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Fire Statement

Toyoko Inn Heathrow

Capital Place, 120 Bath Road, Harlington, London UB3 5AN

Client: Toyoko Inn Co. Ltd, 1-7-4 Shinkamata, Ota-Ku, Tokyo, 144-0054, Japan

Revision	Date	Description
01	05.12.25	Initial issue
02	09.12.25	Revised Ground floor arrangement

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SFPE Engineering A Fire Safe World PROFESSIONAL MEMBER

Fire Engineering credentials maybe validated using the online directory at:

https://portal.ifehosting.org.uk/Resources/IFE-Member-and-Engineering-Council-Registrant-Directory

Design stage:

RIBA Stage 2: Concept design

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The London Plan 2021

Mu.Studio (UK) Ltd have been commissioned to provide fire safety consultancy services for a proposed change-of-use from offices to a hotel at Capital Place, 120 Bath Road in the London Borough of Hillingdon.

This Fire Statement report is provided both to fulfil the expectations of the London Plan 2021 [1] for a 'major development', where having a floor area greater than 1,000 m^2, as well as to support the design team with developing their project information into detailed and technical design. The report includes completed Form 1 and Form 3 pro-forma 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 with the ongoing development of the scheme.

Further supporting fire strategy information as developed to date is included within the main body and subsequent appendices of this report, offering technical content which may be of relevance to potential consultees during the planning process (such as the London Fire Brigade).

In the event that planning permission is granted for the proposal, this is not to be construed as providing consent or support for any aspect of the fire safety design set out in this report. All aspects of the fire strategy approach will remain subject to approval under the requirement of the Building Regulations following planning.

General information

Item	Description
Site address	Capital Place, 120 Bath Road, Harlington, London UB3 5AN
Description of development	Change of use of the existing building from Class E (office) to Class C1 (hotel), with infill extension, together with ancillary hotel facilities, car parking, drop-off and servicing arrangements, and associated landscaping.
Name, qualifications, professional memberships, and experience of author	Mr Andrew O.M. Ballantyne BArch MEng CEng MIFireE PMSFPE, Director of Mu.Studio (UK) Ltd. Andy is a Chartered Engineer registered with the Engineering Council by the Institute of Fire Engineers and a Full Member of the Institute of Fire Engineers with membership no. 00056660. Andy graduated from the University of Edinburgh with the First-Class Master's degree in Structural and Fire Safety Engineering. Prior to this, Andy also received a Batchelor's degree in Architectural Design from the University of Dundee. Following graduation, Andy has worked in fire safety engineering for over 10 years, working primarily in the London area and undertaken numerous commercial, residential, and governmental projects of varying scale and complexity.
Has a Gateway One Statement been submitted?	Not applicable, where proposal is not a 'Relevant Building' as defined in the Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order 2021.
Declaration of Compliance*	
The technical content produced for this planning application is considered to suitably comply with the relevant legislation and requirements of London Plan Policies D5(B5), D12A and D12B, subject to suitable development and implementation during the Building Regulations process, construction, and occupation. Signed: A. Ballantyne Digitally signed by Andy Ballantyne Date: 2025.12.09 17:06:13 +08'00'	
* Note – a combined declaration for Policies D5(B5) and D12 is included to facilitate use of a digital signature	

Form 1: Fire Statement – Policy D12A & D12B

Item	Detail	See also:
The building's construction: methods, products, and materials used		
Structure	Existing structure to be retained, with an new elements of structure expected to be combination of concrete and steel framing, with concrete composite floors.	-
Internal walls	Generally, a combination of masonry or gypsum dry-lining walls. Internal wall lining classifications to be accordance with ADB2.	Section 4.1
External walls and attachments	Materials achieving Class A1 or A2-s1, d0 to BS EN 13501-1 are to be used all external linings and insulation / filler materials in support of this Residential (Other) building greater than 11 m to the uppermost floor level. External balconies and terraces are to meet the expectations of BS 8579.	Section 5.1
Roof coverings	Roofing systems meeting either B_{ROOF}(t4) to BS EN 13501-5, or green (inc. brown or sedum) roofs design in accordance with the GRO code, including terraces.	Section 5.2
Means of escape for all building users and the evacuation strategy		
Design basis	Means of escape based on Approved Document B Volume 2.	Section 1.2
Evacuation regime	A simultaneous evacuation strategy is used throughout the hotel.	Section 3.1
Horizontal escape	Escape from the bedroom, front of house, and ancillary areas is based on the expectations of ADB2 with respect to travel distances, dead-end distances, exit widths, and protection of corridors. This is provided through protected bedroom corridors in a doughnut arrangement leading to each of the three protected stairs. At Ground floor, the exits are to be provided in suitably diverse directions in order to assist with limiting the travel distances present in the building.	Section 3.3
Vertical escape	Each above ground floor is served by three stairs, with ample capacity provided to support the simultaneous evacuation strategy.	Section 3.4
Final exits	The escape stairs will each discharge directly to outside at Ground floor.	Section 3.5
Evacuation lifts	Not expected or proposed, where the existing stair / lift shafts are to be retained and re-used following the change-of-use works.	Section 3.6
Passive and active fire safety measures		
Structural fire resistance	Structural elements expected to be fire-resisting are to achieve a fire resistance rating of 60 minutes.	Section 4.3
Compartmentation and fire-resisting walls	Fire resistance ratings are to be provided in accordance with ADB2. All floors are to be compartment floors, though with compartment walls supporting the double height reception area at the Ground and First floor lift area. Protected shafts (incl. stairs, lifts, and service risers) are to have a fire resistance rating of at least 60 minutes. All bedroom corridors are to be protected corridors enclosed by fire-resisting construction rated to at least 30 minutes with smoke-sealed fire doors.	Section 4.4
Fire detection and alarm	Category L1 system to BS 5839-1 provided throughout the hotel.	Sections 3.2

Smoke control	Smoke control to support of means of escape is not expected or proposed within the hotel.	Section 3.3
Emergency lighting and escape signage	Emergency lighting is to be provided in accordance with BS 5266. A combination of internally and externally illuminated escape signage is to be provided to BS 5499, depending upon the available emergency lighting coverage. The front of house area may require internally illuminated means of escape signage should this be needed in support of alcohol licensing.	Section 3.8 & 3.9
Automatic suppression	Automatic suppression is not required to meet the expectations of ADB2. Incorporation of suppression may be at the discretion of the client (i.e., to meet hotel brand standards or for property protection).	Section 4.2
Stand-by power	Stand-by power is currently expected to be provided through in-built batteries to smaller items of fire safety equipment.	Section 6.7
Access and facilities for the fire and rescue service		
Building access	External doors are provided around the building, offering direct access at ground level to the main reception area and to each protected stair.	Section 6.2
Fire hydrants	An existing fire hydrant is available, each being ~50 m from the development.	Section 6.3
Firefighting shafts	Firefighting shafts are not expected, where no floor is located at 18 m or greater above ground level. A dry rising main will be available in each of the protected stairs, being the existing arrangement at the building that will continue to be utilised.	Section 6.4
Firefighting lifts		
Rising mains		
Smoke control	Not expected or proposed under ADB2 guidance.	
Basement venting	Not expected or proposed, where no basement is present at the building.	Section 6.5
Car park venting	No internal car park is proposed at the development.	Section 6.6
Site access for the fire and rescue service		
Access via public roads	Public highways provide the primary route of access to the development, with High Street Harlington Drive being an existing road that would allow access to the private car park from multiple directions.	Section 6.2
Internal / private road access	The roads within the private car park will continue to provide fire appliance access to the building, being sized to meet the expectations of LFB Guidance Note 29 and with suitable turning area to limit reversing distances.	
Hardstanding areas	Suitable appliance hardstanding areas will be available within the private car park, being adjacent to the hotel façade and within 18 m of the dry riser inlets at each of the protected stairs.	
Modifications to the development and the 'golden thread' of information		
During design and construction	Further development of the fire safety provisions within this Fire Statement are expected during the Building Regulations approvals process, including the selection of specific products, systems, or materials to fulfil the expectations of the Fire Statement. Modification to the fire safety provisions in this Fire Statement should not be incorporated unless agreed in writing by the appointed building control authority.	Section 7.1
Handover of information	The as-built fire safety strategy for the building, as agreed by the appointed building control authority, should be documented and provided to the building owner and Responsible Person for the building as defined in the Regulatory Reform (Fire Safety) Order 2004, as well as to meet the principles of the Golden Thread of Information. This should include, but not be limited to: • This Fire Statement report • The as-built fire safety strategy report and associated fire strategy drawings • Manufacturer's literature for fire safety products and equipment • Drawings indicating the locations of fire safety products and equipment	
Storage of information	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.	
Use of information	The Responsible Person and their appointed Building Safety Manager are expected to ensure that periodic maintenance of the fire safety equipment is undertaken in accordance with manufacturer's recommendations. The information provided within the Regulation 38 documentation is to assist maintenance professionals in identifying the systems, spare parts, operational procedures, maintenance procedures, etc. for the various systems present.	
Future changes to the development	Any 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 building control authority or fire safety professional prior to conducting any modification works, to ensure that these will meet any relevant fire safety legislation in force at that time.	

