

1 INTRODUCTION

1.1 Background and Document Purpose

This fire statement has been produced on behalf of High Road West (Tottenham) Limited (hereafter referred to as 'the Applicant') to accompany the application for full planning permission for 807 High Road ('the site'), located at 807 High Road, Tottenham ('the address').

The application seeks full planning permission for development of a 4-storey mixed-used building with student accommodation and retail unit at ground floor. The site will be going through a material change of use, as defined in the Building Regulations, from a residential to a mixed-use building. This will be comprised of a demolition of the existing 3-storey building and a rebuild with an additional single storey extension. The proposed development will comprise of a 4-storey building (ground and 3 storeys). The site will consist of student accommodation (Sui Generis) on all floors above the ground floor. The ground floor includes cycle storage, bin storage, plant areas, other amenity spaces, and an independent retail unit (Class E); the 1st floor includes a communal courtyard; the roof includes external plant areas.

807 High Road is located in the London Borough of Haringey, therefore the proposed development is subject to the London Plan 2021; that is the statutory Spatial Development Strategy for Greater London prepared by the Mayor of London ("the Mayor") in accordance with the Greater London Authority Act 1999 (as amended) ("the GLA Act") and associated regulations. The London Plan was published in March 2021. The Plan is part of the statutory development for London, meaning that the policies in the Plan should inform decisions on planning applications across London.

In support of the London Plan, a guidance document 'London Plan Guidance – Fire Safety' [1] was published in February 2022 to outline the details required to adhere to Policies D5 and D12, specifically:

- D5, A: *Boroughs, in preparing their Development Plans, should support the creation of inclusive neighbourhoods by embedding inclusive design, and collaborating with local communities in the development of planning policies that affect them.*
- D5, B1-B5: *Development proposal should achieve the highest standards of accessible and inclusive design. They should:*
 - *be designed taking into account London's diverse population;*
 - *provide high quality people focused spaces that are designed to facilitate social interaction and inclusion;*
 - *be convenient and welcoming with no disabling barriers, providing independent access without additional undue effort, separation or special treatment;*
 - *be able to be entered, used and exited safely, easily and with dignity for all;*
 - *be designed to incorporate safe and dignified emergency evacuation for all building users. In all developments where lifts are installed, as a minimum at least one lift per core (or more subject to capacity assessments) should be a suitably sized fire evacuation lift suitable to be used to evacuate people who require level access from the building. C Design and Access Statements, submitted as part of development proposals, should include an inclusive design statement.*

- D5, C: *Design and Access Statements, submitted as part of development proposals, should include an inclusive design statement.*
- D12, A: *In the interests of fire safety and to ensure the safety of all building users, all development proposals must achieve the highest standards of fire safety and ensure that they:*
 - *identify suitably positioned unobstructed outside space:*
 - *for fire appliances to be positioned on;*
 - *appropriate for use as an evacuation assembly point;*
 - *are 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;*
 - *are constructed in an appropriate way to minimise the risk of fire spread;*
 - *provide suitable and convenient means of escape, and associated evacuation strategy for all building users;*
 - *develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in;*
 - *provide suitable access and equipment for firefighting which is appropriate for the size and use of the development.*
- D12, B: *All major development proposals should be submitted with a Fire Statement, which is an independent fire strategy, produced by a third party, suitably qualified assessor. The statement should detail how the development proposal will function in terms of:*
 - *the building's construction: methods, products and materials used, including manufacturers' details;*
 - *the means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach;*
 - *features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans;*
 - *access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these;*
 - *how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building;*
 - *ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures.*

The final, formal guidance document is yet to be released, with the public consultation closed and responses currently being considered by the GLA at the time of issuing this Fire Statement. However, the Fire Statement structure largely follows the Appendix 3 Template Form contained within this guidance.

The exhaustiveness and definitiveness of the statement is commensurate with the nature of the planning application submitted. The aim of this document is therefore to show how the development plans aim to meet the fire safety requirements set out in the London Plan – specifically Policies D5 and D12, and to

demonstrate that the relevant fire safety aspects of the design to date / the approach & methodology that OFR Consultants (OFR), as the fire consultant, are adopting with regards to the Building Regulations, are appropriate. The Approved Authority (Haringey Building Control) has yet to be consulted by OFR in regard to this development.

This document does not constitute the detailed fire strategy developed under the Building Regulations, which is being developed separately within the design process. However, this fire statement evidences the provisions made for the safety of occupants as well as the provision of suitable access and provisions for firefighting in light of the London Plan's fire safety policy requirements and the rationale for these measures.

1.2 Competency and Quality Assurance Record

The London Plan Policy D12B notes that the fire statement should be produced by someone who is third party independent and suitably qualified. This should be a qualified engineer with relevant experience in fire safety, such as a chartered engineer registered with the Engineering Council by the Institution of Fire Engineers or equivalent. In line with Policy D12 of the London Plan, a suitably qualified Chartered Engineer has been involved in the production of this document. The fire engineering design team responsible for the production of this document is shown below. The table below also demonstrates OFR's 3 tier quality assurance process.

Author	Reviewer	Approver
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MEng (Hons)	BEng (Hons) MIET AIFireE	BSc MIEAust CPEng NER APEC Engineer IntPE(Aus) AIFireE

2 DESCRIPTION OF BUILDING

807 High Road is a mixed-use proposed development located on High Road in the London Borough of Haringey, in London. The development seeks full planning application for the demolition of existing buildings and the erection of a replacement building of up to four storeys to include purpose-built student accommodation (Sui Generis) and flexible commercial, business and service uses (Class E), hard and soft landscaping, and associated works.

The proposed development has a topmost storey height of approximately 9.51 m as measured to the floor of the highest occupied storey above ground floor access level, and it will include sleeping accommodation for 25 student bedrooms – 9 premium studios, 14 standard studios, and 2 en-suite bedrooms, which include a kitchen cluster on the same floor. Above the ground floor, the building will be divided into two blocks which are only connected by a courtyard on the first floor and via a back of house corridor between the ground floor final exit routes. The building will have 2 cores which will serve all levels, one for each block, and each core will have a staircase and a lift. Both lifts will be evacuation lifts. The roof can be accessed via access hatches in both cores.

Additionally, the ground floor includes cycle storage, bin storage, plant areas, laundry and shower spaces, and an independent commercial unit which will belong to a separate tenant; the first floor includes a communal courtyard which connects both blocks; the roof includes external plant. The building is enclosed by party walls shared with adjacent buildings on the west and south sides, and partly enclosed on the north side.

Considering the building has different firefighting access levels, being 0.69 m lower for Block A than Block B, the building's highest top storey height is 9.51 m. This can be seen in Figure 1, and Figure 2 shows the nomenclature for the two blocks within the proposed development.

