

GATEWAY 1 FIRE STATEMENT REV 2.0

Welling United FC

Nadim Choudhary CEng MEng FIMechE MIFireE MCIBSE
IFE Membership No: 00071097
Chartered Engineer: 579842
30th November 2023

Author Credentials



Nadim has a first-class honors MEng in Aerospace Engineering, an international Diploma in Risk Management including having studied at Oxford University (Exploring the Universe) and Imperial College Business School (Business Economics).

Nadim is ex Technical Director of Arcadis and ex Associate Director of Arup (both global engineering design firms) where he headed up the Safety Risk and Human Factors teams. Nadim is dual Chartered through the Institute of Mechanical Engineers (IMechE) and Chartered Institute of Building Service Engineers (CIBSE).

Nadim became a Chartered Engineer in an unprecedented three years and then followed this up by becoming one of IMechE's youngest Fellows. Nadim is a full member of the Institute of Fire Engineers (IFE) and has specialist experience in Safety, Reliability, Fire and Risk having worked in this field for over 15 years. His experience covers a range of industries including rail, nuclear, defence and the built environment. Nadim has established himself as a technical risk leader and has won numerous industry awards (4-won, 8 finalist positions) including being nominated for the prestigious, Royal Academy of Engineering (RAE) Silver Medal Prize.

Nadim has served time as a Non-Executive Director on 2 separate Risk and Audit boards, written numerous technical publications and has frequently spoken at international conferences including being invited on to expert panels. Nadim currently sits on the Institute of Fire Engineers working group for fires in electric vehicles.

Revisions

Revision	Date	Prepared By	Comments	Signature
1.0	13.11.2023	Nadim Choudhary	Issued for Comment	
2.0	30.11.2023	Nadim Choudhary	Updated Following Comments	

This report has been prepared for the sole benefit, use and information of the client named in this report only and the liability of Rockland Safety Services Ltd, its directors, and Employees in respect of the information contained in the report will not extend to any third party.

This report is formulated based on information and experience available at the time of preparation. It is applicable to the above-mentioned project only in accordance with the client's instructions. It is only valid provided no other modifications are made other than those for which a formal opinion has been sought and given by Rockland Safety Services Ltd.

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Application information

1. Site address line 1 Site address line 2 Site address line 3 Town County Site postcode (optional)	Park View Road Football Stadium and 1-3 Park View Road Welling DA16 1SY
2. Description of proposed development including any change of use (as stated on the application form):	Redevelopment of the site to deliver a new football stadium and facilities (Class F2), commercial space (Class E), and residential units above (Class C3).
3. Name of person completing the fire statement (as section 15.), relevant qualifications and experience. Guide: no more than 200 words	<p>Nadim Choudhary CEng MEng FIMechE MIFireE MCIBSE IFE Membership No: 00071097 Chartered Engineer: 579842</p> <p>Nadim has a first-class honours MEng in Aerospace Engineering, an international Diploma in Risk Management including having studied at Oxford University (Exploring the Universe) and Imperial College Business School (Business Economics.).</p> <p>Nadim is ex Technical Director of Arcadis and ex Associate Director of Arup (both global engineering design firms) where he headed up the Safety Risk and Human Factors teams. Nadim is dual Chartered through the Institute of Mechanical Engineers (IMechE) and Chartered Institute of Building Service Engineers (CIBSE).</p> <p>Nadim became a Chartered Engineer in an unprecedented three years and then followed this up by becoming one of IMechE's youngest Fellows. Nadim is a full member of the Institute of Fire Engineers (IFE) and has specialist experience in Safety, Reliability, Fire and Risk having worked in this field for over 15 years. His experience covers a range of industries including rail, nuclear, defence and the built environment. Nadim has established himself as a technical risk leader and has won numerous industry awards (4-won, 8 finalist positions) testifying to this including being nominated for the prestigious, Royal Academy of Engineering (RAE) Silver Medal Prize.</p>

	Nadim has served time as a Non-Executive Director on 2 separate Risk and Audit boards, written numerous technical publications and has frequently spoken at international conferences including being invited on to expert panels. Nadim currently sits on the Institute of Fire Engineers working group for fires in electric vehicles.
<p>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.</p> <p>Guide: no more than 200 words</p>	No consultation has taken place up to this point with London Fire Brigade or other stakeholders.
<p>5. Site layout plan with block numbering as per building schedule referred to in 6. (Consistent with other plans drawings and information submitted in connection with the application)</p>	
<p>Site layout plan is: inserted in the form</p> <p>The indicative site plan for the development is shown below.</p>	

