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Fire Strategy - 12 Park Road, Hampton Wick,
KT1 4AS.



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Introduction

CWB have been appointed by Hamways to produce a fire strategy document for 12 Park Road, Hampton Wick, KT1 4AS.

This report has been carried out to set out the general requirements of Part B of the Building Regulations and to identify any potential areas of non-compliance that will need to be resolved in order to gain approval in the required statutory consultation with the enforcing authorities.

The client will need to demonstrate how the proposed scheme will comply with the functional requirements of Part B of Schedule 1 of the Building Regulations.

This fire strategy document has been prepared by following the guidance in Approved Document B V1 - 2019 incorporating 2020 & 2022 amendments (ADB) & BS 9991:2015 (BS 9991).

If followed these documents will satisfy the functional requirements of the Building Regulations.

Any departures or deviations from the relevant fire safety guidance will require discussion with the design team and the Statutory Authorities.

It is assumed that the buildings will be designed to comply with the relevant sections of ADB & BS 9991 or the relevant supporting British Standards referenced therein.

Building Description

12 Park Road is an existing two-storey corner plot building on the junction of Park Road and school Road.

It is proposed to add an additional storey and change the use to residential apartments. There will be five apartments located over the ground, first and second floors. The upper floors will be accessed via a single stairway.



The building height is approximately 9m and the height to the top storey is greater than 4.5m.

Building Plans

This report has been produced with reference to GA plans produced by Illustrate Architects January 2023 and issued to CWB in June 2023 (0092_SK_011_01, 0092_SK_012_00, 0092_SK_013_00).

Materials & Workmanship

Regulation 7 of the Building Regulations requires that all building work should be carried out in a workmanlike manner, with adequate and proper materials that are appropriate for the circumstances in which they are used, are adequately mixed and prepared, and are applied, used or fixed so as to perform the functions for which they are designed.

Further guidance is provided in the Approved Document supporting Regulation 7.

Independent certification schemes exist to provide additional confidence that products are manufactured and installed to an appropriate and consistent standard.

Such schemes can assist in ensuring that the Material and Workmanship requirements of Regulation 7 are satisfied. It is therefore suggested that, where appropriate, manufacturers and installers that are subject to independent certification schemes are specified on this scheme.

Active Fire Safety Measures.

Sprinklers

To comply with the 2020 amendments to the Building Regulations Sprinklers are not required in the building as the height to the top storey does not exceed 11m.

B1 - Means of Warning & Escape

Means of Warning

A Grade D2 Category LD2 fire warning system complying with the recommendations of BS 5839-6:2019+A1:2020, will be provided in each apartment. The systems will not be inter-linked with other apartments. In each apartment a heat detector will be provided in the kitchen and smoke detection will be provided in the protected hallways.

No fire warning system is required in the common areas. Manual call points will not be provided.

Automatic smoke detection will be provided as necessary to actuate the automatic opening vent. The system will be a Type L5 complying with the recommendations of BS 5839 Part 1- 2017. The smoke detection system in the common parts will not be provided with sounders and is only required to operate the vent not to raise an alarm. An override for fire service operation will be provided at the entrances on the ground floor.

Means of Escape

Internal Planning of Apartments

The apartments comprise one and two bedrooms. Travel distance to the entrance doors exceeds 9m from some locations.

All apartments have protected entrance halls except unit 2 on the ground floor. In these apartments all habitable rooms are entered directly from the protected entrance hall. Travel distance within the hallway does not exceed 9m.

The hall will provide 30 minutes fire resistance in terms of insulation and integrity [including any glazing in doors]. The doors to the rooms of the hallway are only required to provide 20 minutes fire resistance but FD30S doors will be used.

There are two options for the provision of the protected hallways within the apartments. The bathrooms may be included within the hallway providing a fire resisting wall separates the bathrooms from the lounge/kitchen/diner.

Where the partitions between the bathroom and the adjacent rooms are constructed with 30 minutes fire resisting construction, then the partition between the bathroom and the hall need not be fire resisting, and the bathroom door need not be a fire door. Effectively this means that the bathroom may form part of the entrance hall enclosure (with the line of fire resisting construction taken around the back of the bathroom).

In unit 2 the bedroom is an inner rooms and therefore emergency egress windows will be provided.

