



Report

Project	Mayfield Phase 1b, Manchester
Report Title	Stage 2 Fire Strategy
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1.0 INTRODUCTION

1.1 Description of Building

Mayfield Phase 1b comprises two residential plots in Manchester, Plot J and Plot K. Each plot consists of two tower blocks that are connected by a podium at the lower levels, providing ancillary and amenity spaces. All four blocks will be more than 50m in height; with a top occupied storey 51m and 69m above fire service access level (Upper Ground floor) in Blocks J1 and J2 respectively, and 84m and 60m in Blocks K1 and K2. The floorplate steps back at the upper levels in each block.

The ground floor will also consist of commercial units, plant space, bin stores and a large reception space.



Figure 1: Site Plan

1.2 Aim of Report

This report describes the key fire strategy principles for the buildings and is intended to identify the main fire safety features, firefighter access facilities and fire strategy principles supporting the stage 2 design.

It is intended to support the Gateway 1 submission and should be read in conjunction with the Fire Statement submitted for the scheme. It is also intended to support the design team in the ongoing development of the scheme and can be used to support initial discussion with Building Control and the Fire Service.

This report addresses life safety only and not property protection or insurance requirements.

1.3 Fire Strategy Approach

1.3.1 Building Regulations and Guidance

The Building Regulations requires buildings to be designed to achieve a reasonable standard of safety for occupants in and around the building. The following sections describe the fire strategy arrangements that will be provided in each of the plots to achieve this.

The fire strategy design primarily draws from contemporary guidance including the Building Regulations, BS9991:2015 and BS9999:2017.

BS 9991:2024 was published on 27th November 2024 and replaces the 2015 version stated above. Much of the design work for this project to this point was carried out prior to this updated standard being published. However, the fire safety arrangements set out in this report did consider emerging best practices and, based on initial evaluation, captures many of the additional features and recommendations set out in the new standard. The design will of course need further review in subsequent design stages and there may be aspects of the design that need refinement that will become apparent as the industry becomes more familiar with the new British Standard.

Although not the principal guidance used to inform the design of the buildings, the design has taken into account new guidance within Approved Document B (ADB) Volumes 1 and 2 (2019 incorporating 2020 and 2022 amendments).

Further amendments to the ADB were issued in March 2024. Although this guidance does not come into effect until 2026, the design for Mayfield follows the principles it describes. This includes measures such as the provision of firefighting wayfinding signage, two stairs, and the approach to evacuation shafts.

Where there are aspects of the design which don't comply with the recommendations of code guidance, alternative fire engineered solutions have been developed and are discussed in this report to support a more efficient design whilst still achieving the requisite standard of safety to meet the functional requirements of the Building Regulations.

1.3.2 Qualitative Design Review

Each tower will have a top storey height more than 50m above ground level. The guidance in BS 9991 defines this as a 'tall or very tall' building and recommends that for such buildings a Qualitative Design Review (QDR) is therefore being carried out to assess whether the recommendations of standard guidance are appropriate to achieve a satisfactory standard of safety within the building.

The 2024 standard is different and has removed reference to the need for a QDR. The new standard states that it is applicable to all buildings up to and including 100m high. All four blocks will be between 50m and 100m tall and are therefore considered "tall" or "very tall" buildings based on the 2015 standard but are well within the 100m limit in the new standard.

Whilst not specifically required by the new standard the intention is nevertheless for the project to follow the principles of a QDR to establish that the fire safety arrangements are appropriate given the height of the buildings.

The QDR process has commenced involving the design team and client. The Stage 2 design has been developed based on experience of 'very tall' residential buildings and the suitable fire strategy measures required to support them. This Fire Strategy Report will be updated with any further outcome from the QDR process as the scheme progresses including engagement with other key stakeholders such as the BSR and Fire Service in the design stages after planning.

Elements of the design that have been considered during the QDR process and have been incorporated into the design include: -

- The provision of two dual-purpose firefighting/evacuation lifts within at least one firefighting core of each block,
- Low-mounted wayfinding guidance systems will be provided within the stairways,
- Stairs will be constructed from materials achieving either Class A1 or Class A2-s1, d0.
- Regular maintenance of all life safety systems.

2.0 FIRE ALARM SYSTEM AND EVACUATION STRATEGY

2.1 Evacuation Strategy

The residential parts of the building will operate a 'defend-in-place' strategy, whereby only occupants in the fire flat evacuate in the first instance. However, there will be the means to evacuate other parts of the building if deemed necessary – see Section 2.3. The residential areas would not be evacuated immediately for a fire in the non-residential parts of the building.

Non-residential parts of the residential block (amenity, plant etc.) will operate a simultaneous evacuation strategy upon confirmation of fire within the landlord areas.

Commercial areas will also operate a simultaneous evacuation strategy, although, given the level of compartmentation between commercial and residential areas, evacuation of one would not necessarily initiate evacuation of the other unless deemed necessary by Building Management or the Fire Service.

2.2 Automatic fire Detection and alarm

2.2.1 Residential Fire Alarm

Residential areas will be provided with an automatic fire alarm system meeting the following standards:

- | | | | |
|---|---|-----|-------------|
| • In flats | - | LD1 | (BS 5839-6) |
| • In common corridors and escape routes | - | L5 | (BS 5839-1) |
| • Elsewhere (amenity, plant etc.) | - | L3 | (BS 5839-1) |

2.2.2 Commercial Fire Alarm

The commercial units will be provided with an independent automatic fire detection and alarm system to at least an L3 standard. These systems will be compatible with and linked to the residential fire alarm system to ensure Building Management are alerted to a fire anywhere in the buildings.

2.2.3 External Areas

Beacons and sounders will be provided to private and communal external areas at the upper levels where the proposed alarm coverage will not be sufficient in alerting occupants on the terrace or where the access room will not be clearly visible from the terrace.

2.3 Evacuation Alert System

An evacuation alert system will be provided in accordance with BS 8629:2019 which will enable the Fire Service to evacuate the entire building on a floor-by-floor basis if needed.

3.0 OTHER ACTIVE FIRE SAFETY SYSTEMS

3.1 Sprinklers

All buildings have floors more than 11m above ground. These buildings therefore need to be sprinklered throughout. Sprinklers are designed to control fires and restrict the maximum size the fire could grow to and they may even extinguish the fire. The risks and consequences of a fire on residents' safety are greatly reduced in sprinklered buildings.

Sprinklers will be provided in apartments in accordance with BS 9251 – 2021: Fire sprinkler systems for the domestic and residential occupancies – Code of practice. As the top floors of each block exceed 18m in height, a Category 4 system will be provided. The residential buildings each contain some non-residential accommodation. All retail, leisure, and other similar non-residential spaces will also be sprinklered. Sprinklers provided to the commercial spaces will be in accordance with BS EN 12845 – 2015: Fixed firefighting systems — Automatic sprinkler systems — Design, installation and maintenance.

The communal and ancillary residential areas will be sprinklered. Some of the communal residential facilities may need to be served from the commercial standard sprinkler system. This will be developed in subsequent design stages.