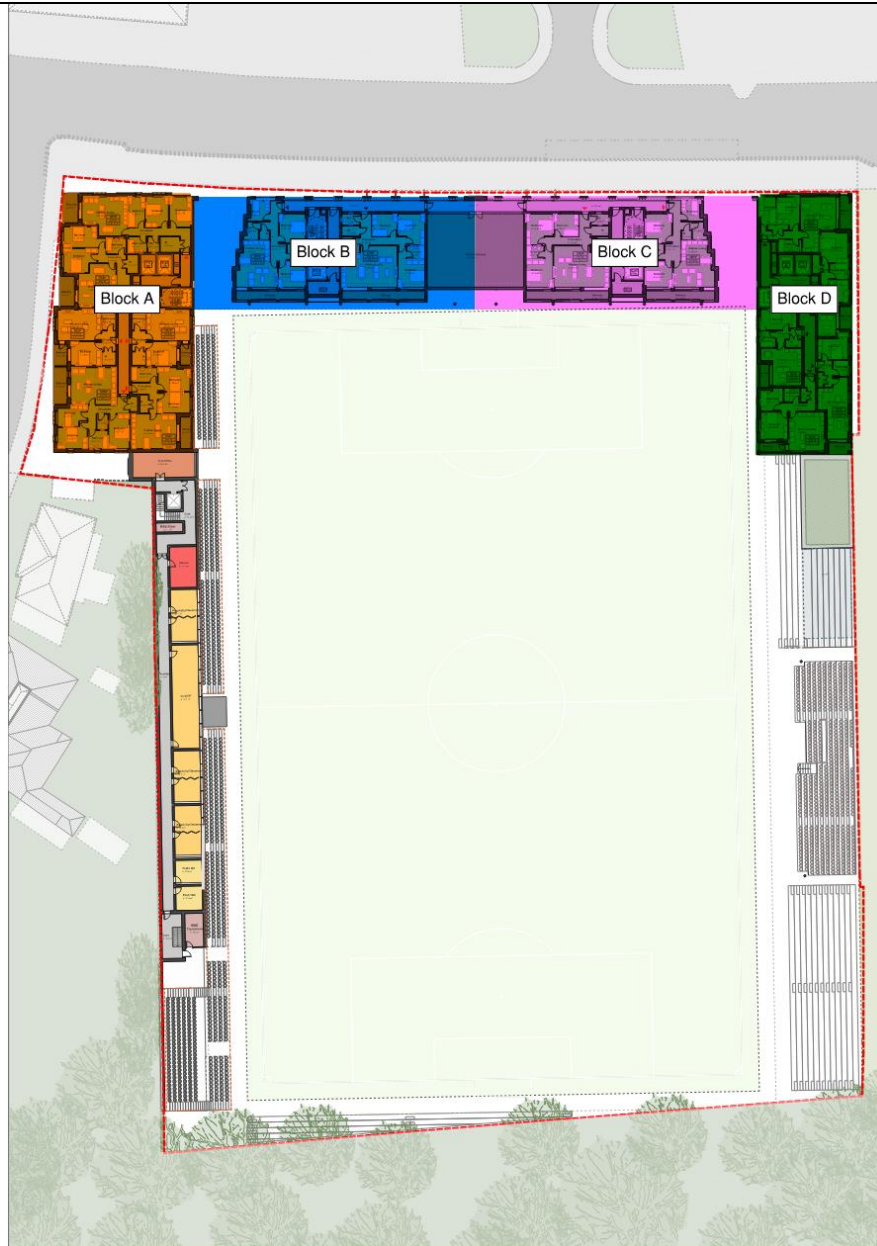


Figure 1 - Indicative Site Plan

The principles, concepts and approach relating to fire safety that have been applied to the development

6. Building schedule

Site information		Building information			Resident safety information				
a) block no. as per site layout plan above	b) • block height (m) • number of storeys excluding those below ground level • number of storeys including those below ground level	c) proposed use (one per line)	d) location of use within block by storey	e) standards relating to fire safety/ approach applied	f) balconies	g) external wall systems	h) approach to evacuation	i) automatic suppression	j) accessible housing provided
Block A	<ul style="list-style-type: none"> • Building height: Approx. 19.6m to topmost storey (sixth floor level). • Building height: Approx. 22.6m to roof. • 7 storeys (ground and six above ground floors) • No basement storeys. 	car parking	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		restaurant, cafe, hot food take-away, drinking establishment	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi

		service area (plantroom, refuse store, bike store)	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		residential flats, maisonettes, studios	First, Second, Third, Fourth, Fifth, Sixth	BS9991	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes-residential sprinklers, full	M4(2) & M4(3) (10% M4(3), with the remainder being M4(2))
		service area (communal terrace)	Sixth	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	none	N/A non resi
Block B	<ul style="list-style-type: none"> • Building height: Approx. 22.6m to topmost storey (sixth floor level). • Building height: Approx. 26.8m to roof. • 9 storeys (basement, 	shop	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		restaurant, cafe, hot food take-away, drinking establishment	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi

	ground and seven above ground floors) • One basement level.	service area (plantroom, refuse store, bike store)	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		service area (residential amenity)	First	BS9999	class A2-s1, d0 or better	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		residential flats, maisonettes, studios	First, Second, Third, Fourth, Fifth, Sixth, Seventh	BS9991	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes-residential sprinklers, full	M4(2) & M4(3) (10% M4(3), with the remainder being M4(2))
Block C	• Building height: Approx. 22.6m to topmost storey (sixth floor level). • Building height: Approx. 26.8m to roof. • 9 storeys (basement, ground and seven above ground floors)	shop	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		restaurant, cafe, hot food take-away, drinking establishment	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		service area (plantroom, refuse	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi

	<ul style="list-style-type: none"> • One basement level. 	store, bike store)							
		service area (residential amenity)	First	BS9999	class A2-s1, d0 or better	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		residential flats, maisonettes, studios	First, Second, Third, Fourth, Fifth, Sixth, Seventh	BS9991	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes-residential sprinklers, full	M4(2) & M4(3) (10% M4(3), with the remainder being M4(2))
Block D	<ul style="list-style-type: none"> • Building height: Approx. 22.6m to topmost storey (sixth floor level). • Building height: Approx. 22.6m to roof. • 8 storeys (ground and seven above ground floors) • No basement storeys. 	service area (plantroom, refuse store, bike store)	Ground	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	N/A non resi
		residential flats, maisonettes, studios	First, Second, Third, Fourth, Fifth, Sixth	BS9991	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes-residential sprinklers, full	M4(2) & M4(3) (10% M4(3), with the remainder being M4(2))
		service area (communal terrace)	Seventh	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	none	N/A non resi

7. Specific technical complexities

Explain any specific technical complexities in terms of fire safety (for example green walls) and/or departures from information in building schedule above

