Hydrock

Big Yellow, Staples Corner

Fire Statement

For Big Yellow Self Storage Co. Ltd

Revision 03

For Issue

Date: 13 December 2023

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DOCUMENT CONTROL SHEET

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Additional Background and Experience Information of Authors

Jakub Hudzik – Jakub is a graduate fire engineer in his second year of working in a fire safety consultancy role. Jakub has a bachelor's degree (with honours) in Mechanical Engineering from the University of Liverpool and experience in developing and advising on fire safety design across various sectors, including residential, industrial, commercial and healthcare.

Taj Shuriquie - Taj is an Associate member (AIFireE) of the Institution of Fire Engineers (IFE) and is into his fifth year of working in a fire safety consultancy role. Taj has a Bachelors (with honours) degree in Architecture and Environmental Engineering and has completed a Masters in Fire Safety Engineering at the University of Central Lancashire. His experience in developing and advising on the fire safety design spans across various sectors, including residential, educational, and commercial and healthcare.

Mostafa Jafarian – Mostafa is a charted fire engineer (CEng, MIFireE) member of the Institution of Fire Engineers (IFE) and many years of experience working as a consultant in the field of fire safety. Mostafa has a PhD in structural fire engineering. He has written and contributed numerous articles to different books and papers covering different aspect of structural and fire engineering.

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EXECUTIVE SUMMARY

Hydrock have been appointed by Big Yellow Self Storage Co. Ltd to provide a Fire Statement for Big Yellow, Staples Corner located at Staples Corner, N Circular Rd., Brent Cross, London NW2 1LY. The Fire Statement has been developed in response to the proposals highlighted within 'The London Plan' and aims to demonstrate that the information contained within this report satisfies the requirements of Policy D12 (A) and D12 (B). The purpose of the Fire Statement is to define the fire safety objectives that should be considered for the safety of occupants and to facilitate Fire and Rescue Service operations. In having considered fire safety from the outset for the Big Yellow, Staples Corner development, the life safety standards required to satisfy The Building Regulations 2010 (as amended) - Part B Fire Safety can be achieved provided that the recommendations outlined in this Fire Statement and subsequent fire strategies are implemented. These recommendations are summarised in the following table.

Subject / Item	Big Yellow, Staples Corner – Self storage facility
Design Guidance	Approved Document B (fire safety) volume 2: Buildings other than dwellings, 2019 edition incorporating 2020 and 2022 amendments
Building Height	The building height, measured form the upper floor surface of the top floor to the ground level on the lowest side of the building, is approximately 14.17m.
Building Use/ Purpose Group	Self-storage – 'shop and commercial' (purpose group 4) Flexi office – 'office' (purpose group 3) External units – 'shop and commercial' (purpose group 4)
Evacuation Strategy	Simultaneous evacuation.
Fire Detection and Alarm	Category L2 Automatic Fire Detection and Alarm System designed in accordance with BS 5839-1:2017.
Fire Suppression	None considered. The building has a measured height of less than 30m. Furthermore, the building is divided to compartments with a measured area of less than 2000m^2.
Facilities for Firefighting	Three firefighting shafts (which do not include firefighting lifts) provided with dry fire mains
1.	The building's construction: methods, products and materials used, including manufacturers' details.
Design Intent	The proposed Big Yellow, Staples Corner development shall be constructed using a steel portal frame on a reinforced concrete substructure. The building shall be designed and constructed so that in the event of a fire, its stability will be maintained for a reasonable period (i.e., 60 minutes). The internal spread of fire will be restricted through appropriate design and specification of the internal linings such that they will adequately resist the spread of flame over their surfaces and restrict the release of heat in the event of a fire. In addition, the external walls of the building shall adequately resist the spread of fire along their surfaces and from one building to another.
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 associated evacuation strategy approach.
Design Intent	Means of escape shall be provided to facilitate escape for people from the building to a place of relative safety (within an adjoining protected area) and/or a place of ultimate safety (outside the building). The width of doors, corridors and escape routes shall align with the minimum requirements and the number of escape routes required will be based on the expected number of occupants and the travel distance limitations.
3.	Features which reduce the risk to life: fire detection and fire alarm systems, passive and active fire safety measures and associated management and maintenance plans.
Design Intent	The building shall be provided with the appropriate active fire protection systems such as a fire detection and fire alarm system, emergency lighting and signage, and smoke control systems in accordance with the relevant standards. These systems shall work in conjunction with the compartmentation strategy to reduce the risk to life.
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.
Design Intent	The building will be designed and constructed to provide facilities to assist firefighters with the protection of life. As the building is being erected not more than 100m from an existing fire hydrant, the provision of additional fire hydrants is not required. Each of the three protected shafts within the building shall be served by a dry riser, and access for a pumping appliance shall be provided within 18m of each dry riser inlet. The building shall be provided with three firefighting shafts containing firefighting stairs which will be approached from the accommodation through a ventilated firefighting lobby.

5.	How provision will be made within the curtilage of the site to enable fire appliances to gain access to the building.
Design Intent	Any new roadways shall be constructed to ensure that an unobstructed fire service vehicle access is available. All parts of the building shall be no more than 45m from a dry rising outlet in a protected shaft, measured on a route suitable for laying hose. The external storage units, which do not communicate with the rest of the building, shall be provided with perimeter fire service vehicle access.
6.	Ensuring that any potential future modifications to the building will be considered and not compromise the base build fire safety / protection measures.
Design Intent	Any deviation from the principles or ethos of the fire safety strategy could have major impacts on the effectiveness of its implementation post construction and should be factored into an updated document accordingly. Duty-holders will be responsible for establishing and preserving comprehensive building information related to fire and structural safety, maintained digitally to capture and safeguard the original design intent and subsequent modifications for safety enhancement. During the handover between Gateway 3 and occupation, it is considered best practise for the Client to transfer the key information, known as the "golden thread," to the Accountable Person, who assumes ongoing responsibility for its accuracy.

1. INTRODUCTION

Hydrock have been requested to produce a Fire Statement for the proposed Big Yellow, Staples Corner development. In accordance with 'The London Plan – Policy D12 Fire Safety (March 2021 Edition)', a Fire Statement should be submitted with all major development proposals.

1.1 Purpose of Report

The primary purpose is to ensure the safety of all building users and that fire safety is considered from the outset. This Fire Statement will form part of the planning submission which sets out specific requirements to address fire risk. This document may be described as an independent pre-planning fire strategy defined as an overriding document setting out the fundamental requirements that provide the focus for subsequent, more detailed specifications. This report has been developed using the framework set-out within The London Plan, prepared in accordance with the Greater London Authority Act 1999 (as amended) and associated regulations.

