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Planning Fire Safety Statement

148 Field End Road

Ruislip, Pinner HA5 1RJ

Client: Conex Ltd, Conex House, 148 Field End Road, Pinner, London HA5 1RJ

Revision	Date	Description
01	03.10.24	Initial issue

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Institution of Fire Engineers Member 00056660

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Design stage:

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The London Plan 2021

Mu.Studio (UK) Ltd have been commissioned to provide fire safety consultancy services for a proposed residential development on 148 Field End Road in the London Borough of Hillingdon.

The proposed development will feature the construction of 7 new apartments and associated ancillary areas. As such, this is considered a 'minor development' under the London Plan 2021 [1], where featuring both less than ten residential dwellings and non-residential areas being no greater than 1,000 m^2 in total. A Planning Fire Safety Strategy report is therefore provided both to fulfil the expectations of the London Plan, as well as to support the client and design teams with developing their project information into detailed and technical design.

Summary Tables 1, 2 & 3 provide completed Form 2 and Form 3 pro-formas as provided within the Greater London Authority document "London Plan Guidance – Fire Safety" (February 2022 version, draft for consultation). The remainder of the document provides more detailed information to substantiate the completed pro-forma and to assist the client with the further development of the scheme.

Summary Table 1 – General

Item	Detail
Site address	148 Field End Road, Ruislip, Pinner HA5 1RJ
Description of development	Demolition of existing building and redevelopment of site to provide a part 3, part 4 storey residential building.
Name, qualifications, professional memberships, and experience of author	Mr Andrew O.M. Ballantyne BArch MEng CEng MIFireE PMSFPE, a Chartered Engineer registered with the Engineering Council by the Institute of Fire Engineers, and Full Member of the Institute of Fire Engineers (Member 00056660). Andy graduated with a Master's degree in Structural and Fire Safety Engineering from the University of Edinburgh and a Batchelor's degree in Architectural Design from the University of Dundee. Andy has subsequently worked in fire safety engineering for over 10 years and undertaken numerous commercial, residential, and governmental projects in London of varying scale and complexity.
Has a Gateway One Statement been submitted?	Not applicable, where proposal is not a 'Relevant Building' as defined in Regulation 7(4) of the Building Regulations.

Summary Table 2 – Form 2: Planning Fire Safety Strategy (London Plan Policy D12A)

Item	Detail	See also:
Identifies suitably positioned unobstructed outside space for fire appliances to be positioned on	Fire appliances will be able to Field End Road as a hardstanding area at the front of the development, being located within 18 m of the dry riser inlet serving the residential core. This public road is sufficient to support access by multiple appliances to the site via the existing road network.	Section 6
Identifies suitably positioned unobstructed outside space appropriate for use as an evacuation assembly point	Assembly areas are not expected to be identified for apartments, though sufficient safe waiting space would be available nearby using the public pavements adjacent to Field End Road.	Section 3.6
Designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire, including appropriate fire alarm systems and passive and active fire safety measures	The development will feature active fire safety systems in accordance with the expectations of BS 9991, including Grade D1 Category LD2 detection and alarm to BS 5839-6. The common residential stair will feature an automatic smoke venting, with supporting smoke detection equipment to BS 5839-1. Passive fire protection measures will include the provision of fire-resisting construction to form the escape routes, compartmentation between apartments, and fire-resisting external walls where required to protect against fire spread to or from the site boundaries.	Section 3 & Section 4
Constructed in an appropriate way to minimise the risk of fire spread	Internal lining specifications and fire-resisting construction are to be provided to meet the expectations of BS 9991, assisting to limit fire growth, and to separate adjacent apartments and common areas. The external walls and roof elements will meet the contemporary guidance within Approved Document B, being the more onerous that the expectations within BS 9991.	Section 4 & Section 5
Provides suitable and convenient means of escape, and associated evacuation strategy for all building users	Means of escape provisions are based on the expectations of BS 9991 for a small single stair building of less than 11 m in height with apartments accessed directly from the common stair. An evacuation lift will also be provided within the building, being accessed from the landing of the common stair.	Section 3
A robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in	Information regarding the means of escape and fire safety equipment is to be retained in accordance with the principles of the Golden Thread, and to be provided to the building owner / demise management in accordance with relevant fire safety legislation to support the ongoing management and maintenance of fire safety provisions within the development.	Section 7.1
Suitable access and equipment for firefighting which is appropriate for the size and use of the development	Firefighting access into the building will utilise hose laying within the maximum hose laying distance of 45 m recommended for unsprinklered buildings in BS 9991. The building is provided with a dry rising main in support of meeting the maximum hose laying distances.	Section 6
Where a lift core is provided, at least one lift is an evacuation lift	An evacuation lift is provided to serve each of the above-ground floors.	Summary Table 3 & Section 3.7

Summary Table 3 – Form 3: Provision of an evacuation lift (London Plan Policy D5(B5))

Item	Detail
Details of the evacuation lift and shaft	
Design standard	To meet either BS EN 81-76 if / when published as a design standard, as well as being in accordance with Annex G.2 of BS 9999 as relevant.
Location	Located within the area of the protected stair at each above-ground level.
Waiting area	The lift waiting space is designed as a place of relative safety, including protection and smoke control supported by venting of heat / smoke with equivalent protection to that provided to the common stair. Communication equipment meeting BS 5839-9 is to be provided at waiting spaces / refuges areas adjacent to the evacuation lifts.
Capacity assessment	
Size of cars	The evacuation lift is to be sized in accordance with the recommendations of Part M of the Building Regulations, as well as to facilitate day-to-day maximum lift traffic and furniture removals. This is considered sufficient for the transportation of typical wheelchair or other less mobile users, plus potential for a lift operator. Should an apartment resident have temporary or permanent additional requirements, such as being bed-bound or requiring medical equipment, a suitable evacuation plan is recommended to be developed in co-operation with building management for that specific individual based on current best practice government guidance.
Capacity of lifts	Specific guidance for undertaking capacity assessments for the evacuation of disabled occupants from residential areas has not yet been developed / published. The only lift serving the residential levels will be the evacuation lift. This will meet the peak day-to-day capacity requirement and is considered as reasonably sufficient to support disabled users only in the event of a fire. The residential building is designed such that travel distances to the central core are suitable for occupants of all apartments. With the lift being within the single route of access the residential floors, all occupants would be familiar with the location of the lift.
Evacuation strategy	
General philosophy	The residential building will utilise a defend-in-place evacuation strategy, with only the apartment of fire origin evacuating initially in the event of a fire. Other residents, including disabled residents, would remain within the building, where suitable fire-resisting construction and active fire safety measures support their safety during routine fire incidents. In the event of a large fire developing that causes concern, the full evacuation of the building may then be initiated by building management or the fire and rescue service. The apartments at Ground floor have step-free access, and occupants would be expected to escape unassisted upon activation of the fire alarm.
Operation	BS 9999 guidance recommends that evacuation lifts are driven by trained members of staff. However, for the residential building this would require the presence of 24hr management which is not generally expected for a development of this scale. Development of standards for automatic and remote evacuation lift operation are occurring as part of the development in BS EN 81-76. Use of such protocols would be preferred, allowing a resident to escape without reliance on management, and without requiring management staff to place themselves at heightened risk by attending the upper floor in the event of a fire. The method of evacuation lift operation is to be confirmed by the time of lift purchase, depending on the available technology and in accordance with best practice guidance. It is envisioned that this should use an automatic or remote system if available at that time.
Use of lifts	It would be recommended that the evacuation lift is used to support disabled occupants only in the event of a fire, with ambulant occupants using the stairs to escape. It would be recommended that where possible, an automatic or remotely operated evacuation lift be limited to occupants that require additional support only. However, this would be dependent on the available technology at the time of lift purchase.
Evacuation lift management plan	
Responsibility	The evacuation lift management plan must be developed by the building operator as part of the wider fire safety management plan. This should include consideration of the organisation's fire safety policies and support tools, guidance provided by the manufacturer for operation of the evacuation lift, development of a general evacuation plan for unspecified occupants, a process for identifying and developing an evacuation plan for occupants with additional needs, and a plan for liaising with the fire service in an incident.
Roles	The required roles in support of the evacuation lift should be developed following best practice guidance for the type of lift available at installation. For an automatic or remotely operated lift, this would not be expected to require management staff to be present within the building during operation of the firefighting lift.
Maintenance	It is recommended that planned maintenance of the evacuation lift occurs during times when the building is less occupied, such as during normal work hours, and where practicable the lift is returned to operation overnight for works requirement multiple days. Management is recommended to provides notification of planned or unplanned maintenance of evacuation lifts to disabled residents. In the event of residents having additional concerns, further contingency (such as evacuation chairs) could be considered.
Declaration of compliance	
Declaration of compliance by a competent person	The technical content produced for this planning application is considered to suitably comply with the relevant legislation and requirements of London Plan Policy D5(B5), where applicable, subject to suitable development and implementation during the Building Regulations process and construction. Signed: Digitally signed by Andy Ballantyne Date: 2024.10.03 11:39:36 +08'00'

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1. Introduction

1.1 General

1.1.1 Mu.Studio (UK) Ltd have been commissioned to provide fire safety consultancy services in support of the construction of a new residential development located 148 Field End Road in the London Borough of Hillingdon as illustrated in Figure 1.

1.1.2 This report may be used in support further detailed design development. It is not intended to portray detailed design information for fire safety systems or construction specifications and should be read in conjunction with the wider project documentation.

1.1.3 Any alternative design solutions suggested within this report are subject to agreement and eventual approval by the relevant authorities having jurisdiction (AHJs).

Figure 1 – Existing site arrangement (image from Google maps)

1.2 Legislation and basis of design

1.2.1 This fire safety strategy is developed in cognisance of the fire safety expectations of the Building Regulations 2010 (as amended), including:

- Regulation 7 – Materials and workmanship
- Schedule 1, Part B1 – Means of warning and escape
- Schedule 1, Part B2 – Internal fire spread (linings)
- Schedule 1, Part B3 – Internal fire spread (structure)
- Schedule 1, Part B4 – External fire spread
- Schedule 1, Part B5 – Access and facilities for the fire and rescue service

1.2.2 The fire safety strategy has not been developed to include additional property protection enhancements or to meet the expectations of insurer requirements. However, fire safety provisions as required by the Building Regulations will, to some extent, assist with the protection of property in the event of fire.