Plant rooms and other areas in which sprinklers would not be suitable will be provided with an alternative means of suppression.

3.2 Smoke Venting

3.2.1 Common Corridors and Lobbies

All four residential towers will be provided smoke venting to protect escape stairs and evacuation lift lobbies. This will be achieved by the provision of mechanical smoke shafts in common corridors and the lobbies.

In lift lobbies, replacement air will come from an automatically opening vent at the head of escape stairs. In corridors, replacement air will be supplied through dedicated inlet shafts.

The detailed design of the smoke control system will require specialist input as the design progresses, but extract shafts would typically provide an extract rate of 3 - 5m³/s with a cross-sectional area of 0.6 - 0.8m².

Smoke venting provision in Blocks J and K are addressed in more detail in Sections 4.2 and 5.2.

3.2.2 Basement Smoke Venting

See Section 7.6.

3.3 Emergency Lighting

Emergency lighting will be provided in accordance with BS 5266-1:2016.

3.4 Emergency Signage

Emergency signage will be provided in accordance with BS 5499-4:2013 and BS ISO 3864-1.

3.5 Back-up Power

All life safety systems within the building will be provided with back-up power in line with the recommendations of BS 9999.

4.0 MEANS OF ESCAPE – PLOT J RESIDENTIAL

4.1 Flat Layouts

Most flats will be designed to an open plan layout design with habitable rooms being accessed as inner rooms. Open plan apartments are proposed based on the following design criteria being met: -

- Apartments will have an LD1 standard of fire alarm and detection,
- Apartments will be provided with sprinklers,
- Apartment dimensions will be within 16m x 12m,
- The ceiling height will be at least 2.25m,
- Open plan flats will span a single level only,

In open plan apartments the travel distance will be limited to 20m and cooking facilities will be positioned to ensure they are at least 1.8m from escape routes/doors, with an allowance for 0.9m of unobstructed escape route width. A gap of 0.3m will be provided between the leading edge of the exit door from the space containing the cooking facility and the 1.8m zone from the cooking facilities. The above separation distances are shown in the figure below.

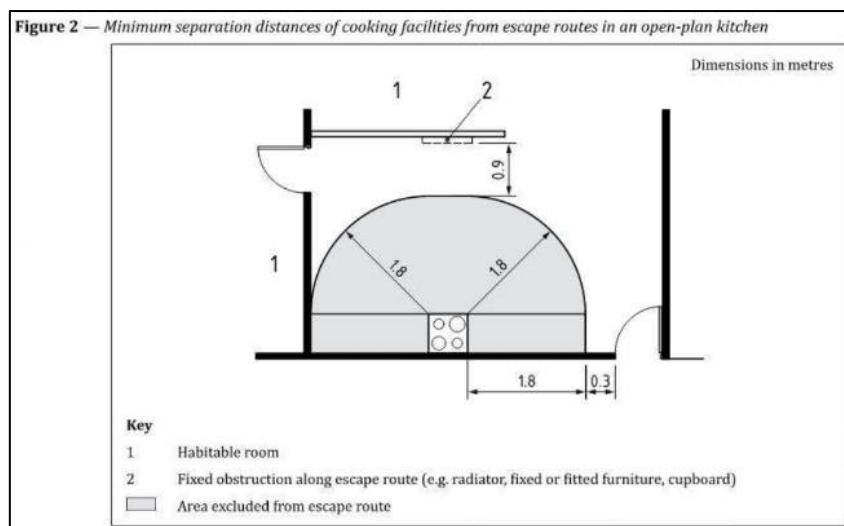


Figure 2: Escape past a hob (BS 9991:2024 Figure 2)

There will also be some duplex apartments at the top levels with a protected internal stair design. All apartments designed with a protected hallway / stair will have the sleeping accommodation accessible from the protected corridor.

Travel distances within protected hallways will be limited to 9m.

4.2 Common Corridors

The common corridors will be divided such that the stair and lifts open into a protected lobby, with flats and service risers accessed from a separate section of the corridor. A typical floor is shown in the following figure.

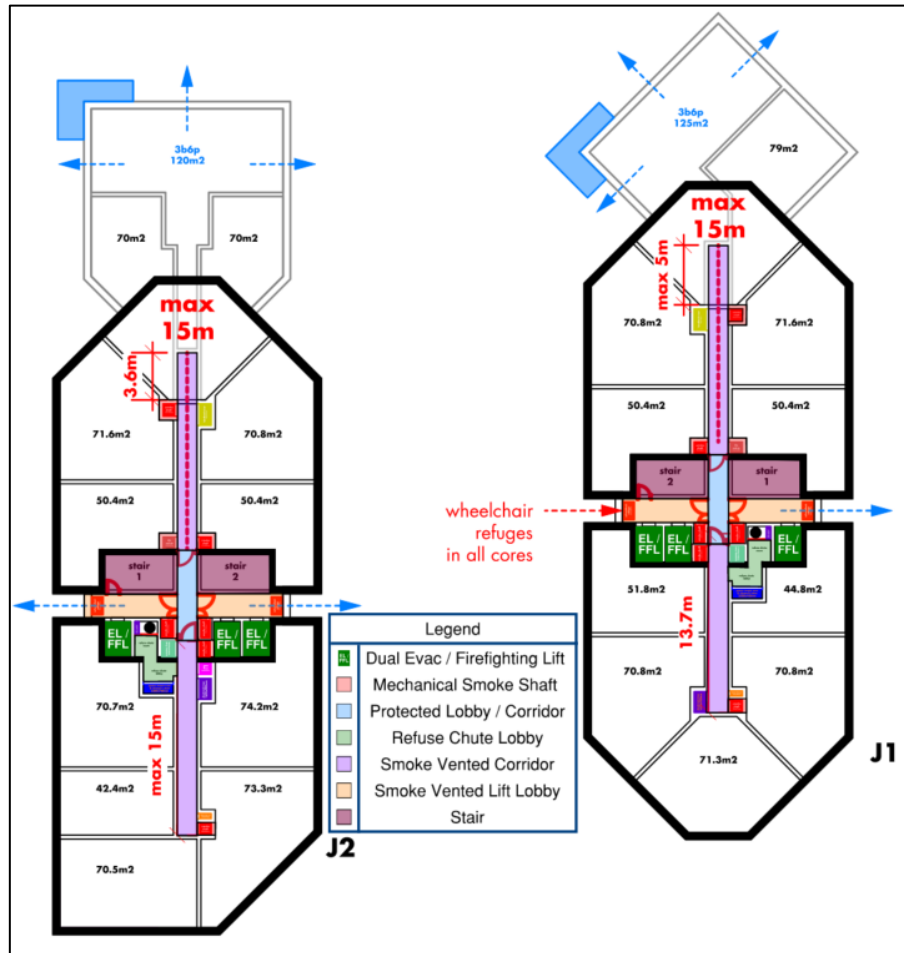


Figure 3: Smoke Control Arrangement Plot J

The travel distance from the apartments to the protected stair will be within 15m in a single direction or 30m where there is a choice of escape routes in line with guidance for a smoke vented residential corridor adjoining sprinklered flats. Smoke shafts have been positioned near the end of corridors to benefit the effectiveness of the smoke control extract system.