It is noted that this guidance document does not set out statutory requirements; they are intended to provide guidance only for generic building designs. An alternative approach can be applied to achieve an acceptable level of safety commensurate with the functional requirements of the Building Regulations 2010 (as amended). Whilst alternative methods have been based on accepted codes of practice, they will be subject to the agreement of the approving authorities.

The Fire Statement demonstrates that the development will provide a sufficient level of life safety in a fire. The document demonstrates areas which exceed the minimum levels of fire safety provisions required by prescriptive fire safety guidance.

1.2 Fire Statement

The purpose of this Fire Statement is to outline the fire safety design of the development and to demonstrate that all structures, systems, and components related to Big Yellow Staples Corner are to be designed to reduce the risk to life and the risk of serious injury in the event of a fire. Additionally, the Fire Statement will demonstrate that the fire safety design of the development will enable duty holders to consider and manage the risk of fire, as well as enabling suitable provisions for the Fire and Rescue Service and firefighting operations.

This Fire Statement sets out the following objectives (which are informed by the building Fire Safety Strategy):

Demonstrate that the development will satisfy Part B (Fire Safety) functional requirements of the Building Regulations 2010 (as amended). This document generally focuses on the Functional Requirements B4 and B5, as they have a direct implication on planning issues (i.e., issues related to external fire spread to/from neighbouring occupancies plus issues related to fire service access);

Demonstrate that the fire safety of the development has been considered from the outset and satisfies the requirements of the London Plan Policy D12(A) and D12(B);

Identify any fire safety risks of the development and to outline mitigatory measures in place;

Identify any restrictions to fire service access and provisions for firefighting and to outline mitigatory measures in place;

Present a clear, concise overview of the fire safety design of the development which provides sufficient information to the relevant authorities and duty holders.

Policy D12(B) of the London Plan states that "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". Policy D12(B) further specifies that the Fire 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 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 curtilage of 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.

This Fire statement is solely based on provided information set out in Table 1. Changes to the scheme would require review by a competent fire consultant within design development.

1.3 Development Stakeholders

Discipline	Company
Development management	Big Yellow Self Storage Co. Ltd
Architects	Mountford Pigott
Fire safety engineering	Hydrock

1.4 Basis of Report

This Fire Statement was developed based on architectural information and drawings provided by Mountford Pigott, as outlined in Table 1.

Table 1 Information on which the Fire Statement is based

Description	Drawing No.	Revision	Date
SITE PLAN	2410-MP-DR-P001	P01	31.08.2023
GROUND FLOOR PLAN	2410-MP-DR-P002	P05	04.09.2023
FIRST FLOOR PLAN	2410-MP-DR-P003	P04	04.09.2023
SECOND FLOOR PLAN	2410-MP-DR-P004-P02	P04	04.09.2023
THIRD FLOOR PLAN	2410-MP-DR-P005-P02	P04	04.09.2023
FOURTH FLOOR PLAN	2410-MP-DR-P006-P02	P04	04.09.2023
FIFTH FLOOR PLAN	2410-MP-DR-P007-P02	P04	04.09.2023
ROOF PLAN	2410-MP-DR-P008	P04	04.09.2023
SECTIONS A AND B	2410-MP-DR-P009	P02	04.09.2023
S, SE AND SW ELEVATIONS	2410-MP-DR-P010	P04	26.09.2023
N, NW AND NE ELEVATIONS	2410-MP-DR-P011	P04	26.09.2023
SITE LOCATION PLAN AS EXISTING	2410-MP-DR-X001	P01	13.01.2023
SITE PLAN AS EXISTING	2410-MP-DR-X002	P01	30.08.2023
Swept Path Analysis 16.5m Articulated Vehicle	220877-RAP-XX-XX-DR-TP-4101	P01	18.09.2023
Big Yellow Armadillo Inclusivity Equality Policy	-	-	16.10.2021

1.5 Development Overview

The proposed Big Yellow, Staples Corner is a self-storage facility (Use class B8) operated by the Big Yellow Group. The building will consist of six floors (including a permanent ground floor and five 'demountable' upper floors) dedicated to self-storage, flexi offices and external storage units. The development will provide a total net area of 11,931m^2 of storage space (including both internal and external storage units. Note – the external units are separated from the internal demise areas by the inclusion of a compartment wall). Additionally, it will feature 259m^2 designated to office space and include 35 car parking spaces.

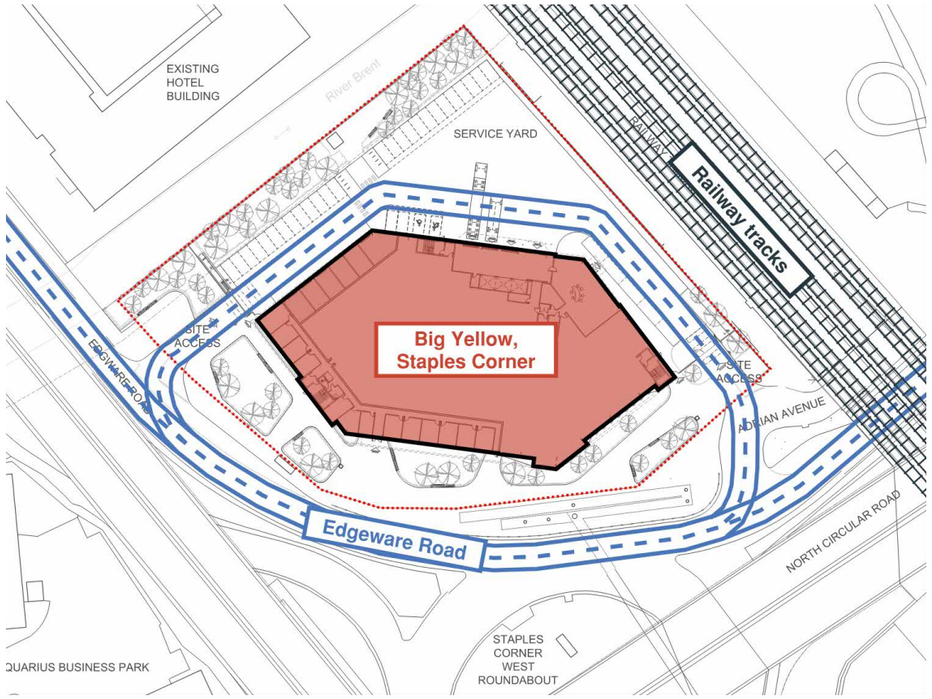

Figure 1 Site plan

The proposed Big Yellow, Staples Corner is approximately 14.17m in height, measured from the upper floor surface of the top floor to the ground level on the lowest side of the building, as shown in Figure 2.