Form 3: Provision of evacuation lifts – Policy D5(B5))

Item	Detail
Details of the evacuation lift	The development is not proposed to feature any new lift or stair shafts. As such, no evacuation lift is expected where no new lift shafts are proposed.
Capacity assessment	Not applicable
Evacuation strategy	Not applicable
Management plan	Not applicable

Table of contents

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 change-of-use and extension of the existing Capital Place building at 120 Bath Street in the London Borough of Hillingdon, as illustrated in Figure 1, creating a new hotel building.

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 (background 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 will be designed in accordance with the recommendations of Approved Document B - Volume 2 (ADB2) [4], including further documents and standards referenced therein.

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 [5], 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. 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 Ground Floor Plan	Stephenson Hamilton Risley Studio	7697-al(05)0010	P03
Proposed First Floor Plan		7697-al(05)0011	P02
Proposed Second Floor Plan		7697-al(05)0012	P01
Proposed Third Floor Plan		7697-al(05)0013	P02

2. Development summary

2.1 Description of proposal

2.1.1 The proposed development is for the change-of-use and extension of the existing Capital Place office building to create a new hotel Toyoko Inn hotel at 120 Bath Place, as illustrated in Figure 1. The resulting building will be set over four floors (G + 3), as summarised in Table 2.

2.1.2 The hotel building will feature guest bedrooms at Ground to Third floors, being used for short-term hotel accommodation within a building that is managed on 24 / 7 / 365 basis. The Ground Floor will feature front-of-house areas for use by guests, including a reception area, breakfast seat, and bar. Ancillary areas are also provided at Ground Floor, including a breakfast kitchen, staff rooms, meeting area, shop, and laundry rooms.

2.1.3 The height of the uppermost residential floor will be at ~11.5 m above ground level on the lowest side of the building. The building is not subject expectations for 'Relevant Buildings' as defined in Regulation 7(4) of the Building Regulations, though would be subject to expectations for external wall materials in the latest version of ADB2 for residential (other) buildings greater than 11 m in height.

2.1.4 Figure 2 and Figure 5 provides an overview of the internal arrangement of the proposed building, with full fire safety mark-ups also included within Appendix A.

2.2 Occupancy

2.2.1 In accordance with Table 0.1 in ADB2, the hotel is a 'Residential (Other)' building in Purpose Group 2(b). This use includes sleeping accommodation within managed buildings such as hotels.

2.2.2 The maximum number of occupants has been calculated using a combination of floor space factors given by Table D1 in ADB2 and the available bedrooms, as summarised in Table 2. It is assumed that all bedrooms feature two occupants for conservatism.

Table 2 – Design occupancy

Floor	Use	Area (m²)	Floor space factor	Occupancy
Third	61x bedrooms	N/A – number of bedrooms		122
Second	59x bedrooms	N/A – number of bedrooms		118
First	57x bedrooms	N/A – number of bedrooms		114
Ground	29x bedrooms	N/A – number of bedrooms		58
	Reception area	~80	1 m²/person	Guests: 76* Staff: 4
	Breakfast / bar area / meeting	N/A – number of seats		100*
	Kitchen	14	7 m²/person	2
	Shop	~68	2 m²/person	34
Total:				**452**
* Transient occupants not included in total occupancy to avoid double counting				

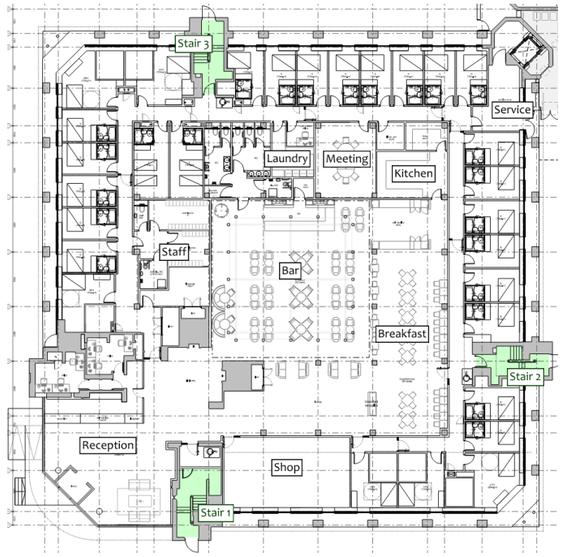


Figure 2 – Ground floor arrangement

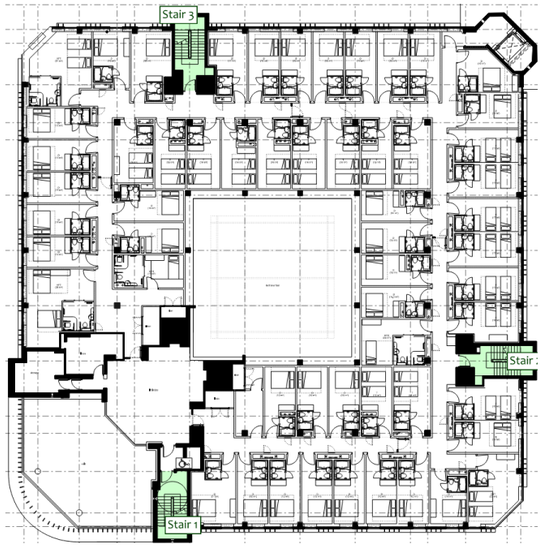


Figure 3 – First floor arrangement

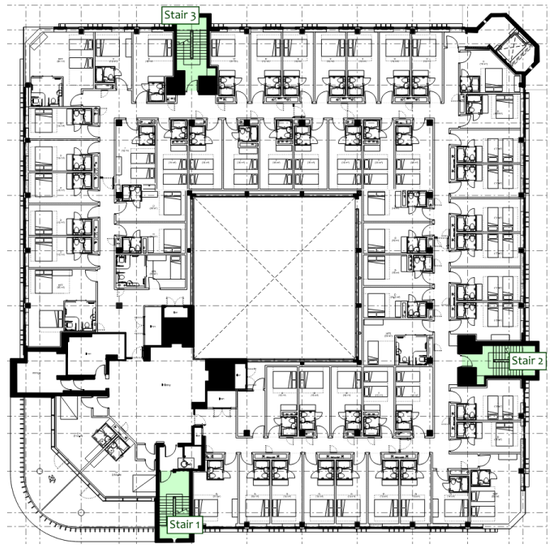


Figure 4 – Second floor arrangement

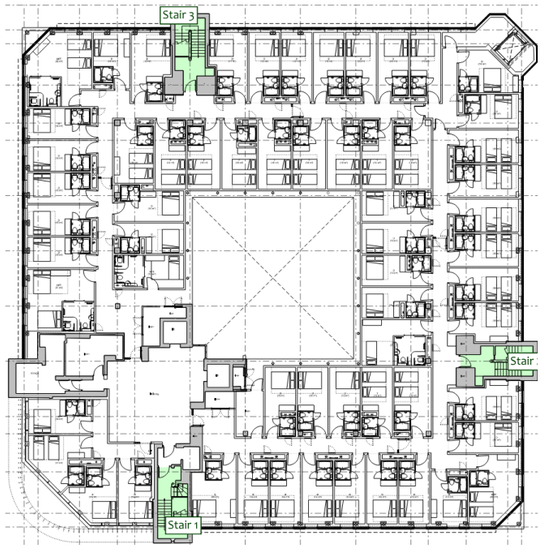


Figure 5 – Third floor arrangement

3. Means of warning and escape

3.1 Evacuation philosophy

3.1.1 A simultaneous evacuation strategy will be implemented throughout the hotel, whereby all occupants will immediately evacuate upon activation of the fire alarm anywhere in the hotel.

3.2 Means of detection and alarm

3.2.1 A fully addressable Category L1 detection and alarm system shall be provided throughout the hotel in accordance with BS 5839-1 [6]. This will typically include smoke detection in all rooms except toilets, stairway lobbies or toilet lobbies, small cupboards not more than 1 m^2, and shallow voids less than 800 mm in depth unless featuring a heightened risk of fire. Manual call points will be provided at storey and final exits, and such that all areas of the building are within 45 m of the nearest manual call point.

3.2.2 The activation of the fire alarm will utilise a 'double-knock' cause and effect protocol, with a 5-minute silent investigation period to be incorporated during which building management may seek to confirm whether a real fire or false alarm has occurred. The system design is to be developed in detail by the fire detection and alarm supplier, but is expected to feature the following:

- In the event of the first activation of a smoke detector head:
  - An alert signal at the fire alarm panel will sound. Acknowledgement of the alert will commence a 5-minute silent investigation period. Failure to acknowledge the alert at the panel within 1 minute will result in activation of the fire alarm within the compartment of fire detection.
  - During the 5-minute investigation period the alarm may be either manually activated should a real fire be discovered or reset should a false alarm be confirmed. The alarm will activate automatically following expiration of the 5-minute investigation period.
- Immediate activation of the fire alarm in the event of any one manual call point or heat detector being activated, or in the event that a second smoke detector head activates during the acknowledgement or investigation periods as set out above.
- Activation of the fire alarm would occur simultaneously throughout the entirety of the building.