The apartments are provided with terraces. Sounders and/or flashing beacons should be provided on the terraces to provide fire warning for anyone on the terraces.

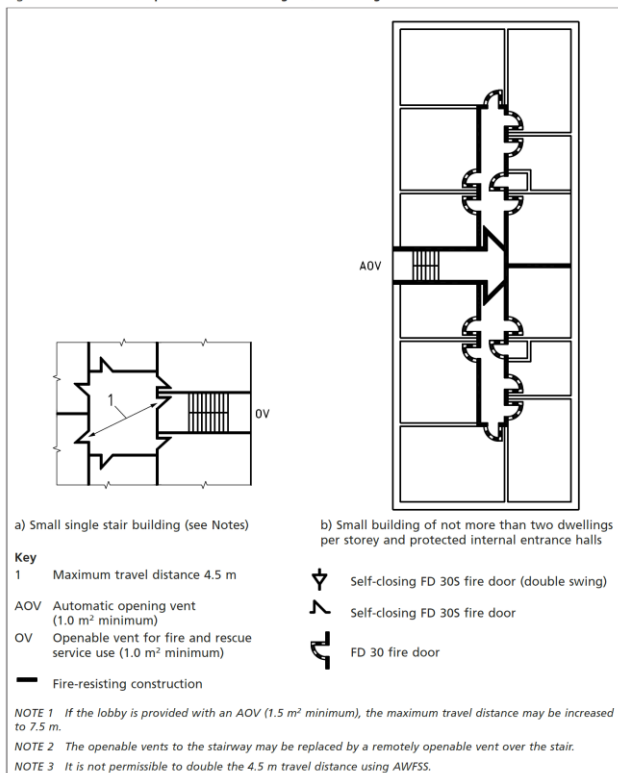
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Means of escape in the common parts

All apartments on the first and second floor are served by one protected stair.

Travel distances to the stair are within 4.5m and the buildings may be considered as small single stair buildings complying with the recommendations of BS 9991 figure 8.

Figure 8 Common escape routes in small single stair buildings



All units discharge directly into the stairway. This complies with BS 9991 and ADB as there are no more than two units one each storey and each unit has a protected entrance hall.

Stair Ventilation

The top of the protected stairway will be provided with an automatic opening vent.

The vent will have a free area 1.0m². The vents will be actuated by the L5 detection system in the common areas.

Exit from Protected Stairway.

The protected stairway leads directly to a final exit at ground floor. The exit route at ground floor will have the same standard of fire resistance and lobby protection as the stair.

Means of Escape for Disabled Persons

Means of escape for disabled persons is available from the ground floor apartments. Additional measures are not provided or considered to be necessary for the occupants of the other apartments.

A fire risk assessment will be carried out when the building is occupied and if necessary personal evacuation plans will be introduced by the building management company as required.

General Provisions

Emergency egress windows are required from the bedroom in unit 2 on the ground floor as this is an inner rooms.

The common areas will be provided with emergency escape lighting. The escape stair lighting will be on a separate circuit from the electricity supply to any other part of the escape route. Escape lighting will conform to recommendations of BS 5266-1.

Signs are not required on doors to and within apartments.

Fire action notices detailing the defend in place strategy should be displayed on each storey.

Signs indicating the floor level and apartment locations will be provided on each storey to assist the fire service.

Fire safety signs will conform to recommendations of BS 5499-5.

B2 Internal Fire Spread – Linings

Wall and ceiling linings in the stairways will achieve European Class B-s3, d2.

Wall and ceiling linings in all rooms and circulations spaces within the apartments will achieve European Class C-s3, d2 except small rooms with an area of less than 4m² which need only achieve European Class D-s3, d2.

B3 Internal Fire Spread – Structure

Elements of structure will provide a minimum RE60 minutes fire resistance.

Protected shafts including stairs and risers will provide REI 60 minutes fire resistance.

Compartment walls and floors separating the individual apartments from each other and from the common parts will provide REI 60 minutes fire resistance. The floors will be constructed as compartment floors providing REI 60 minutes fire resistance.

The stairways will be constructed of non-combustible material.

Note that the compartment walls are required to provide fire resistance in terms of loadbearing capacity, integrity and insulation from both sides.

The compartment floors are required to provide fire resistance in terms of loadbearing capacity, integrity and insulation from underneath.

