



Fire Risk Assessments Limited
SBC House - Restmor Way
Wallington - Surrey - SM6 7AH
T: 020 3668 0514
E: enquiries@firera.co.uk
W: www.firera.co.uk

Report:
Fire Strategy Statement

Client	Hollis Rouse London
Project Address	Cornerways, Bute Avenue, Richmond, TW10 7AX
Date of Statement	9th September 2021
Author	Anthony Jones BSc (Fire Safety Engineering)
Revision	0





Fire Risk Assessments Limited
SBC House - Restmor Way
Wallington - Surrey - SM6 7AH
T: 020 3668 0514
E: enquiries@firera.co.uk
W: www.firera.co.uk

Section 1	Introduction
Section 2	Project Overview
Section 3	Means of Escape
Section 4	Active Fire Safety Systems
Section 5	Compartmentation, fire-resisting construction and fire doors
Section 6	Access & Facilities for the Fire Service
Section 7	Fire Safety Management
Appendix A	Fire Strategy Drawing List



**Section 1
 Introduction**

<p>1.1 Summary</p>	<p>Fire Risk Assessments Ltd has been engaged to develop a Fire Strategy Statement in support of a planning application for extension and change to the internal layout within the existing residential dwelling, located at Cornerways, Bute Avenue, Richmond, TW10 7AX.</p> <p>This statement includes the policies set out in the Planning Policy D12 (Fire Safety) which are required to be met by new developments.</p> <p>The primary objective of this statement is to provide high level advice at this early stage on how an acceptable level of life safety may be achieved commensurate with the Functional Requirements of the Building Regulations 2010 for means of egress (B1), internal fire spread structure (B3), external fire spread (B4) and firefighting access (B5) only.</p> <p>This fire strategy statement is preliminary outlining key considerations as required for planning application purposes and follows the policies of the Planning Policy D12 (Fire Safety).</p>
<p>1.2 Regulations</p>	<p>The Building Regulations 2010 is the Statutory Instrument which seeks to ensure that the policies set out in the Act are implemented. The Functional Requirements of the Building Regulations 2010 may be met in one of two ways; compliance with an accepted design guidance (i.e. British Standards or Approved Documents), or through a fire engineered approach.</p> <p>In this instance the primary design guidance used has been BS 9991 and Approved Document B</p>
<p>1.3 Design Basis and Guidance</p>	<p>To be able to demonstrate in broad terms that all structures, systems and components will be designed, constructed, commissioned, operated and maintained in such a way as to enable duty holders of the building, to manage the risk and provision of fire service access and water supply, a Fire Statement document sets out to achieve the following principles;</p> <ul style="list-style-type: none"> • Demonstrate that the building conforms to relevant building regulations and planning legislation and applies proportionate good engineering practice and sound risk management principles, • Identify the failure modes and potential hazards with respect to fire service access and water supply, • Provide sufficient information that demonstrates that any measures have been applied in an appropriate manner and at the first Gateway.
<p>1.4 Policy D12 of The London Plan</p>	<p>Policy D12 of The London Plan, states in section B that “all major development proposals should be submitted with a Fire Statement, which in an independent fire strategy, produced by a third party suitably qualified assessor”. Policy D12 goes on to state that “the statement should detail how the development proposal will function in terms of;</p> <ul style="list-style-type: none"> • The buildings construction - methods, products and materials used, including manufacturers details, • The means of escape for all building users - suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach, • Features which reduce the risk to life - fire alarm systems, passive and active fire safety measures and associated management and maintenance plans, • Access for fire service personnel and equipment - how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance of these,



Fire Risk Assessments Limited
SBC House - Restmor Way
Wallington - Surrey - SM6 7AH
T: 020 3668 0514
E: enquiries@firera.co.uk
W: www.firera.co.uk

	<ul style="list-style-type: none">• How provision will be made within the curtilage of the site to enable fire appliances to gain access to the building, and• Ensuring that any potential future modifications to the building will take into account and not compromise the fire safety/protection measures.
1.5 Aspects of Fire Safety Design	All aspects of the fire safety design remain subject to formal approval by the Building Control Body, including their statutory consultation with the local fire and rescue service (FRS) being London Fire Brigade.

