MARSHALL FIRE

Title:	Project 4 18 – 19 Southampton Place Fire Strategy Report
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00	Initial Issue	Daniel Taylor	Steven Marshall	4th October 2021

Contents

1. Executive Summary

The proposals outlined in this document are considered to demonstrate a level of fire safety equal to or greater than the general standard implied by compliance with the recommendations in Approved Document B. This level of safety therefore satisfies the functional requirements of Part B of the Building Regulations.

The following project is an existing listed office building and therefore carries limitations to meet current guidance. It is proposed to introduce a roof terrace at first floor, with access via an external stair and on the floor levels remove various internal partitions to create an open plan floor plate. With respect to the site constraints and where improvements can be achieved to compensate it has been done and will be adopted as a way to protect means of escape and firefighting.

The fire strategy described in this report can be summarised as follows (note this is not an exhaustive list but outlines the main fire safety requirements. Please read the remainder of the report for the full requirements):

- A Category L1 fire alarm system consisting of fire detection throughout the building in accordance with BS5839-1.
- It is proposed that the buildings will operate a simultaneous evacuation regime and therefore in the event of a fire, both building will be evacuated in full at the same time. It is not currently proposed to incorporate an investigation period given the nature of the building.
- The occupancy is based on 6m^2 per person for an office layouts.
- The maximum recommended travel distances where the layout is known for an office is 18m in a single direction and 45m where more than one direction of escape is available.
- The existing elements of structure will maintain their current fire resistance as it is considered no less satisfactory than before the refurbishment works with any new elements of structure achieving at least 60 minutes fire resistance given the topmost storey is less than 18m in height.
- The buildings will afford 15% perimeter access to support firefighting.
- The unprotected area consisting of non-fire rated openings (i.e. windows and doors) is not being altered and therefore no less satisfactory than the existing condition.
- As the basements are less than 200m^2 in floor area and having a depth less than 3m then there is no requirement to provide smoke and heat ventilation system.

The fire strategy for the proposed building complies with Approved Document B except for the following departures:

- It is also acknowledged that the single stair should be lobby protected on every storey served by the single stair which has not been introduced within the existing plans. See Section 3.2.2 for more detail.
- To support the omission of lobby protection on all floor levels it is proposed to introduce an automatic openable vent (AOV) measuring 1m^2 free area to assist with smoke escaping to atmosphere. See Section 7.3 for more detail.
- Under the guidance an escape stair forming part of the only escape route from an upper storey should not continue down to serve a basement storey without a door to prevent smoke rising and affect the occupants descending from the floors above. The existing condition is deemed no less satisfactory and therefore a door is located at the base of the stair. See Section 3.3 for more detail.

The above departures are subject to agreement with the Approving Authority.

2. Introduction

2.1 Overview

Marshall Fire has been appointed by Polestar Plc to provide fire safety advice to the project. Our role is therefore to advise on the design of the buildings against compliance with Part B of the Building Regulations and assist in steering the designs towards Building Regulation approval.

2.2 Purpose of this report

This report details how we consider the building will comply with the requirements of Part B of the Building Regulations. In doing so the guidance contained in Approved Document B has been used, with the main structure of the report following the main parts of Part B of the Building Regulations.

The approval status of the fire strategy should be considered as a risk until such time as the appointed Building Control Body has reviewed the proposals and provided their approval in principle. Once approved in principle the building should be constructed in accordance with the contents of this report and any amendments should be reviewed and approved accordingly by the Building Control Body.

The findings of this report are based on the information available at the time of writing this report. We cannot be held responsible for any subsequent changes to the design that we are not made aware of.

2.3 Scheme description

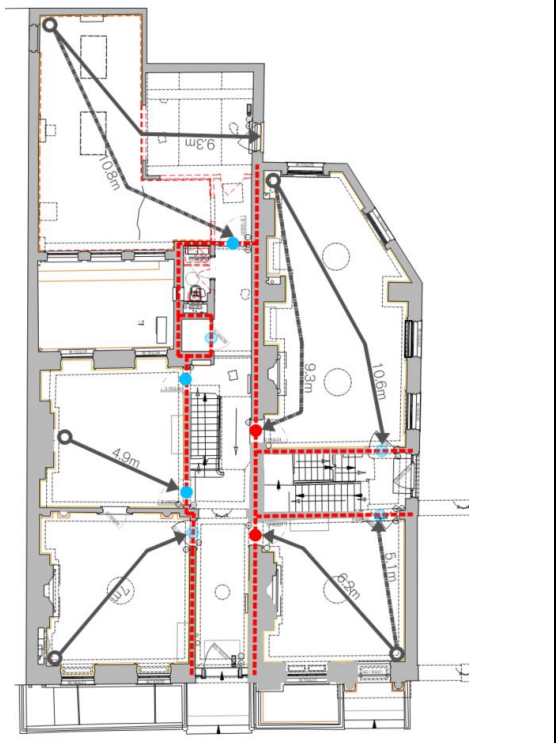
Project 4 works consist of the refurbishment of existing office buildings at 18 - 19 Southampton Road, London.