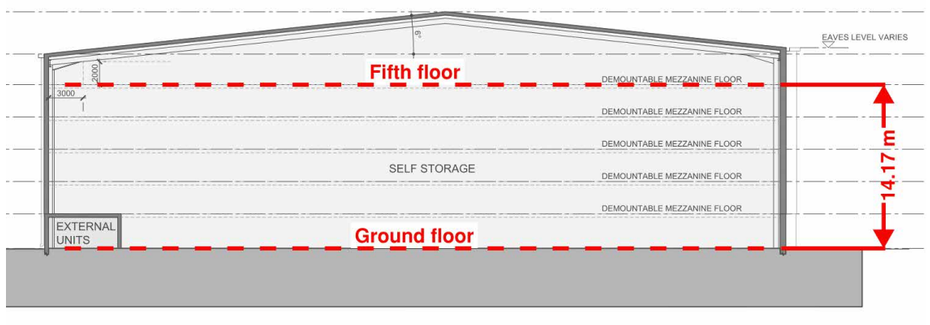

Figure 2 Section illustrating building height

2. LEGISLATION

The Fire Statement should be developed in accordance with the regulations highlighted within this section.

2.1 The Building Regulations 2010

The building work will be subject to control under The Building Regulations 2010. The Building Regulations are concerned with the safety and health of persons in and around a building. The development will be designed and constructed to satisfy the functional requirements of Part B (Fire Safety) to Schedule 1 of the Building Regulations 2010 (as amended), which includes the following:

Requirement B1 – Means of warning and escape

Requirement B2 – Internal fire spread (linings)

Requirement B3 – Internal fire spread (structure)

Requirement B4 – External fire spread

Requirement B5 – Access and facilities for the Fire Service

2.2 Prescriptive Guidance

Guidance referred to in this Fire Statement includes, but is not limited to the following:

Approved Document B; Fire Safety, Volume 2, 2019 edition, incorporating the 2020 and 2022 amendments;

BR 187:2014 'External Fire Spread – Building separation and boundary distances';

BS 5266-1:2016 'Emergency lighting. Code of practice for the emergency lighting of premises';

BS 5499-4:2013 'Code of practice for escape route signing';

BS 9990:2015 'Non-automatic firefighting systems in buildings';

BS 9999:2017, Fire safety in the design, management and use of buildings – Code of Practice;

BS EN 13501-1:2018 'Fire classification of construction products and building elements. Classification using data from reaction to fire tests';

BS EN 81-76 Safety rules for the construction and installation of lifts - Particular applications for passengers and goods passenger lifts. - Part 76: Evacuation of persons with disabilities using lifts;

BS5839-1:2017 'Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in non-domestic premises';

2.3 Performance-based Design

The recommendations within prescriptive guidance may not always be applicable to the proposed Big Yellow, Staples Corner development. Subsequently, where unique challenges or risks in terms of fire safety exist, alternative fire engineering techniques may be adopted in order to demonstrate that at the very least a comparable level of fire safety is being provided within the scheme.

Any engineered approaches should be derived using the methodology set out within 'BS 7974-2019 - Application of fire safety engineering principles to the design of buildings - Code of Practice'. This guidance establishes a disciplined structure to fire safety design by adopting a framework for a flexible but formalised approach, which can also be readily assessed by statutory authorities for approval.

2.4 Principles of the Fire Statement

The London Plan aims to safeguard that all building proposals achieve the highest standards of fire safety to ensure the safety of all building users. Subsequently, the following must be established:

Identify suitably positioned, unobstructed outside space: For fire appliance to be positioned; and Appropriate for use as an evacuation assembly point.

The building must be designed to incorporate features which reduce the risk to life and the risk of serious injury in the event of fire, including appropriate fire detection and alarm systems, in addition to passive and active fire safety design measures.

The building must be constructed in an appropriate way to minimise the risk of fire spread.

The building must be provided with suitable and convenient means of escape, and associated evacuation strategy for all building users.

Building owners must develop a robust strategy for evacuation or 'Fire Safety Management Plan' which can be periodically updated and published, which all building users can have confidence in.

The building must be provided with suitable access and equipment for firefighting which is appropriate for the size and use of the development.

2.5 Objectives / Fire Statement Structure

The objective of the Fire Statement is to detail how the proposed development will function in terms of:

The building's construction: methods, products and materials used, including manufacturers' details.

The means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach.

Features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans.

Access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring.

How provision will be made within the curtilage of the site to enable fire appliances to gain access to the building.

Ensuring that any potential future modifications to the building will be considered and not compromise the base build fire safety / protection measures.

3. MEANS OF ESCAPE

This section of the Fire Statement is aimed at providing information in regard to the means of escape for occupants. In accordance with the London Plan, the proposed means of escape satisfies the policy requirements as indicated in Table 2.

Table 2 Means of escape London Plan policy references

Policy Reference	Policy Requirement
Policy D12 – Clause A1	[Development proposals must ensure that they] identify suitably positioned and unobstructed outside space: For fire appliances to be positioned on; and Appropriate for use as an evacuation assembly point.
Policy D12 – Clause A4	[Development proposals must ensure that they] provide suitable and convenient means of escape, and associated evacuation strategy for all building users.
Policy D12 – Clause A5	[Development proposals must ensure that they] develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence.
Policy D12 – Clause B2	[The Fire Statement should detail how the development proposal will function in terms of] the means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach.
Policy D12 – Clause 3.12.5	Developments, their floor layouts and cores need to be planned around issues of fire safety and a robust strategy for evacuation from the outset, embedding and integrating a suitable strategy and relevant design features at the earliest possible stage, rather than features or products being applied to pre-determined developments which could result in less successful schemes which fail to achieve the highest standards of fire safety.
Policy D12 – Clause 3.12.7	The provision of stair cores which are suitably sized, provided in sufficient numbers and designed with appropriate features to allow simultaneous evacuation should also be explored at an early stage and provided wherever possible.
Policy D5 – Clause B5	[Development proposals should] be designed to incorporate safe and dignified emergency evacuation for all building users. In all developments where lifts are installed, as a minimum at least one lift per core (or more subject to capacity assessments) should be a suitably sized fire evacuation lift suitable to be used to evacuate people who require level access from the building.

3.1 Purpose Group

ADB2:2019 (incorporating 2020 and 2022 amendments) assigns a purpose group to each building use to represent the relevant fire hazard. The Fire Safety Strategy has been developed based on the following purpose groups, as outlined in Table 3, in accordance with ADB2:2019.

