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Fire Strategy

33A King Street, Whalley, Clitheroe,

BB7 9SP

Quality Assurance

Revision	Description	Date	Issued by	Reviewed by
FS1	Fire Strategy Report	02/07/2025	Lee Smart BEng (Hons) MCIOB	Daniel Davies L4DipFRA, DipFD, Tier 3 NAFRAR, AIFireE

This report has been produced from the plans specified in the reference drawing table. Should the design change from the drawings specified within this report, then a follow-up analysis must be undertaken prior to any changes taking place. The report should then be updated to reflect the changes in the design.

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Executive Summary

SPL Fire Safety has been commissioned to develop a fire safety strategy for 33A King Street, Whalley. The proposal involves extending the dental practice into the adjoining property at second floor level, whilst retaining the existing areas with minor alterations.

Essential fire protection features

The following section summarises the key elements of fire safety provisions that are to be provided within the project build. The table is broken down into features affecting active and passive measures, and construction.

The table is a summary of the key elements and therefore, should not be read in isolation. The full report should be read before implementation of the strategy.

	Fire Safety Requirements	Clarification
Construction	Evacuation strategy	Simultaneous evacuation
	Guidance Document	Approved Document B (ADB) V2
	Occupancy	Assembly and Recreational (5)
	Fire-fighting shaft serving the building	No requirement for firefighting shaft due to the height of the building.
	Fire Service access route	Access off King Street, Whalley
	Corridors	30 minutes FR
	Compartmentation	30 minutes around staircases
Active and Passive Measures	Fire detection and fire alarm for the building	BS5839 Part 1 L2 system throughout
	Water suppression	Not required
	Emergency Lighting	In accordance with BS5266: Part 1 2016 – Code of practice for the emergency lighting of premises.
	Escape Signage	In accordance with BS 5499: Part 4 2013 – Code of practice for escape route signage.
	Ventilation of stair	N/A
	Ventilation of lobby	N/A
	Compartmentation - Stairs	30-minutes FR
	Compartmentation - Walls	30-minutes FR
	Compartmentation - Floors	N/A
	Openings in compartment walls / floors	It should be suitably fire stopped in accordance with the compartmentation section, protection of openings and fire stopping.
	Cavity barriers	To be the same degree of FR as the wall or floor

Occupant's response in the event of an incident

On activation of the BS5839-1 L2 fire alarm system, all persons will evacuate the premises, assembly points will be created at a safe distance away from the premises.

Fire and Rescue Service response

Fire Service arrival in the event of an incident shall be on King Street, Whalley where the main entrance is situated. The Fire Service gain access from this point and parking of the appliance is within a short distance of the front doors. Engineer has been informed that there are adequate water supplies for firefighting are provided by existing hydrants situated on nearby streets within 90m of the premises.

Conclusion

With the application of the passive and active fire safety measures in line with Approved Document B Volume 2 (ADBV2) to be implemented within this project, it is concluded the design of 33A King Street, Whalley **does** satisfy the functional requirements of Part B of the Building Regulations 2010 should all the findings of this report be implemented.

Introduction

General

SPL Fire Safety have been appointed to provide a Fire Engineering Strategy for the client. Initial observations have been made to the Client, Architect and Approved Inspector for comment / discussion prior to the completed Fire Engineering Strategy being produced.

Whilst the design of this building will be compliant with current guidance, a fire engineering approach is permitted under Approved Document B, as stated under paragraph 0.18.

'Fire safety engineering might provide an alternative approach to fire safety. Fire Safety Engineering may be the only practical way to achieve a satisfactory standard of fire safety in some complex buildings and in buildings that contain different uses.

Fire safety engineering may also be suitable for solving a problem with an aspect of the building design which otherwise follows the provisions in this document'.

The Fire Strategy demonstrates a means of compliance with the requirements of Approved Document B (ADB) Volume 2.

Referenced Drawings

This report should be read in conjunction with the drawings produced by the client which are highlighted in Table 1.

Drawing Name	Reference Number	Issue	Date
Proposed ground and first floor	A 4.1	-	-
Proposed second and third floor	A 4.2	-	-

Table 1 - Reference Drawings

Legislation & General Principles

"The Approved Documents are intended to provide **guidance** for some of the more common building designs. However, there may well be alternative ways of achieving compliance with the requirements. Thus, there is no obligation to adopt any particular solution contained in an Approved Document if you prefer to meet the relevant requirement in some other way". The fire strategy will utilise Approved Document B V2 to ensure compliance with the Building Regulations.

Building Regulations

The building will be subjected to the requirements of the Building Regulations 2010. It will be necessary, therefore, for it to meet the requirements of Schedule 1 (or an equivalent standard) of the regulations relating to:

The functional requirements required for B1 – B5 are provided below.

Building Regulations	Functional Requirements
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
B2 Internal fire spread (linings)	To inhibit the spread of fire within the building the internal linings shall adequately resist the spread of flame over their surfaces; and have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances. In this section, "internal linings" means the material or products used in any partition, wall ceiling or other internal structure.
B3 Internal fire spread (structure)	The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period. Where reasonably necessary to inhibit the spread of fire within the building, measures shall be taken, to an extent appropriate to the size and intended use of the building, comprising either or both of the following: (a) sub-division of the building with fire resisting construction, (b) installation of suitable automatic fire detection systems. The building shall be designed and constructed so that unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.
B4 External fire spread	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 the building. The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regards to the use and position of the building.
B5 Access and facilities for the fire service	The building shall be designed and constructed so as to provide reasonable facilities to assist fire fighters in the protection of life. Reasonable provisions shall be made within the site of the building to enable fire appliances to gain access to the building.

Table 2 - The functional requirements required for B1 – B5

Construction, Design and Management Regulations (CDM Regs)

Projects undertaken within Great Britain and Northern Ireland are subject to the requirements of the Construction (Design and Management) Regulations 2015 (CDM Regs). The objective of the CDM Regs is to reduce risk as low as reasonably practicable concerning Health and Safety during construction and maintenance of construction sites and occupied buildings.

This report defines the strategy for meeting the functional and performance requirements for fire safety in the finished building. It is primarily intended to form part of the submission for Building Regulation

Part B approval. Where any conclusions or recommendations have been arrived at which specify particular materials, products or forms of construction these will have been assessed, in accordance with CDM Regulations 9 (duties for designers).

In addition, this fire safety strategy plays an important role in providing appropriate fire safety measures for people in and around the building in the event of fire. Where aspects of the strategy involve significant residual risks or health and safety critical assumptions when the building is in use, appropriate information will be made available to the CDM Coordinator (for example, this might include a tailored management regime, or controls on certain aspects of the building).

Report limitations

Within this report are illustrations and drawings that are suggestive only and are envisioned only to describe the notions and principles of the building fire strategy. Property protection and business continuity are not covered within this report; the fire strategy addresses the life safety elements of Building Regulations.

Building Description

The property (33A King Street) comprises of an existing four-storey dental practice, consisting of ground, first, second, and third floor. The proposal involves forming a new opening at second floor level into the adjacent premises (33 King Street) to extend the dental practice into these areas to be used as surgery room and a waiting room.

33A King Street will remain under the control of Macfarlanes Dental Practice. Following the proposed works, 33 King Street will operate as a multi-occupied building with a shared communal staircase. The ground and first floor remain under the control of another responsible person. The second and third floors will be under the control of Macfarlanes Dental Practice.