Guide: no more than 500 words

- The building is a 'relevant building' in accordance with Regulation 7(4) as it is a residential block of flats assumed to include a floor in excess of 18m above ground. Therefore, materials forming part of the external walls (including specified attachments and balconies) must achieve Class A2-s1, d0 or A1 in accordance with BS EN 13501-1. Attention is drawn to the exceptions to this requirement, as listed in Regulation 7(3). For clarity, even if exempt, membranes should still achieve Class B-s3, d0 or better.
- Any external wall which falls within 1000mm of a relevant boundary should be constructed as a party wall achieving 90 minutes fire resistance from both sides. The current separation for all residential areas on the East elevation is less than 1m, resulting in the entire façade having to be fire rated to 90 minutes and including fire resisting (integrity and insulation) windows kept locked shut.
- As the building includes a floor in excess of 11m above the ground and automatic fire suppression should be provided throughout the building. For clarity, automatic fire suppression is proposed throughout the building, including residential, ancillary, commercial and relevant sports grounds areas.
- Within residential units, it is proposed to employ a Category 4 residential grade suppression system designed, installed and maintained in accordance with BS 9251, as the top occupied floor is in excess of 18m above ground.
- Within all commercial, ancillary (i.e., car park, plantrooms, refuse stores, cycle stores, changing areas, offices, club areas, etc.) and sports grounds areas, it is proposed to employ a commercial grade suppression system designed, installed and maintained in accordance with BS EN 12845. Considering the onerous water storage and pump requirements, it is expected that a large plantroom will be provided in support of this system.
- Service risers should be enclosed in 90 minutes fire resisting construction (and FD60S fire doors), including adequate 90 minutes fire stopping in line with each floor. Service risers should only open into a ventilated lift/staircase lobby. This is not currently achieved at ground floor level, as the service risers are opening into the discharge route from residential staircases, which represents a project risk going forward.
- The ancillary areas (car park, refuse stores, plantrooms, bike stores) should only be accessed from the outside, or from the dedicated basement staircases in between the central cores. Ancillary areas should not connect to any residential staircase or discharge route from a residential staircase. The only exceptions are the communal terraces on Levels 6 and 7, and the private amenity space on Level 1. It is noted that the use of these areas will not be any less satisfactory than a typical flat, as there will be no cooking appliances proposed, no barbeques and the quantity, type and distribution of combustibles will be similar to a flat. The communal terraces are permitted to be accessed from the residential cores at either end of the building as the risk of smoke ingress into the cores from these permanently opened terraces is very limited. For the private amenity space, it is noted that this is accessed from the central cores, via permanently open balconies on either side, therefore the risk of smoke ingress into the central cores from the

private amenity space is very limited. These departures are subject to agreement with the Building Control Body and the local Fire Service.

- It is noted that Welling United FC will be occupying the sports grounds, and part of the finished building will represent their new stadium. The detailed design of the sports grounds is expected to be progressed at RIBA Stage 4, in accordance with the recommendations of the Green Guide.
- It is noted that some final exits from the sports grounds are towards the South into Danson Park. These exits are critical in support of emergency and normal egress from the stadium, in order to allow for the maximum occupancies proposed. The design team should confirm a right of way is provided at all material times for spectators and occupants to escape into Danson Park, in coordination with the local Council. This represents a project risk, subject to detailed design development.
- A low-risk rating has been assumed for each stand in accordance with Section 15.9 of the Green Guide. Therefore, the stands should be constructed of non-combustible materials such as masonry or reinforced concrete, with steel or other non-combustible materials for the roof (if applicable). Similarly, external wall materials will comply with Regulation 7(2), representing low risk overall. Timber or CLT structures should not be employed, as it would adversely impact the maximum occupancy within the stand.
- Fire service access and provisions are presented in Sections 10 to 14 of this document.
- The common residential areas within Blocks A and D at either end of the building should be designed as a single stair building design in accordance with Figure 6.a) of BS 9991. Design adjustment is expected going forward enable effective means of escape within the common residential areas of Blocks A and D, in order to provide unventilated lobbies with 7.5m travel distance and ventilated lift/staircase lobbies with also 7.5m travel distance. Flats will not open directly into ventilated lobbies.
- The common residential areas connecting to Blocks B and C at the middle of the building should be designed as a balcony or deck approach design in accordance with Figures 5.a) and 5.b) of BS 9991. Design adjustment is expected going forward to provide smoke ventilation to the firefighting and evacuation lift lobbies.
- Any green roof areas shall be designed based on the guidance provided by the Department for Communities and Local Government (previous name) and the Green Roof Organization.
- The covered car park will include specific Electric Vehicle (EV) charging points. Therefore, the structural fire resistance and compartmentation within the car park will be increased to 120 minutes. Additionally, the fire suppression system is expected to include a High Hazard category.

8. Issues which might affect the fire safety of the development

Explain how any issues which might affect the fire safety of the development have been addressed.

Guide: no more than 500 words

- The proposed design will include a mix of residential areas covered by BS 9991, ancillary and commercial areas covered by BS 9999 and sports grounds areas covered by the Green Guide.

- All residential units should employ a 'defend-in-place strategy', whereby only the residential unit of fire origin should evacuate immediately upon activation of the fire detection and alarm system therein.
- All residential ancillary areas (communal terraces, bike stores, refuse stores, plantrooms) will employ a simultaneous evacuation strategy, whereby all residential ancillary areas should evacuate immediately upon activation of the fire alarm anywhere in communal parts of the building.
- All spectator areas and sports grounds ancillary areas should evacuate simultaneously upon activation of the fire alarm system within the sports grounds areas. It is acknowledged however that bespoke evacuation procedures are expected therein in accordance with the Green Guide, depending on event or non-event days.
- Each commercial unit should employ a simultaneous evacuation strategy, separately, whereby only the entire commercial unit of fire origin should evacuate immediately upon activation of the fire detection and alarm system therein.
- Each residential unit should include a Grade D1 Category LD1 fire detection and alarm system designed, installed and maintained in accordance with BS 5839-6.
- The common residential parts of each core should be covered by a standalone Category L5 fire detection and alarm system designed, installed and maintained in accordance with BS 5839-1.
- Each commercial unit should include a standalone Category L2 fire detection and alarm system designed, installed and maintained in accordance with BS 5839-1.
- All spectator areas and sports grounds ancillary areas should include a standalone Category L5 fire detection and alarm system designed, installed and maintained in accordance with BS 5839-1. The fire detection and alarm system should also be in accordance with Section 15.20 of the Green Guide with coverage subject to detailed design development.
- Each single level flats should employ a protected entrance hallway in accordance with Section 9.4.2.b) of BS 9991. All rooms within the flat should be served by a protected entrance hallway including a minimum of 30 minutes fire resistance and FD30 fire doors. The maximum travel distance within protected entrance hallways should be 9m, as measured from the furthest room to the flat entrance door.
- Each duplex flat should employ a protected internal staircase in accordance with Section 9.5.2.c) of BS 9991. All rooms within the flat should be served by a protected internal staircase including a minimum of 30 minutes fire resistance and FD30 fire doors. The maximum travel distance within the landings of the protected internal staircase should be 9m, as measured from the furthest room to the flat entrance door.
- Common corridors serving flats for Blocks A and D do not require smoke ventilation. However, the lift/staircase lobbies (directly in front of the lifts and staircases) should be provided with smoke ventilation, even if no flats open directly into these lobbies.
- Each common lift/staircase lobby for Blocks A and C should include smoke ventilation via a natural smoke shaft in accordance with Section 14.2.3.2 of BS 9991. The minimum cross-sectional area of the shaft should be 1.5m², with a minimum dimension of 0.85m in any direction. At roof level, the top of the shaft should extend a minimum of 0.5m above any other object in a 2m radius. Automatically openable vents (AOVs) into the natural smoke shafts should be 1.5m². This is a variation in accordance with Technical Guidance Note 8, issued by the Building Control Association, as extracted below.