3.2.3 Manual call points are to be provided with transparent hinged covered, to reduce the instances of casual or malicious operation. Operation of this two-action manual call point then involves lifting the cover and operating the manual call point in the normal manner.

3.2.4 Visual beacons or alternative means of warning should be provided in rooms or spaces where the background sound level could be louder than the fire alarm, e.g., plant rooms. Visual beacons should also be considered in areas where occupants with hearing difficulties may be in isolation, and issuance of vibrating pillows to hard-of-hearing guests would support rousing of all occupants from sleep.

3.2.5 The fire alarm control panel will be located at the main entrance of the building, located where this may be monitored by reception staff and so as to be easily located by the attending fire and rescue service.

3.2.6 It would be recommended that key staff members are provided with a handheld means of communication that may be used to convey information in the event of a fire. This could be via mobile phone, radio, or pager, or other suitable device for use in supporting management of the hotel.

3.3 Horizontal means of escape

3.3.1 To meet the recommendations of ADB2, the maximum permitted travel distance for the various areas to either a point of choice (for single directional travel) or storey / final exit are to be in accordance with the limits summarised in Table 3.

3.3.2 The corridors which provide access to bedrooms will be protected corridors. Where protected corridors of greater than 12 m in length connect storey exits, cross-corridor doors will be provided the sub-divide the corridor in accordance with Section 2.26 in ADB2.

Table 3 – Travel distance limitations

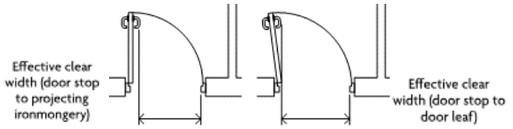
Area	Recommended maximum travel distance	
	Single direction (m)	Multi-direction (m)
Within bedrooms	9	18
Within bedroom corridors	9	35
Places of special fire hazard (i.e., boiler room)	9	18
External roof areas	60	200
Elsewhere	18	45
Note: These figures are for actual travel distances, including consideration for furnishings, and must be respected by the fit-out and furnishing arrangements of the spaces when occupied.		

Table 4 – Exit width capacities

Exit width (mm)	Maximum number of people served
750 to 849	60
850 to 949	110
1,050 to 1,099	220
1,100 and greater	Door width (in mm) / 5

Notes:

Exit widths are for clear widths measured in accordance with Diagram D1 in ADB2 as per below:



Where an area has an occupancy of greater than 60 people, at least two exits are to be provided. The largest exit provided is to be discounted when calculating the required width for the remaining exits.

Doors hung to swing against the flow of escaping occupants are to serve a maximum of 60 people, irrespective of the available clear exit width.

Only exits provided with suitable door fastening hardware may be included in escape capacity calculations.

Table 5 – Exit width provisions

Floor	Area	Occupants	Provided width (mm)	Capacity (persons)
1st – 3rd	Overall floor	≤122	3x ≥850 (outward swinging)	220
Ground		274	2x 850 (outward swing or fail open) 3x ≥850 (stair exits, limited by merging flows as per Section 3.5)	290
Note: For areas with multiple exits, the exit having the greatest capacity is to be discounted prior to assessing available escape capacity				

3.3.3 Dead-end corridors are limited to no greater than 9 m in length, as is achieved throughout the building. Where dead-end corridors of greater than 4.5 m are proposed, these will be separated by cross-corridor doors to form a T-junction in accordance with Diagram 2.10(a) in ADB2.

3.3.4 Areas occupied by greater than 60 occupants are to be supported by exits of adequate capacity as summarised in Table 4. The sizes of exits to suit the expected number of occupants is set out in Table 5.

3.3.5 The Ground floor, including front of house area, has a maximum occupancy of circa 274 people. This area is to be served by exits via either the main entrance, service area, Stair 1, or via the bedroom corridor to Stairs 2 and 3. With escape via the protected stairs assumed as limited to a maximum of 60 people per stair in support of the existing final exit widths, the escape routes via the main entrance and service area are each to have a clear width of ≥850 mm in support of the overall occupancy of the front of house spaces.

3.4 Vertical means of escape

3.4.1 The above-ground floors are each served by three escape stairs, where the building features a floor at greater than 11 m above ground level.

3.4.2 The maximum occupancy of the above-ground floors is ~354 people. As detailed in Table 6, the escape stairs offer ample capacity where discounting of a stair is not expected due to the inclusion of protected lobbies. With capacity for up to 690 people, this also supports occupants at Ground floor also using an escape route via one of the escape stairs, in addition to the above-ground level occupants.

Table 6 – Stair capacities

Stair	Floors served	Provided width (mm)	Capacity (persons)
Stair 1	3	≥1,000	230
Stair 2	3	≥1,000	230
Stair 3	3	≥1,000	230
Note: Handrails which do not intrude more than 100 mm into the clear escape route width may be included without reducing the considered available stair width.			

3.5 Final exits and onward escape

3.5.1 Final exits from the protected stairs are recommended to have a clear width at least as wide as the served stair and to be hung in the direction of escape, to prevent congestion from occurring at the base of the stair.

3.5.2 It is considered that up to 60 people from Ground floor may merge with each stair at Ground floor. For a 1,000 m wide stair, the merging flow equation in Section 2.23 and Diagram 2.6 of ADB2 would suggest a final exit width of at least 1,050 mm. As such, the final exit from each of the common stairs is recommended to have a clear width of at least 1,050 mm.

3.5.3 Each of the protected stairs will discharge directly to outside air at Ground floor. Onward escape from final exits will be available in multiple directions via the external public pavements to a place of eventual safety.

3.5.4 Travel beyond the final exits of the building and toward a place of ultimate safety should not be jeopardised by unprotected openings. This is achieved for each of the protected stair by provision of multiple directions of escape at a safe distance from the building façade being available once exiting the building.

3.5.5 Assembly areas are not expected to be designated for compliance with the Building Regulations, where these are generally located within the public realm outside of the site and may be subject to change during the lifetime of a building. For the hotel, assembly areas are to be designated as part of the fire risk assessment process under the Regulatory Reform (Fire Safety) Order 2005, which requires building or demise management to periodically review the location and suitability of designated areas.

3.5.6 Management of the hotel will be responsible for identifying a suitable assembly area. It is suggested that a paved area within the hotel car park be considered by management for use as an assembly area.

3.6 Means of escape for disabled persons

3.6.1 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 new escape core featuring a lift. With the building retaining means of access and escape via the existing stairs and lifts only, no evacuation lifts are proposed.

3.6.2 It is envisaged that occupants will be able to escape to a place away from danger, either unassisted or with assistance from trained hotel staff. There will be a certain proportion of building occupants, such as those who are non-ambulant disabled (e.g., wheelchair users), who will not be able to negotiate stairs unaided. Refuge areas should be provided in which their safety can be assured for a short duration prior to being assisted to safety elsewhere within or outside the building.

3.6.3 It should be noted that under the Regulatory Reform (Fire Safety) Order 2005, it is the duty of the responsible person along with their appointed fire safety assistants to assist everyone to a place of relative safety or ultimate safety outside in the event of an emergency.

3.6.4 Refuge areas of at least 900 mm by 1,400 mm are to be provided in which the safety of occupants can be assured for a short duration prior to being assisted to safety. Refuge areas are to be provided adjacent to each escape stair at each of the above ground levels, located either on the landing of the protected stair or an associated protected lobby / corridor.

3.6.5 Each refuge areas are to be provided with emergency voice communication (EVC) between the refuge and suitable management position (i.e., adjacent to fire alarm panels) to meet BS 5839-9 [7]. Management may use the EVC system to direct occupants to a suitable location to await support in using a lift or stairs.

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

3.6.7 A General Emergency Evacuation Plan (GEEP) should also be developed for guests who would need assistance to escape. Further information can also be found in BS 8300-2 [8] and the DCLG Publication "Fire Safety Risk Assessment Supplementary Guide – Means of Escape for Disabled People".

3.7 Doors on escape routes

3.7.1 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.

3.7.2 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).

3.7.3 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.

3.7.4 If deemed desirable to support day-to-day use of the building, cross-corridor doors may feature hold-open devices in accordance with BS EN 1155 [9].

3.7.5 Any fire doors fitted with swing-free door closers or 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.

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

3.7.7 Vision panels are to be provided in doors subdividing corridors on escape routes.

3.7.8 Fire doors are to be specified in accordance with Section 4.4 and Table 8.

3.8 Emergency lighting

3.8.1 Emergency lighting will illuminate all occupiable areas (excluding hotel bedrooms), common evacuation routes (internal and external as necessary), and essential areas including plant areas. It will illuminate a safe exit route including fire exits, fire alarm call points, changes in level or direction and firefighting equipment.