The building is of traditional brick construction with a pitched roof.

33A King Street:

- **Ground Floor**: Reception/waiting area, Surgery 1, and a storage room
- **First Floor**: Surgery 2 and a bathroom
- **Second Floor**: Surgery 3 and a storage room
- **Third Floor**: Combined office/staff room.

33 King Street:

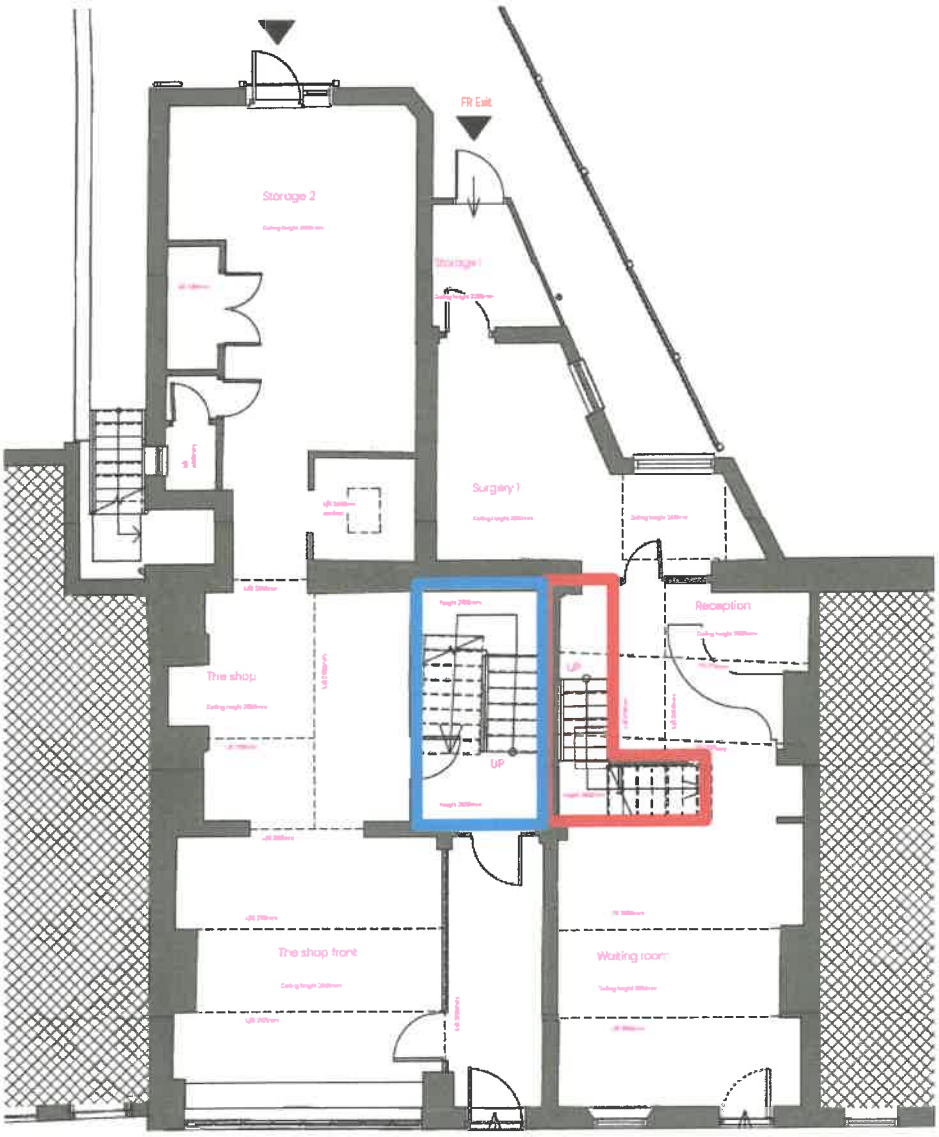
- **Ground Floor**: Retail unit (outside the scope of this strategy) and a shared final exit on to KInf Street.
- **First Floor**: Room 1 and kitchen (both outside the scope of this strategy)
- **Second Floor**: Surgery 4 and a waiting area.
- **Third Floor**: Combined office/staff room.

The premises are served by two dedicated fire exits at ground floor level, both of which discharge directly onto King Street. Access is also available to a flat roof leading to an external stair and a rear exit at ground floor level; however, both of these are not intended to function as designated escape routes due to restrictions imposed by ADB on members of the public using a flat roof to escape.

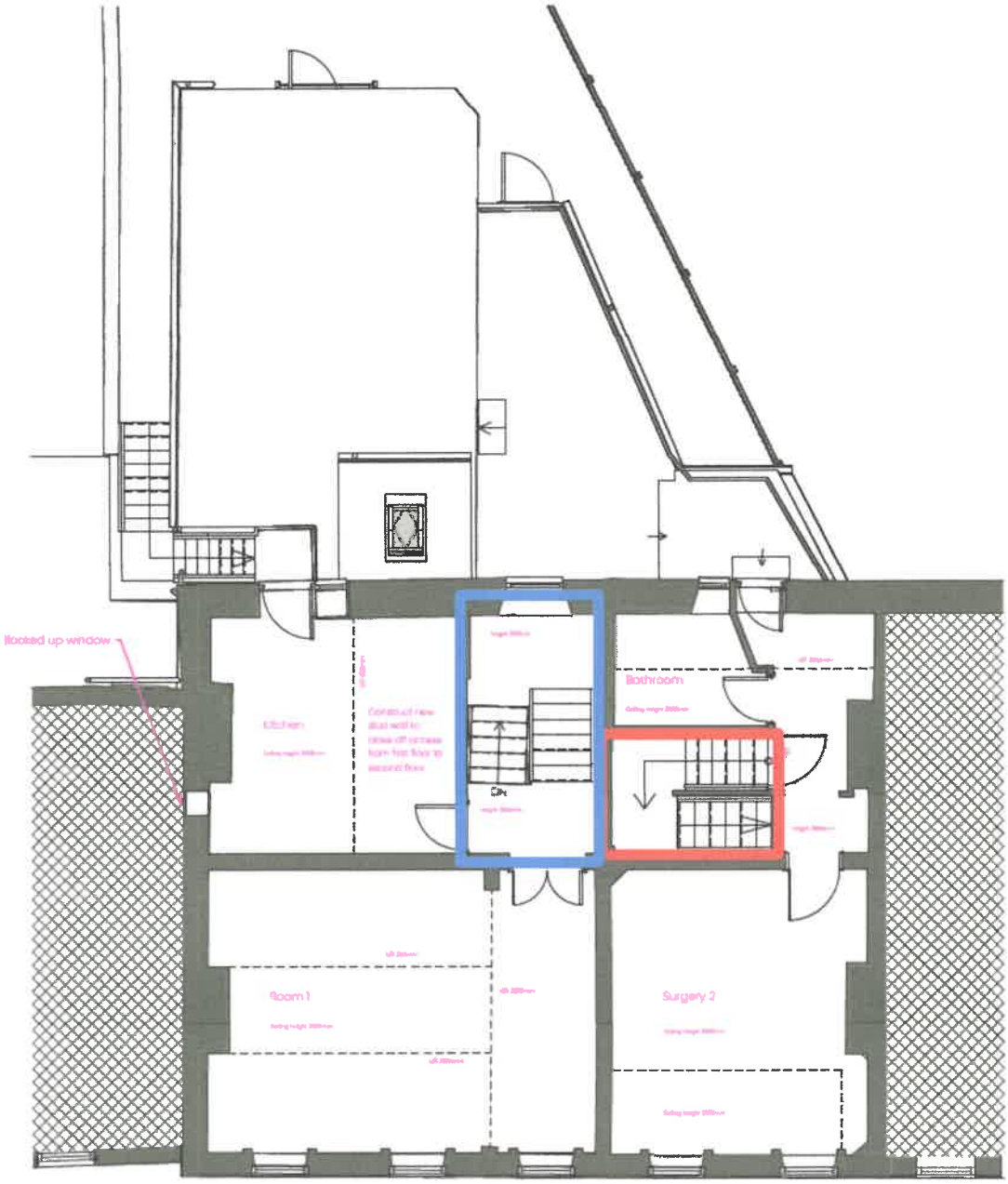
There are two internal staircases, one within each building. Both staircases are enclosed with 30-minute fire-rated construction and fitted with FD30S fire doors.

