



LONDON POLICY D12(B) and D5B(5) FIRE STATEMENT

**PROJECT
NAME:** Plevna Crescent, Haringey

DATE: 24th April 2024

REF: OF-000633-LPS-01-A

Quality Assurance

Rev	Date	Prepared By	Authorised By	Comments
-	27/03/2024	Hugh Foster	Oskar Dzielak/Lisa Farnell	Draft issue for comment
A	24/04/2024	Hugh Foster	Oskar Dzielak/Lisa Farnell	Updated following design team comments and final drawing issue

1 Introduction

1.1 Project Brief

- 1.1.1 Orion Fire Engineering have been engaged by Marsons Property Ltd to develop a Fire Strategy Statement to support a planning application for the Plevna Crescent development which is a mixed-use development comprising residential and commercial use in the London Borough of Haringey.

1.2 London Policy Plan D12 Requirements

- 1.2.1 The London Planning Policy D12 requires all proposed developments to offer the highest standards of fire safety and ensure the safety of all building occupants. Sections A1 – A6 apply to minor developments within the Greater London Area. Sections B1 – B6 apply to major developments.

Major Developments are defined as:

- For dwellings: where 10 or more are to be constructed (or if number not given, area is more than 0.5 hectares).
- For all other uses: where the floor space will be 1000 square metres or more (or the site area is 1 hectare or more).

- 1.2.2 This scheme is classified as a major development and as such Sections B1 – B6 apply. The relevant sections of Policy D12 and the requirements of each section have been summarised below in Table 1.

Table 1: Greater London Authority Requirements

D12 Section	Requirement
B1	The building's construction method and products and materials used.
B2	Means of escape for all building users and evacuation strategy.
B3	Passive and active fire safety measures.
B4	Access and facilities for the fire and rescue service.
B5	Site access for the fire and rescue service
B6	Future development of the asset and the 'Golden Thread' of information

- 1.2.3 The recommendations of Policy D12 of the London Plan 2021 (set-out in Clause 3.12.1 – 3.12.11 of the London Plan 2021), have also been considered in the formation of this statement.

1.3 Prescriptive Guidance Documents

- 1.3.1 The principal guidance document that has been applied to the building in regard to fire life safety is BS 9991 (Residential/Residential ancillary) and Approved Document B Volume 2 (Multi-purpose). In addition to the principal guidance document, multiple supporting British Standards, European Norms and industry guidance documents will be applied. The specific application of these documents will be referenced in the relevant sections of this report.

- 1.3.2 It should be highlighted that this statement does not constitute a holistic fire strategy for the building, suitable to demonstrate compliance with Part B1 to B5 of the Building Regulations or for approval from an Authority Having Jurisdiction (AHJ). The statement is merely to provide an overview of the fire safety features provided for Planning Policy D12. In addition to this Fire Safety Statement, Orion have also issued a Gateway One Fire Statement dated 24th April 2024, referenced "OF-000633-FSS-01-A" and a Pre-planning Fire Strategy dated 24th April 2024, referenced "OF-000633-OFS-01-A".

- 1.3.3 Where the scheme contains a variation from the recommendations of the prescriptive guidance, a fire engineered approach will be adopted to demonstrate that the building (where applicable), can achieve compliance with the functional requirements of Building Regulations.

1.4 Site and Building Description

- 1.4.1 Erection of residential development in four buildings with associated ancillary spaces and landscaping scheme together with the regeneration and enhancement of the existing ecological corridor
- 1.4.2 The proposed development provides four blocks of residential accommodation. Block A is 6 storeys in height (ground to level five). Block B is eight storeys in height (ground to level 7) along with a single basement level, Block C is eight storeys in height (ground to level 7). Block D is nine storeys in height (ground to level 8).
- 1.4.3 All blocks comprise of residential accommodation in the form of standard apartments and duplex apartments.
- 1.4.4 A basement is provided below Block B and partially of Block C. This basement is accessed by completely independent stairs and lifts and has no direct communication with the residential floors above. The basement level provides ancillary and non-residential accommodation including a multi-purpose space, cycle store, bin store and plant rooms.
- 1.4.5 The London building plan covers non-residential buildings in part however, limited information is available at the time of completing this report (shell and core) therefore, the building would be subject to fit out and a separate Building Regs application.
- 1.4.6 For the purpose of referencing the blocks throughout this fire strategy, the blocks have been labelled as per Figure 1.



Figure 1: Block Designation

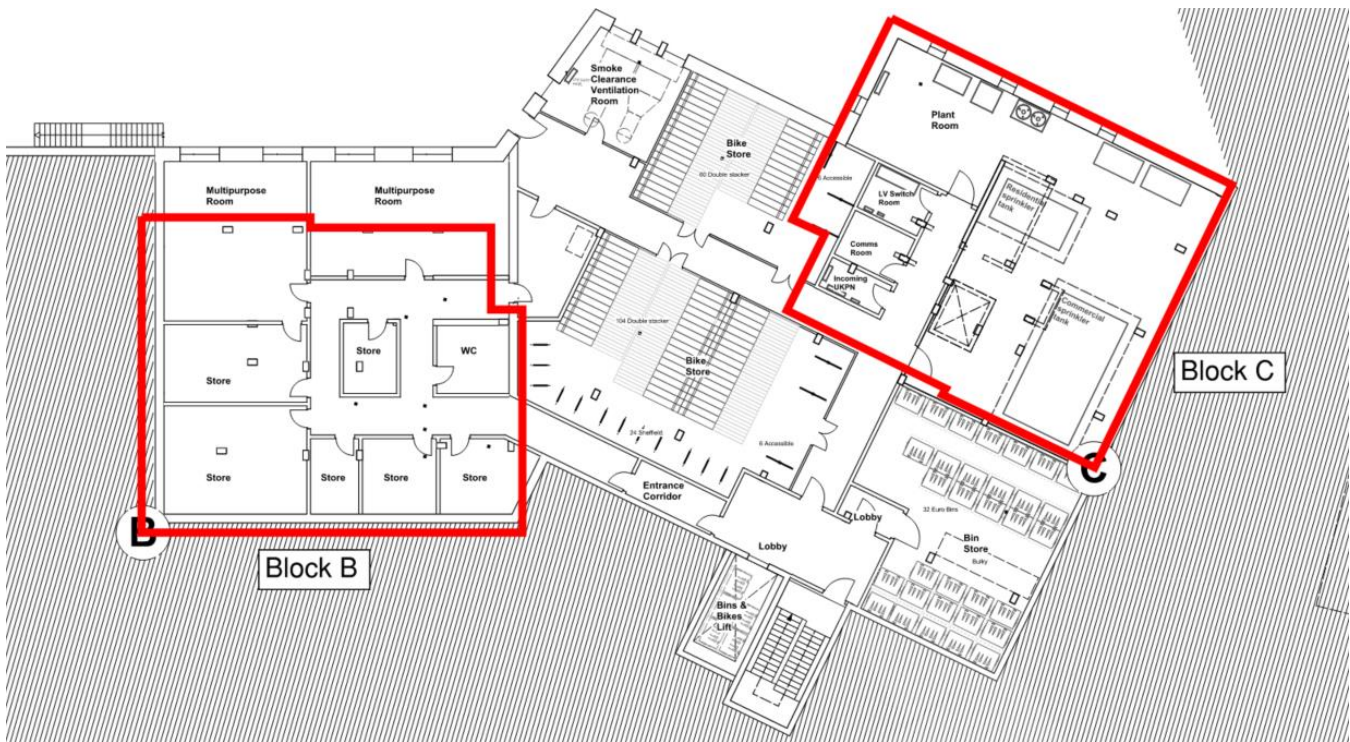


Figure 2: Basement location below Block B and C

1.4.7 The building measurements for each block have been highlighted in Table 2 as provided by the architect.

Table 2: Building Heights

Block	Storeys	Height from access level to topmost occupied storey (m)
Block A	Ground plus 5 Storeys	17.925m
Block B	Basement and ground plus 7 storeys	23.550m
Block C	Ground plus 7 storeys	24.575m
Block D	Ground plus 8 storeys	26.875m

1.5 Project Information

- 1.5.1 The drawing information listed in Table 3 has been reviewed whilst producing this statement. Any information not listed in Table 3 has not been reviewed by Orion Fire Engineering. All recommendations made within this statement are based on the drawings listed below. Any revisions to those drawings may invalidate this statement.

