

Planning Fire Safety Statement

The Garth Hotel

69 Gower Street, London WC1E 6HJ



Design stage:
RIBA Stage 2: Concept design

30th April 2024
MUK10293 – Issue 01

Client: The Garth Hotel, 69 Gower Street, London WC1E 6HJ

Revision	Date	Description
01	30.04.24	Initial issue

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The London Plan 2021


The proposal is for the reconfiguration and extension of an existing hotel building, increasing the number of bedrooms from 16 to 17 and for a ground floor extension to a create new waiting / lounge area in the London Borough of Camden. This is considered a 'minor development' under the London Plan 2021 (L), where featuring both less than ten residential dwellings and non-residential areas being no greater than 1,000 m². A Planning Fire Safety Strategy report is therefore provided both to fulfil the expectations of the London Plan, as well as to support the client and design teams with developing their project information into detailed and technical design.

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

Summary Table 1 – General

Item	Detail
Site address	The Garth Hotel, 69 Gower Street, London WC1E 6HJ
Description of development	Internal refurbishment and erection of a single storey ground floor extension.
Name, qualifications, professional memberships, and experience of author	Mr Andrew O.M. Ballantyne <small>BAHCH HENG CHENG HENG FIRE SAFETY</small> , a Chartered Engineer registered with the Engineering Council by the Institute of Fire Engineers, and Full Member of the Institute of Fire Engineers (Member 00056660). Andy graduated with a Master's degree in Structural and Fire Safety Engineering from the University of Edinburgh and a Bachelor's degree in Architectural Design from the University of Dundee. Andy has subsequently worked in fire safety engineering for circa 9 years and undertaken numerous commercial, residential, and governmental projects in London of varying scale and complexity.
Has a Gateway One Statement been submitted?	Not applicable, where proposal is not a 'Relevant Building' as defined in Regulation 7(4) of the Building Regulations.

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

Item	Detail
Details of the evacuation lift and shaft	The development will not feature a lift. As such, no evacuation lift is expected where no new lifts are proposed.
Capacity assessment	Not applicable
Evacuation strategy	Not applicable
Evacuation lift management plan	Not applicable
Declaration of compliance by a competent person	The technical content produced for this planning application is considered to suitably comply with the relevant legislation and requirements of London Plan Policy D5(B5), where applicable, subject to suitable development and implementation during the Building Regulations process and construction. Signed:  Digitally signed by Andy Ballantyne Date: 2024.04.30 18:58:09 +08'00'

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

Item	Detail	See also:
Identifies suitably positioned unobstructed outside space for fire appliances to be positioned on	Fire appliances will continue to be able to use Gower Street as a hardstanding area at the front of the building, being sufficient for pumping appliances to access the site via the existing road network.	Section 6
Identifies suitably positioned unobstructed outside space appropriate for use as an evacuation assembly point	Assembly areas are to be identified by building management and documented on the Fire Action Notices within the building. Sufficient safe waiting space adjacent to Gower Street may be considered for use as an assembly area by building management.	Section 3.5
Designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire, including appropriate fire alarm systems and passive and active fire safety measures	The development will feature active fire safety systems in accordance with the expectations of ADB2, including Category LI detection to BS 5839-1. Passive fire protection measures will include the provision of fire-resisting construction to form the internal escape routes and compartmentation between floors and to adjacent buildings.	Section 3 & Section 4
Constructed in an appropriate way to minimise the risk of fire spread	Internal lining specifications and fire-resisting construction are to be provided to meet the expectations of ADB2, assisting to limit fire growth, and to separate guestrooms, ancillary areas, and escape routes. External walls and roof elements will generally be retained as existing, though new areas are to comply with contemporary guidance in ADB2.	Section 4 & Section 5
Provides suitable and convenient means of escape, and associated evacuation strategy for all building users	Means of escape provisions are based on the expectations of ADB2 for a hotel building of less than 11 m to the uppermost floor. Where variations from contemporary guidance are present, these are retained as existing or improved where compared to the existing arrangement of the building. With no lifts being provided at the development, all occupants are at the above- or below-ground floors are expected to be able to escape without assistance where having entered the building in the same manner.	Section 3.6
A robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in	Information regarding the means of escape and fire safety equipment is to be retained in accordance with the principles of the Golden Thread, and to be provided to the building owner / demise management in accordance with relevant fire safety legislation to support the ongoing management and maintenance of fire safety provisions within the development.	Section 7.1
Suitable access and equipment for firefighting which is appropriate for the size and use of the development	Firefighting access into the building will utilise direct hose laying from the fire appliance hardstanding areas, being located within a maximum distance of 45 m from all areas of the footprint of the building as recommended in ADB2 for a less than 2,000m ² building with uppermost floor at less than 11 m above ground level.	Section 6
Where a lift core is provided, at least one lift is an evacuation lift	No lift is present within the proposed development. As such, an evacuation lift is not expected to meet Policy D5(B5) of the London Plan 2021.	Summary Table 3 & Section 3.6