- In accordance with BS 9991, an AOV, achieving a minimum free area of 1.0m², should be provided at high level above each residential staircase.
- All common balcony/deck areas in Blocks B and C should be permanently open to include permanent smoke ventilation. At least 50% of the vertical section of each common balcony / deck should be permanently opened. The opening should be at least from the top of the balustrade at 1.1m above the balcony / deck to the soffit of the balcony above.
- For Blocks B and C, the service risers open into the lift lobbies; therefore, the lift lobbies should be provided with smoke ventilation. This is proposed as 1.5m² AOVs into the building façade at high level above the lift lobby door (above the common balcony / deck areas).
- The covered car park should include mechanical smoke ventilation, in accordance with Clause 8 of BS 7346. At this stage, mechanical smoke ventilation is proposed for the car park, noting that it already includes BS EN 12845 suppression. The mechanical smoke ventilation system should achieve 10 air changes per hour. For clarity, natural smoke ventilation is not advised, as openings into the spectator seating areas could represent a hazard for occupants in that area.
- The basement level should include mechanical smoke ventilation, noting that it already includes BS EN 12845 suppression. The mechanical smoke ventilation system should achieve 10 air changes per hour and be in accordance with Section 27.2.3 of BS 9999.
- Each refuse store should include 0.2m² of permanent ventilation directly to the outside.
- In support of dignified escape for all mobility impaired persons as required by London Plan Policy D5, it is proposed that one lift for each residential core as well as the basement bicycle lift and the lift within the West stand should be designed as an evacuation lift, resulting in a total of six evacuation lifts proposed in the scheme.
- Firefighting lift shafts should be enclosed in 120 minutes fire resisting construction and FD60 fire doors. Firefighting lift installations should conform to BS EN 81-72 and BS EN 81-20.
- In accordance with BS 9991 and BS 9999, the building should include 90-minute structural fire resistance considering the top occupied floor is assumed to be more than 18m but less than 30m, and the risk profiles employed are C2, B2 and A2.
- All floors should be constructed as compartment floors achieving 90 minutes fire resistance. Any shaft (except firefighting shafts) penetrating compartment floors should be constructed as a protected shaft achieving 90 minutes fire resistance (i.e., service risers, natural smoke shafts, etc.).
- The firefighting staircases and firefighting lifts should be constructed as residential grade firefighting cores achieving 120 minutes each with FD60S/FD60 fire doors, respectively.
- Each flat and common corridor / lobby should be a standalone, independent fire compartment achieving 60 minutes fire resistance and FD30S fire doors.
- Each ancillary area should be a standalone, independent fire compartment achieving 90 minutes fire resistance and FD60S fire doors.
- Each commercial unit should be a standalone, independent fire compartment achieving 90 minutes fire resistance and FD60S fire doors.

- Protected internal hallways within flats should achieve a minimum of 30 minutes fire resistance and FD30 fire doors. Protected internal staircases within duplex flats should achieve a minimum of 30 minutes fire resistance and FD30 fire doors.

9. Local development document policies relating to fire safety

Explain how any policies relating to fire safety in relevant local development documents have been taken into account.

Guide: no more than 500 words

The London Plan 2021 contains a number of policies which indicate fire safety to be considered. Its compliance is detailed at the end of this document. The development is in Greater London, and therefore under LFB for consultation. The development will consider the guidance notes from LFB in design development including vehicle access requirements.

Policy D5 (Inclusive Design) criterion B(5) relates to the requirements of development proposals where lifts are installed. It is expected that the access lift serving the residential flats will be designed as an evacuation lift. Evacuation lifts should be designed, installed and maintained in accordance with BS EN 81-20 and BS EN 81-70. All ground floor areas are expected to be provided with step-free egress to the outside, via all the existing escape routes.

Policy D12 (Fire safety) requires development proposals to achieve the highest standards of fire safety and ensure that they:

- Identify suitably positioned unobstructed outside space:
 - for fire appliances to be positioned on;
 - appropriate for use as an evacuation assembly point;
- 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;
- are constructed in an appropriate way to minimise the risk of fire spread;
- provide suitable and convenient means of escape, and associated evacuation strategy for all building users;
- develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in.

Emergency road vehicle access and water supplies for firefighting purposes

10. Fire service site plan

Explanation of fire service site plan(s) provided in 14. including what guidance documents have informed the proposed arrangements for fire service access and facilities?

Guide: no more than 200 words

- The key elements in support of firefighting access and facilities are presented in Figure 2.

