HOARE LEA

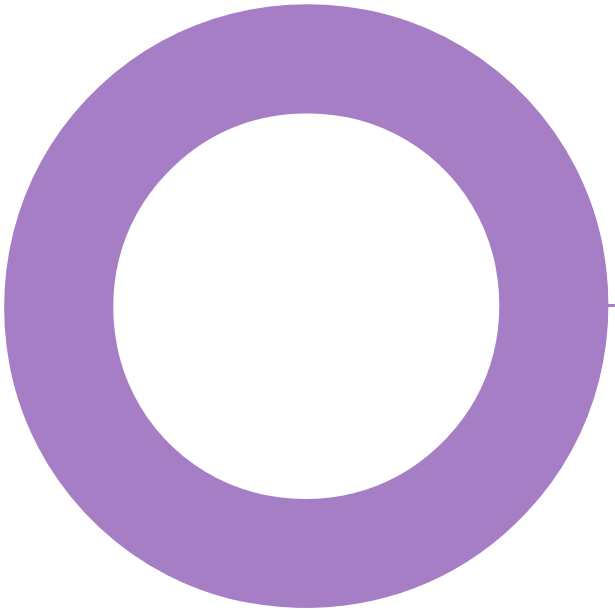
O2 Finchley Road. London.

Landsec.

FIRE ENGINEERING

REVISED FIRE SAFETY STATEMENT

REVISION 00 – 10 FEBRUARY 2023



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	10/02/23	Planning statement for the updated scheme to reflect the proposals in the February 2023 submission	JW	LG	LG

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1. Introduction.

This Fire Strategy Planning Statement has been prepared by Hoare Lea Fire Engineering on behalf of Landsec (Finchley Road) Limited in support of an application made in part detail and part outline for the demolition and redevelopment of the O2 Centre – Finchley Road site within the London Borough of Camden.

A hybrid planning application for outline permission for the entire site (Plots N1, N2, N3, N7, N7, S1 and S8) and detailed permission for three blocks (N3E, N4 and N5) is to be sought. Current proposals are for the site to be delivered across seven phases.

Detailed planning permission for Development Plots N3-E, N4, and N5 and Outline planning permission for Development Plots N1, N2, N3, N6, N7, S1 and S8, including demolition of all existing structures and associated works, and redevelopment to include residential development (Class C3), commercial, business and service uses (Class E), local community uses (Class F2), and sui generis leisure uses (including cinema and drinking establishments) together with all landscaping, public realm, cycle parking and disabled car parking, highway works and infrastructure within and associated with those Development Plots, in accordance with the Development Specification.

For the avoidance of doubt planning permission is sought separately and severably for each of the Plots shown on plan P011.

This fire safety statement has been prepared to accompany the detailed permission planning submission and address The London Plan (March 2021) Policy D5 (Inclusive Design) and D12 (Fire Safety).

The intention of the fire safety statement is to address the main fire safety principles and provide an overview of the requirements and recommendations that the scheme will meet.

It is recommended that the development be designed in accordance with BS 9991:2015 (for residential) and BS 9999:2017 (for non-residential). Other guidance documents, e.g. BR 187 will be used where appropriate.

In addition, emerging guidance and industry recommendations have been considered with regards to the fire strategy design to the building. These include the NFCC statement in December 2022 which proposed buildings with a floor over 18m (or 7 storeys) be designed/ redesigned to incorporate at least two staircases, and the consultation published by the Department for Levelling Up, Housing and Communities in December 2022 which proposes the requirement for two staircases for residential buildings with a floor over 30m. The layouts for the residences within the buildings on Development Plots N3-E, N4, and N5 have therefore been provided with two staircases.

2. The London Plan – Policy D12 (Fire Safety)

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

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

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

1. The building's construction: methods, products and materials used, including manufacturers details;
2. The means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and the associated evacuation strategy approach;
3. Features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans;
4. Access for Fire Service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these;
5. How provision will be made within the site to enable fire appliances to gain access to the building; and
6. Ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures

These items are detailed in the following sections for the N3-E, N4, and N5 blocks at the O2 Finchley Road development.

The masterplan as arranged for submission looks to adhere to these principles and future details will show more detail at each reserved matters stage.

Note that draft guidance was issued in February 2022 for consultation, setting out how compliance with policies D12 and D5 of The London Plan should be demonstrated. The document has been reviewed and it is believed that the following fire statement is written in accordance with the draft guidance.

