Fire Statement v.01 Rev.D
Bridge Point Uxbridge, Riverside Way, Uxbridge UB8 2YF
Client – Bridge UK Properties 2, LP.

(12th October 2023- Tim Ford, MEng (Hons), MSc, MIFireE)

1.0 Introduction

1.1 Fire Statement

London Plan 2021 Policy D12 requires that development proposals achieve the highest standards of fire safety and that these are embedded at the earliest possible stage. This Fire Statement identifies the fire safety objectives and performance requirements of this development.

1.2 Author Qualifications

Tim Ford is an experienced Fire Engineer and director of 3-FE Ltd. Tim worked for West Midlands Fire Service (WMFS) for ten years in roles including Fire Safety Officer, and Fire Engineer. He completed the BEng and MEng Fire Engineering degrees at University of Central Lancashire (UCLAN), attaining first class honours. He has also achieved an MSc in HRM and Business, and the Level 4 Diploma in Fire Safety.

Tim is a Member of the Institute of Fire Engineers (MIFireE), with membership number 00065784. This can be checked on the IFE Member Directory at the following link: -

https://portal.ifehosting.org.uk/Resources/IFE-Member-and-Engineering-Council-Registrant-Directory

He has worked on major projects throughout the UK, including complex buildings for Jaguar Land Rover and Nationwide, as well as high-rise residential projects.

1.3 Declaration of Compliance

I confirm that the information in this Fire Statement satisfies the requirements of the London Plan 2021 Policy D12B (major development proposals) for this development.

1.4 General Description and Layout

This development will consist of a large warehouse with ancillary office accommodation and associated external support areas. The development includes HGV and car parking areas, cycle parking and servicing areas. The office accommodation will be accessed at ground floor and be located on a single upper level, linked by two stairs. The warehouse will be one large single space.

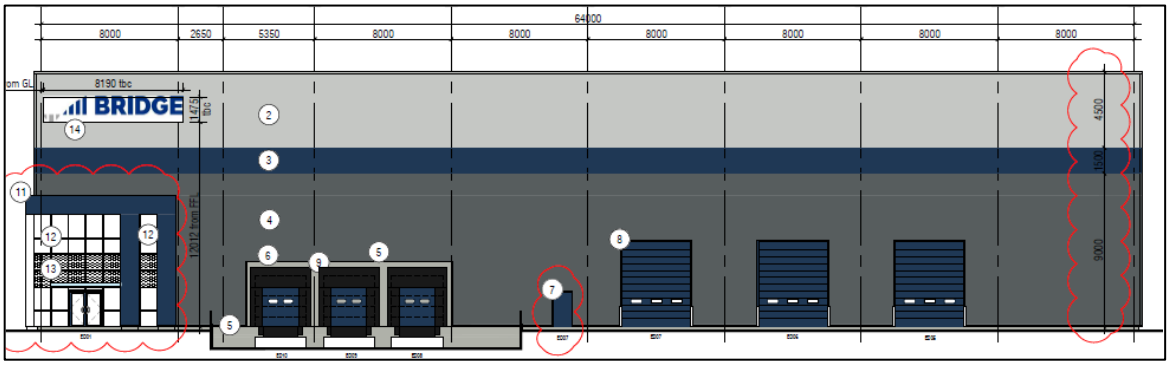

Figure 1 – East elevation showing main entrance

The total site area will be 0.94 Ha, the warehouse will be 4,088 m^2 GIA and the total ancillary first floor office space will be 409 m^2.