3.8.2 Emergency lighting will be installed in accordance with the recommendations of BS 5266-1 [10], BS EN 1838 [11], and BS EN 60598-2-22 [12]. Lighting to escape stairs should be on a separate circuit from that supplying any other part of the escape route.

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

3.8.4 Discharge lighting installations may operate at voltages that are a hazard to firemen. 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.

3.9 Fire safety signage

3.9.1 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 [13], BS 5499-4 [14] and BS 5499-10 [15].

3.9.2 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.

3.9.3 All fire doors, other than lift landing doors, will be marked with an appropriate fire safety sign conforming to BS 5499-1 [16] (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').

3.9.4 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.

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 within certain areas 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 7 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 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 and 60 m^2 in non-residential areas.

4.1.5 No thermoplastic rooflights shall be used at the development.

Table 7 – Reaction to fire classification expectations

Location	Minimum classification to BS EN 13501-1 [17]
Within residential / bedroom areas:	
Small rooms ≤ 4 m^2	Class D-s3, d2
Other rooms	Class C-s3, d2
Within non-residential areas:	
Small rooms ≤ 30 m^2	Class D-s3, d2
Circulation spaces (including corridors and stairs)	Class B-s3, d2
Other rooms	Class C-s3, d2

4.2 Automatic fire suppression

4.2.1 An automatic suppression system is not proposed within the building, where not expected by Table A2 of ADB2 for a Residential (other) premises based on the height of the building.

4.2.2 If the client should request the installation of an automatic suppression system, such as to meet a hotel brand standard or at the request of insurers, whether benefit may also be drawn with respect to the fire strategy could also be considered based on the standard of system requested.

4.3 Structural fire resistance

4.3.1 Elements of structure should be designed and / or protected to achieve a fire resistance rating of at least 60 minutes in accordance with Table B2 of ADB2, being suitable for a hotel building with an uppermost floor of no greater than 18 m above ground level.

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 are to be compartment floors, where occupants will sleep within the building. No limit is placed on the area of compartments for Residential (Other) buildings in Section 8.10 of ADB2.

4.4.2 All shafts (e.g., risers, lift shafts and stair cores) are to be constructed as protected shafts where these will pass through compartment floors. Elements of fire-resisting construction will be provided in accordance with the recommendations in Table 8, and as indicated on the fire safety drawings included in Appendix A.

4.4.3 BR 128 [18] 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 [19] or BS EN 1634-2 [20] for fire resistance, and where applicable BS 476-31 [21] or BS EN 1634-3 [22] for smoke leakage. Timber fire doors should be installed in accordance with the expectations of BS 8214 [23].

Table 8 – Periods of fire resistance for fire-separating elements (in minutes, for loadbearing, integrity, and insulation where exposed from each side separately unless otherwise stated)

Element requiring fire-resistance	Fire resistance rating	Fire doors
Elements of structure	60	N/A
Compartment floors	60 (from underside)	N/A
Compartment / party walls	60	FD60
External walls (if 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 – escape stairs and service risers	60	FD30S
Protected shafts – lift shafts	60	E30 (Note 1)
Protected lobbies or corridors	30	FD30S
Separation to places of special fire hazard or between sleeping and ancillary accommodation	30	FD30
Cavity barriers	30 integrity, 15 insulation	N/A
Note 1: Lift doors may also be tested to BS EN 81-58 [24]		

4.5 Active fire barriers

4.5.1 Fire-and-smoke curtains are to be provided over lift openings at Ground and First floors to prevent smoke transfer via the lift shaft into the protected bedroom corridors above. The fire-and-smoke curtains are to meet BS 8524-1 [22] and BS 8524-2 [23], or BS EN 16034 [24], including the following specifications:

- Having an integrity at least 30 minutes (where intended to provide a smoke seal only).
- Resistance to the passage of smoke (i.e., smoke leakage rate not exceeding 3 $m^3/m/h$).
- Fail-safe closed in the event of loss of power.
- Full, automatic retraction upon fire alarm reset.
- The fire-and-smoke curtain should include a delayed drop, in support of occupants vacating the lifts following fire alarm activate and grounding of the lift.

4.6 Concealed spaces and cavity barriers

4.6.1 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.

4.6.2 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 roof voids or 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 6. For other linings, the spacing between cavity barriers should be reduced to 10 m.

4.6.3 Cavity barriers 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.

4.7 Fire-stopping and penetrations through fire-resisting construction

4.7.1 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.

4.7.2 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 10 in ADB2, unless located within a protected shaft. Figure 7 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 10.1 in ADB2.

4.7.3 Where ductwork crosses fire-resisting construction forming protected escape routes of the hotel, including escape stairs, protected corridors and lobbies, or compartment walls, dampers on fusible links are not sufficient. Either combined fire-and-smoke dampers activated upon smoke detection (ES-type dampers) are provided, or the ductwork should be fire-resisting / enclosed within fire-resisting construction and arranged to prevent smoke transfer into the protected escape route.

4.7.4 For other areas of ductwork in buildings featuring sleeping occupants, ADB2 recommends that these be provided with both smoke detector controlled and thermally actuated mechanisms unless:

- A Category L1(M) detection and alarm system in accordance with BS 5839-1 is provided; and
- All occupants can be expected to make an unaided escape.

4.7.5 Suitable detection and alarm will be provided to meet the above recommendation, as detailed in Section 3.2. However, unaided escape would not be available from the upper floors, as discussed in Section 3.6, such that automatic fire-and-smoke dampers would be expected to meet the recommendations of ADB2.