- The building is complex, therefore a hybrid approach is proposed, in order to provide different Fire Service facilities, depending on the residential and non-residential areas within the building.
- The building includes areas in excess of 18m above ground. Therefore, for the residential areas, each core should be designed as a firefighting shaft, including a ventilated firefighting staircase, firefighting lift, ventilated lift/staircase lobbies (for Blocks A and D) or open communal balconies / decks (for Blocks B and C) and a dry rising main.
- Pump appliance vehicle access to the residential areas of the site should be via Park View Road at the North of the building. From here, pump appliance vehicle access should be provided within 18m and line of sight of the entrance to each firefighting staircase as well as the associated dry rising main inlet valves.
- Vehicle access to the commercial, ancillary and sports grounds portion of the site should also be via Park View Road at the North of the building, and further extended via Roseacre Road at the West of the site. From here, pump appliance vehicle access should be provided to 15% of the building perimeter in accordance with Table 19 of BS 9999, noting that the commercial, ancillary and sports grounds together include a cumulative floor area of less than 8000m². It is noted that approximately 20% of the building perimeter is accessible to a pump appliance on Park View Road and Roseacre Road.
- A pump appliance should not have to reverse more than 20m, without a suitable turning point. It is noted that the public roads adjoining the building, Park View Road and Roseacre Road, do not include any dead-end portions in proximity to the building.
- The access route should be confirmed by the design team to comply with the requirements of London Fire Brigade's Guidance Note 29 (GN 29). These are expected to be achieved via the public roads adjoining the building (Park View Road and Roseacre Road).
- The dry rising mains should be designed, installed and maintained in accordance with BS 9990. They should include an inlet valve on the building façade, adjoining the entrance to the staircase served. Dry rising main outlet valves should be provided on the full landing of each staircase (including the ground floor). The horizontal portion of the main should not extend more than 18m.
- All areas in all flats should be within 45m along a route suitable for laying hose as measured from a dry rising main outlet valve.
- The ancillary areas at basement level should be within 45m along a route suitable for laying hose from the pump appliance parking location. Similarly, all ancillary areas on Roseacre Road and Park View Road should be within 45m along a route suitable for laying hose from the pump appliance parking location.
- However, it is acknowledged that some ancillary areas within the South portion of the building (part of the sports grounds) cannot be reached within 45m along a route suitable for laying hose from the pump appliance parking location. These areas are still covered by a commercial grade suppression system in accordance with BS EN 12845, in order to reduce the risk overall. This is subject to review and agreement with the Building Control Body and London Fire Brigade.
- The basement level should include mechanical smoke ventilation, noting that it already includes BS EN 12845 suppression. The mechanical smoke ventilation system should achieve 10 air changes per hour and be in accordance with Section 27.2.3 of BS 9999.
- In support of firefighting operations, the building should be provided with wayfinding signage in accordance with Sections 15.13 to 15.16 of ADB, considering the residential areas will include a floor in excess of 11m in height.
- In support of firefighting operations, the building should be provided with a secure information box in accordance with Sections 15.18 to 15.21 of ADB, considering the residential areas will include a floor in excess of 11m in height.

- In support of firefighting operations, an evacuation alert system in accordance with BS 8629 and Section 15.17 of ADB should be provided within the building, considering the residential areas will include a floor in excess of 18m in height.
- A security control room is provided next to the final exit onto Park View Road, at the North-East of the building. This should be enclosed in 120 minutes fire resisting construction and FD60S fire doors. Fire alarm panels (or repeater panels) are expected to be provided in this area for all relevant fire safety systems within the building. Additionally, emergency voice communication, CCTV and other critical systems should be connected to this room in order to enable the effective implementation of the Fire Safety Plan and evacuation of the building in a fire scenario.
- All active fire safety systems should include robust secondary power supplies. Even if some systems are expected to include this as batteries forming part of a proprietary system, some active fire safety systems should include a separate source (i.e., firefighting lifts, evacuation lifts, smoke control systems, suppression systems, etc.).

11. Emergency road vehicle access

Specify emergency road vehicle access to the site entrances indicated on the site plan

Guide: no more than 200 words

Is the emergency vehicle tracking route within the site to the siting points for appliances clear and unobstructed?
yes

- The vehicle access route to the site is provided via existing public roads (Park View Road and Roseacre Road), which are expected to be suitable for London Fire Brigade vehicles.

12. Siting of fire appliances

Guide: no more than 200 words

- The indicative access routes are presented in Figure 2. The vehicle access route to the site is provided via existing public roads (Park View Road and Roseacre Road), which are expected to be suitable for London Fire Brigade vehicles.

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

Guide: no more than 200 words

Nature of water supply:
hydrant- public

- A site survey and/or consultation with the London Fire Brigade should be carried out to confirm whether an existing operational public hydrant is located within 90m of the firefighting core entrances and associated dry riser inlets. Otherwise, a new private hydrant should be provided in accordance with BS 9990.

Does the proposed development rely on existing hydrants and if so are they currently usable / operable?
don't know

- It is expected that the London Fire Brigade is consulted to ensure that existing hydrants are suitably placed and operational in order to serve the proposed scheme. Otherwise, additional private hydrants may be required.