Table 3 Purpose Groups

Area	Purpose Group
Flexi office	Purpose Group 3 - Office
Self-storage	Purpose Group 4 – Shop and Commercial
External units	Purpose Group 4 – Shop and Commercial

3.2 Evacuation Strategy

The proposed evacuation strategy is based on a single-staged simultaneous evacuation. In a single-staged evacuation, the activation of a call point or detector gives an instantaneous warning from all fire alarm sounders for an immediate evacuation.

3.3 Horizontal Means of Escape

3.3.1 Travel Distances

The proposed development should align with the following maximum travel distance limitations to ensure that occupants have the necessary time available to travel safely to an escape stairway or final exit. The maximum travel distances within the development, in accordance with ADB2:2019 (incorporating 2020 and 2022 amendments), are outlined in Table 4.

Table 4 Maximum travel distances

Area	Purpose Group	Maximum Permitted Travel Distance (m)			
		With Only One Escape Route Available		With Alternative Escape Routes Available	
		Layout Known	Layout Unknown [1]	Layout Known	Layout Unknown [1]
Flexi office	3	18	12	45	30
Self-storage	4	18	12	45	30
External units	4	18	12	45	30

Notes:
1. If the internal layout of partitions, fittings, etc. is not known, direct distances, rather than travel distances, should be assessed. The direct distance should be assumed to be two-thirds of the actual travel distance.

3.3.2 Number of Escape Routes

In the event of a fire within the building, occupants should be provided with a sufficient number of exits to ensure a prompt evacuation of the building prior to escape routes becoming blocked by the effects of fire and/or smoke. The minimum number of escape routes required from each area is based on the maximum expected occupancy of the area, as outlined in Table 5.

Table 5 Minimum number of escape routes

Maximum Number of Occupants	Minimum Number of Escape Routes/ Exits
Up to 60	1
61 - 600	2
More than 600	3

3.3.3 Minimum Required Exit Widths

In accordance with Table 2.3 of ADB2:2019, the capacity of each exit/escape route is based on the effective width of the exit/escape route, as outlined in Table 6.

Table 6 Exit/escape route capacity based on effective width

Minimum Exit/Escape Route Effective Width	Maximum Number Of Persons Served
750mm [1]	60
850mm	110
1050mm	220
5mm per person	More than 220

Notes:
1. May be reduced to 530mm for gangways between fixed storage racking, etc.

3.4 Vertical Means of Escape

3.4.1 Inclusive design

The London Plan – Policy D5 (Inclusive Design) requests the highest level of accessibility and recommends that at least one lift should be a suitably sized fire evacuation lift. However, in accordance with Big Yellow's Customer Inclusivity and Equality Policy document (dated 06.10.2021 – referenced in Table 1), disabled customers will not have access to the upper floors and will be provided with storage units at ground floor only. Additionally, these customers are likely to be accompanied by a staff member, due to the nature of the business. Therefore, as disabled occupants are not provided access to upper floors in accordance with the client's policy, the provision of an evacuation lift is not required.

Refuges spaces shall be provided on every storey of each protected stairway providing an exit from that storey, with the exception of the ground floor (attributed to the provision of level thresholds and ramps). These spaces are designed to offer occupants with reduced mobility a temporary place of relative safety, allowing them to await assistance for vertical evacuation. Each refuge space should be a minimum of 900mm × 1400mm in size, should not obstruct the flow of people escaping, and should be provided with an emergency voice communication (EVC) system, designed in accordance with BS 5839-9: 2021. Vertical evacuation is to be reviewed at a later stage when further information is provided for assessment.

The 'Fire safety management plan' should consider the full range of people who might use the premises, paying attention to the needs of disabled occupants. It is the responsibility of the premises management to ensure that all people can make a safe evacuation. The evacuation plan does not rely on the assistance of the Fire and Rescue Service.

3.4.2 Stair Discharge

Every protected escape stair within the development shall discharge to the outside either directly or via a protected passageway with the same standard of fire resistance enclosure and lobby protection as the relevant stair that it serves.

The proposed development is provided with three designated escape stairs which all discharge directly to the outside.

3.4.3 Stair Width

Every escape stair should be wide enough to accommodate the number of persons needing to use it in the event of an evacuation. In accordance with ADB2:2019 (incorporating 2020 and 2022 amendments) and Approved Document M, the width of escape stairs should meet all of the following conditions:

- It should be at least as wide as any exits giving access to the stairs.
- It should be not less than 1000mm where it may be expected to serve up to 50 people;
- It should be in accordance with Table 3.2 of ADB2:2019 where it may be expected to serve more than 50 people;
- It should be not less than 1,100mm if it is a firefighting stair;
- It should not reduce at any point on the way to a final exit.

All stairs within the development are currently proposed to have a clear width of 1,100mm.

3.4.4 Stair Construction

All stairs shall be constructed in accordance with BS5385-1:2010 and have flights and landings constructed from materials of limited combustibility (European Class A2-s3, d2 or better).

3.4.5 Final Exits

Final exits shall meet all of the following conditions to facilitate the evacuation of persons out of and away from the building:

Final exit locations should be clearly visible and recognisable.

Final exits should not present a barrier for disabled people. Where the route to a final exit does not include stairs, a level threshold and, where necessary, a ramp should be provided.

Direct access to a street, passageway, walkway, or open space should be available from each final exit. The route away from the building should be well defined and, if necessary, have suitable guarding.

3.5 Evacuation Assembly Points

Client assembly points are the responsibility of management to define and do not fall under building design. Client assembly point locations are subject to further discussions with the end client (responsible person).

Assembly points should be located sufficiently far from the premises to minimise interference with fire and rescue service operations or danger from falling debris. However, they should also be accessible so as not to discourage people from assembling. Assembly points shall adhere to the following guidelines:

Escape routes will allow for possible egress in cold weather as well as day and night-time conditions (i.e., emergency lighting on escape routes and suitable illumination of the assembly point).

Final exits do not present an obstacle to wheelchair users and other people with disabilities. Where a final exit is accessed without the need to first traverse steps, then a level threshold and, where necessary, a ramp will be provided.

Final exits will be apparent to persons who may need to use them. This is particularly important where the exit opens off a stair that may continue down, or up, beyond the level of the final exit.

Evacuation routes will be sited so that they are clear of any risk from fire or smoke from openings to transformer chambers, refuse chambers, boiler rooms and similar risks.

A backup assembly will be established for use in the event that the primary location cannot be used.

Two potential locations of assembly points for occupants in the event of an evacuation are indicated in Figure 3.

