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# Manor Road / Richmond

## Fire Safety Statement

# Manor Road. Revised Fire Safety Statement.

## 1. Introduction.

This fire statement has been prepared by Hoare Lea on behalf of Avanton Richmond Development Ltd ('the Applicant') following further amendments to the proposed scheme for the redevelopment of the Homebase store at 84 Manor Road, North Sheen ('the Site'). A planning application for the redevelopment of the Site was submitted to London Borough of Richmond Upon Thames (LBRuT) in February 2019 (ref. 19/0510/FUL) (the 'Original Proposed Development'), and was considered at LBRuT Planning Committee on 3 July 2019. The Planning Committee resolved that they were minded to refuse the Application, however on 29 July 2019 it was confirmed that the Mayor of London would act as the local planning authority for the purposes of determining the application.

Following review of LBRuT's reasons for refusal and discussions with Officers at the Greater London Authority (GLA) and Transport for London (TfL), the Applicant sought to review the scheme, with the principle aim of increasing the delivery of affordable housing through additional density and addressing other issues raised in the Mayor's Stage 2 Report. Initial scheme amendments were submitted in November 2019 ('the November 2019 Amendments') and increased the overall number of units by 48, primarily through the introduction of a new residential building known as Block E.

Following further discussions with TfL and the GLA, it was subsequently agreed that further revisions should be explored in order to deliver an improved scheme, without the need for this additional block.

The proposed changes are described in detail in the accompanying Design and Access Statement Addendum, however, of particular note is the increase in residential units from 385 within the Original Proposed Development to 453 within the Amended Proposed Development. This increases the total number of affordable units by 39 to a total of 173 affordable homes (40% by habitable room taking account of grant funding, increased from 35% as originally submitted). This increase in units and the higher affordable housing provision has been principally achieved through amendments to the height and internal layout in appropriate locations across the Site.

The proposed changes necessitate an amendment to the Application's description of development. The revised description of development (hereafter referred to as the 'Amended Proposed Development') is as follows:

*Demolition of existing buildings and structures and comprehensive phased residential-led redevelopment to provide 453 residential units (of which 173 units will be affordable), flexible retail, community and office uses, provision of car and cycle parking, landscaping, public and private open spaces and all other necessary enabling works.*

As a result of the proposed changes, this fire statement has been updated in order to assess the Amended Proposed Development. These amendments include:

- Increase of residential units from 385 to 453 from original (and 20 more than the Nov 2019 Amendments).
- Block E, which was proposed through the Nov 2019 Amendments, has been removed.
- An Increase in height of Block C (core A) by three storeys, Block C (cores B&C) by two storeys, Block B by two storeys and Block A (core A) by one storey. A decrease in height of Blocks A (core D) and Block D (core B) by one storey.

This Revised Fire Safety Statement has been prepared in support of the full planning application for the Manor Road development in response to Policy D5 (Inclusive Design) and D12 (Fire Safety) of the London Plan (Intend to Publish – December 2019).

This Revised Fire Statement addresses the main fire safety items and principles and provides an overview of the requirements and recommendations that the amended proposed development will meet in regard to the functions set out above.

## 2. Proposed development.

The Manor Road development is a residential led development consisting of four residential blocks, split into individual cores:

- A-A, A-B, A-C and A-D;
- B-A;
- C-A, C-B and C-C; and
- D-A and D-B.

The four residential blocks comprise a range from one to four building cores with heights ranging from 4 to 11 storeys. Commercial spaces are proposed to be located at Ground Floor of Blocks D-A and A-C.

The development is shown in Figure 1.