Table 3: Drawing Information Reviewed

By	Drawing Number	Drawing Title	Rev	Date Reviewed
Ayre Chamberlain Gaunt	455_PLN_100	Proposed Block Plan	A	24/04/2024
	455_PLN_101	Proposed Site Plan	A	24/04/2024
	455_PLN_200	Proposed Ground Floor Plan	A	24/04/2024
	455_PLN_201	Proposed First Floor Plan	A	24/04/2024
	455_PLN_202	Proposed Second Floor Plan	A	24/04/2024
	455_PLN_203	Proposed Third Floor Plan	A	24/04/2024
	455_PLN_204	Proposed Fourth Floor Plan	A	24/04/2024
	455_PLN_205	Proposed Fifth Floor Plan	A	24/04/2024
	455_PLN_206	Proposed Sixth Floor Plan	A	24/04/2024
	455_PLN_207	Proposed Seventh Floor Plan	A	24/04/2024
	455_PLN_208	Proposed Eighth Floor Plan	A	24/04/2024
	455_PLN_209	Proposed Roof Plan	A	24/04/2024
	455_PLN_210	Proposed Basement Plan	A	24/04/2024
	455_PLN_220	Proposed Ground Floor Plan A & B	A	24/04/2024
	455_PLN_221	Proposed First Floor Plan A & B	A	24/04/2024
	455_PLN_222	Proposed Second Floor Plan A & B	A	24/04/2024
	455_PLN_223	Proposed Third Floor Plan A & B	A	24/04/2024
	455_PLN_224	Proposed Fourth Floor Plan A & B	A	24/04/2024
	455_PLN_225	Proposed Fifth Floor Plan A & B	A	24/04/2024
	455_PLN_226	Proposed Sixth Floor Plan A & B	A	24/04/2024
	455_PLN_227	Proposed Seventh Floor Plan A & B	A	24/04/2024
	455_PLN_228	Proposed Eighth Floor Plan A & B	A	24/04/2024
	455_PLN_230	Proposed Ground Floor Plan C & D	A	24/04/2024
	455_PLN_231	Proposed First Floor Plan C & D	A	24/04/2024
	455_PLN_232	Proposed Second Floor Plan C & D	A	24/04/2024
	455_PLN_233	Proposed Third Floor Plan C & D	A	24/04/2024
	455_PLN_234	Proposed Fourth Floor Plan C & D	A	24/04/2024
	455_PLN_235	Proposed Fifth Floor Plan C & D	A	24/04/2024
	455_PLN_236	Proposed Sixth Floor Plan C & D	A	24/04/2024
	455_PLN_237	Proposed Seventh Floor Plan C & D	A	24/04/2024
	455_PLN_238	Proposed Eighth Floor Plan C & D	A	24/04/2024
	PLV-ACG-XX-ZZ-DR-A-4000	Proposed GA Elevations Block A	P2	24/04/2024
	PLV-ACG-XX-ZZ-DR-A-4001	Proposed GA Elevations Block B	P2	24/04/2024
	PLV-ACG-XX-ZZ-DR-A-4002	Proposed GA Elevations Block C	P2	24/04/2024
	PLV-ACG-XX-ZZ-DR-A-4003	Proposed GA Elevations Block D	P2	24/04/2024

1.6 Competence & Qualifications

Author - Hugh Foster

Meng (Hons), Civil Engineering

AIFireE with the Institute of Fire Engineers

10 years' experience as a fire safety engineer

Greenford Green, Ealing

Hugh developed the fire strategy for two large residential developments on the Greenford Green site. These including residential apartments complimented by residential amenities, commercial units, a super market. Hugh assisted the scheme through the detailed design and construction stages, reviewed construction details and inspected the external wall systems during construction.

Silk Park, Hendon

Hugh delivered the fire strategy for a large residential development in Hendon London. The development consisted of 771 residential apartments split between 9 blocks wrapping and on top of a large extensively landscaped podium deck. Beneath the podium houses a supermarket food store, customer parking, residents facilities, basement residents car park and cycle storage. Private, shared ownership and social rent apartments are to be provided in the development. Hugh supported the scheme during RIBA stage 3 and 4, reviewing the scheme during detailed design, including the provision of computational fluid dynamics for residential means of escape and car park smoke clearance.

Reviewer - Oskar Dzielak

Meng(Hons) Fire Safety Engineering.

AIFireE with the Institution of Fire Engineers.

8 years' experience as a fire safety engineer

City Road, Hoxton – London

Oskar has delivered fire engineering support for the City Road project in Hoxton, which is a c. £100m mixed-use development providing 13,750m² of commercial space at ground to 6th floor, with 100 residential apartments across the 7th to 21st floor. An additional 2 basement storeys have been provided for non-residential and ancillary uses, with the overall building height measuring close to 80m. Orion Fire has been appointed by Henry Construction Projects Ltd to deliver a RIBA Stage 4 fire strategy and provide continuous support throughout the detailed design and construction phases. Given the high-end aspirations of the client and the team, the building presents various challenges from a fire safety design perspective. Through engineered analysis and first principles of fire safety design, Oskar developed workable solutions without compromising the safety of occupants.

2 Policy D12 Section B1 - The Building's Construction Method and Products and Materials Used.

2.1 Structural Fire Resistance

- 2.1.1 All buildings are to be designed and constructed with reinforced concrete. This will achieve an adequate level of fire protection to all loadbearing elements of structure within a building.
- 2.1.2 As block A is greater than 5m but less than 18m in height to the topmost occupied storey, all elements of structure for the apartment blocks should achieve a fire resistance period of 60 minutes for Loadbearing Capacity (R 60).
- 2.1.3 As blocks B, C and D are greater than 18m but less than 30m in height to the topmost occupied storey, all elements of structure for the apartment blocks should achieve a fire resistance period of 90 minutes for Loadbearing Capacity (R 90).
- 2.1.4 The exception to the above is the elements of structure supporting the Firefighting shaft should be provided with an applied fire protection of 120-minutes (R 120). Structural fire reduction cannot be applied to elements of structure supporting the firefighting shaft so these will remain at R 120.

2.2 External Wall Construction

- 2.2.1 The external envelope of the building should not contribute to excessive smoke and fire spread from one part of the building to another.
- 2.2.2 External walls are defined as the full external wall build up from the external surface of the wall to the internal surface (excluding any internal decorative finish).
- 2.2.3 In a residential building with a storey 18m or more in height, when measured from the lowest adjacent ground floor level to topmost occupied storey (excluding floors consisting exclusively of plant), all components used in construction of external walls will need to achieve Class A2-s1, d0 or A1, classified in accordance with BS EN 13501-1 unless listed as a permitted exemption in Regulation 7(3).
- 2.2.4 The building is being constructed from materials which are in accordance with the current guidance to meet the Building Regulations 2010. The building up of the external walls is summarised below.

Basement & Ground Floor walls

- 2.2.5 Stone gabion cladding, on facing masonry blockwork cavity wall, fully filled mineral wool insulation in cavity, plasterboard finish.