1.2.3 This fire safety strategy does not address site fire safety during construction. The Health and Safety Executive (HSE) [2] and Fire Protection Association (FPA) [3] issue guidance on identifying and managing fire precautions on construction sites, which should be consulted by the Principal Contractor for the scheme.

1.2.4 The building is designed in accordance with the recommendations of BS 9991 [4], including further documents and standards referenced therein. This will be augmented by recent updates to Approved Document B – Volume 1: Dwellings (ADB1) [5], being above and beyond the expectations of BS 9991. Unless otherwise stated, fire safety provisions to be in accordance with BS 9991 guidance as appropriate.

1.2.5 Fire engineering principles are employed to support alternative solutions where strict adherence to design guidance would conflict with the wider aspirations for the scheme. In accordance with the fire safety engineering principles detailed in the PD 7974 codes of practice [6], it is considered appropriate that all fire precautions are determined based on there being one seat of fire (i.e., accidental fires).

1.3 Reference information

1.3.1 This strategy is based on information provided as listed in Table 1 below. Additional contradictory information or subsequent design variations to the information supplied may render the findings and recommendations of this report invalid.

1.3.2 External references utilised in the generation of this report are summarised in Section 8.

Table 1 – Project design documentation

Description	Author	Document	Rev.
Proposed Site Location Plan	Urban Infill Limited	0562-PL-201	0
Proposed Site Plan		0562-PL-202	0
Proposed Ground Floor Site Plan		0562-PL-210	0
Proposed Ground Floor Plan		0562-PL-211	0
Proposed First Floor Plan		0562-PL-212	0
Proposed Second Floor Plan		0562-PL-213	0
Proposed Third Floor Plan		0562-PL-214	0
Proposed Roof Plan		0562-PL-215	0
Proposed Front Elevation		0562-PL-221	0
Proposed Rear Elevation		0562-PL-222	0
Proposed Section A-A		0562-PL-231	0
Proposed Section B-B		0562-PL-232	0

2. Development summary

2.1 Description of proposal

2.1.1 The development is for the construction of a new apartment building at 148 Field End Road in the London borough of Hillingdon. The development will be set over four floors (G + 3) and includes 7 new residential apartments as summarised in Table 2.

2.1.2 The residential building will feature a range of single level apartments accessed directly from the internal common stair. The refuse store and the bicycles stores located externally at ground level, with no internal connection to the residential building.

2.1.3 The upper floor of the apartment block will be located at ~9.9 m above ground level. As such, the building is not considered as a 'relevant building' by Regulation 7(4) of the Building Regulations, nor is it expected to be provided with a 'firefighting shaft'. It does not feature an occupied floor greater than 11 m in height, and as such is not required to feature automatic suppression or non-combustible external wall insulation.

2.1.4 Figure 2 and Figure 3 provide an overview of the arrangement of the proposed building, with full fire strategy drawings also included within Appendix A.

Table 2 – Summary of accommodation

Level	Accommodation
Third Floor	1x single level apartment
Second Floor	2x single level apartments
First Floor	2x single level apartments
Ground Floor	Residential entrance, 2x single level apartments

2.2 Occupancy

2.2.1 For the residential areas, the defend-in-place regime is expected to result in only a small number of occupants from the apartment of fire origin escaping. As such, the maximum occupancy of the apartments need not be utilised for the sizing of means of escape routes using BS 9991.

2.2.2 The apartments will be for domestic residential use only. No additional fire safety features to support disabled or assisted living have been requested, and this fire strategy has been developed premised on the meeting the expectations of Part B in Schedule 1 of the Building Regulations only.

2.2.3 It will be the responsibility of residents to develop an escape plan in the event of a fire. Where elderly, immobile, or young children need assistance to escape, the fire safety provisions provided may assist in maintain tenable escape conditions for a reasonable duration. In particular:

- A good standard of detection and alarm will provide early warning to residents, assisting in the rousing of sleeping occupants and supporting investigation of the fire prior to untenable conditions developing.
- Protected entrance halls within apartments would allow occupants to escape through a space which can be separated from a fire occurring within a living or bedroom area.

Figure 2 – Ground Floor (left) and First Floor (right) arrangements

Figure 3 – Second Floor (left) and Third Floor (right) arrangements

3. Means of warning and escape

3.1 Evacuation philosophy

3.1.1 The residential areas of the building will utilise a defend-in-place evacuation strategy.

3.1.2 In the event of a residential apartment fire, only the unit of fire origin will receive a signal to evacuate. No other flats will receive an automatic alert notification, though should residents become aware of a fire in another flat they may leave the building if they wish to do so.

3.1.3 If a fire were to spread beyond the apartment of fire origin, the wider evacuation of the residential building would be initiated and managed by the attending fire and rescue service.

3.2 Means of detection and alarm

3.2.1 The apartments are to each be fitted with an automatic fire detection system to meet Grade D1 Category LD2 in BS 5839-6 [7], in support of the protected hall arrangements detailed in Section 3.3. This will include heat detection in kitchens, and smoke detection throughout living areas and hallways.

3.2.2 Grade D1 systems are recommended such that the appartements would be suitable as either rental investments or for owner-occupation under BS 5839-6.

3.2.3 Suitable means of warning are to be provided to private balconies where these are accessed directly via a single entrance from the living area. With the balconies being of limited size and having a clear view of the internal access space, it would be considered that external alarms or beacons would not be necessary to avoid creating public nuisance during false alarms.

3.2.4 The residential common area is to feature a Category L5 detection and alarm system in accordance with BS 5839-1 [8], specified to meet the following:

- Smoke detection will be provided within the common stair to activate the smoke venting equipment at the head of the common stair (see Section 3.4). No sounders are expected to be provided in this area.
- The fire alarm panel for the BS 5839-1 system is to be located at the residential entrance to the core at Ground floor. This will sound an audible alert upon activation of the common detection system.
- It would be recommended that the system be specified to allow remote monitoring by a management company or the responsible person. This could provide an automated warning message (such as via phone call or messaging service) in the event of system activation or fault.

3.3 Means of escape from within dwellings

3.3.1 The apartments feature protected internal hallways in accordance with Section 9.4.2(b) and Figure 11 in BS 9991, where travel distances in the hallways are limited to no greater than 9 m to either the apartment entrance. Each bedroom as accessed directly from a protected hallway, and the protected hallways connect directly to the apartment exit door.

3.3.2 The construction of the protected internal hallway in each apartment is to be in accordance with the guidance provide in Section 4.4 of this report.

3.3.3 Where wardrobes are included within the area of the protected entrance hall, these should be suitably small and low risk as noted on the www.gov.uk FAQs for Approved Document B. Refence could be made to Section 5.4(e) of BS 9251, which suggests that cupboards of less than 2 m^2 where either the width or depth does not exceed 1 m and where not featuring consumer units or electrical equipment (other than a single light) may be deemed as low risk.

3.4 Means of escape through common residential areas of the apartment building

3.4.1 With the proposed block featuring four storeys (Ground to Third floor), a single stair arrangement with apartments accessed directly from the common stair is proposed based on Figure 8(b) in BS 9991, as indicated in Figure 4, noting:

- The uppermost floor of the building is less than 11 m above the adjacent ground level.

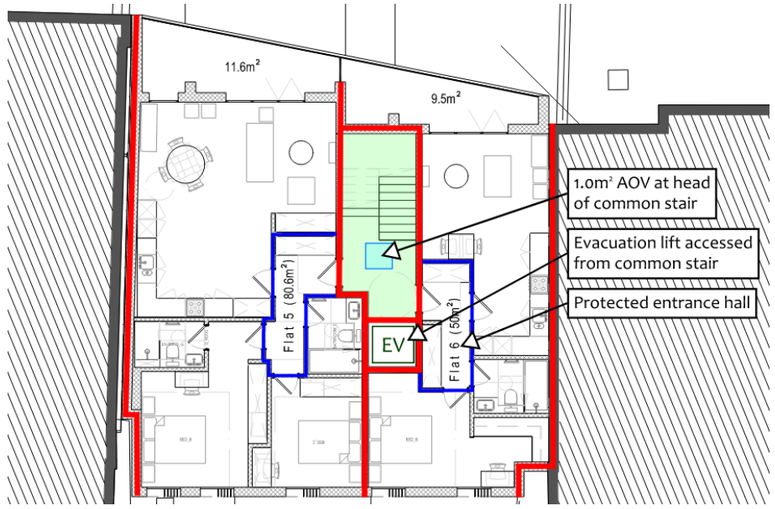

Figure 4 – Typical common area escape provisions (Second floor shown)

- The common stair serves a maximum of two apartments at each level.
- Each apartment is to be provided with a protected entrance hall, in support of direct access being provided from the common stair.
- An automatically opening vent (AOV) is to be provided at the head of the common stair.
- Fire-resisting construction and fire doors should be provided to separate the apartments and the common stair in accordance with Section 4.4.

3.4.2 The AOV at the head of the common stair is to have a free area of at least 1.0 m^2. This should be specified in accordance with BS EN 12101-2 [9] and should open in the event of activation of the common area detection system (see Section 3.2).

3.5 Means of escape from non-residential areas

3.5.1 Residential ancillary areas, including the refuse and bicycles stores, feature travel distances that meet the expectations of Table 14 of BS 9991, as follows:

- Places of special fire hazard: Up to 9 m in a single direction to the room exit.
- Other areas: Up to 18 m in a single direction, and up to 45 m where available in multiple directions.

3.5.2 Access to the refuse bicycles storage areas will be from outside air only, and protected or vented lobbies are not expected where no connection to the apartment internal escape routes are proposed.

3.6 Final exits and onward escape

3.6.1 The final exit from the residential stair is recommended to have a clear width of at least 850 mm, to support unassisted use by disabled occupants at Ground floor. It is considered that this final exit need not be of clear width equal to the common stair, where only small numbers of occupants would escape at any one time from a defend-in-place residential building.

3.6.2 The common area discharge to outside at Ground floor, before featuring onward escape from the building to a place of ultimate safety.

3.6.3 Assembly areas are not required to be designated for residential buildings. However, in the event of a fire incident, residents are recommended to retreat to a safe distance from the building and away from fire service access routes. This may be within the communal garden area or adjacent to the site access road.

3.7 Means of escape for disabled persons

3.7.1 In accordance with the expectations of Policy D5(B5) of the London Plan, evacuation lifts are to be provided to all areas of a development served by a lift. As such, the above-ground residential floors will be served by an evacuation lift. The Ground floor apartments each have step-free egress to outside.

