



FRANKHAM RMS

## **Fire Safety Strategy**

**Dorney Tower**

**Chalcots Estate**

**Camden**

**NW3 3RU**

**6<sup>th</sup> August 2020**





FRANKHAM RMS

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| <b>Revision</b> | <b>Date</b> | <b>Comments</b>                                       |
|-----------------|-------------|---|
| D01             | 23/04/2018  | First draft Issue                                     |
| D02             | 29/04/2019  | Second draft Issue                                    |
| 01              | 16/05/2019  | First Issue   |
| 02              | 24/06/2019  | Minor amendments                                      |
| 03              | 12/07/2019  | Changes following Wates' feedback                     |
| 04              | 04/09/2019  | Client led re-write                                   |
| 05              | 16/01/2020  | Updates following client feedback & feasibility study |
| 06              | 21/01/2020  | Drawing update  |
| 07              | 06/08/2020  | Minor Updates   |

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## 1 Introduction

### 1.1 Building Description

The Chalcotts Estate consists of 5 tower blocks; Blashford, Dorney, Taplow, Burnham and Bray. There are four largely identical 23-storey blocks; Dorney, Taplow, Burnham and Bray. Blashford is a smaller 19 storey tower block. This report covers Dorney Tower specifically.



**Figure 1**

Dorney Tower is a concrete frame building with concrete floor slabs. It consists of a single stair core which is 23 storeys tall (Ground plus 22). There are 7 flats on each floor, ground to 22<sup>nd</sup>. There is a basement level where there is an external car park surrounding the building. Below the building are former resident storage areas and various tank/plant room. Although the residents' storage areas are no longer in use, the tank/plant areas are still accessible through security doors.

### 1.2 Scope of report

This report is a fire safety strategy. It specifically reviews the building against the guidance it was originally built to and establishes acceptance criteria on that basis (see section 1.4). This strategy will also provide the current equivalent performance requirements, which should be utilised for any works being undertaken going forward. Where no work is being carried out there is no obligation to



upgrade the existing building. However, where existing arrangements are considered to present a risk then these should be identified in the fire risk assessment.

### 1.3 Limitations & Assumptions

As the building is existing, the below assumptions have been made:

- All existing fire stopping is as expected from the time of construction;
- The structure is rated to the fire time of the building, and protected adequately, as required at the time of construction;
- All doors are installed and operating correctly, as required at the time of construction;

Since this is an existing building, there is no reason to expect that it does not meet the standard required at the time of construction. The above assumptions are considered to reflect the existing building, but it is the responsibility of Camden to act if any defects with the above are discovered.

Any deficiencies with the above should be identified in the fire risk assessment, and do not form part of the fire strategy. Any required remedial works, identified as part of the fire risk assessment, should meet the modern performance specifications identified in this document.

It is recognised that a building of this height if built using the current guidance within Approved Document B 2019 would be fitted with sprinklers. This was not a requirement at the time of construction, and there is no obligation to retrospectively apply modern standards.

As the potential installation of sprinklers has considered, the feasibility study has been carried out. See document 227552-FCG-ZZ-XX-RP-Z-0201-S2-P01 issued by Frankham consultancy Group.

### 1.4 Relevant Fire Safety Design Standards

The building was built around approximately 1968. It appears to have been designed in accordance with CP3; from a perspective it is assumed that CP3: Chapter IV 1962 was utilised.

This fire strategy recognises the standards the building was designed to but will utilise the current guidance in Approved Document B 2019 when setting the performance specification of products and materials to be used in future. Where Approved Document B refers to the BS 5588 series, BS 9991 should be utilised as the guidance in BS 5588 has been superseded.

## 2 Means of Escape

### 2.1 Evacuation Strategy

This building was designed to utilise, and should, operate a 'stay put' evacuation strategy. A 'stay put' policy involves the following approach, as outlined in Approved Document B 2019;

- When a fire occurs within a flat, the occupants alert others in the flat if the alarm has not already sounded, make their way out of the building and summon the fire and rescue service.



- If a fire starts in the common parts, anyone in these areas makes their way out of the building and summons the fire and rescue service.
- All other residents not directly affected by the fire would be expected to 'stay put' and remain in their flat unless they become affected by the fire, are directed to leave by the fire and rescue service or choose to leave.

The basement and car park areas are an exception to this and operate a simultaneous strategy where a fire in this area will cause anybody located in the basement to evacuate, when they become aware. This is not required to be served by a fire detection and alarm system.

Dorney Tower contains a TRA (Tenant and Resident Association) space within flat 3. This area will also operate using a simultaneous evacuation strategy.

If residents are unable to follow the above, for any reason, then their situation should be reviewed by LBC, and appropriate measures taken to ensure all residents are able to safely evacuate the building. If these measures involve residents waiting to be evacuated in secure enclosures, such as the stair, additional fire safety measures may be required to enable them to alert others to their location. These will need to be discussed and agreed with the fire service and each resident.

