WOODBROOK DART GATEWAY – BLOCKS P & Q
FIRE SAFETY REPORT

HI/5250/PMu/31

8th May 2026

1 INTRODUCTION

The proposed Woodbrook Dart Gateway development is a residential development on a site measuring c.2.5 Ha at lands south of the Shanganagh cemetery and east of the Woodbrook Dart Station, within the Woodbrook Local Area Plan boundary, Shanganagh, Shankill, Cork Little, Dublin. The proposed development comprises of a residential development, with 359no. residential units, consisting of 353no. apartment units and 6no. duplex units proposed in a mix of 1, 2 and 3-bedroom units (160 × 1 bed, 189 × 2 bed and 10 × 3 bed) accommodated within 2no. apartment blocks, ranging in height of 2-8 storeys, including balconies and terraces. The development also includes public open space, communal open space serving the blocks; internal road networks; pedestrian and cycle facilities; car and bicycle parking spaces; ESB substations and all associated and ancillary site development and infrastructural works, hard and soft landscaping and boundary.

In particular, this development comprises 2 residential blocks, Block P and Block Q, which are to be assessed as part of this fire strategy review. It should be noted that as this project is still ongoing, the design may still be subject to slight amendments over time, however, it will be ensured that the final design for both blocks will comply with the recommendations contained within this fire strategy review.

Block P and Block Q will extend over 7 floors and 8 floors, respectively, and each consisting of single-storey apartment units on all floors, in addition to 3 maisonette units at the ground floor level with independent access from the external. The ground floor of each block will also include ancillary areas, such as bike and bulky stores, bin stores, sprinkler rooms including tanks, meter rooms and ESB substations, and communal amenity spaces will be provided to each block.

The apartment blocks are designed with multi-stair access, while only top-floor units are served by single stair. Apartments are proposed to be provided with an open plan design with a travel distance greater than 9m and the travel distance in common corridors exceeds 7.5m, therefore a sprinkler system is required throughout the apartment units and common areas.

Where the top storey height of either block exceeds 20m, a firefighting shaft will be provided.

As Block P and Block Q will exist as standalone buildings that are not interconnected, 2no. Fire Safety Certificate applications will be required, one for each building.

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Figure 1: Site Plan for Woodbrook Dart Gateway Residential Development

2 BUILDING REGULATION GUIDANCE

This technical note is based on TGD-B 2024, which came into effect in May 2025.

It should be noted that Building Regulations are functional however, and there is no requirement to follow any code guidance. Alternative fire engineering solutions are possible, provided they are designed and demonstrated to achieve an equivalent standard of safety as that in the code. It should be noted that fire engineering solutions carry approvals risks and would therefore need to be agreed with the Fire Brigade. It should be noted that there is also likely to be a period of uncertainty in relation to the Fire Department assessment of Fire Safety Certificate applications against the new TGD-B and the associated outcomes.

3 MEANS OF ESCAPE

The means of escape from the apartments will be designed in accordance with the recommendations of TGD-B 2024 as follows:-

3.1 Common Residential Corridors

The apartments in both Block P and Block Q are provided with multi-stair access, which reduces to single stair access for top-floor apartments only. Escape stairs are accessed at each level by a ventilated common protected corridor or sterile lobby.

Travel distances from each apartment entrance door to the storey exit into the escape stair enclosure should be no more than 15m, as the apartments are fitted with an automatic sprinkler system.

3.2 Residential Apartment Units

3.2.1 Open-Plan Flats

All flats located within Block P and Block Q are of an open plan design, with a travel distance of over 9m, and approached by a protected ventilated corridor, therefore the following provisions apply (see Diagram 20 of TGDB 2024):

a. a sprinkler system in accordance with Section 8 will be provided,
b. the flat will be situated on a single storey only,
c. the travel distance from any point in the flat to the final exit from the flat will not exceed 20 m,
d. a Fire Detection and Alarm System should be provided. It will consist of interconnected self-contained mains-powered/battery-backed Smoke/Heat Alarms (Grade D), which will be provided in the following locations:
    i. all circulation areas that form part of an escape route within the dwelling,
    ii. all high fire risk areas/rooms e.g., kitchen, living rooms, utility rooms, and
    iii. all bedrooms,

e. the kitchen:
    i. will be enclosed in storey height construction, which need not be fire resisting, or
    ii. if not enclosed, the flat layout should be designed such that an occupant escaping the flat will not have to approach within 1.8 m of the main kitchen cooking appliance, i.e., cooking apparatus with a fixed connection to the dwelling's gas or electric energy infrastructure (for example, an oven and/or hob).