3. Competency statement.

All Hoare Lea design projects are headed by highly trained engineers, supported by a team of chartered engineers across the UK, with proven experience on a wide range of fire safety consultancy projects.

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

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

- Miller Hannah BEng (Hons), CEng, MIFireE – Director
- Leo Girling BSc (Hons), CEng, MIFireE – Associate Director
- Ben Morris MSc, MRICS, AIFireE – Principal Fire Engineer
- Jonathan Weightman BSc (Hons) MSc, AIMA, AIFireE – Principal Fire Engineer

4. Proposed development.

4.1 Overview

The detailed planning submission is for Plots N3-E, N4 and N5 at the O2 Finchley Road development. The Detailed Proposals will include a total of 56,746sq. m GIA of residential floorspace including an allowance for car parking. The Detailed Proposals will include 608 no of dwellings. The Outline Proposals will include up to 115,000sq. m GIA of residential floorspace including an allowance for car parking and basements. Therefore, the total residential use across the Site, including residential parking in podiums could be up to 171,746sq. m GIA which for the sake of the Environmental Impact Assessment has assumed that this equates to around 1,800 residential units

4.2 N3-E, N4 and N5

The N3-E block consists of 10 storeys. The N4 and N5 buildings are each split into four blocks, A-D.

The N4 A, B and C plots comprise a single building that has between 9 and 14 storeys (the connection between N4-A and N4-C has 8 storeys. N4-D has 10 storeys.

The N5 A, C and D plots comprise a single building that has between 9 and 15 storeys (the connection between N5-A and N5-C has 8 storeys. N5-B has 10 storeys.

All blocks are provided with two staircases. An image of a typical level is shown below in Figure 1.