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1. Introduction

1.1 General

- 1.1.1 Mu.Studio (UK) Ltd have been commissioned to provide fire safety consultancy services in support of the proposed extension and refurbishment of an existing hotel known as The Garth Hotel on Gover Street, in the London Borough of Camden, as illustrated in Figure 1.
- 1.1.2 This report may be used in support further detailed design development. It is not intended to portray detailed design information for fire safety systems or construction specifications and should be read in conjunction with the wider project documentation.
- 1.1.3 Any alternative design solutions suggested within this report are subject to agreement and eventual approval by the relevant authorities having jurisdiction (AHJs).

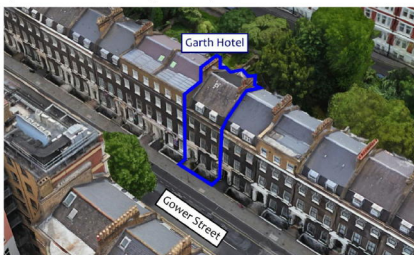


Figure 1 – Location of site

1.2 Legislation and basis of site

- 1.2.1 Fire safety for the design and construction of buildings is governed by the Building Regulations 2010 (as amended) in England. This report is developed in cognisance of the fire safety design expectations of the Building Regulations 2010 (as amended), namely:
- 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 This report should form part of the information pack provided to the building owner to meet the obligations of the design team under Regulation 38 of the Building Regulations, to aid in the understanding of the design and in maintaining fire safety equipment at the premises.
- 1.2.3 The 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.

- 1.2.4 This fire safety strategy is for the permanent design of the building and 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.
- 1.2.5 The building will be initially designed based on the recommendations of Approved Document B - Volume 2 (ADB2) [4], including further documents and standards referenced therein.
- 1.2.6 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 below. Additional contradictory information or subsequent design variations to the information supplied may render the findings and recommendations of this report invalid.
- 1.3.2 External references utilised in the generation of this report are summarised in Section 8.

Table 1 – Project design documentation

Description	Author	Document	Rev.	
Existing Lower Ground Floor	Studio Moren Ltd	A-025-099	P1	
Existing Ground Floor		A-025-100	P1	
Existing First Floor		A-025-101	P1	
Existing Second Floor		A-025-102	P1	
Existing Third Floor		A-025-103	P1	
Proposed Lower Ground Floor		A-100-099	P2	
Proposed Ground Floor		A-100-100	P2	
Proposed First Floor		A-100-101	P2	
Proposed Second Floor		A-100-102	P2	
Proposed Third Floor		A-100-103	P2	
Design and access statement		-		Apr 24

2. Development summary

2.1 Description of proposal

- 2.1.1 The development is for the refurbishment and extension of an existing hotel building known as The Garth Hotel, as illustrated in Figure 1. The building will continue to be set across five floors (L.G, G + 3), and will be internally reconfigured to improve the available bedrooms arrangements. An extension will also be constructed to the rear of the building at Ground floor to facilitate a new reception / lounge area.
- 2.1.2 The height of the uppermost occupied floor (Third floor) is expected to be at circa 9 – 10 m above ground level. As a hotel building, the development is not considered to be a 'relevant building' by Regulation 7(4) of the Building Regulations nor is expected to feature firefighting shaft where no floor exceeds 18 m above ground level.
- 2.1.3 Figure 2 to Figure 6 provide 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 ADB, the hotel building is considered as 'Residential (Other)' in Purpose Group 2(b). This use is for sleeping accommodation in managed buildings such as hotels or hostels.
- 2.2.2 The maximum number of occupants has been calculated using a combination of floor space factors given by Table D1 in ADB and available bedrooms, summarised in Table 2. It is assumed that all bedrooms are fully occupied by for conservatism.
- 2.2.3 No additional fire safety features have been requested by the client, and this fire strategy has been developed premised on the minimum expectations of Part B in Schedule 1 of the Building Regulations only.