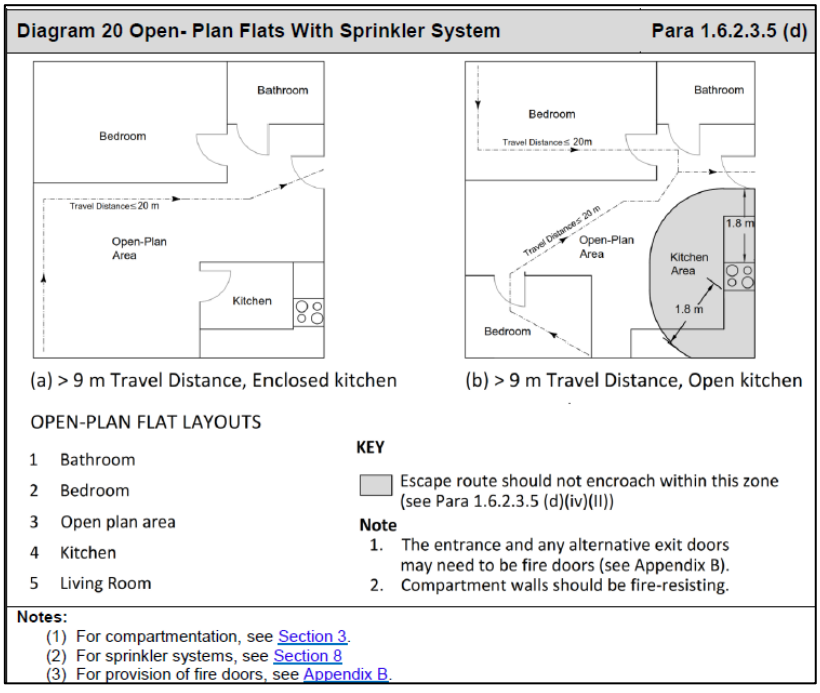

Figure 2: Diagram 20 of TGD-B 2024

3.2.2 Maisonettes

Maisonettes located on the ground floor will be independently accessed from the external and have no floor above 4.5m. As each maisonette is provided with an protected enclosed stair, they will conform to the following:-

a. any habitable room which is an inner room should be provided with a window for escape or rescue in accordance with Para 1.6.4 of the TGD-B 2024; and
b. the stairway serving the upper storey should be enclosed with storey-height construction, which need not be fire-resisting, and should discharge to the main entrance to the maisonette (see Diagram 23(a)).