3.7.2 Evacuation lifts are recommended to be in accordance with BS EN 81-20 [10], BS EN 81-70 [11], and BS EN 81-76 [12] (once released) as relevant. The car should be at least Type 2 under BS EN 81-70 to support the evacuation of persons with disabilities.

3.7.3 It is expected that evacuation lifts serving residential areas would feature either an automatic or remote evacuation procedure as discussed in Section 5.4.3.2 of the draft version of BS EN 81-76. If the evacuation lifts are required to be procured prior to full release of BS EN 81-76, then these should be in accordance with the expectations of Section 8.4 in BS 9991 and Annex G.2 in BS 9999 [13].

3.7.4 Protected waiting areas for disabled occupants are to be provided adjacent to the evacuation lift at the above-ground floors, in support of use of the lift for evacuation. The provided waiting area is to have an equivalent level of protection and smoke control as expected for ambulant occupants using the common stair, achieved by virtue of the lift also being located within the protected stair enclosure.

3.7.5 Each lift waiting area is to be provided with emergency voice communication (EVC) between the waiting area and a suitable location at the entrance to the core in accordance with BS 5839-9 [14].

3.7.6 Management and maintenance staff should consider whether they could adequately escape from the building in the event of a fire. For any member of staff having restricted mobility, it is recommended that a Personal Emergency Evacuation Plan (PEEP) is developed and practised in support of their work at the site.

3.7.7 A General Emergency Evacuation Plan (GEEP) should also be developed by management of the building, including consideration of any future guidance resulting from the recommendations of the Grenfell Enquiry and the ongoing review of emergency evacuation plans for residential buildings. Further information can also be found in BS 8300-2 [15] and the DCLG Publication "Fire Safety Risk Assessment Supplementary Guide – Means of Escape for Disabled People".

3.8 Doors on escape routes

3.8.1 All doors on escape routes in common areas will either not be provided with a securing device or be provided with a securing device that is easily openable without the use of a key and without having to manipulate more than one mechanism.

3.8.2 Any doors fitted with an electronic latch (e.g., operated by a swipe card reader) on the un-secure side should have door latches operated by a handle on the secure side (so people inside the room will always be able to escape without the need for a key in an emergency).

3.8.3 Doors on escape routes will generally be hung to open in the direction of exit, apart from certain instances where the doors will serve less than 60 people, will open not less than 90° and have a swing which is clear of any change in level, other than a threshold or single step on the line of a doorway.

3.8.4 Any fire doors fitted with hold-open devices should release on:

- actuation of the fire alarm system or local smoke detector head,
- manual operation or operation of a switch fitted in a suitable position, if necessary, or
- failure of the electricity supplies.

3.8.5 Doors opening onto stairways or corridors will be sited not to encroach on the effective width of any stairway, landing, or corridor.

3.8.6 Fire doors are to be specified in accordance with Section 4.4 and Table 4.

3.9 Emergency lighting

3.9.1 Emergency lighting will illuminate all occupied areas (excluding within apartments), common evacuation routes (internal and external as necessary), and essential areas including plant areas. It will illuminate a safe exit route including fire exits, changes in level or direction, and firefighting equipment.

3.9.2 Emergency lighting will be installed in accordance with the recommendations of BS 5266 [16], BS EN 1838 [17], and BS EN 60598-2-22 [18]. Lighting to escape stairs should be on a separate circuit from that supplying any other part of the escape route.

3.9.3 Primary and emergency lighting will also be required for any external escape routes that will not be lit by surrounding street lighting.

3.9.4 An exterior discharge lighting installation or an interior discharge lighting installation operating unattended, operating at a voltage exceeding low voltage (as defined in Statutory Instrument number 1018, part of the Building Regulations), should be controlled by a firefighter's emergency switch.

3.10 Fire safety signage

3.10.1 Fire safety signs will be installed where necessary to provide clear identification of fire precautions, fire equipment and means of escape in a fire. All parts of the development will be fitted with appropriate fire safety signage to comply with The Health and Safety (Signs and Signals) Regulations 1996, i.e., signage to be specified in according to BS ISO 3864-1 [19], BS 5499-4 [20] and BS 5499-10 [21].

3.10.2 The purpose of fire signs is to direct persons towards fire exits, or to provide specific information or warning about equipment, doors, rooms, or procedures. They should be recognisable, readable, and informative, as they convey essential information to regular and infrequent users of the premises, and the fire and rescue service. Fire notices should be permanently displayed in conspicuous positions throughout the building, including storey exits, and should provide information specific to the building.

3.10.3 All fire doors, other than apartment entrance and internal doors, will be marked with an appropriate fire safety sign conforming to BS 5499-1 [22] (white on blue) according to whether the door is:

- to be kept closed when not in use ('FIRE DOOR - KEEP SHUT').
- to be kept locked when not in use ('FIRE DOOR - KEEP LOCKED').
- held open by an automatic release mechanism ('AUTOMATIC FIRE DOOR - KEEP CLEAR').

3.10.4 Any emergency securing device fitted to doors on escape routes are to be provided with instruction notices, adjacent to the device, indicating the method of operation.

3.10.5 Recent updates to guidance in Section 15.13 to 15.16 in ADB recommend that buildings having an occupied floor at greater than 11 m in height should be provided with additional wayfinding signage for the fire and rescue service. As the building does not feature a floor at greater than 11 m in height, this recommendation would not be applicable to the development.

4. Internal fire spread

4.1 Internal wall and ceiling linings

4.1.1 During the development of a fire in a building, the choice of material for the lining of walls and ceilings can significantly affect the spread and growth of fire. Restrictions are placed on the wall and ceiling lining materials in certain parts of buildings to limit the spread of fire and production of smoke in these areas.

4.1.2 It is particularly important that in circulation spaces, where the rapid spread of fire is most likely to prevent occupants from escaping, the surface linings are restricted, by making provision for them to have low rates of heat release and surface spread of flame.

4.1.3 All wall and ceiling linings in the building should meet the recommendations summarised in Table 3 below.

4.1.4 The surface linings of walls and ceilings should generally conform to the classification recommended above for the appropriate location. However, parts of walls in rooms may be of a lower class but not lower than European Class D-s3, d2, provided that the area of linings having the lower classification does not exceed half of the floor area of the room, subject to a maximum of 20 m^2 in residential areas and 60 m^2 in non-residential areas.

4.1.5 No thermoplastic rooflights shall be used at the development.

Table 3 – Reaction to fire classification expectations

Location	Minimum classification to BS EN 13501-1 [23]
Within residential apartments:	
Small rooms ≤ 4 m^2	Class D-s3, d2
Other rooms	Class C-s3, d2
Within non-residential and ancillary areas:	
Small rooms ≤ 30 m^2	Class D-s3, d2
Circulation spaces	Class B-s3, d2
Other rooms	Class C-s3, d2

4.2 Automatic fire suppression

4.2.1 The uppermost floor of the apartment building is circa 9.9 m above access level. As such, the building does not feature a floor at greater than 11 m above ground level and automatic suppression is not expected based on the May 2020 amendment to ADB for residential apartment buildings based on the height of the building.

4.2.2 Suppression is not utilised in support of the fire strategy for the apartment block and has not been requested by the client for property protection. As such, no suppression system is included within the proposals.

4.3 Structural fire resistance

4.3.1 Elements of structure should be designed and / or protected to achieve 60 minutes fire resistance, being suitable for residential buildings with an uppermost occupied floors at less than 11 m in height.

4.3.2 Elements of structure that only support a roof do not generally require fire resistance. Structure is considered to support more than only a roof if it supports a load other than the roof itself (e.g., rooftop plant), or is essential to the stability of a compartment or other fire resisting wall (internal or external).

4.3.3 When determining the elements required to be fire-resisting, the structural engineer may utilise safety factors for the fire design loading case. These are typically less onerous than for the maximum ambient design loading case for primary members, or less onerous than the wind design loading case for stabilising members such as cross-bracing.

4.4 Fire-resisting construction and fire doors

4.4.1 All floors should be constructed as compartment floors where a sleeping risk will be present within the building, and to separate residential apartments. All shafts (e.g., risers and stair cores) are to be protected shafts where passing through compartment floors.

4.4.2 Elements of fire-resisting construction will be provided in accordance with the recommendations in Table 4, and as indicated on the fire safety drawings included within Appendix A.

4.4.3 BR 128 [24] contains advice for the nominal fire-resistance ratings of masonry walls. New drylining partitions or floor systems should be selected using a manufacturer's guidance documents for complete systems (such as the White Book from British Gypsum or the Knauf Manual), which will also provide a fire-resistance rating for the selected build-up.

4.4.4 Fire door assemblies are to comply with BS 476-22 [25] or BS EN 1634-2 [26] for fire resistance, and where applicable BS 476-31 [27] or BS EN 1634-3 [28] for smoke leakage. Timber fire doors should be installed in accordance with the expectations of BS 8214 [29].

4.4.5 Doors within residential dwellings are not required to have self-closing devices. It is recommended that doors are closed at night, or in the event of a fire alarm activation the first occupant to response then closes any door which may assist with containing the fire.

Table 4 – Periods of fire resistance for fire-separating elements (in minutes, for loadbearing, integrity, and insulation where exposed from each side separately unless otherwise stated) in the apartment building

Element requiring fire-resistance	Fire resistance rating	Fire doors
Elements of structure	60	N/A
Compartment / fire-resisting floors	60 (from underside)	N/A
Compartment / party walls	60	N/A
External walls (as required by Section 5.3): Less than 1,000 mm from a point in the relevant boundary More than 1,000 mm from the relevant boundary	 60 60 integrity, 15 insulation	 FD60 N/A
Protected shafts – common residential stair	60	FD30S
Separating apartments from each other and common areas	60	FD30S
Protected internal hallways	30	FD30
Cavity barriers	30 integrity, 15 insulation	N/A

4.5 Concealed spaces and cavity barriers

4.5.1 Cavity barriers are provided in concealed spaces to prevent the rapid spread of unseen fire or smoke in voids, and to prevent the spread of fire around compartmentation via voids.

4.5.2 All cavity barriers are to have a fire resistance rating of at least 30 minutes for integrity (E) and 15 minutes for insulation (I). Cavity barriers should be at no greater than 20 m centres in cavities with Class C-s3, d2 linings or better to BS EN 13501-1, as well as being located to align with fire-resisting construction as indicated in Figure 5. For other linings, the spacing between cavity barriers should be reduced to 10 m.