Table 2 – Maximum expected occupancy

Floor	Use	Area (m ²)	Floor space factor	Occupancy
Third	3x Guestrooms	N/A – number of beds		7
Second	4x Guestrooms	N/A – number of beds		9
First	4x Guestrooms	N/A – number of beds		9
Ground	Reception / Lounge	30	1 m ² /person	30
	2x Guestrooms	N/A – number of bedrooms		6
Lower Ground	4x Guestrooms	N/A – number of bedrooms		8
	Plant / storage	22	30 m ² /person	1

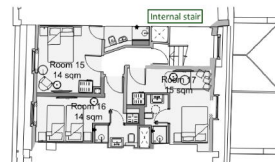


Figure 2 – Proposed Third Floor

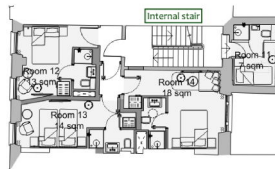


Figure 3 – Proposed Second Floor

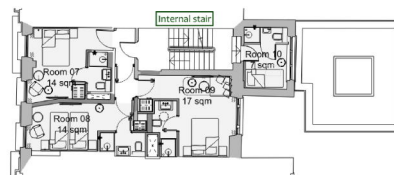


Figure 4 – Proposed First Floor

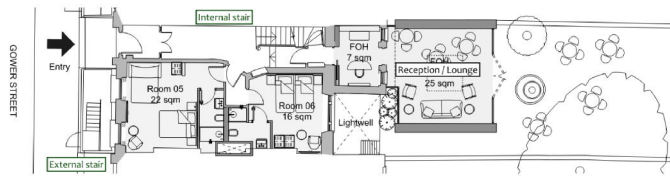


Figure 5 - Proposed Ground Floor

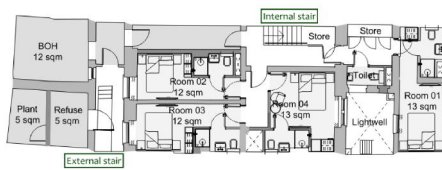


Figure 6 - Proposed Lower Ground Floor

3. Means of warning and escape

3.1 Evacuation philosophy

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

3.2 Means of detection and alarm

3.2.1 A common fully addressable Category L1 detection and alarm system shall be provided throughout the hotel in accordance with BS 5839-1 [6].

3.2.2 A Category L1 system would typically include smoke detection in all rooms except toilets, stairway lobbies or toilet lobbies, small cupboards not more than 1 m², 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.

3.2.3 The activation of the fire alarm will utilise a 'single knock' cause and effect protocol, with all areas of the hotel to be evacuated immediately upon activation of any single detector head or manual call point.

3.2.4 It is recommended that detector heads are selected to reduce the likelihood of false alarms occurring, with multi-sensor detector heads utilised in bedrooms. A no smoking policy should be enforced throughout the hotel, to reduce the likelihood of both fire ignition and unwanted false alarms.

3.2.5 Any new manual call points are to be provided with transparent hinged covers, 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.

3.2.6 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 may be considered to the support routing of all occupants from sleep.

3.2.7 The fire alarm control panel is expected to be available at the main entrance, located where this may be monitored by building staff and to be easily located by the attending fire and rescue service.

3.3 Means of horizontal escape

3.3.1 To meet the recommendations of ADB2, the maximum permitted travel distance for the various areas of the hotel 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 Corridors which provide access to guest rooms will be protected corridors. With a single exit from each of the Ground to Third floors, these are each limited to a maximum occupancy of 60 people. This is considered sufficient where a maximum of 36 people are expected at any one floor level in the building.

3.3.3 Areas 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.

3.3.4 The Lower Ground Floor will have escape available in two directions, via either the internal stair or via the external service stair at the front of the building.

3.3.5 At each floor, areas may be served by doors hung against the direction of escape where the maximum occupancy of each area will not exceed 60 people.

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
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 ADB 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)
LGF – 3F	Whole floor	<36	1x >750 (swing either direction)	60

Note: For areas with multiple exits, the exit having the greatest capacity is to be discounted prior to assessing available escape capacity

3.4 Vertical means of escape

- 3.4.1 The building features two stair that will be used in support of means of escape as indicated on Figure 2 to Figure 6 and summarised in Table 6. The maximum occupancy of the above-ground floors is assumed to be 25 people based on the design occupancies set out Table 2.
- 3.4.2 The uppermost floors of the building are served by the single internal stair. Section 3.3(d) of ADB2 suggests that a single escape stair is permitted where:
- No storey is at a floor level more than 11 m above ground level.
 - A single escape route is permitted at every storey with respect to horizontal travel distances and maximum occupancies.
 - Protected lobbies are provided in accordance with Section 3.34(a) of ADB2.
- 3.4.3 The building meets the maximum height and single direction of escape criteria as set out above. Protected lobbies are provided to the internal stair in all areas where new works are proposed. However, Rooms 10 and 11 at First and Second floors respectively are accessed directly from the internal stair. This is considered an acceptable arrangement where:
- This is the existing condition at the building and will be retained or improved by the intended works.
 - The fire doors separating the bedrooms access directly from the internal stair will be enhanced, being FD60S fire doors rather than the standard FD30S fire doors suggest in ADB2.
 - A Category L1 detection and alarm system is proposed throughout the building (see Section 3.2), supporting early detection and escape by all residents in the event of a fire.
- 3.4.4 Lobbying to the above-ground stair from the new reception / lounge area at Ground floor is to be provided by the portion of internal stair serving the Lower Ground floor, as indicated on Figure 7. This is supported by the provision of secondary escape from the Lower Ground floor, should the internal stair to Ground floor be discounted by fire or smoke.
- 3.4.5 With separation between the above- and below-ground portions of the internal stair being provided at Ground floor within the hallway, the additional door at the head of the basement stair could be removed where not required for fire safety and where currently presenting a hazard with respect to the expectations of Part K of the Building Regulations (protection from falling, collision, and impact).