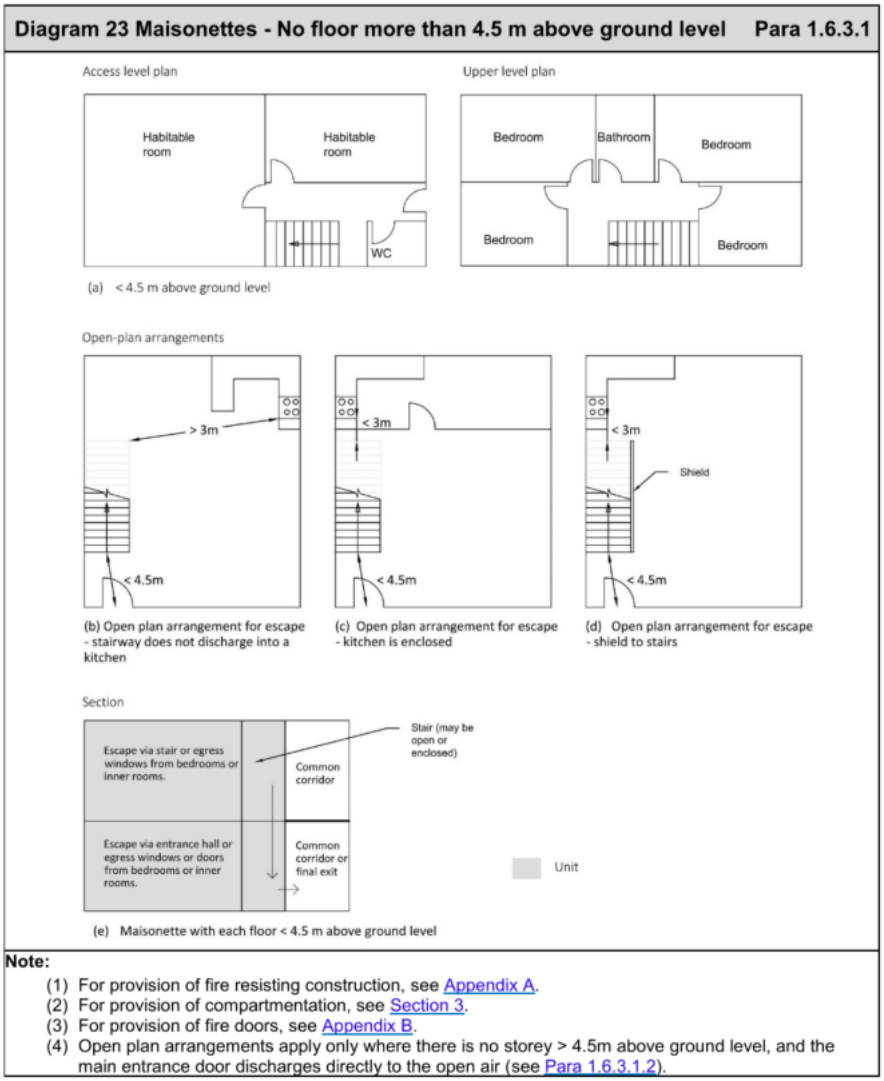

Figure 3: Diagram 23(a)) of TGD-B 2024

3.3 General Design – Amenity and Ancillary Areas

Bin and bike stores are proposed for both Block P and Block Q that are to be accessed directly from the external and do not communicate with the residential areas. Travel distance within these room will not exceed 18m in a single direction and 45m where alterative escape is provided.

For a place of special fire risk (i.e., Meter room, ESB substation, etc) travel distances will be no more than 9m in a single direction, and no more than 18m where two routes are available.

For Plant rooms, travel distance should be no more than 9m in a single direction and in more than one direction 35m.

3.4 Provisions for Disabled Persons

A refuge is a place of relative safety within a building that is separated by fire-resisting construction and provided with a safe route to a storey exit. People can use a refuge to await assistance for evacuation or as a location to rest in while evacuating.

Based on the proposed designed for Blocks P&Q, such a refuge area will be located on every upper level of the protected stairs.

Each refuge area will conform to each of the following: -

a. Be provided with a permanently marked zone of at least 0.9 m x 1.4 m; and
b. Be clearly identified by appropriate fire safety signs (Where a refuge is in a lobby or stairway the sign should be accompanied by a blue sign worded “Refuge Area – Keep clear”); and
c. Be provided with an emergency voice communication (EVC) system. The EVC system should comply with BS 5839-9 and consist of Type B outstations which communicate with a master station located in the building control room (where one exists) / control point, adjacent to the fire alarm panel, or at fire-service access level.
d. Be enclosed in an area of fire resisting construction achieving 30 minutes fire resistance. For this development, this should be achieved by the stair enclosure; and
e. Not reduce the effective width of the required escape route of the stairway.

4 VERTICAL MEANS OF ESCAPE.

4.1 Width of Escape Stairway

The width of escape stairways will:

- be not less than the width(s) required for any exit(s) affording access to them; and
- conform with the minimum widths of 1m; and
- not reduce in width at any point on their way to a final exit.

4.2 Protection of Escape Stairways

Protection of escape stairways is provided by enclosure of the stairway by fire-resisting construction achieving minimum 60 minutes of fire resistance.

Every protected stairway will discharge:

a) directly to a final exit; or
b) by way of a protected exit passageway to a final exit. The passageway should have the same standard of fire resistance, and the same standard of fire protection, e.g. provision of lobbies, as the stairway it serves.

A protected stairway will be relatively free of potential sources of fire. Therefore, fixed battery-storage systems and electric scooter charging points are not proposed to be installed anywhere within the area enclosed by fire-resisting construction which forms a protected stairway, or in any room accessed directly from a protected stairway, such as protected corridors.