4.3 Evacuation Shafts

4.3.1 Disabled Refuges and Evacuation Lifts

Each tower will be provided with two evacuation shafts with a total of three lifts. All lifts will be designed as dual-purpose evacuation and firefighting lifts, to provide resiliency in evacuation and firefighting strategies. The smoke vented lift lobby will provide a safe space for occupants to wait to evacuate via the lift should they need to. There will be a level route from the evacuation lift to the street at ground level.

A disabled refuge will be provided in each lift lobby at each level. This will be provided with a two-way emergency communication point which connects with building management.

4.3.2 Stairs

The stairs will achieve at least 1100mm clear width.

4.3.3 Final Exit

The residential stairs will discharge directly to outside at either Lower Ground or Upper Ground level. The evacuation lifts discharge into a protected lobby which discharges either straight to outside or via a level route

through its respective stair. The lift lobby will be separated from other areas by a smoke vented lobby. This is shown indicatively below for Lower Ground.

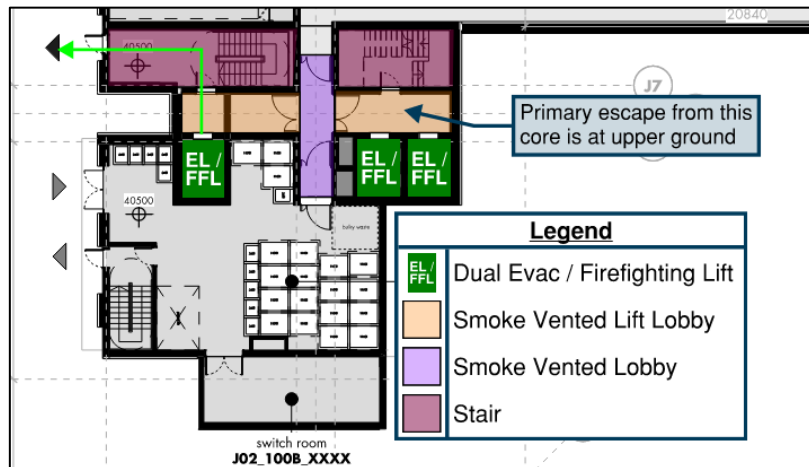


Figure 4: Final Exit - Block J (Lower Ground)

4.3.4 Duplex Levels

The top two levels of Block J1 will comprise duplex apartments, accessed at the lower level. At the access level the approach is the same as the floors below. There is no access to the duplex flats from common areas at the upper level.

4.4 Amenity and Ancillary Areas

In amenity and ancillary areas travel distances will generally be limited to 18m in a single direction and 45m where there is a choice of escape routes. Escape capacity will be reviewed as the design progresses to ensure it reflects the use of each area. Escape will not rely on fob access. Any doors on final exits which are provided with locking mechanisms should fail safe into the open position upon alarm, loss of power or device failure. A manual override will also be provided as a fail-safe.

In plant rooms, travel distances within the rooms will be limited to 9m in a single direction and 18m where there is a choice of escape routes. Travel distances to the nearest storey exit will be limited to 18m in a single direction and 45m where there is a choice of escape.

4.5 Bin Stores / Refuse Chutes

Where the bin stores / refuse chutes are accessed internally, they will be separated from the corridor by a protected lobby with at least 0.4m² permanent ventilation or mechanical equivalent.

5.0 MEANS OF ESCAPE – PLOT K RESIDENTIAL

5.1 Flat Layout

The Block K flats will be designed to an open plan layout design with habitable rooms being accessed as inner rooms to the main living space.

Open plan apartments are proposed based on the following design criteria being met: -

- Apartments will have an LD1 standard of fire alarm and detection,
- Apartments will be provided with sprinklers,
- Apartment dimensions will be within 16m x 12m,
- The ceiling height will be at least 2.25m,
- Open plan flats will span a single level only,

The travel distance within the flats will be limited to 20m and cooking facilities will be positioned to ensure they are at least 1.8m from escape routes/doors, with an allowance for 0.9m of unobstructed escape route width. A gap of 0.3m will be provided between the leading edge of the exit door from the space containing the cooking facility and the 1.8m zone from the cooking facilities. The above separation distances are shown in the figure below.

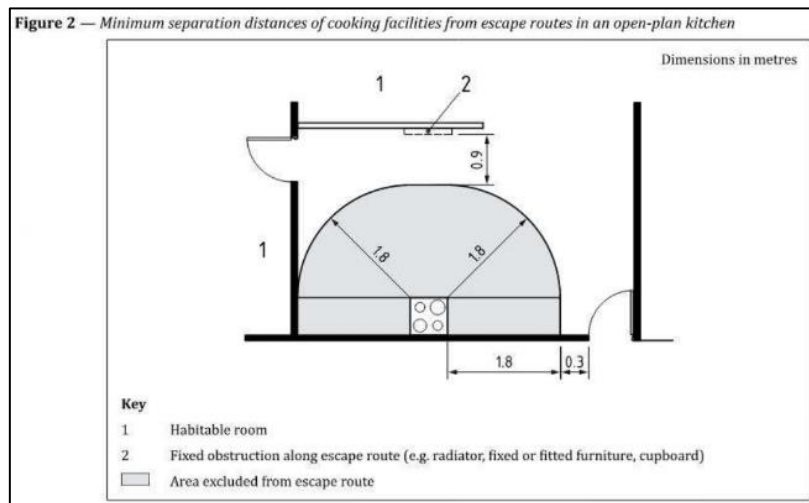


Figure 5: Escape past a hob (BS 9991:2024 Figure 2)

5.2 Common Corridors

The common corridors will be divided such that the stair and lifts open into a smoke vented lobby, with flats and service risers accessed from a separate corridor. A typical floor is shown in the following figure.



The travel distance from the apartments to the protected stair will be within 15m in a single direction or 30m where there is a choice of escape routes in line with guidance for a smoke vented residential corridor adjoining sprinklered flats. Smoke shafts have been positioned at the end of corridors to benefit the effectiveness of the smoke control extract system.

5.3 Amenity and Ancillary Areas

In amenity and ancillary areas travel distances will generally be limited to 18m in a single direction and 45m where there is a choice of escape routes. Escape capacity will be reviewed as the design progresses to ensure it reflects the use of each area. Escape will not rely on fob access. Any doors on final exits which are provided with locking mechanisms should fail safe into the open position upon alarm, loss of power or device failure. A manual override will also be provided as a fail-safe.

The amenity at Level 27 in Block K1 will be limited to 60 occupants due to having a single exit.

In plant rooms, travel distances within the room will be limited to 9m in a single direction and 18m where there is a choice of escape routes. Travel distances to the nearest storey exit will be limited to 18m in a single direction and 45m where there is a choice of escape.

5.4 Bin Stores / Refuse Chutes

Where the bin stores / refuse chutes are accessed internally, they will be separated from the corridor by a protected lobby with at least 0.4m² permanent ventilation or mechanical equivalent.