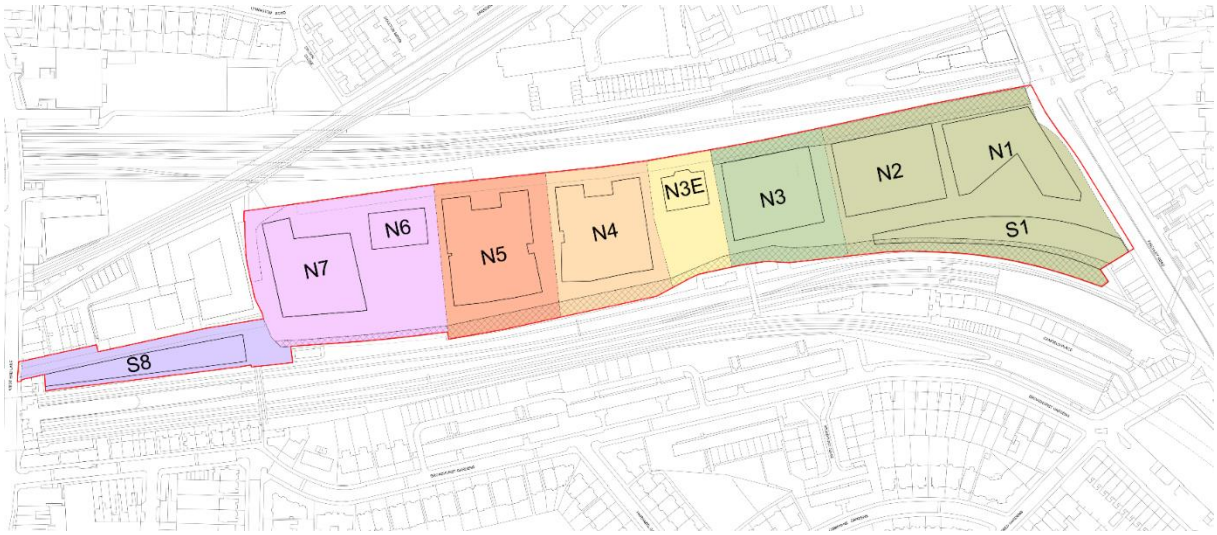

Figure 1: Application site plan

5. Fire safety overview.

5.1 Building construction

- The baseline structural design for the three buildings utilises concrete frames with post-tension slabs on typical floors, reinforced concrete (RC) blade columns, RC walls forming the cores and RC slabs for the podium slab.
- The elements of structure for the building will achieve 120 minutes fire resistance.
- All apartments will be enclosed within compartment walls constructed with 60 minutes fire resistance.
- All floors will be compartment floors.
- Where apartments are arranged such that they have internal corridors, they will be constructed with 30 minutes fire resistance. (Note that these are within the apartments, common corridors will be constructed with 60 minutes fire resistance).
- Windows that form an internal angle with an adjacent compartment will be constructed with 60 minutes fire resistance.
- In accordance with Regulation 7(2), as the buildings have storey heights in excess of 18m above the lowest adjacent external ground level, the external wall construction, and specified attachments including balconies, solar shading or solar panels, will achieve European Classification A2-s1, d0 or Class A1. This does not apply to the following:
  - cavity trays when used between two leaves of masonry;
  - any part of a roof (other than any part of a roof which falls within paragraph (iv) of Regulation 2(6)) if that part is connected to an external wall;
  - door frames and doors;
  - electrical installations;
  - insulation and water proofing materials used below ground level;
  - intumescent and fire stopping materials where the inclusion of the materials is necessary to meet the requirements of Part B of Schedule 1;
  - membranes;
  - seals, gaskets, fixings, sealants and backer rods;
  - thermal break materials where the inclusion of the materials is necessary to meet the thermal bridging requirements of Part L of Schedule 1; or
  - window frames and glass.
- To limit the spread of fire within the buildings, all wall and ceiling linings will satisfy the appropriate classification stated within BS 9991.
- Suitable provisions will be made to prevent the unseen spread of fire and smoke through cavities or concealed spaces using cavity barriers in accordance with the guidance of Section 19 of BS 9991.
- The fire safety strategy will include a space separation analysis to establish the necessary boundary distance around the building. At this stage, it is not considered that there is any significant risk of spread of fire from the building; however, detailed analysis will be provided during the design stage. To our knowledge the development does not compromise the safety of any surrounding existing buildings, in terms of fire spread, existing exit routes or Fire Service access.

5.1.1 Construction, Design and Management regulations

- Design projects undertaken in the UK are subject to the requirements of the Construction (Design and Management) Regulations 2015, the objective of which is to ensure that health and safety issues are properly considered during a project's design and development so that the risk of harm to those who have to construct, use and maintain the building is reduced.
- As a designer, in accordance with Regulation 9 of the CDM regulations, Hoare Lea will take into account the general principles of prevention in the preparation of this report and where reasonably practicable, eliminate, minimise and/or control foreseeable hazards associated with the design. Where elimination is not reasonably practicable, Hoare Lea will be required to provide 'pre-construction' information in respect of any significant and/or unusual project-specific hazards that remain.

5.2 Means of escape provisions

- The occupants of the residences will adopt a 'stay put' strategy where only the occupants from the apartment of fire origin evacuate. The occupants of neighbouring flats or of the common or communal parts of the building remain in place, separated by a high level of compartmentation, unless advised otherwise by the Fire Service.
- Where apartments are arranged internally such that they all have internal entrance halls, the maximum travel distance from any door to the apartment door will be maximum 9m within the corridor.
- Where apartments have an open-plan arrangement, they will either have dimensions within 8m x 4m, or 16m x 12m (with an enclosed kitchen). Any apartments with an unenclosed kitchen over these dimensions will be subject to computational fluid dynamics (CFD) analysis and Building Regulations approval.
- Where apartments have more than one level (i.e. a duplex), they will either be provided with a protected staircase or will be subject to CFD analysis and Building Regulations approval.
- All apartments that are accessed internally (i.e. located on the upper floors) are served by two staircases that both can be used as means of escape.
- The common corridors are arranged such that all apartments are accessed on each level via a common corridor from the staircases.
  - For blocks N3-E, N4-B/C/D & N5-B, the travel distances for each block on all levels between the closest staircase door and the furthest apartment door is within 15m.
  - For blocks N4-A & N5-A/C, the travel distances for each block on all levels between the closest staircase door and the furthest apartment door is over 15m, however the single direction travel distance is within 15m, since from this point, occupants have two directions to escape, to either staircase.
- Two staircases are provided to all blocks, and therefore the corridors serving each staircase is provided with a single mechanical smoke extract shaft to ensure smoke does not enter the closest staircase. Common corridors are separated by cross-corridor fire doors.
- All staircases which will be 1200mm wide and are therefore compliant as per guidance in BS 9991.
- The exits from the staircases will discharge directly outside at ground level. Both stair core final exit routes remain imperforate from one another.
- Every bank of lifts to the blocks will be provided with an evacuation lift (within a fire protected lift shaft) to facilitate the evacuation of mobility impaired occupants and address the recommendations of Policy D5 (Inclusive Design) of The London Plan. There will be an evacuation lift adjacent to each staircase (i.e. in separate protected corridors) and therefore provide refuge space for disabled occupants while they wait to use the evacuation lift.
- Evacuation lifts will be sufficient sized for use by disabled occupants. The management procedures for the evacuation lifts will be developed during the detailed design stage, however, will be operated by a trained person. The location of the lifts in each block is shown in Figure 3, Figure 4 and Figure 5.