## 2.2 Escape within dwellings

At the time of construction internal hallways were a requirement, albeit not required to be fire rated. The only requirement is that the walls and ceilings are constructed using non-combustible materials or Class 1 surface spread of flame. Only the kitchen, dining room, and lounge were required to be fitted with 30 minute self-closing fire doors. These were the requirements at the time of construction and it is assumed that this is the situation in all flats.

Under current guidance the corridor would be provided with 30 minute fire resisting construction and all rooms, with the potential exception of the bathroom, would have FD20 fire doors (See Section Table 3). The fire doors would now not be recommended to be self-closing, as it was demonstrated that they are often wedged open and never closed.

Again, under current guidance but not at the time of construction, where there are cupboards located within the protected hallways, these would also be separated by 30-minute fire resisting construction with at least FD30 fire doors.

There is no requirement to upgrade the existing arrangements, as these were acceptable at the time of construction. Where any works are carried out to existing flats, it will be done to meet the general compartmentation requirements shown in the figure below. This includes enclosing the bathrooms, where shown below, in 30 minutes fire resistance with FD20 fire doors to provide protection to the communal area windows.

The below extract from one of the compartmentation mark-ups shows how the protected internal hallways could be provided to meet the current guidance in Approved Document B 2019.

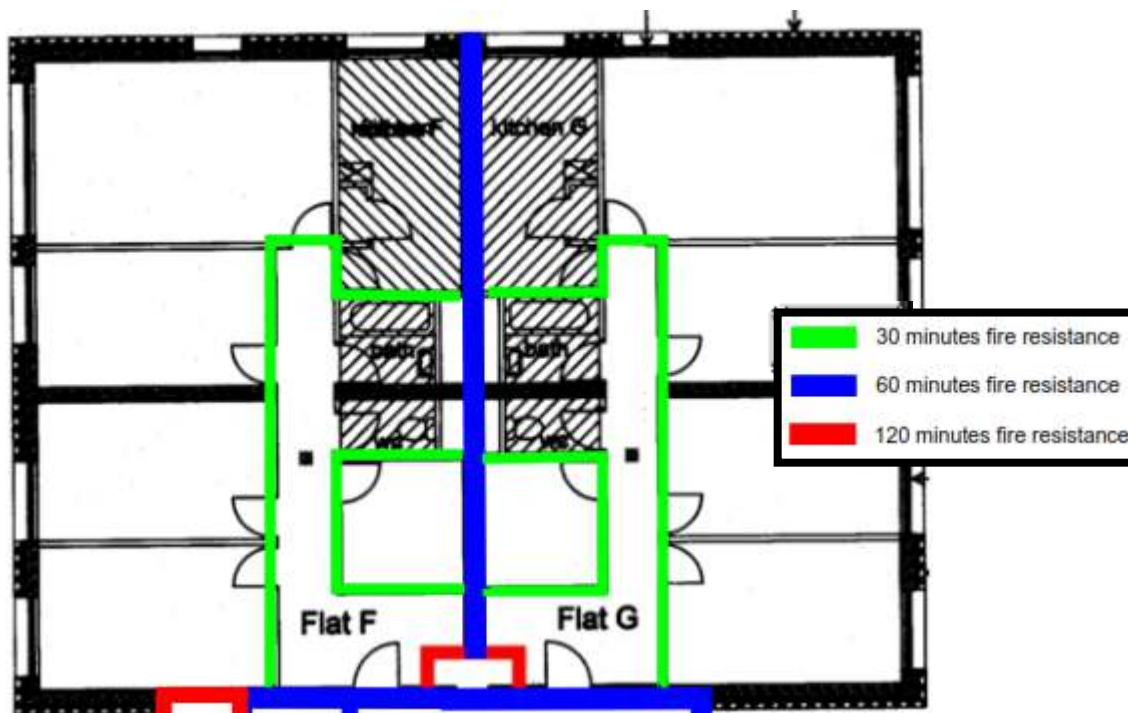


Figure 2 - Indicative Protected Internal Hallway Markup

### 2.3 Horizontal Escape

The original building layout had all flats opening into two sections of corridor that were both served by permanent ventilation. There was a third vent that also served the lobby to the stairs. Each section was ventilated independently. These vents have been upgraded to AOV's at some point over their lifetime, offering approximately 1.5m<sup>2</sup> of natural ventilation to each section of corridor.

It has been highlighted that the proximity of some flat bathroom windows to these vents is less than 1.8m, which would not be acceptable under current guidance. See section 5.2.

All flats open into a ventilated section of corridor where travel is available in two directions, both of less than 30m, from the furthest flat entrance door to one of two ventilated stair lobby doors. Both sections of corridor, and the stair lobby, are served by 1.5m<sup>2</sup> automatic opening windows. This arrangement was acceptable at the time of construction, although permanent ventilation was more typically provided. Under current guidance window AOV's on buildings over 30m in height would not be provided, however due to their being three separate vents of three separate elevations, the opportunity of cross ventilation for the fire service to clear smoke means this solution is still effective and there seems no reason to consider any upgrades to this.