Fire Doors

Fire door-sets rated at FD30 will enclose all habitable rooms within the apartments. Smoke seals must not be fitted due to the LD1 fire warning system. Self-closing devices will not be fitted.

The apartment entrance door-sets will be rated at FD30S and fitted with self-closing devices.

B4 External Fire Spread

External wall construction

The building does not have a storey that exceeds 18m in height and is not therefore a relevant building as defined in the amended Building Regulations 2020.

The new building work will be carried out so that materials which become part of the external walls, or specified attachments, are of European Classification A2-s1, d0 or A1, classified in accordance with BS EN 13501-1:2007+A1:2009 entitled "Fire classification of construction

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products and building elements. Classification using test data from reaction to fire tests” (ISBN 978 0 580 59861 6) published by the British Standards Institution on 30th March 2007 and amended in November 2009.

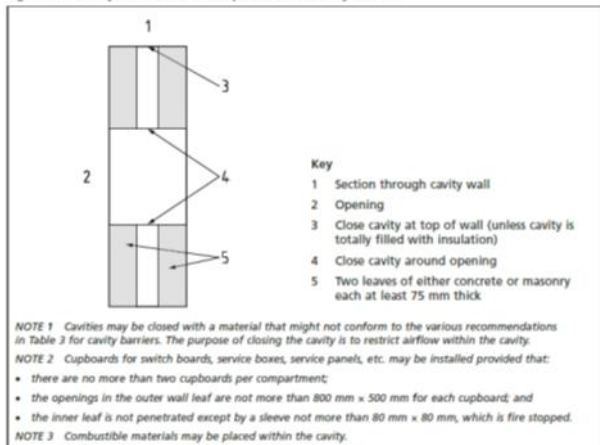
There is no requirement to restrict the surfaces of external walls as the buildings are less than 18m high and no walls are within 1m of a relevant boundary. The external wall linings are clad with brickwork and will not promote rapid fire spread.

The external walls will satisfy the performance criteria described in BRE report BR135 and the external wall surface will be in accordance with Table 10.1 Approved Document B [Figure 17 of BS9991: 2015].

Cavity barriers in the new external wall cavity will be provided in accordance with Section 8 of the ADB [Clause 19 of BS9991: 2015].

Cavity barriers and closers will be provided if required. Note that cavity barriers are not required where the external wall complies with BS 9991 figure 25.

Figure 25 Cavity wall excluded from provisions for cavity barriers

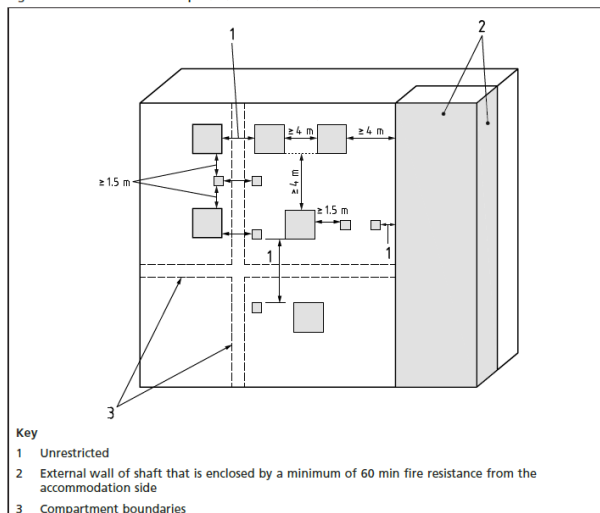


Boundary Distances

Unprotected Areas

Unprotected areas of the wall may be discounted where they comply with the recommendations of BS 9991 figure 21.

Figure 21 Exclusions from unprotected area calculations



Boundary distances have been assessed using BR-187. Due to the provision of compartmentation there is no requirement to reduce the extent of the proposed unprotected areas of the external walls.

Roof Coverings

There are buildings within 6m of the boundary and therefore the roof covering should be rated at BROOF(t4) in accordance with Table 12.1 ADB.

Table 12.1 Limitations on roof coverings

Designation ⁹⁾ of covering of roof or part of roof	Distance from any point on relevant boundary			
	Less than 6m	At least 6m	At least 12m	At least 20m
B _{roof} (t4)	●	●	●	●
C _{roof} (t4)	○	●	●	●
D _{roof} (t4)	○	● ⁽²⁾	● ⁽²⁾	●
E _{roof} (t4)	○	● ⁽²⁾⁽³⁾	● ⁽²⁾	● ⁽²⁾
F _{roof} (t4)	○	○	○	● ⁽²⁾⁽³⁾

● Acceptable.
○ Not acceptable.