5.5 Evacuation Shaft

5.5.1 Disabled Refugees and Evacuation Lifts

Each tower will be provided with three evacuation shafts, although the northern core in each tower drops off as the buildings step back. All lifts will be designed as dual-purpose evacuation and firefighting lifts, to provide resiliency in evacuation and firefighting strategies. The ventilated lift lobby will provide a safe space for occupants to wait to evacuate via the lift should they need to.

There will be a level access route from the evacuation lift to the street at ground level.

5.5.2 Stairs

The stairs in the protected shafts will achieve at least 1100mm clear width.

5.5.3 Final Exit

The residential stairs will discharge directly to outside at either Lower Ground or Upper Ground level. The evacuation lifts discharge into a protected lobby which discharges either straight to outside or via a level route through its respective stair. The lift lobby will be separated from other areas by a smoke vented lobby. Both lobbies providing access to dual-entry lifts will be smoke vented. This is shown indicatively for two cores below.

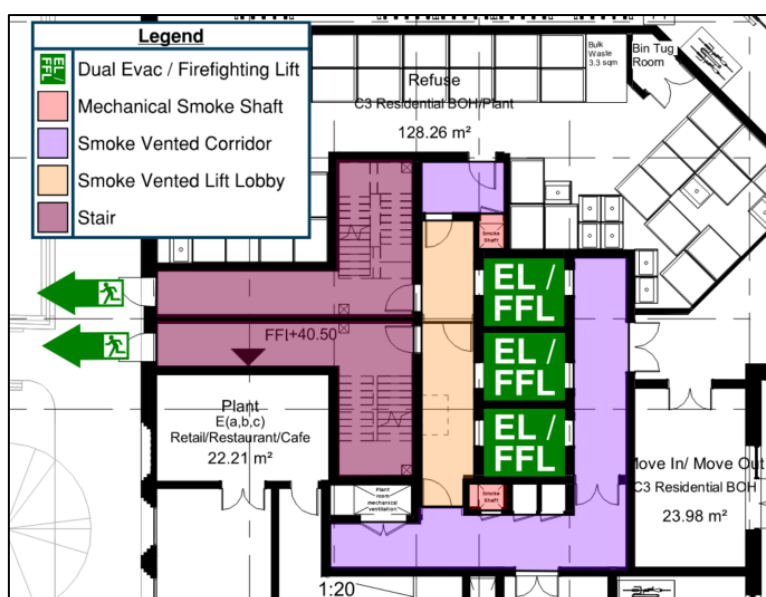


Figure 7: Final Exit – Block K (Upper Ground)

5.5.4 Mezzanine Bike / Refuse Stores

The same principles of protection to the stair and lifts will apply at the mezzanine levels containing a cycle store in Block K2 and a refuse store in Block K1. This is shown indicatively for K2 below.

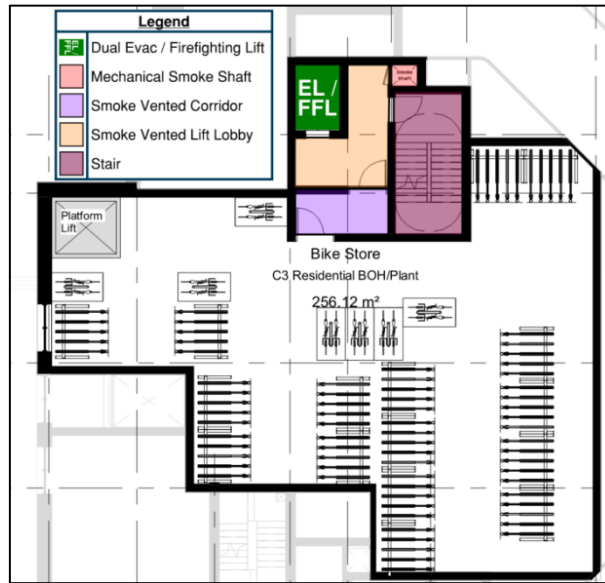


Figure 8: Mezzanine Bike / Refuse Store Stair and Lift Lobby

6.0 MEANS OF ESCAPE – NON-RESIDENTIAL

6.1 Travel Distances

Travel distances will be limited to 18m in a single direction and 45m where there is a choice of escape routes within the commercial units. Plant room travel distances will be restricted within the rooms to 9m in a single direction and 18m where there is a choice of escape, extending to 18m in a single direction and 45m where there is a choice of escape upon exiting the room. Exits will be either straight to outside or via landlord corridors.

6.2 Exit Capacity

Exit capacity will be developed as the design progresses to make sure there is adequate capacity for the use of each area. Areas with a single exit, or inward opening doors, will be limited to 60 occupants. Where higher occupancies are required exit capacity will be provided in line with the principles described in ADB V2.

6.3 Mobility-Impaired Occupants

Most areas will have level access / escape routes. Where escape is reliant on a stair, disabled refuges will be provided. Although there is no current requirement for evacuation lifts, to ensure an equal standard of safety for all building users, evacuation lifts will be provided to non-residential areas which do not have level access and are served by passenger lifts.

7.0 ACCESS AND FACILITIES FOR THE FIRE AND RESCUE SERVICE

7.1 Residential Firefighting Shafts

The top floor of each tower is greater than 18m above ground, with storey areas of >900m². Therefore, all four towers will be provided with two firefighting shafts.

Each shaft will comprise the following (refer to Sections 4.3 and 5.3 for detailed layout of the firefighting shaft in each tower)

- A firefighting stair, at least 1.1m wide,
- Dual-purpose firefighting and evacuation lifts,
- A smoke vented lobby into which the stair and lift(s) open
- A 2-hour enclosure to firefighting lifts, stairs, and lift lobbies
- An automatically opening vent at the head of the stair achieving an aerodynamic free area of 0.7m².
- Wet riser outlet located in the stair at each level

Only services serving the firefighting shafts will be accessible from the firefighting shafts.

7.2 Dual-Entry Firefighting Lifts in Plot K

The lifts in the primary cores in Blocks K1 and K2 will be dual entry at upper ground level. A smoke vented lobby will be provided between the lifts and the entrance lobby. This is shown in Section 5.5.3.

7.3 Fire Vehicle Access

Fire vehicle access will be provided to within 18m and in sight of the access point to each firefighting shaft and to the fire main inlets serving the wet riser top-up. Where fire vehicles need to reverse, the reversing distance will be limited to 20m. Access routes across the site are shown in blue below and will be designed in accordance with access route requirements outlined in ADB V1 – see Figure 10.