Section 2

<p>2.1 Project Description.</p>	<p>The dwelling is located at Cornerways, Bute Avenue, Richmond, TW10 7AX. This is a proposed extension and change to the internal layout within the existing residential dwelling.</p> <p>Areas to be altered:-</p> <ul style="list-style-type: none"> • Existing utility room (complete removal and support structural support added) • Existing kitchen column (complete removal and structural support added) • Existing kitchen walls (complete removal of partial kitchen walls, design to follow and structural support added) • Expanding existing opening from the dining room to the living room (partial removal and structural support added) • The existing entrance to be relocated.
<p>2.2 Proposed Building Layout</p>	<p>As per the drawings referenced for the purposed of this report the proposed building layout is as follows:</p> <p>Ground floor layout: Main entrance hall leading to boot room with access to cloakroom from the boot room area. Entrance hall also grants access to the main staircase to upper floors, dining room, living room and kitchen. From the kitchen area this has access dayroom, breakfast area and conservatory. From the dayroom there is access to guest bedroom and guest bathroom.</p> <p>1st floor layout: Landing area from staircase from ground and staircase leading to 2nd floor, master bedroom with ensuite, 2 x bedrooms. Further landing area leading to hallway with access to a laundry room. The laundry room has access to a further bedroom and bathroom.</p> <p>2nd floor layout: Direct access from staircase to a bedroom.</p> <p>External Access: Plant room. Garden Shed. Both connected to main dwelling structure. Study which is an individual structure separate from the main dwelling structure.</p>
<p>2.3 Additional Information</p>	<p>Fire Service vehicle access is via the existing residential roadway of Bute Avenue.</p>



Section 3
Means of Escape

<p>3.1 The London Plan (December 2019), Policy D12, paragraph A4</p>	<p><i>(Buildings) provide suitable and convenient means of escape, and associated evacuation strategy for all building users.</i></p>
<p>3.2 The London Plan (December 2019), Policy D12, paragraph A5</p>	<p><i>Develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence</i></p>
<p>3.3 The London Plan (December 2019), paragraph 3.12.5</p>	<p><i>Developments, their floor layouts and cores need to be planned around issues of fire safety and a robust strategy for evacuation from the outset, embedding and integrating a suitable strategy and relevant design features at the earliest possible stage, rather than features or products being applied to pre-determined developments which could result in less successful schemes which fail to achieve the highest standards of fire safety. This is of particular importance in blocks of flats, as building users and residents may be less familiar with evacuation procedures.</i></p>
<p>3.4 Evacuation Principle</p>	<p>The general philosophy for means of escape is that upon activation of an alarm within a residential compartment those occupants should be able to turn their back on a fire and escape via their nearest exit without additional assistance from other occupants or Firefighters.</p> <p>As per Approved Document B section 2:</p> <p>Escape from the ground storey All habitable rooms (excluding kitchens) should have either of the following.</p> <ol style="list-style-type: none"> a. An opening directly onto a hall leading to a final exit. b. An emergency escape window or door, as described in paragraph 2.10. <p>Escape from upper storeys a maximum of 4.5m above ground level Where served by only one stair, all habitable rooms (excluding kitchens) should have either of the following.</p> <ol style="list-style-type: none"> a. An emergency escape window or external door, as described in paragraph 2.10. b. Direct access to a protected stairway, as described in paragraph 2.5a. <p>Two rooms may be served by a single window. A door between the rooms should provide access to the window without passing through the stair enclosure. Both rooms should have their own access to the internal stair.</p> <p>Dwelling houses with one storey more than 4.5m above ground level The dwelling house should have either of the following.</p> <ol style="list-style-type: none"> a. Protected stairway – a stair separated by fire resisting construction (minimum REI 30) at all storeys, that complies with one of the following. <ol style="list-style-type: none"> i. Extends to a final exit ii. Gives access to a minimum of two ground level final exits that are separated from each other by fire resisting construction (minimum REI 30) and fire doorsets (minimum E 20).



