Fire Statement – FS 001.1

Project:	Cornbrook
Subject:	The Town and Country Planning Order - Fire Statement
Date:	1 February 2024
Author:	Ross Barritt-Mehta
Checked:	Adam Monaghan

1 Introduction

This Fire Statement has been prepared by Design Fire Consultants (DFC) and is submitted in support of the planning application made by Forshaw Ltd for the Cornbrook development located in Manchester.

The purpose of this Fire Statement is to evidence that fire safety matters, as they relate to planning, have been considered at an early stage of the project.

This Fire Statement includes a concise summary of the approach to the fire safety design, site layout, access and facilities for firefighting, and details of any consultation undertaken on fire safety and consideration of local development documents.

This Fire Statement forms part of the planning application information only. It is not intended for formal Building Regulations submission and should not be used as such.

1.1 Town and Country Planning Order

The requirement for a Fire Statement is requested under The Town and Country Planning (Development Management Procedure) (England) Order 2015 (as amended)[1].

The regulatory regime also establishes the Health and Safety Executive as a statutory consultee.

A Fire Statement is required to be submitted as part of a full planning application (or with the reserved matters planning application) for:

- A development which involves the provision of one or more relevant buildings;
- A development of an existing relevant building; or
- A development within the curtilage of a relevant building.

A relevant building is currently defined as:

- A building that contains two or more dwellings; and is 18m or more in height, or contains 7 or more storeys.
- A building that constitutes educational accommodation; and is 18m or more in height, or contains 7 or more storeys.

Educational accommodation is defined as:

[1] UK Government, 'The Town and Country Planning (Development Management Procedure and Section 62A Application (England) (Amendment) Order 2021', July 2021

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- Residential accommodation for the use of students who are boarders at school in connection with them attending a school; or
- Residential accommodation for use of students attending higher education courses, further education courses, or course at 16 to 19 Academies.

The height of a building is measured from ground level to the top floor surface of the top storey of the building (ignoring any storey which is a roof-top machinery or plant area or consists exclusively of machinery or plant rooms).

When determining the number of storeys a building has: any storey which is below ground level is to be ignored; and any mezzanine floor is a storey if its internal area is at least 50% of the internal floor area of the largest storey in the building which is not below ground level.

A storey is treated as below ground level if any part of the finished surface of the ceiling of the storey is below the ground level immediately adjacent to the part of the building.

1.2 Relevant Documents

Table 1: Relevant documents used to inform the Fire Statement

Name	Reference
Location Plan	8353-LRW-ZZ-ZZ-DR-A-00-100_P07
Site Location and Uses Analysis Plan	8353-LRW-ZZ-ZZ-DR-A-00-192_P01
Accommodation Schedule	8353-LRW-ZZ-ZZ-SH-A-00-407_P02
Basement Floor Plan	8353-LRW-ZZ-B1-DR-A-00-177_P05
Ground Floor Plan	8353-LRW-ZZ-00-DR-A-00-178_P08
First Floor Plan	8353-LRW-ZZ-01-DR-A-00-179_P08
Second to Fourth Floor Plans	8353-LRW-ZZ-ZZ-DR-A-00-198_P01
Fifth to Nineteenth Floor Plans	8353-LRW-ZZ-ZZ-DR-A-00-199_P01
Twentieth to Twenty-First Floor Plans	8353-LRW-ZZ-ZZ-DR-A-00-182_P06
Twenty-Second Floor Plan	8353-LRW-ZZ-22-DR-A-00-183_P06
Twenty-Third Floor Plan	8353-LRW-ZZ-23-DR-A-00-184_P06
Roof Plan	8353-LRW-ZZ-RF-DR-A-00-185_P05
Section	8353-LRW-ZZ-ZZ-DR-A-00-300_P03
East Elevation	8353-LRW-ZZ-ZZ-DR-A-00-206_P04
South Elevation	8353-LRW-ZZ-ZZ-DR-A-00-207_P04

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2 Fire Statement Form

The Fire Statement form includes a concise summary of the approach to fire safety taken, the site layout, access and facilities for firefighting, details of consultation undertaken on fire safety and consideration of local development documents.