Note: For ease of reference, Staircase 1 (within 33A King Street) is highlighted in **red**, and Staircase 2 (within 33 King Street) is highlighted in **blue** on the accompanying floor plans.

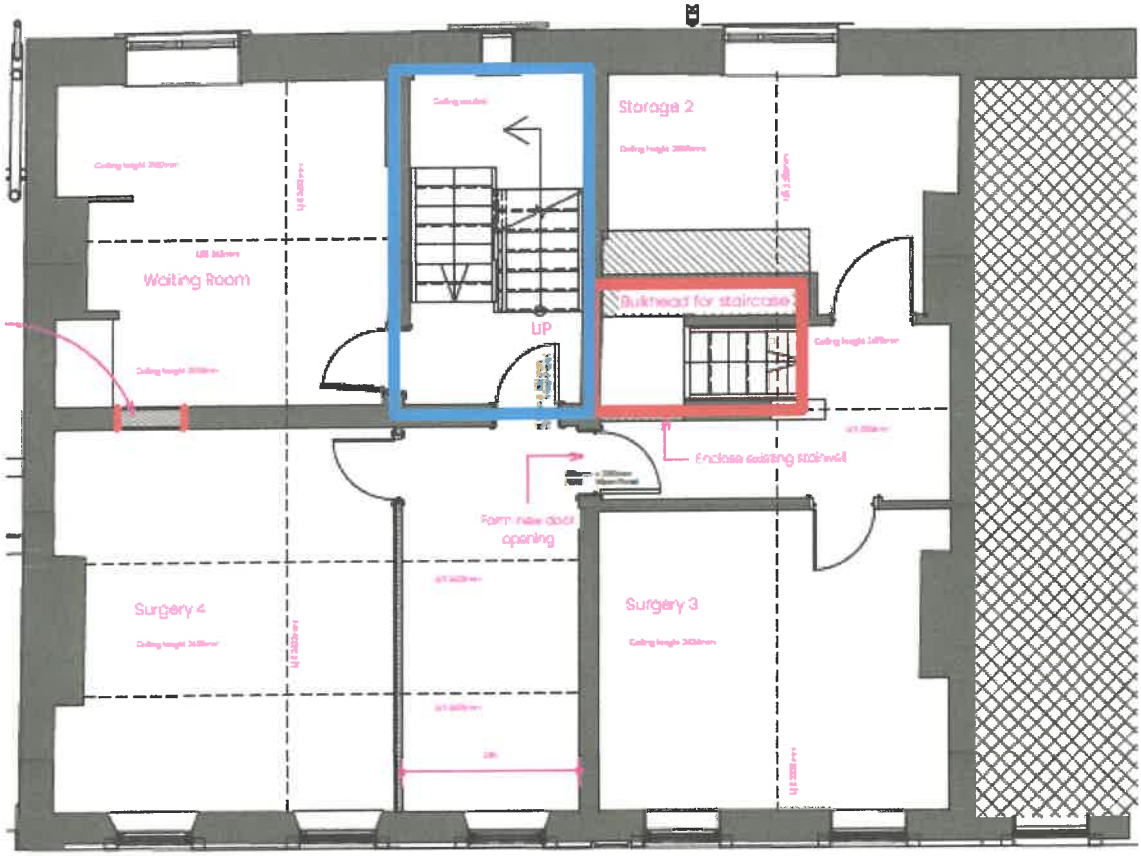
Ground floor



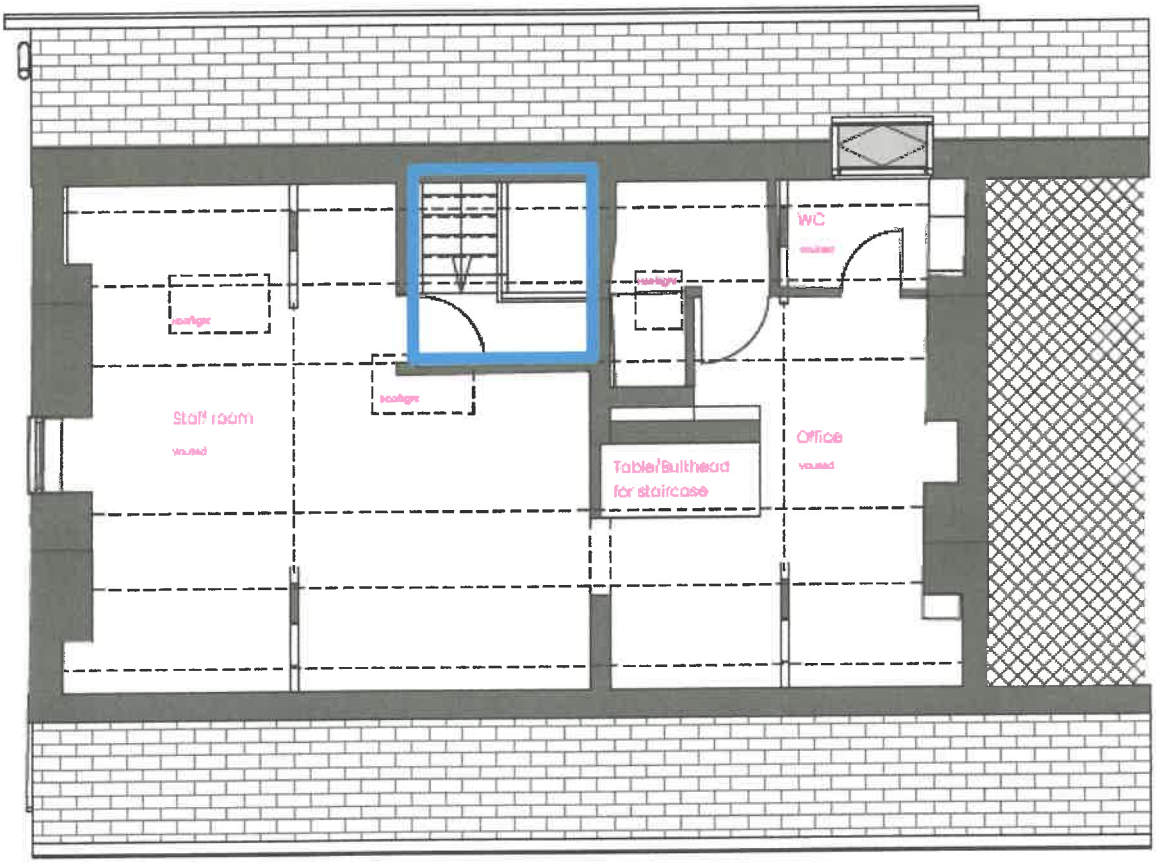
First floor



Second floor



Third floor



Purpose Groups

Title	Group	Purpose for which the building or compartment of a building is intended to be used
Assembly and recreation	5	Dental Surgery

Table 3 - Purpose groups

Means of Escape

Evacuation Principle

The general building evacuation philosophy is based on the concept of a simultaneous evacuation whereby all occupiers of the premises evacuate on activation of the BS 5839-part 1 system. All persons will then proceed to the designate assembly point.