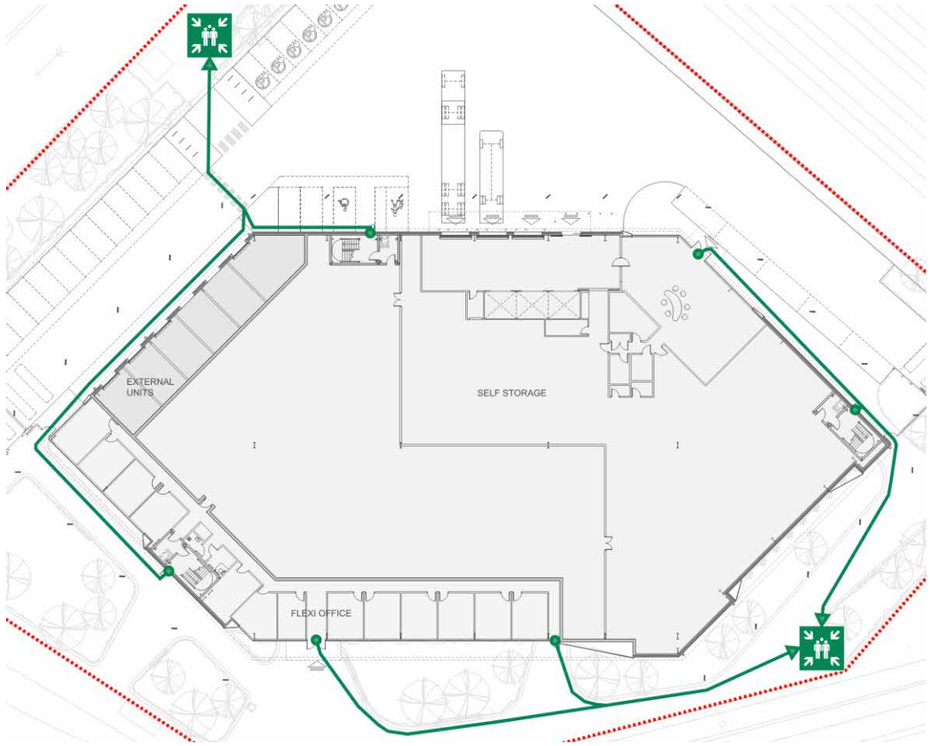

Figure 3 Indicative assembly points

4. ACTIVE FIRE SAFETY MEASURES

This section of the Fire Statement is aimed at providing information in regard to the active fire safety measures recommended for the development. In accordance with the London Plan, the proposed active fire safety measures satisfy the policy references as indicated in Table 7.

Table 7 Active fire safety measures London Plan policy references

Policy Reference	Policy Requirement
Policy D12 – Clause A2	[Development proposals must ensure that they] 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.
Policy D12 – Clause B3	[The Fire Statement should detail how the development proposal will function in terms of] features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans.

4.1 Fire Detection and Alarm Systems

In accordance with BS 5839-1:2017, common places of work, such as offices, shops and warehouses, are typically provided with Category M (manual) fire detection and fire alarm systems to satisfy the requirements of legislation. However, ADB2:2019 (incorporating 2020 and 2022 amendments) states that automatic fire detection and alarm systems should be provided in non-residential occupancies where a fire could break out in an unoccupied part of the premises (e.g., a storage area) and prejudice the means of escape from occupied parts of the premises. Therefore, it is proposed to provide at least a Category L2 fire detection and fire alarm system throughout the development in accordance with BS 5839-1:2017. Typically, Category L2 systems provide detectors in rooms opening into escape routes and areas of high fire risk (such as store rooms and plant areas).

4.2 Emergency Signage

Fire safety signs are installed where necessary to provide clear identification of fire precautions, fire equipment and means of escape in the event of fire. All parts of the development shall be fitted with appropriate fire safety signage which complies with BS 5499 Part 4 – Escape route signing – Code of Practice.

4.3 Emergency lighting

The emergency lighting system shall be installed in accordance with the recommendations of BS 5266 (parts 1-2 and 4-6), BS EN 1838, and BS EN 60598-2-22.

4.4 Automatic Water Fire Suppression System (AWFSS)

The proposed development does not contain storeys more than 30m above ground level and as such, there is no requirement for the provision of an AWFSS to satisfy the requirements of legislation. Moreover, the building is divided to compartments with a measured area of less than 2000m^2 therefore not necessitating sprinkler provision to increase permitted compartment sizes.

However, it should be noted that an AWFSS may need to be provided as a compensatory measure at a later stage if, for instance, it is found that not all areas of the building are within 45m of a fire main, measured on a route suitable for laying hose.

4.5 Smoke Control Systems

To maintain smoke-free conditions in the staircases during both means of escape and fire-fighting operations, ADB2:2019 (incorporating 2020 and 2022 amendments) recommends that both the stairs and lobbies of the firefighting shafts should be provided with a means of venting smoke and heat in accordance with clause 27.1 of BS 9999.

Therefore, it is proposed to provide the firefighting shafts with either natural ventilation or a mechanical smoke ventilation system.

If natural ventilation is to be incorporated, each firefighting shaft shall be provided with openable vents in both the lobby and the stair in accordance with Table 21 of BS 9999. The free area of a smoke ventilator should be measured in accordance with either BS EN 12101-2 or Figure 28 of BS 9999:2017.

If a mechanical smoke ventilation system is to be incorporated, it should demonstrate equivalent or better conditions in the lobby and stairs than would be provided by a natural shaft, as described in BRE Project Report 79204 [N1], usually shown by a comparative computational fluid dynamic (CFD) analysis.

5. PASSIVE FIRE SAFETY MEASURES AND CONSTRUCTION DETAILS

This section of the Fire Statement is aimed at providing information in regard to the passive fire safety measures recommended for the development. In accordance with the London Plan, the proposed passive fire safety measures satisfy the policy references as indicated in Table 8.

Table 8 Passive fire safety measures London Plan policy references

Policy Reference	Policy Requirement
Policy D12 – Clause A2	[Development proposals must ensure that they] 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.
Policy D12 – Clause A3	[Development proposals must ensure that they] are constructed in an appropriate way to minimise the risk of fire spread.
Policy D12 – Clause B1	[The Fire Statement should detail how the development proposal will function in terms of] the building's construction: methods, products and materials used, including manufacturers' details.
Policy D12 – Clause B3	[The Fire Statement should detail how the development proposal will function in terms of] features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans.

5.1 Elements of Structure

As confirmed by the design team in an email dated 23.11.2023, the building shall be constructed using a steel portal frame construction on a reinforced concrete substructure.

The building shall be designed and constructed so that in the event of fire, its stability will be maintained for a reasonable period. The development will contain an occupied floor 14.17m above access level. Therefore, in accordance with ADB2:2019 (incorporating 2020 and 2022), all elements of structure including the structural frame, beams, columns, loadbearing walls (internal and external) and floor structures must achieve a fire resistance for a specified period of 60-minutes. The required fire resistance will be achieved by incorporating structural steel columns with 90-minute intumescent paint and 120-minute steel structural columns inside the protected escape stairs.