Upper floor walls

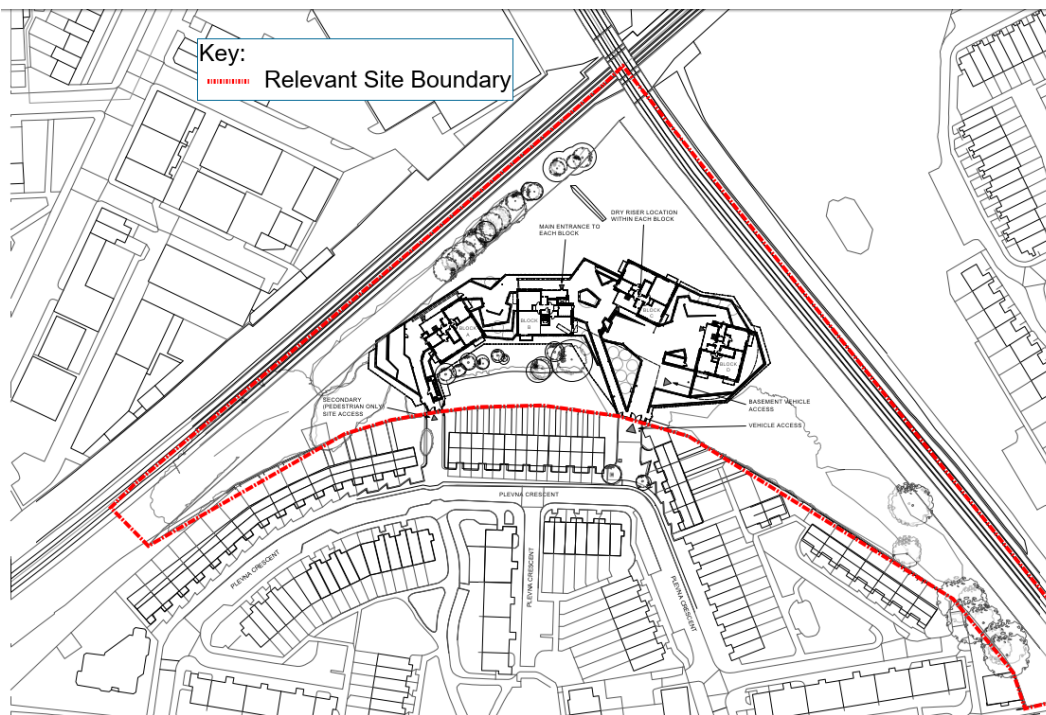
- 2.2.6 Clay tile rainscreen cladding, on aluminium carrier rails and helping hand brackets, mineral wool insulation in the cladding void, non-combustible breather membrane, on gypsum sheathing board, on SFS metal framing (or RC concrete columns), with services void and metal framed plasterboard drylining.
- 2.2.7 (Warrington test certification available for cladding system, excluding membranes)
- 2.2.8 Aluminium metal cladding on aluminium carrier rails and helping hand brackets, mineral wool insulation in the cladding void, non-combustible breather membrane, on gypsum sheathing board, on SFS metal framing (or RC concrete columns), with services void and metal framed plasterboard drylining.

2.2.9 The Fire Engineer appointed for the design and construction stages should review any proposals for materiality and construction to meet the recommendations of the Building Regulations and the London Plan, to be conducted once details have been developed.

2.3 External Fire Spread

2.3.1 The relevant external fire spread boundary for the building has been included in Figure 3 below. This has generally been taken as the site ownership boundary. Where the site is adjacent Bondway to the West and the railway to the East the relevant external fire spread boundary has been extended half-way across that space.

Figure 3: Relevant Boundary



2.3.2 The results of the space separation assessment have been tabulated below in Table 4. While not all floors/compartments have been assessed, the results of the analysis may be transferred for the remaining floors or similar compartments.

Table 4: External Fire Spread and Allowable Unprotected Areas

Compartment	Floor	Use	Width of Panel (m)	Height of Panel (m)	Distance to boundary (m)	Unprotected Area (%)	Protected Area (%)
Block A	Ground	Residential	15.5	3.575	24.1	100%	0%
Block B	Ground	Residential	22.0	3.725	5.4	100%	0%
Block C	Ground	Residential	22.3	3.725	6.85	100%	0%
Block D	Ground	Residential	28.9	3.575	9.2	100%	0%

2.4 Roofs

- 2.4.1 As the building provides residential accommodation and will require multiple compartment walls to be extended to the underside of the roof, the roof should achieve a rating of $B_{ROOF}(4)$ as tested to BS EN 13501-5, regardless of the boundary distance.

3 Policy D12 Section B2 – Means of Escape for All Building Users and Evacuation Strategy.

3.1 Evacuation Principle

- 3.1.1 The evacuation principle for the residential parts of the development is based on the stay put strategy whereby upon detection activation within a dwelling, occupants of that dwelling will evacuate. This approach means all residents not directly affected by fire would be expected to 'stay put' and remain in their flat unless directed to leave by the Fire and Rescue Service. However, the 'stay put' principle does not imply that those not directly involved who wish to leave the building should be prevented from doing so. Nor does this preclude those evacuating a flat that is on fire from alerting their neighbours so that they can also escape if they feel threatened.
- 3.1.2 Due to the provision of self-contained fire alarm systems within each apartment, occupants are reasonably expected to self-evacuate from immediate danger in a fire-affected apartment to a place of relative safety, in a separate safe compartment (common corridor or stair). Any other occupants within the block or ancillary accommodation are not required to evacuate. Further evacuation will be subject to individual action of occupants or on instruction from attending fire crews. The use of a stay put strategy is widely recognised and accepted method for residential premises in England and is supported by high degree of compartmentation between residential apartments to confine the spread of fire to a single compartment, sprinkler protection to control the growth of fire and smoke ventilation to maintain the common escape routes tenable from fire affluent. The evacuation principle and design methodology has been based on the recommendations contained in BS 9991: 2015 (incorporating Corrigendum No.1): "Fire safety in the design, management and use of residential buildings – Code of practice".
- 3.1.3 The multi-purpose accommodation will adopt a simultaneous evacuation strategy whereby detection activation within the accommodation will result in the evacuation of all occupants within the fire affected ancillary area.

Evacuation Assembly Point

- 3.1.4 An assembly point should be provided as part of the fire strategy management plan (to be developed by the building operator), the Responsible Person for the development (as defined under the RR(FS)O)) should include this in the fire safety management plan. An assembly point is required for the multi-purpose space and ancillary areas as these operate on a simultaneous evacuation policy, although it should be large enough to accommodate any residential occupants who may choose to evacuate. An assembly point would be possible on site and an example proposed assembly point is shown in below Figure 4. It is considered that this assembly point suggested would be suitable for the use and number of people evacuating, however the final assembly point location is to be designated by the responsible person upon fire risk assessment completion.