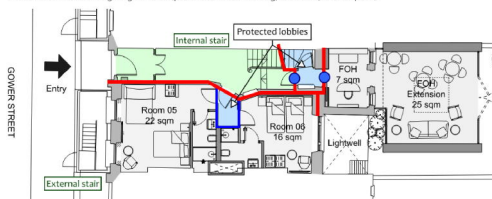


Figure 7 – Internal stair and lobby at Ground floor

Table 6 – Stair capacities

Stair	Floors served	Provided width (mm)	Capacity (persons)
Internal	3 (Lower Ground to Third)	≥1,000	230
External	1 (Lower Ground to Ground)	≥800	50

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 The internal stair features an exit to outside at Ground floor toward Gower Street that will be maintained as existing following the works. The maximum occupancy of the hotel is around 40 people, such that the inward swinging final exit doors are considered adequate where serving less than 60 people.
- 3.5.2 The external stair discharges to outside and away from the building upon emerging at the front of the building adjacent to Gower Street.
- 3.5.3 Onward escape from final exits will be available to the public external pavements, then having multiple directions of escape to a place of eventual safety.
- 3.5.4 The selection of appropriate assembly areas outside the building is an operator-led exercise. Assembly areas should be located such that they are remote from access routes for the fire and rescue service, and evacuation from the building can be achieved without exposure to a hazard from a building fire. It is suggested that paving adjacent to Gower Street be considered for use as an assembly area.

3.6 Means of escape for disabled persons

- 3.6.1 It is envisaged that occupants of the upper floors would typically be able to navigate the stairs unassisted where no lift access is available within the building. No refuge areas are currently provided or proposed at the building, aligning with access being available to ambulant occupants only.
- 3.6.2 It should be noted that under the Regulatory Reform (Fire Safety) Order 2005, it is the duty of the hotel's 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.
- 3.6.3 Management and maintenance staff should consider whether they could adequately escape from the building in the event of a fire. For any member of staff having restricted mobility, it is recommended that a Personal Emergency Evacuation Plan (PEEP) is developed and practised.
- 3.6.4 A General Emergency Evacuation Plan (GEEP) should also be developed for guests who would benefit from assistance to escape. Further information can also be found in BS 8300-2 [7] 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 [8].
- 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 and to doors forming the point of choice at the foot of the bedroom stair.
- 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 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 [9], BS EN 1838 [10], and BS EN 60598-2-22 [11]. 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 accordance to BS ISO 3864-1 [12], BS 5499-4 [13] and BS 5499-10 [14].
- 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 [15] (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 European Class D-s3, d2, provided that the area of linings having the lower classification does not exceed half of the floor area of the room, subject to a maximum of 20 m² in bedroom areas and 60 m² in other 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 [16]
Within 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 The existing building is un sprinklered. An automatic suppression system is not expected in ADB2 for a Residential (Other) premises based on the height of the building, where this does not exceed 30 m in height.
- 4.2.2 This fire safety strategy has been developed without assuming benefit from an automatic suppression system, and no system is expected to be installed in support of this fire safety strategy.
- 4.2.3 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 New or re-instated elements of structure within the building should be designed and / or protected to achieve a fire resistance rating of at least 60 minutes in accordance with Table B4 of ADB, deemed suitable for an un sprinklered hotel building with an uppermost floor of less 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 at the building. All shafts (e.g., risers, lift shafts and stair cores) are to be protected shafts where these will pass through compartment floors.
- 4.4.2 Compartment walls are to be present to separate the sleeping and ancillary of the building, with party walls being provided to separate adjoining buildings. No limit is placed on the area of compartments for Residential (Other) buildings in Section 8.10 of ADB2, and each floor may be a single compartment.
- 4.4.3 Further elements of fire-resisting construction are to be provided in accordance with the recommendations in Table 8, and as indicated on the fire safety drawings included in Appendix A.
- 4.4.4 BR 128 [17] contains advice for the nominal fire-resistance ratings of masonry walls. New drying 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.
- 4.4.5 Fire door assemblies are to comply with BS 476-22 [18] or BS EN 1634-2 [19] for fire resistance, and where applicable BS 476-31 [20] or BS EN 1634-3 [21] for smoke leakage. Timber fire doors should be installed in accordance with the expectations of BS 8214 [22].