The proposed project consists of the refurbishment of an existing office building with the introduction of a new roof terrace at first floor level. Each building has a similar floor plate arrangement having a simultaneous evacuation policy throughout, therefore the buildings will act as one space having a separation line so there is an alternative escape route.

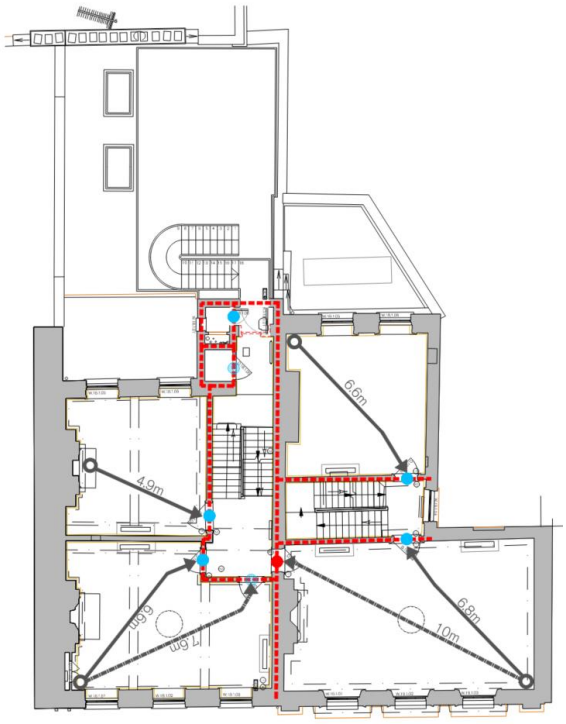
Building 18 & 19 have a single staircase without lobby protection, which is a departure from the current guidance on account of having an uppermost storey greater than 11m above ground. However, as the buildings are listed, it is very difficult to redesign and change the overall design and due to the space constraints making additional lobbies are not possible. It is therefore considered that the existing provisions are deemed as satisfactory as will be no less satisfactory than before the work was carried out and the design team will introduce stair AOVs to provide additional protection to the stairs.

Both units consist of a ground and four upper floor levels having a topmost storey measuring 14.9m above access level. In addition, number 18 has a basement floor, whilst 19 does not.

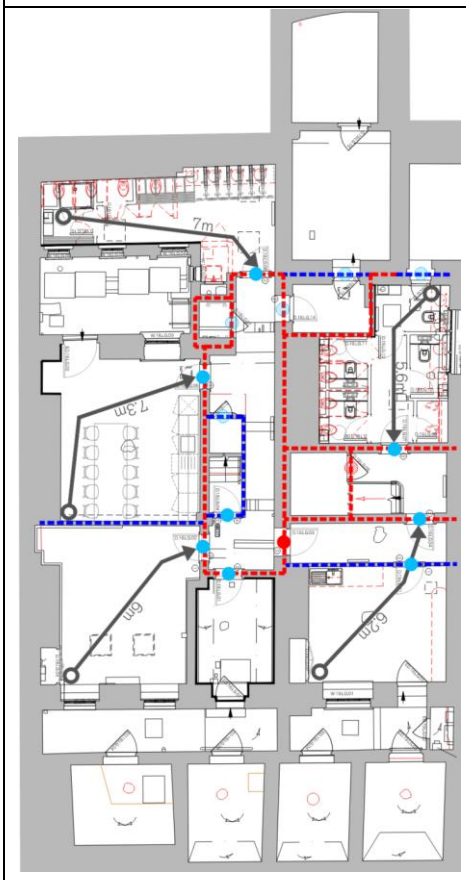
Both buildings have interconnecting access to the other buildings via a door in the office accommodation or within the stair and this will form part of the alternative escape strategy for the building.



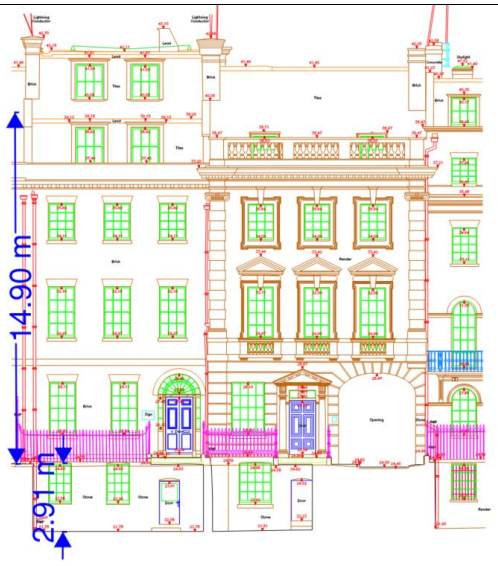
Ground floor plan



Typical upper floor plan



Basement



Elevation

Figure 1: 18 – 19 Southampton Place Floor Plans

2.3.1 Anticipated Occupancy Figures

The maximum anticipated occupancy figures are noted below. For an office a floor space factor of 6m^2/person has been used.