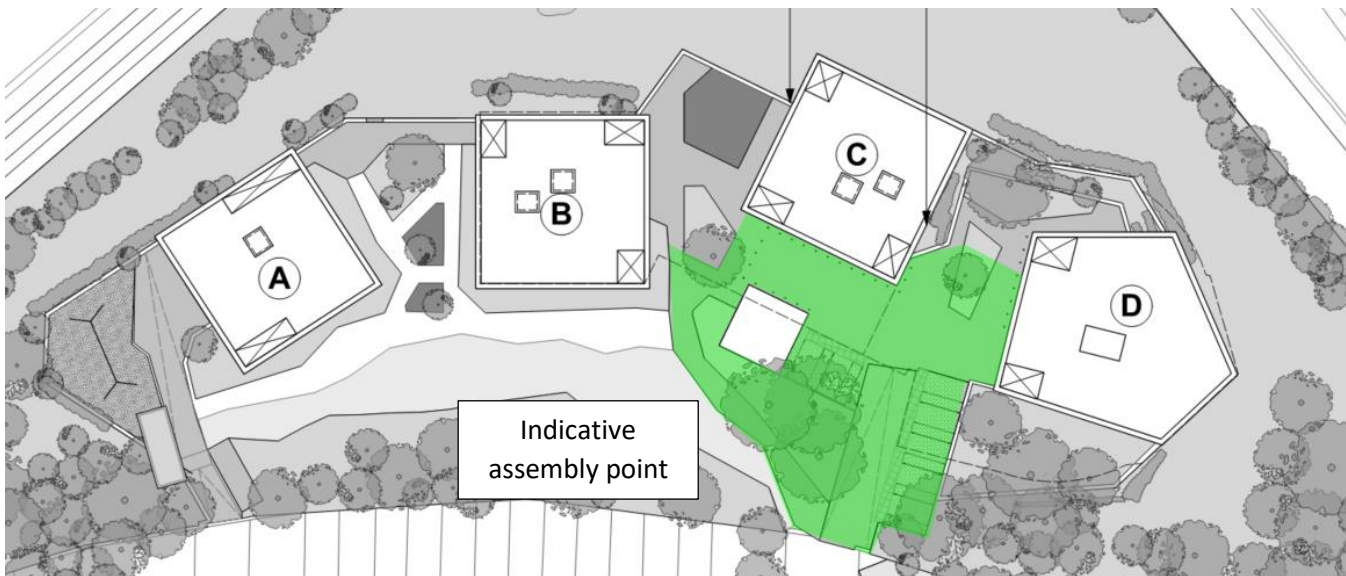


Figure 4: Assembly Point

3.2 Horizontal Means of Escape

Means of Escape – Apartments

- 3.2.1 Almost all apartments in the four blocks have protected entrance hallways or internal protected stairs. There are only two apartments in the whole development that do not have this provision. To assist with the justification for single stair buildings it is strongly recommended that these apartments are redesigned to have protected entrance hallways.
- 3.2.2 Protected entrance hallways should achieve 30 minutes fire resistance, with FD30 internal doors, and FD30S apartment entrance doors. All habitable rooms should access off the protected entrance hallway. Travel distances within the protected entrance hallway should not exceed 9m.

Means of Escape – Duplex Apartments

- 3.2.3 There are multiple duplex apartments within the development. All duplex apartments are over no more than 2 floors and therefore to be provided with a protected stair. Protected internal stairways should achieve 30 minutes fire resistance, with FD30 internal doors, and FD30S apartment entrance doors. All habitable rooms should access off the protected internal stairway.

Means of Escape – Residential Ancillary Accommodation

- 3.2.4 Most residential ancillary accommodation is provided within the basement. The basement is separated into individual compartment uses and connected by protected corridors. These corridors are shown in



Figure 5. This corridor provides alternative escape routes from all rooms within the basement.

- 3.2.5 Travel distances within the ancillary spaces i.e., refuse stores, cycle stores, plant rooms are in accordance with the recommended limits of Approved Document B.

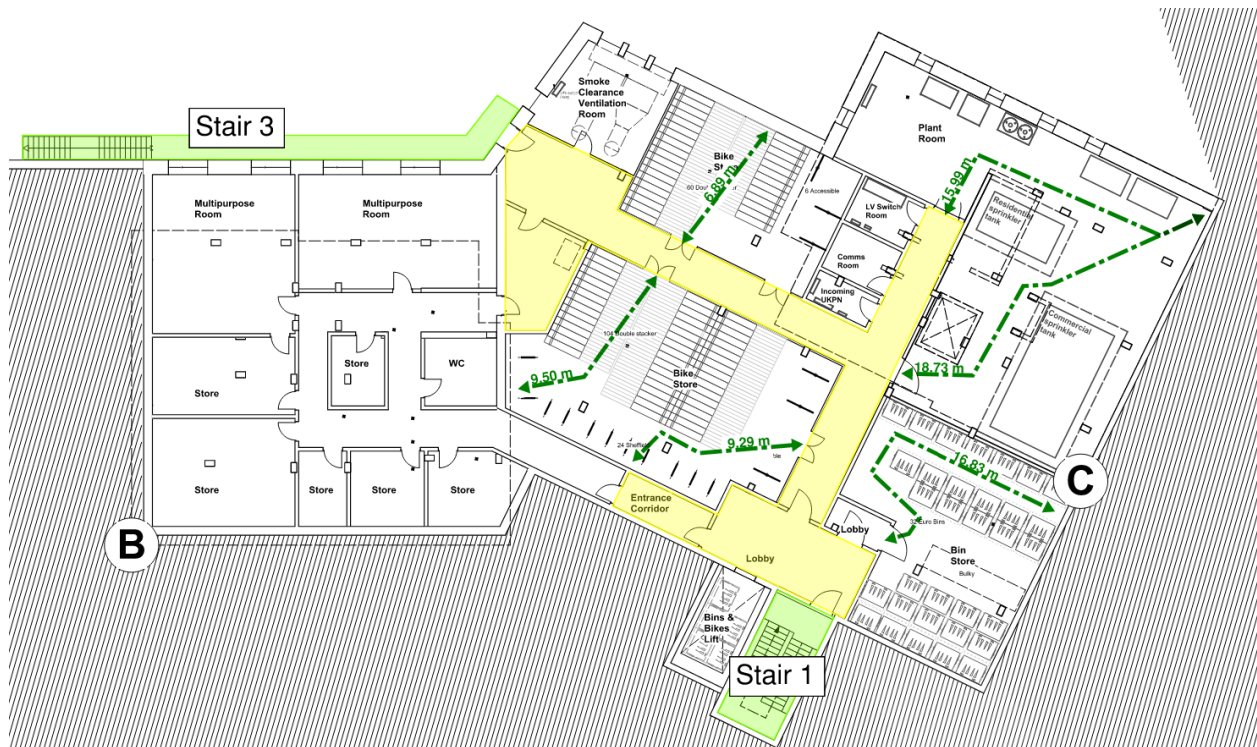


Figure 5: Travel distances within the basement

Means of Escape- Multi-Purpose Space

- 3.2.6 Based on the recommendations of ADB the travel distances within the multi-purpose space are to be limited to 18m in a single direction and 45m where alternative means of escape is available, this has been achieved on the current plans with one exit via Stair 3 and one via a protected corridor to Stair 1.

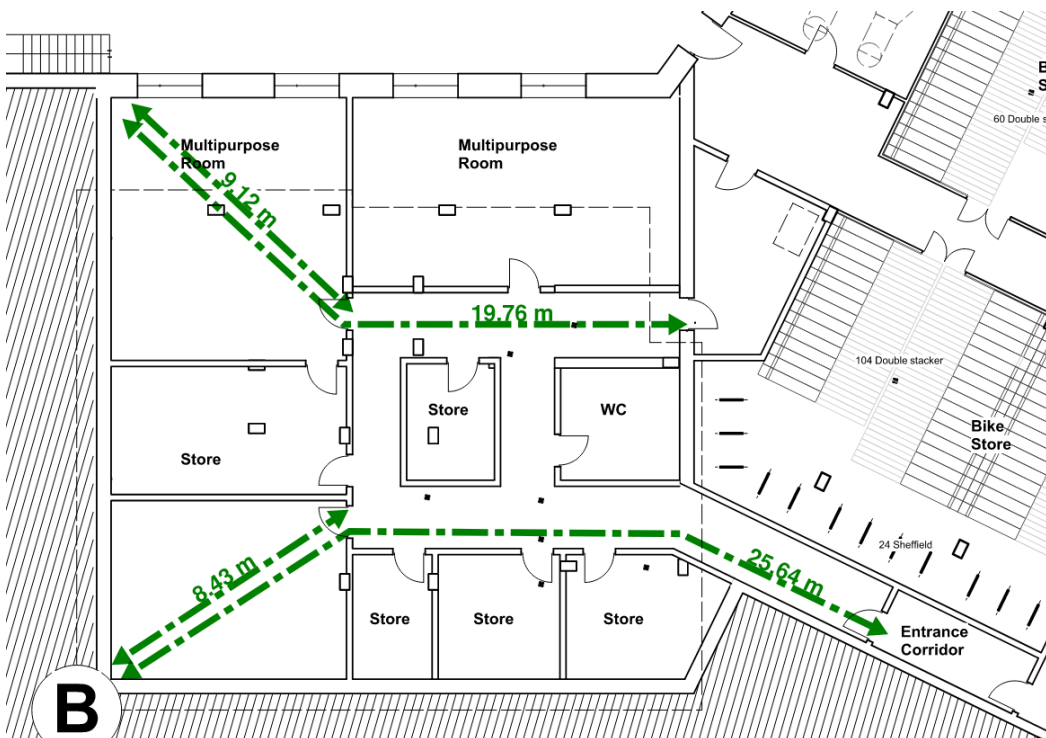


Figure 6: Travel distances from multi-purpose room

- 3.2.7 The multi-purpose space has currently been provided with two means of escape – 2 x 900mm doors both of which swing in the direction of escape. Based on the largest escape route being discounted, the remaining available exits would be suitable for an egress capacity of 110 persons.
- 3.2.8 It should be noted that the occupancy has been calculated as 145 persons in the multi-purpose space. Therefore, the doors along the exit routes to the final exits should be at least 1050mm clear width, or a limit on the allowable occupancy will need to be applied.