The TRA space has a single direction of escape which is within 18m of the building exit door. However, there is an inner room scenario so detection should be provided within the access room.



## 2.4 Vertical Escape

Dorney Tower is a single stair building. The stairs also serve as firefighting stairs and are in excess of 1200mm in width, which is wider than the current 1100mm requirement for firefighting stairs.

The ground floor escape route from the stair to fresh air would have originally been protected by permanently ventilated lobbies on either side. Over time these vents have been blocked up and replaced by glazing and doors. Where these have been replaced by doors, these doors should now serve as 1.5m<sup>2</sup> AOV's, operating the same cause and effect as the AOV's on the upper floors. Where glazing is installed, this should be replaced with a 1.5m<sup>2</sup> AOV window, as per the upper floors. These vent locations are shown in Figure 4.

Many of the original external stairs serving the basement areas have been blocked off. However, two vertical escape routes have been maintained from the basement, and the routes are clearly and appropriately signed.

## 3 Wall and Ceiling Linings

Wall and ceiling linings at the time of construction were not as clearly defined as within current guidance, with any wall requiring 60 minutes fire resistance recommended as being non-combustible; meeting the BS 476 Part 1. The exception being within dwelling where materials could also be National Class 1. There is no reason to assume this is not the case, and there is no requirement to make improvements to the existing arrangement, but where any works are carried out in future they should be done so in accordance with the below criteria:

**Table 1: Classification of Linings (Table 4.1 Approved Document B 2019)**

| Location  | European Class          |
|---|-------------------------|
| Small rooms of area not more than 4m <sup>2</sup>                       | D-s3, d2                |
| Other rooms (Including garages)   | C-s3, d2                |
| Circulation spaces within dwellings                                     |                         |
| Other circulation spaces, including the common areas of blocks of flats | B-s3, d2 <sup>(1)</sup> |

**Note:**

1. Wall coverings which conform to BS EN 15102, achieving at least class C-s3 d2 and bonded to a class A2-s3 d2 substrate, will also be acceptable.

## 4 Internal Fire Spread and Resistance

### 4.1 Elements of structure

Based on the assumption that there is a 3m floor to floor height, the building is approximately 66m tall. This would mean that the elements of structure at the time of construction would have been constructed to achieve 90 minutes fire resistance.

Current guidance in Approved Document B 2019 would not permit a building over 30m to be constructed without sprinklers, a structural fire resistance of 120 minutes and the installation of sprinklers would be recommended.

## 4.2 Compartmentation

The compartmentation requirements at the time of construction, which is what would have been provided as a minimum, is as listed below:

- Stairs - 60 minutes fire resistance;
- Lift shafts - 60 minutes fire resistance;
- Corridors - 60 minutes fire resistance;
- Shafts/risers - 60 minutes fire resistance;
- Non loadbearing floors - 60 minutes fire resistance;
- Substation - 120 minutes fire resistance;
- Boiler rooms - 120 minutes fire resistance;
- Refuse stores – 60 minutes fire resistance.

**The levels of fire resistance within the current guidance in Approved Document B 2019 are listed below. Where any works are carried out to the existing compartmentation elements of the building, they will be reinstated to meet the below criteria:**

As this is a residential building, all floors are compartment floors and would require the fire rating of the elements of structure; 120 minutes fire resistance.

Any compartment/party walls should be provided with 60 minutes fire resistance.

Stairways and lifts also serve as firefighting stairs and should be enclosed and separated from the remainder of the building by 120 minutes fire resistance.

Communal corridors should be constructed as protected corridors, with 60 minutes fire resistance. Any sub division within corridors should be provided with 30 minutes fire resistance

Any areas designated for storage within communal areas of the building should be separated from the escape routes by fire resisting construction of not less than 60 minutes.

Service risers, including those located within any external wall systems. will conform to the fire rating of the building, 120 minutes. This was originally done by containing the shaft vertically, and this solution should be continued.

There are fire rated ceiling voids in all three corridor sections at each floor level. These contain gas pipework and were originally permanently vented directly to fresh air through louvered vents on the façade (See section 6.2.3). These ceiling voids are provided with 60 minute fire rated hatches, and the ceilings should offer at least a notional period of fire resistance to at least 60 minutes.

Any refuse store areas should be separated from all adjacent accommodation by 60 minutes fire resistance. External doors require no fire rating. If located externally, these should be located at least 6m away from the building.



The electrical intake rooms should be separated from the rest of the building by 60 minutes fire resistance. (Substations may be required to be up to 4 hours fire resistance under the requirements of UKPN, but their locations and separation should be verified).

