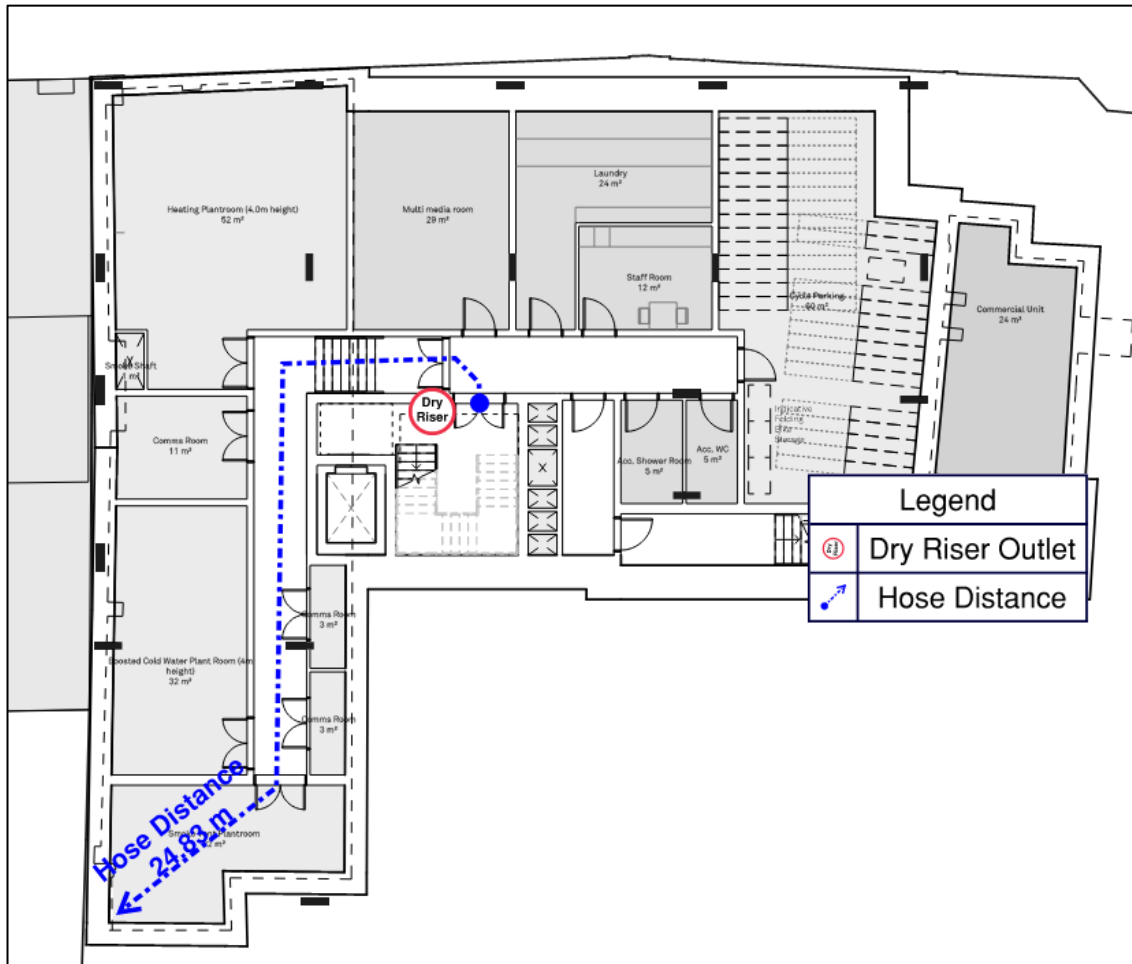


Figure 16: Hose distance on Basement

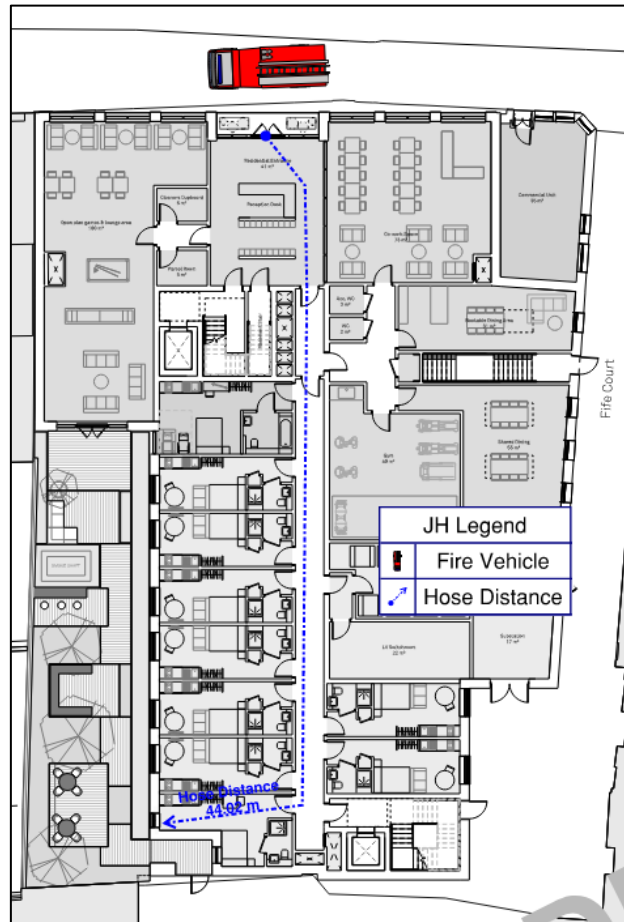


Figure 17: Hose distance on Ground Floor

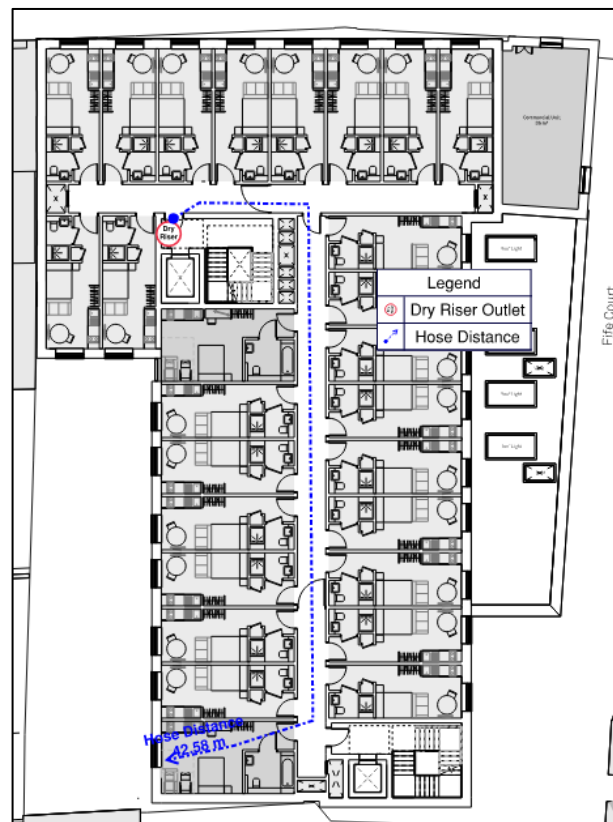


Figure 18: Hose distance on a typical upper floor

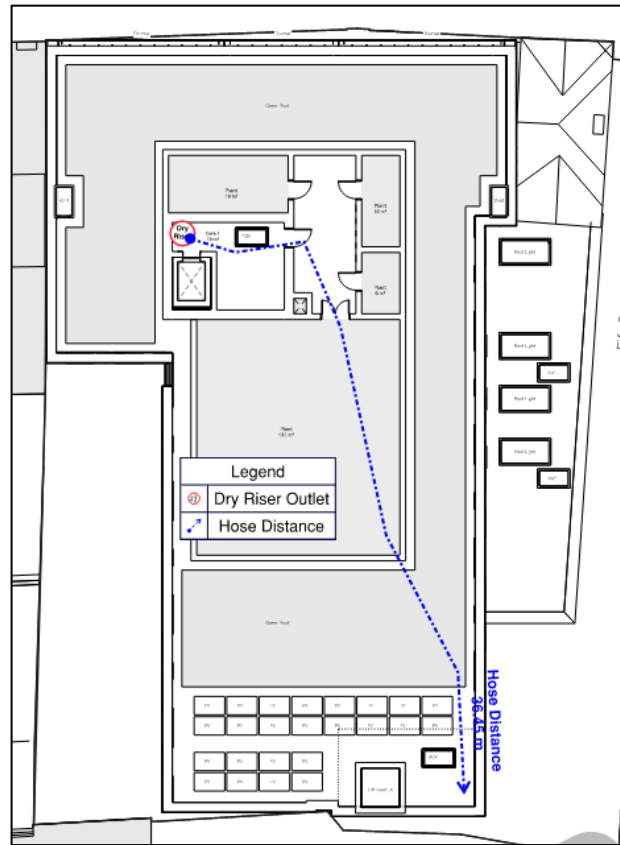


Figure 19: Hose distance on roof

7.3 Hydrants

Hydrants should be provided within 90m of the dry riser main inlets of the building. Based on site plans and Google Maps, there is an existing hydrant in front of the building on the opposite side of Friar Street.