In accordance with ADB, paragraph 3.34, in the following situations, protected lobbies or protected corridors should be provided at all storeys above ground, except the top storey.

a) **If the stair is the only one serving a building or part of a building that has more than one storey above or below the ground storey.**
b) If the stair serves any storey at a height of 18m or more above ground level.
c) If the building is designed for phased evacuation.
d) If the stair is a firefighting stair.
e) If the option in paragraph 3.15b has been used so as not to discount one stair when calculating stair widths.

As an alternative to (a) to (c), a smoke control system as described in paragraph 3.15a may be used.

It is generally expected that protected lobbies are provided in buildings with more than one storey above ground (ground plus two or more upper floors). In the case of 33A King Street, the building is an existing premises that historically exceeded this threshold but was not originally constructed with protected lobbies at the time of conversion. However, with the proposed changes involving the extension into the adjoining premises (33 King Street), the conditions have been made better than previous.

Rationale for acceptance

Previously, the single stair served the ground plus three upper storeys, thereby exceeding the threshold set out in paragraph 3.34 of Approved Document B, which advises lobby protection where a single staircase serves more than one storey above ground level.

Under the proposed changes, the stair now terminates at second floor level and no longer serves the third floor. Furthermore, two directional travel is now available at second floor via the adjoining premises. Consequently, the single stair arrangement is limited to ground and first floors, which is now compliant with paragraph 3.34. Lobby protection is therefore no longer necessary.

Note: Robust management procedures must be implemented to ensure all staff are trained to accompany members of the public to a place of ultimate safety. This is necessary as occupants within the first floor (existing areas) are required either to descend the existing internal staircase or, alternatively, ascend to the second floor and continue down via Staircase 2 to reach a safe discharge point.

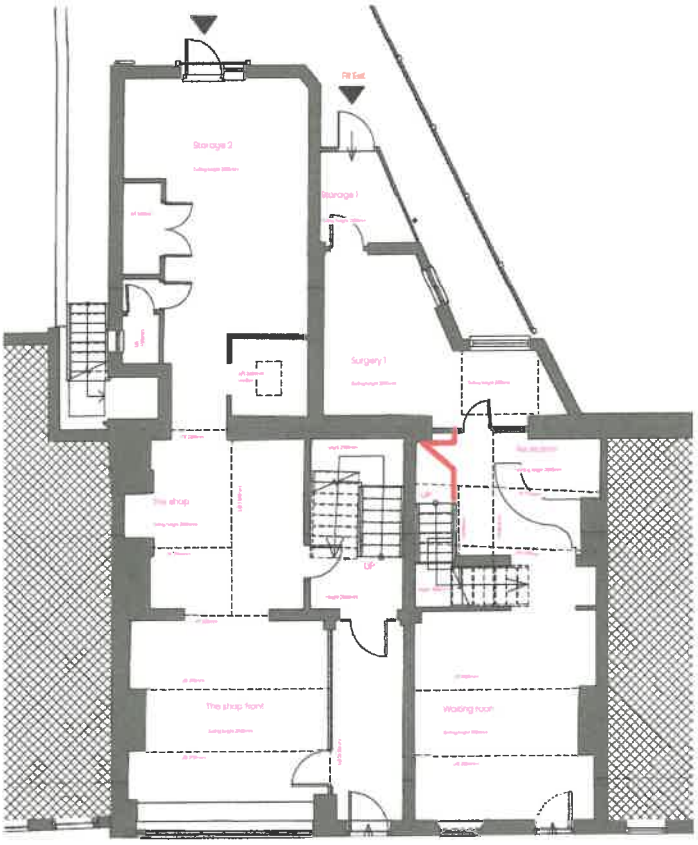
In accordance with ADB, paragraph 3.38, a protected stairway may only include any of the following.

a) Sanitary accommodation or washrooms, as long as the accommodation is not used as a cloakroom. A gas water heater or sanitary towel incinerator may be installed in the accommodation, but no other gas appliance.
b) If the protected stairway is not a firefighting stair: a lift well.
c) **If the protected stairway is not the only stair serving the building or part of the building: a reception desk or enquiry office area at ground or access level. The reception or enquiry office area should have a maximum area of 10m^2.**
d) If the protected stairway is not the only stair serving the building or part of the building: cupboards enclosed with fire resisting construction.

In accordance with the guidance above, a reception desk is only acceptable at the base of a stair where that stair does not serve as the sole means of escape for the building or **any part of it**. In the current layout, the reception desk is located directly at the foot of the only staircase serving the first floor.

To address this issue, it is proposed that a door be installed at the base of the stair to separate the reception area from the stair enclosure. This measure will ensure that, in the event of a fire within the reception area, occupants on the first floor can ascend to the second floor and evacuate via Staircase 2 to reach a place of ultimate safety. The proposed door will act as a smoke barrier, limiting smoke ingress into the staircase and compromising the escape routes for persons on the upper floors. With these proposed changes, a reception desk is permitted at ground floor level. See plans below.

Ground floor



Sprinkler System

There is no requirement for automatic water suppression system in this type of premises.

Fire Detection and Alarm

The premises is to be fitted with an enhanced BS5839-1 L2 fire detection system. **Fire detection and fire alarm systems for buildings –** Part 1: Code of practice for the design, installation, commissioning and maintenance of fire alarm and fire detection systems in non-domestic premises.

To reduce the risk of fire development in unoccupied areas and address the absence of protected lobbies and a pressure differential system, it is recommended that a Category L2 fire alarm specification be implemented. This includes manual call points at all final and storey exits, smoke detection within all escape routes and rooms that open onto the escape stair, and heat detection in the kitchenette. Furthermore, alarm audibility must achieve a minimum sound level of 65 decibels in every room.

False alarms cause disruption to the normal operation of business and create a drain on fire and rescue service resources. False alarms can even seriously prejudice the safety of occupants, who might not react correctly when the system responds to a real fire if they have recently experienced a number of false alarms.

Responsibility for limitation of false alarms rests with every party involved in the specification, design, installation, commissioning, management at operational level and maintenance of the fire detection and fire alarm system. The major part of this responsibility rests with the designer, but it is important that enforcing authorities and insurers have a good knowledge of the guidance contained in this section, so that requirements for forms of automatic fire detection, which, realistically, are unsuitable for the conditions in the building, are not imposed (BS5839-P1:2017).

Note – The design / layout of the BS5839 Part 1 L2 fire alarm and detection system shall be created by a competent M&E / fire alarm contractor.

Emergency Lighting

Emergency lighting will be provided throughout the building in accordance with BS 5266-1:2016. Emergency lighting – Part 1: Code of practice for the emergency lighting of premises.