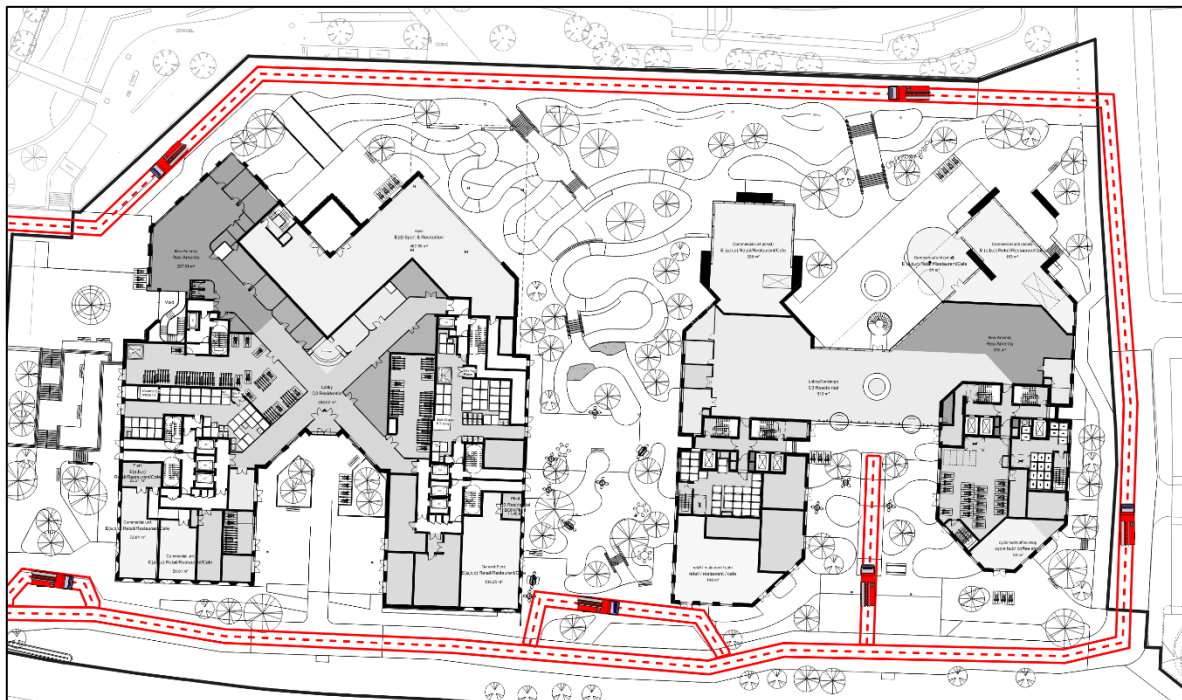


Figure 9: Sitewide Fire Vehicle Access

Table 13.1 Typical fire and rescue service vehicle access route specification						
Appliance type	Minimum width of road between kerbs (m)	Minimum width of gateways (m)	Minimum turning circle between kerbs (m)	Minimum turning circle between walls (m)	Minimum clearance height (m)	Minimum carrying capacity (tonnes)
Pump	3.7	3.1	16.8	19.2	3.7	12.5
High reach	3.7	3.1	26.0	29.0	4.0	17.0

NOTES:

1. Fire appliances are not standardised. The building control body may, in consultation with the local fire and rescue service, use other dimensions.
2. The roadbase can be designed to 12.5 tonne capacity. Structures such as bridges should have the full 17-tonne capacity. The weight of high reach appliances is distributed over a number of axles, so infrequent use of a route designed to accommodate 12.5 tonnes should not cause damage.

Figure 10: Vehicle access route requirements (ADB V1 Table 13.1)

7.4 Firefighting in Commercial Units

Firefighting in the non-residential areas will be achieved directly from a parked fire appliance. Hose cover will be within 60m along a route suitable for laying hose, as recommended for sprinklered buildings.

7.5 Hydrants

Hydrants will be provided within 90m of the wet fire main inlets.

7.6 Basement Smoke Venting

The Lower Ground level of K Blocks comprises plant space which relies on access via a stair core. This will be designed as a basement and will be provided with a mechanical extract system achieving 10 air changes per hour, sized based on the largest compartment it serves.

8.0 COMPARTMENTATION AND STRUCTURAL FIRE RESISTANCE

8.1 Structural Fire Resistance

All four blocks will have a top storey more than 30m above ground. Structure will be designed to achieve at least 2 hours fire resistance.

Structure supporting only the roof where the roof is not a floor does not need to be fire resisting, unless the structure has a secondary role. For example, supporting other structural elements, internal fire compartmentation, supporting fire resisting external walls etc.

8.2 Compartmentation

2-hour compartmentation will be provided to:

- Floors (all to be constructed as compartment floors)*
- Enclosure of protected shafts (stairs, lifts, services etc.)
- Stair final exit / firefighter access route
- Plant rooms housing electrical equipment for life safety and firefighting equipment
- Refuse chutes
- Walls and floors separating residential and non-residential areas

* The exceptions to this are:

1. The open stair connecting the residential lobby at Lower Ground with the amenity space at Upper Ground in Block K2. To accommodate the open stair, the lobby at Lower Ground will be designed to be part of the same compartment as the amenity space.
2. The double-height residential reception space in Plot J which will connect Lower Ground and Upper Ground and will be designed as its own 2-hour compartment.

60-minute compartmentation will be provided to:

- Individual apartments, including between apartments and common corridors
- Storage areas (cycle stores, bin stores, cleaners' cupboards etc.)
- Walls and floors between separate commercial units
- Sprinkler pump rooms and valve chambers
- Plant rooms.

Services will in some instances pass over firefighting / lift lobbies, however, these will be fire separated from the lobbies by fire resisting construction and will not be provided with access from within the lobbies.

8.3 Internal Linings

The internal wall and ceiling linings will achieve the classifications described Table 33 of BS 9999:2017. These are shown below.

Location	European Class
Rooms no larger than 4m ²	D-s3, d2
Commercial rooms no larger than 30m ²	D-s3, d2
Other rooms Circulation spaces within a flat	C-s3, d2
Other circulation spaces	B-s3, d2

Table 1: Wall and ceiling linings

8.4 Cavity Barriers

Cavity barriers will be provided in concealed ceiling voids and floor voids, in accordance with the recommendations of Section 33 of BS 9999: 2017.

This includes the provision of cavity barriers:

- At junctions between external cavity walls and every compartment wall and compartment floor;
- At junctions between internal cavity walls and every compartment wall and compartment floor, door or assemblies which form a fire resisting barrier;
- Around openings (e.g., doors, vents, windows, etc) that meet cavities..

Cavity barriers will be installed above cross-corridor doors.

Cavity barriers will also be provided to divide large undivided spaces within ceiling and floor voids.