5.3 Features incorporated to reduce the risk to life

- All apartments will be provided with a grade D LD1 fire detection and alarm system, in accordance with BS 5839-6.
- The common corridors will be provided with category L5 detection and alarm systems, as a means of activation for the smoke ventilation system, in accordance with BS 5839-1.
- The community/ commercial units will be provided with L1 detection and alarm systems, in accordance with BS 5839-1.
- Mechanical smoke ventilation systems will serve the common corridors in all of the blocks. The systems comprise of smoke shafts and automatic opening vents (AOVs) with 0.6m^2 free area. An AOV with free area of 1m^2 will be provided at the head of each staircase to supply inlet air.
- All apartments will be provided with residential sprinkler systems in accordance with BS 9251.
- The community/ commercial units will be provided with commercial residential sprinkler systems, in accordance with BS EN 12845.
- The elements of structure for all buildings on the development will be constructed with 120 minutes fire resistance. All apartments will form individual compartments with all floors being constructed as compartment floors.

5.4 Fire-fighting access within the building

- The Fire Service will access the blocks from the ground floor and will have access into the staircases. The staircases will all be constructed as firefighting staircases and all blocks will be provided with a firefighting lift in accordance with BS EN 81-72 all enclosed within a firefighting shaft.
- All staircases in the blocks form firefighting staircases and therefore will be provided with dry fire mains, or wet fire mains where the top floor level is over 50m. They will comprise of inlets adjacent to the Fire Service access points to the blocks and outlets within the staircase at all levels.

5.5 Fire-fighting access to the building

- There will be Fire Service appliance access via suitable roads to the north and south facades of the buildings with access between N4 and N5 blocks, as well as to the east of N4. Fire Service access is shown below in Figure 2 for the site surrounding the blocks. Fire Service access is shown in Figure 3, Figure 4 and Figure 5.
- If fire hydrants are not already available in the vicinity of the development then they will be provided such that there is one within 90m of any dry riser inlet.

5.6 Measures to protect the base build fire safety strategy

- Any future modifications to the scheme or fit-out of commercial units will be subject to Building Regulations approval and should consider the base build fire strategy, such that fire safety measures are not compromised within the development.
- Regulation 38 of the Building Regulations requires that fire safety information be given to the person responsible for the occupied building. Therefore, copies of the fire safety strategy, once agreed with the Approving Authority, and other relevant fire safety information should be issued to the responsible person. This will ensure publication of the proposed evacuation strategy and assist in evacuation of all building users.