4.5.3 Cavity closers provided around openings may be formed of:

- steel at least 0.5 mm thick or timber at least 38 mm thick; or
- polythene-sleeved mineral wool, or mineral wool slab under compression when installed cavity; or
- calcium silicate, cement-based or gypsum-based boards at least 12 mm thick.

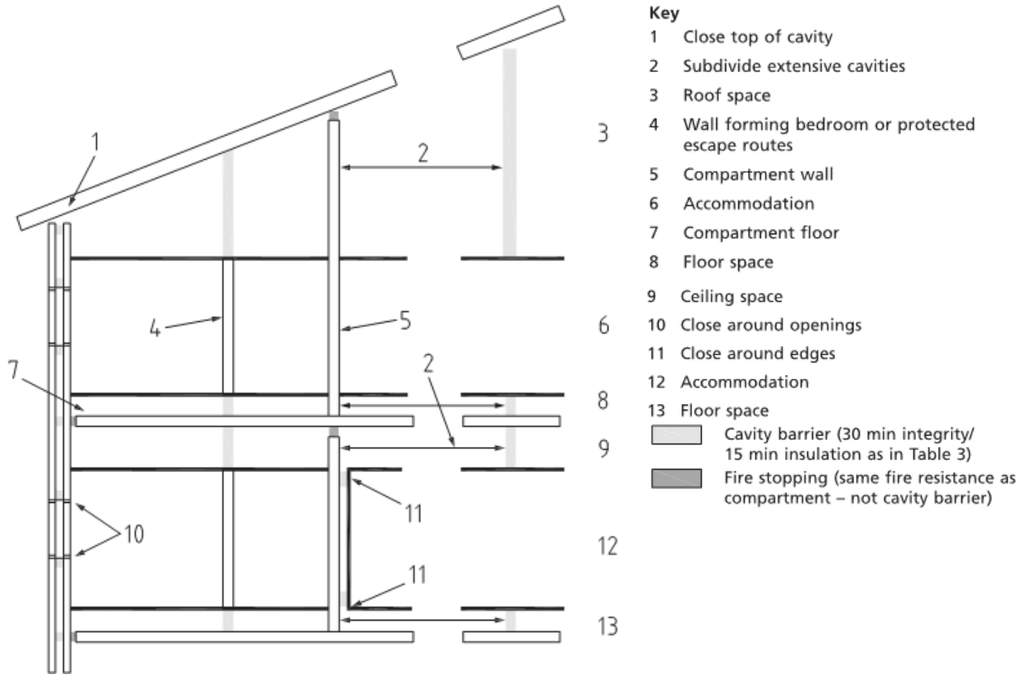

Figure 5 – Generic cavity barrier expectations

4.6 Fire-stopping and penetrations through fire-resisting construction

4.6.1 Fire-stopping should be provided at the junction of fire-separating walls and external walls to maintain the fire resistance period of fire-separating walls and prevent a fire from travelling around the junction and into the neighbouring space. Penetrations through lines of fire-resisting separation should also be fire-stopped using a product or system that will achieve the same fire resistance rating as the penetrated wall or floor.

4.6.2 To maintain the fire resistance rating of separating construction, any pipe or cable penetrations through lines of fire-resisting separation should be fire-stopped in accordance with one of the following methods set out by Section 19 in BS 9991, unless located within a protected shaft. Figure 6 is provided to assist in the interpretation of the above recommendations.

- for pipes of any diameter, a proprietary seal which has been shown by test to meet the fire-resistance rating of the wall, floor, or cavity barrier for the penetration circumstance; or
- for pipes with a restricted diameter, keeping the opening as small as possible and providing fire-stopping around the pipe. The nominal interior diameter of the pipe should not be more than the relevant dimensions given in Table 10 in BS 9991.

4.6.3 If ductwork is present which passes through construction forming a protected internal entrance hallways or stairs within an apartment, this is recommended to be in accordance with the NHBC Building Regulations Guidance Note "Ductwork passing through protected entrance halls in dwellings" [30].

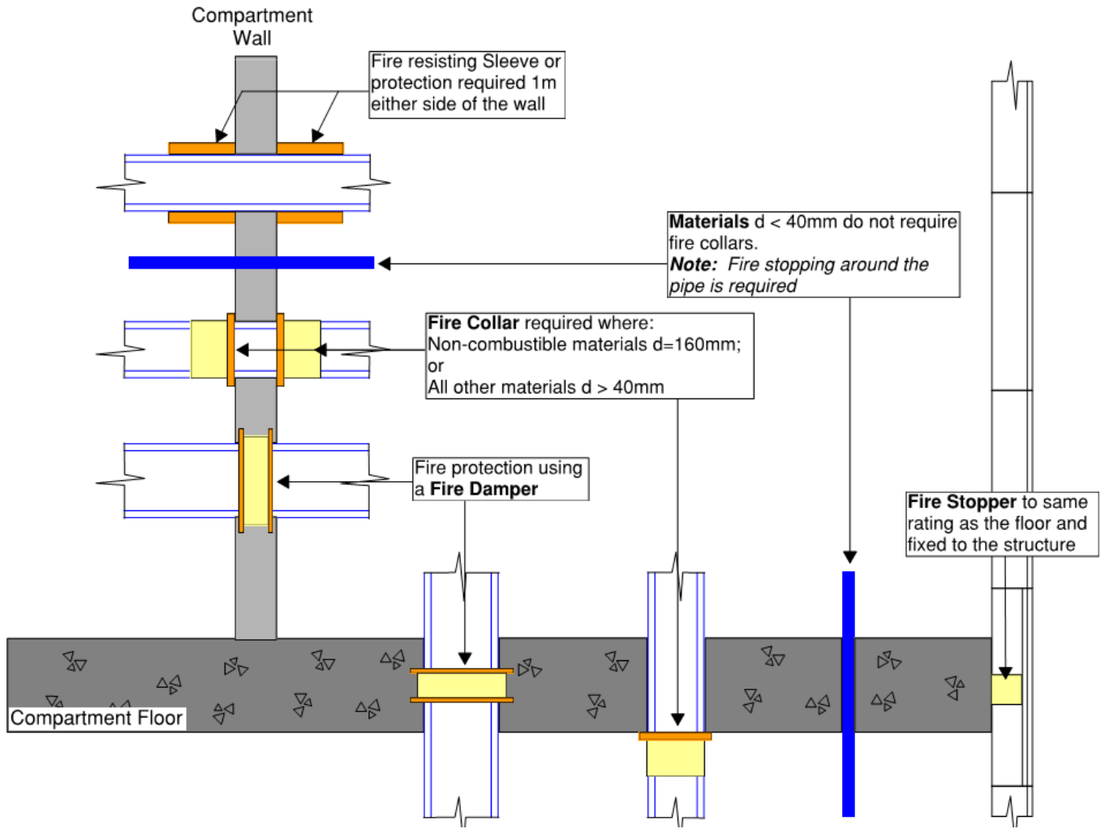

Figure 6 – Generic fire-stopping expectations

5. External fire spread

5.1 Construction and materials used for external walls

5.1.1 To prevent the spread of flame across the surface of building at a speed which may pose a threat to life, materials forming new areas of external walls of this residential building less than 11 m in height are to meet the following recommendations:

- Class B-s3, d2 or better to BS EN 13501-1 where located within 1,000 mm of the site boundary or utilised as protected area in Section 5.3; or
- No restriction where at least 1,000 mm from the site boundary.

5.1.2 For buildings less than 11 m to the uppermost floor no restrictions are placed on the combustibility of materials in the external wall (except for external surfaces within 1,000 mm of the site boundary). As such, the external wall materials may be combustible provided these meet the overall intent of Building Regulation B4, which states that external walls should be constructed to adequately resist fire spread. As such, combustible materials should not be used for construction of new external walls or external wall attachments without prior consideration and suitable care.

5.1.3 External walls are also expected to have cavity barriers in accordance with Section 4.5, located to align with internal fire resisting construction or to limit the unbroken length of external wall cavities.

5.1.4 External balconies, being defined as external occupiable areas located above external space below, are to be provided in accordance with BS 8579 [31]. With the building not featuring a floor greater than 11 m in height, the use of combustible materials for balconies would not be restricted by BS 8579, though these are expected to be risk assessed to minimise the potential for fire spread between balconies. This could be supported through use of lower combustibility materials or through inclusion of an impervious, non-combustible soffit below each balcony.

5.2 Roof coverings

5.2.1 Roof coverings are to be resistant to fire spread where being either close enough to a boundary to be at risk of ignition from a fire in another building, or where needed to resist fire spread between compartments via the roof coverings above.

5.2.2 New roof coverings 1.5 m either side of a fire-resisting wall should achieve an $B_{ROOF}(t4)$ rating. The remaining roof areas should meet the recommendations of Table 8 in BS 9991, as summarised in Table 5. In general, it would be recommended that all roof areas achieve $B_{ROOF}(t4)$.

5.2.3 Roof coverings may constitute a number of materials (but does not include the roof structure as a whole). Therefore, the top covering material should be considered in tandem with the substrate(s) to assess the performance of the coverings. The covering system as a whole is to meet the provisions of Section 5.2.2.

5.2.4 Should green roofs be used at the development, these are recommended to be specified in accordance with the GRO code [32], including:

- Having a growing medium / substrate of at least 80 mm thick and featuring <20% organic content with no peat. The growing medium / substrate should have also been tested in accordance with BS 8616 [33].
- Have fire breaks (i.e., gravel areas) of a least 300 mm around rooflights, soil pipes, rainwater outlets, and of at least 500 mm where adjacent to openable windows or doors.

5.2.5 Any photovoltaic panels should also be in accordance with roof classification guidance. If the photovoltaic array results in live cables with a current / voltage that may pose a hazard to firefighters, a remote isolation switch should be provided to allow these to be disconnected prior to commencement of wet operations.

Table 5 – Limitations on roof coverings

Distance from boundary	Allowable roof covering classifications to BS EN 13501-5 [34]		
	$B_{ROOF}(t4)$	$C_{ROOF}(t4)$	$D_{ROOF}(t4)$
Less than 6 m	✓	×	×
At least 6 m	✓	✓	×
At least 20 m	✓	✓	✓

5.3 Space separation and unprotected areas of the façade

5.3.1 Should a fire occur, heat will radiate through openings in the external walls. This heat can be enough to set fire to nearby buildings. To reduce the likelihood of this occurring, the Building Regulations guidance place limits on the area of the external elevation with no fire resistance, known as the unprotected area.

5.3.2 The building is to be designed and constructed with sufficient space separation and / or fire-resisting construction in the external façade to adequately limit the likelihood of fire spread to, or from, the adjacent relevant boundaries.

