

29 Andover Road  
Twickenham  
TW2 6PD  
M: 07841 591 620  
E: wes.maccabe@googlemail.com

## **Fire Statement for 31 Andover Road Twickenham.**

### **Reference: FS.01 GROUND AND FIRST FIRE PLAN FOR INFORMATION**

#### **1.0 Executive Summary**

This fire statement is for the proposed ground floor side infill extension to 31 Andover Road Twickenham.

The strategy is based upon the guidance with ADB Vol 1 – Dwellings 2019 edition incorporating 2020 & 2022 amendments for England, (ADB Vol – 1)

The purpose group will remain as existing, 1 Residential – 1c Dwellinghouse that does not contain a habitable storey with a floor level a minimum of 4.5m above ground level.

The proposed extension is to be formed in masonry construction with a pitched timber roof.

The buildings' automatic fire detection system and alarm system should be mains operated D2 Category LD2 fire detection and alarm system fitted in accordance with recommendations of BS 5839-6.

Emergency lighting is not required in dwelling house.

Means of Escape Directional Signage is not required in dwellinghouses.

ADB Vol – 1 table B4 requires Elements of Structure to achieve minimum of:

- 30 minutes Fire Resistance (buildings with topmost floor not more than 5m in height).

ADB Vol – 1 table B3 requires compartment walls, floors to be enclosed in a minimum of 30 minutes in the case of two storey dwellinghouses and increased to 60minutes minimum for compartment walls separating the adjacent buildings. Two storey dwellinghouses this do not require a protected stairwell.

Fire Service Pumping Appliance requirement, provide access for a pumping appliance to within 45m of all points inside each house, measured along the route of the hose.

Fire Hydrant (public or private required within 90m of access point to the building and 90m apart).

#### **2.0 Introduction.**

- 2.1 This statement outlines the general precautions to be employed to demonstrate compliance with Part B of Schedule 1 & 2 of the Building Regulations 2010 (as amended), namely fire safety in respect of the proposed ground floor side infill extension to 31 Andover Road, Twickenham, TW2 6PD.
- 2.2 At this stage the concept has been established and therefore this statement, addresses the fire safety issues insofar as they affect the concept proposals.
- 2.3 ADB Vol 1 – Dwellings 2019 edition incorporating 2020 & 2022 amendments for England, (ADB Vol – 1) has been used as the guidance document against which compliance is to be demonstrated. The use of ADB Vol – 1 will have management implications (fire safety arrangements) for the end user, which must be adopted and followed to ensure the safety design and occupation criteria are met.

### **3.0 Applicable Legislation and Guidance.**

The primary pieces of legislation relevant to the scheme are the Building Regulations 2010, the Regulation Reform (Fire Safety) Order 2005 and the fire Safety England Regulations 2022.

- 3.1 The Building Regulations that need to be satisfied are as follows.

- **Means of Warning and Escape**

B1 The buildings 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.

- **Internal fire spread (linings)**

B2 (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 linings and partition, wall, ceiling or other internal structure.

- **Internal fire spread (structure)**

B3 (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 buildings. For the purpose of this sub-paragraph a house in a terrace will be treated as a separate building.

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.

- **External fire spread**

B4 (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 the building.

- **Access and facilities for the fire service.**

B5 (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 provision shall be made within the site of the building to enable fire appliances to gain access to the building.

3.2 **The Regulatory Reform (Fire Safety) Order 2005**

Note: this legislation does not apply to single domestic dwellings, these structures will fall under the Housing Act 2004. The Fire Safety (England) regulations 2022 introduce new duties under the Fire Safety Order for building owners or managers (responsible persons).

3.3 **Construction, Design and Management Regulations**

Projects undertaken within the UK are subject to the requirements of the Construction, Design and Management Regulations (CDM). This report defines the strategy for meeting the functional and performance requirements for fire safety in the finished building. 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 Regulation 9 (Duties for Designers). In the event that these involve significant residual risks or health and safety critical assumptions, this information will be made available to the Principal Designer. Where the architect or other consultants use the standards put forward in this statement to specify works, they are understood to be competent in alerting the Client, Principal Designer, Contractor, and Building Occupiers of CDM issues.

4.0 **Fire Safety Management**

Note: this legislation does not apply to single domestic dwellings, these structures will fall under the Housing Act 2004. The Fire Safety (England) Regulations 2022 introduce new duties under the Fire Safety Order for buildings owners or managers (responsible persons).

5.0 **Design Stage**

The proposed ground floor side infill extension has been prepared against the functional requirements of B1 to B5 of Schedule 1 of The Building (Amendment) Regulations 2010 and the recommendations in ADB Vol 1 – Dwellings

## **6.0 Principle of Evacuation**

The evacuation strategy for this development is to remain as existing. The development is based on simultaneous evacuation for the single private dwellings. The evacuation strategy does not rely on the intervention by others (e.g., the fire and rescue service).

## **7.0 Purpose Group**

The purpose group will remain as existing. Residential – 1c Dwellinghouse that does not contain a habitable storey with a floor level a minimum of 4.5m above ground level.

## **8.0 Sprinkler Requirements**

Sprinklers are not required for single dwellinghouses under ADB Vol – 1.