Table 2: Application information

Application information		
1.	Site Address line 1	Cornbrook
	Site Address Line 2	Land at Cornbrook Road
	Site Address Line 3	Hulme
	Town/City	Manchester
	County	Greater Manchester
	Site Postcode (Optional)	Grid reference: (382395, 397039) M15 4YF
2.	Description of proposed development including any change of use (as stated on the application form)	Erection of a 24-storey mixed use building incorporating 224 residential apartments (Use Class C3), 87 aparthotel studios (Use Class C1), amenity space, flexible commercial space (Use Class E), and café (Use Class E(b)), together with infrastructure, landscaping, and other associated works" The development is Basement, Ground plus Twenty-Three Floors with a height to the top-most occupied floor of 72m. The site is bounded by Dinton Street and the Cornbrook Tram stop to the North, Cornbrook Road to the West and Bridgewater Way (A56) to the South. An existing residential building bounds the development to the East.

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Application information		
3.	Name of person completing the Fire Statement (as Section 15), relevant qualifications and experience.	*No more than 200 words* **Author's Name:** Ross Barritt-Mehta **Post-Nominals:** BEng (Hons), MSc, CEng MCIBSE **Relevant Qualifications and Experience:** Ross joined DFC in April 2018 from the mechanical ventilation industry, where he gained over 15 years of experience in providing robust technical designs for Smoke Control systems, including Pressurisation Systems and Mechanical Smoke Extract Systems for Offices, Retail, Hotels and Residential developments. Ross has experience in fire safety design of residential buildings, hotel buildings and commercial office/labs and multi-storey car parks. CV available upon request. **Checker's Name:** Adam Monaghan **Post-Nominals:** BSc, CEng, FIFireE, MSFPE **Relevant Qualifications and Experience**: Chartered Engineer with the Engineer Council. Adam has over 24 years of experience in the fire safety consultancy business.
4.	State what, if any, consultation has been undertaken on issues relating to the fire safety of the development ; and what account has been taken of this.	No meetings have taken place with Building Control or the Fire Service. Pre-application information was issued by DFC to the HSE on 10 November 2023. Response has been delayed by the HSE due to their available resource until 2024.