Hydrock note careful consideration is required for the different elements of structure systems. Should there be inconsistencies in fire resistance, this could have a detrimental impact on each respective system.

5.2 Compartmentation

Compartmentation is used within a building to prevent the spread of fire and smoke from one part of the building to another. All compartment walls and floors should form a complete barrier against fire spread. In accordance with Table 8.1 of ADB2:2019 (incorporating 2022 amendments), the maximum dimensions for non-sprinklered compartments are outlined in Table 9.

Table 9 Maximum floor area on each floor of a compartment

Area	Risk Profile	Maximum Area on Any Floor (m^2)
Flexi office	3	No Limit
Self-storage/External units	4	2000

Notes

1. It should be noted that, in accordance with ADB2:2019, where compartment walls are provided to limit the floor area of the compartment on each floor:
   i) these compartment walls need not be in one vertical plane; and
   ii) the floor connecting between non-aligning compartment walls need not be constructed as a compartment floor (except where compartment floors are required.

The proposed Big Yellow, Staples Corner development shall be designed and constructed to abide by the following minimum levels of fire resistance:

Mezzanine floors are to be constructed as 60-minute (minimum) fire rated compartment floors.

The self-storage area at each level is to be separated by a 90-minute fire rated construction wall to observe the compartment size limits in Table 9. [Note 1}

Protected escape stair shafts shall be constructed from 60-minute (minimum) fire rated construction.

Firefighting shafts shall be constructed from 120-minute fire rated construction.

Service shafts and other vertical ducts should be enclosed throughout their height with 60 minutes (minimum) fire rated construction (in accordance with the elements of structure requirements referenced in Section 5.1).

Note 1 – The required level of fire resistance separation shall be reviewed at a later stage.

The schedule of consistencies references that mezzanines can be demountable, which can have implications for the building's compartmentation strategy. However, as confirmed by the design team in an email dated 23.11.2023, these elements will be designed by the steel sub-contractor, USS, as 90-minute fire rated compartment floors, maintaining their fire resistance and integrity when the mezzanine is assembled.

The design team are to ensure the specified system achieves this structural fire resisting performance. It is also deemed reasonable to ensure that elements of the structure supporting this system (or in contact with this system) will have the same level of fire resistance.

5.2.1 Compartmentation at Roof Junction

A compartment wall should be taken up to meet the underside of the roof covering or deck, with fire-stopping where necessary at the wall/roof junction to maintain the continuity of fire resistance.

5.3 Fire Resistance of External Walls

All external walls must achieve a fire resistance unless it has been demonstrated that the extent of unprotected area is considered acceptable. Depending on the position of the external walls in relation to the relevant boundary the following provisions apply.

External walls greater than 1m from the relevant boundary

The extent of unprotected area should not exceed the values calculated using the 'Enclosing Rectangles' method in accordance with BR 187.

The remainder of the wall (if any) should achieve a fire resistance of 60-minutes in terms of integrity and 15-minutes in terms of insulation.

External walls less than 1m from the relevant boundary

Should achieve 60-minutes fire resistance with regard to integrity and insulation from both sides when tested or classified in accordance with BS 476-22 or BS EN 13501-2.

Should consist of only small, unprotected areas conforming to the limits in ADB2:2019 (incorporating 2020 and 2022).

Should resist direct flame impingement and high levels of radiation from the adjoining sites.

Should have non-combustible surfaces.

Should be an effective barrier to a fire either inside or outside the building.

Note: Any part of a roof should achieve the minimum performance highlighted within Section 14 of ADB2:2019 (incorporating 2020 and 2022 amendments).

As confirmed by the design team in an email dated 23.11.2023, the design intent for proposed external wall buildups is summarised in Table 10.

Table 10 Proposed external wall buildups design intent

Area	Proposed External Wall Buildup Composition (design intent)
External ground floor plinth wall	Single brick skin Lanzarote black face brick, 80mm cavity, 40mm PIR insulation, 140mm block work.
General external wall	Euroclad Vieo fixed to 125mm Euroclad Rainspan carrier panel.
External yard wall	3100mm Europanel S5 Microrib.
External yellow reveals	Rainscreen, varying subframe gap, 125mm Euroclad Rainspan carrier panel.

5.4 Combustibility of External Walls

The external wall of a building should not provide a medium for fire spread if that is likely to be a risk to health and safety. Therefore, in accordance with Table 12.1 of ADB2:2019 (incorporating 2020 and 2022 amendments), the external wall surfaces within 1000mm of a relevant boundary should achieve at least Class B-s3, d2 or better (profiled or flat steel sheet at least 0.5 mm thick with an organic coating of no more than 0.2mm thickness is also acceptable). There are no requirements for external walls more than 1000mm away of a relevant boundary.

Hydrock generally recommend external wall surfaces within 1000mm are improved to Class B-s3, d0. The provision of a cavity barrier will play a key role external wall surface performance. It is crucial to use a suitable and compatible product with the cladding, ensuring that the chosen product can address the functional requirements of the Building Regulations (as amended).

5.5 Fire Performance of Internal Linings

The interior wall and ceiling surfaces in a building may have a significant influence on how fast a fire may develop. The Building Regulations require that internal linings shall adequately resist the spread of flame over their surfaces and, if ignited, have either a heat release rate or a rate of fire growth which is reasonable in the circumstances.

The internal lining proposals are to be meet the fire performance of ADB2:2019 (incorporating 2020 and 2022 amendments), as outlined in Table 11.

Table 11 Internal lining requirements

Location	British Standard Performance Class [1]	European Performance Class [2]
Non-residential rooms having an area not more than 30m^2	3	D-s3, d2
All other rooms	1	C-s3, d2
Circulation spaces	0	B-s3, d2

Notes
1. Relates to performance measures in BS 476 Parts 6 and 7 criteria
2. Relates to performance determined in accordance with BS EN 13501-1:2018

5.5.1 Fire-stopping

The guidance provided within: 'Firestopping of Service Penetrations – Best Practice in Design and Installation' should be considered. Firestopping is required to maintain fire compartmentation where services penetrate the compartment walls and floors. To help achieve this, the following 'Golden Rules' will be applied.

5.5.2 Cavity Barriers

Cavity barriers are defined as a construction designed to restrict the movement of smoke or flame. The barriers will be provided in cavities to prevent the excessive spread of unseen fire and smoke. Cavity barriers are to achieve at least 30 minutes fire resistance with regard to integrity and 15 minutes fire resistance with regard to insulation.

It is crucial to use a suitable and compatible product with the cladding, ensuring that the chosen product can address the functional requirements of the Building Regulations (as amended).