## **9.0 B1 Philosophy for Means of Escape**

This report outlines any issues arising and identifies the requirements to accord with the recommendations in ADB Vol – 1.

### **9.1 Evacuation Strategy**

The fire evacuation strategy for the existing domestic house is a single stage simultaneous evacuation i.e. the actuation of any fire alarm device (Smoke/heat Detector etc) will result in the instantaneous sounding of the fire alarm throughout the property and all persons will evacuate immediately on being made aware of the alarm.

### **9.2 Fire Detection and Alarm Systems**

The existing house's automatic fire detection system should be a Grade D2 category LD2. If not already installed the system should be upgraded to Grade D2 category LD2, designed and installed in accordance with BS 5839-6 2019.

### **9.3 Height of Escape Routes**

All escape routes to have a minimum headroom height of at least 2m (except at doorways).

### **9.4 Travel distances**

The proposed travel distances are in accordance with ADB.

#### **Final Exits**

The final exits discharge directly into the street to the front elevation and into an open space at the rear for the rapid dispersal of persons away from the vicinity of the building.

The existing final escape to the front elevation is provided with a suitable step. The proposed rear elevation will be provided with a level threshold.

The proposed floor plan will be provided with a 30 – minute protected hallway and stair, with 2No. exits at ground floor level.

#### **9.5 Inner Rooms**

The proposed layout does not propose to have any inner rooms.

#### **9.6 External Routes to Place of Safety**

The external route to a place of safety must be safe to use at all times and not have a slippery surface.

#### **9.7 Ironmongery on Escape Route Doors**

Where a door on an escape route has to be secured against entry when the building or part of the building is occupied, it should be fitted with a lock or fastening which is readily operated, without a key, from the side approached by people making their escape.

Security requirements will not override the need to provide adequate means of escape. All security locks and / or devices fitted to a dwelling entrance or alternative exit door should be openable from the inside by a single manual operation not requiring the use of a key.

#### **9.8 Direction of Openings**

Where it is expected that more than 60 persons will be using a door / exit, the door must open in the direction of escape.

The design proposal will not exceed this number.

#### **9.9 Emergency Lighting**

Note: Emergency lighting is not required to single dwellinghouses.

#### **9.10 Means of Escape Directional Signage**

Note: Signage is not required in single dwellinghouses.

#### **9.11 External Routes to place of safety**

The external route to a place of safety must be safe to use at all times and not have a slippery surface.

#### **10.0 B2 – Internal Fire Spread (Linings)**

- 10.1 The interior wall and ceiling surfaces in the building may have a significant influence on how fast a fire may develop. Building Regulations require that internal linings adequately resist the spread of flame over their surfaces and that, if ignited, should have either a heat release rate or a rate of fire growth which is reasonable in the circumstances. It is particularly important that in circulation spaces, where the rapid spread of fire is most likely to prevent occupants from escaping, the surface linings are restricted, by making provision for them to have low rates of heat release and surface spread of flame.
- 10.2 Surface finishes and floor coverings should not comprise of materials that might propagate surface spread of flame and/or fire or adversely affect the means of preventing such propagation.

Classification for surface spread of flame should be in accordance with BS 476 – 7:1997, when tested in accordance with BS 479-6:2009; or BS EN 13501-12009.

- 10.3 Rooms under 30m<sup>2</sup> and areas within rooms up to 20% of the floor area to a maximum 60m<sup>2</sup> may have class 3 surface spread of flame rating (European Class D-s3,d2).

## **11.0 B3 – Internal Fire Spread – Structure**

### **11.1 Elements of Structure**

ADB Vol – 1 table B4 requires Elements of Structure to achieve a minimum of:

- 30minutes Fire Resistance (buildings not more than 5m in height)

### **11.2 Compartmentation**

ADB Vol 1 table B3 requires compartmentation walls and floors to be enclosed in 30 minutes fire resistance and places of special fire hazard to be enclosed with minimum 30 minutes fire resistance.

Each demise will need to be separated from the adjacent buildings and demise by compartment wall achieving 60 minutes fire resistance.

## **12.0 B4 External Fire Spread**

ADB Vol – 1 table 10.1 recommends the external surfaces (i.e., outermost external materials) of external walls should comply with the provisions in Table 10.1. The provisions in Table 10.1 apply to each wall individually in relation to its proximity to the relevant boundary.

### **12.1 External Wall Construction**

The external walls are to be constructed with non – combustible materials.

### **12.2 Roof Construction**

Typical truss construction, with non - combustible insulation and tiled roof finish.

### **13.0 B5 – Access and Facilities for the Fire Services**

Fire Fighting Access will remain as existing. Access will be from Andover Road, Twickenham, TW2 6PD.

### **14.0 Summary**

14.1 Additional information will be required to confirm compliance with the general principles outlined but it would appear that the proposed ground floor side infill extension is generally ADB Vol -1 compliant and will in terms of fire safety design will satisfy the functional requirements of the Building Regulations 2010.

#### **1.4.2 Building Regulations**

This statement considers the building regulations with regards to life safety only. Property protection, and insurance issues are not addressed in this statement.