5 GENERAL PROVISIONS FOR MEANS OF ESCAPE

5.1 Door Fastenings & Swing

In general, doors on escape routes, whether or not the doors are fire doors, will conform to one of the following:

a) Not be fitted with lock, latch or bolt-fastenings, unless the fastening is a device which conforms to I.S. EN 179; or
b) panic hardware, compliant with I.S. EN 1125, on doors which open in the direction of escape; or
c) Be fitted only with a simple fastening that complies with all of the following:
    i. It should be easy to operate; it should be apparent how to undo it; and
    ii. It should be operable from the side approached by people escaping; and
    iii. It should be operable without a key or other similar object; and
    iv. It should be operable without requiring people to manipulate more than one mechanism.

Devices conforming to I.S. EN 179 or I.S. EN 1125 will not be used on double action (double swing) doors unless specifically designed by the producer.

5.1.1 Electrically Powered Locks (if proposed)

Electrically powered locks (which may be operated by code or combination keypad, swipe or proximity card, biometric data, etc.) will return to the unlocked position in any of the following cases:

a) On operation of the fire-alarm system; or
b) On loss of power or in the case of system error; or
c) On activation of a manual door-release unit positioned at the door on the side approached by people making their escape. Where the door provides escape in either direction, a unit will be installed on both sides of the door.

A device installed in accordance with the provisions of I.S. EN 13637:2015 may be used on escape routes.

5.1.2 Direction of Opening

Doors on escape routes should be hung so that they open in the direction of escape unless the occupancy using that escape door is less than 50 people.

5.1.3 Amount of Opening, and Effect on Associated Escape Routes

All doors on escape routes will:

a) be hung to open not less than 90°; and
b) be hung with a swing that is clear of any change of floor level, other than a threshold, (of no more than 15mm), on the line of the final exit doorway; and
c) not reduce the required width of any escape route across a landing; and
d) not reduce the required width of any corridor onto which it opens (this may require the door to be recessed).

5.1.4 Self-closing devices

All fire doors will be fitted with an automatic self-closing device which is capable of closing the door from any angle and against any latch fitted to the door.

5.2 Height of Escape Routes

All escape routes will have a minimum clear headroom of not less than 2m, and there should be no projection below this height which would impede the free flow of people using them.

5.3 Floors of Escape Routes

All escape routes including steps, ramps and landings will have even surfaces and be slip resistant, especially when wet. Guidance on slip resistance is given in BS 8300 Annex E.

Where a ramp forms part of an escape route, it will not be steeper than 1 in 12 if it is shorter than 10 m; otherwise, it should not be steeper than 1 in 20.

For ramps on access routes that also serve as egress routes, Technical Guidance Document M (Access and Use) requirements will be met.

6 SMOKE VENTILATION

6.1 Ventilation to Protected Stairway Enclosures

An automatic opening vent will be provided at the top of each protected stairway enclosure. Such a vent may be roof or wall mounted.

This vent should have an unobstructed free vent area of not less than 1 m².

This vent will be automatically opened by the fire detection and alarm system, on activation of smoke detectors in the stairway enclosure, and should also be manually openable for fire brigade use.

The manual override will be provided at ground/fire service entrance level to the stairs and provided with clear signage as to its function and operation, for fire service use only.

6.2 Ventilation to Residential Corridors

Each common corridor will be provided with smoke ventilation. This can be provided by either a natural or mechanical smoke ventilation system, which has not been fully defined at this stage. However the following provisions would apply.

6.2.1 Automatic Vents Opening Directly to the Exterior of the Building

Where ventilation is provided by means of an automatic opening vent(s) (AOV) from the protected corridor / lobby to the exterior of the building, the system should conform to the following provisions:

a) The lobby / corridor vent should have a minimum free area of 1.5 m², in accordance with paragraph “Natural Vent to a Smoke Shaft” below and Diagram 78 of TGD-B 2025; and
b) The lobby corridor vent should be fitted as close to the top of the ceiling of the protected corridor/ lobby as is practicable, but be at least as high as the top of the door connecting the protected corridor / lobby to the stairwell or lobby; and
c) Inlet air should be provided through an automatic opening vent having a clear openable area of not less than 1 m² located at the top of the stairway enclosure; and
d) Where there are multiple AOV’s due to multiple corridors, the system should be designed to activate the relevant AOV only. The AOVs from the common protected corridors / lobbies on all other floors should remain closed.