5.3.3 The relevant boundaries are the reference distances at which the potential for fire spread is considered, being the site boundary or a notional boundary created at the centreline of an adjacent road, railway, or other area with a sufficiently low likelihood of development. As indicated on Figure 7, the centreline of Field End Road is used to the north-east and to the site boundaries for the remaining façades.

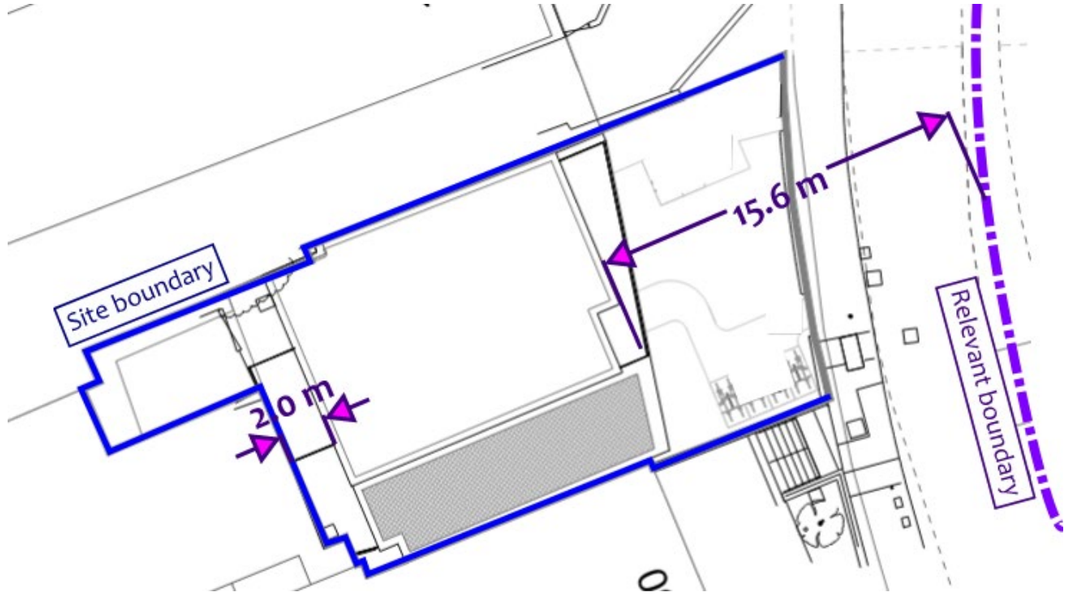

Figure 7 – Separation distances to site and relevant boundaries

5.3.4 Compartment walls and floors will reduce the extent of façade likely to be radiating at any one time. Following the recommendations of BR 187 [35], the lower level of emitted radiation (84 kW/m²) is used for residential areas.

5.3.5 For façades located within 1 m of the site boundary, being the side walls of the building, these are to have a fire-resistance rating of 60 minutes for integrity and insulation in accordance with Table 4. Only small, unprotected areas in accordance with Figure 8 would be permitted in these façades.

5.3.6 Using the methodology in BR 187 for façades located at least 1.0 m from the site boundary, an analysis of the available distance between the building and the boundaries has been conducted using compartment measurements as indicated in Figure 9. The findings of this analysis for the various compartments are presented in Table 6, which calculates the percentage of the façade permitted to be unprotected based on the available separation distances.

5.3.7 The protected areas as calculated in Table 6 indicate that for façades located at greater than 1.0 m from the site boundary, the front façade and side façade at Third Floor would not require any fire-resisting construction in the external wall to support prevention of external fire spread. For the rear façade, at least ~45% of the façade of each apartment would be recommended to have a fire-resistance rating of at least 60 minutes integrity and 15 minutes where located at circa 2 m from the site boundary.

5.3.8 The fire-resisting areas of external walls are indicated on the fire strategy drawings in Appendix A for areas considered to be party walls, located within 1 m of the site boundary, or at the rear façade. Fire-resisting areas of façade are to meet the expectations set out for construction in Section 4.4 and Table 4.

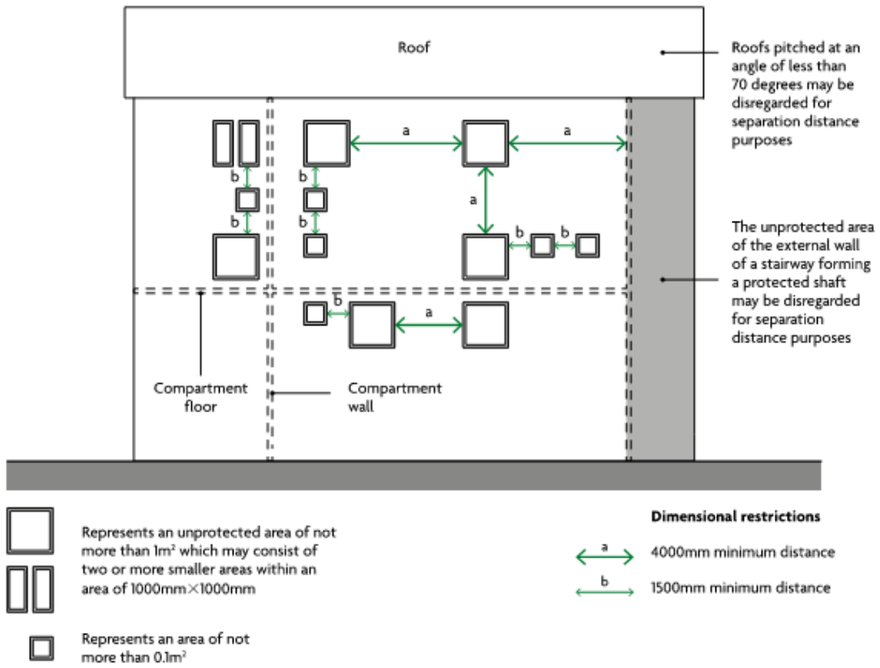

Figure 8 – Small unprotected areas that may be omitted from external fire spread assessment

Table 6 – Summary of external fire spread assessment

Area (Façade)	Enclosing rectangle (m)		Distance to boundary (m)	Permitted % of unprotected area
	Width	Height		
Apartments (front, all floors)	≤6.1	≤3.1	>10	100
Apartments (rear, GF – 2F)	≤6.9		≥2.0	54
Apartments (rear, 3F)	8.8	2.5		59
Apartments (side, 3F)	3.6		3.8	100

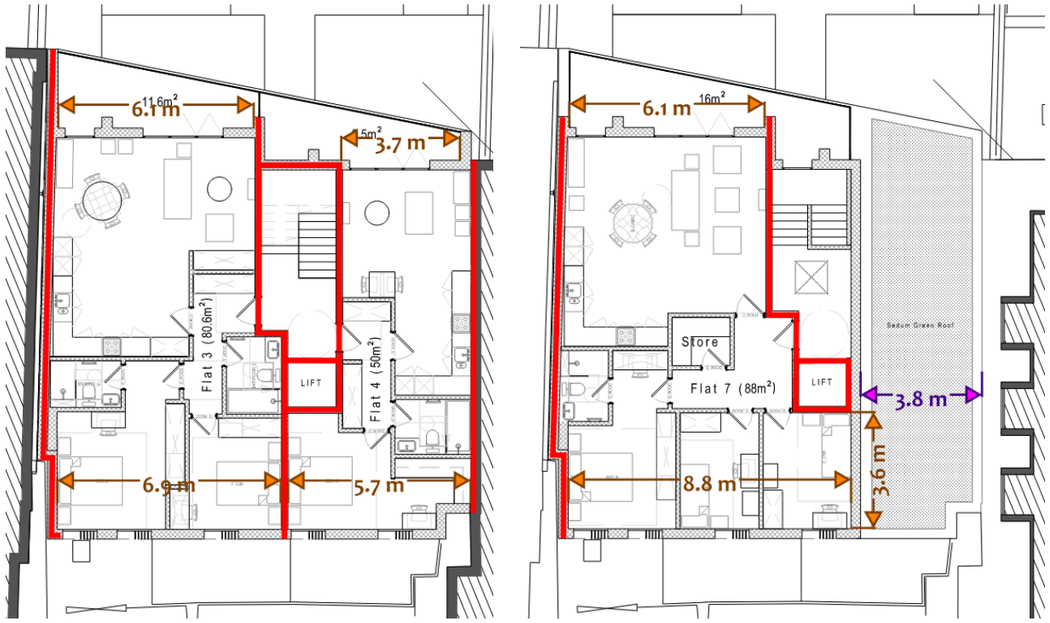

Figure 9 – Maximum unprotected area widths at First floor (left) and Third floor (right)

6. Fire service access and facilities

6.1 Notification and information for the fire and rescue service

6.1.1 In the event of a fire, the local Fire and Rescue Service (FRS) are expected to be notified by a resident or passer-by upon witnessing the fire.

6.2 Firefighting water supplies

6.2.1 The existing water supply for firefighting will continue to serve the site. This is via a nearby public hydrant located adjacent to the Field End Road as indicated in Figure 10.

6.2.2 Section 51.2(a) in BS 9991 recommends that at least one fire hydrant is located at a maximum of 90 m from the development. The existing fire hydrant is located at circa 55 m from the entrance to the proposed building as illustrated on Figure 10, meeting this recommendation.

6.3 Fire appliance access to the site

6.3.1 Vehicle access will be available as indicated in Figure 10, based on the fire appliance access guidance given in London Fire Brigade document GN29 [36], as summarised in Table 7.

6.3.2 With Field End Road being accessible from each end via the wider public highways network, turning areas are not required in support of fire appliance access to the site.

6.3.3 A dry riser is provided to support firefighting access to the upper floors of the building. The dry riser inlet is expected to be located no greater than 18 m from the hardstanding area to meet the expectations of Section 50.1.3 in BS 9991. This will be achieved as indicated on Figure 10, where the dry riser inlet is located at circa 12 m from the hardstanding area at the entrance to the site.

6.4 Firefighting facilities within the building

6.4.1 As the building will not feature an occupied floor at greater than 18 m above ground level, no firefighting shaft is required. Access into and through the building will be via the protected stairs with hose laying distances supported by inclusion of a dry riser.

6.4.2 The dry rising main is to be provided in accordance with BS 9990 [37], with dry riser outlets provided in the common stair at each level as indicated on the fire safety mark-ups in Appendix A. The dry riser inlet is to be located adjacent to the residential entrance, positioned to be within 18 m of the fire appliance hardstanding.