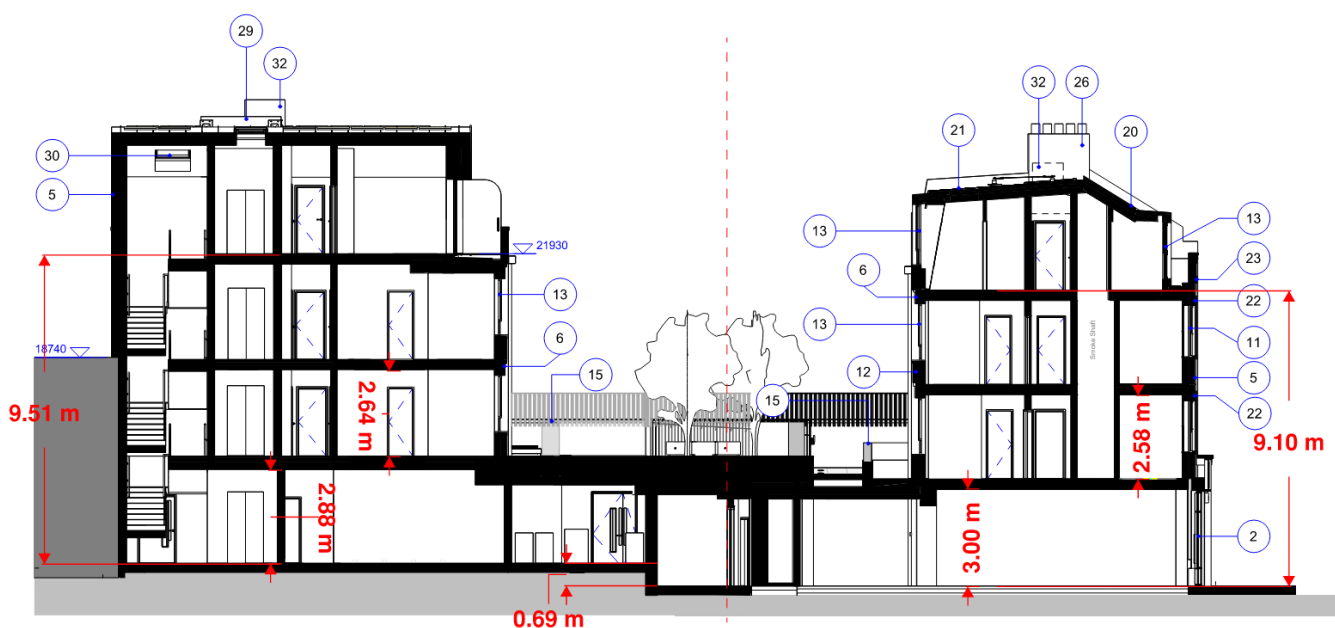


Figure 1: Elevation Section Drawing

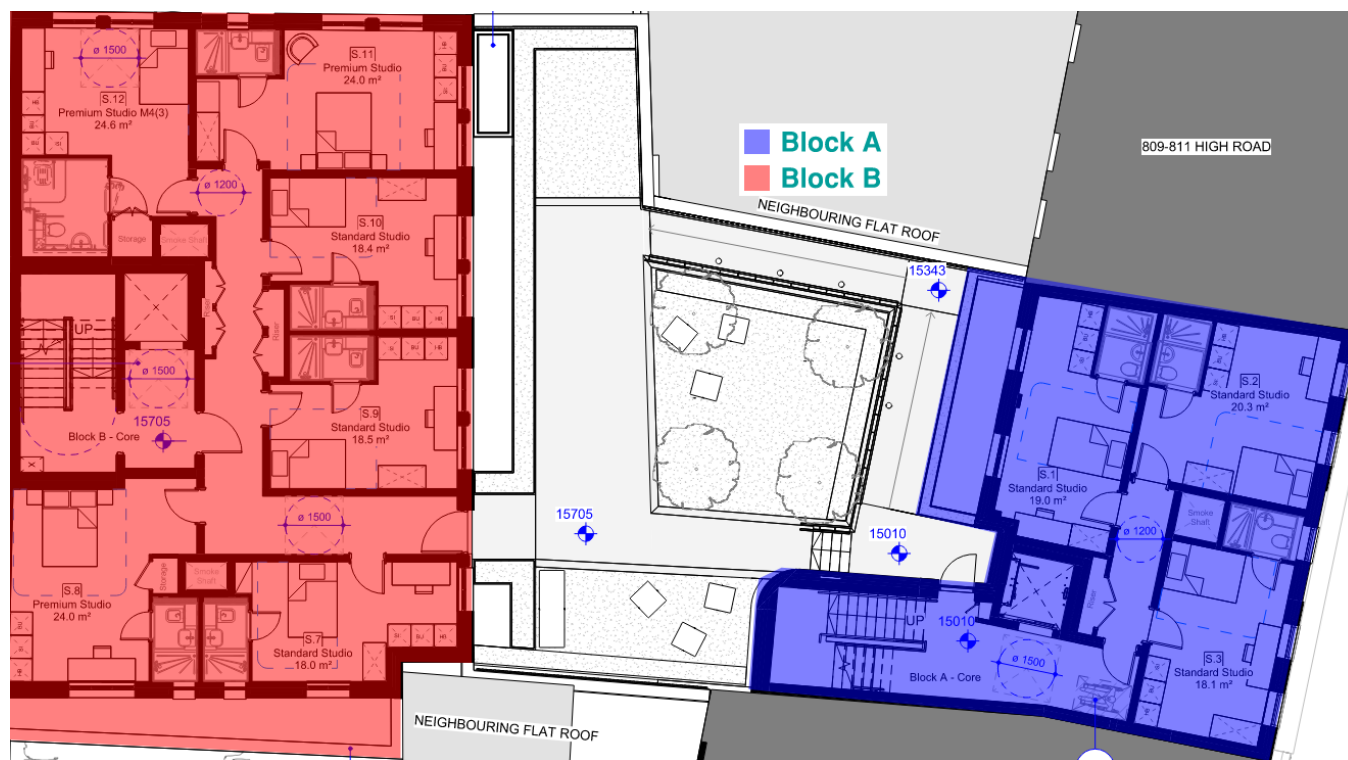


Figure 2: Block Nomenclature

The uses of each floor are outlined in Table 1.

The proposed area layouts for 807 High Road can be found in Figure 3 and Figure 4.

Table 1: Building Area Uses by Level

Floor	Uses
Ground	Commercial unit, Plant areas, Amenities, Cycle storage, Bin storage, Laundry, WC / Shower
First	Courtyard, Standard and Premium Studio student accommodation (Block B), Standard Studio student accommodation (Block A)
Second	Standard and Premium Studio student accommodation (Block B), Standard Studio student accommodation (Block A)
Third	Standard and Premium Studio student accommodation (Block B), En-suite student accommodation (Block A)
Roof	External plant

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3 DESIGN APPROACH AND METHODOLOGY

The design and construction of the building will seek to satisfy the functional requirements of Part B of Schedule 1 to the Building Regulations 2010 (as amended, 2022) (ADB) [2], the Construction Design and Management Regulations 2015 (CDM) [3] and the operational fire safety requirements of the Regulatory Reform (Fire Safety) Order 2005 (RRO) [4].

3.1 Relevant Stakeholders

Relevant stakeholders in the building and preparation of fire safety information are:

- Client – High Road West (Tottenham) Limited;
- Approving Authority – Haringey Building Control;
- Local Planning authority – London Borough of Haringey;
- Local Fire and Rescue Service – London Fire Brigade (LFB);
- Lead Architects – F3 Architects;
- Planning Consultants – QUOD;
- MEP Engineers – P3R Engineers;
- Structural and Civil Engineers – Symmetrys.

3.2 Basis of Design

The fire strategy is based upon the guidance given in BS 9991:2015 [5] for the residential areas, and BS 9999:2017 [6] for the independent commercial unit, and ancillary areas, as well as the standards referenced therein. Moreover, ADB has been considered and followed where applicable, which provides guidance above the standards of BS 9991:2015.

It should be noted that a draft BS 9991:2021 was released for comment in August 2021 and is currently under review by the BSI committee. This design follows the guidance of the current 2015 issue and includes enhancement such as evacuation lifts in preparation for the potential changes in the updated standard. However, when the 2015 issue is formally superseded there may be some difference in the recommendations that may have an impact on the design of these buildings. To mitigate this risk, the design team is proposing to undertake regular reviews with the approving authorities to demonstrate compliance with the Building Regulations in the absence of this latest guidance.