6.2.2 Automatic Vents Opening to Natural Smoke Shafts

Where ventilation is provided by means of an automatic opening vent(s) (AOV) from the protected corridor / lobby to natural smoke shaft, the system should conform to all of the following:

a) The minimum ventilation area from the protected corridor / lobby into the shaft, and at the opening at the head of the shaft, and at all internal locations within the shaft (e.g. safety grilles) should be at least 1 m², in accordance with paragraph “Natural Vent to a Smoke Shaft” below and Diagram 78 of TGD-B 2024; and
b) The top of the protected corridor / lobby vent should be located as close to the ceiling of the protected corridor / lobby as is practicable, and should be at least as high as the top of the door connecting the protected corridor / lobby to the stairwell or lobby; and
c) The ventilation openings from the protected corridor / lobby to the vent shaft should achieve the same fire performance as the shaft, but not exceeding 60 minutes; and
d) The smoke shaft should have a minimum cross-sectional area of 1.5 m² (minimum dimension 0.85 m in any direction); and
e) The natural smoke shaft should be closed at the base; and
f) The shaft should extend a minimum length of 2.5 m above the ceiling of the highest storey which is served by the shaft; and
g) The opening at roof level should be at least 0.5 m above any surrounding structures within a horizontal distance of 2.0 m; and
h) The smoke shaft should be constructed to achieve compartment construction; and
i) No services other than those relating to the smoke shaft should be contained within the smoke shaft; and

j) The shaft should be vertical from base to head but may have not more than 4m at an inclined angle not more than 30° from the vertical plane; and
k) Inlet air should be provided through an automatic opening vent having a clear openable area of not less than 1 m², in accordance with paragraph “Natural Vent to a Smoke Shaft” below and Diagram 78 of TGD-B 2024, located at the top of the stairway enclosure; and
l) The design of the system should be such that, on activation of the fire detection and alarm system, the ventilator on the fire floor, the ventilator at the top of the smoke shaft and the 1 m² ventilator at the head of the stairway should all open simultaneously.
m) Where there are multiple shafts due to multiple corridors, the system should be designed to activate the relevant shaft only. The ventilators from the common protected corridors / lobbies on all other floors, and unaffected corridors on the fire floor should remain closed.

6.2.3 Natural Vent to a Smoke Shaft

Where vents to natural smoke shafts are specified, they should:

a) Meet the equivalent free vent area as specified under Para 6.1.4; or
b) have a minimum fire and smoke resistance performance of 60 min and a leakage rate no greater than 200 $m^3/h/m^2$ when tested in accordance with I.S. EN 1366-2; or
c) be in accordance with I.S. EN 12101-8; or
d) have a proven equivalent performance.

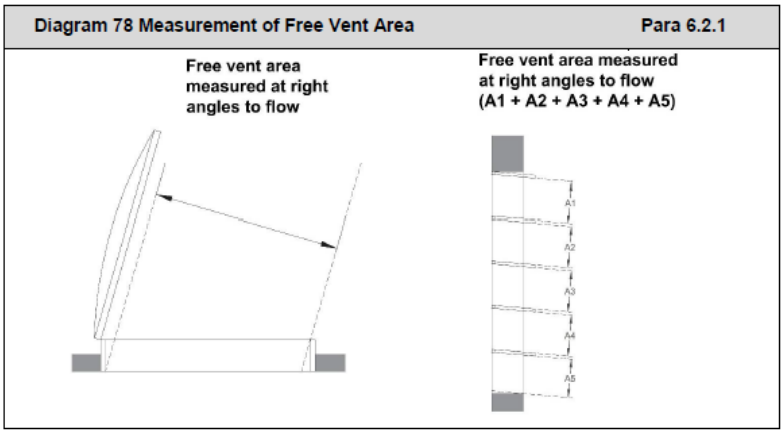

Figure 4: Diagram 78 of TGD-B 2024

6.2.4 Mechanical Smoke Ventilation

A mechanical smoke ventilation system should:

a) have a proven equivalent performance to a natural smoke shaft specified above; and
b) The design of the system should be such that, on activation of the fire detection and alarm system, the ventilator on the fire floor, the mechanical ventilator at the top of the smoke shaft and any inlet air vent should open simultaneously; and
c) Where there are multiple shafts due to multiple corridors, the system should be designed to activate the relevant shaft only. The ventilators from the common protected corridors / lobbies on all other floors, and unaffected corridors on the fire floor should remain closed; and
d) The design of the mechanical smoke ventilation system should limit pressure differentials so that door opening forces do not exceed 100 N at the door handle when the system is in operation; and
e) A secondary power supply should be provided to the fans and all actuators and controls; and
f) Fan sets should be provided with a standby fan that operates automatically upon failure of the duty fan; and
g) Mechanical ventilation fans and ductwork should conform to the below provisions:
    i. be a minimum Class F300 (Temperature/time classification of 300° for 60 minutes) in accordance with I.S. EN 12101-3; and

ii. Ductwork and fixing should be constructed of materials having a melting point not less than 800°C, or a fire resistance of not less than 60 minutes (EI).