6.4.3 Where measured along a route suitable for laying hose, a hose laying distance of less than 45 m is to be present from a dry riser outlet to the furthest point within each apartment to meet the recommendations of Section 50.1.2 of BS 9991. The maximum hose laying distance in the building will be circa 16.5 m, as indicated on the fire safety mark-ups in Appendix A, meeting this recommendation.

6.5 Basement smoke clearance

6.5.1 No basement area is proposed, and as such, no basement smoke venting system is expected.

6.6 Car park smoke clearance

6.6.1 No covered car parking areas are proposed, and as such, no car park smoke clearance system is expected.

6.7 Stand-by power supplies

6.7.1 All powered life safety systems will have emergency back-up power in accordance with BS 8519 [38].

6.7.2 Smaller items of fire safety equipment, such as fire alarm systems, emergency lighting, and the automatic vent are expected to utilised batteries capable of a continuous stand-by supply in accordance with the relevant design standard and be fully rechargeable within a period of 24 hours.

6.7.3 Section 20.4 in BS 8519 and Section G.2.2 in BS 9999 note that where no other life safety system which requires an external secondary power supply is present, two protected and diverse supplies from a single supply intake may be considered sufficient for an evacuation lift (subject to designer risk assessment).

Table 7 – Pump-type firefighting appliance access requirements

Minimum access route specification	Dimension
Width between kerbs	3.7 m
Width between gateways	3.1 m
Turning circle between kerbs	16.8 m
Turning circle between walls	19.2 m
Clearance height	3.7 m
Carrying capacity	14 tonnes
Maximum reversing distance	20 m

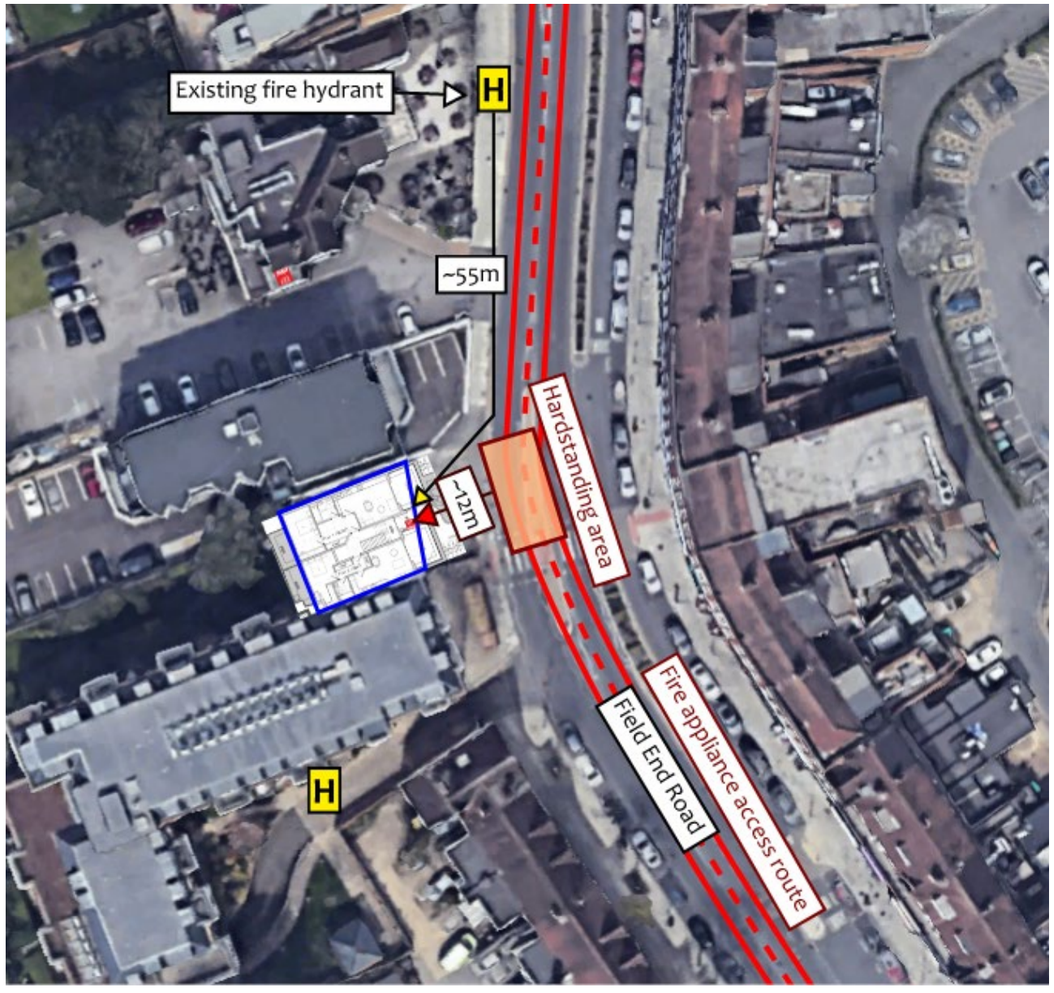

Figure 10 – Firefighting vehicle access and water supplies (north at page north)

7. Additional fire safety guidance

7.1 Fire safety information and future development

7.1.1 This Planning Fire Safety Statement details an appropriate level of information to support a planning application for a development of this scale and nature.

7.1.2 Following planning, this report should be provided to the design team responsible for progressing the scheme through detailed and technical design. The design team will be required to seek approval for the development under the Building Regulations by the appointed building control authority, including consultation with the local fire and rescue service.

7.1.3 Further development of the fire safety provisions set out within this report is expected during the Building Regulations approvals process, including the selection of specific products, systems, or materials to fulfil the expectations of this report.

7.1.4 Where any modification to the fire safety provisions set out in Section 3 to 6 of this report are proposed during further design, these should not be incorporated unless agreed in writing by the appointed building control authority.

7.1.5 The as-built fire safety strategy for the building, as agreed by the appointed building control authority, should be documented and provided to the Responsible Person for the building as defined in the Regulatory Reform (Fire Safety) Order 2005 (as amended), to meet the expectations of Regulation 38 of the Building Regulations and principles of the Golden Thread of Information. This should be provided as part of a wider package of building information including, but not being limited to:

- This Planning Fire Safety Statement report
- The as-built fire safety strategy report and associated fire strategy drawings
- Manufacturer's literature for fire safety products and equipment provided at the building
- Drawings indicating the installed locations of fire safety products and equipment
- Manufacturer's literature detailing suitable methods of operation and maintenance of fire safety products and equipment

7.1.6 It is recommended that the above information is provided to the Responsible Person in a digital format that may be retained using a cloud-based or other remote service, to reduce the potential for loss of information in the event of fire, flooding, theft, etc.

7.1.7 The Responsible Person is recommended to ensure that periodic maintenance of the fire safety equipment in the building is undertaken in accordance with the manufacturer's recommendations. The information provided within the Regulation 38 documentation may be used to assist maintenance professionals in identifying the systems, spare parts, operational procedures, maintenance procedures, etc. for the various systems present.

7.1.8 Any subsequent amendment to the fire safety provisions at the building will require consent from an appointed building control authority. The building owner should consult with a suitable building control authority or fire safety professional prior to conducting any future modification works, to ensure that these will be in accordance with any relevant fire safety legislation in force at that time.

7.2 Management and maintenance of fire safety systems within dwellings

7.2.1 Within each of the residential dwellings, the owner / occupier is expected to be responsible for the management and maintenance of a suitable level of fire safety. This may include:

- management to minimise the incidence of fire (e.g., good housekeeping and security)
- considering their emergency escape plan and ensuring escape routes are unobstructed
- being aware of any particular risks (e.g., cooking)
- being aware of the challenges that may be faced by disabled residents or guests
- ensuring that fire detection systems are appropriately maintained and / or tested
- periodically checking the adequacy of fire extinguishers or fire blankets

7.2.2 Protected entrance halls should have wall and ceiling linings achieving a Class C-s3, d2 reaction to fire standard. Display features such as posters, artwork pieces, etc. could be included if deemed appropriate by the dwellinghouse resident, who is recommended to consider fire safety within their appraisal.

7.3 Management and maintenance of fire safety systems within common areas of apartment buildings

7.3.1 Management of fire safety must be integrated with all other management systems. If this management is lacking, then there is a danger that all the other areas such as security measures and alarm systems will be ineffective. To ensure there is no doubt as to where the responsibility for fire safety rests, and to enable consistency of approach, it is important that each establishment appoints a designated Fire Safety Manager. It may be possible to appoint a professional to take on this role but that will depend on the size of the premises, costs, etc.

7.3.2 The appointed person should have the necessary authority and powers of sanction to ensure that standards of fire safety are maintained. The main duties of the Fire Safety Manager include:

- management to minimise the incidence of fire (e.g., good housekeeping and security)
- producing an Emergency Fire Plan
- being aware of all fire safety features provided and their purpose
- being aware of any particular risks on the premises (e.g., issues relating to hot work)
- being aware of their responsibilities towards disabled people
- liaising with, and where necessary seek the advice of, the fire authority, local council, or other relevant enforcing authorities
- having powers to deal with individuals who sabotage or tamper with fire safety systems, who ignore any smoking policy or who block exits
- liaising with other fire safety managers in a multi-occupancy arrangement
- ensuring that residents, tenants, concessionaires, and caretakers are appropriately briefed
- ensuring that appropriate communication systems are in place to deal with any fire incident
- checking the adequacy of firefighting equipment and ensuring its regular maintenance
- ensuring fire escape routes and fire exits are unobstructed and doors operate correctly
- ensuring that fire detection or protection systems are maintained, tested, with records kept
- ensuring any close down procedures are followed

7.3.3 Good housekeeping is to ensure that the effectiveness of the fire safety provisions are not adversely affected, including the adequate provision for the disposal of waste and / or rubbish.

7.3.4 Maintenance procedures are to be enacted so that equipment will be able to operate effectively. Maintenance staff are to be trained in the importance of the fire safety systems and planned maintenance.

7.3.5 Common escape routes should have wall and ceiling linings achieving a Class B-s3, d2 reaction to fire standard, apart from permitted exceptions noted in this report. These finishes must be maintained for the life of the building. Display features or items such as posters, artwork pieces, etc. may be included with appropriate consideration, justification, and on-going control.