Table 1: Anticipated Occupancy Figures

Project 4	***18***		***19***	
Level	**Floor Area m^2**	**Anticipated Occupancy**	**Floor Area m^2**	**Anticipated Occupancy**
Basement	30	5 people		
Ground	58	10 people	15	3 people
First	83*	31 people*	63	11 people
Second	55	10 people	70	12 people
Third	55	10 people	65	11 people
Fourth	55	10 people	64	11 people
TOTAL		**76 people**		**48 people**
Total upper floor occupancy		**61 people**		**45 people**

Note: The first floor of Building 18 includes the roof terrace measuring an area of 20m^2 whilst assuming 1m^2 per person equating to 20 people.

2.3.2 Purpose Group

Approved Document B reviews the type of building as purpose groups and in this instance will fall under Purpose Group 3 - Office.

2.4 Report limitations

This report is intended for use on this project only and the contents and approaches should not be applied to any other building. This report details how the building will be constructed and does not guarantee that the building has been constructed in accordance with this document. We cannot take any responsibility for any shortfalls in the standard of construction on site as this would lie with the installer.

The proposals within this report are strategic only and any works listed herein will need to be appropriately designed and installed by others. Where it is considered that the proposals within this report may present a risk under the Construction (Design and Management) Regulations 2015 (CDM) these will be highlighted to the Principal Designer.

This report focuses on Part B of the Building Regulations. Compliance under the other Parts of the Building Regulations will also need to be achieved through works undertaken by others.

The contents and findings herein are based on the information available at the time of publication and referred to within this document. The contents should be considered an approvals risk until formally approved by the appointed Building Control Body.

By complying with the recommendations in this report it will not ensure that fires will not occur and ongoing management of the building is essential to ensure the fire risk is controlled as much as possible. This is controlled in part by the risk assessment required under the Regulatory Reform (Fire Safety) Order 2005. This legislation applies to the common areas in the building and requires that a fire risk assessment is undertaken and regularly reviewed (including whenever changes occur that might affect standards of fire safety within the building). The risk assessment will need to be made available to the Fire Service upon inspection of the building and any findings within the risk assessment are required to be addressed by the person responsible for fire safety within the building. If this is not undertaken the Fire Service have powers to serve notices on the building which could ultimately lead to it being shut down.

3. B1 - Means of Warning and Escape

Schedule 1 of the Building Regulations provides the following functional requirement in relation to B1, Means of warning and escape:

"The building shall be designed and constructed so that there are appropriate provisions for the early warning of fire, and appropriate means of escape in case of fire from the building to a place of safety outside the building capable of being safely and effectively used at all material times."

3.1 Means of Warning and Evacuation Regime

It is proposed that both buildings are treated under a simultaneous evacuation regime and therefore in the event of a fire within either unit will result in a full evacuation. It is not currently proposed to incorporate an investigation period given the nature of the building.

To enable an efficient evacuation of the building, the fire detection and alarm system will be designed and installed in accordance with BS5839-1 to a minimum standard of Category L1. This will incorporate fire detection in all rooms and areas of the building. Areas with suitably low fire risk need not be protected, as follows:

- Toilets, shower rooms,
- Small cupboards less than 1m^2, and
- Some shallow voids (less than 800mm in depth) and concealed spaces.

In areas with noisy environments or where people might otherwise have difficulty in hearing the fire alarm, visual alarm devices (flashing warning beacons) should be used.

3.2 Horizontal Means of Escape

3.2.1 Travel Distance

The maximum recommended travel distances for an office building where the layout is known is as follows:

- Purpose Group 3 (Office) – 18m in a single direction and 45m where more than one direction of escape is available.
- Open Air Roof Terrace – 60m in a dead-end condition and 100m where more than one direction of escape is available.

It should be noted that the above limits are actual travel distances where the layout is known. Where the internal layout is not known the maximum distances should be reduced to 2/3rds of those shown above. Therefore, the above limits should be borne in mind when the internal layout is being developed.
From inspection of the drawings, the current travel distances are satisfactory.