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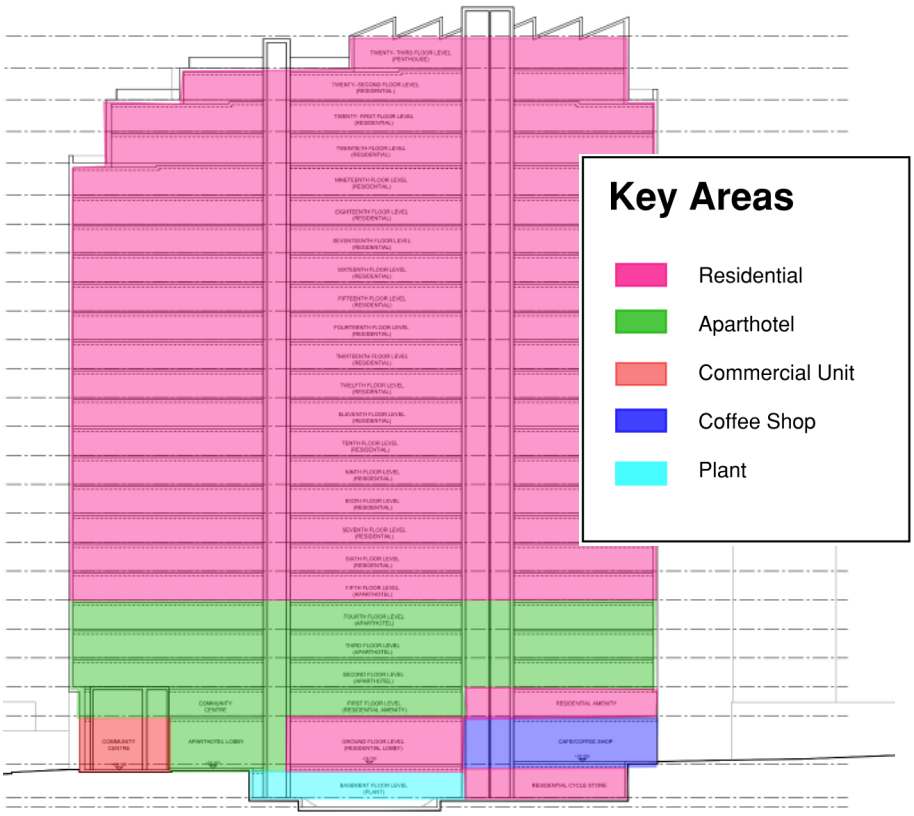
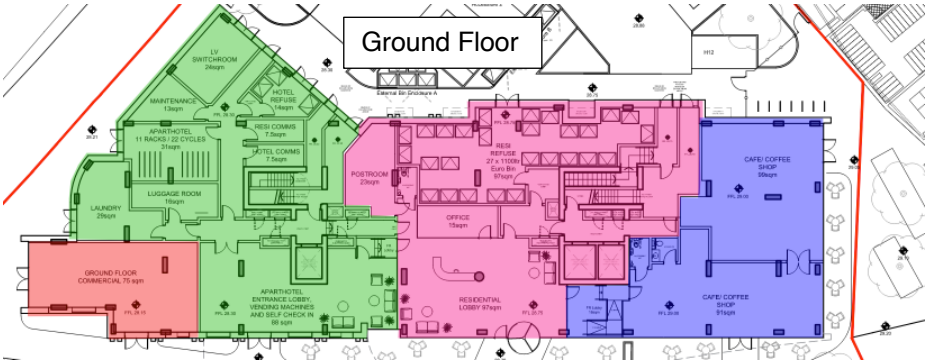
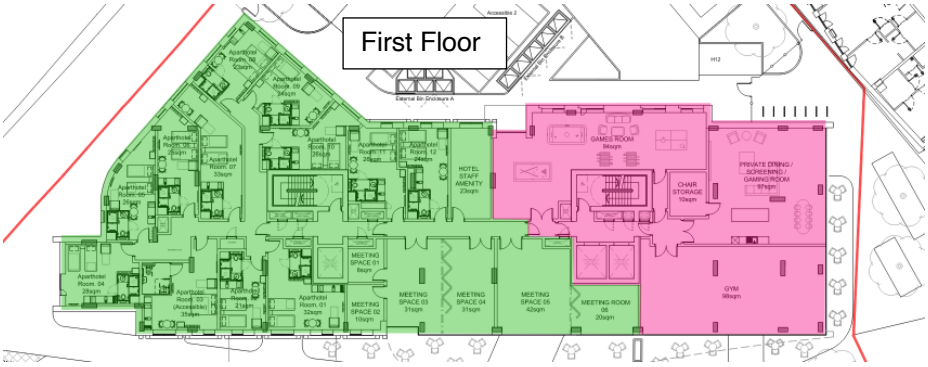
Application information		
5.	Site layout plan with block naming as per building schedule referred to in 6. *(consistent with other plans drawings and information submitted in connection with the application)*	*Site layout is:*   

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Table 3: The principles, concepts and approach relating to fire safety

	The principles, concepts and approach relating to fire safety			
	6. Building Schedule			
	Site Information			
a) Block name as per site layout plan above	Residential	Aparthotel	Community Space / flexible commercial	Café / Coffee Shop
b) Block height (m) Number of storeys excluding those below ground level Number of storeys including those below ground level	72m to upper-most occupied floor. 4m below ground for lowest part of basement amenity. Located across Basement, Ground, First, then Fifth to Twenty-Third Floors 22 floors total, 21 excluding Basement.	17.5m to upper-most occupied floor. Located across Ground to Fourth Floors 5 floors total, no Basement.	0m to upper-most occupied floor. Located wholly on the Ground Floor 1 floor total, no basement	0m to upper-most occupied floor. Located wholly on the Ground Floor 1 floor total, no basement
c) Proposed use (one per line)	1-3 bed Residential apartments (protected entrance hall). 1-2 bed Residential apartments (open-plan). Amenity including: Basement; plant and residents' cycle storage. Ground; plant, foyer, office and residents' cycle storage and bin store. First; Residents' co-working, studio workspaces and terraces, and plant. Residents' gym, co-working, library and cinema.	Hotel – designed as Residential studios (protected (open-plan). Amenity including: Plant, foyer and bin store.	Other, Public, designed as equivalent to office use.	Other, Public Café / Coffee shop.