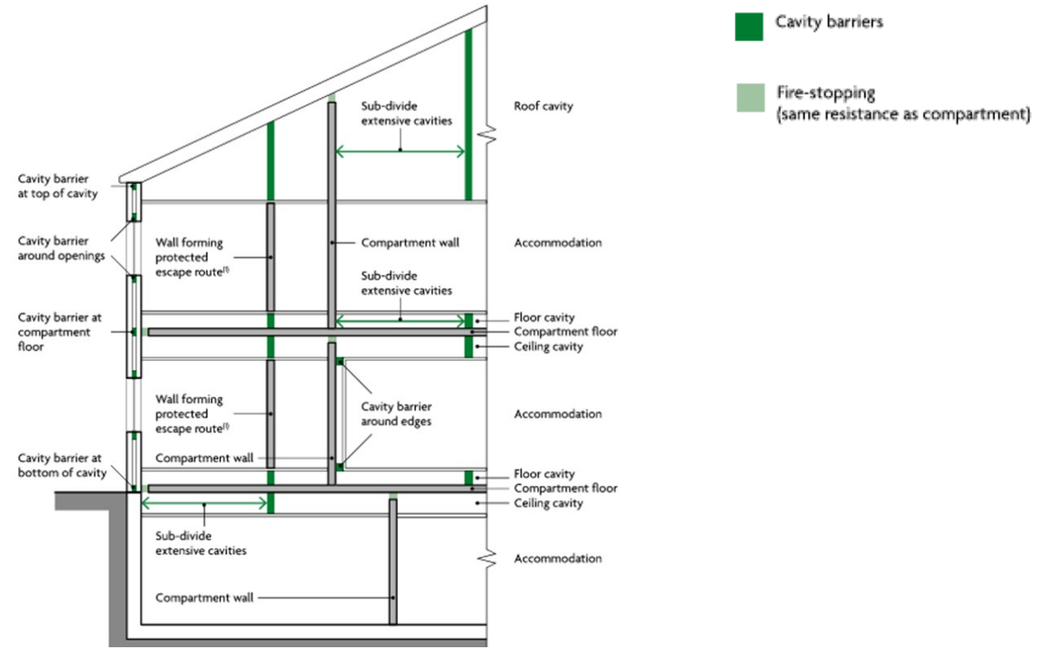


Figure 6 – Generic cavity barrier expectations

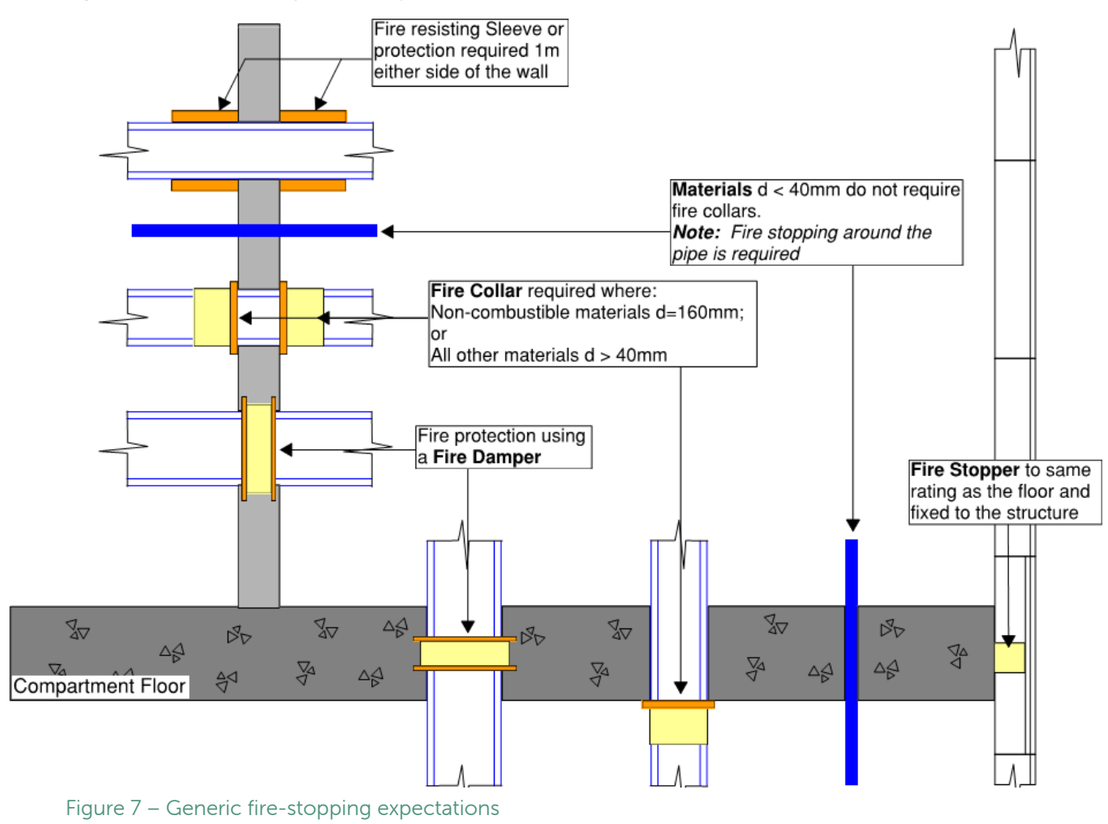


Figure 7 – Generic fire-stopping expectations

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 the outer surface of external walls of this residential (other) building greater than 11 m in height are to meet the following recommendations:

- External surfaces of walls are to achieve Class A2-s1, d0 or Class A1 to BS EN 13501-1.
- Insulation materials are to achieve Class A2-s1, d0 or Class A1, except for those insulation materials located between two leaves of brick or concrete each being at least 75 mm thick which are not required to meet any set level of classification to BS EN 13501-1.
- Other materials used for the external walls (such as structural elements, sheathing or gypsum boards, or membranes) would be permitted to 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.

5.1.2 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.

5.1.3 The hotel will feature an external balcony at Second floor, defined as an occupiable external space with external space below, which is to be provided in accordance with Section 12.2 of BS 8579 [25]. This should be constructed of materials which achieve Class A2-s1, d0 or Class A1 to BS EN 13501-1, though minor elements such as seals, gaskets, and laminated glass may be exempted from this expectation if deemed to present a sufficiently low risk of fire spread. Balconies with an open deck structure should also be provided with a non-combustible, imperforate soffit below to reduce the risk of fire spread from below.

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 Roof coverings 1.5 m either side of compartment walls or within 6 m of a boundary should achieve an $B_{ROOF}(t4)$ rating. The remaining roof areas should meet the recommendations in ADB2, as summarised in Table 9. In general, it would be recommended that all roof areas achieve $B_{ROOF}(t4)$ including terrace areas.

5.2.3 Balustrades of terraces are recommended to be constructed from materials that would achieve Class A1 or Class A2-s1, d0 to BS EN 13501-1, though the use of laminated glazing may also be considered where supported by a suitable risk assessment during detailed design as per Section 12.3 in BS 8579.

5.2.4 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.

5.2.5 Where green roofs (including brown or sedum roofs) are used at the development, as an alternative to the $B_{ROOF}(t4)$ classification these may also be provided in accordance with the GRO code [26], including:

- Having a growing medium / substrate of at least 80 mm thick.
- Have a growing medium / substrate that features <20% organic content and no peat.
- Having a growing medium / substrate that has been tested in accordance with BS 8616 [27].
- 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. Large areas of green roof should be subdivided by 1 m wide fire breaks such that no single area is greater than 40 m in length.
- Fire breaks should consist of 20 – 50 mm rounded pebbles to a depth of at least 50 mm or concrete paving stones at least 40 mm thick placed directly onto the drainage board. No substrate should be present within the fire break area.

5.2.6 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 9 – Limitations on roof coverings

Distance from boundary	Allowable roof covering classifications to BS EN 13501-5 [28]		
	$B_{ROOF}(t4)$	$C_{ROOF}(t4)$	$D_{ROOF}(t4)$
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. These are indicated on Figure 8, being either the property boundary to adjacent buildings or the centrelines of Bath Road or High Street Harlington to the south and east respectively.

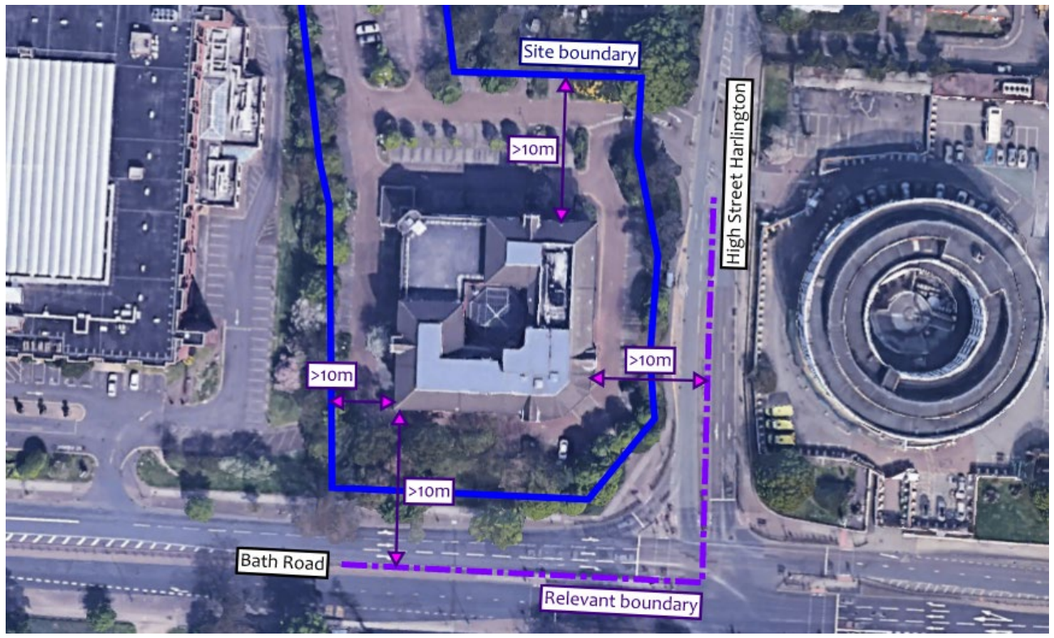


Figure 8 – Distances to relevant boundaries

5.3.4 Compartment floors will reduce the extent of façade likely to be radiating at any one time. Following the recommendations of BR 187 [29], the lower emitted radiation of 84 kW/m^2 may be generally used for hotel, with the higher value of 168 kW/m^2 used for any plant, storage, or commercial areas.

5.3.5 Using the methodology in BR 187 where all façades are located at least 1.0 m from the relevant boundary, an analysis of the available distance between the building and the boundaries has been conducted utilising the compartment dimensions as indicated in Figure 9. The findings of this analysis for the various compartments are presented in Table 10, which calculates the percentage of the façade permitted to be unprotected based on the available separation distances.

5.3.6 Following this analysis, the provided space separation and compartmentation will be sufficient for preventing external fire spread, where ample separation is available around the building.