Any stores and any ancillary accommodation should be enclosed in 60 minutes fire resistance with FD30S doors. These are not allowed to be provided within the communal areas.

Each flat should be enclosed in 60 minutes fire resisting construction horizontally; between the flat and the corridor, and between flats. Any structural vertical separation between flats should meet the elements of structure requirement of 120 minutes, as the floors are compartment floors.

Internal protected hallways within flats, see section 2.2 & 5.2, should be provided with 30 minutes fire resistance. This includes walls to cupboards accessed off of the hallway.

The below are indicative mark-ups showing the current compartmentation requirements of a typical ground and upper floor of the four towers. This is what should be applied when any work is carried out in these areas going forward, but does not necessarily include all compartmentation requirements. Please utilise the text above to ensure all necessary compartmentation is considered.

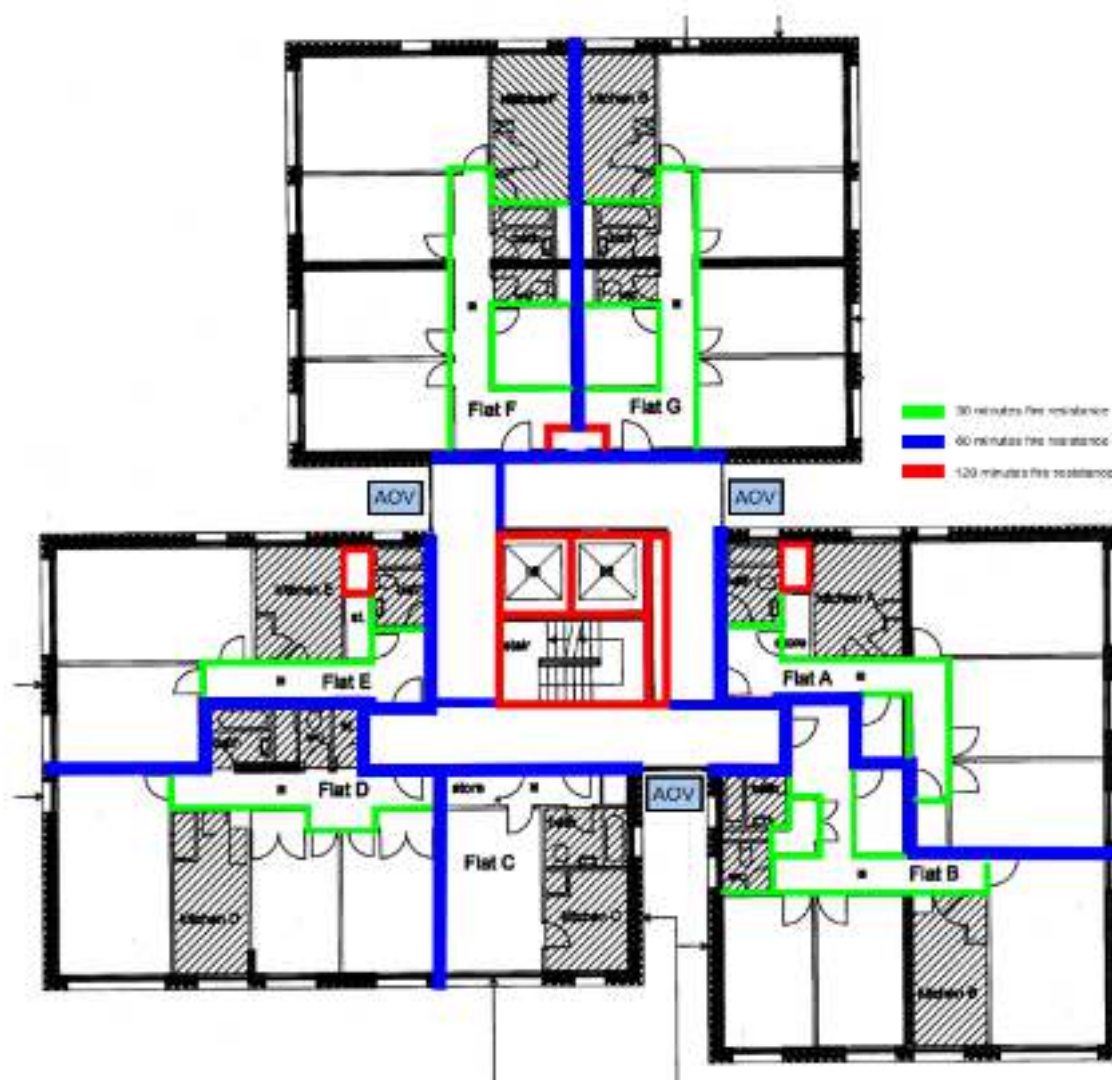


Figure 3 – Indicative Typical Tower Upper Floor

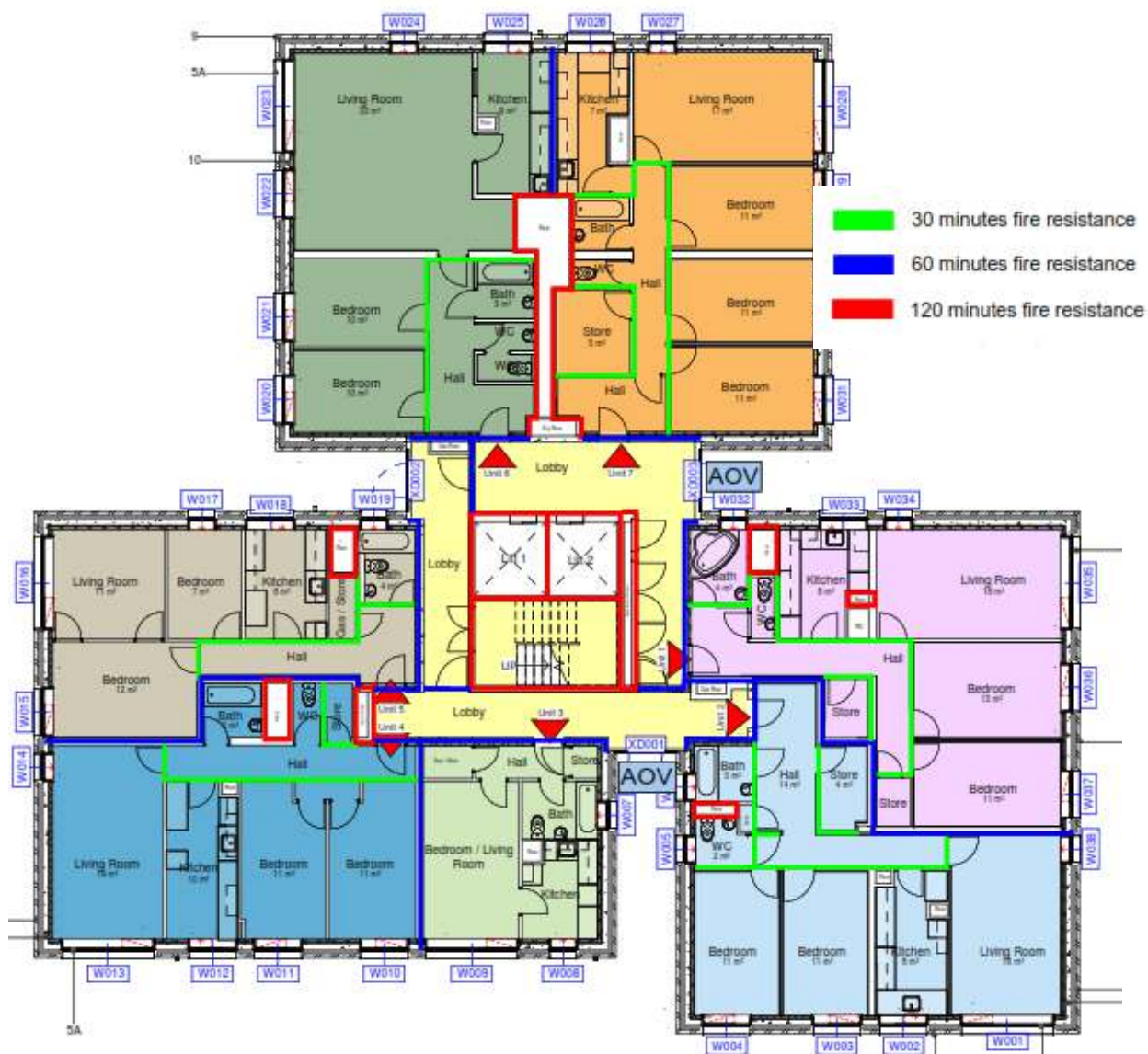


Figure 4 – Indicative Typical Tower Ground Floor

### 4.3 Fire Doors

The current fire doors within the building are a mixture of new and original. The original door requirements are as per the below table:

Table 2: Original CPs: Chapter IV 1962 Fire Door Performance Specification

| Location                 | Door Specification               |
|--------------------------|----------------------------------|
| Stair Doors              | Self-closing 30 minute fire door |
| Lift Doors               | 30 minute fire door              |
| Service Risers           | 30 minute fire door              |
| Bedroom & Bathroom Doors | No fire rating required          |

|                                     |                                  |
|-------------------------------------|----------------------------------|
| Kitchen, Lounge & Dining Room Doors | Self-closing 30 minute fire door |
| Flat Entrance Doors                 | Self-closing 30 minute fire door |
| Cross-corridor Doors                | Self-closing 30 minute fire door |
| Cleaners/Storage Cupboard Doors     | 30 minute fire door              |

Some of the above fire door sets have been replaced or upgraded over time. Where they still meet the above criteria, there is no obligation to upgrade these. However, the fire risk assessment will need to consider this.