	<p>Cavity barriers or a fire resisting ceiling (minimum EI 30) should be provided above a protected stairway enclosure.</p> <p>b. Alternative escape route – a top storey separated from lower storeys by fire resisting construction (minimum REI 30) and with an alternative escape route leading to its own final exit.</p> <p>Notes: From the drawings assessed the stair core does not appear to be protected. If a protected stair core cannot be incorporated into the design a compensatory measure of a sprinkler system in accordance with BS 9251 should be installed within the dwelling. There are 6 means of escape from the ground floor being, main entrance / exit door, dining room area, conservatory, living room and 2 x exits from the day room area. There is one means of escape from the upper floors leading to the ground floor.</p>
<p>3.5 The London Plan (December 2019), Policy D12, paragraph B2</p>	<p><i>(The Fire Statement will detail how the development proposal will function in terms of) the means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach.</i></p>
<p>3.6 The London Plan (December 2019), paragraph 3.12.7</p>	<p><i>The provision of stair cores which are suitably sized, provided in sufficient numbers and designed with appropriate features to allow simultaneous evacuation should also be explored at an early stage and provided wherever possible.</i></p>
<p>3.7 Required provisions for stair cores.</p>	<p>There is one main open stair core available for the evacuation of the dwelling terminating on the ground floor with the final exit door leading to the front of the dwelling or alternative exits available from the dining are, living room, conservatory and 2 x exits available from the dayroom area.</p> <p>Notes: To achieve the required ventilation to the stair core, the stair core should be provided with an automatic opening vent (AOV) with 1.5m² free area activated upon automatic fire detection to the escape route A 1m² (minimum free area) AOV opening should be provided to the uppermost level of the stairwell. Any smoke ventilation system designed and installed to the building, provided with facilities for manual and automatic operation, should comply with BS EN 12101.</p>



Section 4
Active Fire Safety Systems

<p>4.1 The London Plan (December 2019), Policy D12, paragraph A2</p>	<p><i>(Buildings) are designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures.</i></p>
<p>4.2 The London Plan (December 2019), Policy D12, paragraph B3</p>	<p><i>(The Fire Statement will detail how the development proposal will function in terms of) features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans.</i></p>
<p>4.3 Requirements for means of giving warning.</p>	<p>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.</p> <p>In the Secretary of State's view, requirement B1 is met by achieving all of the following.</p> <ul style="list-style-type: none"> a. There are sufficient means for giving early warning of fire to people in the building. b. All people can escape to a place of safety without external assistance. c. Escape routes are suitably located, sufficient in number and of adequate capacity. d. Where necessary, escape routes are sufficiently protected from the effects of fire and smoke. e. Escape routes are adequately lit and exits are suitably signed. f. There are appropriate provisions to limit the ingress of smoke to the escape routes, or to restrict the spread of fire and remove smoke. g. For buildings containing flats, there are appropriate provisions to support a stay put evacuation strategy. <p>The extent to which any of these measures are necessary is dependent on the use of the building, its size and its height. Building work and material changes of use subject to requirement B1 include both new and existing buildings.</p> <p>Large dwelling houses A large dwelling house has more than one storey, and at least one storey exceeds 200m². A large dwelling house of two storeys (excluding basement storeys) should be fitted with a Grade A Category LD3 fire detection and alarm system, as described in BS 5839-6.</p> <p>Extensions and material alterations Where new habitable rooms are provided, a fire detection and alarm system should be installed where either of the following applies.</p> <ul style="list-style-type: none"> a. The room is provided above or below the ground storey. b. The room is provided at the ground storey, without a final exit. <p>Smoke alarms should be provided in the circulation spaces of the dwelling. This does not apply where inner rooms are</p>