Means of Escape – Residential Common Escape Routes

- 3.2.9 All blocks are single stair, sprinklered buildings therefore the prescriptive travel distance recommendations for ventilated corridors are 15m in a single direction.
- 3.2.10 The travel distance recommendations are met throughout the development as no distance within the common corridors is greater than 15m in a single direction.
- 3.2.11 The common corridor of each residential building will be provided with mechanical smoke extract.

3.3 Vertical Means of Escape

Residential

- 3.3.1 All blocks are provided with a single protected stair which serves every level of their respective block. Each stair has a minimum width of c.1100mm and therefore meet the minimum requirements of Part B of the Building Regulations for general circulation and access to the stair. It should be noted that adherence to Part M requirements is beyond our scope and should be reviewed by the architect.
- 3.3.2 Within each block the stair discharges internally and leads to external via the residential entrance lobby, a general summary of the provisions required for each block have been highlighted in Escape stairs should discharge either:
- Directly to a final exit; or
 - Into a protected corridor leading to a final exit which is itself lobbied from any accommodation.
- 3.3.3 A summary of the stairs serving the residential accommodation within the development has been provided in Table 5.

Table 5: Stair Provisions

Block	Floors Served	Stair Type	Dry Rising Main	Discharge
A	Ground – Level 5	Protected	Yes	Via protected route to external
B	Ground – Level 7	Firefighting	Yes	Via protected route to external
C	Ground – Level 7	Firefighting	Yes	Via protected route to external
D	Ground – Level 8	Firefighting	Yes	Via protected route to external

- 3.3.4 Final exit doors from stairs serving residential accommodation should be suitably sized for general circulation.

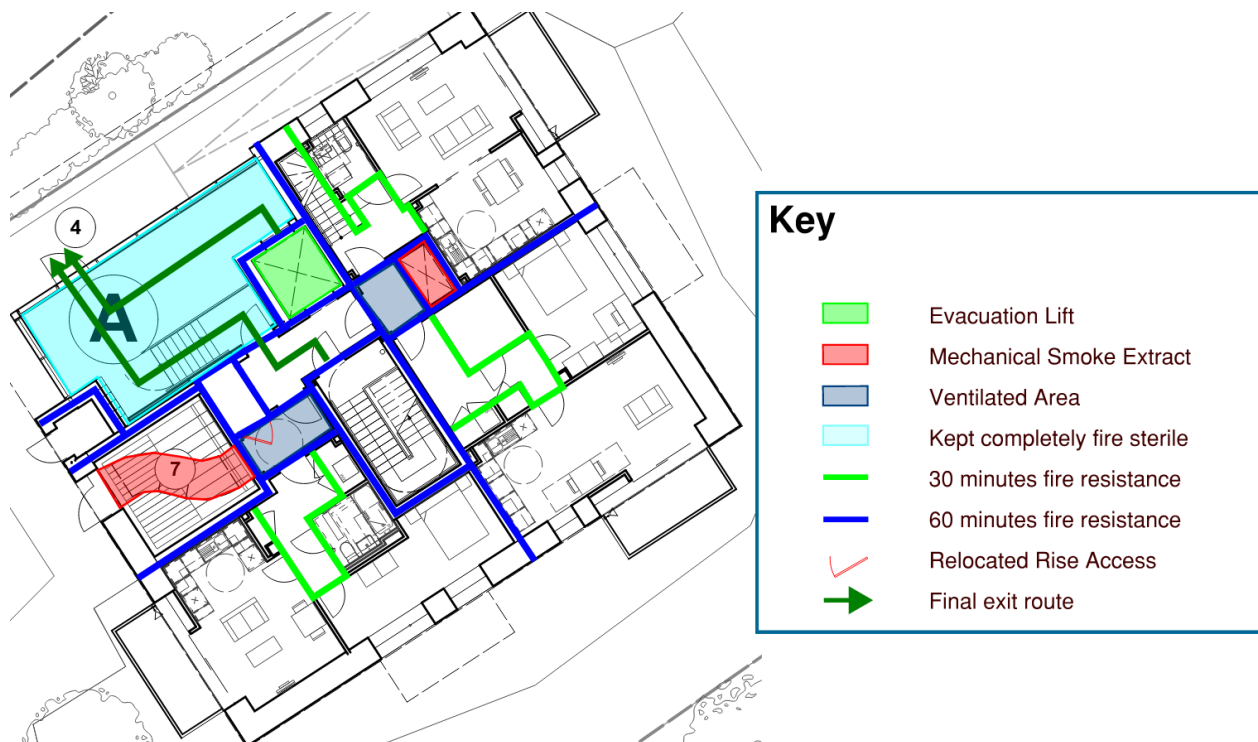


Figure 7: Stair Termination - Fire Safety Provisions Required (Block A)

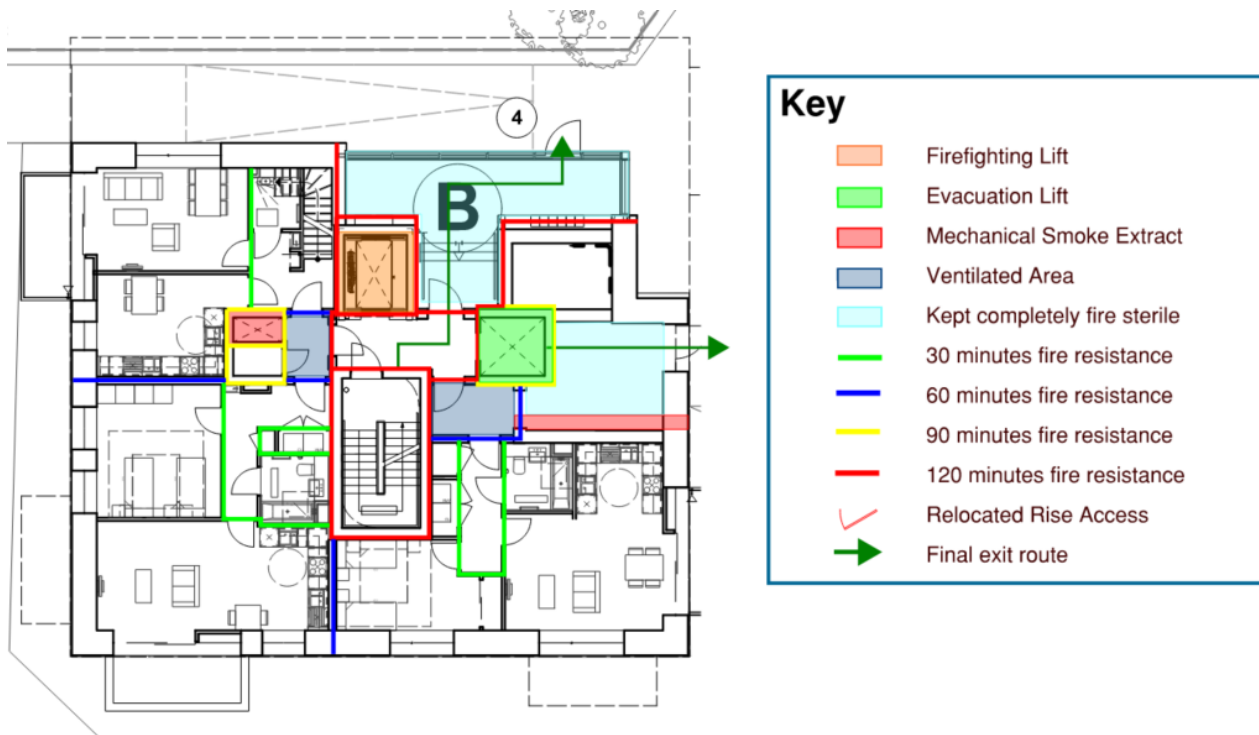


Figure 8: Stair Termination - Fire Safety Provisions Required (Block B and C)