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	60	FD60
More than 1,000 mm from the relevant boundary	60 integrity, 15 insulation	N/A
Protected shafts – stairs and service risers	60	FD30S
Protected lobbies or corridors within the hotel	30	FD30S
Places of special fire hazard	30	FD30
Cavity barriers	30 integrity, 15 insulation	N/A

4.5 Concealed spaces and cavity barriers

- 4.5.1 Cavity barriers are provided in concealed spaces to prevent the rapid spread of unseen fire or smoke in voids, and to prevent the spread of fire around compartmentation via voids.
- 4.5.2 All cavity barriers are to have a fire resistance rating of at least 30 minutes for integrity (E) and 15 minutes for insulation (I). Cavity barriers should be at no greater than 20 m centres in cavities with Class C-s3, d2 linings or better to BS EN 13501-1, as well as being located to align with fire-resisting construction as indicated in Figure 8. For other linings, the spacing between cavity barriers should be reduced to 10 m.
- 4.5.3 Cavity barriers provided around openings may be formed of:
 - steel at least 0.5 mm thick or timber at least 38 mm thick (not permitted in external walls); 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.

4.6 Fire-stopping and penetrations through fire-resisting construction

- 4.6.1 Fire-stopping should be provided at the junction of fire-separating walls and external walls to maintain the fire resistance period of fire-separating walls and prevent a fire from travelling around the junction and into the neighbouring space. Penetrations through lines of fire-resisting separation should also be fire-stopped using a product or system that will achieve the same fire resistance rating as the penetrated wall or floor.
- 4.6.2 To maintain the fire resistance rating of separating construction, any pipe or cable penetrations through lines of fire-resisting separation should be fire-stopped in accordance with one of the following methods set out by Section 10 in ADB2, unless located within a protected shaft. Figure 9 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.
- 4.6.3 Where ductwork crosses fire-resisting construction forming protected escape routes, 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.
- 4.6.4 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.
- 4.6.5 Suitable detection and alarm will be provided to meet the above recommendation, as detailed in Section 3.2. No lift access is available within the building, with all residents being expected to be able to use the stairs to reach the guest rooms at above- or below- ground floors. As such, all occupants would also be expected to be able to make their escape without assistance.
- 4.6.6 Where ductwork penetrates compartment floors, walls enclosing protected service risers, or walls separating ancillary areas, but does not cross a protected escape route, it is considered that dampers that are thermally activated only may be utilised in accordance with Section 10.22(i) of ADB2.

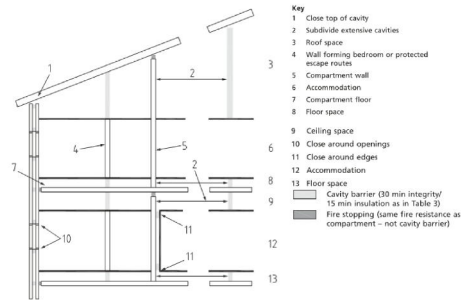


Figure 8 – Generic cavity barrier expectations

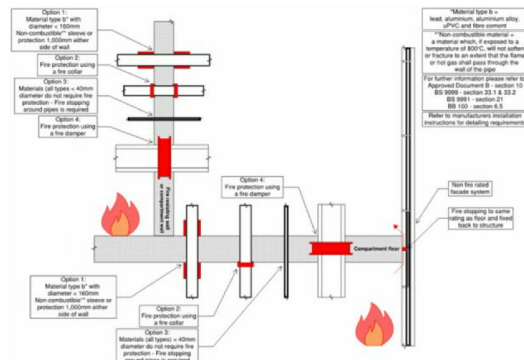


Figure 9 – Generic fire-stopping expectations

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, any new materials used for the external walls of this Residential (Other) building of 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.
- 5.1.2 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.
- 5.1.3 External walls are also expected to have cavity barriers in accordance with Section 4.5, located to align with internal fire-resisting construction or to limit the unbroken length of external wall cavities.
- 5.1.4 No new external balconies or terraces are proposed at the development.