	<p>provided (see paragraph 2.11 for inner room requirements within the Approved Document B).</p> <p>Notes: As per the drawings assessed there was no information available for the means of giving warning, the above guidance should be incorporated into the proposed design to ensure compliance.</p>
<p>4.4 The London Plan (December 2019), paragraph 3.12.6</p>	<p><i>Suitable suppression systems (such as sprinklers) installed in buildings can reduce the risk to life and significantly reduce the degree of damage caused by fire, and should be explored at an early stage of building design.</i></p>
<p>4.5 Suppression System Requirements</p>	<p>Notes: There is laundry room located on the 1st floor with access to a bedroom and bathroom. As per Approved Document B a bedroom is not compliant to be used as an inner room. The means of escape from this bedroom would be via the laundry room. It would be advised that the laundry room be relocated and the wall from the proposed laundry room to the bedroom removed to ensure that layout is no longer designed as an inner room. Again, a compensatory measure for this inner room would be the installation of a sprinkler system but the laundry room would still have to be relocated as this cannot be located on a means of escape route.</p>



**Section 5 –
 Compartmentation, fire-resisting construction and fire doors**

<p>5.1 The London Plan (December 2019), Policy D12, paragraph A3</p>	<p><i>(Buildings) are constructed in an appropriate way to minimise the risk of fire spread.</i></p>
<p>5.2 The London Plan (December 2019), Policy D12, paragraph B1</p>	<p><i>(The Fire Statement will detail how the development proposal will function in terms of) the building's construction: methods, products and materials used, including manufacturers' details.</i></p>
<p>5.3 Design requirements</p>	<p>Information was not available from the drawings provided so the below guidance should be followed and applied:</p> <p>Fire resistance standard Elements such as structural frames, beams, columns, loadbearing walls (internal and external), floor structures and gallery structures should have, as a minimum, the fire resistance given in Appendix B, Table B3 of the Approved document B. If one element of structure supports or stabilises another, as a minimum the supporting element should have the same fire resistance as the other element. The following are excluded from the definition of 'element of structure'. A structure that supports only a roof, unless either of the following applies. i. The roof performs the function of a floor, such as a roof terrace, or as a means of escape. ii. The structure is essential for the stability of an external wall that needs to be fire resisting (e.g. to achieve compartmentation or for the purposes of preventing fire spread between buildings). The lowest floor of the building. External walls, such as curtain walls or other forms of cladding, which transmit only self-weight and wind loads and do not transmit floor load. In some cases, structural members within a roof may be essential for the structural stability system of the building. In these cases, the structural members in the roof do not just support a roof and must demonstrate the relevant fire resistance for the building as required.</p> <p>Floors in loft conversions Where adding an additional storey to a two storey single family dwelling house, new floors should have a minimum REI 30 fire resistance. Any floor forming part of the enclosure to the circulation space between the loft conversion and the final exit should achieve a minimum rating of REI 30. The existing first-storey construction should have a minimum rating of R 30. The fire performance may be reduced for integrity and insulation, when both of the following conditions are met. a. Only one storey is added, containing a maximum of two habitable rooms. b. The new storey has a maximum total area of 50m².</p>

Construction of compartment walls and compartment floors

General provisions

All compartment walls and compartment floors should achieve both of the following.

- a. Form a complete barrier to fire between the compartments they separate.
- b. Have the appropriate fire resistance, as given in Appendix B, Table B3 and Table B4 of Approved Document B.

Timber beams, joists, purlins and rafters may be built into or carried through a masonry or concrete compartment wall if the openings for them are both of the following.

- a. As small as practicable.
- b. Fire-stopped.

If trussed rafters bridge the wall, failure of the truss due to a fire in one compartment should not cause failure of the truss in another compartment.

Internal escape routes should generally have wall and ceiling linings achieving a Class 0 surface spread of flame standard.

Fire-stopping will be provided at the junction of fire-separating walls and external walls in order to maintain the fire resistance period of fire-separating walls.

Breaches should be monitored whenever an electrician, plumber or other contractor has worked on site as cabling is a common cause of breaches. They should be fire-stopped with intumescent material.