7 FIRE FIGHTING FACILITIES

7.1 Fire Fighting Shaft

Where the top storey height of either Block P or Block Q exceeds 20m, sufficient firefighting shafts in accordance with Section 5.5.6 of the TGD-B 2024 will be provided.

7.2 Fire Tender Access

Fire brigade vehicle access to the exterior of a building is required to enable firefighting operations.

As buildings are fitted with dry internal fire mains, access for a pump appliance will be provided to within 18m, and within sight of the inlet connection point.

Inlets will be on the face of the building and should be located in accordance with I.S. 391.

The vehicle access will therefore meet the minimum provision as per Table 25 of TGD-B 2024 for pump appliances.

Table 25 Vehicle Access Route Specifications		
	Appliance type	
	Pump	High Reach
Minimum width of road between kerbs (m)	3.7	3.7
Minimum width of gateways between kerbs (m)	3.1	3.1
Minimum turning circle between kerbs (m)	16.8	26.0
Minimum turning circle between walls (m)	19.2	29.0
Minimum clearance height (m)	3.7	4.0
Minimum carrying capacity (tonnes)	12.5	16.25

Figure 5: Table 25 of TGD-B 2024

7.3 Dry Riser - Fire Mains Provisions

Internal dry risers will be provided for both blocks at each floor level located in the protected stairway or, where a fire-fighting shaft is provided, within the fire-fighting lobby.

The design and construction of internal fire mains should be in accordance with the relevant sections of I.S.391.

In relation to dry riser location Inlet point, they should be provided as close as possible to the building entrance, to facilitate direct access for the firefighters and not be more than 18 meters away from the access road.

7.4 Provision of Hydrants

For buildings provided with internal fire mains (dry risers), at least one fire hydrant will be provided.

Any hydrants that are being provided will comply with the requirements of BS 750: 1984 Specification for underground fire hydrants and surface box frames and covers. All hydrants should be conspicuously marked in accordance with BS 3251: 1976 Specification of indicator plates for fire hydrants and emergency water supplies.

The hydrants will be located such that: -

- The distance from the building is not less than 6m or more than 46m.
- The distance from a hydrant to a vehicle access roadway or hard standing for fire appliances is not more than 30m.
- they are distributed around the perimeter of the building, having regard to the provision of access for fire appliances and
- The hydrants are located on the same site as the building or are provided by a sanitary authority on a public roadway adjacent to the site.

8 CONSTRUCTION

8.1 Structural Fire Resistance

Elements of structure of both Block P and Block Q will achieve the minimum period of fire resistance as prescribed in Table 32 of the TGD-B 2024.

8.2 Compartmentation / Fire Containment

Each floor should form a compartment floor. All compartment floors and walls are required to achieve the minimum provisions as per Table 31 and Table 32 of the TGD-B. Compartment walls should be constructed of materials with a reaction-to-fire classification achieving A2 - s3, d2, or better. Services risers should be vertically enclosed in compartment construction achieving a minimum period of fire resistance as per Table 31 and Table 32 of the TGD-B 2024.

Stairs and lifts should be enclosed within compartment construction in accordance with Table 31 and Table 32 of the TGD-B 2024.

Every common escape stairway and its associated landings should be constructed of materials having a reaction to fire classification achieving Class A2-s3, d2.

All places of special fire risk (i.e. plant room & meter room) should form a separate compartment the minimum period of fire resistance for integrity, insulation and load bearing capacity as per Table 31 and Table 32 of the TGD-B 2024.

Ancillary accommodation will be required to be separated from adjoining accommodation by compartment construction.

The integrity of the linings of compartment walls should not be breached to allow for the installation of services, e.g. pipes, wires, flues (including manufactured flues), except where necessary to allow the services to pass through these compartment walls or floors. Services may be surface mounted or accommodated in service ducts or within service cavities created external to the unbreeched linings of the fire-resistant compartment wall or floor. Where services pass though compartment walls or floors, they should be appropriately fire stopped. No service should pass through separating walls.