Emergency lighting will be provided in escape routes, open areas, high-risk areas and strategic points of importance including:

- Near each exit door intended to be used in an emergency
- Near to stairs so that each flight of stairs receives direct light
- Near change in levels
- External escape routes
- Mandatory emergency exit and safety signs
- At each change of direction
- At each intersection of corridors
- Near to each final exit and outside the building to a place of safety
- near each piece of fire-fighting equipment and call points
- Disabled toilets
- All facilities exceeding $8m^2$

"Near" is normally considered to be within 2m measured horizontally.

Fire Fighting Equipment

Firefighting equipment should be installed on the escape routes. Installation of firefighting equipment should be carried out by a competent person in accordance with BS5306.

Emergency Escape Signage

All exits and exit routes will be clearly marked with appropriate escape signs so that the occupants can easily determine their most direct route to a place of safety in the event of an emergency.

Fire escape signs are to be provided to guide occupants from any point in a building, via a place of relative safety (the escape route) to the place of ultimate safety (outside the building). Exit and directional signage should be provided in accordance with the requirements if BS 5499: Part 4 and conform to BB EN ISO 7010.

Signage is provided to identify the available escape route / routes from each location within the building. To achieve this, the following principles have been adopted.

- Escape routes or doorways leading to a means of escape should be visible from any place within a room.
- If it is not possible to see the direct means of escape, then intermediate / additional signage to be considered.
- All changes of direction in corridors, stairways and open spaces forming part of the means of escape will be marked with intermediate signs.
- Signs are not to be fixed or sited where they could be obscured by open doors.

Escape route signs are to be sited conspicuously within the normal field of vision. The following principles, which will assist the evacuating occupants to predict the location of successive signs, should be applied:

- Signs above doors or open spaces should be mounted between 2m and 2.5m from floor level, measured to the base of the sign and be sited as close to the centre line of the escape route as practicable.
- Signs sited on walls should be mounted between 1.7m and 2m from floor level to the base of the sign.

Signs should be sited at the same height throughout the escape route, so far as is reasonably practicable.

Occupancy level

Occupancy Level	Maximum occupancy
Ground floor	24 persons
First floor	4 persons
Second floor	24 persons
Third floor	35 persons

Table 4 – Occupancy levels

Note: The occupancy figures referenced above have been calculated using the most suitable floor space factor as outlined in Table D1 of Approved Document B (ADB), based on floor area measurements supplied by the client.

The following floor space factors have been applied.

- Waiting room – 1m² per person
- Staff room – 1m² per person
- Office – 6m² per person
- Surgery- 3 persons per surgery

Horizontal Escape

ADB Limitations on travel distances			
Purpose Group	**Use of premises or part of premises**	**Travel in one direction**	**Travel in more than one direction**
Assembly and Recreation (5)	Dental surgery	18m	45m

Table 5 – Limitations on travel distances

Most areas on ground and third floor floor have single-directional travel and are located within 18m of either a final exit or a storey exit. Areas of the first and second floor have access to two directions of travel which are all within 45m. As such, the travel distances are deemed compliant.

Exit widths

The widths of escape routes and exits have been calculated using the guidance from Table 4 of ADB.

Widths of escape routes and exits	
Maximum number of persons	Minimum width in mm
60	750
110	850
220	1050
More than 220	5mm per person

Table 6 - Widths of escape routes and exits

The following extract is taken from Approved Document B, paragraph 2.21-2.23.

Calculating exit capacity – Discounting rule

Where multiple storey exits are available, fire may prevent one from being available. Remaining exits need to be wide enough for all occupants, so when using Table 2.3, the largest exit should be discounted. Stairs should be at least as wide as any storey exit leading onto them. To calculate how many people two or more available exits (after discounting) can accommodate, add together the maximum numbers of people that each exit width can accommodate.

In line with ADB, paragraph 5.11, doors forming part of an escape route should open in the direction of travel wherever reasonably practicable. They must do so in all cases where either of the specified conditions applies.

a. **More than 60 people might be expected to use it during a fire.**

b. There is a very high risk of fire with potential for rapid fire growth, such as with some industrial activities.

Therefore, where there are doors that open inwards, the occupancy for these areas will be limited to 60 persons.

Note: While both the first and third floors initially present a single direction of travel, all occupants have the ability to cross between the two premises at second floor level, thereby enabling two-directional travel from those floors.

Note: The proposed final exit at ground floor level in 33 King Street opens inwards and, as such, after discounting the largest exit (the final exit in 33A King Street) this final exit is limited to serving a maximum of 60 occupants. Therefore, the combined occupancy of the first, second, and third floors must be restricted to fewer than 60 persons, with the numbers distributed evenly across all three levels. See table below.

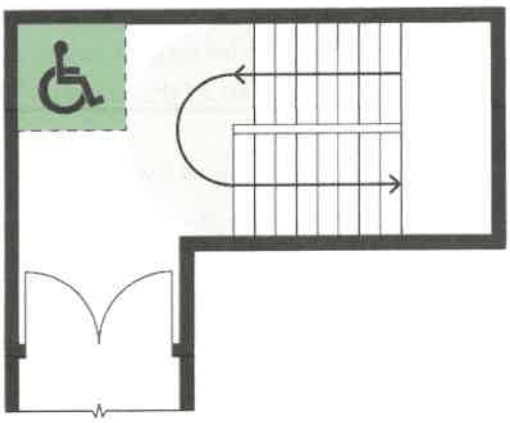
Area	Occupancy	Number of exits provided	Exit capacity
Ground floor (33A King Street)	24 persons	1 x 850mm (discounted) 1 x 850mm (inwards opening door)	60
Ground floor (33A King Street)	N/A	1 x 850mm (inwards opening door)	
First floor	4 persons	1 x 850mm (discounted) 1 x 850mm (inwards opening door)	60
Second floor	24 persons	1 x 850mm (discounted) 1 x 850mm (inwards opening door)	60
Third floor	35 persons	1 x 850mm (discounted) 1 x 850mm (inwards opening door)	60

Table 7 - Building Exit Capacity

The table above demonstrates that each floor provides adequate horizontal exit capacity. Nevertheless, the total exit capacity for the premises is constrained to 60 persons due to the final exit door in 33 King Street opening inwards. Additionally, limited stair widths impose further restrictions on overall occupancy. Refer to the section on vertical means of escape for the final permitted occupancy figures.

Means of escape for mobility impaired occupants.

In accordance with ADB, paragraph 3.4, refuges should be provided on every storey of each protected stairway providing an exit from that storey.



The following are minimum standards that are generally required as part of a refuge point:

- Provision of refuges in protected lobby, protected corridor or within a stair will be a minimum of 900mm x 1400mm in size. This area will be accessible to wheelchair users unaided.

- The refuges designed within this strategy will not impede the evacuation of people escaping.
- All refuges will be denoted with a blue mandatory sign worded 'Refuge – keep clear'
- To facilitate the effective evacuation of people from refuges an emergency voice communication (EVC) system should generally be provided. It is essential that the occupants of each refuge are able to alert other people that they are in need of assistance and for them to be reassured that this assistance will be forthcoming

- The EVC system will comply with BS 5839-9:2011 and consist of Type B outstations which is able to communicate with a master station. It is proposed to locate the station in the lobby on the opposite side of the link bridge. See plan below.