3.2.2 Horizontal Means of Escape

All doors would require a minimum clear width of 750mm to comply with Part B; whereby reduced mobility access is provided a door width of 850mm is required. From inspection of door widths, 750mm is achieved.

Doors that are to accommodate more than 60 people in an emergency must swing in the direction of escape. From inspection of the plans, the final exit doors do not open outward however the existing condition is deemed acceptable. This is no less satisfactory than the existing condition and therefore no change is proposed.

Any gradients on escape routes should be no steeper than 1:12.

Note: Doors should either not be fitted with a lock, or provided with fastenings that are easily negotiated in the event of a fire. Doors where it is expected will be used by more than 60 people in the event of a fire should open in the direction of escape and any access controls on doors should be overridden in the event of a fire being detected.

3.3 Vertical Means of Escape

Project 4 consisting of Units 18 & 19 with a topmost storey measuring 14.9m with a single stair which is not lobby protected on every floor level which is a departure from current guidance.

The following refurbishment work have been considered reasonable on the following basis:

- The original building height is not being changed and the current use case remain as office post refurbishment works.
- The proposed works are to remove internal partitions to create an open plan feel to the existing office floor plates and introduce a new roof terrace at first floor. The removal of non-fire rated partitions is deemed no less satisfactory than the existing condition and therefore not detrimental to life safety.
- The building is listed and space is a constraint, therefore introducing lobbies is not practically possible.
- The occupancy for a typical floor plate is limited to 60 people but from inspection of the plans the highest anticipated occupancy on a single floor plate using 6m^2/person is 11 people plus the roof terrace having 20 people totalling 31 people, therefore the building will have a very low occupancy overall.
- The office buildings will be provided with a Category L1 fire and detection system, this is an enhancement over the minimum Category M recommended in BS5839-1.
- In the existing condition both buildings do not have lobby protection but with interlinking between the two there will be an alternative escape route available via the interlinking door within the stair/office area providing a degree of alternative escape to a separate unit.
- It is proposed to introduce Automatic Openable Vents (AOVs) to the head of the stair measuring 1m^2 free area to allow smoke to escape and as a compensatory feature.

The justifications above are deemed acceptable but subject to approving authorities.

The vertical means of escape has been carried out in a tabular format with the stair width, number of floors served and stair capacities.

Table 2: Stair Capacities

	18	*19*
*Stair Width**	800mm	800mm
Purpose Group	3 (Office)	3 (Office)
	Floor Levels Served	
4th floor	X	X
3rd floor	X	X
2nd floor	X	X
1st floor	X	X
Ground floor	X	X
Basement	X	
Single Stair Buildings	Single Stair Buildings are limited to 60 people per floor level served	
Allowable Capacity (People)	360 people	300 people
Total Anticipated Building Occupancy	**76 people**	**48 people**

Note: Table 3.1 of ADB allows for a minimum stair width of 800mm under Part B but should achieve 1000mm for Part M, this existing stair width is considered acceptable as t is no less satisfactory than before the refreshment works.

All escape routes are to remain sterile (i.e. free from fire load).

Basement
As per the guidance, an escape stair forming part of the only escape route from an upper storey should not continue down to serve a basement storey. The below ground storey has windows and doors opening to atmosphere and is considered as a lower ground floor rather than a basement where there would be no paths to ventilate accommodation available. The existing condition adopted the same arrangement and therefore to continue this approach is deemed acceptable as it is no less satisfactory. Additionally, the existing condition is improved by the provision of an AOV to the stair allowing for smoke to escape.

External Escape Stair

Access to the roof terrace on the first floor level is via an external stair. The single stair in number 18 provides access via a door opening within the stair enclosure at second floor allowing occupants to descend onto the first floor roof level. The stair is provided with a minimum 30 minutes fire resistance with no openings (unprotected areas) within 1800mm around the stair and 1100mm above the top stair landing.

3.4 Merging flows

Where a storey exit shares the final exit, the width of the final exit should be sufficiently sized to account for the additional congestion.

Due to the low occupancy per floor level (far less than 60 people) it is anticipated that no merging will likely occur. On this basis the merging flow is deemed acceptable and will not provide detrimental effects to the occupants.

3.5 Provision of Refuges

The units will have stepped access, meaning access to people with reduced mobility is restricted.

No refuge locations will be provided on the ground, lower or upper floor levels due to space constraints and no reduced mobility occupants will be able to access the building.

The lift is not part of the evacuation strategy and whereby a tenant wishes to include access for reduced mobility then a PEEPs will be required and an assisted escape strategy so ensure safe egress.