5.6 Roof Covering Classification

Roof coverings refer to the external material layers, not the roof structure as a whole. The separation distances according to the type of roof covering are described within Approved Document B 2019 (incorporating 2022 amendments).

As confirmed by the design team in an email dated 23.11.2023, the roof of the development will be constructed using Euroclad Elite 3, 120mm Thickness, which achieves B_{ROOF}(t4).

6. ACCESS FOR FIRE SERVICE PERSONNEL AND EQUIPMENT

This section of the Fire Statement is aimed at providing information in regard to firefighting accessibility and facilities provided for fire services. In accordance with the London Plan, the proposed access and facilities for the Fire Service satisfies the policy references as indicated in Table 12.

Table 12 Firefighting provisions London Plan policy references

Policy Reference	Policy Requirement
Policy D12 – Clause A6	[Development proposals must ensure that they] provide suitable access and equipment for firefighting which is appropriate for the size and use of the development.
Policy D12 – Clause B4	[The Fire Statement should detail how the development proposal will function in terms of] 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.
Policy D12 – Clause B5	[The Fire Statement should detail how the development proposal will function in terms of] how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building.

The building shall be designed and constructed to provide facilities to assist firefighters with the protection of life, as described in the following sections.

6.1 Fire Service Vehicle Access

Fire service vehicle access to the building is to be provided in accordance with ADB2:2019 (incorporating 2020 and 2022 amendments). Access routes around the Big Yellow, Staples Corner development shall meet the following requirements for a pumping appliance.

Table 13 Pumping appliance access route specification

Min. width of road between kerbs (m)	Min. width of gateways (m)	Min. turning circle between kerbs (m)	Min. turning circle between walls (m)	Min. clearance height (m)	Min. carrying capacity (t)
3.7	3.1	16.8	19.2	3.7	12.5

[1] The size and mass of fire appliances is not standardised, and the local fire service authority should be consulted to ascertain their recommendations relating to access roads.

As illustrated in Figure 4, the fire service is provided with vehicle access to within 18m of each fire main inlet. Additionally, it should be noted that the external storage units which do not communicate with the rest of the building, have 100% vehicle access around their perimeter.

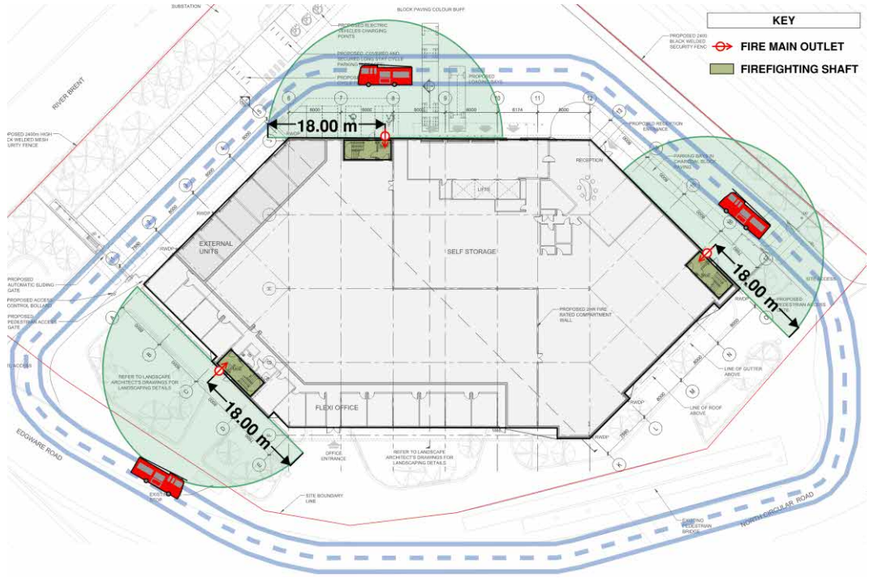

Figure 4 Fire service perimeter access

As demonstrated by the swept path analysis illustrated in Figure 5, the vehicle access route encircling the building is able to accommodate a 16.5m articulated vehicle, indicating that access routes meet the requirements for a pumping appliance outlined in Table 6 and that sufficient space is available for effective fire service operations.

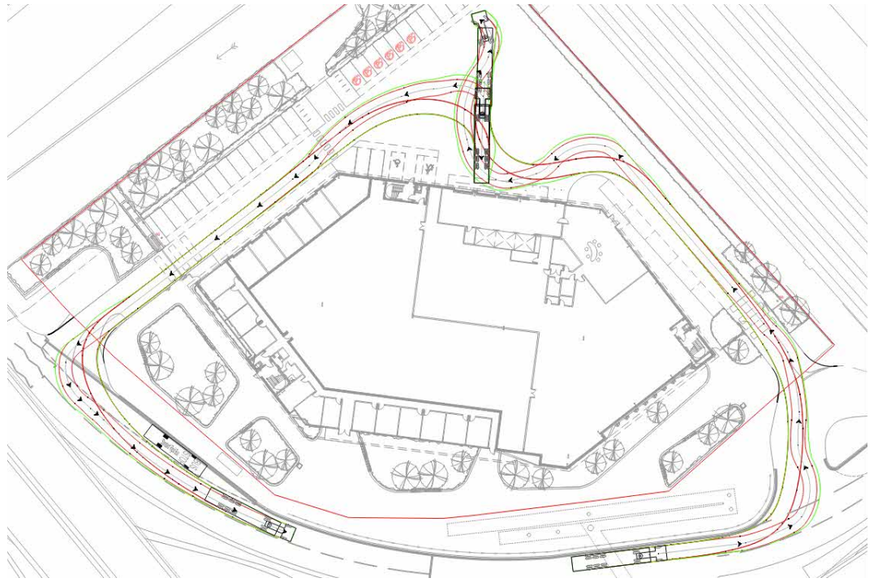

Figure 5 Swept Path Analysis (16.5m Articulated Vehicle)

6.2 Fire Hydrants

All premises should be provided with a supply of water for fire-fighting. Fire-fighters have to lay out hose between the water supply and the fire appliance, so these distances should be kept to a minimum.

The location of existing fire hydrants within close range of the development has been confirmed by the design team in in an email dated 23.11.2023. Please refer to Figure 6 referring to confirmed Hydrant locations.

As the building is being erected not more than 100m from an existing fire hydrant, the provision of additional fire hydrants is not required.