Table 10 – Summary of external fire spread assessment

Area (Façade)	Enclosing rectangle (m)		Distance to boundary (m)	Permitted % of unprotected area
	Width	Height		
North	<45	≤3.5	≥10	100
East	<45		≥10	100
South	<45		≥10	100
West	<45		≥10	100

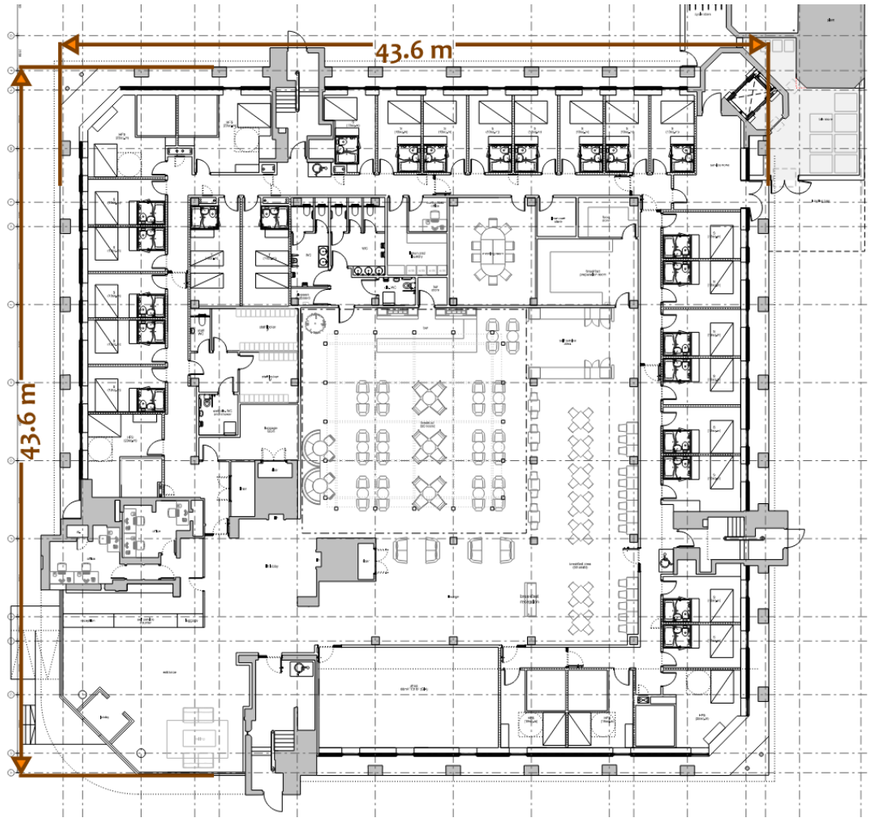


Figure 9 – Compartment dimensions at Ground floor

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 member of building staff or guest upon witnessing the fire.

6.2 Fire appliance access to the site

6.2.1 Vehicle access for fire appliance will be available to the building via High Street Harlington and the private car park access roads as indicated in Figure 10. These existing routes as expected to meet the fire appliance access guidance given in London Fire Brigade Guidance Note 29 [30], as summarised in Table 11.

6.2.2 The existing building is understood as featuring dry rising mains, and these will continue to be utilised within the fire strategy following change-of-use as detailed in Section 6.4. Fire appliance access is to be provided to a location that is within 18 m of and having clear view of each dry riser inlet as also indicated in Figure 10.

6.2.3 The car park will provide turning areas that allow suitable fire appliance access to each dry rising main without exceeding a maximum reversing distance of 20 m. Ample hardstanding space is available at the site for multiple fire appliances to attend site.

6.3 Firefighting water supplies

6.3.1 As a mature residential site, the existing water supply provisions for firefighting will continue to serve the site. This will be via a nearby public hydrant located at the junction of Bath Road and High Street Harlington, as indicated in Figure 10.

6.3.2 Section 16.8 in ADB2 recommends that where at least one operable fire hydrant is located within 100 m of a proposed building, further new fire hydrants would not be expected. As illustrated on Figure 10, this is achieved where an existing hydrant is located at circa 50 m from the refurbished building.

6.4 Firefighting facilities within the building

6.4.1 As the building does not feature an occupied floor at greater than 18 m above ground level, no firefighting shaft is expected or proposed to meet the expectations of ADB2. However, fire safety measures included that would support firefighting within the hotel building include:

- Multiple protected escape stairs giving access to the upper floors of the building.
- Dry rising mains within each of the protected stairs, provided in accordance with BS 9990 [31].
- Protected lobbies / corridors to stairs, that would assist with smoke control in these areas.
- Compartmentation in support of sleeping occupants, including compartment floors, which would also assist in limiting fire spread.

6.4.2 Where measured along a route suitable for laying hose, a distance of ~39 m will be present from the dry riser outlet to the furthest point in the building, as indicated on the fire safety marked-up drawings in Appendix A. As such, this meets the maximum hose laying distance of 45 m set out in Section 16.3 of ADB2.

6.5 Basement smoke clearance

6.5.1 No basement is present at the building, and no basement smoke clearance system is expected or proposed.

6.6 Car park smoke clearance

6.6.1 No enclosed car park area is 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 [32] or in accordance with the equipment's associated design standard.

6.7.2 Smaller items of equipment, such as the fire alarm system, emergency lighting, and AOVs, 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.

Table 11 – Firefighting pump appliance access requirements from GN29

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

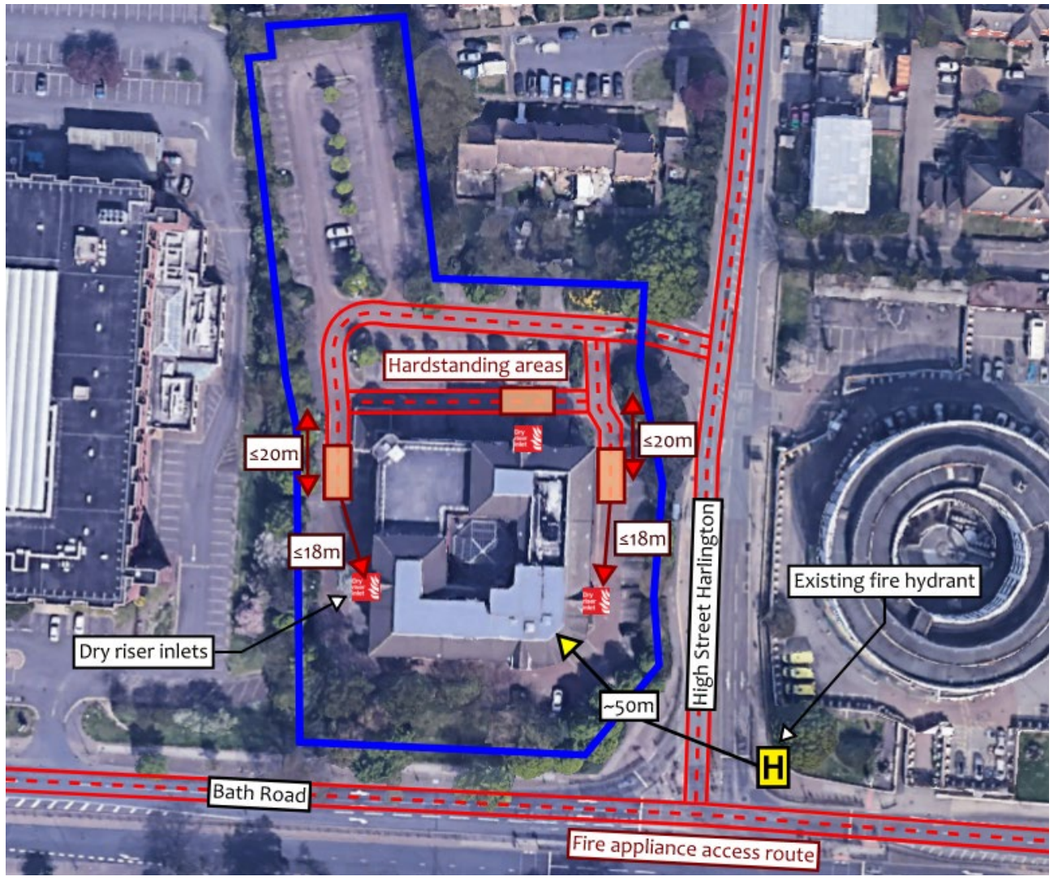


Figure 10 – Firefighting vehicle access and water supplies

7. Additional fire safety guidance

7.1 Fire safety information and future development

7.1.1 This Fire 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 Fire Statement 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 Fire Statement is expected during the Building Regulations approvals process, including the selection of specific products, systems, or materials to fulfil the expectations of the Fire Statement.

7.1.4 Where any modification to the fire safety provisions set out in Section 3 to 6 of this Fire Statement 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 buildings, 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 Fire 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

7.2.1 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 Building 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.

7.2.2 The appointed person should have the necessary authority and powers of sanction to ensure that standards of fire safety are maintained. The duties of the Building Safety Manager may 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

7.2.3 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.

7.2.4 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.

7.2.5 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.

7.3 Fire extinguishers and fire blankets

7.3.1 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.

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

7.3.3 Where provided, the type and size of extinguisher(s) are recommended to be chosen in accordance with the guidance given in BS 5306-8 [33], as summarised by Table 12 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).

7.3.4 Fire blankets should be provided in kitchens for extinguishing cooking fires and should 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 12 – 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.			

8. References

[1] Mayor of London, "The London Plan," Greater London Authority, London, 2021.

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[5] BSI, "PD 7974-0:2002 Application of fire safety engineering principles to the design of buildings. Guide to design framework and fire safety engineering procedures," British Standards Institution, London, 2002.

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[7] BSI, BS 5839-9:2011 Fire detection and fire alarm systems for buildings. Part 9: Code of practice for the design, installation, commissioning and maintenance of emergency voice communication systems, London: British Standards Institution, 2011.

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[9] BSI, "BS EN 1155:1997 Building hardware. Electrically powered hold-open devices for swing doors. Requirements and test methods," British Standards Institute, London, 1997.