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	The principles, concepts and approach relating to fire safety			
d) Location of use within block by storey	Basement, Ground, First, then Sixth to Twenty-Third Floors.	Ground, then Second to Fifth Floors.	Ground Floor only.	Ground Floor only.
	Building Information			
e) Standards relating to fire safety/ approach applied	BS 9991	BS 9991	Approved Document B Volume 2	Approved Document B Volume 2
f) Balconies	Private terraces at Twenty-Second and Twenty-Third Floors; Class A2-s1, d0 or better.	Plant deck Second Floor; Class A2-s1, d0 or better.	No Balconies	No Balconies
g) External wall systems	Class A2-s1, d0 or better	Class A2-s1, d0 or better	Class A2-s1, d0 or better	Class A2-s1, d0 or better
	Residential Safety Information			
h) Approach to evacuation	Simultaneous – Amenity only Stay Put – Apartments	Simultaneous, does not trigger evacuation of other “blocks”	Simultaneous, does not trigger evacuation of other “blocks”	Simultaneous, does not trigger evacuation of other “blocks”
i) Automatic suppression	Category 4 Residential Sprinklers (Full coverage), no areas are to exceed 100m^2	Category 4 Residential Sprinklers (Full coverage), no areas are to exceed 100m^2	Category 4 Residential Sprinklers (Full coverage), no areas are to exceed 100m^2	Category 4 Residential Sprinklers (Full coverage), no areas are to exceed 100m^2
j) Accessible housing provided	None	Two accessible studios provided per floor. Approved Document M Volume 2.	Approved Document M Volume 2.	Approved Document M Volume 2.

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7. Specific technical complexities

Compliance with guidance is not mandatory for compliance with Part B of Schedule 1 to The Building Regulations 2010[2], and alternative solutions can be acceptable. Some elements of the fire safety design require alternative solutions due to the constraints of the building, and adequacy shall be demonstrated in the fire safety strategy.

- Some flats and all aparthotel studios within the building are designed to be open plan, whereby the bedrooms are accessed direct from the living area instead of via an internal hallway. Aparthotel units are studio apartments with sleeping and cooking facilities within a single space. Open plan residential units are in accordance with the recommendations in BS 9991 for open plan flat design. Guidance notes that the cooking appliances in an open plan apartment should not be adjacent to the entrance of the flat. Careful planning and protection (power cut-off devices) will ensure that a hob fire will not impede occupant egress. Where required, an assessment into the effectiveness of power cut-off devices in conjunction with sprinkler system protection in protecting means of escape will be fully quantified during detailed design.
- The two small alternative uses in the development are proposed to have a residential (Category 4) sprinkler system, compliant with BS 9251 and including all Enhanced Resilience and Reliability requirements in line with Section 4.2.3. This residential sprinkler system shall be fitted through-out, rather than an OH1 Commercial sprinkler system. This is considered appropriate as the fire load and risk in the aparthotel areas are not likely to be worse than that of a residential apartment and no amenity area is to be greater than 100m^2. The coffee shop and community area shall be similarly restricted to maximum 100m^2 floor areas.
- Communication between the hotel foyer, residential foyer and coffee shop is provided at Ground Floor. Additionally, communication occurs between the hotel and residential amenities at First Floor, however each demise shall be separated from the other by 2-hour fire resisting construction and a protected lobby will be provided at any communication point between these demises.
- Corridor/Lobby Ventilation: Subject to further design team input, computational fluid dynamics (CFD) assessment and stakeholder approval (e.g., approvals authorities). Ventilation design will be cognisant of simultaneous evacuation from the aparthotel floors, considering the fire load to be equivalent to a residential floor. Each smoke ventilation system shall operate on the floor that triggers activation and remain closed on all other floors. A fire service override shall be provided to allow the fire service to modify which floor is operational should they require it:
  - Each firefighting lobby shall be provided with a dedicated mechanical smoke ventilation system that shall trigger upon detection within the lobby, subject to further design as listed above.
  - Each firefighting stair shall be provided with an AOV at the head of the stair, linked to activation of the firefighting lobby ventilation system for that stair.
  - Corridors less than 7.5m shall not be provided with smoke ventilation.
  - Corridors greater than 7.5m shall be provided with mechanical extract smoke ventilation, located at the furthest point from the firefighting lobby, subject to further design as listed above.
  - All residential / aparthotel common corridors shall connect to at least one firefighting lobby and shall be protected with fire resisting construction of at least 60EI to the apartments/studios.