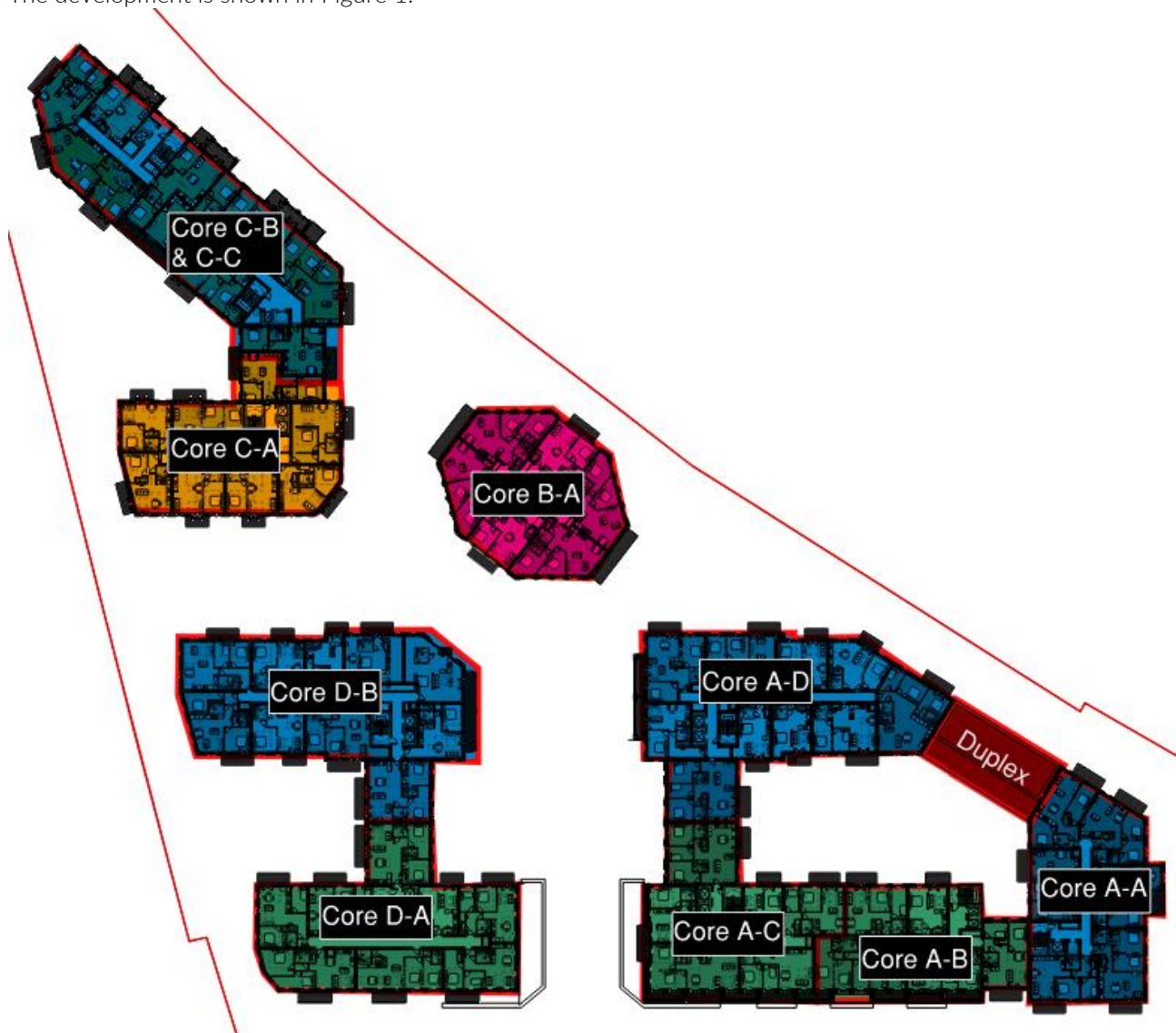


Figure 1: Site plan of Manor Road.

### 3. Intend to Publish London Plan - Policy D12 (Fire Safety).

The Intend to Publish London Plan Policy D12 states that in the interests of fire safety and to ensure the safety of all building users, development proposals must achieve the highest standards of fire safety and ensure that they:

1. Identify suitably positioned unobstructed outside space:
  - a. For fire appliances to be positioned on
  - b. Appropriate for use as an evacuation assembly point
2. 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;
3. Are constructed in an appropriate way to minimise the risk of fire spread;
4. Provide suitable and convenient means of escape, and associated evacuation strategy for all building users;
5. Develop a robust strategy for evacuation which can be periodically updated and published, which all building users can have confidence in; and
6. Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development.

All major development proposals should be submitted with a Fire Statement, which is an independent fire strategy, produced by a third party suitably qualified assessor. The statement should detail how the development proposal will function in terms of:

1. The building's construction: methods, products and materials used, including manufacturers details;
2. The means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and the associated evacuation strategy approach;
3. Features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans;
4. 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;
5. How provisions will be made within the site to enable fire appliances to gain access to the building; and
6. Ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures.

These items will be addressed in the following sections for the Manor Road scheme.

### 4. Competency statement.

All Hoare Lea design projects are headed by chartered engineers with proven experience on a wide range of fire safety consultancy projects. All work produced at Hoare Lea has been reviewed and approved by a senior chartered fire engineer.

Our staff have appropriate expertise and experience of fire safety design on a wide range of complex buildings, not only in the UK, but also world-wide. Whilst most of our work is conducted to satisfy safety regulations within the UK (e.g. Building Regulations and associated legislation), our staff have been responsible for developing fire safety strategies based on the NFPA standards and other international codes.

This statement has been produced, reviewed and approved by the following key individuals. The design and development of the fire safety strategy will be undertaken by the same individuals.