All fire door sets when being replaced should, as a minimum, be provided with protection in accordance with the below table:

**Table 3: Approved Document B 2019 Fire Door Performance Specification**

| Location                        | Door Specification |
|---------------------------------|--------------------|
| Stair Doors                     | FD60S              |
| Lift Doors                      | FD60               |
| Service Risers                  | FD60               |
| Bedroom Doors                   | FD30*              |
| Kitchen Doors                   | FD30*              |
| Flat Entrance Doors             | FD60S**            |
| Cross-corridor Doors            | FD60S**            |
| Cleaners/Storage Cupboard Doors | FD30S              |

\* The internal flat doors have a minimum requirement of FD20, but Camden have taken the position to increase this to an FD30 standard when being replaced.

\*\* The flat entrance doors and cross corridor doors have recently been replaced and improved to an FD60S standard. Although not a requirement, this was a decision made by Camden to improve the safety of residents and potentially fire service access.

Any doors in communal areas should be provided with self-closers, except riser and small cupboard doors which should be kept locked shut and signed as such.

It is acceptable to provide doors on hold open devices which release on detection, if desired. The detectors should be located within 1.5m of the doors. It is proposed that these aren't provided on stair doors.

Doors are not required to open in the direction of travel as it is unlikely more than 60 people will be using a single door to escape.

Doors to bathrooms are not required to be fire resisting, provided the 30 minute fire resistant separation is maintained between the bathroom and adjacent rooms.

The main building entrance door, that opens out from the lobby that directly serves the stair is not required to be fire rated and **should not** act as an AOV. The other building entrance doors,



highlighted as AOV's in Figure 4, that do act as AOV's are not required to be fire resisting as they are in effect the same as the AOV's above. This has been justified in section 6.2.2.

#### **4.4 Cavity/Fire Barriers**

Due to the external wall replacement works taking place, all work will be done in accordance with the criteria in Approved Document B 2019.

As the internal concrete walls and floors finish in line with the inside surface of the external wall line, in most areas, cavity barriers will be provided in accordance with the recommendations of Section 9 of Approved Document B in order to prevent fire spread around a fire-separating element or within extensive cavities. These require a minimum integrity rating of 30 minutes, and 15 minutes for insulation. However, in instances where a barrier rated to the minimum is not available, a higher rated product will be used.

The only exception to the minimum 30/15 cavity barrier requirement is the 120 minute fire barriers that should be provided where any walls or floors stop short of the inside surface of the external wall line; this situation only occurs around the curtain walling where 120 minute fire barriers are required from the compartment walls to meet the external wall finish.

Due to the concrete structure and enhanced protection this provides to the external walls, it is not considered necessary to install cavity barriers in line with protected internal hallway walls. There will already be cavity barriers around all openings and at compartment wall and floor lines.

#### **4.5 Fire Stopping**

Fire stopping should be provided where any penetrations are made in any compartment walls/floors. This should be to the fire time of the compartment being penetrated.

Where ductwork passes through any compartment wall, a fire damper should be provided to prevent fire spread into the wall cavity.

Pipes should be suitably protected, with collars or sleeves, where they break through compartment walls or floors. In some instances, where they are of limited internal diameter and suitable material, only sealing is required to offer fire integrity and not insulation.

Any fire stopping products should have been tested in accordance with the relevant part of BS 476. They should also be fitted in accordance with the manufacturers' instructions.

### **5 External Fire Spread**

#### **5.1 Construction of External Walls**

As the external walls, from the concrete external wall system outwards, are being replaced. All work should be done so in accordance with the current guidance in Approved Document B 2019. Any elements being retained will not be subject to assessment against current guidance unless any work is taking place in these areas.

Regulation 7 of the Building Regulations 2010 (2019 Amendments) states that any products used in the external wall construction, of residential buildings with a storey over 18m, shall be of limited combustibility; European Class A2-s1, d0 or better, apart from the following exceptions permitted:

- a) cavity trays when used between two leaves of masonry;
- b) any part of a roof (other than any part of a roof which falls within paragraph (iv) of regulation 2(6)) if that part is connected to an external wall;
- c) door frames and doors;
- d) electrical installations;
- e) insulation and water proofing materials used below ground level;
- f) intumescent and fire stopping materials where the inclusion of the materials is necessary to meet the requirements of Part B of Schedule 1;
- g) membranes;
- h) seals, gaskets, fixings, sealants and backer rods;
- i) thermal break materials where the inclusion of the materials is necessary to meet the thermal bridging requirements of Part L of Schedule 1; or
- j) window frames and glass.

The external walls at Dorney Tower have been stripped back to concrete and the new materials should comply with the above, as this is a residential building over 18m in height.

A full list of materials will be provided when made available.