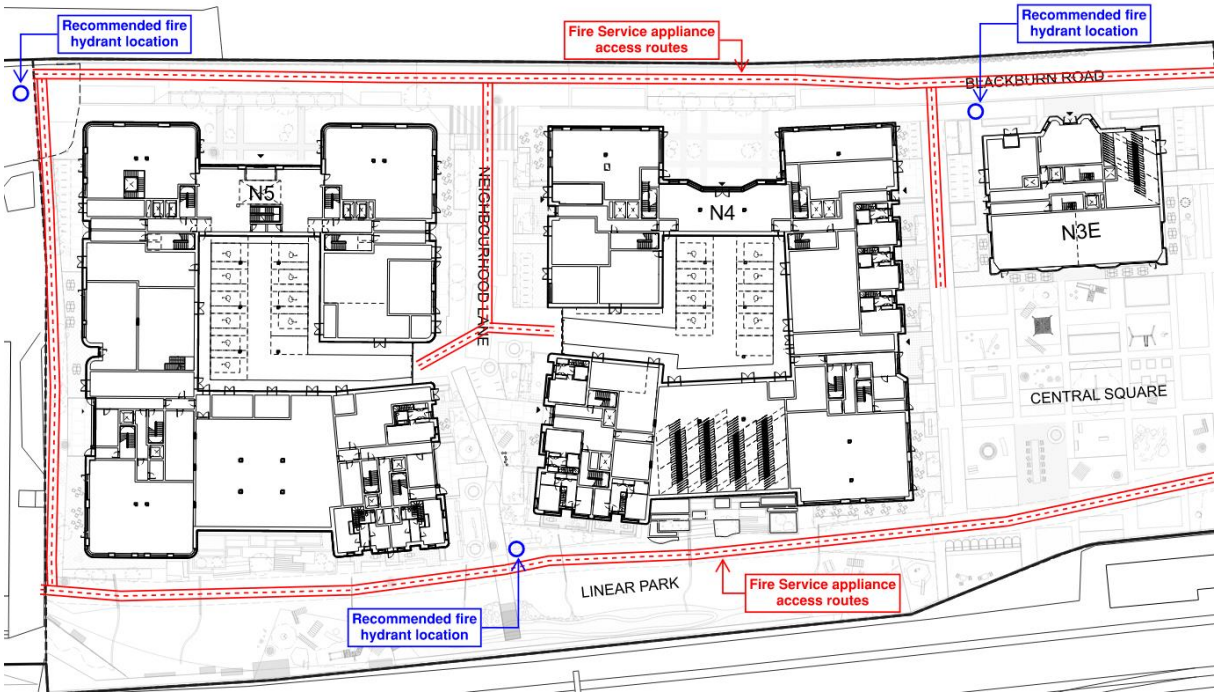

Figure 2: Fire Service appliance access and hydrant locations across detailed development