Fire engineering principles are employed to support alternative solutions where strict adherence to the codes would conflict with the wider aspirations for the scheme. Departures from the standard design guidance are identified and alternative proposals are documented. In accordance with the fire safety engineering principles detailed in the PD 7974:2019 [7] codes of practice, all fire precautions are determined based on there being one seat of fire. Multiple / simultaneous outbreaks of fire or arson are not considered.

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Although the main purpose of the fire strategy for 807 High Road has been developed to address life safety, it should be acknowledged that the features that are included for life safety, as required by the Building Regulations, will contribute to some extent to property protection.

As part of the Regulatory Approvals process, the fire strategy and detailed fire safety information and specifications will be the subject of milestone reviews and regular meetings which will be held with representatives from Haringey Building Control. As the regulatory approver, they will in turn lead the consultation process with London Fire Brigade. Advice and feedback from these authorities will therefore inform the building design and the fire strategy being developed in support of the Building Regulations application.

4 THE BUILDING'S CONSTRUCTION

The building will be constructed of traditional materials using a reinforced concrete frame.

The 807 High Road building is not a 'relevant building' as defined in Regulation 7(4) of The Building Regulations 2010 (as amended, 2022), as the building does not have a storey 18 metres above ground level. However, OFR recommends that Regulation (7) is still respected to follow industry best practise.

Additionally, it has been agreed upon by the design team that the external walls will be non-combustible, and any further external wall details are to be progressed throughout the remaining design stages while adhering to the recommendations within BS 9991:2015 and the requirements of Regulation 7, noting the relevant exemptions under Regulation 7(3).

Whilst Regulation 7(3) states that the requirements do not apply to membranes, these have also been covered under 2020 amendment to Approved Document B: Volume 1 and it is recommended that membranes used as part of the external wall construction should achieve a minimum classification of European Class B-s3, d0.

The inset balconies within residential apartments are also considered to be a specified attachments and are advised to meet the requirements of Regulation 7.

A blue roof will be provided on the courtyard, and photovoltaic (PV) panels are proposed on the roof. In consideration of the PV panels on the roof, the relevant structural fire protection to the building will be extended to these roof areas.

5 MEANS OF ESCAPE

A high-level summary of means of escape provisions at the current stage of the design is presented in the following section.

5.1 Risk Profiles

A large portion of the proposed development is residential (student accommodation) which follows BS 9991:2015. It provides guidance specific to residential building use.

For the non-student accommodation areas of the scheme (commercial and ancillary accommodation), the guidance contained within BS 9999:2017 is applied. BS 9999:2017 [6] advocates various fire safety provisions as a function of risk profile, which is derived from a combination of the occupancy characteristic and the expected fire growth rate.

An automatic sprinkler system will be installed throughout the building in line with the relevant standards. The sprinkler system provides an efficient means of fire control within a building's compartment. Such provision restricts fire growth, prevents fire spread, limits heat and smoke generation and can extinguish the fire. For these reasons, BS 9999:2017 [6] states that where the sprinkler system is installed, the fire growth rate can be reduced by one level. The relevant risk profiles for the proposed development are given in Table 2.

Table 2: Risk profiles for the different areas of the building

Area	Occupancy Characteristic	Fire growth rate (sprinkler-inclusive)	Risk Profile
Plant areas	A – Occupants who are awake and familiar with the building	2 – Medium	A2
Bin storage			
Amenity space		1 – Slow	A1
Cycle Storage			
Laundry			
WC / Shower			
Commercial unit	B – Occupants who are awake and unfamiliar with the building	2 – Medium	B2

5.2 Evacuation Strategy

5.2.1 Apartments

A 'stay put' strategy will be adopted for all apartment areas of the building, meaning the occupants within the flats where the fire is not located may evacuate only if they choose to do so. For the flat where the fire is located, its occupants will evacuate through the proposed means of escape, these being both the stairs and the evacuation lift. The common escape routes are expected to be maintained relatively free from smoke and heat due to the provisions of ventilated common corridors between them and any accommodation. This allows occupants throughout all apartments, some of whom may require the assistance an evacuation lift to escape in the event of a fire, to evacuate as soon as a fire is detected, thus lowering the likelihood of impact on their escape.

This approach does not preclude a resident's ability to escape on/of their own free will if they choose to do so.

Therefore, sufficient protection to common means of escape is provided to allow all occupants to escape, should they intend to do so. To this end, all risers along the final escape route on the ground floor will also be inaccessible.

5.2.2 Residential Ancillary, Amenity, and Commercial areas

The residential ancillary and amenity areas will operate a simultaneous evacuation strategy. This means all occupants of these affected premises will evacuate immediately on receiving an evacuation signal or instruction in the event of a fire anywhere across these areas. This will also be applicable to the level 1 courtyard and the roof.

The exception to this will be the commercial unit at ground floor (as highlighted in Figure 3), which will operate independently and therefore will not need to evacuate alongside the other ancillary accommodation, due to its compartmentation provisions.

5.3 Means of Escape Provisions

807 High Road will be designed with appropriate escape provisions as outlined below.

5.3.1 Residential Common Areas

For Block A, on the third floor, there is a cluster of en-suite flats. The guidance for the travel distance within the common corridor, when sprinklered, is 15 m, which is currently respected. All other apartment areas within both Blocks are fitted with individual premium or standard studio flats. The maximum travel distance from an entrance door of these studios to the stair entrance should be within 4.5 m for dwellings with corridor access where the building has:

- less than 11 m of height;
- no more than 3 storeys above ground;
- and is served by a single stair to each block.

Each Block is served by a single stair, thus all these points are met in both Blocks. However, for both Blocks, mechanical smoke ventilation systems (over and above guidance recommendations), as described in Section 6.1.4, will be provided in the corridors that serves the studios, meaning the travel distance may be extended to 7.5 m. As such, this guidance is respected.

The intent of these smoke ventilation systems will be to ensure that the evacuation lifts will be adequately protected so that there is a waiting area for those choosing to use the lift to escape. The waiting areas will be protected within the stair enclosure, with the common corridors served by a mechanical smoke ventilation system on each floor level, supported by CFD analysis at a later stage. The suitability of these systems for these purposes will be subject to reviews with the approval authorities and by the relevant sub-contractor designing the system.

5.3.2 Internal Planning of Studio Flats

Studio flats can be defined as flats with a single main room containing both the sleeping and living accommodation (including cooking facilities). It is advisable that the cooking facilities (hobs) be located

away from the escape routes. Additionally, for the studio hobs, a thermal fractional effective dose (FED) analysis will be carried out at a later stage to demonstrate the cooking appliances are not to impact on any occupant escape routes. Additionally, sprinklers will be provided to the studio flats, which is an enhancement from the relevant guidance to the proposed development (See Section 6.1.3), which will help in mitigating the effect of a hob fire. Hob locations will need to be reviewed and agreed with the approval authorities as the design progresses.

5.3.3 Travel Distances

For the studio flats, as per 9991:2015 [5], the total travel distance from any point in the flat to the entrance door should be limited to 20 m, as sprinklers will be provided to the flats. This guidance is currently respected for all flats.

Ancillary areas, such as the plant rooms and storage shall follow the maximum travel distance guidance found in BS 9999:2017 [6]. This guidance is summarised in Table 3.

Table 3: Travel distance limits for non-student accommodation areas within 807 High Road

Area	Risk Profile	One-way travel (m) ^A	Two-way travel (m) ^A
Plant areas	A2	22	55
Bin storage			
Amenity space			
Laundry			
Cycle storage	A1	26	65
Shower			
Commercial	B2	20	50
Roof	-	45.00 ^B	-
Courtyard	-	45.00 ^C	
A. Actual travel distance, i.e., where the internal layout is set. B. Based on travel distances outlined in BS 9991:2015 Annex D [4]. C. Guidance from note B applied to courtyard.			