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	The principles, concepts and approach relating to fire safety
• Whilst both firefighting cores serve all floors of the building, the Western core shall be "dedicated" to the aparthotel floors, whilst the Eastern core shall be "dedicated" to the residential floors for day-to-day use. It is proposed that access control will be provided to limit access onto the floors. • During an emergency both cores shall be available for evacuation of occupants, with access permitted by a green "break glass" within the firefighting lobby. • The building height exceeds 50m therefore a qualitative design review (QDR) will be required to determine whether the recommendations of BS 9991 are appropriate. Initial considerations of this have included a second stair to serve all floors, inclusive of an evacuation lift per core and mechanical ventilation to common corridors that are greater than 7.5m as opposed to natural ventilation.	
8. Issues which might affect the fire safety of the development The main variations to guidance are detailed in Section 7 above, these are to be developed and assessed at the next stage of the design. Additionally, the automatic detection and alarm system provided for each residential unit shall be linked to the wider building detection and alarm system such that a building-wide evacuation may be initiated by the Responsible Person or the attended fire and rescue service, or an Evacuation Alert System provided.	
9. Local development document policies relating to fire safety Not applicable, no local policies have been identified.	

[2] Statutory Instruments, '2010 no 2214 Building and Buildings, England and Wales, The Building Regulations 2010 (as amended)', December 2018

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Table 4: ***Emergency road vehicle access and water supplies for firefighting purposes***

Emergency road vehicle access and water supplies for firefighting purposes
10. Fire service site plan Fire service access to the site is based on the guidance contained within BS 9991 and associated references to BS 9999. The building is over 50m in height and greater than 900m² in footprint and therefore will be provided with two firefighting shafts; each incorporating a firefighting stair with wet rising main, firefighting lift. The firefighting lift and firefighting stairs give access to a firefighting lobby which will be provided with ventilation to control smoke spread during fire service operations. The lobby then connects to the residential corridors. This provision shall be discussed with the fire service as part of the QDR process. External access if also provided to the Community Area and Café / Coffee Shop via Dinton Street and Cornbrook Road respectively. Internal access for the fire service is as per below: • Firefighting stair provided with a wet fire mains serving all storeys in accordance with BS 9990[3] and BS 5041-1[4]. • Outlets for the fire mains to be provided at every level such that all areas are accessible within 60m. • Parking provided within 18 m of, and within sight of, a suitable entrance giving access to the wet fire main; and access is also provided within sight of the inlet for the emergency replenishment of the suction tank for the wet fire main.

[3] BS 9990, 'Non automatic fire-fighting systems in buildings', 2015
[4] BS 5041-1, 'Fire hydrant systems equipment – Specification for landing valves for wet risers, 1987

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Emergency road vehicle access and water supplies for firefighting purposes
11. Emergency road vehicle access Vehicle access to residential building is through the private car park to the rear, accessed via Dinton Street. Additional access to the façade of the building / Ground and First Floor units may also be gained from Dinton Street and Cornbrook Road. These locations give clear access to the provisions set out in Section 10. Is the emergency vehicle tracking route within the site to the siting points for appliances clear and unobstructed? The access route shall be suitable for a pump appliance: • Min. width of road between kerbs = 3.7m. • Min. width of gateways = 3.1m. • Min. turning circle between kerbs = 16.8m. • Min. turning circle between walls = 19.2m. • Min. clearance height = 3.7m. • Min. carrying capacity = 12.5 tonnes. • Max. reversing distance = 20m. A swept path analysis is to be conducted by the design team during the next design stage to demonstrate the suitability of the turning circle on Cornbrook.
12. Siting of Fire Appliances Vehicle access to the site is provided via Dinton Street and Cornbrook Road, which bound the site.