For maximum efficiency fire doors should:

- ... be kept closed
- ... close unaided
- ... have at least ½" door stops
- ... have 3 fire rated hinges
- ... be signed as fire doors
- ... have maximum 3mm gaps between door and frame
- ... have smoke seals/intumescent strip fitted

Intumescent fire door seals should be fitted to the stiles and head of all the fire-resisting door sets. These seals are fitted into grooves cut into the door or the frame, or alternatively, can be surface mounted. As smoke spread can be a significant threat to life and property the fire doors should also be fitted with a 'cold smoke' seal to prevent the ingress of smoke around the door edges. Combined smoke and intumescent seals are available.

Due to the stair core being open from ground to 2nd floor it is a requirement that all doors opening on to the stair core



Fire Risk Assessments Limited
SBC House - Restmor Way
Wallington - Surrey - SM6 7AH
T: 020 3668 0514
E: enquiries@firera.co.uk
W: www.firera.co.uk

	on all levels are FD30s with a self-closer also installed to ensure compartmentation is adequate.
--	---------------------------------------------------------------------------------------------------



Section 6
Access & Facilities for the Fire Service

<p>6.1 The London Plan (December 2019), Policy D12, paragraph B4</p>	<p><i>(The Fire Statement will detail how the development proposal will function in terms of) access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these.</i></p>
<p>6.2 The London Plan (December 2019), Policy D12, paragraph B5</p>	<p><i>(The Fire Statement will detail how the development proposal will function in terms of) how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building.</i></p>
<p>6.3 Requirements</p>	<p>The nearest Fire Station is Richmond Fire Station, Fire Station, 323 Lower Richmond Rd, Richmond TW9 4PN Assuming the simple example that an initial response would be from that fire station, then fire vehicles will be able to approach the site via Bute Avenue.</p> <p>Fire personnel can access the building from any of the six access points found at the ground floor level of the building.</p> <p>The vehicles can park on Bute Avenue.</p> <p>The existing road route to the building is unchanged by this building project.</p> <p>No height, width or speed limiting road features are known to the immediate approach roads or to Bute Avenue itself. These should be minded and considered by the design team and detailed as applicable in subsequent fire strategy reports.</p> <p>Parking and any turning facility will be planned for within LFB Guidance Note 29 (October 2019 edition). Vehicle tracking plan to be provided as part of subsequent fire strategy reports.</p> <p>Pump appliance access should be provided to within 18m of each fire main inlet connection point on the face of the building and be visible from the appliance in accordance with BS 9990.</p> <p>Fire appliances should not be required to reverse more than 20m in accordance with Approved Document B.</p> <p>Fire hydrants should be identified within 90m distance from the building.</p> <p>Reference to the National Guidance on the Provision of Water for Firefighting (3rd Edition 2007) should be made in subsequent fire strategy reports. The pressure and flow in the existing water main are sufficient for expected Fire Service operations is to be confirmed.</p>



Fire Risk Assessments Limited
SBC House - Restmor Way
Wallington - Surrey - SM6 7AH
T: 020 3668 0514
E: enquiries@firera.co.uk
W: www.firera.co.uk

Section 7
Fire Safety Management

<p>7.1 The London Plan (December 2019), Policy D12, paragraph B4</p>	<p><i>(The Fire Statement will detail how the development proposal will function in terms of) access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these.</i></p>
<p>7.2 Requirements</p>	<p>Maintenance procedures will be developed to ensure that all equipment and services are able to operate effectively.</p> <p>Suitable assembly points outside the building should be identified. These should be remote from the access routes used by the attending Fire Services.</p> <p>In the event of fire, the Fire and Rescue Service will be notified by a resident of the building.</p>

Yours Sincerely with best intentions.

Anthony Jones BSc (Fire Safety Engineering)
Fire Safety Engineer



Fire Risk Assessments Limited
SBC House - Restmor Way
Wallington - Surrey - SM6 7AH
T: 020 3668 0514
E: enquiries@firera.co.uk
W: www.firera.co.uk

Appendix A

This fire strategy statement has been based on the inspection of the following drawings:

001 REV C

002 REV C