At the present design stage, all of the above travel distances are respected, as can be seen from Figure 5 and Figure 6.

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5.3.4 Escape Capacity from Commercial and Ancillary Areas

The width of escape routes must be sized to adequately accommodate the evacuation of occupants. All commercial or ancillary areas have a capacity of less than 60 persons, so the relevant guidance recommends a single escape route not less than 800 mm in width, or 850 mm where unassisted wheelchair access is necessary.

5.3.5 Vertical Egress

Each block has a single stair. The stairways should have a minimum clear width of 750 mm. Handrails and strings that do not intrude more than 100 mm into these widths need not be subtracted to calculate the clear width. The clear width of the stairs is around 1040 mm which exceeds the guidance of BS 9991:2015.

The roof is accessed from a roof access hatch that can be accessed from above the stair cores on the third floor.

The cores are led to final exits by fire sterile protected routes on the ground floor. These final exit routes are also lobby-protected from all accommodation, as can be seen from Figure 3, highlighted in red. The common corridor connecting to the cores on the ground floor will be protected as per the relevant guidance recommendations.

5.3.6 Mobility Impaired Persons (MIP) Evacuation

The London Plan Guidance (LPG) states that “where a lift core is provided, at least one lift is an evacuation lift”, to satisfy Policy D5(B5) of the London Plan. The intention of this guidance is interpreted as follows: where lifts provide access to an area of the building, there should be means to escape from that area via a lift suitable for evacuation. Therefore, to address Policy D5 ‘Inclusive Design’ of the London Plan, an evacuation lift will be provided to aid MIPs egress. The evacuation lifts are highlighted in yellow in Figure 7.

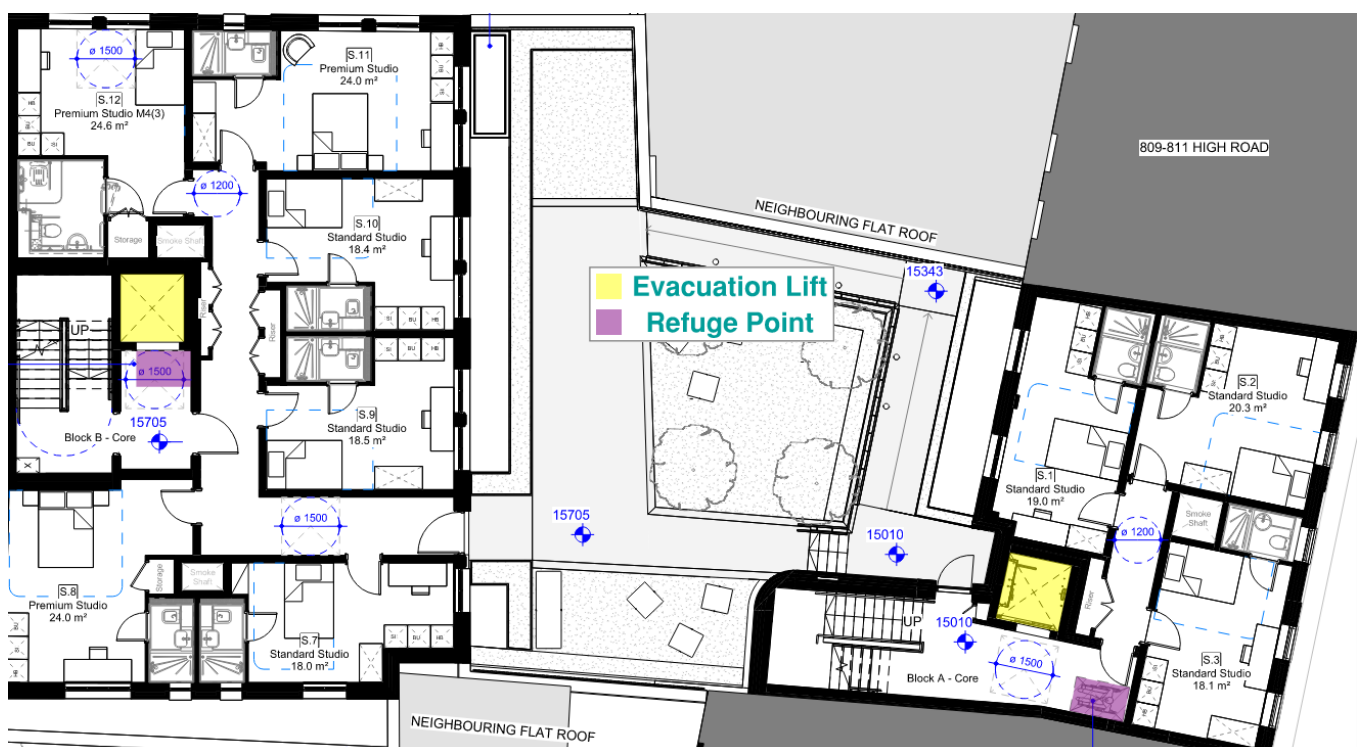


Figure 7: Exit Provisions on a Typical Floor

The evacuation lifts, and the waiting area for those choosing to use the lift to escape, will be adequately protected, as they sit within the stair enclosure. The common corridor connected to the stair enclosure is served by a mechanical smoke ventilation system on each floor level, and this will be supported by CFD analysis at a later stage. The suitability of these systems for these purposes will be subject to reviews with the approval authorities and by the relevant sub-contractor designing the system. A back-up power supply will be provided to the evacuation lifts in the building, as well as a Type B emergency voice communication (EVC) system in accordance with BS 5839-9:2021 [8]. The location of the EVC communication panels is yet to be confirmed by the design team.

The amount of smoke and other combustion products in the common escape routes leading to the evacuation lifts will be kept to a minimum by providing ventilation where required, as specified as per the relevant guidance. Any MIPs living in 807 HR should be trained in the use of the evacuation lifts.

It is understood that BS EN 81-76 has yet to be published. If the publication of this document happened during the design stage, its provisions should be followed. However, in lieu of this guidance these lifts are to be specified as firefighting lifts in accordance with BS EN 81-72, as such there will be a dedicated lift for evacuation to satisfy the LPG guidance as described above.

The proposed number, operation, and design of the lifts is therefore considered suitable in support of the fire strategy, for MIP escape purposes based on the stay put evacuation strategy and the relatively low occupancy density associated with residential spaces.

Further details will be progressed in the design period, where discussions are required with Building Control, the Fire Service and the Lift Manufacturers / Certifiers.

6 PASSIVE AND ACTIVE FIRE SAFETY MEASURES

Within the proposed development, a balance of passive and active fire safety systems will be incorporated to support and enable the life safety objectives agreed with the project stakeholders and required to meet the Building Regulations.

Passive and active fire protection measures within the proposed development, such as compartmentation, mechanical smoke control systems, and sprinklers, will support the proposed evacuation strategy and the overall fire safety strategy of the building.

6.1 Active Fire Safety Systems

6.1.1 Fire Detection and Alarm Systems

Table 4 outlines the fire detection and alarm systems that should be provided to 807 High Road. The residential common corridors and stairs in the building should be provided with a Category L5 system. The detectors will activate the relevant smoke control system upon detection, however, will not activate an alarm.

Table 4: Fire detection and alarm systems to be provided for different areas of the building

Area of building	System Category	Standard
Ancillary / amenity spaces and commercial unit	Category L2	BS 5839-1:2017 [9]
Common corridors / stairs in student accommodation	Category L5	BS 5839-1:2017 [10]
Studio and cluster flats	Grade D1, Category LD1 Standard	BS 5839-6:2019+A1:2020 [10]

6.1.2 Evacuation Alert Systems

An Evacuation Alert System (EAS) enables the Fire and Rescue Service to initiate operation of evacuation alert sounders within specific areas or floors within the building. The provision of an EAS is now a current recommendation in Approved Document B (ADB) in apartment blocks with storeys over 11 m. However, as best practise, an EAS is still recommended to this building, which is below 11 m topmost storey height. Therefore, this represents an overprovision from guidance. The design and installation of EAS should be in accordance with BS 8629:2019 [11].