8.3 Junction of a Compartment Floor with an External Wall

As Block P and Block Q each have a top floor height which exceeds 15 m above the access level, where a compartment floor meets an external wall, the compartmentation will be maintained by providing an appropriate sprinkler systems in accordance with Section 3.5.10 of TGD-B 2024.

8.4 Concealed Spaces – Cavity Barriers

Cavity barriers should be located as per Table 16 of TGD-B 2024 for purpose group 1 (c)

	Table 16 Provision of Cavity Barriers			
		Purpose Group to which the provision applies		
	Cavity barriers should be provided:	1(c)	2(a), 2(b)	3-8
1	At the top of an external cavity wall and at the junction of any such wall with a separating wall.	✓	✓	✓
2	At the junction between an external cavity wall, and every compartment floor and compartment wall.	✓	✓	✓
3	At the junction between an internal cavity wall and every compartment floor, compartment wall, or other wall or door assembly which forms a fire-resisting barrier.	✓	✓	✓
4	At the junction between any internal cavity compartment wall or cavity compartment floor and any other internal cavity compartment wall or cavity compartment floor.	✓	✓	✓
5	In a protected escape route, above or below any fire-resisting construction which is not carried full storey height, or (in the case of a top storey) to the underside of the roof covering.(1)	✓	✓	✓
6	Above or below any bedroom partitions which are not carried full storey height, or (in the case of a top storey) to the underside of the roof covering.(1)	X	✓	X
7	Where a corridor (which is not a protected corridor) should be subdivided to prevent fire or smoke from affecting the routes to two exits simultaneously (see Section 1, Subsection 1.4 and Diagram 9), above any corridor enclosures which are not carried full storey height, or (in the case of a top storey) to the underside of the roof covering.(1)(2)	X	✓	✓
8	Any cavity void, including any roof space that needs to be subdivided so that the distance between cavity barriers does not exceed the dimensions given in Table 17.	X	✓	✓

✓ Denotes that provision of cavity barriers apply.
X Denotes that provision of cavity barriers do not apply.

(1) The provisions in items 5 and 6 of this table do not apply where the cavity above is enclosed on the lower side by a fire-resisting ceiling (as shown in Diagram 9) which extends throughout the building, compartment or separated part, which conforms to Para 3.6.3.1.

(2) The provision in item 6 of this table does not apply where the storey is subdivided by fire-resisting construction carried full storey height and passing through the line of sub-division of the corridor (see Diagram 9 (b)), or where the cavity above is enclosed on the lower side as described in Note (1).

Figure 6: Table 16 of TGD-B 2024

9 EXTERNAL FIRE SPREAD (ELEVATIONS)

All openings in the external façade will achieve the necessary fire rating as required pending the External Fire Spread Assessment carried out as per the procedures outlined in BR 187:2014 External Fire Spread: Building Separation and Boundary Distances (2014).

9.1 Restriction of Fire Spread on External Walls

The external wall of the building or elements external to the building should not provide a medium for fire spread. Based on the proposed design, as the buildings will have top storey height more than 15m:

- Insulation material within the external wall will have a reaction to fire classification of class A2-s3, d2 (No PIR).
- Any material that makes up the external wall, including cladding system should be A2-s3, d2 or better.

10 ACTIVE FIRE SAFETY SYSTEMS

10.1 Fire Detection and Alarm System

The provisions for fire detection and alarm systems as set out in Table 12 will be designed and installed in accordance with I.S. 3218: 2024 for Purpose group 1c (residential area).

Table 12 Provision of Fire Detection and Alarm System		Para 1.9.13
Purpose Group(4)	**System coverage area (1)**	**System Classification**
1c,	Defined escape routes, in common protected areas (see Para 1.9.13.3.1) (2) In individual flats (see Para 1.9.13.3.2) (3)	L3X Grade D LD2
2a, 2b	Coverage to all areas	L1
Hospitals	See HTM 05/03	L1
Small guest houses (Para 1.5.8.2)	See Para 1.9.13.3.2	Grade D LD2
3, 4a, 8	Defined escape routes, areas off defined escape routes.	L3
4b	Defined escape routes, areas off defined escape routes, Interconnected alarm systems in different occupancies.	L3X
5a, 5b, 6a, 6b,7a, 7b	Defined escape routes, areas off defined escape routes, places of special fire risk.	L2/L3
7c	Defined escape routes, areas off defined escape routes undefined escape routes.	L3

Notes:
(1) Manual call points should be provided in addition to any automatic fire detection and alarm system specified (L1 – L3), in accordance with I.S. 3218, or equivalent.
(2) This system should not be connected to any alarms within individual dwellings.
(3) Individual flats only.
(4) Where any building has an atrium configuration (see Para 3.8.3) and there is no fire/separation between the atrium and the adjoining spaces, the fire detection and alarm system should be provided in the following areas: defined escape routes, areas off defined escape routes, places of special fire risk, unless the building requires a higher level of system.