8.0 FIRE SAFETY MANAGEMENT

8.1 General

Once the building is occupied, it is the responsibility of the management and/or responsible person to ensure that all fire safety systems are tested and maintained to ensure their continuous effectiveness. The management should: -

- Be aware of all the fire safety features provided and their purpose
- Where required ensure a competent person is present in the building during occupied times
- Liaise with and seek the advice of the fire authority

8.2 Staff

Staff should receive training from competent individuals. This training should occur at regular intervals and ensure all staff understand how to respond to a fire, including the appropriate actions upon discovering a fire, the correct response to hearing a fire alarm, and the proper escape procedures from all parts of the building.

A management structure should be established to ensure staff are aware of their responsibilities in the event of a fire, with these responsibilities clearly defined. A chain of command should also be implemented, delineating clear lines of responsibility, authority, and accountability.

8.3 Fire Safety Information

Regulation 38 of the Building Regulations in England and Wales sets out to ensure that crucial fire safety information is provided to the responsible person or building owner upon completion of a new building or a significant renovation project.

Regulation 38 stipulates that the person undertaking the construction work must compile and provide fire safety information about the building to the responsible person. The responsible person is typically the building owner or manager who will be in charge of the building's ongoing fire safety management.

The aim of Regulation 38 is to ensure that the person responsible for the building has all the information to enable them to carry out their duties under the Regulatory Reform (Fire Safety) Order including all of the following.

- Understand and implement the fire safety strategy of the building.
- Maintain any fire safety system provided in the building.
- Carry out an effective fire risk assessment of the building.

The purpose of the fire safety manual is to clearly define the nature of the fire safety systems provided for the building. It should include: -

- An explanation of the overall fire safety strategy
- Evacuation procedures
- Design documentation to describe the use of each fire safety system
- Staff roles in the event of a fire: their responsibility, authority and accountability
- A detailed maintenance routine

This fire strategy report will form a key part of the fire safety manual for the building but should be supplemented with other essential fire safety information which is to be handed over to the responsible person when the project is complete or when the building or extension is first occupied. Details of the suggested contents of the fire safety manual are provided in Section 19 of the Approved Document B and Annex H of BS 9999 Code of practice for fire safety in the design management and use of buildings.

The Fire Safety Manual and fire safety information contained within should be reviewed periodically and when any alterations are made to the building. BS 8644-1: *Digital management of fire safety information - design, construction, handover, asset management and emergency response - code of practice* published by the British Standards Institute provides guidance on how to manage fire safety information digitally across the life of a built asset.

8.4 Maintenance and Housekeeping

It is the role of management to ensure that maintenance is carried out in accordance with the relevant British Standards, so that all fire safety systems are operational in the event of a fire. It is also important that good housekeeping practices are followed. The building management should be aware of any hazardous substances or practices within the building, which increase the risk of fire.

8.5 The Regulatory Reform (Fire Safety) Order 2005 and Fire Safety Act 2021

This Order places a duty on the 'responsible person' to ensure, 'as far as is reasonably practical' the safety of his employees and to take such general fire precautions as may be reasonably required to ensure that the premises are safe [i.e. for non-employees]. The 'Responsible Person' is defined in Article 3 of the Fire Safety Order as:

- (a) in relation to a workplace, the employer, if the workplace is to any extent under his control;
- (b) in relation to any premises not falling within paragraph (a)—
 - (i) the person who has control of the premises (as occupier or otherwise) in connection with the carrying on by him of a trade, business or other undertaking (for profit or not); or
 - (ii) the owner, where the person in control of the premises does not have control in connection with the carrying on by that person of a trade, business or other undertaking.

The Fire Safety Act 2021 clarifies the scope of the Fire Safety Order to make clear it applies to the structure, external wall construction and flat entrance doors in buildings containing 2 or more sets of domestic premises. The Fire Safety Act amends article 6 of the Regulatory Reform (Fire Safety) Order Act 2005 in this regard and requires responsible persons to ensure that these elements are included in their fire risk assessments.

Under the Order, there is a requirement to carry out and continually update an assessment of the risk of fire to people in and around the premises/building, and to assess and maintain the measures to reduce those risks to an acceptable level. A Responsible Person is able to update the fire risk assessment themselves, however where the update requires an assessment of materials which make up a building's external wall system the Responsible Person may need to contract a suitably competent fire risk assessor to undertake that assessment for them.