NOTES:
Separation distances do not apply to the boundary between roofs of a pair of semi-detached dwellings and to enclosed/covered walkways. However, see Diagram 5.2 if the roof passes over the top of a compartment wall.
Polycarbonate and uPVC rooflights that achieve a class C-s3, d2 rating by test may be regarded as having a B_{roof}(t4) designation.
1. The designation of external roof surfaces is explained in Appendix B.
2. Not acceptable on any of the following buildings:
a. Dwellings in terraces of three or more dwellings.
b. Any other buildings with a cubic capacity of more than 1500m³.
3. Acceptable on buildings not listed in (2) if both of the following apply:
a. Part of the roof has a maximum area of 3m² and is a minimum of 1500mm from any similar part.
b. The roof between the parts is covered with a material rated class A2-s3, d2 or better.

B5 Access & Facilities for the Fire Service

Access for a fire appliance will be available from the parking position of a fire appliance in North Street to within 90m of all areas of the buildings.

BS 9991 - 50.1.2 states that where sprinklers in accordance with BS 9251:2014 or BS EN 12845 (see 11.2, Table 2) are fitted the distance between the fire appliance and any point in dwellings having no floor more than 4.5 m above ground level) may be up to 90 m.

Existing public fire hydrants are provided within 90m of the parking position in North Street,

A premises information box will be provided for each block. Floor identification and apartment location signs will be provided in each block.

Secondary Power Supplies

Two power supplies (duty and back-up) are required for the following:

- Automatic fire detection (typically integral);
- Emergency lighting (typically integral);
- Mechanical smoke extraction;
- AOVs; and
- Automatic fire suppression system.

It is recommended that the stand-by supply is routed around the building to each piece of fire safety equipment via a separate route from the main power supply. This is to limit the chances of an impact or fire cutting both supplies.

Evacuation Policy

A defend in place strategy is recommended for the apartments which will be fully supported by the compartmentation, the external wall construction and the fire warning system.

Only the occupants of an apartment involved in a fire should need to evacuate. All other persons should be safe to remain in their apartments and evacuate only if they wish to do so or are instructed to do so by the fire and rescue service.

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The Regulatory Reform (Fire Safety) Order 2005

The Regulatory Reform (Fire Safety) Order 2005 (FSO) applies to this building and are the landlord's responsibility.

The FSO applies to all workplaces and other non-domestic areas and premises, requiring the 'Responsible Person' to undertake a fire risk assessment of their premises and to keep It under review.

The Fire Safety Act 2021

The Fire Safety Act 2021 was created to make provision about the application of the FSO in particular with regard to domestic premises. The apartment entrance doors and external walls must be considered as part of the fire risk assessment.

Fire Safety [England] Regulations 2022

The Fire Safety Regulations provide further requirements of the responsible person in High-rise residential buildings and is not therefore relevant to this project.

Fire Safety Management

The Building Regulations do not impose any requirements on the management of the buildings but it is assumed that the building will be properly managed.

Effective arrangements should be in place to manage all aspects of fire safety in the premises and the details of those arrangements should be recorded, e.g. within a fire safety management plan. BS 9999:2017 provides additional guidance.

In conjunction with the FSO, Regulation 38 of The Building Regulations requires that information relating to the fire safety provisions within a building is provided to the 'Responsible Person' so that they (or an appointed 'Competent Person') can undertake the Fire Risk Assessment required under the RRFSO. It is therefore of paramount importance that the fire safety information for a building that falls under the requirements of the Building Regulations 2010 is kept up to date and a true reflection of the completed building.

Regulation 38 of the Building Regulations requires fire safety information to be provided to the building owner so they can manage the building effectively.

Management procedures and fire risk assessments for the building will be implemented and will be regularly reviewed.

Conclusion

The proposed works will comply with the recommendations of ADB/BS 9991 provided the recommendations of this report are implemented.

This report is an outline fire safety strategy report suitable for RIBA Stage 3 to illustrate how the scheme complies with the functional requirements of the Building Regulations 2010.



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