- Miller Hannah BEng (Hons), CEng, MIFireE – Partner

- Brad Rockell BSc (Hons), CBuildE, MCABE - Associate
- Louis Chaumont MEng, AIFireE - Fire Engineer
- Sangeerth Anantharaja MEng (Hons), AIFireE - Graduate Fire Engineer

## 5. Fire safety overview.

### 5.1 Building construction

- The building construction follows the considered construction in the original proposed development, as detailed below. The changes in the amended proposed scheme contributes to the following changes which are further detailed in this section:
  - Increase in the height of Block C (Core A) to above 30m, Block C (Core A) will now be provided with an increased fire resistance period of 120 minutes for the elements of structure.
  - Decrease in height of Blocks A (Core D) to below 11m, the flexible retail/community/office unit in this will not require commercial sprinklers and can have a lower minimum fire resistance period of 90 minutes for construction.
- The following materials are proposed for the development;
  - Frame: Reinforced concrete frame;
  - Floors: Concrete floors and finish / Insulated ground floor slab;
  - Roof: Insulated flat concrete roof finished with blue roof and green roof and PV panels;
  - Walls: Brick, cavity, rockwool insulation (duo slab or similar), breather membrane, particle board, vapour barrier, 2x layers of plasterboard (reconstituted stone detailing including sills and lintels);
  - Balconies: Reconstituted stone and steel balustrades;
  - Windows: Aluminium frame (Scheuco or similar); and
  - External Doors: Aluminium doors (Schueco or similar).
- The above materials are subject to change as the design develops during RIBA Stage 3. The proposed materials will meet the aforementioned guidance to meet the requirements set out in Building Regulations 2010 and will be further developed as the design progresses at the next stage. The materials will meet the minimum periods of fire resistance of elements of structure and any fire classifications for materials used in the external wall, as detailed within this fire statement.
- Fire resisting partitions between apartments and common corridors will be provided via fire resisting plasterboard panels.
- To limit the spread of fire within the buildings, all wall and ceiling linings will satisfy the appropriate classification stated within BS 9991:2015.
- The loadbearing elements of structure for the blocks in the Manor Road development, other than Blocks B and C-A, will have a minimum period of 60 minutes fire resistance. The loadbearing elements of structure for Block B and C-A will have a minimum period of 120 minutes fire resistance.
- The flexible retail/community/office units will be separated from the residential sections with 90 minutes fire resistance construction given that the flexible retail/community/office areas will not be sprinkler protected due to being located in Blocks with a height below 11m.
- The fire safety strategy will include a preliminary space separation analysis to establish the necessary boundary distance around each building. At this stage, there is not considered to be significant risk of spread of fire between buildings; however, detailed analysis will be undertaken during the next design stages.
- In accordance with Regulation 7(2), for each block that has a storey height in excess of 18m above the lowest adjacent external ground level, the external wall construction, and specified attachments including balconies, solar shading or solar panels, will achieve European Classification A2-s1, d0 or Class A1.

### 5.1.1 Construction, design and management regulations

Design projects undertaken in the UK are subject to the requirements of the Construction (Design and Management) Regulations 2015, the objective of which is to ensure that health and safety issues are properly considered during a project's design and development so that the risk of harm to those who have to construct, use and maintain the building is reduced.

As a designer, in accordance with Regulation 9 of the CDM regulations, Hoare Lea will take into account the general principles of prevention in the preparation of this report and where reasonably practicable, eliminate, minimise and/or control foreseeable hazards associated with the design. Where elimination is not reasonably practicable, Hoare Lea will be required to provide 'pre-construction' information in respect of any significant and/or unusual project-specific hazards that remain.

## 5.2 Means of escape provisions

### 5.2.1 Residential accommodation

- The means of escape provisions in the residential accommodation for the amended proposed scheme follows the same approach as the original proposed development, detailed below.
- The residential buildings will operate a "stay-put" evacuation strategy. That is, upon activation of the fire alarm and detection system, only the occupants in the apartment of fire origin will evacuate. The occupants in neighbouring flats should be relatively safe to remain in place, protected from the fire by a high level of fire compartmentation, unless they become affected by fire, choose to leave, or are otherwise advised to leave by the fire service.
- The apartment layouts will be designed as open plan apartments and will be designed in line with the recommendations of BS 9991 and where required, supported by a fire engineering justification.
- All residential blocks consist of single stair buildings. The residential common corridor travel distances will be designed to meet the maximum permissible distances permitted by guidance of BS 9991 and supported by a fire engineering justification. For common corridors with travel distances up to 15m in a single direction, one smoke extract riser will be provided in the corridor. However, where the common corridor single direction travel distance exceeds 15m to within 30m, a fire engineered solution is proposed consisting of a Double Reversible Mechanical Extract system that consists of two mechanical smoke extract shafts. The stairs will be provided with a 1.0m<sup>2</sup> AOV at the head of the stair enclosure.
- Policy D5 (inclusive design) of the Intend to Publish London Plan requests provisions for evacuation of disabled users of the residential premises. Therefore, the firefighting lift will be programmed to also be used as an evacuation lift, this will be determined by the fire brigade and will not be under the resident's control. The stair will be designed and compartmented as a safe space for disabled residents to await rescue.