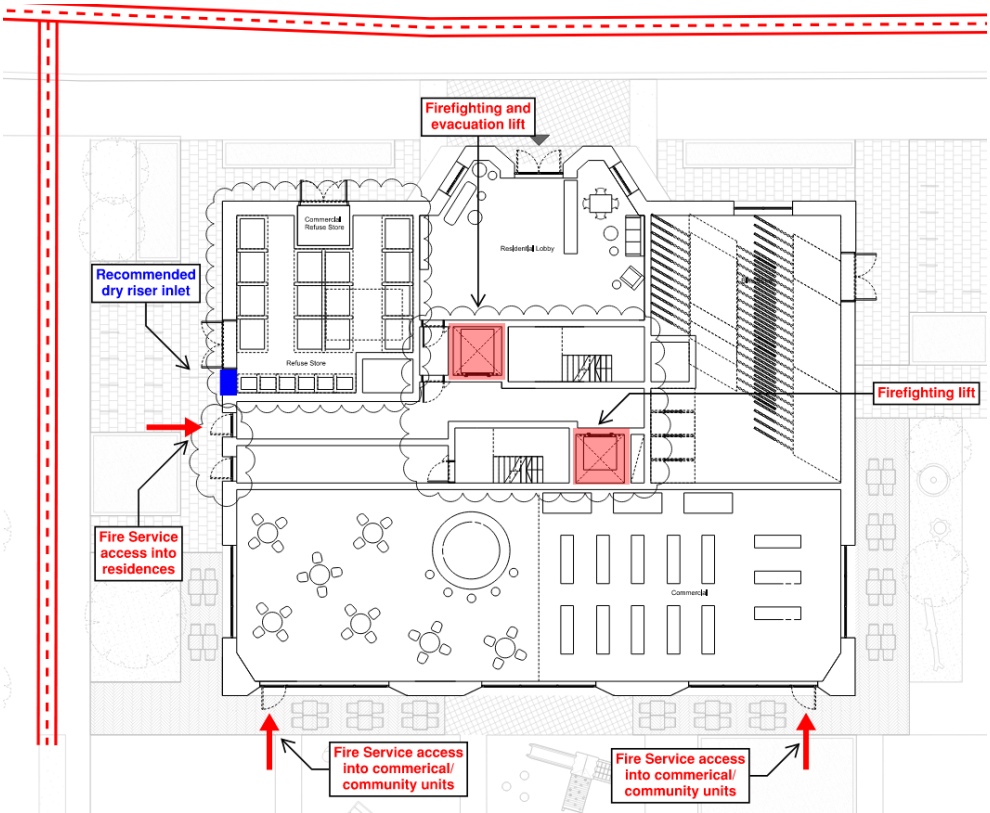

Figure 3: Fire Service access into N3-E

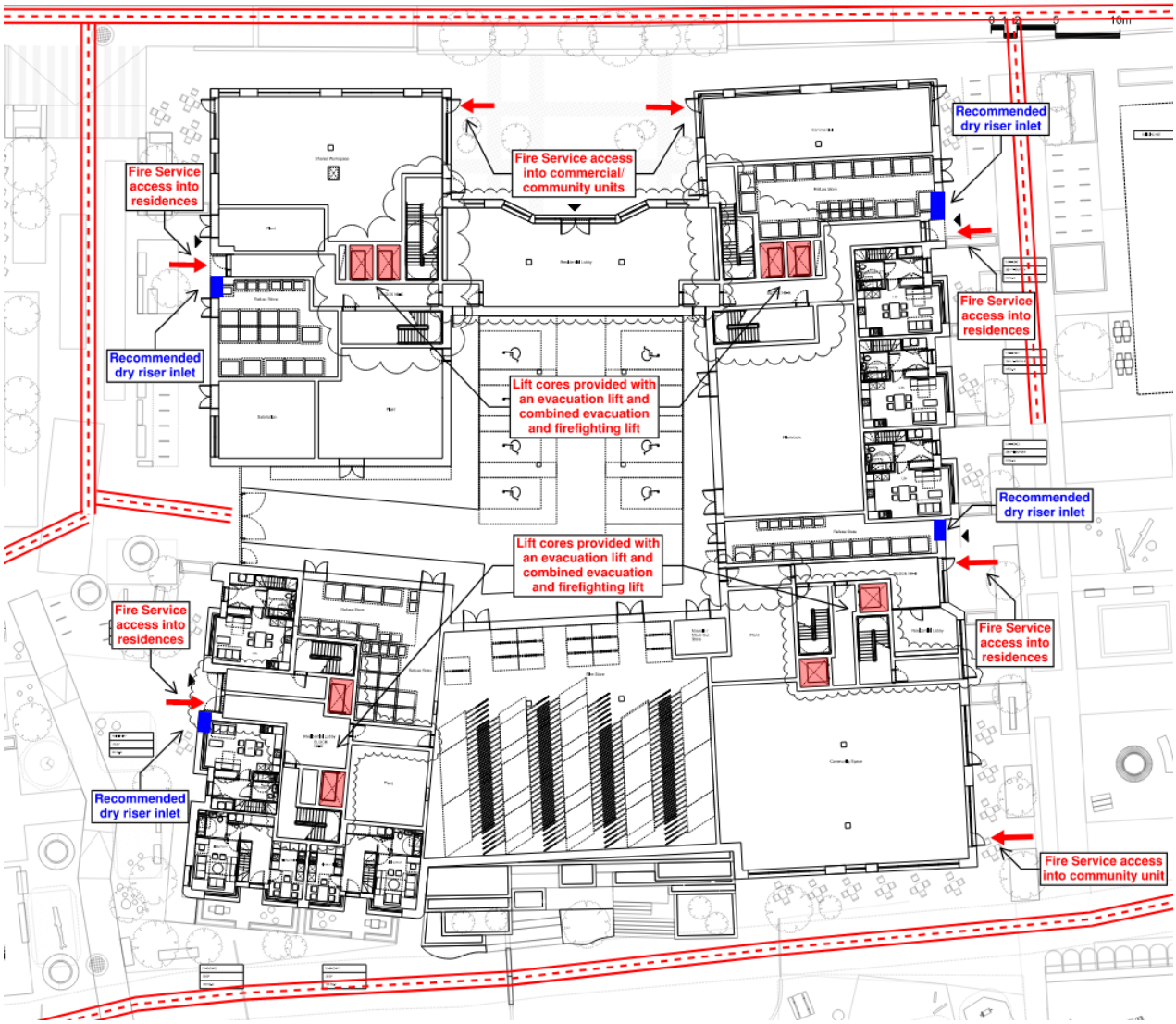

Figure 4: Fire Service access into N4

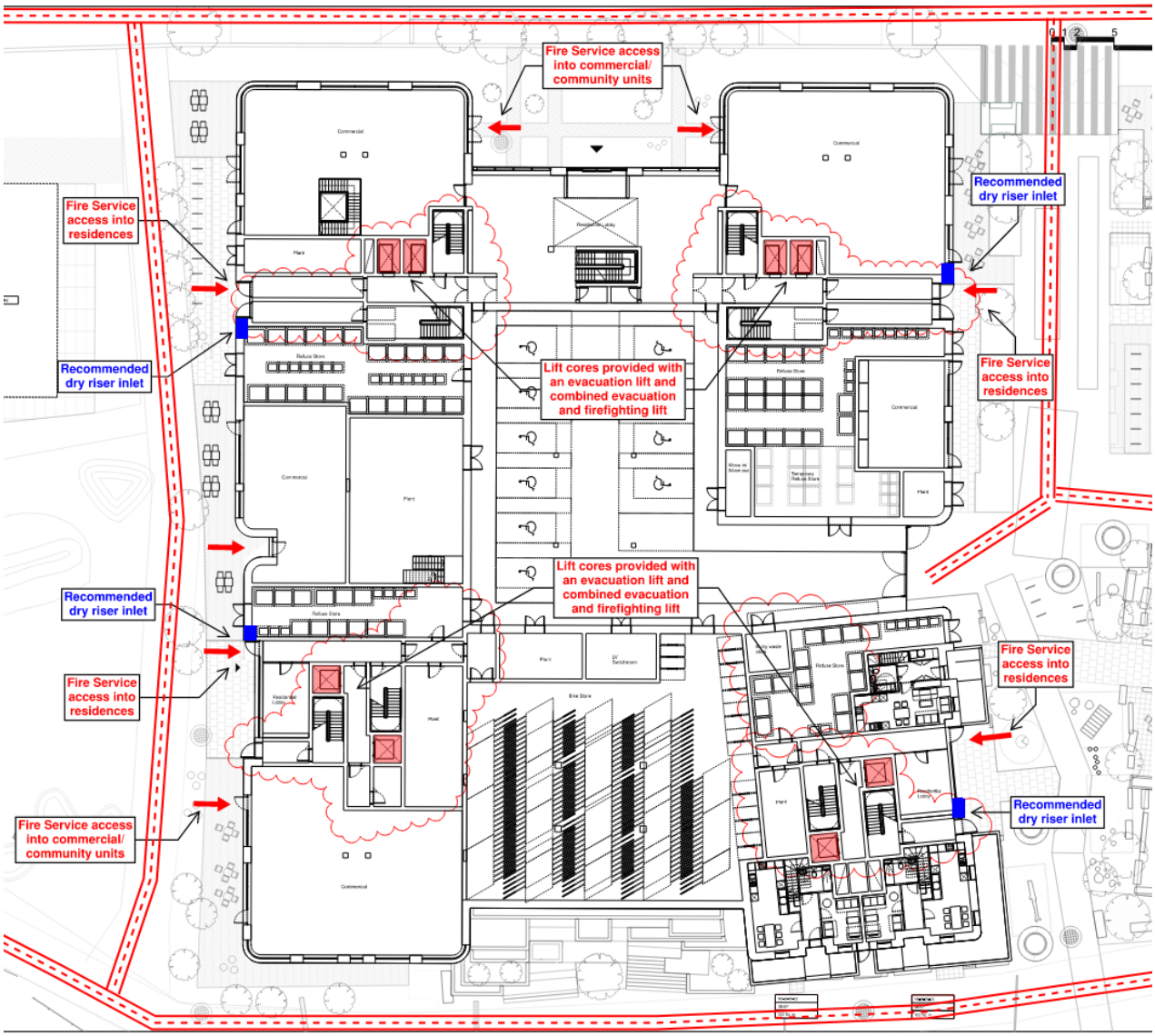

Figure 5: Fire Service access into N5

6. Conclusion.

This fire safety statement has been prepared to outline the approach and provisions relating to fire safety for the O2 Finchley Road development masterplan application with detailed planning consent to N3-E, N4 and N5 buildings in London for compliance with The London Plan Policy D5 and D12, as well as the draft guidance issued in February 2022.

This statement demonstrates that the proposals have considered fire safety at the earliest stage, and the further development of the fire strategy will be based upon these principles. The fire strategy will be further developed for submission to the Approving Authority at the appropriate time and will meet the functional requirements of the Building Regulations 2010 as amended, taking recommendations from BS 9999:2017, BS 9991:2015 and the requirements of Policy D5 and D12 of The London Plan.

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