6.1.3 Automatic Fire Suppression System

As previously highlighted, an automatic sprinkler system will be installed throughout the building. In accordance with BS 9251:2021 [11], the sprinkler system will be Category 3. This is considered a significant enhancement of the fire safety of the building as it is above and beyond guidance recommendations for this building, as a student accommodation building, with no more than three storeys above ground, with a single stair, and below 11 m, does not typically require the provision of a sprinkler system.

6.1.4 Smoke Ventilation

6.1.4.1 Student Accommodation Common Corridors

A two-shaft (extract and inlet) mechanical smoke system will be provided (with minimum free area recommendation of 1 m² for both shafts), for all levels above ground, in the common corridor of all residential levels of Block B. This is to support the means of escape from this Block. The corridor travel distance for this Block is required to reach 7.5 m. To this end, BS 9991:2015 recommends the minimum provision of an AOV with a minimum free area of 1.5 m². Therefore, these proposals are considered above and beyond guidance recommendations.

The common corridor in all levels of Block A is provided with a smoke ventilation system comprising a mechanical extract smoke shaft with a minimum free area of 1 m² to all levels above ground. Following from the guidance within BS 9991:2015, for common corridors with travel distances below 4.5 m, which is the case for those in Block A, no smoke ventilation system is required. Therefore, again, these proposals are considered above and beyond guidance recommendations.

A CFD analysis will be undertaken at RIBA Stage 4 to ensure tenable conditions are maintained in the stair and escape corridors during the event of fire. The intent of these smoke ventilation systems will be to ensure that the evacuation lifts will be adequately protected so that there is a waiting area for those choosing to use the lift to escape.

6.1.4.2 Stair Cores

Smoke ventilation provisions for stair cores should include an openable vent with a minimum free area of 1 m² at the top of the staircase that can be remotely operated from the fire and rescue service access level.

On the ground level, the final escapeway common corridor will be protected from any accommodation as per the relevant guidance recommendations.

6.1.4.3 Ancillary Accommodation

Refuse storage should be approached via a protected corridor with a minimum of 0.2 m² of permanent ventilation or a suitable mechanical alternative. All other ancillary accommodation should be separated from the protected cores / final escape routes by a protected corridor with no less than 0.4 m² of permanent ventilation, or a suitable mechanical alternative.

6.1.5 Evacuation Lift

It is understood that BS EN 81-76 has yet to be published. If the publication of this document happened during the design stage, its provisions should be followed. However, in lieu of this guidance these lifts are to be specified as firefighting lifts in accordance with BS EN 81-72, as such there will be a dedicated lift for evacuation to satisfy the LPG guidance.

The proposed number, operation, and design of the lifts is therefore considered suitable in support of the fire strategy, for MIP escape purposes based on the stay put evacuation strategy and the relatively low occupancy density associated with residential spaces.

Further details will be progressed in the design period, where discussions are required with Building Control, the Fire Service and the Lift Manufacturers / Certifiers.

6.1.6 Emergency Power Supplies

Emergency power supplies are necessary for all active fire safety systems, including the following:

- Automatic fire detection and alarm systems;
- Sprinkler system;
- Smoke control systems (AOV, mechanical shafts and control equipment);
- Firefighting provisions (lightning and communication);
- Emergency lighting and self-illuminated exit signage;
- Evacuation lift.

All life safety systems will be provided with secondary means of power. This will be confirmed with the MEP engineer as the design progresses. The provision of emergency power supplies will be developed further, with reference to the relevant standard for the fire safety system/ provision. In general, these should be in accordance with BS 8519:2020 [12].

6.1.7 Emergency Signage and Lighting

Suitable lighting should be provided to all premises to enable the safe movement of persons along escape routes to a place of relative or ultimate safety. Emergency escape lighting, when needed, should be provided in accordance with Table 8 in BS 9999:2017, BS 5266-1:2016 [13] and BS EN 1838:2013 [14].

The installation of escape signage and fire safety signs should follow the guidance contained within BS 5499-4:2013 [15]. The signs should consist of a graphical symbol, and should normally incorporate, or be accompanied by, a supplementary text sign and an arrow. The graphical symbols should conform to BS ISO 3864-1:2011 [16].

6.1.8 Maintenance

All fire safety systems need to be inspected and maintained based on maintenance recommendations in BS 9999:2017 and BS9991:2015 and the relevant system-specific standards, which is to be covered by the management plan for the building.

6.2 Passive Fire Safety Measures

6.2.1 Linings

The wall and ceiling linings should satisfy the performance requirements in accordance with Table 33 of BS 9999:2017 [6] and the information provided in section 20.1 of BS 9991:2015 [5].

6.2.2 Elements of Structure

As per 9991:2015 [5], elements of structure should achieve a minimum fire resistance of 60 minutes for buildings more than 5 m in height above ground floor access level.

6.2.3 Compartmentation and Fire-resisting Construction

The spread of fire within a building can be restricted by subdividing the building into compartments, separated from one another by walls and / or floors of fire-resisting construction. Compartmentation, horizontal or vertical, can also be used as part of an escape strategy to create areas of relative safety. All of the following should be constructed as compartment walls/floors:

- Every floor in the building is to be designed as a compartment floor (REI 60);
- Protected shafts, i.e., lifts, stairs, and riser shafts (REI 60);
- Every party wall within 1m of the adjacent buildings (REI 60);
- Every wall separating each independent studio apartments / cluster from other parts of the building (REI 60);
- Every wall separating the commercial unit from other parts of the building (REI 60);
- Areas of higher fire risk i.e. plant and stores (REI 30 to 120 depending on associated risk).

6.3 External Fire Spread – Space Separation

To limit the potential for the spread of fire from one building to another, limitations are placed upon the amount of unprotected area permissible upon a building façade. Following the approach within BR 187 2nd Edition [17], the amount of unprotected area (i.e., the area of an elevation offering no fire resistance) of external walls more than 1 m from the relevant boundary is determined based upon the dimensions of the façade, the internal compartmentation of the building, the distance from the façade to the relevant boundary, and the presence of fire suppression.

Based on the initial assessments, it has been determined that the façades in the north and east sides can generally remain 100% unprotected given that the receiving heat flux is lower than the receiver critical heat flux, in line with the BR 187 methodology. This will be further developed in the upcoming RIBA stages. It should also be noted that any external walls located perpendicular to a site boundary, located within 1.8 m of these boundaries, should be constructed with a fire resistance equal to the structural fire resistance of the building. It should be noted that on the first and third floors some of the windows of the building fall within 1.8 m of the site boundaries, and, therefore, should be fire-resisting and fixed shut. This is to prevent the spread of fire and smoke from these windows to the adjacent buildings. This is only considered when the window is perpendicular to an adjacent wall within a maximum vertical distance of one level. These areas can be seen in Figure 8 and Figure 9, as highlighted by the red clouds.