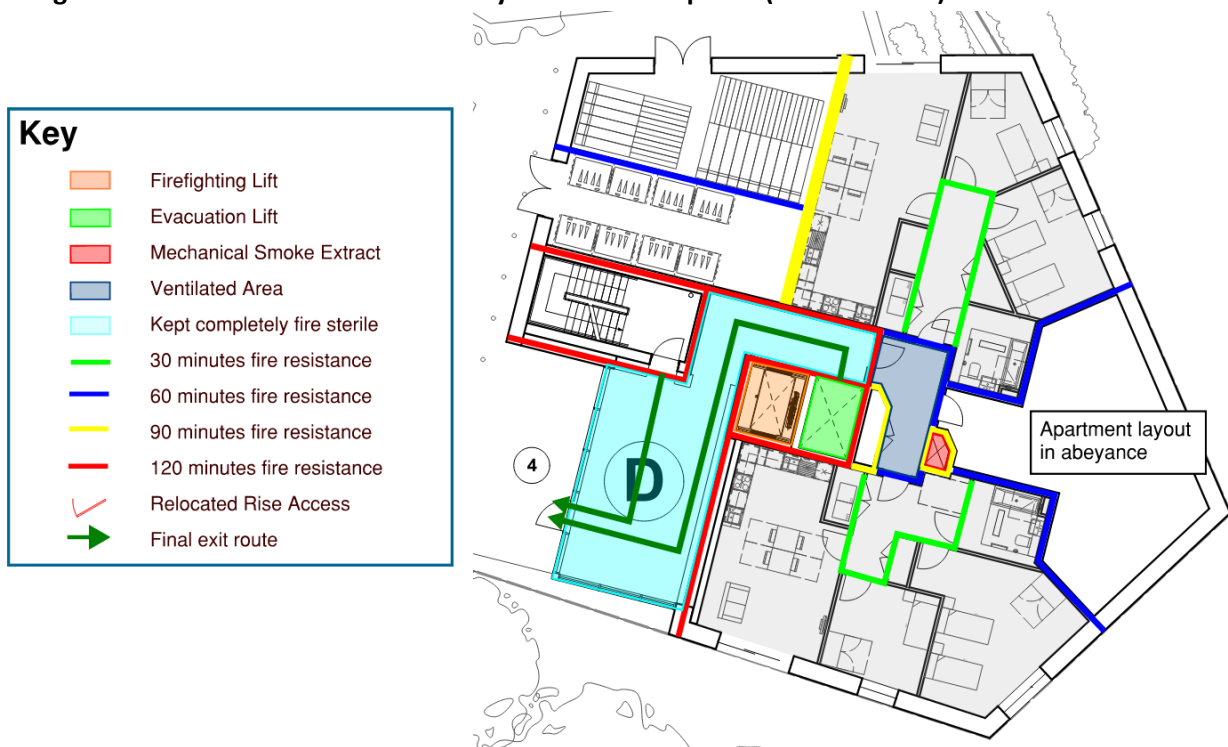


Figure 9: Stair Termination - Fire Safety Provisions Required (Block D)

Basement

- 3.3.5 Stair 1 and Stair 3 serve the basement level. The stairs should be at least 1100mm wide and would give capacity for 220 persons. For the expected occupancy of 145 person, doors at least 1050mm into the stairs should be provided. Final exit doors should be at least as wide as the stairs and must be 1100mm wide and open in the direction of escape.
- 3.3.6 Stair 3 discharges externally and is not located close to any other building.
- 3.3.7 Stair 1 discharges into an enclosure which is adjacent a bin store. The bin store should be separated from the stair escape by 30 minutes fire resisting construction. 1800mm horizontally

3.4 Evacuation of Non-Ambulant Occupants

Residential

- 3.4.1 There is no approved guidance that provides advice on the evacuation of non-ambulant occupants from residential buildings. This is primarily due to the lack of onsite management in residential buildings in comparison to commercial buildings. As there would be no on-site staff to assist non-ambulant residents in evacuating the building in the event of a fire within their dwelling, residential buildings are designed to facilitate self-evacuation with no reliance on onsite management as far as is reasonably practicable.
- 3.4.2 In accordance with the requirements of the Greater London Plan disabled evacuation from residential accommodation is through the provision of a dedicated evacuation lift designed to Annex G of BS 9999, EN 81-20 and EN 81-70 within each Block. It is recommended that the provision of at least one evacuation lift within each block be accounted for in the cost plan and agreed with all relevant stakeholders.
- 3.4.3 The evacuation lift should discharge into a fire sterile space.

Non-Residential

- 3.4.4 The responsibility for safe evacuation of any persons needing assistance (reduced mobility, disabled, etc.) falls on the tenant or management of the building. As part of RR(FS)O, specific fire evacuation policies and procedures should be developed (such as Personal Emergency Evacuation Plans (PEEPs)), accounting for a wide spectrum of persons who may be present on the premises. No reliance should be made upon the Fire Service to assist during evacuation of the building.
- 3.4.5 Provision should be made for a disabled refuge within each of the stairs or stair lobby enclosures in the basement which contain non-residential accommodation. The disabled refuges should measure 900mm x 1,400mm and not impinge on width of the escape routes for the building. It should be noted that this is on the levels containing non-residential accommodation only.
- 3.4.6 In accordance with the requirements of the Greater London Plan disabled evacuation from non-residential accommodation is through the provision of a dedicated evacuation lift designed to Annex G of BS 9999, EN 81-20 and EN 81-70. If lift access is to be provided to the basement level, it is recommended that the provision of at least one evacuation lift within the basement be accounted for in the cost plan and agreed with all relevant stakeholders.
- 3.4.7 The evacuation lift should discharge into a fire sterile space or directly to outside.

4 Policy D12 Section B3 - Passive and Active Fire Safety Measures.

4.1.1 The buildings are to provided with a number of passive and active life safety systems such as:

- Automatic fire alarm and detection systems are to be provided to residential apartments, to be designed and installed in accordance with BS 5839-6;
- Automatic fire alarm and detection systems are to be provided to residential ancillary areas and common escape routes, to be designed and installed in accordance with BS 5839-1;
- Evacuation alert control and indicating equipment systems should be designed and installed in accordance with BS 8629 to every block.
- Emergency Signage is to be provided as per recommendations of BS ISO 3864-1 and BS 5499-4;
- Emergency Lighting is to be provided as per the recommendations of BS 5266-1 and BS EN 1838;
- One evacuation lift per lift core are to be provided and are to comply with Annex G of BS 9999, BS EN 81-20 and BS EN 81-70.
- Smoke ventilation systems are to be designed and installed in accordance with EN 12101 and BS 9991.
- Firefighting lifts are to comply with BS EN 81-72 and further recommendations of BS 9999.
- The dry riser fire mains located to be located within each block's staircase is to be designed and installed in accordance with BS 9990;
- A number of life safety systems are to be provided with a back-up power supply where required, these are to be in accordance with their respective British and/or European Standards. Where an integrated back up supply cannot be provided, the secondary power proposals should be in accordance with BS 8519:2020;
- Where provided, automatic fire and smoke dampers are to be provided in accordance with BS 9991 and ASFP Grey Book: Fire and smoke resisting dampers; and
- Passive fire safety systems (compartment floors, corridors, stairs, apartments, doors, firestopping etc.) classified to EN 13501-2 for loadbearing capacity (R), integrity (E) and insulation (I).
- BS 9251 Category 2 sprinkler system to be provided to Blocks A
- BS 9251 Category 4 sprinkler system to be provided to each of Blocks B, C and D.
- EN 12845 Category OH1 sprinkler system to be provided to non-residential, including that ancillary accommodation which is over 100m² in area.