## 5.2 Space Separation

This is an existing building and the space separation remains as it was when the building was built. Therefore, it has not been reviewed against the criteria in BR187. However, some areas have been identified where there are flat windows adjacent to communal area AOV windows. It has been highlighted that the proximity of some flat bathroom windows to these vents is less than 1.8m, which would not be acceptable under current guidance. Bathroom windows present a minimal risk, as a fire in the bathroom itself is unlikely, and the 1.8m distance referred to in Approved Document B is related to radiated heat which will be less due to the minimal fire loading and low risk of a fire occurring in a bathroom. Although this is not considered to present a significant risk it is advised that, as part of the future works recommended in section 2.2, wherever this situation occurs with flats containing a protected internal hallway (flats A, B & E in Figure 3), the bathrooms should form part of the protected internal hallway and all rooms be provided with at least FD30 fire doors, including the bathrooms and w/c's.

Flat C, shown in Figure 3, is a studio flat so would not traditionally have any internal compartment walls. Additionally, the window is almost 1.8m from the AOV window. Based on this, no enhanced compartmentation requirements are proposed to Flat type C.

It is acknowledged that, as part of the façade works, the window sills are being dropped to just above floor level, as per the original building construction. Whilst this could potentially be seen as increasing the risk of vertical fire spread, this returns the building to the original arrangement and is





not considered to increase that above what was present at the time of construction. A 3m flame impingement would traditionally be allowed for and the distance from a lower window to the sill above is less than this in the proposed, original and current scenarios.

## **6 Fire Safety Systems and Signage**

The fire detection and alarm systems, AOV's and emergency lighting within the building are expected to meet the requirements and recommendations of the current standards, as they would not have formed part of the original construction requirements and will also have to be regularly tested and maintained in line with current standards. The below sections detail the current standards expected to be achieved for each system.

### **6.1 Fire Detection and Alarm Systems**

#### **6.1.1 Systems within dwellings**

An automatic fire detection and alarm system should be provided within each dwelling to meet the recommendations of Approved Document B 2019 Grade D2 Category LD2 in accordance with BS 5839-6 2019. This will generally consist of one mains-powered smoke detector in the internal protected hallway and a heat detector in the kitchen. These systems should already have been installed in all flats, but this will be verified as part of inspection works.

#### **6.1.2 Systems within common areas**

Detection should be provided within the communal areas to activate the AOV's only. This means there will be detection, but no sounders. The system should be a category L5 system, in accordance with BS 5839-1 2019.

If smoke is detected in any section of corridor, the AOV in that section will open.

#### **6.1.3 Other systems**

An automatic fire detection and alarm system should be provided in the TRA space, due to the inner room situation. However, as it is only a relatively small area, and primarily residential use, a grade D2 category LD2 system in accordance with BS 5839-6 2019 would be considered appropriate.

### **6.2 Ventilation Systems**

#### **6.2.1 Stair Ventilation**

The stair is served by a 1.0m<sup>2</sup> AOV at the head. This will be activated by the communal area, and stair, smoke detectors.

#### **6.2.2 Corridor Ventilation**

On the upper floor both sections of corridor, and the stair lobby, are served by 1.5m<sup>2</sup> automatic opening windows; three AOV's in total. This arrangement was acceptable at the time of construction,

although permanent ventilation was more typically provided. Under some current guidance documents, such as BS 9991:2015, window AOV's on buildings over 30m in height would not be provided, however due to their being three separate vents of three separate elevations, the opportunity of cross ventilation for the fire service to clear smoke means this solution is still effective and there seems no reason to consider any upgrades to this.

The ground floor original ventilation would have been permanent, but this has since been replaced with glazing. It is proposed to be ventilated as per section 2.3, where the two sections of corridor adjacent to the final escape route from the stair are ventilated by AOV's or automatic opening door sets in those sections. These should offer at least 1.5m<sup>2</sup> free area. The main building entrance door, that opens out from the lobby that directly serves the stair, is not required to be fire rated but **should not** act as an AOV.

The basement areas are only accessible from outside of the building, via external staircases, and are not occupiable by residents. No ventilation is deemed necessary for the basement as it is largely unoccupied, and most areas are served with vents to fresh air.

### 6.2.3 Communal Ceiling Void Ventilation

The communal ceiling voids were originally vented through louvres on the façade, as they effectively act as horizontal gas pipework ducts. This arrangement should be maintained in the new façade.

## 6.3 Emergency Lighting

All common escape routes should be served by emergency lighting, meeting the requirements of BS 5266-1: 2016 & BS EN 1838:2013. These areas include:


- Common corridors/lobbies;
- Stairs;
- Final escape route;
- External escape routes (if a route is needed to be taken to the street).

## 6.4 Fire Safety Signage


All signage should meet the recommendations of BS 5499-1 & BS ISO 3864-1. The below tables detail the requirements of the different types of signage needed for escape and fire equipment.