7.4 Management access to apartments

7.4.1 To suitably maintain the common fire safety provisions within the apartment building, management will require the ability to access and intervene with certain fire safety elements in dwellings. As such, it is recommended that contracts between building management and occupants (tenancy agreements, leaseholds, freeholds, building management agreements, etc.) include the right for management to be able to inspect, repair or enforce repairs to fire safety items such as the following non-exhaustive list of items:

- Apartment entrance fire doors, being critical to the success of the means of escape strategy. These should be regularly reviewed by building management to ensure that these have not been damaged or altered, and that the self-closing device is operating correctly. Building management should retain the ability to enforce repairs or install new doors where flat entrance doors are found to be sub-standard.
- Fire-resisting construction provided to separate flats or common areas is required to be maintained throughout the life of the building. Management should ensure that occupants of flats are not able to lower the fire-resistance ratings of separating walls or soffits through unapproved alterations.
- If dampers are installed to or between flats, where ductwork crosses fire-resisting construction between flats or common areas, management should be able to access, inspect, repair, or reset dampers.
- Fire spread between balconies presents a route via which fire may simultaneously affect multiple apartments, placing the wider building at risk. Resident's private external spaces should not be used for storing excessive quantities of combustible items. Management would be recommended to be able intervene should excessive fire load become apparent in these areas.

7.5 Hoarding

7.5.1 'Compulsive hoarding' or 'Hoarding' is a mental health issue characterised by the accumulation of large quantities of goods within an occupant's home. Amongst the number of health and safety issues associated with hoarding, this also poses a challenge with regards to fire safety.

7.5.2 The fire safety provisions provided within a building assume certain characteristics, including fire load. Hoarding may significantly increase the fire load above that which is typically assumed within a residential unit and present a greater likelihood of sheltered or deep-seated fires occurring which could pose a challenge to fire-resisting construction, suppression systems, or firefighting operations.

7.5.3 Should there be cause to believe an occupant is hoarding goods, it is recommended that this be reported to the local health or mental health service provider as well as to the local fire and rescue service.

7.6 Fire extinguishers and fire blankets

7.6.1 First-aid firefighting provisions should be assessed and provided as part of the fire risk assessment for the building, including consideration for the day-to-day management of these provisions. Suitable first-aid firefighting provisions can help with the extinguishment of small fires, preventing these from growing into significant fires.

7.6.2 In general, fire points should be provided in areas presenting a significant fire ignition risk within the residential building, such as stores and plant rooms. The fire risk assessment that should be undertaken upon occupation of each building may assist with the placement of suitable fire extinguishers.

7.6.3 Where provided, the type and size of extinguisher(s) are recommended to be chosen in accordance with the guidance given in BS 5306-8 [39], as summarised by Table 8 and the classification of fire fuel hazards summarised as follows:

- Class A – fires involving solid materials, usually of an organic nature (general hazards);
- Class B – fires involving liquid or liquefiable solids (such as liquid fuels, lubricants, paints, etc.);
- Class C – fires involving gases;
- Class D – fire involving metals; and
- Class F – fires involving cooking media (vegetable or animal oils or fats).

7.6.4 Residents may wish to provide fire blankets in kitchens for extinguishing cooking fires. These would be recommended to be affixed vertically to a wall or door to for ease of deployment in an emergency. The blanket should be located close to the cooking appliance, but far enough away such that a hob fire would not prevent access to the fire blanket.

Table 8 – Fire extinguisher types

Medium	Colour code	Application	Do NOT use for
Water	White	Class A fires	Liquid, electrical, metal or cooking fires
Powder	Blue	Class A, B or C fires	Metal or cooking fires
Foam	Cream	Class A or B fires	Electrical*, metal or cooking fires
CO_2	Black	Class B fires	Metal or cooking fires
Wet chemical	Yellow	Class A or F fires	Liquid, electrical or metal fires
* AFFF Foam extinguishers may be used for electrical fires up to 35 kV (dielectric test) and where operated from a distance of at least 1 m.			

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Appendix A – Fire strategy marked-up drawings

Adjoining properties

Assumed/ hidden

Existing structure

PROPOSED LEGEND

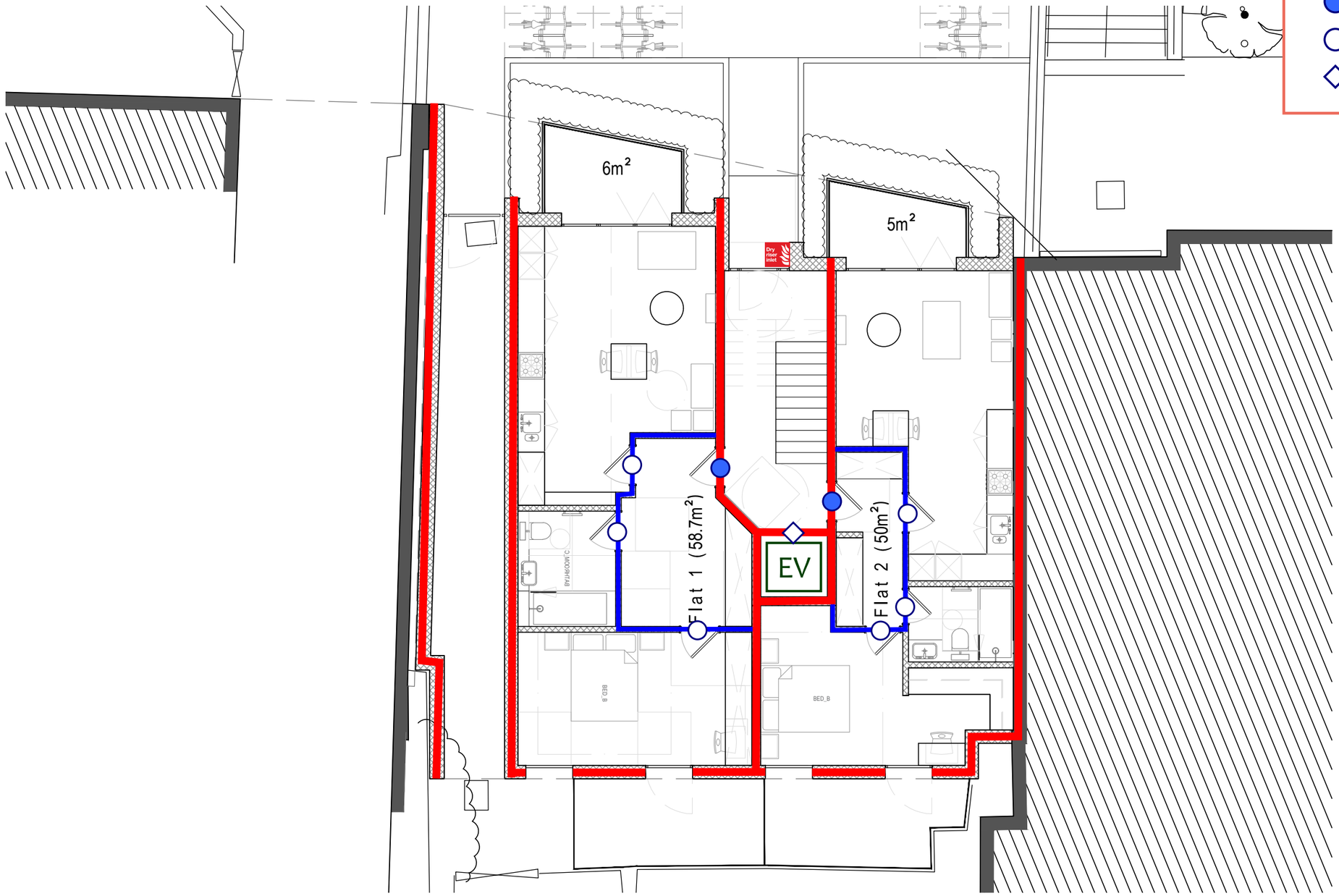
Demolitions

New walls

New ext

Fire safety mark-ups v1.0 mu.studio

- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD30S Fire door
- FD30 Fire door (no self closer)
- E30 Lift door



0 5m

Proposed: Ground Floor Plan

N

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Drawing:
Proposed: Ground Floor Plan

Scale: 1:100 @A3 Drawing no: **0562 -PL- 211** Revision: **0**

Adjoining properties

Assumed/ hidden

Existing structure

PROPOSED LEGEND

Demolitions

New walls

New ext

Fire safety mark-ups v1.0

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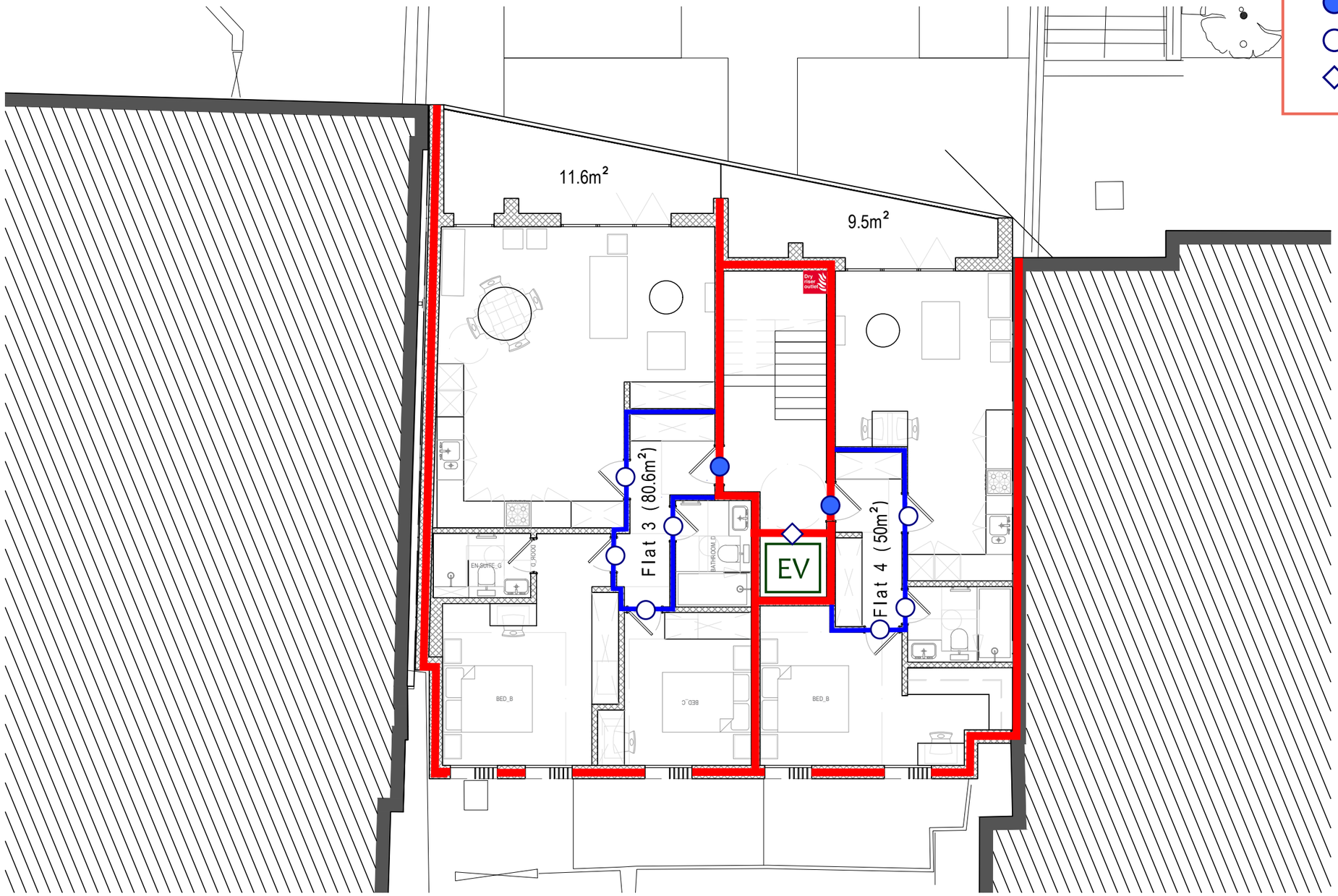
Fire resistance rating of 60 minutes