4.1.2 The performance specification of these systems stated either meets or exceeds the recommendations of the relevant fire safety guidance, BS 9991 for the residential building.

4.1.3 The specification of these systems is to be developed further by the design team and fire engineer appointed for the works within the later stages of the project.

4.1.4 Where life safety systems are provided in the building (both passive and active), they should be adequately maintained by the responsible person and in accordance with the specific manufacturer recommendations and a good practice approach. All active life safety systems shall be equipped with secondary power supplies in accordance with the relevant European Standards, which shall either be an interfaced back-up battery for low power systems (e.g. alarms, access devices, emergency lighting) or a life safety generator for high power systems (e.g. Firefighting lifts, evacuation lifts, mechanical smoke control system, EN 12845 sprinkler system).

5 Policy D12 Section B4 & B5- Access and facilities for the fire and rescue service.

5.1.1 Based on information provided and drawings available, at the time of producing this report, it appears that no works are proposed to the existing road infrastructure around the premises. Where works to the existing infrastructure are proposed, these should be in accordance with Table 6. Note, fire appliances are not standardised and may vary from area to area. Consultation with the Local Fire Authority and Building Control are required to ensure these dimensions are true to the equipment available for fire crews.

Table 6: Typical Fire Appliance Access Route Specification

Appliance Type	Minimum Width of Road Between Kerbs (m)	Minimum Width of Gateways (m)	Minimum Turning Circle Between Kerbs (m)	Minimum Turning Circle Between Walls (m)	Minimum Clearance Height (m)	Minimum Carrying capacity (tonnes)
Pump	3.7	3.1	16.8	19.2	3.7	12.5

5.1.2 Where a fire appliance needs to access the building via a dead-end access road, it should be ensured that the overall reversing distance does not exceed 20m.

5.1.3 There will be no on street parking, bollards or other obstructions that will prevent fire vehicle access along the routes shown in Figure 10.

5.1.4 A summary of the key firefighting access facilities has been included in Figure 10.

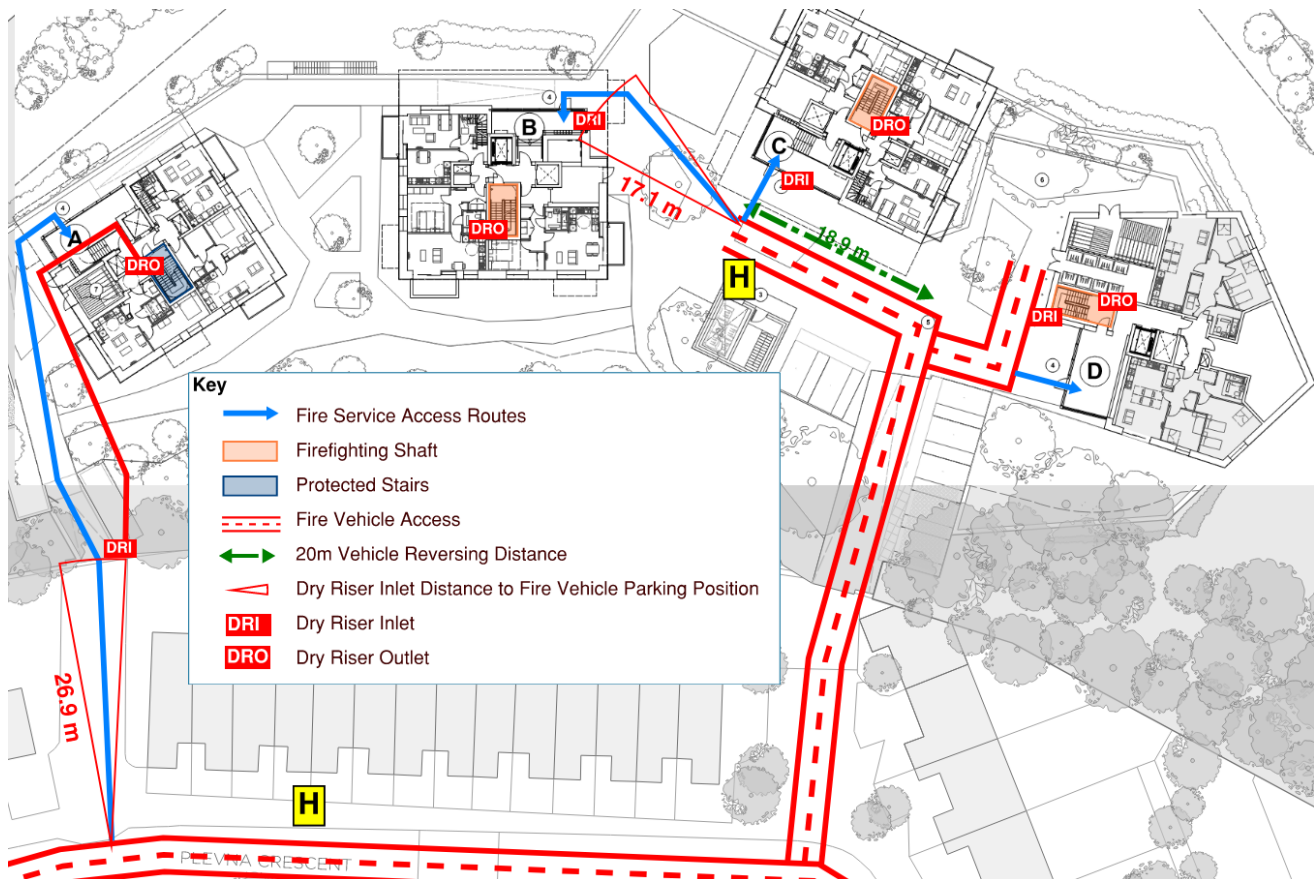


Figure 10: Firefighting Access to the Site (Layout in abeyance)

- 5.1.5 The ancillary areas in the basement level will be accessible within 45m of vehicle parking position via Stair 3 and can also be accessed by Stair 1 from the courtyard.

5.2 Firefighting Shaft

- 5.2.1 Block B, C and D will require firefighting shafts. Firefighting shaft will comprise of these basic components in residential accommodation:

- A minimum clear width 1100mm wide stair, enclosed in 120 minutes fire resisting construction (REI 120) provided from outside to inside. The internal lining of the firefighting stair may be reduced to 60 minutes fire resisting construction (EI 60)
- A 1.0m² geometric free area AOV at the head of stair
- A dry riser provided within the stair designed and installed in accordance with BS 9990.
- A firefighting lift designed and installed in accordance with BS EN 81-20 and BS EN 81-72.

5.3 Dry Risers

- 5.3.1 It is acknowledged that the horizontal pipework between each dry riser inlet and outlet should be limited to 18m. There shall be an extension in horizontal pipework distance between the Block A dry riser inlet and outlet, this due to Block A being set back from Fire Service access routes and located in a landscaped garden area. An initial pressure loss assessment has been carried out which indicates that, based on the proposed arrangements, the pressure loss experienced due to the excessive horizontal pipework distance shall not be higher than that required for a code compliant system. This is therefore not considered to inhibit Fire Service operations on attendance to the development.