The fire engineer has concluded that the installation of refuge areas and associated provisions may not be necessary for the premises due to the absence of a passenger lift in the premises.
In the absence of such a lift, it is assumed that occupants on the upper floors will be able to evacuate independently via the staircase in the event of a fire. As a result, refuge points and an EVC (Emergency Voice Communication) system are deemed unnecessary. However, a robust management plan should be put in place.

Doors on escape routes

- The cross-corridor door can be hung in either direction.
- All doors on escape routes should be hung to open not less than 90 degrees (see figure 1).
- Any door that opens towards a corridor or a stairway should be sufficiently recessed to prevent its swing from encroaching on the effective width of the stairway or corridor.

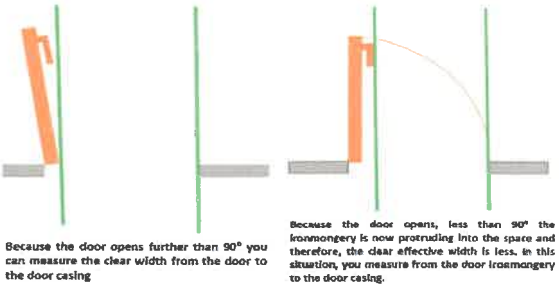


Figure 1 - effective door width

Vertical Escape

In the unlikely event of an incident, these premises follow a simultaneous evacuation strategy, which does not include an investigation period. Under this strategy, occupants evacuate immediately if a fire occurs within any part of the property and await the response of the local Fire and Rescue Service.

Staircase 1- According to Table 3.1 of ADB Volume 2, a staircase with a minimum width of 800mm can accommodate up to 50 persons on the upper floors. staircase 1 measures 800mm therefore, it is restricted to 50 persons. The occupancy on the floors above ground is expected to be less than 50 as such, this is considered to be suitable.

Staircase 2- In the case of a staircase exceeding 1000mm, Table 3.2 of ADB Volume 2 serving 3 floors above or below can accommodate up to 230 individuals on upper floors. Consequently, it is assumed that staircase 1 is adequate to support the expected occupancy of the upper and lower floors.

Table 3.2 Capacity of stairs for basements and for simultaneous evacuation of the building

No. of floors served	Maximum number of people served by a stair of width:								
	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm	1600mm	1700mm	1800mm
1	150	220	240	260	280	300	320	340	360
2	190	260	285	310	335	360	385	410	435
3	230	300	330	360	390	420	450	480	510
4	270	340	375	410	445	480	515	550	585
5	310	380	420	460	500	540	580	620	660
6	350	420	465	510	555	600	645	690	735
7	390	460	510	560	610	660	710	760	810
8	430	500	555	610	665	720	775	830	885
9	470	540	600	660	720	780	840	900	960
10	510	580	645	710	775	840	905	970	1035

Table 3.1 Minimum widths of escape stairs

Situation of stair	Maximum number of people served[1]	Minimum stair width (mm)
1a. In a 'residential (institutional)' building (unless the stair will only be used by staff)	150	1000[2]
1b. In an 'assembly and recreation' building and serving an area used for assembly purposes (unless the area is less than 100m²)	220	1100
1c. In any other building and serving an area with an occupancy of more than 50	Over 220	See note 3
2. Any stair not described above	50	800[4]

After discounting the largest staircase, the remaining escape route via Staircase 1 can accommodate a maximum of 50 persons, as indicated in Table 3.1. Consequently, the overall occupancy for the dental practice encompassing both existing and proposed areas, is limited to 50 persons.

Internal Fire Spread (linings)

The choice of materials for walls and ceilings can significantly affect the spread of a fire and its rate of growth, even though they are not likely to be the materials first ignited it is particularly important in circulation spaces where the rapid spread of fire is most likely to prevent occupants escaping.

All surface finishes and internal linings are to be designed in accordance with ADB. A summary of the main features and classification requirements are provided in Table 9 when tested under the national classifications in accordance with European classifications in accordance with BS EN 13501-1:2002.

Location	National Class	European Class
	Walls	
Circulation Spaces	Class 0	B-s3, d2
Other rooms (within dwellings)	Class 1	C-s3, d2
Small rooms (max $4m^2$)	Class 3	D-s3, d2

Table 8 Classes of internal linings

Internal Fire Spread (structure)

All internal structures will be designed, constructed, repaired or replaced with materials that conform to British Standards and or European Standards. The structural performances will be in accordance with ADB's Appendix B: Performance of materials, products and structures Table B1 & 2 ADB 2019.

Compartmentation

The spread of fire within a building can be limited with the introduction of passive fire protection, which is sub-dividing the building into compartments separated by walls and or floors with a degree of fire resisting construction. Consequently, these can restrict the spread of fire that could trap occupants, therefore, reducing the risk of fires becoming large.

Passive compartmentation will be provided in accordance with Appendix B: Performance of materials, products and structures Table B1 & 2 ADB 2019 (amended 2025).

In accordance with ADB Volume 2, paragraph 8.11 the following buildings require compartment floors.

a) Every wall needed to divide the building to observe the compartment size limits in Table 8.1.
b) Every floor, *if* the building or separated part of the building (see paragraph 8.19) has a top storey that is more than 30m above ground level.
c) The floor of the ground storey, *if* the building has one or more basements (Diagram 8.1c), except in small premises.
d) The floor of every basement storey (except the lowest floor), *if* the building or separated part has a basement more than 10m below ground level.
e) If the building comprises 'shop and commercial', 'industrial' or 'storage' premises (purpose groups 4, 6, 7): every wall or floor dividing a building into separate occupancies (spaces used by different organisations, whether they fall within the same purpose group or not).
f) See also the provision in paragraph 5.46 for store rooms in shops to be separated from retail areas by fire resisting construction (minimum REI 30).

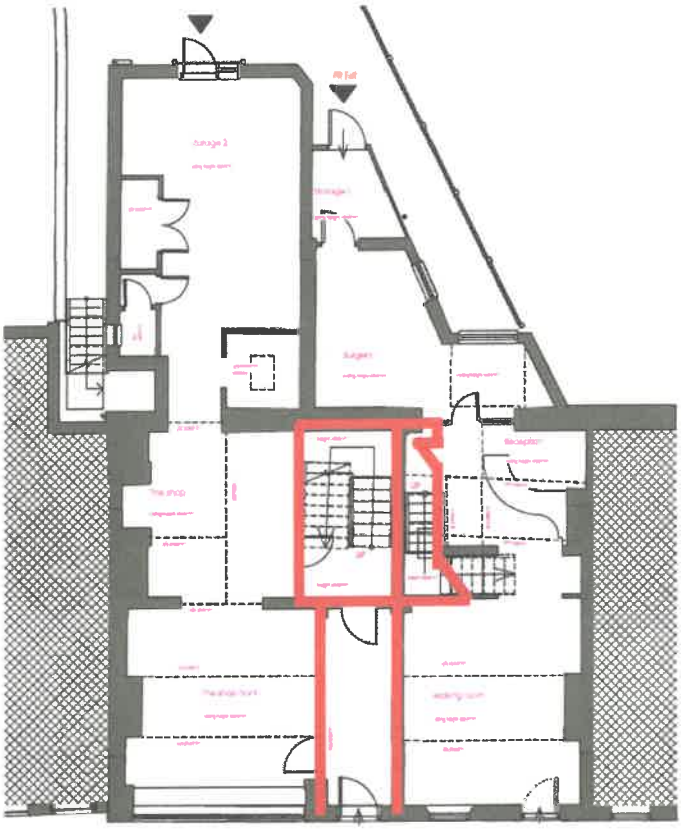
As the premises does not fall within the criteria of paragraph 8.11 above, there is no requirement to provide a compartment floors.