3.6 Emergency Lighting and Escape Signage

Emergency lighting should be provided in accordance with BS5266-1 and include coverage in the following areas:

Table 3: Emergency Lighting and Escape Signage

	Emergency Lighting and Escape Signage Requirements
Office	• Underground or windowless accommodation; • Stairs; • Internal corridors more than 30m long; • Open plan areas greater than 60m^2; • All sanitary accommodation with a floor area over 8m^2; • Windowless sanitary accommodation with a floor area less than 8m^2; • Electricity and generator rooms; • Switch room/battery rooms for emergency lighting systems; • Emergency control rooms (where provided). • Areas directly outside the final exits.

Every escape route should be adequately signed in accordance with BS5499-4.

4. B2 - Internal Fire Spread (Linings)

Schedule 1 of the Building Regulations provides the following functional requirement in relation to B2, Internal Fire Spread (Linings):

> *(1) To inhibit the spread of fire within the building the internal linings shall-*
>
> *(a) Adequately resist the spread of flame over their surfaces; and*
>
> *(b) Have, if ignited, a rate of heat release which is reasonable in the circumstances.*
>
> *(2) In this paragraph 'internal linings' means the materials lining any partition, wall, ceiling or other internal structure.*

Internal linings are required to be provided in accordance guidance in Approved Document B as given in Table 4.

Table 4: Classification of Linings

Location	*Classification*
Small rooms of maximum internal floor area of $4m^2$	D-s3, d2
Other rooms (including garages)	C-s3, d2
Other circulation spaces	B-s3, d2(1)

NOTE:

1. *Wallcoverings which conform to BS EN 15102, achieving at least Class C-s3, d2 and bonded to a Class A2-s3, d2 substrate, will also be acceptable.*

5. B3 - Internal Fire Spread (Structure)

Schedule 1 of the Building Regulations provides the following functional requirement in relation to B3, Internal Fire Spread (Structure):

(1) The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period.
(2) A wall common to two or more buildings shall be designed and constructed so that it adequately resists the spread of fire between those two buildings.
(3) To inhibit the spread of fire within the building, it shall be sub-divided with fire resisting construction to an extent appropriate to the size and intended use of the building.
(4) The building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.

5.1 Loadbearing Elements of Structure

The elements of structure are based on the topmost storey height measured from ground access level being less than 18m achieving no less than 60 minutes fire resistance in accordance with ADB.

The existing loadbearing elements of structure will remain as it is considered no less satisfactory than before, however any new piece of structure defined as loadbearing will be upgrade in line with current guidance.

Where one element of structure supports or stabilises a loadbearing element of structure, the supporting element should not have a lesser fire resistance than the loadbearing element.

Existing walls that are required to be fire rated should be reviewed on site and any obvious damage (such as large cracks etc) should undergo remediation during the site works to ensure building integrity.

Any elements which only support themselves, provided for wind loading and/or a roof can be non-fire rated.

5.2 Compartmentation

5.2.1 Size of Compartments

An office has no limit on the size of compartments and therefore there is no requirement to subdivide the building into further compartments.

5.2.2 Compartmentalisation

Each unit will be a separate building, this is achieved by having a compartment line rated to 60 minutes fire resistance as per the elements of structure.

The office buildings are less than 30m in height and have no sleeping risk, therefore having no compartment floors required on the upper floor levels. The basement and ground floor in number 18 should be a compartment floor achieving 60 minutes. The existing construction is deemed acceptable and were amended should it should be ensured that 60 minutes fire resistance is achieved, however we would recommend that the floor is inspected and any obvious remedial works necessary undertaken.

The stair enclosure for number 18 is required to achieve 60 minutes fire resistance due to breaching the ground floor compartment floor. As number 19 has no basement and therefore not provided with a compartment floor 30 minute fire resistance is sufficient having FD30S fire doors.

Any penetrating shafts/service riser which passes through the compartment floor at ground and constructed as a continuous vertical protected shaft shall afford a fire resistance equal to the elements of structure (i.e. 60 minutes fire resistance). No smoke seals or self-closers are needed however the riser doors should be kept locked shut and labelled kept locked shut.

The kitchenette is a tea point with a microwave and therefore considered low risk and will achieve no less than 30 minutes fire rating with a FD30 fire door. No commercial/large scale cooking will take place.

The plant rooms are assumed to not contain any boilers, HV switchgear, or storage of fuel so are not classified as places of special fire risk. Plant rooms will have a 30 minute fire rating with a FD30 fire door.

As part of the overall life safety of the building, where rooms of special fire risk are located within the stair and have not been lobby protected then the fire resistance of the enclosure will be upgraded from 30 minutes to 60 minutes with FD60S fire doors and smoke detection inside the room for means of warning. This is considered an acceptable justification where space cannot be granted to create lobbies. (i.e. between the stair and lift room).

This is deemed acceptable but subject to approving authority.