5.4 Hydrants

- 5.4.1 A fire hydrant should be located within 90m of the dry riser inlet points. It is understood there is an existing hydrant located adjacent to the building (within 90m) on Plevna Crescent and a new hydrant is being provided on the courtyard between Blocks C and D as highlighted in Figure 10.
- 5.4.2 Early consultation should be undertaken with the Water Authority, Fire and Rescue Service and Building Control on the nature of the water supply and quantities or capacity to be provided.

5.5 Wayfinding Signage

- 5.5.1 To assist the fire service to identify each floor in a block of flats with a top storey more than 11m above ground level, floor identification signs and flat indicator signs should be provided.

5.6 Premises Information Box

- 5.6.1 In order to assist the attending fire crews in obtaining the correct information efficiently upon arrival on site, the end-user/responsible person is required to provide a Fire Service Information Box within the building. This should be located adjacent or in close proximity to the entrance of the building most likely used by the attending fire crews. Location is to be discussed and agreed with local Fire Service. It should be ensured that the following crucial information is provided:
- Operational contingency plans
 - Evacuation plans and procedures
 - Simple schematics and/or line drawings representing the building layout, key locations for firefighting equipment/installations and relevant information for firefighting facilities provided within the building (fire resistance of structure, key access areas, firefighting facilities, services, hazards, etc.)
 - Information about the nature of any lifts for use by the Fire Service
 - Basic operating instructions for fire protection and fixed firefighting systems
- 5.6.2 The fire safety/operational systems indicated on any of these plans should be labelled. Where plan symbols are to be used, they should follow the system outlined by the local Area Fire Safety Team and include a key with a suitable description alongside. When one or more of the same type of system is installed, they should be individually identified. For example, where two different alarm systems are installed to BS 5839-1, these should be designated with different symbols.
- 5.6.3 The responsible person on occupation should liaise further with the local Area Fire Safety Team and Fire Station(s) with regards to the preferred format and content of the information to be provided within this.
- 5.6.4 The contents of the box should be kept up to date and kept under regular review.

6 Policy D12 Section B6 - Future Development of the Asset and the 'Golden Thread' of Information

6.1 Fire Safety Management

- 6.1.1 Under Regulation 38 of the Building Regulations, the Responsible Person for the development should be provided with all essential fire safety information either when the project is complete, or when the premises are first occupied.
- 6.1.2 The information required to achieve this is provided within a collated Operation and Maintenance (O&M) Manual, which incorporates information produced by various consultants, and contractors. The fire safety strategy provides a performance specification for the development during the design phase and acts as a summary of the systems that should be in place within the development post-completion. The fire strategy alone is not sufficient to act as the package of fire safety information handed over the Responsible Person under Regulation 38.
- 6.1.3 The ongoing management and maintenance of the buildings is imposed on the Responsible Person under the Regulatory Reform (Fire Safety) Order 2005(RRO). To allow for any future fire safety management to be co-ordinated with the design of the building this statement is provided to identify:
- The minimal standard of Fire Safety Management upon which the fire safety strategy is based; and
 - Specific Fire Safety Management requirements which are made as part of the fire safety strategy which must be adopted as part of the Fire Safety Management Plan to maintain the building in a condition consistent with the fire safety strategy.
- 6.1.4 This fire statement is developed on the basis that the Fire Safety Management of the building will achieve at least the standard required to comply with the Regulatory Reform (Fire Safety) Order 2005 such that no further improvement measures would be required to the structure or layout of the building.

6.2 Future Development Works

- 6.2.1 As part of the London Planning Policy D12(B), Part 6 the statement should take into account any future modifications and their impact on the as built fire safety/protection measures.
- 6.2.2 Should the scheme undergo a refurbishment in the future, the changes required to the fire safety/protection measures applied in the building, will be driven by the works undertaken. Typically, refurbishment works do not constitute a "Change of Use" and are governed by Regulation 4. Therefore, any changes to the fire safety systems within the building should be either improved or meet the same standard as before the works were undertaken.
- 6.2.3 If the building/scheme is to undergo a "Change of Use", this will automatically trigger the need for a new Building Regulations application to be undertaken with all fire safety/protection measures being brought up to the most up to date requirements of Building Regulations.

7 Policy D5B(5)

- 7.1.1 There are a number of accessible flats (M4-3) as part of the development. These are distributed across the upper floors of Blocks A and B, as follows:
- 7.1.2 For the upper floor levels, each block is to be provided with an evacuation lift to be designed to EN 81-20, EN 81-76 and Annex D of BS 9999, serving all floors of the respective block to allow for dignified escape for all occupants of the building. The evacuation lifts should be driver operated.

8 Policy D12 Section B6 – Statement of Compliance

- 8.1.1 This statement is not intended as a full design fire strategy for the development, but rather is provided to support the planning submission and satisfy the requirements of the London Policy Plan D12B. The statement sets out the relevant fire safety considerations and provides suitable measures to meet the requirements of Building Regulations as summarised below.
- 8.1.2 Where the scheme contains a variation from the recommendations of the prescriptive guidance, a fire engineered approach will be adopted to demonstrate that the building (where applicable), can achieve compliance with the functional requirements of Building Regulations.
- 8.1.3 A fire engineer should remain involved throughout the design and construction stages to monitor the progression of these elements and review the proposed materials, compatibility and workmanship are fit for purpose and meet the recommendations of this report and the London Building Plan.

Policy D12B(B1) - The building's construction method and products and materials used.

- 8.1.4 The building is being constructed from materials which are in accordance with the current guidance to meet the Building Regulations 2010. Based on the information provided the primary building structure will comprise of reinforced concrete frame with concrete floor slabs. The fire resistance for the structure is inherent with the type of material used therefore, it is not envisioned that any additional fire protection layers are required to protect the concrete structure.

Policy D12B(B2) - Means of escape for all building users and evacuation strategy.

- 8.1.5 A suitable evacuation strategy and means of escape provisions have been highlighted in section 3 of this statement. The provisions adopted are considered to meet the functional requirements of Part B of the Building Regulations through the guidance of BS 9991 and ADB Volume 2. Additionally, the London Plan Policy D5 has also been considered, which has been reflected in the adoption of the evacuation lifts as reflected in Section 7.

Policy D12B(B3) - Passive and active fire safety measures.

- 8.1.6 This statement sets out under section 4 both the active and passive fire safety systems/measures to be adopted at the scheme. The detailed design of each of these systems should be developed further by the design team at the later RIBA Stages in accordance with the relevant British Standards. The fire engineer involved in the review process should advise on any enhancements necessary to improve the fire safety aspects, with due consideration to the height of the building.
- 8.1.7 As for any life safety systems in the building, both passive and active, these should be adequately maintained by the responsible person and in accordance with specific manufacturer recommendation and good practice approach.

Policy D12B(B4) – Site Access and facilities for the fire and rescue service.

- 8.1.8 Orion fire have reviewed the fire service access provisions, both for vehicular and pedestrian/on foot access and is considered to be in accordance with the recommendations of the prescriptive guidance and associated supporting British Standards, noting any variations detailed in section 4.1.1 above. Block B, C and D are to be provided with a firefighting shaft complete with a firefighting lift and dry riser system. The firefighting stair structural elements are to be provided with increased structural fire protection to meet the requirements of BS 9991.

Policy D12B(B5) – Site Access and facilities for the fire and rescue service.

- 8.1.9 The fire appliance access to the building's external envelope and other firefighting provisions are in accordance with the recommendations of BS 9991 and ADB Volume 2 for the building.

Policy D12B(B6) - Future development of the asset and the 'Golden Thread' of information

- 8.1.10 Any future changes or modifications to the building are to take account of the fire strategy for the building and this should be monitored and developed as the scheme continues to progress to maintain full adherence to the guidance available and legislative requirements of the Building Regulations and the London Plan. Orion Fire will be involved up to the end of RIBA Stage 2 and will provide advice/direction on any actions that need to be undertaken. Any changes or modifications to the building at the later RIBA Stages should be monitored for full adherence to the guidance and Building Regulations by the appointed fire engineer at each RIBA Stage.