A summary of the compartmentation can be found below:

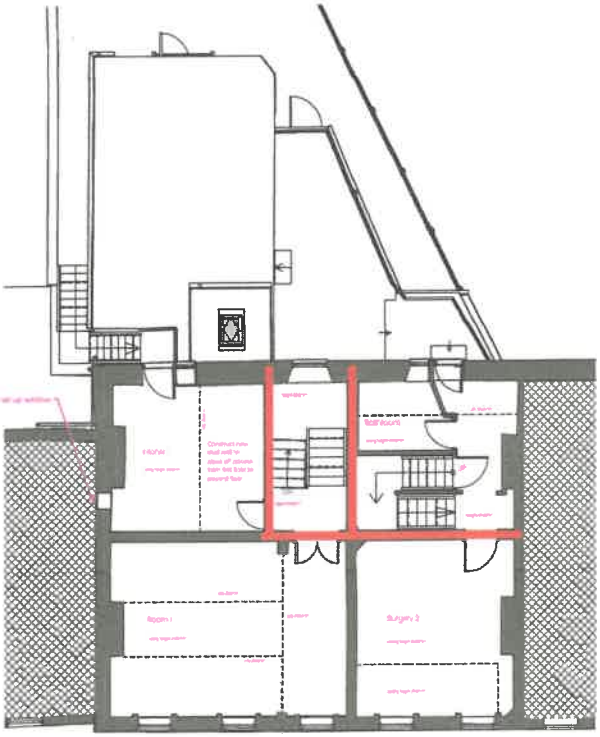
- 30 minutes fire resistance around the store rooms.
- 30 minutes fire resistance around the staircases.

See plans overleaf for lines of compartmentation.

Ground floor

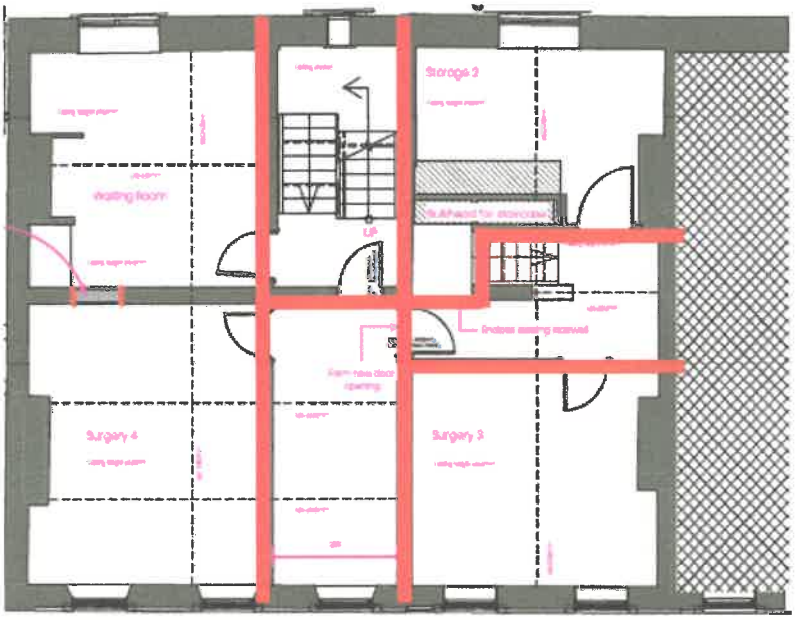


First floor

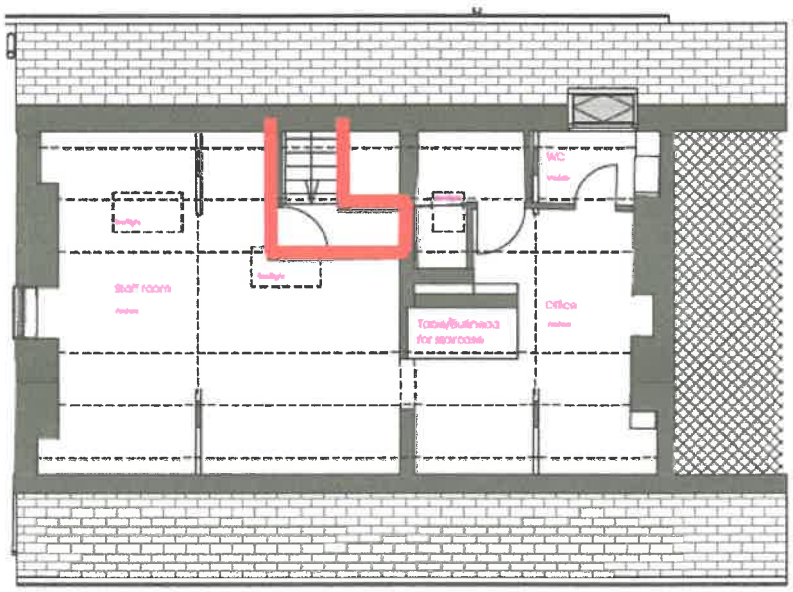


30-Minute Fire Resistant Wall – See wall makeup section

Second floor



Third floor



30-Minute Fire Resistant Wall – See wall makeup section

Fire Door Summary

All fire doors indicated with suffix (s) should be fitted with intumescent strips and cold smoke seals. The following sizes of strips and seals should be fitted to the frame or fire door.

Fire door rating	Intumescent strip and Cold Smoke seal sizes
FD30s	15mm x 4mm
FD60s	20mm x 4mm or two 10mm x 4mm strips

Table 9 - Intumescent strip and Cold Smoke seal sizes

The areas identified in the table below should be fitted with the following hardware.

Note - s indicates intumescent strips and cold smoke seals

Doors	Fire Rating of the doors	Self-closing devices required
All doors opening onto the staircases	FD30s	Yes
Staircase doors	FD30s	Yes
Risers/store rooms etc	FD30s	To be kept locked shut

Table 10 - Fire door summary

Protection of Openings and Fire Stopping

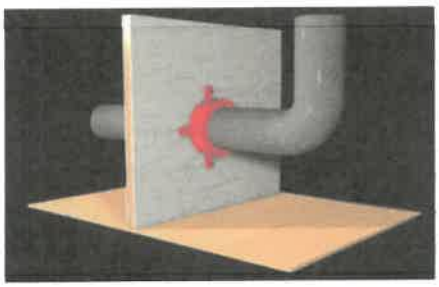
If a fire-separating element is to be effective, every joint or imperfection of fit, or opening to allow services to pass through the element, should be adequately protected by fire collars, fire resistant sealant or intumescent fire stopping so that the fire resistance of the element is not impaired. During the construction phase, the utilisation of intumescent pillows is recommended to fire stop services, which breach compartment walls and floors.

All pipe work that penetrates a compartment wall or floor will be fire-stopped in line with sections 10.5 – 10.8 ADB and the following table 11 below. As the project progresses the project manager and the Regulatory bodies who will ultimately sign off each floor should regularly monitor stopping.