A Fire Risk Assessment should be carried out:-

- On completion of the building fit out, and strictly before first occupation of the building.
- Regularly, particularly if there is reason to suspect that it is no longer valid, or there has been a significant change in the matters to which it relates. where any changes occur such as changes in the use of the building, the number or nature of occupants, or building works.
- We would recommend that a fire risk assessment is carried out at least annually.

Other legal duties include (item 3 to 5 and 7 not applicable to all residential buildings): -

1. Keeping a record of the Fire Safety Arrangements. These are the preventative and protective measures for the building.
2. A person must be nominated for any special role identified in an emergency plan.
3. Employees must be consulted about nominations to perform special roles, and about any proposals for improving the fire precautions.
4. Other employers in the building must be informed about any significant risks, which might affect the safety of their employees, and there must be co-operation with them in measures to reduce the risk.
5. Those having control over the workplace have a responsibility to ensure compliance with the regulations in those parts of the building over which they have control.
6. A suitable and readily available method of calling the emergency services must be established.
7. Employees are required to co-operate in ensuring that the workplace is safe from fire.

The order also adopts 'Principles of Prevention'. These include:-

- Avoiding risks;
- Evaluating the risks which cannot be avoided;

- Combating the risks at source;
- Adapting to technical progress;
- Replacing the dangerous by the non-dangerous or less dangerous [particularly with respect to hazardous substances];
- Developing a coherent overall prevention policy which covers technology, organisation of work and the influence of factors relating to the working environment, and;
- Giving appropriate instructions to employees.

The intention for inclusion of 'structure' within the Fire Safety Act is that there should be a visual inspection of the construction and layout of the building on the basis that it will have been built to resist early structural collapse in the event of a fire.

8.6 Fire Safety (England) Regulations 2022

The Fire Safety (England) Regulations 2022 are made under article 24 of the Fire Safety Order 2005 and came into force on 23 January 2023. These introduce new regulations and extend the duties of the responsible person imposed by the Regulatory Reform (Fire Safety) Order 2005 and apply to all buildings in England that comprise two or more domestic dwellings.

The Responsible Person is defined in Article 3 of the Fire Safety Order and has various duties related to fire safety in residential buildings, the duties vary depending on the building height.

In all residential buildings, fire safety instructions, including evacuation strategies and fire reporting procedures, must be prominently displayed within the building and issued annually or as soon as residents move in. Additionally, information about fire doors, especially flat entrance doors, should be provided to residents.

For buildings over 11m, extra duties include fire door checks in the flat entrance doors and communal areas. Any faults must be promptly rectified and reported.

9.0 INFORMATION, LIMITATIONS AND ASSUMPTIONS

The information limitations and assumptions used in the preparation of this report are noted below:

Drawings

This report is based on drawings issued to us. Dimensions have been taken from these drawings. The following drawings were used:

- P21109-FCH-XX-B1-DR-A-1399 General Arrangement – B1 Basement Plan
- P21109-FCH-XX-00-DR-A-1300 General Arrangement – 00 Ground Floor
- P21109-FCH-XX-01-DR-A-1301 General Arrangement – 01 First Floor
- P21109-FCH-XX-02-DR-A-1302 General Arrangement – 02 Second Floor
- P21109-FCH-XX-03-DR-A-1303 General Arrangement – 03 Third Floor
- P21109-FCH-XX-04-DR-A-1304 General Arrangement – 04 Fourth Floor
- P21109-FCH-XX-05-DR-A-1305 General Arrangement – 05 Fifth Floor
- P21109-FCH-XX-06-DR-A-1306 General Arrangement – 06 Roof Plan
- P21109-FCH-XX-XX-DR-A-1203 Site Plan - Proposed

Building Regulations

This report considers building regulations, which deal with life safety. Property protection and insurance issues are not addressed in this report. Guidance on property protection and insurance requirements should be sought out by the relevant specialist parties.

Other Limitations

Complying with the recommendations of this report will not guarantee that a fire will not occur.

Unless otherwise described in this report, the fire strategy assumes that the building design, the mechanical and electrical systems, construction methods and materials specifications will comply with current Building Regulations guidance, and relevant British Standards and Codes of Practice. The design of mechanical and electrical systems such as fire alarm and sprinklers is a specialist area. Fire Strategy recommendations are given in this report; however, the design and specifications need to be developed at the appropriate stage in consultation with the specialist designers of these systems.

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