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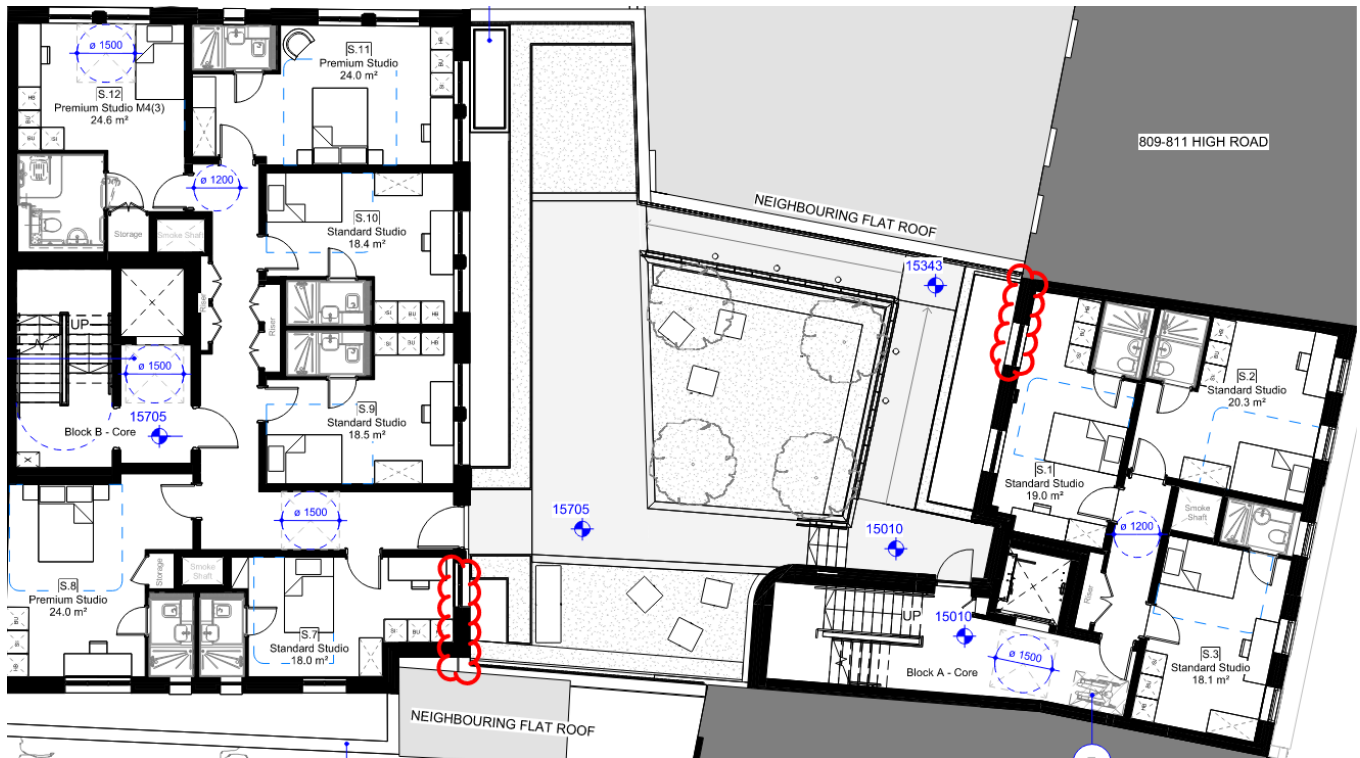


Figure 8: External Walls Openings Requiring Fire Resistance on the First Floor

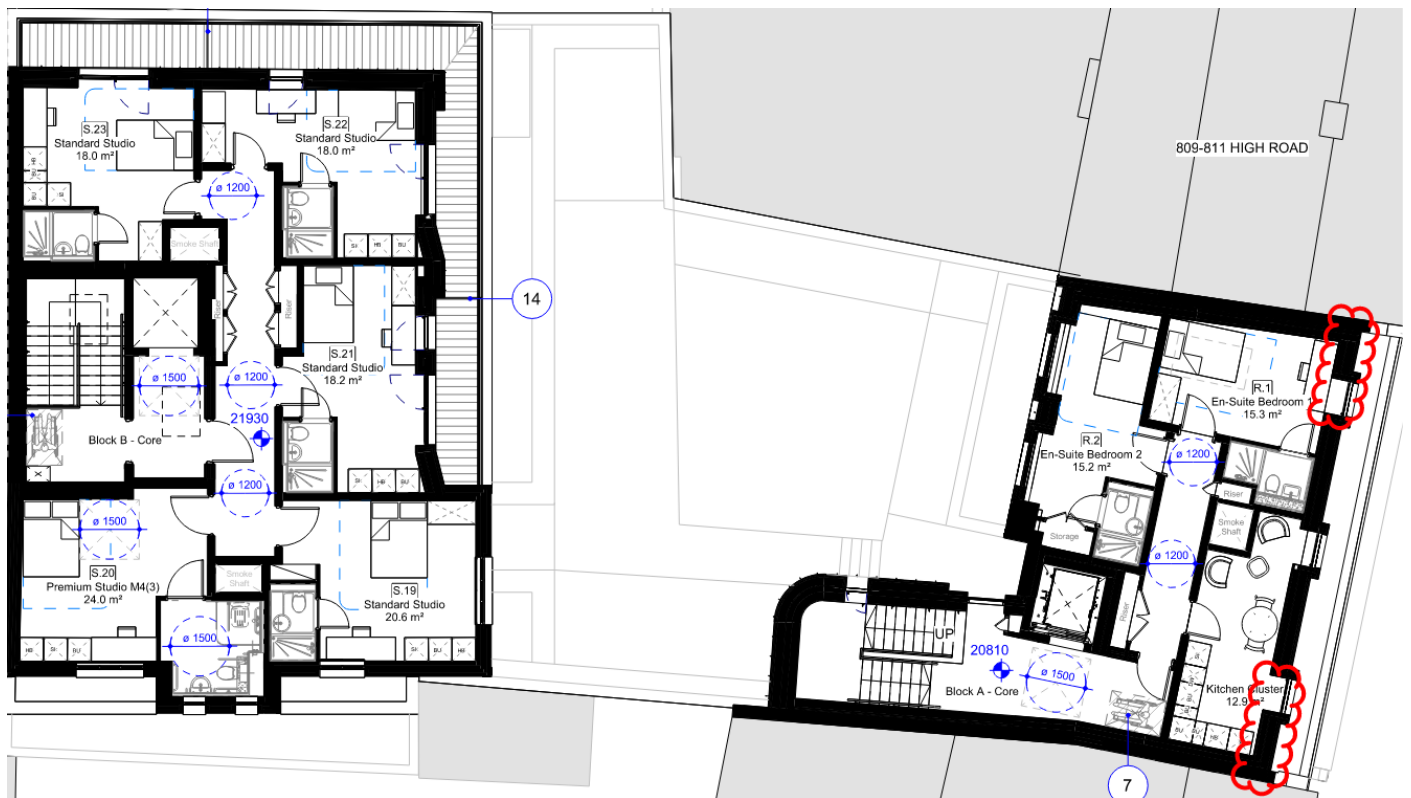


Figure 9: External Walls Openings Requiring Fire Resistance on the Third Floor

6.4 Roof coverings

The distance between the building and the relevant boundaries has been measured to be less than 6m in some cases. Therefore, it is expected that a classification of BROOF (t4) should be achieved for the entirety of the roof in accordance with BS EN 13501-1:2018.

A blue roof will be provided within the courtyard, and this should be designed in accordance with the Department for Communities and Local Government guidance document on the Fire Performance of Green Roofs and Walls 2013 [18], or The Green Roof Organisation (GRO) Green Roof code 2021 [19], whichever one is more relevant to the proposed development's design. It is noted that, although in this case a blue roof is proposed, this may be allowed to vegetate, and, in essence, will lead into operating similarly to a green roof. Therefore, this blue roof has been considered as a green roof in considering the recommendations from the Green Roof standards for limiting the spread of flame across the roof areas.