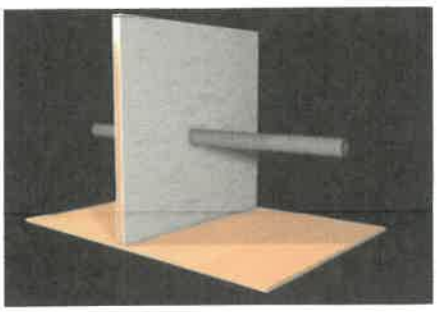
Extract from Approved Document B.

10.5 Pipes that pass through a fire-separating element (unless the pipe is in a protected shaft), should meet the appropriate provisions in alternatives A, B or C below.

Alternative A: Proprietary seals (any pipe diameter)
10.6 Provide a proprietary sealing system, which has been shown by test to maintain the fire resistance of the wall, floor or cavity barrier.



Alternative B: Pipes with a restricted diameter
10.7 Where a proprietary sealing system is not used, fire-stopping may be used around the pipe, keeping the opening as small as possible. The nominal internal diameter of the pipe should not be more than the relevant dimension given in Table 11.



Alternative C: Sleeving

10.8 A pipe of lead, aluminium, aluminium alloy, fibre-cement or uPVC, with a maximum nominal internal diameter of 160mm, may be used with a sleeving of non-combustible pipe as shown below.

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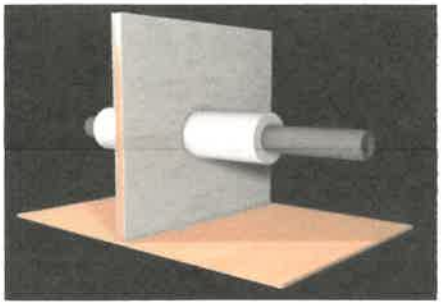

Maximum nominal internal diameter of pipes passing through a compartment wall / floor			
Situation	Pipe materials and maximum nominal internal diameter (mm)		
	(a) Non-combustible materials	(b) Lead, aluminium, aluminium alloy, uPVC[2], fibre cement	(c) Any other material
1. Structure (but not a wall separating buildings) enclosing a protected shaft which is not a stairway or a lift shaft	160	110	40
2. Compartment wall or compartment floor between flats	160	160 (Stack Pipe) 110 (Branch Pipe)	40
3. Any other situation	160	40	40

Note:

1. Any non-combustible material (such as cast iron, copper or steel) which, if exposed to a temperature of 800°C, will not soften or fracture to the extent that flame or hot gas will pass through the wall of the pipe.
2. uPVC pipes complying with BS 4514:2001 and uPVC pipes complying with BS 5255:1989.
3. These diameters are only in relation to pipes forming part of an above-ground drainage system and enclosed as shown in Diagram 38. In other cases, the maximum diameters against situation 3 apply.

Table 11 - Maximum nominal internal diameter of pipe passing through a compartment wall / floor

Cavity Barriers

Due to the age and construction of the premises, it is considered that the building will not require cavity barriers. The information below is included for reference only.

The provision of cavity barriers in concealed spaces such as walls, floors and ceiling cavities will be in accordance with Section 9 of ADB. Cavity barriers shall offer a minimum of 30 minutes fire resistance in terms of integrity and 15 minutes fire resistance in terms of insulation. However, should the wall, floor or ceiling be of a greater fire resistance than that of 30 minutes the fire stopping should be of the same fire resistance as the wall, floor or ceiling. The sub-division of the roof space should be in line with ADB and therefore, should any roof space span be greater than 20m then the roof space should be sub-divided.

It is important to continue any compartment wall up through a ceiling or roof cavity to maintain the standard of fire resistance, therefore compartment walls should be carried up full storey height to a compartment floor or to the roof as appropriate.

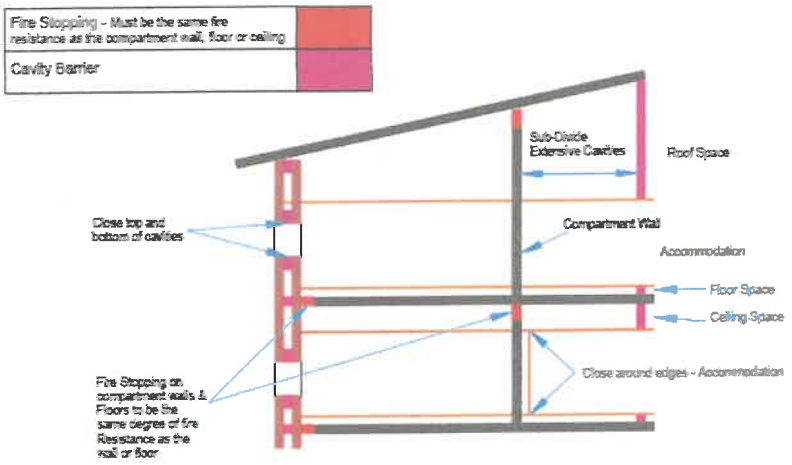

Figure 2 - Typical examples of where cavity barriers and fire stopping are required

Structural Requirements

Premature failure of the structure can be prevented by provisions for load bearing elements of structure to have a minimum standard of fire resistance, in terms of resistance to collapse or failure of load bearing capacity.

The purpose of providing the structure with fire resistance is:

- To minimize the risk to occupants.
- To reduce the risk to fire fighters who may be engaged on search and rescue operations.
- To reduce the danger to people in the vicinity of the building.

Exposed steel columns and beams supporting the first floor and those to the rear and office side of the premises are to be protected by intumescent covering or boarding affording 60 minutes fire protection. Certification / details of the intumescent covering to be provided by the contractor.

External Fire Spread – Space separation

External wall surfaces will achieve a Class 0 surface spread of flame classification and are not being remediated as part of the project.

Access and Facilities – Fire Service

The main entrance and Fire Service entrance is off King Street, Whalley. Fire-fighting hydrants are positioned within 90m of the building.

Ventilation

There is no requirement for ventilation in a building of this type.

Fire Safety Management

Fire Safety Management Assumptions

The strategy contained herein has been written on the assumption that the building concerned will be properly managed. This section of the report defines the minimum standard of management that has been assumed as well as any specific management requirements or procedures that are required to validate the strategy defined in subsequent sections. Failure to comply with these requirements will invalidate this fire strategy.

Management Standards

The building should be properly managed, and a Fire Safety Management Plan and Manual should be developed. Once the building is in use, the management regime should be maintained and any variation in that regime should be the subject of a suitable Fire Risk Assessment.

Regulatory Reform (Fire Safety) Order 2005

The Regulatory Reform (Fire Safety) Order came into force on the 1st October 2006. The order consolidates nearly all previous fire safety legislation revoking the Fire Precautions Act and the Workplace Regulations. The Order places a general duty of fire safety care on employees, occupiers and / or owners of businesses to provide and maintain adequate fire precautions throughout their premises.

The responsible person has a duty to carry out a fire risk assessment which must focus on the safety in case of fire of all 'relevant persons'. The risk assessment should pay particular attention to the following areas:

- Identifying Fire hazards – sources of ignition, fuel, oxygen
- Identifying people at risk
- Reducing the risk
- Recording the findings
- Reviewing the outcomes

Regulation 38

Regulation 38 requires that, where building work involves the erection or extension of a relevant building, or relevant changes of use of a building, fire safety information shall be given to the responsible person at the completion of the project or when the building or extension is first occupied. The information will facilitate the production of the fire risk assessment. This strategy should be maintained throughout the building works and all stakeholders are required to inform the Fire Engineers of any changes to the building design to ensure that the finished strategy accurately reflects the complete design.