Figure 35 Provisions for cavity barriers

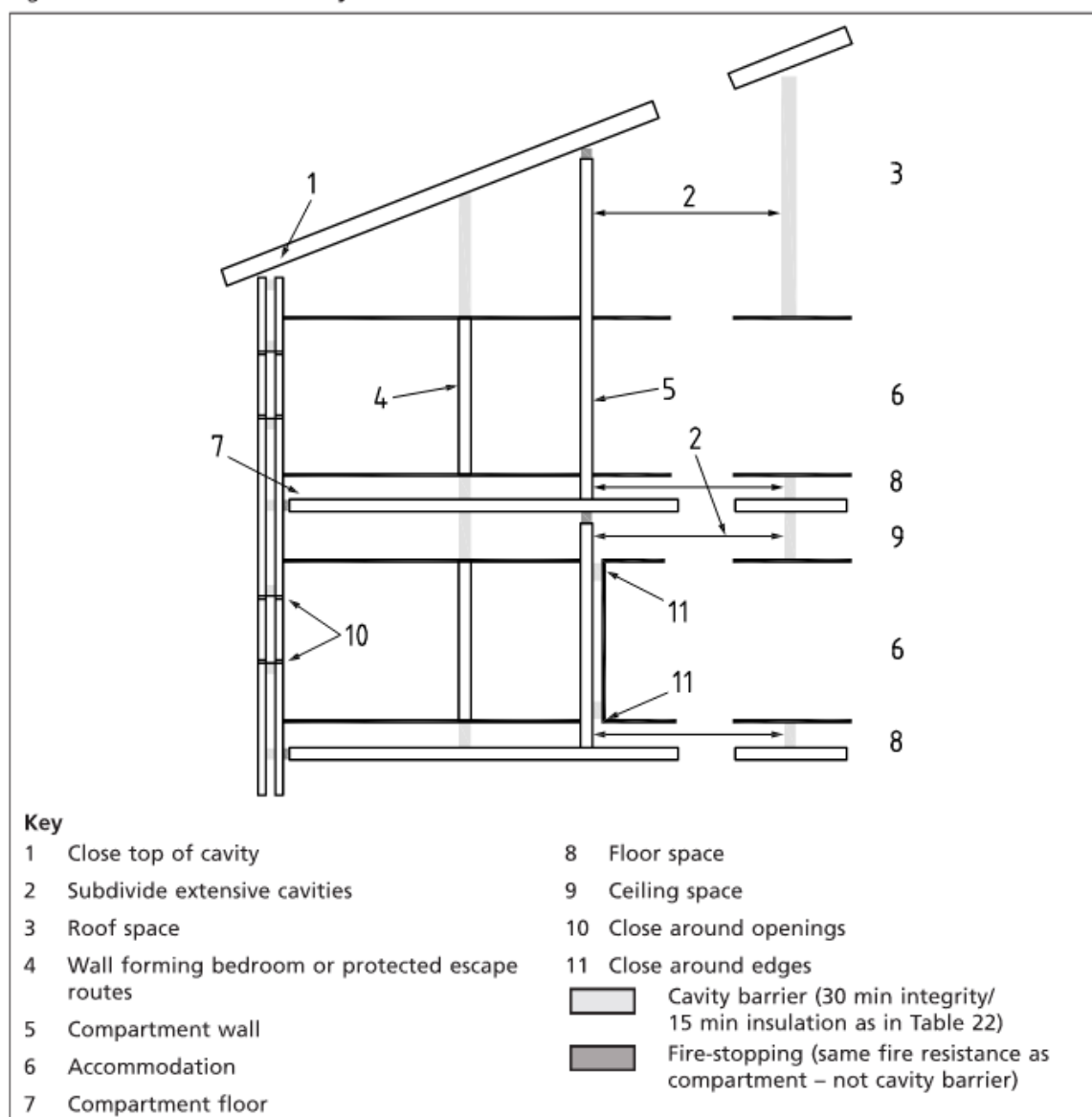


Figure 11: Cavity Barrier and Fire Stopping Provisions, (BS9999 Figure 35)

8.5 Fire Stopping

Fire stopping will be provided to maintain the integrity of the fire separating elements in accordance with the recommendations of BS 9991. It will be provided where cables, conduits or pipes pass through cavity barriers or other fire-resistant construction. Joints between elements that serve as a barrier to the passage of fire and any openings breaching compartment walls or floors will be:

- Kept as few in number as possible.
- Kept as small as possible.
- Fire stopped.
- In the case of a flue or duct, they will either be fire resisting and serve no other compartment or fire dampers will be provided where they pass through a compartment wall or floor. Ducts which pass through protected escape routes will be provided with smoke operated fire and smoke dampers where they serve more than one compartment and will be positioned on the line where ducts pass through fire separating elements.

8.6 Roof Materials

Roof materials will comply with Section 35.4 of BS 9999:2017.

9.0 EXTERNAL WALLS – CONSTRUCTION

9.1 External Fire Spread and Unprotected Areas

Initial calculations of the permitted unprotected areas on the building's elevations have been carried out using the enclosing rectangle method described in BRE 187: External fire spread, Building separation and boundary distances. The amount of permitted unprotected area allowed has been assessed on the basis of sprinkler suppression provided to all areas including the commercial units. The relevant boundary for each elevation has used the centreline of the surrounding roads, in line with Building Regulations guidance.

Given the level of internal compartmentation, the boundary distance between towers, and the provision of sprinklers, it is not expected there will be any restrictions on the extent of unprotected area on any elevations. However, this will continue to be reviewed as the design progresses.

9.2 External Wall Construction

All materials used in the construction of the external wall will achieve European Class A2-s1, d0 or Class A1, except for sealants, gaskets, doors and windows (including frames); (see regulation 7(3) for the full list of exemptions).

Membranes within the external wall will achieve a minimum Class B-s3, d0.

External surfaces will also meet the recommendations given in Approved Document B, Volume 1, Table 12.1, for surface spread of flame.

10.0 FUTURE DEVELOPMENT OF THE ASSET AND THE 'GOLDEN THREAD' OF INFORMATION

In line with the recommendations for providing a 'golden thread' of information, digital records of the fire safety components during the design and construction phases will be recorded. Records will be initiated by the relevant duty holders during the design and construction phase. On completion of work the records will be handed over to the building owners to maintain for the life of the building.

A Fire and Emergency File (FEF) will be established for this development to record prevalent information throughout the design, construction and life of the building. The FEF will include this fire statement and subsequent fire strategies as outlines of the key fire safety design provisions of the building, including assumptions of fire loads, occupant characteristics, evacuation strategies, passive fire safety measures, active fire safety systems, fire safety equipment, key fire properties of building materials, access for fire and rescue services. As the design develops relevant documents shall be recorded including technical specifications and product datasheets, detailing specific information on the building materials, safety systems and equipment. On completion of construction the commissioning documents and the operation and maintenance manuals shall be recorded. Throughout the life of the building, regular inspections and maintenance are required to ensure the fire strategy is upheld and fire safety systems are operational. Records of inspections, fire risk assessments and maintenance work shall be recorded.

The details of the information retention systems will be determined by the client.

Modification of the following elements of the building may adversely affect the original fire safety strategy:

- Fire detection and alarm systems
- Fire suppression systems
- Increasing population
- Changing the use of the areas
- Escape routes
- Number and dimension of escape stairs
- Refuge areas
- Wall and ceiling linings
- Fire protection of the building structures
- Changing fire and smoke doors
- Changing, penetrating fire compartments, cavity barriers
- Increasing fire load in certain areas
- Creating, changing openings on the external envelope
- Changes in the external envelope of the building
- Changes in the environment of the building related to the fire service access points and parking.