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Emergency road vehicle access and water supplies for firefighting purposes

13. Suitability of water supply for the scale of development proposed

The building is over 50m in height therefore a wet rising main with dedicated stored water has been provided. Water for firefighting can be supplemented by local hydrants.

Hydrants are to be provided within 90m of the inlet for the emergency replenishment of the suction tank for the wet fire mains, not more than 90m apart, and not closer than 6m of the building. The location of the closest hydrant is to be confirmed by the MEP designer and the united provider, however DFC have undertaken an initial desk-top study and observed a hydrant located at the junction of Dinton Street/Cornbrook Road/Bridgewater Way. This hydrant is shown indicatively in Section 14.

The development will be provided with sprinkler protection throughout. These will be supplied with water via storage tanks and pumps in the associated plant rooms on the Basement Level.

Nature of water supply:

Public hydrant.

Does the proposed development rely on existing hydrants and if so are they currently usable / operable?

It is to be confirmed by the MEP designer at the next design stage whether the existing hydrants are operable. If they are not then a private hydrant will be provided.

As an existing built-up area with surrounding buildings, it is expected that existing public hydrants will be available.

14. The Fire service site plan

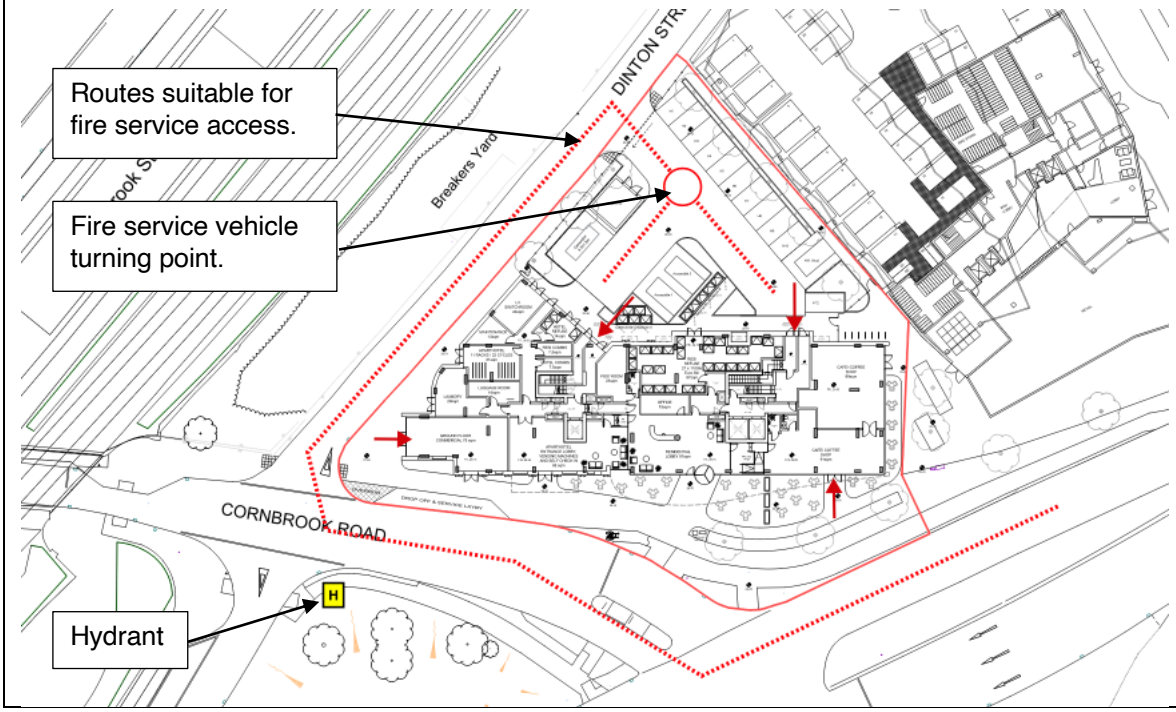

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Table 5: Fire Statement completed by

Fire Statement completed by	
15. Signature	Author: R Barritt-Mehta MSc BEng (Hons) CEng MCIBSE Checker: Adam Monaghan CEng FIFireE BSc MSFPE]
16. Date	1 February 2024

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