### 5.2.2 Commercial units

- The means of escape provisions for the commercial units for the amended proposed scheme follows the same approach as the original proposed development, detailed below.
- The decrease in height of Block A (Core D) reduces height to below 11m, this entails the flexible retail/community/office unit in this block will not require a commercial sprinkler system.
- Commercial units will be provided at the ground floor of Core A-C and Core D-A. The use of the commercial premises is likely to be flexible retail/community/office uses (use classes A1, A2, A3, D2, B1). The fire safety provisions and strategy for the flexible retail/community/office units will be based on the guidance of BS 9999.
- The commercial units will operate a simultaneous evacuation strategy. That is, upon activation of the fire alarm and detection system within the commercial units, all the occupants in the unit will evacuate.
- The flexible retail/community/office units are designed to meet the travel distance limitations of 16m in a single direction and 40m when more than one direction is available set for commercial spaces and are only located at ground floor to allow occupants to escape directly to the outside.
- The commercial units will be provided a Category L2 automatic fire detection and alarm system, designed and installed in accordance with BS 5839-1:2017.

- The flexible retail/community/office units are located within blocks with a height below 11m from fire vehicle access level, therefore, these will not be provided with a commercial sprinkler system.

### **5.3 Features incorporated to reduce the risk to life**

- The features incorporated in the amended proposed scheme to reduce the risk to life will be the same as the original proposed development, as detailed below.
- Residential sprinklers will be provided to the all the residential accommodation in accordance with BS 9251:2014. The residential ancillary at Ground Floor will be provided with a Category 3 residential sprinkler protection system designed and installed in accordance with BS 9251:2014.
- The commercial units and residential ancillary accommodation will be provided with a Category L2 automatic fire detection and alarm system designed and installed in accordance with BS 5839-1:2017.
- The residential units will be separated from each other and from the common corridor by 60-minute fire resisting compartment walls.
- Areas of ancillary accommodation within the development will be enclosed in construction achieving an adequate period of fire resistance depending on the risk it presents.

### **5.4 Firefighting access within the building**

- The firefighting access within the buildings for the amended proposed scheme will follow the same approach as the original proposed development, as detailed below.
- The buildings within the Manor Road development will be provided with dry risers.
- Firefighting shafts will be provided to the blocks with a height above 18m to assist the operations of the fire and rescue service. These will be provided with a fire-fighting stair, a fire-fighting lift, a smoke ventilated common corridor, an AOV at the head of the stair and dry riser main.
- Firefighting stairs and firefighting lifts will be enclosed in construction with a minimum period of 120 minutes fire resistance, whilst the residential common corridors will be enclosed with a minimum period of 60 minutes fire resistance.
- The buildings with a height of below 18m, will be provided with a fire main in the protected stair.

### **5.5 Firefighting access to the building**

- The firefighting access to the buildings for the amended proposed scheme will follow the same approach as the original proposed development, as detailed below.
- Fire and rescue service vehicle access will be provided to within 18m of each dry riser inlet connection point, typically on the face of the building adjacent to the entry door leading into the cores. The fire main inlet will be visible from the fire and rescue service vehicle.
- Vehicle access will be provided to each commercial unit to within 45m of the projected plan area or to 15% of the perimeter of the unit, whichever is the less onerous.
- The fire and rescue service vehicle access is shown by the green lines in Figure 2.



Figure 2: Preliminary assessment of the fire and rescue service.

### 5.6 Measures to protect base build fire safety strategy

- Any future modifications to the scheme will be subject to Building Regulations approval and should consider the base build fire strategy, such that fire safety measures are not compromised within the development.

## 6. Conclusion.

This fire safety statement has been prepared to outline the approach and provisions relating to fire safety of the Manor Road development against the requirements of the Intend to Publish London Plan D5 and D12.

This statement demonstrates that the proposals have considered fire safety at the earliest stage, and the further development of the fire strategy will be based upon these principles. The fire strategy will be further developed for submission to the Approving Authorities at the appropriate time and will meet the functional requirements of the Building Regulations 2010, taking recommendations from BS 9991:2015 and the requirements of Policy D5 and D12 of the Intend to Publish London Plan.

Regulation 38 of the Building Regulations requires that fire safety information be given to the person responsible for the occupied building. Therefore, copies of the fire safety strategy, once agreed with the Approving Authority, and other relevant fire safety information should be issued to the responsible person. This will ensure publication of the proposed evacuation strategy and assist in evacuation of all building users.



Any future modifications to the scheme will be subject to Building Regulations approval and should consider the base build fire strategy



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