**Table 4: Safe Condition Signage**

| Layout of Safety Signs | Requirement   |
|------------------------|---|
| Geometric Shape        | Rectangular, square or oblong   |
| Safety Colour          | Green   |
| Background             | Safety Colour green, covering at least 50% of the area of the sign excluding the border |
| Contrast Colour        | White   |

| Layout of Safety Signs | Requirement  |
|------------------------|--|
| Graphical symbol       | Colour white, placed centrally on the background                                   |
| Border                 | Colour white, recommended width at least 0.025 of the sign height                  |
| Example                |  |



**Table 5: Fire Equipment Signage**

| Criteria         | Requirement   |
|------------------|---|
| Geometric Shape  | Rectangular, square or oblong   |
| Safety Colour    | Red   |
| Background       | Safety Colour red, covering at least 50% of the area of the sign excluding the border |
| Contrast Colour  | White   |
| Graphical symbol | Colour white, placed centrally on the background                                      |
| Border           | Colour white, recommended width at least 0.025 of the sign height                     |
| Example          |   |

### 6.4.1 Fire Door Signage

Fire doors should be provided with signage meeting the recommendations of BS 5499-5, depending on their method of closure.

**Table 6: Fire Door Signage**

| Method of Closure   | Signage   | Sign Diameter | Letter Height |
|---------------------|---|---------------|---------------|
| Self-closing device |  | 60mm          | 5mm           |
| Keep locked shut    |  |               |               |

Fire exit doors and escape routes in and around the building will be provided with signage complying with the recommendations of BS 5499-5.

## 7 Fire Service Access

### 7.1 Vehicle Access

Vehicle access is available to within 18m of the dry riser inlet of the building, which is located on the front elevation of the building within 18m of the base of the stair. This layout is compliant with current standards.

### 7.2 Access within the building

A firefighting stair is provided in Dorney Tower, which is protected by a sterile ventilated lobby. The dry riser outlets are located within the lobby at each floor level, where travel is available within 45m of the dry riser outlet to the furthest point of the furthest flat.

There is currently a fire brigade lift located within one of the corridor sections, which serves all floors ground and above. The existing lifts are currently able to be taken control of by the fire service and will allow them to access all floors. This is not a firefighting lift and it is not a requirement to upgrade this to meet the current firefighting lift requirements. The fire service have previously visited site and did not raise any concern as to the current lift arrangements and building control have accepted these being maintained as they are. Should upgrades be desired at a later date, they should be done so in accordance with BS 9991.

There are three independently lobbies/corridors at each floor level. If the fire service wish to clear smoke from any section they are able to open cross-corridor doors to provide cross flow ventilation.

### 7.3 Dry Rising Main

The building is fitted with a dry rising main with the inlet located adjacent on the street elevation of the building and an outlet located in the corridor/lobby at each floor level, from fourth floor upwards.

As the building is over 50m in height, current guidance would recommend this building be fitted with a wet riser with outlets in the stair at each floor level, including ground floor. However, at the time of construction the existing arrangement with the dry rising main and outlets in the corridor was considered acceptable.

The potential of installing a wet rising main was also reviewed by Frankham Consultancy Group, with the below feedback:

- The Landing Valves for dry fire mains and wet fire mains are designed and constructed to different standards, with pressure regulating valves required at each outlet on a wet fire main;
- The landing valves boxes currently installed do not appear to comply with BS 5041-4, being fitted with a padlock, not a spring cylinder lock or budget lock as required by the British Standard;



- A significant number of other components, including storage cisterns and pump-set, electrical supply infrastructure etc are required to form a complete wet rising main system;
- Given the above, we would suggest it is not economical to attempt to convert the existing system to a wet fire main. If a new system is required, the client and end users would benefit from the installation of a new purpose designed system.

## **7.4 Hydrant Location**

Hydrant locations are existing and are within 100m of the entrance to the building.

## **8 Relevant Legislation**

The building will be subject to control under the following pieces of legislation:

- Regulatory Reform (Fire Safety) Order 2005;
- Building Regulations 2010 (2018 Amendments);
- Housing Act 2004;
- Homes (Fitness for Human Habitation) Act 2018.

### **8.1 Regulatory Reform (Fire Safety) Order 2005**

The Fire Safety Order is the primary piece of legislation relating to fire safety in existing, non-domestic premises, and is usually enforced by the local fire authority.

The duty of ensuring that the requirements of the Order are met rests with the Responsible Person, who must undertake a risk assessment for the purpose of identifying the fire precautions he needs to take.

### **8.2 Fire Risk Assessment**

There is a requirement for a fire risk assessment to be undertaken for virtually all non-domestic premises including the common areas of blocks of flats, and external walls. In many instances the significant findings of this assessment to be recorded. Furthermore, the onus on proving what reasonable fire safety measures should be provided lies with the person responsible for the building, not the enforcing authority.



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## **Appendix A – Sprinkler Feasibility Study**

See Frankham document, 227552-FCG-ZZ-XX-RP-Z-0201-S2-P01.