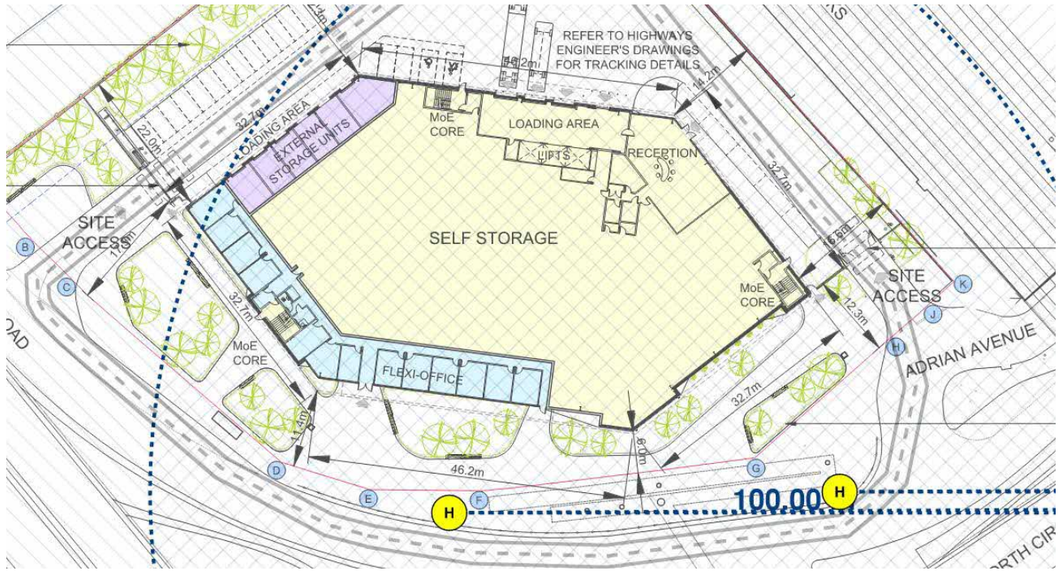

Figure 6 Hydrant positions

6.3 Fire Mains

The Big Yellow, Staples Corner development shall be fitted with three dry fire mains, located within each protected shaft (including the three firefighting shafts), to provide firefighters with a readily available source of water and ensure that the hose laying distance is not more than 45m from a fire main outlet.

The dry rising inlets should be on the face of the building and within 18m of the parking position of the appliance to ensure easy access for the fire service, as indicated in Figure 4.

Fire mains shall be designed and constructed in accordance with BS 9990:2015.

6.4 Fire Service Access

The fire service is provided with access directly into each of the three protected shafts containing fire mains and within 18m of the fire appliance parking position, as shown in Figure 4. In accordance with paragraph 17.6 of ADB2:2019 (incorporating 2020 and 2022 amendments), two of the protected shafts shall be designed as firefighting shafts (which do not need to include firefighting lifts).

The firefighting stair and firefighting lobby contained within each firefighting shaft shall be provided with a means of venting smoke and heat (see Section 4.5 for further information).

7. FIRE SAFETY MANAGEMENT AND FUTURE DEVELOPMENT

This section of the Fire Statement is aimed at providing information regarding the management of fire safety within the site. In accordance with the London Plan, the proposed fire safety management plan satisfies the policy references as indicated in Table 14.

Table 14 Fire safety management and 'golden thread' London Plan policy references

Policy Reference	Policy Requirement
Policy D12 – Clause B4	[The Fire Statement should detail how the development proposal will function in terms of] 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.
Policy D12 – Clause B6	[The Fire Statement should detail how the development proposal will function in terms of] ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures.

The ongoing management of the building and its fire safety provisions is vital in ensuring a safe and usable building. Maintenance procedures will be developed to ensure that all equipment and services are able to operate effectively and that the building's systems perform as intended.

7.1 The Regulatory Reform (Fire Safety) Order 2005

The Regulatory Reform (Fire Safety) Order (RRFSO) regulations shall apply to this development and are the responsibility of the Responsible Person. The RRFSO applies to all workplaces and other non-domestic areas and premises, requiring the 'Responsible Person' to undertake an assessment of the fire risk in their premises and to keep this assessment under review.

7.2 Regulation 38

In conjunction with the RRFSO, Regulation 38 requires that information relating to the fire safety provisions within a building is provided to the 'Responsible Person' so that they (or an appointed 'Competent Person') can undertake the Fire Risk Assessment required under the RRFSO. The Fire Safety Strategy of the building will form part of the information provided to the 'Responsible Person' for them to undertake and maintain the Fire Risk Assessment for the development.

7.3 Future Development

The Fire Safety Strategy for the development will outline the proposed design and operation for the building. Where there are any proposed changes in the future, reference is to be made to the Fire Safety Strategy to ensure any changes meet the requirements of the Fire Safety Strategy and do not have an adverse effect on the safety of occupants.

Where there is an alteration to the design of the building, it is strongly recommended that the Responsible Person commissions the update and development of a new Fire Safety Strategy in order to reflect the proposed changes and fire safety design.

8. FIRE STATEMENT CONCLUSION

The proposed Big Yellow, Staples Corner development shall be designed to comply with the minimum requirements of The Building Regulations and the recommendations contained within The London Plan. The following table highlights the objectives of Policy D12 and the principal approach to satisfy The London Plan.

Table 15 Summary and Conclusion

Item No.	Fire Safety Principles
1	The building's construction: methods, products and materials used, including manufacturers' details.
Design Intent	The proposed development shall be constructed using a steel portal frame on a reinforced concrete substructure. The building shall be designed and constructed so that in the event of fire, its stability will be maintained for a reasonable period. The spread of fire within the building will be restricted through appropriate design and specification of the internal linings. The external walls of the building must adequately resist the spread of fire along their surfaces and from one building to another.
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 associated evacuation strategy approach.
Design Intent	Means of escape are to be provided to facilitate escape from the building to a place of safety. The 'Fire safety management plan' shall consider the full range of people who might use the premises, paying particular attention to the needs of occupants with impaired mobility.
3	Features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans.
Design Intent	The inclusion of active and passive fire and smoke control systems within the building is intended to ensure that the means of escape remain available to occupants throughout the evacuation of the building in fire conditions and maintain tenable conditions for longer periods during fire-fighting operations.
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.
Design Intent	The building will be designed and constructed to provide facilities to assist firefighters with the protection of life, as identified within this Fire Statement. The fire service can access the perimeter via Edgeware Road and Adrian Avenue.
5	How provision will be made within the curtilage of the site to enable fire appliances to gain access to the building.
Design Intent	Fire service vehicle access to the building is to be provided in accordance with ADB:2019 (incorporating 2020 and 2022 amendments). The vehicle access route encircling the building meets the requirements for a pumping appliance.
6	Ensuring that any potential future modifications to the building will consider and not compromise the base build fire safety / protection measures.
Design Intent	Any deviation from the principles or ethos of the fire safety strategy which could have major impacts on the effectiveness of its implementation post construction will be factored into an updated document accordingly.