Moreover, photovoltaic (PV) panels are proposed on the roof. Therefore, care should be taken that they are installed correctly and in accordance with the manufacturer's recommendations. Arc-fault protection should be provided to these panels in order to mitigate the risk of ignition and therefore reduce the associated fire risk. The PV panels should also be fitted with a shutdown mechanism such that the Fire and Rescue Service can shut down the panels to ensure no further power is generated. It is also recommended that this be linked to the fire alarm system such that this shuts down automatically in the event of fire. This will help to ensure firefighter safety by removing power/electricity for potential fire loads. The PV panels should be adequately maintained to prevent the risk of fire. In consideration of the PV panels on the roof, the relevant structural fire protection for the building will be extended to these roof areas.

7 ACCESS AND FACILITIES FOR FIRE-FIGHTING

As well as supporting the building occupant life safety objectives, both passive and active fire safety systems also provide substantial benefits to fire fighter operations. These include the provision of a means to quickly identify the location of a fire and facilities from which to coordinate a response.

This section addresses the access for the Fire and Rescue Service (FRS) and equipment, defines the position of the water supplies, firefighting equipment, stairs, and lobbies, and their ongoing maintenance and monitoring.

7.1 Access for the Fire and Rescue Service

7.1.1 Vehicle Access

The building can be accessed from High Road via the east elevation. A dry riser inlet should be located within 18 m and visible from the fire appliance parking point. Currently, there is Fire and Rescue Service vehicle access within 6.34 m of the proposed dry-riser inlet located at the building's east façade as shown in Figure 10.

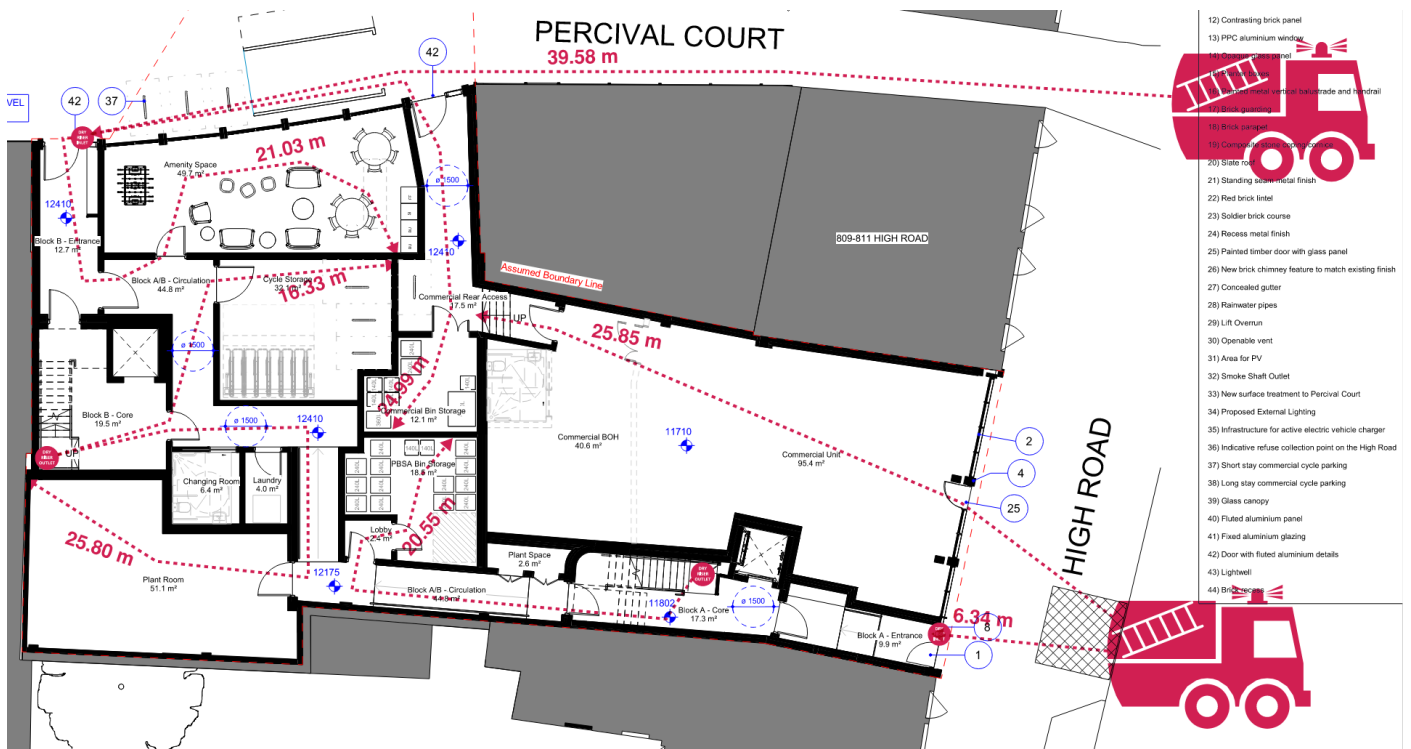


Figure 10: Fire Fighting Provisions on the Ground Floor

The dry riser inlet located on the building's north façade is currently 39.58 m away from a fire tender, given that fire tender access is currently not provided through the Percival Court street as an existing condition. This does not follow the relevant guidance and is a design risk to be discussed with the London Fire Brigade and approval authorities. However, OFR considers this to be a manageable risk for the following reasons:

- Other firefighting means are provided to the building;
- The dry riser inlet and outlet are located less than 18 m away from each other as per the relevant water piping guidance;

- Both cores can be accessed from the Block A entrance via the back of house corridor – this can be considered as an alternative route in accessing Block B;
- Signage can be supplied to assist the Fire and Rescue Service in locating the dry riser inlet;
- Percival Court street, although currently a private road, will become accessible to the fire tender in the future, and therefore allow for a fire tender parking position within 18 m of the dry riser inlet, as the wider masterplan for this scheme progresses.

Finally, as no other access method is provided to this dry riser from the outside, OFR considers this to still be a relevant firefighting provision for the proposed development.

The final location of the dry riser inlets and outlets is still be confirmed by the design team.

7.1.2 Access Into the Building

Dry riser mains will be provided within the cores to serve all floors. As per BS 9999:2017 [6], this will ensure that all parts of the floor plan in the building are within 60 m of the dry riser outlet measured along a suitable route for laying hose. The dry rising fire mains will be designed and installed to BS 9990:2015 [20], will not be prejudiced by the stair door openings and will be accessible at every floor. All limits have been achieved in 807 High Road, as shown in Figure 10 and Figure 11.

The only exception to the above is the commercial compartment, which will not be provided with a dry riser outlet. As such, firefighting will be approached either direct from the outside or by laying hose straight from the fire tender. This hose laying distance should not be longer than 60 m. This guidance is respected, as per Figure 10.