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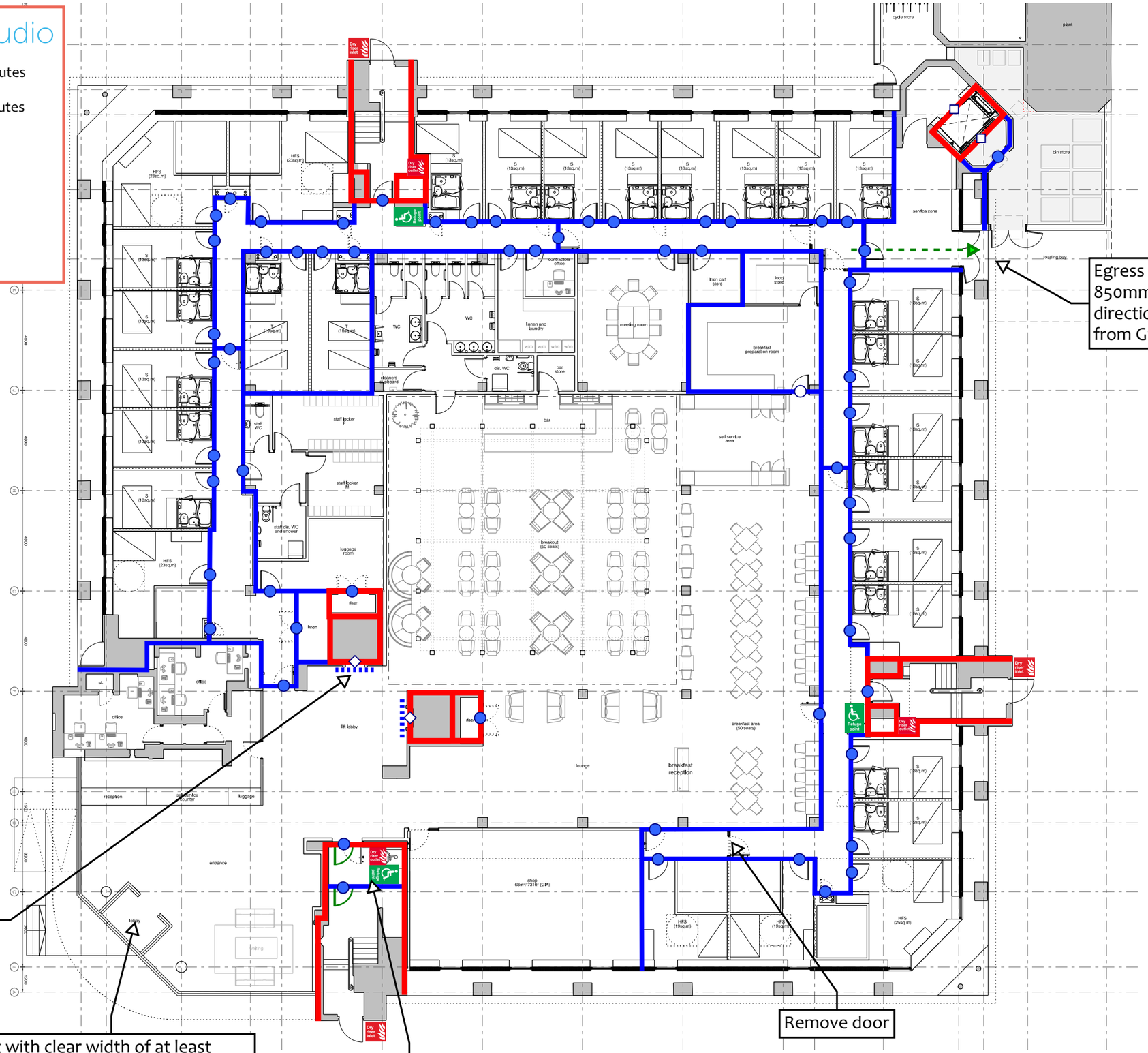
Appendix A – Fire safety and fire-resisting construction mark-ups

Fire safety mark-ups v1.1

mu.studio

- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD60S Fire door
- FD30S Fire door
- FD30 Fire door
- E30 Lift door (fire-rated)



Egress route of at least 850mm with doors hung in direction of escape required from Ground floor

Fire-and-smoke curtains over lift openings, where shafts open into single direction of escape area at 2nd and 3rd floors

Exit with clear width of at least 1,050 mm, either hung in the direction of escape or automatically opening in the event of a fire alarm

Lobby separation between stair and reception area

Remove door

2m 4m 6m 10m

revision:	date:	note:
P01	20251127	initial planning issue
P02	20251204	preliminary second issue
P03	20251208	preliminary third issue

tects design

project
Toyoko Inn, Heathrow

job no.
7697

title
Proposed ground floor plan

scale
1:200 @ A3/ 1:100 @ A1

drawing no.
7697-al(05)0010

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STUDIO

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4 commercial street
manchester, M15 4RQ
www.shr.studio
email@shr.studio
0161 832 0244

Fire safety mark-ups v1.1

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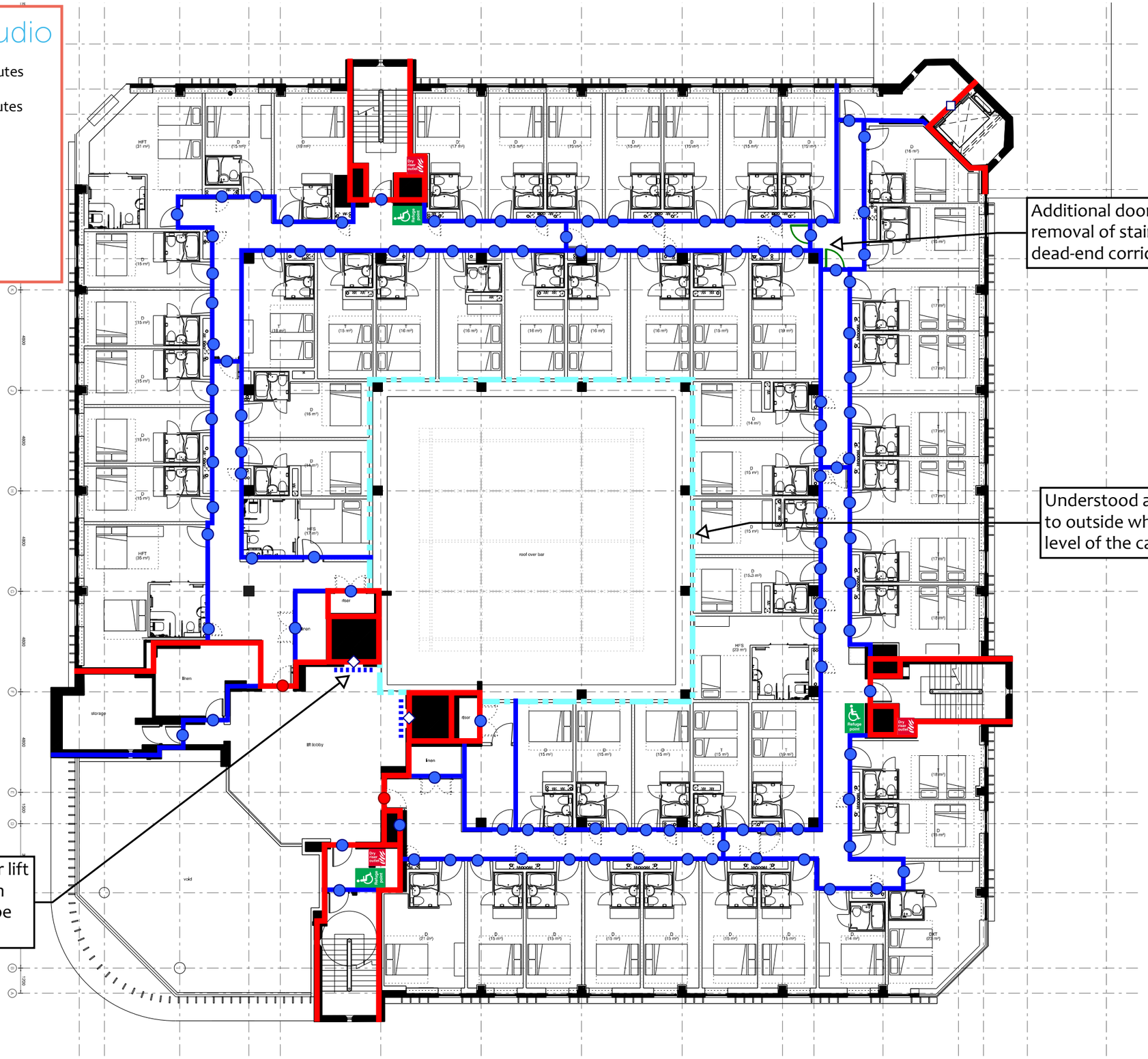
- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD60S Fire door
- FD30S Fire door
- FD30 Fire door
- E30 Lift door (fire-rated)



Additional doors where removal of stair creates dead-end corridor >4.5m

Understood as being glazing to outside where above the level of the cafe roof below