11.0 FIRE SAFETY MANAGEMENT

11.1 General

Once the building is occupied, it is the responsibility of the management and/or responsible person to ensure that all fire safety systems are tested and maintained to ensure their continuous effectiveness. The management should: -

- Be aware of all the fire safety features provided and their purpose
- Where required ensure a competent person is present in the building during occupied times
- Liaise with and seek the advice of the fire authority

11.2 Staff

Staff should receive training from competent individuals. This training should occur at regular intervals and ensure all staff understand how to respond to a fire, including the appropriate actions upon discovering a fire, the correct response to hearing a fire alarm, and the proper escape procedures from all parts of the building.

A management structure should be established to ensure staff are aware of their responsibilities in the event of a fire, with these responsibilities clearly defined. A chain of command should also be implemented, delineating clear lines of responsibility, authority, and accountability.

11.3 Fire Safety Information

Regulation 38 of the Building Regulations in England and Wales sets out to ensure that crucial fire safety information is provided to the responsible person or building owner upon completion of a new building or a significant renovation project.

Regulation 38 stipulates that the person undertaking the construction work must compile and provide fire safety information about the building to the responsible person. The responsible person is typically the building owner or manager who will be in charge of the building's ongoing fire safety management.

The aim of Regulation 38 is to ensure that the person responsible for the building has all the information to enable them to carry out their duties under the Regulatory Reform (Fire Safety) Order including all of the following.

- Understand and implement the fire safety strategy of the building.
- Maintain any fire safety system provided in the building.
- Carry out an effective fire risk assessment of the building.

The purpose of the fire safety manual is to clearly define the nature of the fire safety systems provided for the building. It should include: -

- An explanation of the overall fire safety strategy
- Evacuation procedures
- Design documentation to describe the use of each fire safety system
- Staff roles in the event of a fire: their responsibility, authority and accountability
- A detailed maintenance routine

This fire strategy report will form a key part of the fire safety manual for the building but should be supplemented with other essential fire safety information which is to be handed over to the responsible person when the project is complete or when the building or extension is first occupied. Details of the suggested contents of the fire safety manual are provided in Section 19 of the Approved Document B and Annex H of BS 9999 Code of practice for fire safety in the design management and use of buildings.

The Fire Safety Manual and fire safety information contained within should be reviewed periodically and when any alterations are made to the building. BS 8644-1: *Digital management of fire safety information - design, construction, handover, asset management and emergency response - code of practice* published by the British Standards Institute provides guidance on how to manage fire safety information digitally across the life of a built asset.

11.4 Maintenance and Housekeeping

It is the role of management to ensure that maintenance is carried out in accordance with the relevant British Standards, so that all fire safety systems are operational in the event of a fire. It is also important that good housekeeping practices are followed. The building management should be aware of any hazardous substances or practices within the building, which increase the risk of fire.

11.5 The Regulatory Reform (Fire Safety) Order 2005 and Fire Safety Act 2021

This Order places a duty on the 'responsible person' to ensure, 'as far as is reasonably practical' the safety of his employees and to take such general fire precautions as may be reasonably required to ensure that the premises are safe [i.e. for non-employees]. The 'Responsible Person' is defined in Article 3 of the Fire Safety Order as:

- (a) in relation to a workplace, the employer, if the workplace is to any extent under his control;
- (b) in relation to any premises not falling within paragraph (a)—
 - (i) the person who has control of the premises (as occupier or otherwise) in connection with the carrying on by him of a trade, business or other undertaking (for profit or not); or
 - (ii) the owner, where the person in control of the premises does not have control in connection with the carrying on by that person of a trade, business or other undertaking.

The Fire Safety Act 2021 clarifies the scope of the Fire Safety Order to make clear it applies to the structure, external wall construction and flat entrance doors in buildings containing 2 or more sets of domestic premises. The Fire Safety Act amends article 6 of the Regulatory Reform (Fire Safety) Order Act 2005 in this regard and requires responsible persons to ensure that these elements are included in their fire risk assessments.

Under the Order, there is a requirement to carry out and continually update an assessment of the risk of fire to people in and around the premises/building, and to assess and maintain the measures to reduce those risks to an acceptable level. A Responsible Person is able to update the fire risk assessment themselves, however where the update requires an assessment of materials which make up a building's external wall system the Responsible Person may need to contract a suitably competent fire risk assessor to undertake that assessment for them.

A Fire Risk Assessment should be carried out:-

- On completion of the building fit out, and strictly before first occupation of the building.
- Regularly, particularly if there is reason to suspect that it is no longer valid, or there has been a significant change in the matters to which it relates. where any changes occur such as changes in the use of the building, the number or nature of occupants, or building works.
- We would recommend that a fire risk assessment is carried out at least annually.

Other legal duties include (item 3 to 5 and 7 not applicable to all residential buildings): -

1. Keeping a record of the Fire Safety Arrangements. These are the preventative and protective measures for the building.
2. A person must be nominated for any special role identified in an emergency plan.
3. Employees must be consulted about nominations to perform special roles, and about any proposals for improving the fire precautions.
4. Other employers in the building must be informed about any significant risks, which might affect the safety of their employees, and there must be co-operation with them in measures to reduce the risk.
5. Those having control over the workplace have a responsibility to ensure compliance with the regulations in those parts of the building over which they have control.
6. A suitable and readily available method of calling the emergency services must be established.
7. Employees are required to co-operate in ensuring that the workplace is safe from fire.

The order also adopts 'Principles of Prevention'. These include:-

- Avoiding risks;
- Evaluating the risks which cannot be avoided;
- Combating the risks at source;

- Adapting to technical progress;
- Replacing the dangerous by the non-dangerous or less dangerous [particularly with respect to hazardous substances];
- Developing a coherent overall prevention policy which covers technology, organisation of work and the influence of factors relating to the working environment, and;
- Giving appropriate instructions to employees.

The intention for inclusion of 'structure' within the Fire Safety Act is that there should be a visual inspection of the construction and layout of the building on the basis that it will have been built to resist early structural collapse in the event of a fire.

11.6 Fire Safety (England) Regulations 2022

The Fire Safety (England) Regulations 2022 are made under article 24 of the Fire Safety Order 2005 and came into force on 23 January 2023. These introduce new regulations and extend the duties of the responsible person imposed by the Regulatory Reform (Fire Safety) Order 2005 and apply to all buildings in England that comprise two or more domestic dwellings.

The Responsible Person is defined in Article 3 of the Fire Safety Order and has various duties related to fire safety in residential buildings, the duties vary depending on the building height.

In all residential buildings, fire safety instructions, including evacuation strategies and fire reporting procedures, must be prominently displayed within the building and issued annually or as soon as residents move in. Additionally, information about fire doors, especially flat entrance doors, should be provided to residents.

For buildings over 11m, extra duties include fire door checks in the flat entrance doors and communal areas. For high-rise buildings consisting of 7 storeys or more or are at least 18m above ground level, in addition to the above, electronic information sharing with the fire and rescue service, wayfinding signage, a secure information box, external wall construction details, and regular checks of lifts and firefighting equipment is also required. Any faults must be promptly rectified and reported.

11.7 Building Safety Act 2022

The Building Safety Act 2022 overhauls existing regulations and creates three new bodies: the Building Safety Regulator, the National Regulator of Construction and the New Homes Ombudsman. The provisions in the Act will be implemented over 2024 and 2025 through a programme of secondary legislation.