Table 5: Compartmentation (fire-resistance) requirements

Part of building	*Fire resistance rating (mins)*	*Fire doors*
Means of escape stair when breaching a compartment floor	60 (each side separately)	FD30S
Means of escape stair	30 (each side separately)	FD30S
External escape stair	30 (each side separately)	FD30
Service risers	60 (each side separately)	FD30
Substation	120 (each side separately)*	FD60*
Places of special fire hazard	30 (each side separately)	FD30
Lift Room adjacent to stair	60 (each side separately)	FD60S
Store rooms	30 (each side separately)	FD30
Separating Buildings	60 (each side separately)	FD60S

Note: *Please be aware that specific electrical supplies may require additional fire resistance to any substation on site.

5.3 Sprinkler Protection

There is no requirement to provide a sprinkler system in accordance with BS EN 12845 due to the building being under 30m in height.

5.4 Provisions for Cavities

The unseen spread of fire and smoke will be controlled by the provision of cavity barriers. These will be rated to 30 minutes integrity and 15 minutes insulation and be provided such that the maximum dimension of any cavity will be limited in size to 20m in any direction. This is on the assumption that the linings achieve the fire performance listed in Table 9.1 of Approved Document B. This is reproduced below for reference.

Table 9.1 Maximum dimensions of cavities in buildings other than dwellings (purpose groups 2 to 7)

Location of cavity	Class of surface/product exposed in cavity (excluding the surface of any pipe, cable or conduit, or any insulation to any pipe)	Maximum dimension in any direction (m)
Between roof and a ceiling	Any	20
Any other cavity	Class C-s3, d2 or better	20
	Worse than Class C-s3, d2	10

Figure 3: Maximum dimensions of cavities

Cavity barriers will also be required to be provided in the following locations:

- Around openings;
- Top of cavity wall;
- Within external cavity walls along the lines of internal fire rated walls;
- Concealed spaces greater than 20m in length.

This is detailed in Diagram 9.1 of Approved Document as reproduced below.