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. The relevant test and classification standards for the external fire performance of roof systems is BS EN 13501-5 (2:3) (European Class).
- 5.2.2 New roof coverings 1.5 m either side of compartment walls should achieve an B_{ROOF}(t4) rating in accordance with Diagram 8.2 of ADB2. The remaining areas should meet the recommendations of Table 14.1 in ADB2, as summarised in Table 9. In general, it would be recommended that all new roof areas achieve B_{ROOF}(t4).
- 5.2.3 Roof coverings may constitute a number of materials (but does not include the roof structure as a whole). Therefore, the top covering material should be considered in tandem with the substrate(s) to assess the performance of the coverings. The covering system as a whole is to meet the provisions of Section 5.2.2.
- 5.2.4 Any photovoltaic panels should also be in accordance with roof classification guidance. If the photovoltaic array results in live cables with a current / voltage that may pose a hazard to firefighters, a remote isolation switch should be provided to allow these to be disconnected prior to commencement of wet operations.

Table 9 – Limitations on roof coverings

Distance from boundary	Allowable roof covering classifications to BS EN 13501-5 (2:3)		
	B _{ROOF} (t4)	C _{ROOF} (t4)	D _{ROOF} (t4)
Less than 6 m	✓	x	x
At least 6 m	✓	✓	x
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. The site boundary is used to sides and rear of the site, with the centreline of Gower Street used to the front as illustrated in Figure 10.
- 5.3.4 The existing external walls are generally retained as existing to the front and sides of the building, though further assessment of the rear extension is expected as illustrated in Figure 10. Using the methodology set out in BR 187 and using an emitted radiation value of 84 kW/m², as deemed appropriate for hotels, 100% of the new rear façade may be unprotected where having a maximum height of 3 m, maximum width of 4.6 m, and where located at least 9.2 m from the site boundary.

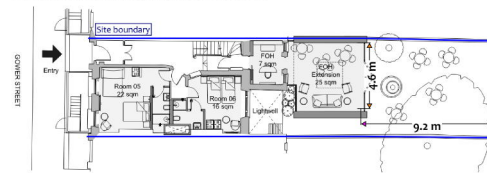


Figure 10 – New unprotected area and distances to relevant boundary

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 upon confirmation of a fire.

6.2 Fire appliance access to the site

6.2.1 Vehicle access for fire appliance will be available to the front of the building via Gover Street as indicated in Figure 11. This existing road meets the fire appliance access guidance given in London Fire Brigade Guidance Note 29 [24], as summarised in Table 10.

6.2.2 Access to the site for vehicles is available from multiple directions such that vehicle reversing would not be expected. Furthermore, ample hardstanding space is available for multiple fire appliances to attend site.

6.2.3 In accordance with Section 15.1 and Table 15.1 in ADB2, access to within 45 m of every point of the footprint of the building is to be provided for a pump appliance where the building has an area less than 2000 m² and an uppermost floor of no greater than 11 m above ground level. This is achieved as shown in Figure 11, and as such, no dry rising main is expected within the building.

6.3 Firefighting water supplies

6.3.1 As a mature residential site, the existing water supply for firefighting will continue to serve the site. This is via a public hydrant located on the opposite side of Gover Street as shown on Figure 11.

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 11, this is achieved where the existing hydrant is located at ~20 m from the entrance to the building.

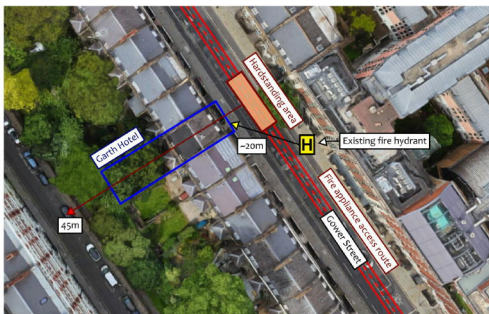


Figure 11 – Firefighting vehicle access and water supplies

Table 10 – Fire appliance access requirements from GN29

Minimum access route specification	Pumping appliance
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

6.4 Firefighting facilities within the building

6.4.1 The hotel will not feature a floor located at greater than 18 m above ground level, and as such, is not expected to be provided with a firefighting shaft. No dry rising main is provided at the building, where suitable access around the site is available for a pumping appliance as discussed in Section 6.2.

6.4.2 Where required, access into and through the building for firefighters would be supported by the internal protected stairs.

6.5 Basement smoke clearance

6.5.1 The building features an existing Lower Ground Floor that will not increase in area as part of the proposed works, which also has access to external windows via lightwells. As such, no basement venting provisions are expected or proposed as part of the intended works.

6.6 Electrical vehicles and car park smoke clearance

6.6.1 No car park is present within the building, and as such, no firefighting provisions for electric vehicles or car park smoke venting are expected nor provided.