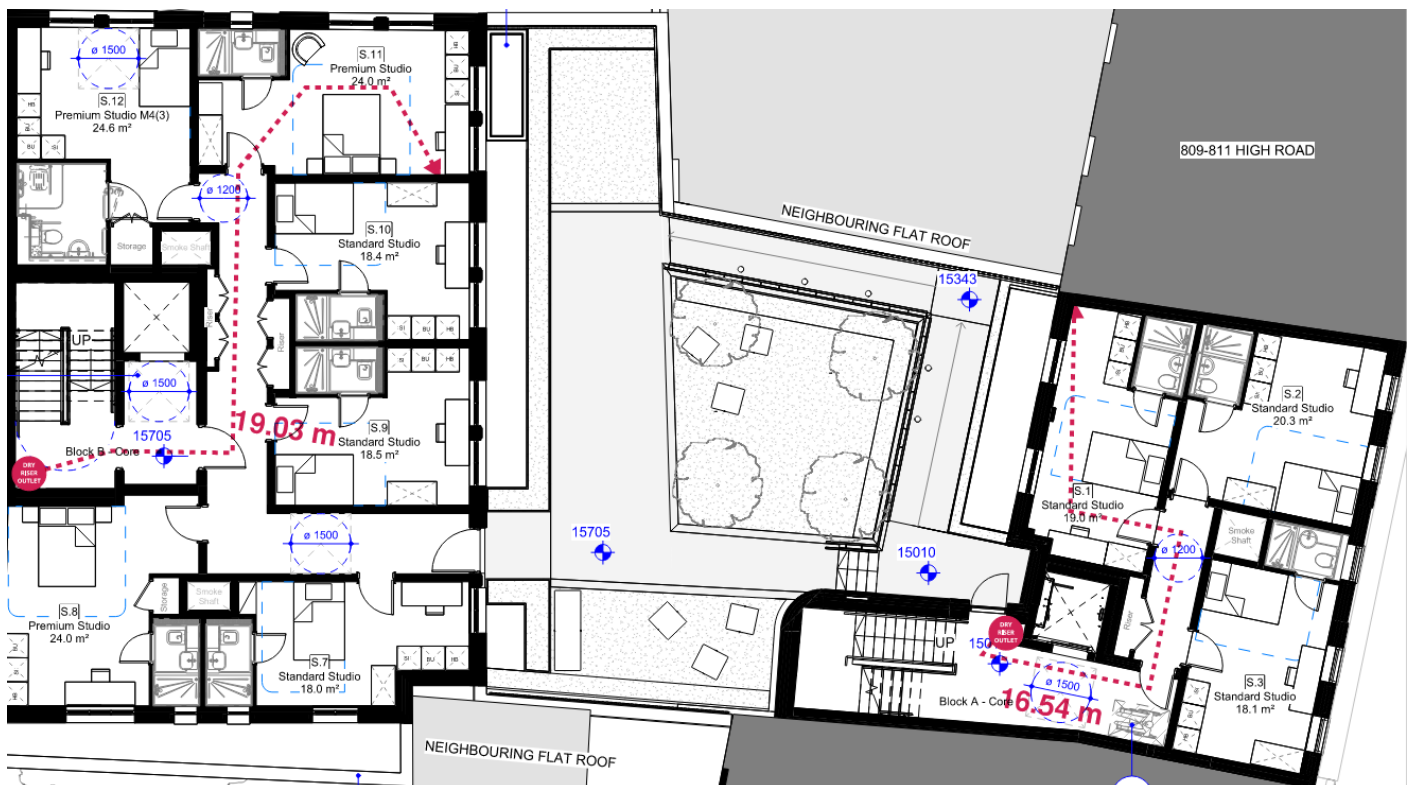


Figure 11: Fire Fighting Provisions on a Typical Floor

7.2 Water Supplies

Fire hydrants should be provided within 90 m of the dry riser inlets. As shown in Figure 12, this recommendation has been met. This information has been confirmed via email correspondence from the London Fire Brigade Water Team on the 23rd of November 2023.

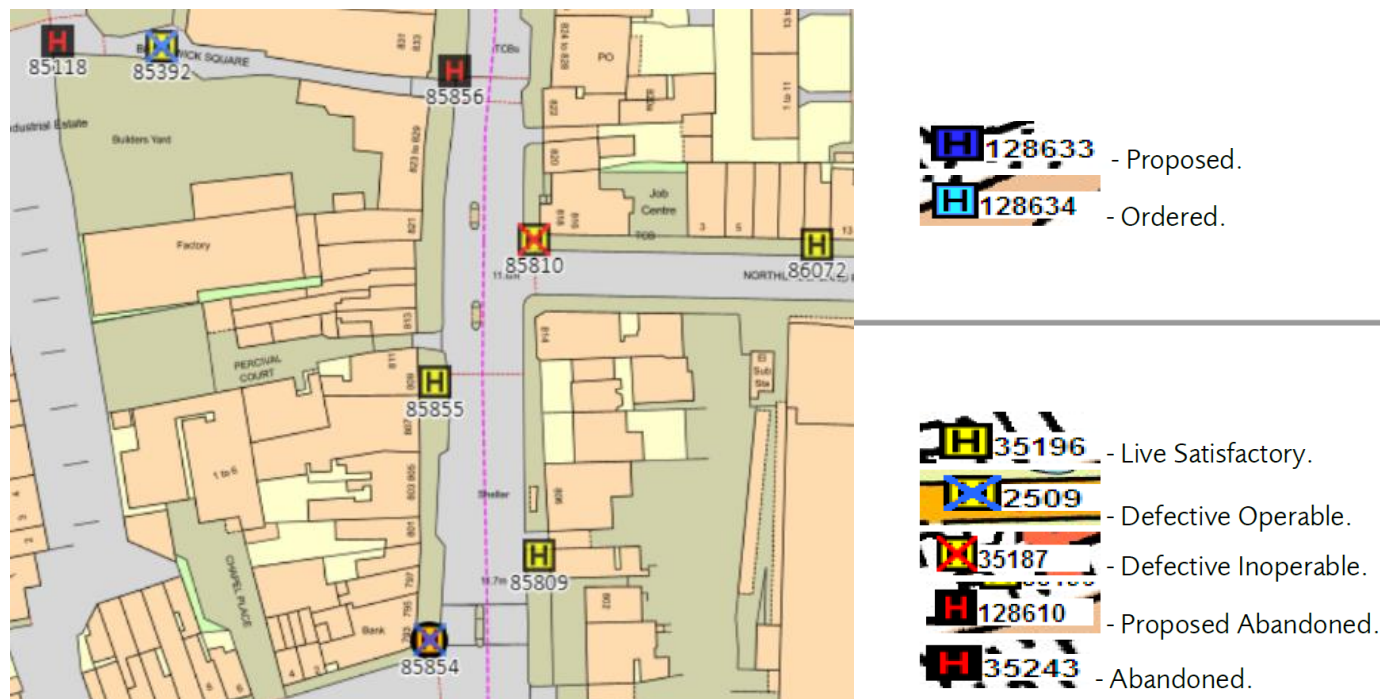


Figure 12: Fire Hydrant Location Around 807 HR (left) and Associated Legend (right)

8 FUTURE MODIFICATIONS

The proposals herein will be subject to further specification and changes as the design develops. A detailed fire strategy will be produced as the design progresses, with a level of information suitable for Building Regulations approval and the preparation of construction information. As part of the Regulatory Approvals process, the detailed fire strategy and detailed fire safety information and specifications will be the subject of milestone reviews and regular meetings which will be held with representatives from the appointed Building Control Body. As the regulatory approver, they will in turn lead the engagement process with London Fire Brigade (both the Fire Engineering Group and the Inspections team). Advice and feedback from these authorities will in turn inform the building design and the fire strategy that is being developed.

At the relevant stage, the detailed fire strategy will also form part of the information pack handed over to the building operator(s) under Regulation 38 to assist the responsible person to carry out the necessary fire safety risk assessment(s) and implement other relevant duties in accordance with the Regulatory Reform (Fire Safety) Order 2005.

Management procedures have a pivotal role to play in fire prevention, control and evacuation of occupants should a fire incident occur. Maintenance procedures will be developed to ensure that all equipment and services are able to operate effectively in the event of fire. If this management is lacking, then there is a danger that all the other areas. 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 a designated Fire Safety Manager is appointed. The appointed person should have the necessary authority and powers of sanction to ensure that standards of fire safety are maintained. The Fire Safety Manager may be separate persons for each demise.



9 CONCLUDING STATEMENT

To conclude this fire statement, the current proposals provide a design which is suitable for the purposes outlined in this document. It provides adequacies in line with Policy D12, whilst taking a pragmatic approach to Policy D5 of the London Plan 2021 and provides a design which could comply with the functional requirements of Part B of the Building Regulations 2010 (as amended, 2022).

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