The Act has 6 parts:

1. Part 1 of the Building Safety Act 2022 provides a general overview of the act.
2. Part 2 focuses on the building safety regulator and its functions in relation to buildings in England.
3. Part 3 amends the Building Act 1984, designating the regulator as the building control authority for higher-risk buildings in England and requiring the establishment of registers for building control approvers and inspectors.
4. Part 4 addresses occupied higher-risk buildings in England, imposing duties on accountable persons:
 - A "higher-risk building" means a building in England that is at least 18m in height or has at least 7 storeys and contains at least 2 residential units.
 - The "accountable person" is determined by legal estate or repairing obligations. Key provisions include regular risk assessments, preventive measures, and the creation of safety case reports. Accountable persons must engage residents, maintain information, and notify the regulator promptly. The legislation emphasizes accountability, prevention, and resident involvement in building safety decisions, establishing a comprehensive framework for risk assessment and management.
5. Part 5 encompasses various provisions, including remediation and redress, a new homes ombudsman scheme, regulations on construction products, additional fire safety measures, regulations for architects, and provisions for housing complaints.
6. Part 6 comprises general provisions, including powers for the Secretary of State to make consequential provisions, and extents of the Act.

The "Accountable Person" under the Building Safety Act 2022 must register a Higher-Risk Building (HRB) with the Building Safety Regulator before it is occupied. This registration involves submitting a Safety Case Report to demonstrate compliance with safety standards. Further information on the requirements for registration can be found at <https://www.gov.uk/guidance/applying-to-register-a-high-rise-residential-building>.

12.0 INFORMATION, LIMITATIONS AND ASSUMPTIONS

The information limitations and assumptions used in the preparation of this report are noted below: -

Drawings

This report is based on drawings issued to us. Dimensions have been taken from these drawings. The following drawings were used:

No.	Drawing No	Drawing Title
Block J		
1	0200_MAY-SKM-J0X-100L-DR-A-039096_P01.07	Level 00 (LG) plan
2	0200_MAY-SKM-J0X-100M-DR-A-039100_P01.06	Level 00 (MZ) plan
3	0200_MAY-SKM-J0X-100U-DR-A-039099_P01.07	Level 00 (UG) plan
4	0200_MAY-SKM-J0X-101L-DR-A-039101_P01.07	Level 01
5	0200_MAY-SKM-J0X-ZZZZ-DR-A-039102_P01.05	Level 02 to 05
6	0200_MAY-SKM-J0X-106L-DR-A-039106_P01.04	Level 06
7	0200_MAY-SKM-J0X-ZZZZ-DR-A-039107_P01.04	Level 07 to 08
8	0200_MAY-SKM-J0X-109L-DR-A-039109_P01.04	Level 09
9	0200_MAY-SKM-J0X-ZZZZ-DR-A-039110_P01.05	Level 10 to 14
10	0200_MAY-SKM-J0X-115L-DR-A-039115_P01.05	Level 15
11	0200_MAY-SKM-J0X-116L-DR-A-039116_P01.05	Level 16
12	0200_MAY-SKM-J0X-ZZZZ-DR-A-039117_P01.04	Level 17-19
13	0200_MAY-SKM-J0X-ZZZZ-DR-A-039117_P01.02	Level 20
13	0200_MAY-SKM-J0X-121L-DR-A-039121_P01.04	Level 21
14	0200_MAY-SKM-J0X-122L-DR-A-039122_P01.04	Level 22
15	0200_MAY-SKM-J0X-123R-DR-A-039123_P01.06	Level 23
16	0200_MAY-SKM-J0X-ZZZZ-DR-A-039302_P01.03	J0X Section A
17	0200_MAY-SKM-J01-ZZZZ-DR-A-039300_P01.03	J01 Section A
18	0200_MAY-SKM-J02-ZZZZ-DR-A-039301_P01.03	J02 Section A
Block K		
19	0198-MAY-SEW-SW1-1000-DR-L-000001	Landscape GA
20	0199-MAY-SEW-K01-100L-DR-A-001099	Lower Ground
21	0199-MAY-SEW-K01-100M-DR-A-001100M	Mezzanine
22	0199-MAY-SEW-K01-100U-DR-A-001100	Upper Ground
23	0199-MAY-SEW-K01-101L-DR-A-001101	Level 01
24	0199-MAY-SEW-K01-102L-DR-A-001102	Level 02, 04, 06
25	0199-MAY-SEW-K01-103L-DR-A-001103	Level 03, 05
26	0199-MAY-SEW-K01-107L-DR-A-001107	Level 07
27	0199-MAY-SEW-K01-108L-DR-A-001108	Level 08

28	0199-MAY-SEW-K01-109L-DR-A-001109	Level 09
29	0199-MAY-SEW-K01-110L-DR-A-001110	Level 10
30	0199-MAY-SEW-K01-11-DR-A-001111	Level 11, 12, 15, 17
31	0199-MAY-SEW-K01-14-DR-A-001113	Level 13, 14, 17
32	0199-MAY-SEW-K01-118L-DR-A-001118	Level 18
33	0199-MAY-SEW-K01-119L-DR-A-001119	Level 19
34	0199-MAY-SEW-K01-120L-DR-A-001120	Level 20
35	0199-MAY-SEW-K01-121L-DR-A-001121	Level 21, 22
36	0199-MAY-SEW-K01-123L-DR-A-001123	Level 23, 24
37	0199-MAY-SEW-K01-125L-DR-A-001125	Level 25
38	0199-MAY-SEW-K01-126L-DR-A-001126	Level 26
39	0199-MAY-SEW-K01-127L-DR-A-001127	Level 27
40	0199-MAY-SEW-K01-128L-DR-A-001128	Level 28
41	0199-MAY-SEW-K01-ZZZZ-DR-A-001200	Long Section_Building K1
42	0199-MAY-SEW-K01-ZZZZ-DR-A-001201	Long Section_Building K2

Table 2: Project Drawings

Building Regulations

This report considers building regulations, which deal with life safety. Property protection and insurance issues are not addressed in this report. Guidance on property protection and insurance requirements can be found in the document *Approved Document B: Fire Safety (Volume 2) – Buildings other than dwellinghouses Incorporating Insurers' Requirements for Property Protection*, RIBA Publishing 2015.

Other Limitations

Complying with the recommendations of this report will not guarantee that a fire will not occur.

Unless otherwise described in this report, the fire strategy assumes that the building design, the mechanical and electrical systems, construction methods and materials specifications will comply with current Building Regulations guidance, and relevant British Standards and Codes of Practice. The design of mechanical and electrical systems such as fire alarm and sprinklers is a specialist area. Fire Strategy recommendations are given in this report, however, the design and specifications need to be developed at the appropriate stage in consultation with the specialist designers of these systems.

This report has been prepared for the sole benefit, use and information of Landsec U+I and the liability of Jeremy Gardner Associates Limited, its directors and employees in respect of the information contained in the report will not extend to any third party.

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