14. Fire service site plan

Fire service site plan is: inserted in the form

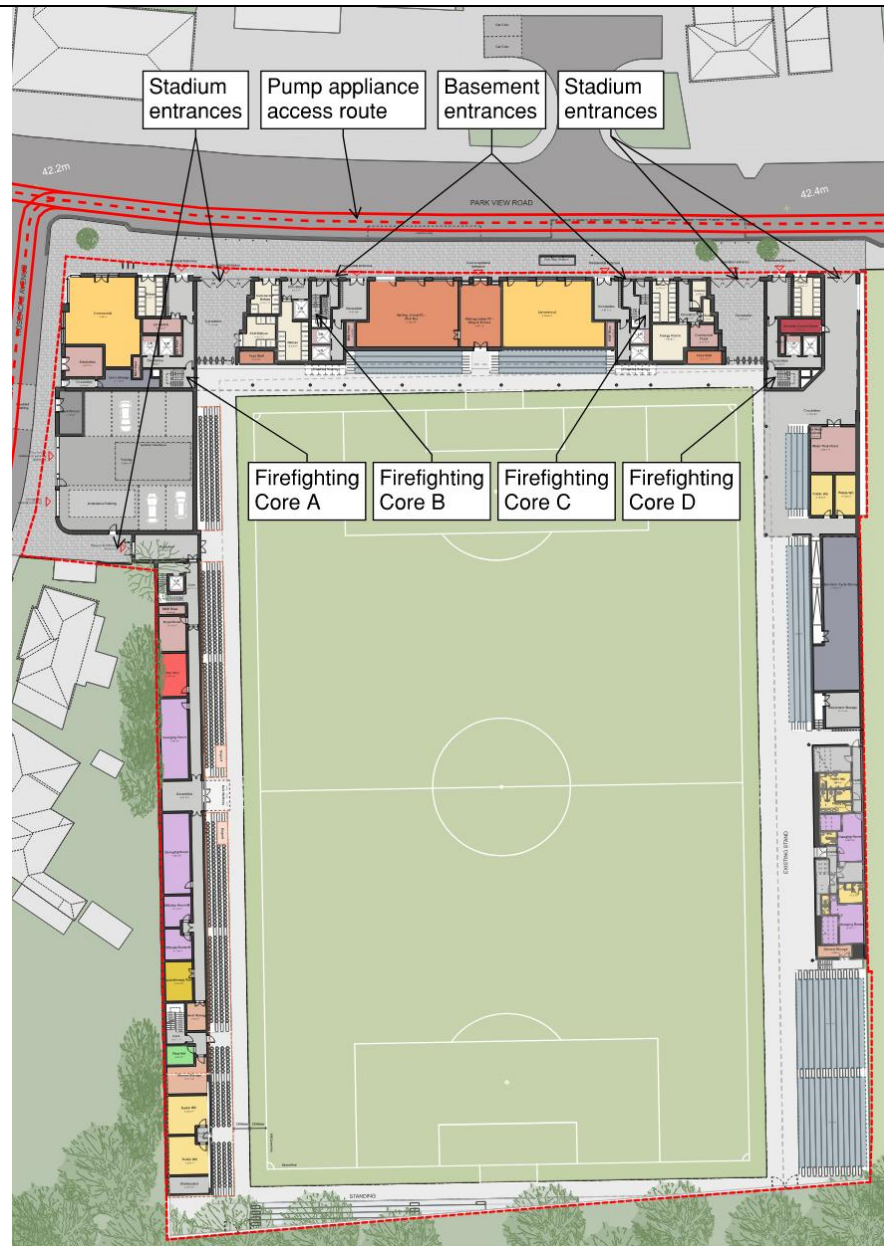


Figure 2 - Fire Service Access Plan

Fire statement completed by**15. Signature**

Nadim Choudhary CEng MEng FIMechE MIFireE MCIBSE

**16. Date**

13/11/2023

Policy D12 Requirement	Proposed Design	Compliant with Policy D12
D12.A.1.a – Identify suitably positioned unobstructed outside space for fire appliances to be positioned on.	<ul style="list-style-type: none"> • The key elements in support of firefighting access and facilities are presented in Figure 2. • The building is complex, therefore a hybrid approach is proposed, in order to provide different Fire Service facilities, depending on the residential and non-residential areas within the building. • The building includes areas in excess of 18m above ground. Therefore, for the residential areas, each core should be designed as a firefighting shaft, including a ventilated firefighting staircase, firefighting lift, ventilated lift/staircase lobbies (for Blocks A and D) or open communal balconies / decks (for Blocks B and C) and a dry rising main. • Pump appliance vehicle access to the residential areas of the site should be via Park View Road at the North of the building. From here, pump appliance vehicle access should be provided within 18m and line of sight of the entrance to each firefighting staircase as well as the associated dry rising main inlet valves. • Vehicle access to the commercial, ancillary and sports grounds portion of the site should also be via Park View Road at the North of the building, and further extended via Roseacre Road at the West of the site. From here, pump appliance vehicle access should be provided to 15% of the building perimeter in accordance with Table 19 of BS 9999, noting that the commercial, ancillary and sports grounds together include a cumulative floor area of less than 8000m². It is noted that approximately 20% of the building perimeter is accessible to a pump appliance on Park View Road and Roseacre Road. • A pump appliance should not have to reverse more than 20m, without a suitable turning point. It is noted that the public roads adjoining the building, Park View Road and Roseacre Road, do not include any dead-end portions in proximity to the building. • The access route should be confirmed by the design team to comply with the requirements of London Fire Brigade’s Guidance Note 29 (GN 29). These are expected to be achieved via the public roads adjoining the building (Park View Road and Roseacre Road). 	Yes

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D12.A.1.b – Identify suitably positioned unobstructed outside space appropriate for use as an evacuation assembly point.	<ul style="list-style-type: none"> This is expected to be along Park View Roadv for residential, ancillary and commercial areas, without obstructing the fire service access route. The exact location of the assembly point will be outlined in the fire risk assessment conducted by the building operator. Management policies and procedures to be developed by the building operator in accordance with their duties in terms of the Regulatory Reform (Fire Safety) Order 2005. 	Yes
D12.A.2 – The development is 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 features.	<ul style="list-style-type: none"> Common corridors serving flats for Blocks A and D do not require smoke ventilation. However, the lift/staircase lobbies (directly in front of the lifts and staircases) should be provided with smoke ventilation, even if no flats open directly into these lobbies. Each common lift/staircase lobby for Blocks A and C should include smoke ventilation via a natural smoke shaft in accordance with Section 14.2.3.2 of BS 9991. The minimum cross-sectional area of the shaft should be 1.5m², with a minimum dimension of 0.85m in any direction. At roof level, the top of the shaft should extend a minimum of 0.5m above any other object in a 2m radius. Automatically openable vents (AOVs) into the natural smoke shafts should be 1.5m². This is a variation in accordance with Technical Guidance Note 8, issued by the Building Control Association, as extracted below. In accordance with BS 9991, an AOV, achieving a minimum free area of 1.0m², should be provided at high level above each residential staircase. All common balcony/deck areas in Blocks B and C should be permanently open to include permanent smoke ventilation. At least 50% of the vertical section of each common balcony / deck should be permanently opened. The opening should be at least from the top of the balustrade at 1.1m above the balcony / deck to the soffit of the balcony above. For Blocks B and C, the service risers open into the lift lobbies; therefore, the lift lobbies should be provided with smoke ventilation. This is proposed as 1.5m² AOVs into the building façade at high level above the lift lobby door (above the common balcony / deck areas). The covered car park should include mechanical smoke ventilation, in accordance with Clause 8 of BS 7346. At this stage, mechanical smoke ventilation is proposed for the car park, noting that it already includes BS EN 12845 suppression. The mechanical smoke ventilation system should achieve 10 air changes per hour. For clarity, natural 	Yes