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 [25].

6.7.2 Smaller items of equipment are expected to utilise 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.

7. Additional fire safety guidance

7.1 Fire safety information and future development

- 7.1.1 This Planning Fire Safety Strategy 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 Planning Fire Safety Strategy 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 where applicable.
- 7.1.3 Further development of the fire safety provisions set out within this Planning Fire Safety Strategy is expected during the Building Regulations approvals process, including the selection of specific products, systems, or materials to fulfill the expectations of the Planning Fire Safety Strategy.
- 7.1.4 Where any modification to the fire safety provisions set out in Section 3 to 6 of this Planning Fire Safety Strategy are proposed during further design, these should not be incorporated unless agreed in writing by the appointed building control authority.
- 7.1.5 The fire safety strategy for the building, as agreed by the appointed building control authority, should be documented and provided to the Responsible Person for the building as defined in the Regulatory Reform (Fire Safety) Order 2005 (as amended), to meet the expectations of Regulation 38 of the Building Regulations and principles of the Golden Thread of Information. This should be provided as part of a wider package of building information including, but not being limited to:
- This Planning Fire Safety Strategy report
 - The as-built fire safety strategy report and associated fire strategy drawings
 - Manufacturer's literature for fire safety products and equipment present 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 hotel 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 (26), as summarised by Table 11 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 11 – Fire extinguisher types

Medium	Colour code	Application	Do NOT use for
Water	White	Class A fires	Liquid, electrical, metal or cooking fires
Powder	Blue	Class A, B or C fires	Metal or cooking fires
Foam	Cream	Class A or B fires	Electrical*, metal or cooking fires
CO ₂	Black	Class B fires	Metal or cooking fires
Wet chemical	Yellow	Class A or F fires	Liquid, electrical or metal fires

* AFFF Foam extinguishers may be used for electrical fires up to 35 kV (dielectric test) and where operated from a distance of at least 1 m.

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

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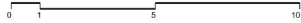
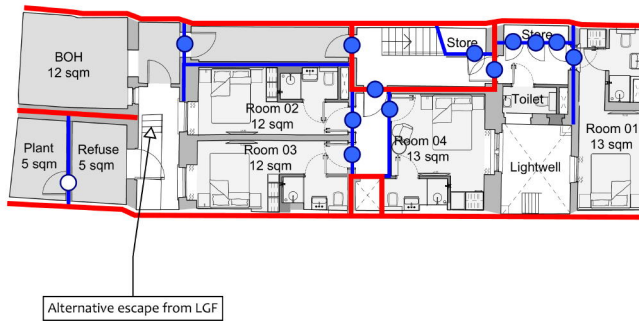
Fire safety mark-ups v1.0 **mu.studio**

- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD605 Fire door
- FD305 Fire door
- FD30 Fire door

NOTES

Key

- Public Areas
- Guestrooms
- Back of House/Staff areas
- Existing walls
- Proposed Walls



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P1 Ensuite Locations Updated
 P1 First issue for planning
 rev amendments

23.04.24 ES: PW
 21.03.24 TP: PW
 date by: chk

project: 69 Gower Street
 client: Garth Hotel Limited

drawing title: Lower Ground Floor As Proposed
 drawing status: PLANNING

scale: 1:100 @ A3
 NTS @ A4
 job no: 1953

date: 21.03.24
 drawing no: A-100-099

drawn by: ES
 revision: P2

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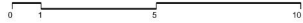
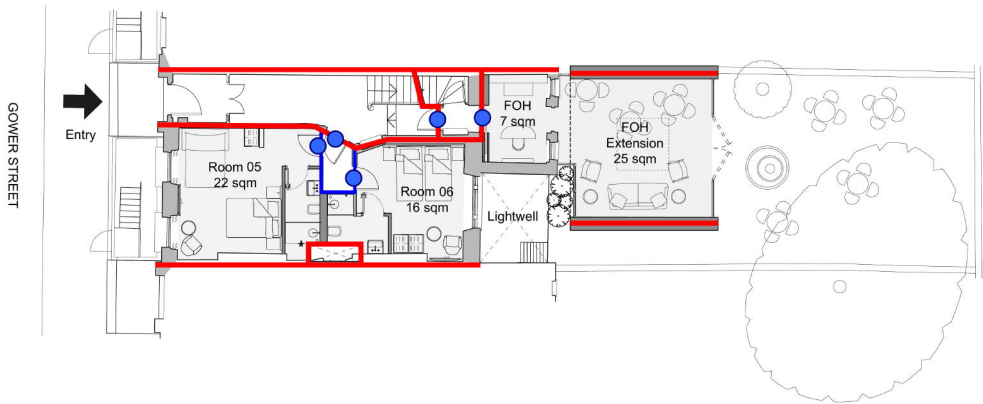
Fire safety mark-ups v1.0 **mu.studio**

- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD605 Fire door
- FD305 Fire door
- FD30 Fire door

NOTES

Key

- Public Areas
- Guestrooms
- Back of House/Staff areas
- Existing walls
- Proposed Walls



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P2 Ensure Locations Updated
 P1 First issue for planning
 rev amendments

23.06.24 ES PW
 21.03.24 TP PW
 date by chk

project
 69 Gower Street

client
 Garth Hotel Limited

drawing title
 Ground Floor
 As Proposed

drawing status
 PLANNING

scale
 1:100 @ A3
 NTS @ A4

job no.
 1953

date
 21.03.24

drawing no.
 A-100-100

drawn by
 ES

revision
 P2

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Fire safety mark-ups v1.0 **mu.studio**

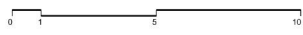
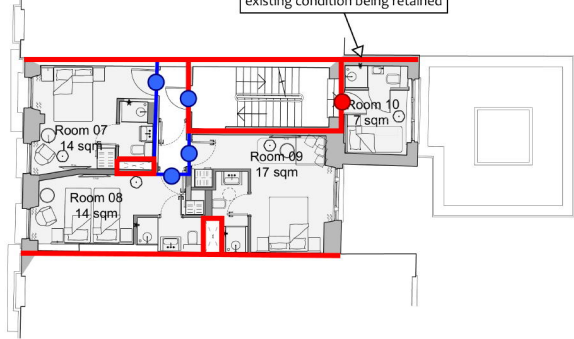
- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD605 Fire door
- FD305 Fire door
- FD30 Fire door

NOTES

Key

- Public Areas
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- Back of House/Staff areas
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No lobby provided between this room and single stair, though existing condition being retained



studio moren architecture 57/1 jennetdown road london nw11 7ub UK t: 020 7267 4440	project 69 Gower Street	drawing title First Floor As Proposed	scale 1:100 @ A3 NTS @ A4	date 21.03.24	drawn by ES
	client Garth Hotel Limited	drawing status PLANNING	job no. 1953	drawing no. A-100-101	revision P2
F1 Ensite Locations Updated P1 First issue for planning rev amendments	23.04.24 ES: PW 21.03.24 TP: PW date by: chk				

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Fire safety mark-ups v1.0 **mu.studio**

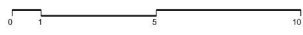
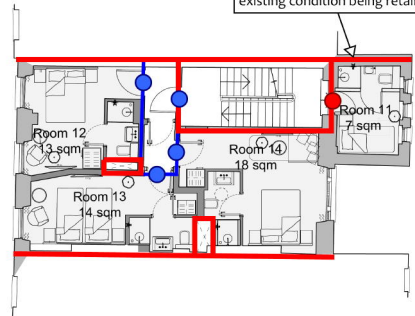
- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD605 Fire door
- FD305 Fire door
- FD30 Fire door

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Key

- Public Areas
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No lobby provided between this room and single stair, though existing condition being retained



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P1 Ensite Locations Updated
 P1 First issue for planning
 rev amendments

23.06.24 ES: PW
 21.03.24 TP: PW
 date by: chk

project: 69 Gower Street
 client: Garth Hotel Limited

drawing title: Second Floor As Proposed
 drawing status: PLANNING

scale: 1:100 @ A3
 NTS @ A4
 job no: 1953

date: 21.03.24
 drawing no: A-100-102

drawn by: ES
 revision: P2

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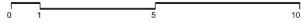
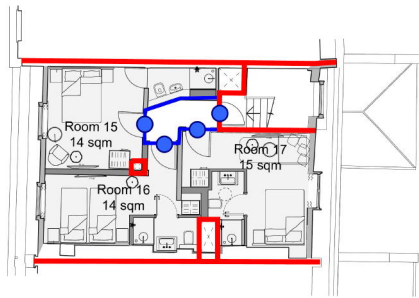
Fire safety mark-ups v1.0 **mu.studio**

- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD605 Fire door
- FD305 Fire door
- FD30 Fire door

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R1 Ensuite Locations Updated
P1 First issue for planning
rev amendments

23.06.24 ES: PW
21.03.24 TP: PW
date by: chk

project: 69 Gower Street
client: Garth Hotel Limited

drawing title: Third Floor As Proposed
drawing status: PLANNING

scale: 1:100 @ A3
NTS @ A4

date: 21.03.24

drawn by: ES

job no: 1953

drawing no: A-100-103

revision: P2