Figure 7: Table 12 of TGD-B 2024

A fire detection and alarm system will be provided within the common areas of the buildings including ancillary areas achieving L3X coverage in order to provide adequate warning in case of fire. This system will not be connected to any alarms within individual dwellings.

It will consist of:

a) a heat detector in each flat, located adjacent to the entrance door to the flat; and
b) a sounder in each flat, meeting the requirements of I.S. EN 54-3, located in the circulation area, not more than 5 m from any bedroom door; and
c) smoke detectors and sounders in any common enclosed protected escape route; and
d) smoke or heat detectors (as appropriate) in ancillary accommodation.

All apartments will be provided Category LD2: Interconnected self-contained mains powered/battery backed Smoke/Heat Alarms in:

a) all circulation areas that form part of an escape route within the flat/maisonettes.
b) all high-fire-risk areas/rooms, e.g. kitchens, living rooms, utility rooms; and
c) all bedrooms.

Smoke detectors should be to I.S. EN 14604.

10.2 Emergency Lighting

Emergency lighting of three hours duration will be provided to IS 3217: 2023 and IS EN 1838:2013 to adequately indicate and illuminate all escape routes and so that all fire-fighting equipment and call points can be easily seen. The emergency lighting signs will be maintained in all windowless accommodation. The following areas should also be provided with emergency escape lighting: -

Location	Parts requiring emergency escape lighting
Residential	Defined escape routes, other than within dwellings, ancillary accommodation including roof top amenities, plant/generator/switch room for emergency lighting and where required external escape lighting.

10.3 Sprinkler System

10.3.1 Residential Areas

As Block P and Block Q contain flats, the sprinkler system will be in accordance with BS 9251;

The system will have the following as minimum requirements:

a. A minimum duration of operation of:
   - 30 minutes for buildings with a topmost floor height of 30 m; and
   - 60 minutes for buildings with a topmost floor height of 60 m; and

b. a flow rate of 4 mm/min for single head operation, or 2.8 mm/min through each sprinkler operating simultaneously up to a maximum of two sprinklers in a single area of operation; and
c. a primary and an alternative power supply; and
d. a duty and standby pump; and
e. an on-site water storage capacity, suitable to meet the flow requirements and duration of the system, but not less than:
   - 3 m^3 for systems with a 30-minute duration, and
   - 6 m^3 for systems with a 60-minute duration.

An isolation valve should be provided to each individual flat.

11 ADDITIONAL PROVISION

11.1 Provision for Photovoltaic Panels

If applicable, the provision of a Photovoltaic System (PVS) will be designed and installed to current best practice and include measures to minimize the risk of electrocution to firefighters in the event of an incident. The installation shall be designed incorporating the technical guidance contained in: -

- RC62: Recommendations for fire safety with photovoltaic panel installations, as published by the Fire Protection Association/RISC Authority;
- NFPA 1 (Fire Code) Section 11.12 for PV Systems; and
- MCS/ECA's Guide to installation of PV Systems.

Furthermore: -

- The roof covering or decking under the arrays shall be of non-combustible materials.
- The building shall have adequate and appropriate warning signages for firefighters to inform them of the presence of a PV System in the building

Only solar cables suitable for outdoor applications and severe weather conditions and UV radiation are to be used.

Additionally, it should be noted that PV panels cannot be located on a stair or within 1.8m of an AOV, and this should be kept in mind when locating PVs at roof level.

11.2 Provisions for Green Roofs

If applicable, Green Roof areas will be designed and installed to current best practice and include measures to prevent the spread of fire. The installations should be designed incorporating the technical guidance contained in: -

- ❑ Fire Performance of Green Roofs and Walls - DCLG UK: 2013.
- ❑ Green Roof Code of Best Practice UK: 2014.