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	<p>smoke ventilation is not advised, as openings into the spectator seating areas could represent a hazard for occupants in that area.</p> <ul style="list-style-type: none"> • The covered car park will include specific Electric Vehicle (EV) charging points. Therefore, the structural fire resistance and compartmentation within the car park will be increased to 120 minutes. Additionally, the fire suppression system is expected to include a High Hazard category. • The basement level should include mechanical smoke ventilation, noting that it already includes BS EN 12845 suppression. The mechanical smoke ventilation system should achieve 10 air changes per hour and be in accordance with Section 27.2.3 of BS 9999. • Each refuse store should include 0.2m² of permanent ventilation directly to the outside. 	
<p>D12.A.3 – The development is constructed in an appropriate way to minimise the risk of fire spread.</p>	<ul style="list-style-type: none"> • A low-risk rating has been assumed for each stand in accordance with Section 15.9 of the Green Guide. Therefore, the stands should be constructed of non-combustible materials such as masonry or reinforced concrete, with steel or other non-combustible materials for the roof (if applicable). Similarly, external wall materials will comply with Regulation 7(2), representing low risk overall. Timber or CLT structures should not be employed, as it would adversely impact the maximum occupancy within the stand. • The building is a 'relevant building' in accordance with Regulation 7(4) as it is a residential block of flats assumed to include a floor in excess of 18m above ground. Therefore, materials forming part of the external walls (including specified attachments and balconies) must achieve Class A2-s1, d0 or A1 in accordance with BS EN 13501-1. Attention is drawn to the exceptions to this requirement, as listed in Regulation 7(3). For clarity, even if exempt, membranes should still achieve Class B-s3, d0 or better. • Any external wall which falls within 1000mm of a relevant boundary should be constructed as a party wall achieving 90 minutes fire resistance from both sides. The current separation for all residential areas on the East elevation is less than 1m, resulting in the entire façade having to be fire rated to 90 minutes and including fire resisting (integrity and insulation) windows kept locked shut. • As the building includes a floor in excess of 11m above the ground and automatic fire suppression should be provided throughout the building. For clarity, automatic fire suppression is proposed throughout the building, including residential, ancillary, commercial and relevant sports grounds areas. 	<p>Yes</p>

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	<ul style="list-style-type: none"> • Within residential units, it is proposed to employ a Category 4 residential grade suppression system designed, installed and maintained in accordance with BS 9251, as the top occupied floor is in excess of 18m above ground. • Within all commercial, ancillary (i.e., car park, plantrooms, refuse stores, cycle stores, changing areas, offices, club areas, etc.) and sports grounds areas, it is proposed to employ a commercial grade suppression system designed, installed and maintained in accordance with BS EN 12845. Considering the onerous water storage and pump requirements, it is expected that a large plantroom will be provided in support of this system. • Any green roof areas shall be designed based on the guidance provided by the Department for Communities and Local Government (previous name) and the Green Roof Organization. • In accordance with BS 9991 and BS 9999, the building should include 90-minute structural fire resistance considering the top occupied floor is assumed to be more than 18m but less than 30m, and the risk profiles employed are C2, B2 and A2. • All floors should be constructed as compartment floors achieving 90 minutes fire resistance. Any shaft (except firefighting shafts) penetrating compartment floors should be constructed as a protected shaft achieving 90 minutes fire resistance (i.e., service risers, natural smoke shafts, etc.). • The firefighting staircases and firefighting lifts should be constructed as residential grade firefighting cores achieving 120 minutes each with FD60S/FD60 fire doors, respectively. • Each flat and common corridor / lobby should be a standalone, independent fire compartment achieving 60 minutes fire resistance and FD30S fire doors. • Each ancillary area should be a standalone, independent fire compartment achieving 90 minutes fire resistance and FD60S fire doors. • Each commercial unit should be a standalone, independent fire compartment achieving 90 minutes fire resistance and FD60S fire doors. • Protected internal hallways within flats should achieve a minimum of 30 minutes fire resistance and FD30 fire doors. Protected internal staircases within duplex flats should achieve a minimum of 30 minutes fire resistance and FD30 fire doors. 	

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<p>D12.A.4 – Provide suitable and convenient means of escape, and associated evacuation strategy for all building users.</p>	<ul style="list-style-type: none"> • All residential units should employ a 'defend-in-place strategy', whereby only the residential unit of fire origin should evacuate immediately upon activation of the fire detection and alarm system therein. • All residential ancillary areas (communal terraces, bike stores, refuse stores, plantrooms) will employ a simultaneous evacuation strategy, whereby all residential ancillary areas should evacuate immediately upon activation of the fire alarm anywhere in communal parts of the building. • All spectator areas and sports grounds ancillary areas should evacuate simultaneously upon activation of the fire alarm system within the sports grounds areas. It is acknowledged however that bespoke evacuation procedures are expected therein in accordance with the Green Guide, depending on event or non-event days. • Each commercial unit should employ a simultaneous evacuation strategy, separately, whereby only the entire commercial unit of fire origin should evacuate immediately upon activation of the fire detection and alarm system therein. • Each single level flats should employ a protected entrance hallway in accordance with Section 9.4.2.b) of BS 9991. All rooms within the flat should be served by a protected entrance hallway including a minimum of 30 minutes fire resistance and FD30 fire doors. The maximum travel distance within protected entrance hallways should be 9m, as measured from the furthest room to the flat entrance door. • Each duplex flat should employ a protected internal staircase in accordance with Section 9.5.2.c) of BS 9991. All rooms within the flat should be served by a protected internal staircase including a minimum of 30 minutes fire resistance and FD30 fire doors. The maximum travel distance within the landings of the protected internal staircase should be 9m, as measured from the furthest room to the flat entrance door. • The common residential areas within Blocks A and D at either end of the building should be designed as a single stair building design in accordance with Figure 6.a) of BS 9991. Design adjustment is expected going forward enable effective means of escape within the common residential areas of Blocks A and D, in order to provide unventilated lobbies with 7.5m travel distance and ventilated lift/staircase lobbies with also 7.5m travel distance. Flats will not open directly into ventilated lobbies. • The common residential areas connecting to Blocks B and C at the middle of the building should be designed as a balcony or deck approach design in accordance 	<p>Yes</p>