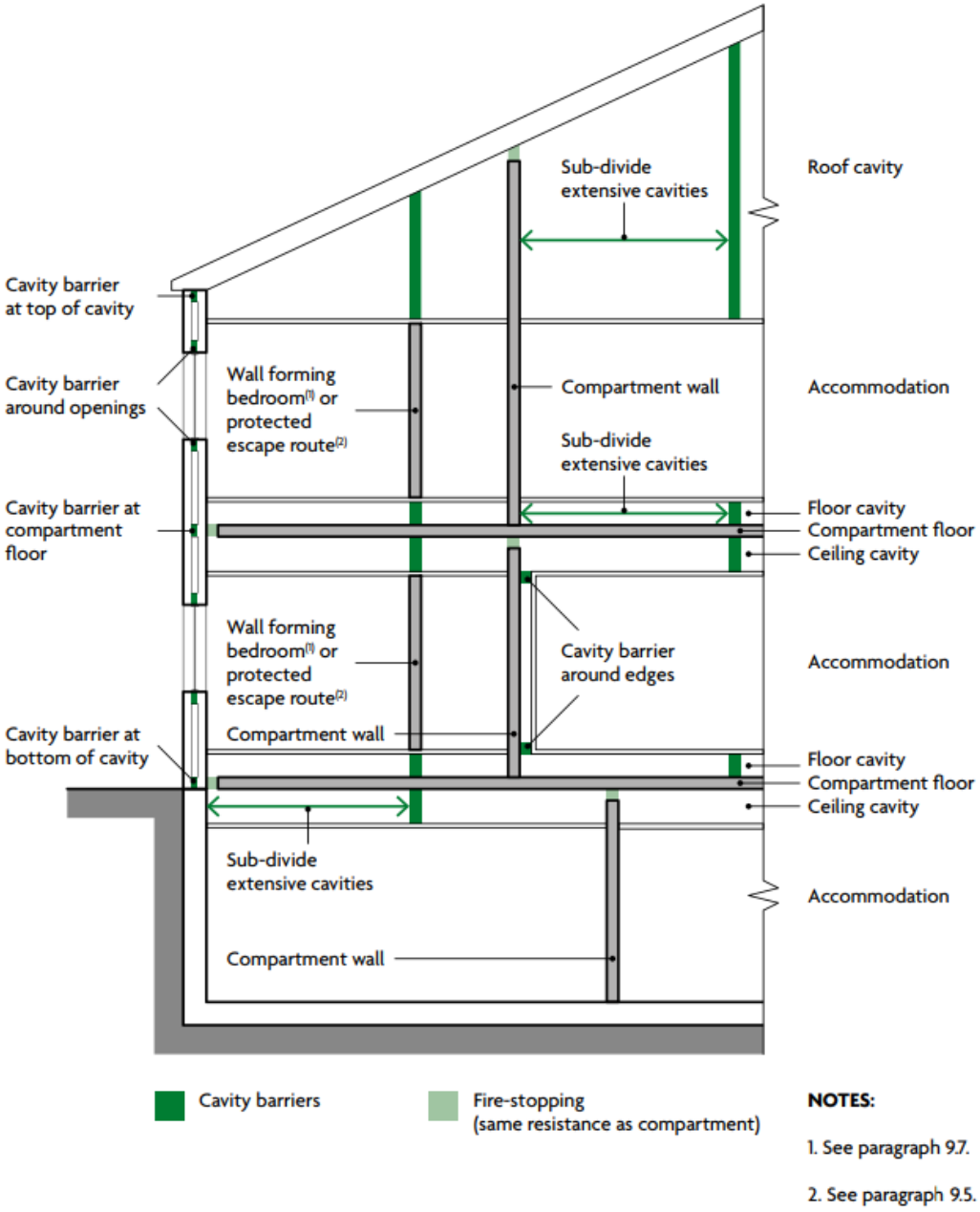


Figure 4: Provision of Cavity Barriers

6. B4 - External Fire Spread

Schedule 1 of the Building Regulations provides the following functional requirement in relation to B4, External Fire Spread:

> *(1) The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of building.*
>
> *(2) The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regard to the use and position of the building.*

6.1 Overview

New buildings are required to be assessed for external fire spread however the proposed works are to be undertaken on an existing building. Given the external walls of the units will not be altered or changed, then they are considered no less satisfactory.

6.2 Space Separation

It is not proposed to change the boundary distances nor introduce additional non-fire rated openings that increase the unprotected area. On this basis the existing condition is deemed no less satisfactory.

6.3 Surface Spread of Flame Requirements

It is not proposed to change the external façade surface and therefore the existing condition is deemed acceptable.

Where the client wishes to improve or change the external wall, the surface spread of flame is required to achieve no provisions given a boundary greater than 1000mm and a building height less than 18m. A separation distance less than 1000mm requires Class B-S3, d2 or better.

6.4 Combustibility of Insulation and other Components in the External Walls

It is not proposed to change the external façade build up and therefore the existing provision is deemed acceptable.

It is noted that the office buildings are not part of a “Relevant Building” group, defined as over 18m in height or contains;

- One or more dwellings,
- An institution,
- A room for residential purposes such as student accommodation, sheltered housing, hospitals and boarding schools excluding hotels, hostels and boarding houses.

Then Regulation 7(2) does not apply; therefore, no limitation on insulation products.

7. B5 - Access and Facilities for the Fire Service

Schedule 1 of the Building Regulations provides the following functional requirement in relation to B5, Access and Facilities for the Fire Service:

> *(1) The building shall be designed and constructed so as to provide reasonable facilities to assist fire fighters in the protection of life.*
>
> *(2) Reasonable provisions shall be made within the site of the building to enable fire appliances to gain access to the building.*

7.1 Access to the Building for Firefighting

Fire service will access the units via the same public roadways as prior to the refurbishment works. The following parameters are considered to be achieved and no less satisfactory than before give no changes to the landscaping are proposed.

Table 6: Pump appliance access route requirements

Appliance Type	*Min. width of road between kerbs (m)*	*Min. width of gateways(m)*	*Min. turning circle between kerbs(m)*	*Min. turning circle between walls (m)*	*Min. clearance height (m)*	*Min. carrying capacity (tons)*
Pump	3.7	3.1	16.8	19.2	3.7	12.5*
High Reach	3.7	3.1	26.0	29.0	4.0	17.0*

Note: * The minimum carrying capacity should be checked with the local fire brigade.

As the topmost storey is less than 18m in height then there is no requirement for a firefighting shaft.

The existing firefighting provisions will not be changed and therefore are considered no less satisfactory than before the refurbishment works. Given the building exceeds 11m in height to the top occupied floor level it is required to achieve 15% perimeter access. Turning facilities should be provided in any dead-end access route that is more than 20m long. This can be by a hammer-head or turning circle. From inspection of the plans this should not be applicable to the current building access point.