Fire-and-smoke curtains over lift openings, where shafts open into single direction of escape area at 2nd and 3rd floors

2m 4m 6m 10m

revision:	date:	note:
P01	20251127	initial planning issue
P02	20251204	preliminary second issue

NB - furniture layout indicative

project
Toyoko Inn, Heathrow

job no.
7697

title
Proposed first floor plan

scale
1:200 @ A3/ 1:100 @ A1

drawing no.
7697-al(05)0011

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Fire safety mark-ups v1.1

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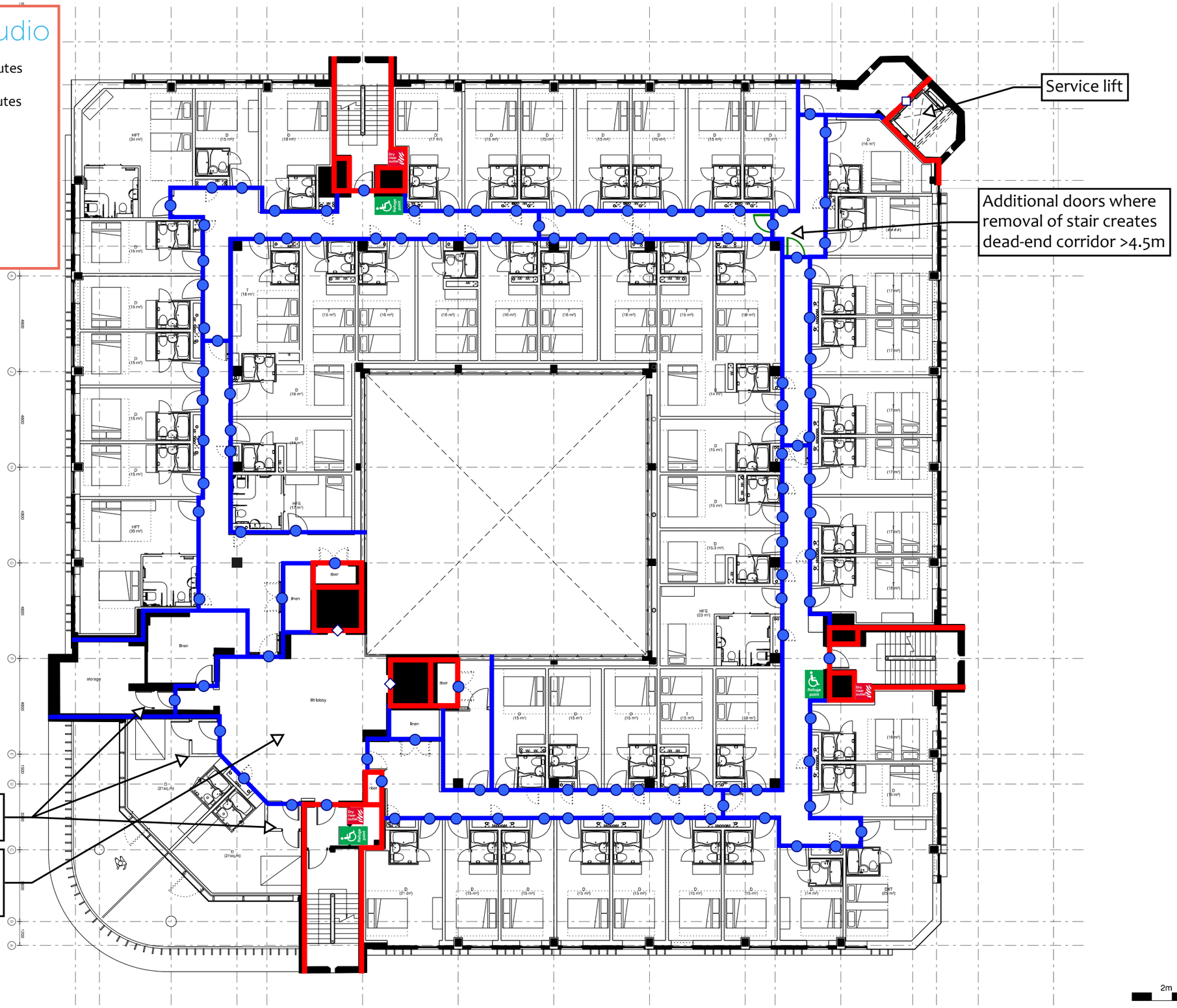

NB - furniture layout indicative

revision:	date:	note:
P01	20251127	initial planning issue
P02	20251204	preliminary second issue

project
Toyoko Inn, Heathrow

job no.
7697

title
Proposed second floor plan

scale
1:200 @ A3/ 1:100 @ A1

drawing no.
7697-al(05)0012

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Fire safety mark-ups v1.1

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- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
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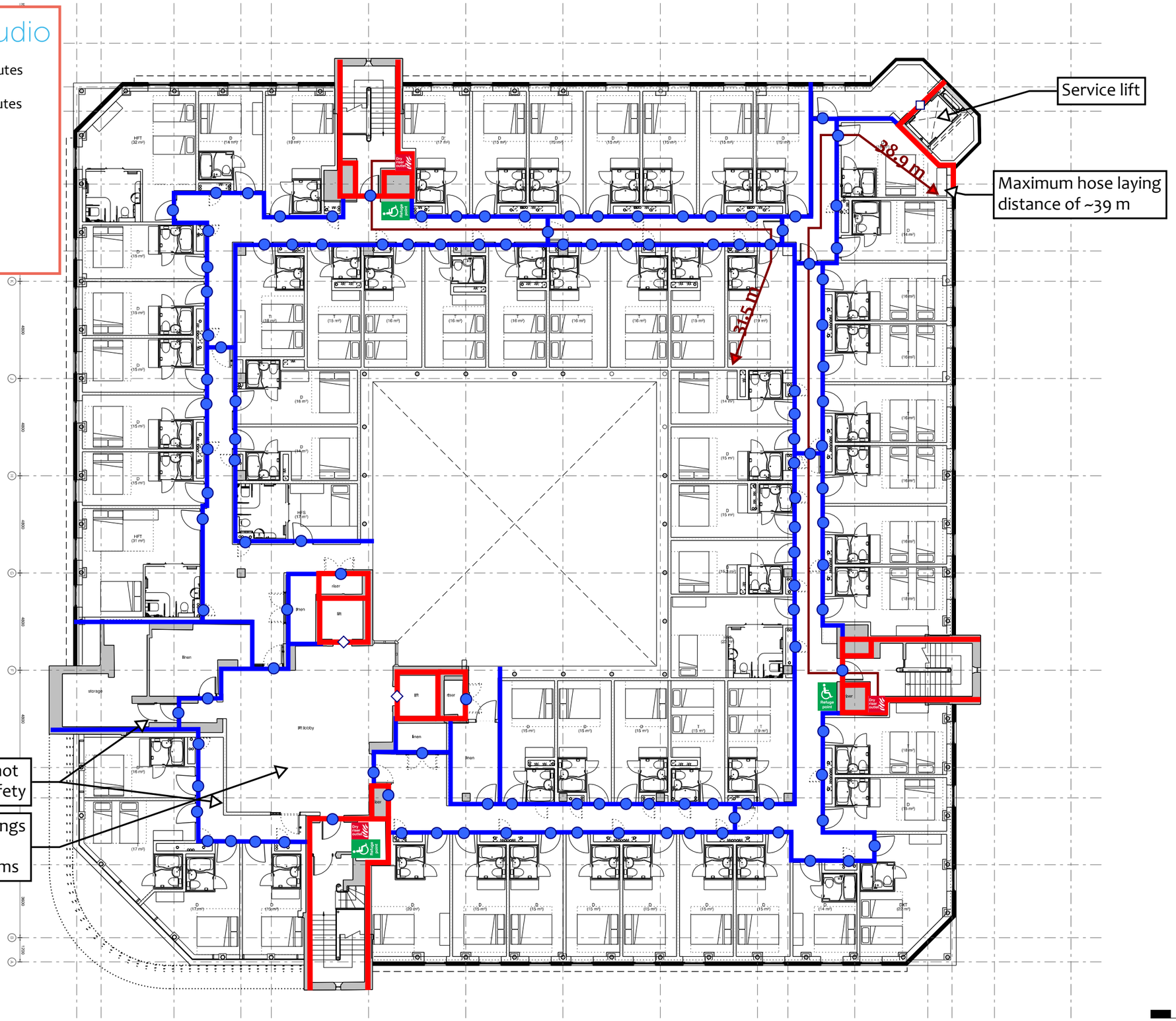
- FD30S Fire door
- FD30 Fire door
- E30 Lift door (fire-rated)



2m 4m 6m 10m

revision:	date:	note:
P01	20251127	initial planning issue
P02	20251204	preliminary second issue

project
Toyoko Inn, Heathrow

job no.
7697

title
Proposed third floor plan

scale
1:200 @ A3/ 1:100 @ A1

drawing no.
7697-al(05)0013

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