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	<p>with Figures 5.a) and 5.b) of BS 9991. Design adjustment is expected going forward to provide smoke ventilation to the firefighting and evacuation lift lobbies.</p> <ul style="list-style-type: none"> In support of dignified escape for all mobility impaired persons as required by London Plan Policy D5, it is proposed that one lift for each residential core as well as the basement bicycle lift and the lift within the West stand should be designed as an evacuation lift, resulting in a total of six evacuation lifts proposed in the scheme. 	
<p>D12.A.5 – Develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence.</p>	<ul style="list-style-type: none"> Fire strategy to be developed at RIBA 3/4 going forward. A building safety case report should also be developed under the Building Safety Act. After completion of the works, the fire strategy should be given to the building management organization as part of Regulation 38 responsibilities and to all residents as part of the Building Safety Act responsibilities. Welling United FC should also develop a Fire Safety Plan prior to occupation in order to receive a formal safety certificate for the sports grounds. The fire strategy is expected to be updated throughout the lifespan of the project under the responsibility of the building management organization as part of the Golden Thread of information. It should also include a yearly review of the critical P and S factors for the sports grounds in accordance with the Green Guide. 	Yes
<p>D12.A.6 – Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development.</p>	<ul style="list-style-type: none"> The key elements in support of firefighting access and facilities are presented in Figure 2. The building is complex, therefore a hybrid approach is proposed, in order to provide different Fire Service facilities, depending on the residential and non-residential areas within the building. The building includes areas in excess of 18m above ground. Therefore, for the residential areas, each core should be designed as a firefighting shaft, including a ventilated firefighting staircase, firefighting lift, ventilated lift/staircase lobbies (for Blocks A and D) or open communal balconies / decks (for Blocks B and C) and a dry rising main. Pump appliance vehicle access to the residential areas of the site should be via Park View Road at the North of the building. From here, pump appliance vehicle access should be provided within 18m and line of sight of the entrance to each firefighting staircase as well as the associated dry rising main inlet valves. 	Yes

Policy D12 Requirement	Proposed Design	Compliant with Policy D12
	<ul style="list-style-type: none"> • Vehicle access to the commercial, ancillary and sports grounds portion of the site should also be via Park View Road at the North of the building, and further extended via Roseacre Road at the West of the site. From here, pump appliance vehicle access should be provided to 15% of the building perimeter in accordance with Table 19 of BS 9999, noting that the commercial, ancillary and sports grounds together include a cumulative floor area of less than 8000m². It is noted that approximately 20% of the building perimeter is accessible to a pump appliance on Park View Road and Roseacre Road. • A pump appliance should not have to reverse more than 20m, without a suitable turning point. It is noted that the public roads adjoining the building, Park View Road and Roseacre Road, do not include any dead-end portions in proximity to the building. • The access route should be confirmed by the design team to comply with the requirements of London Fire Brigade's Guidance Note 29 (GN 29). These are expected to be achieved via the public roads adjoining the building (Park View Road and Roseacre Road). • The dry rising mains should be designed, installed and maintained in accordance with BS 9990. They should include an inlet valve on the building façade, adjoining the entrance to the staircase served. Dry rising main outlet valves should be provided on the full landing of each staircase (including the ground floor). The horizontal portion of the main should not extend more than 18m. • All areas in all flats should be within 45m along a route suitable for laying hose as measured from a dry rising main outlet valve. • The ancillary areas at basement level should be within 45m along a route suitable for laying hose from the pump appliance parking location. Similarly, all ancillary areas on Roseacre Road and Park View Road should be within 45m along a route suitable for laying hose from the pump appliance parking location. • However, it is acknowledged that some ancillary areas within the South portion of the building (part of the sports grounds) cannot be reached within 45m along a route suitable for laying hose from the pump appliance parking location. These areas are still covered by a commercial grade suppression system in accordance with BS EN 12845, in order to reduce the risk overall. This is subject to review and agreement with the Building Control Body and London Fire Brigade. 	

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	<ul style="list-style-type: none"> • The basement level should include mechanical smoke ventilation, noting that it already includes BS EN 12845 suppression. The mechanical smoke ventilation system should achieve 10 air changes per hour and be in accordance with Section 27.2.3 of BS 9999. • In support of firefighting operations, the building should be provided with wayfinding signage in accordance with Sections 15.13 to 15.16 of ADB, considering the residential areas will include a floor in excess of 11m in height. • In support of firefighting operations, the building should be provided with a secure information box in accordance with Sections 15.18 to 15.21 of ADB, considering the residential areas will include a floor in excess of 11m in height. • In support of firefighting operations, an evacuation alert system in accordance with BS 8629 and Section 15.17 of ADB should be provided within the building, considering the residential areas will include a floor in excess of 18m in height. • A security control room is provided next to the final exit onto Park View Road, at the North-East of the building. This should be enclosed in 120 minutes fire resisting construction and FD60S fire doors. Fire alarm panels (or repeater panels) are expected to be provided in this area for all relevant fire safety systems within the building. Additionally, emergency voice communication, CCTV and other critical systems should be connected to this room in order to enable the effective implementation of the Fire Safety Plan and evacuation of the building in a fire scenario. • All active fire safety systems should include robust secondary power supplies. Even if some systems are expected to include this as batteries forming part of a proprietary system, some active fire safety systems should include a separate source (i.e., firefighting lifts, evacuation lifts, smoke control systems, suppression systems, etc.). 	