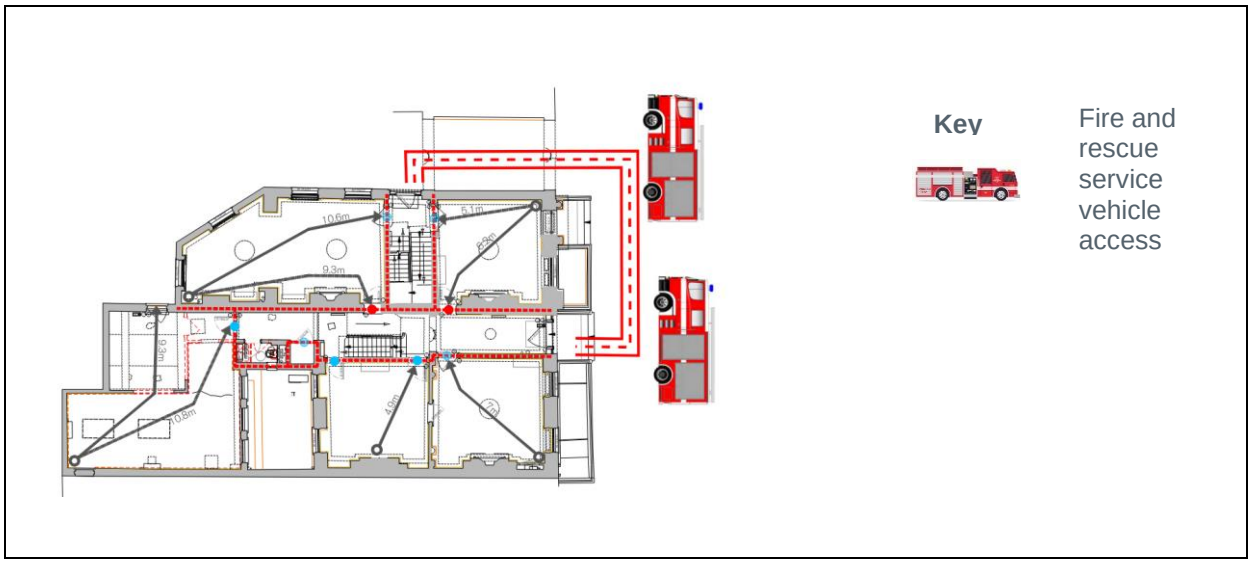


Figure 5: Fire Service Access

Any gates that the fire and rescue service vehicle must pass are required to be provided with a fire brigade lock only (no other padlocks or locking devices are permitted).

7.2 Provision of Fire Hydrants

On the basis that the existing building provisions are no less satisfactory with no changes it is deemed acceptable.

7.3 Ventilation

Above ground

An office building less than 18m in height requires no stair ventilation, however to support the single stair arrangement with the omission of lobby protection on all floor levels then the rooflight/access point to the roof will be converted into an automatic openable vent measuring 1m^2 free area to assist with smoke clearance from the stair. This is deemed a building enhancement to the existing condition.

Any doors within the staircase will be removed to allow smoke to raise and escape to atmosphere, given the stair is enclosed any door within the stair is not required under Part B building regulations.

Ancillary Areas

A protected lobby should be provided between an escape stair and a place of special fire hazard to protect from the ingress of smoke. The lobby should have a minimum 0.4m^2 of permanent ventilation, or be protected by a mechanical smoke control system.

No high risk areas are provided adjacent the stair, the tea points and toilets are deemed low risk and the lift motor room has been engineered having a 60 minute fire resistance with an upgraded fire door from 30 minutes to 60 minutes.

Basement Smoke Control

As the basement measures less than 200m^2 in floor area and having a depth less than 3m then there is no requirement to provide a smoke and heat ventilation system.

7.4 Emergency Power Supplies

In the event of a failure of the mains power supply a secondary backup power supply will be provided to feed all life safety systems that require electricity to function as intended. The secondary supply will be appropriate for the life safety system concerned. The following life safety systems will include a backup power supply:

- Emergency lighting.
- Automatic fire alarm and detection systems;
- Automatic Openable Vents (AOVs)
- All fire alarm interlinked fire/smoke dampers (where present);

It should be ensured that all power and control cabling required for life safety equipment within the building is specified and installed in accordance with BS8519.

8. References

i. Approved Document B – 2019 with 2020 amendments, Volume 2: Buildings other than dwelling houses.

ii. BS 5839-1:2017, Fire detection and fire alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance.

iii. BS 5266-1:2016, Emergency lighting. Code of practice for the emergency lighting of premises.

iv. BS EN 1838:2013, Lighting applications. Emergency lighting.

v. BS 5499-4:2013, Code of practice for escape route signing.

vi. BS ISO 3864-1:2011, Graphical symbols. Safety colours and safety signs. Design principles for safety signs and safety markings.

vii. BS 9990:2015, Non automatic fire-fighting systems in buildings. Code of practice.

viii. BS 476 series: 1987, Fire tests on building materials.

ix. BS EN 1366-3:2009, Fire resistance tests for service installations. Penetration seals.

x. BS 8519:2020, Selection and installation of fire-resistance power and control cable systems for life safety and fire-fighting applications. Code of practice.

xi. BR 187: 2014 External Fire Spread Building Separation and Boundary Distances.