Fire resistance rating of 30 minutes

FD30S Fire door

FD30 Fire door (no self closer)

E30 Lift door



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Proposed: First Floor Plan

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Drawing: Proposed: First Floor Plan

Scale: 1:100 @A3

Drawing no: **0562 -PL- 212** Revision: **0**

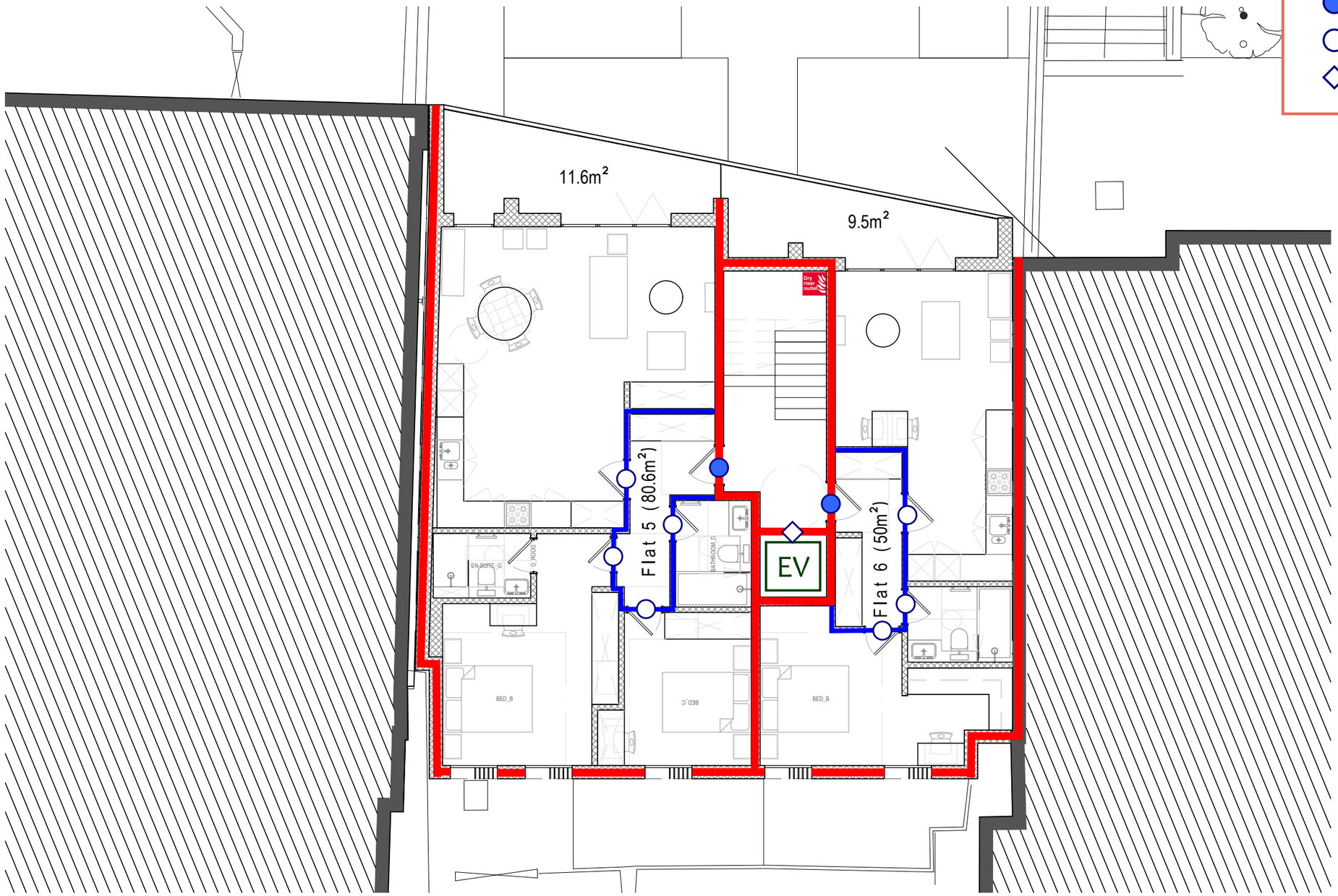
Adjoining properties | Assumed/ hidden | Existing structure

PROPOSED LEGEND

Demolitions | New walls | New ext

Fire safety mark-ups v1.0 mu.studio

- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD30S Fire door
- FD30 Fire door (no self closer)
- E30 Lift door



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Proposed: Second Floor Plan

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Drawing: Proposed: Second Floor Plan

Scale: 1:100 @A3 Drawing no: **0562 -PL- 213** Revision: **0**

Adjoining properties

Assumed/ hidden

Existing structure

PROPOSED LEGEND

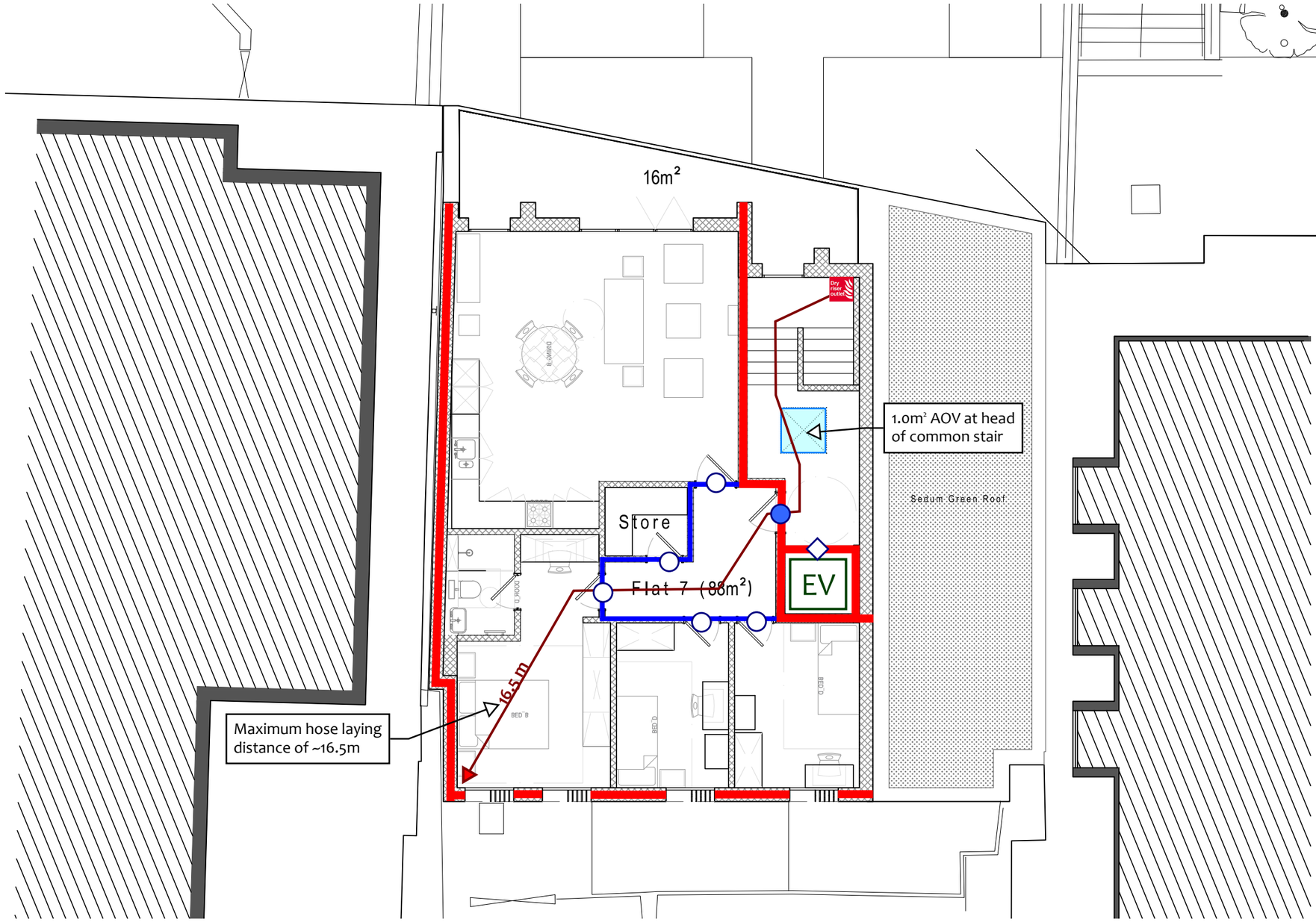
Demolitions

New walls

New ext

Fire safety mark-ups v1.0 mu.studio

- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD30S Fire door
- FD30 Fire door (no self closer)
- E30 Lift door



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Proposed: Third Floor Plan

N

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SD	NS	30.09.24	

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Address:
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Drawing:
Proposed: Third Floor Plan

Scale: 1:100 @A3 Drawing no: **0562 -PL- 214** Revision: **0**