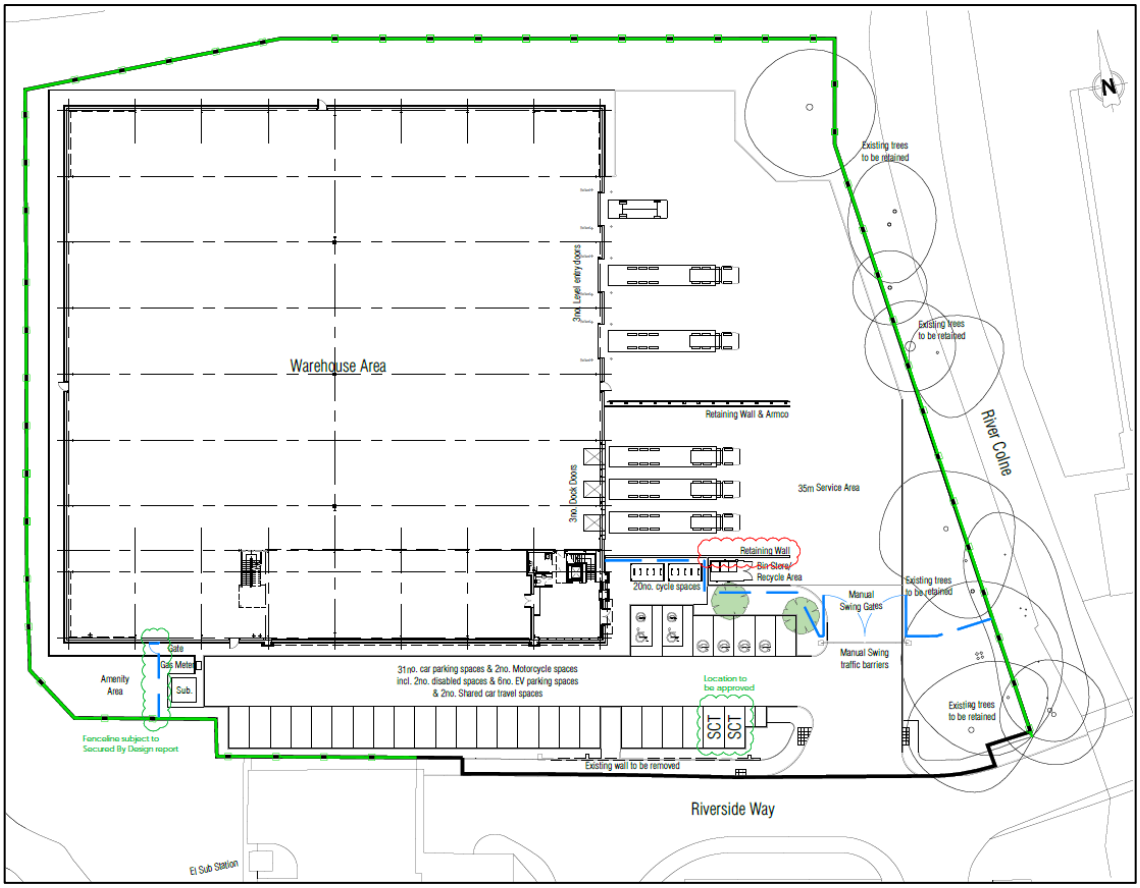

Figure 2 – Overall site layout

The main warehouse is 65 m long and 65 m wide. The building height is 13.7 m to the eaves and approximately 15 m to the top of the parapets based on section drawing 6844-110 Rev P01. The first floor office area is rectangular and 10.65 m deep along roughly two-thirds of the south elevation. The height of the office is 4.2 m to the finished floor level of the first floor.

The guidance document that forms the basis for this report is Approved Document B Vol. 2 (ADB) [i]. For the purposes of Building Regulations compliance **Bridge Point Uxbridge** is considered to be purpose group 7 - Normal Hazard – Storage and other non-residential, and 3 - Office [ii]. If the warehouse will be used for storage of higher hazard materials, such as liquified gas, corrosive substances or oxidising agents then the higher hazard rating should be applied.

The table below shows the rough gross internal area (GIA) of each area the building for calculating occupancy (excluding cores, toilets etc.), as well as applying the appropriate floor space factor for occupancy levels.

	Area (sqm)	Floor Space Factor (m^2 per person)	Occupancy
Office first floor	370	6	62
Warehouse	4,088	30	136
Total	**4,458**	**36**	**198**

Table 1 - Floor area and occupancy

1.5 Plans

This Fire Statement should be read in association with the following plans that show the layouts of the development and the access routes: -

Plan Reference	Comment
6844 - 108 Rev P01	Roof Plan
6844 - 109 Rev P04	GA Elevations
6844 - 110 Rev P01	Warehouse GA Sections
6844 - 126 Rev P03	Office GA Section
6844 - 130 Rev P02	Fire Strategy Warehouse
6844 - 131 Rev P03	Fire Strategy Office

Table 2 – Plan references

2.0 Policy D12 Fire Safety Requirements

The following 6 areas of requirements are taken from the London Plan 2021 as part of Policy D12 Fire Safety for major developments.

2.1 Construction Methods

Bridge Point Uxbridge is a new building and construction will be based on a steel frame, with horizontally laid trapezoidal cladding with loose laid insulation for the external wall system. Composite profile cladding with flashing and insulation will be used on the office areas in conjunction with PPC aluminium frame windows and curtain walling with grey spandrel panels for part of the office elevations. The built up roof system and parapet will consist of trapezoidal profiled steel outer sheet, loose laid insulation, and roughly 10% coverage of rooflights. The compartment walls between the office and warehouse will be composite firewall panels. Modern construction methods will be used throughout, and materials will be selected to ensure that specifications within requirements B1-B5 will be observed.

No building methodologies will be used that pose a high risk of fire to workers on site, neighbouring buildings, or adjacent roadways.

2.2 Means of Escape and Evacuation Strategy

The means of escape strategy for Bridge Point Uxbridge is based on simultaneous evacuation where the fire alarm will sound on detection and all occupants will escape through final exits from the warehouse area. Occupants in the office areas will escape either directly through storey exits into protected staircase 1, or if the fire blocks this storey exit then they will escape through the compartment line to the west to the top of

accommodation stair 2. Accommodation stairs can be used as escape stairs provided that the travel distance is within guidance limits, and the base of stair 2 is only 7 m away from the final exit. Protected stair 1 leads directly to a final exit, and therefore this layout is considered acceptable.

Travel distances in office areas should have a maximum single direction measurement of 18 m and multiple direction travel distance of 45 m. Travel distances in the warehouse should have a maximum single direction travel distance of 25 m and multiple direction travel distance of 45 m, given that that the level of fire hazard associated with the storage is Normal Hazard [iii]. Any final layouts for racking, furniture, fixtures and fittings within the building should be arranged so that these maximum travel distances are observed. Travel distances are measured to final exits or storey exits.

All horizontal exits should have a minimum clear exit width of 750 mm, although where the guidance for wheelchair access is followed to meet the requirements of Approved Document M there should be clear exit width of at least 850 mm [iv].

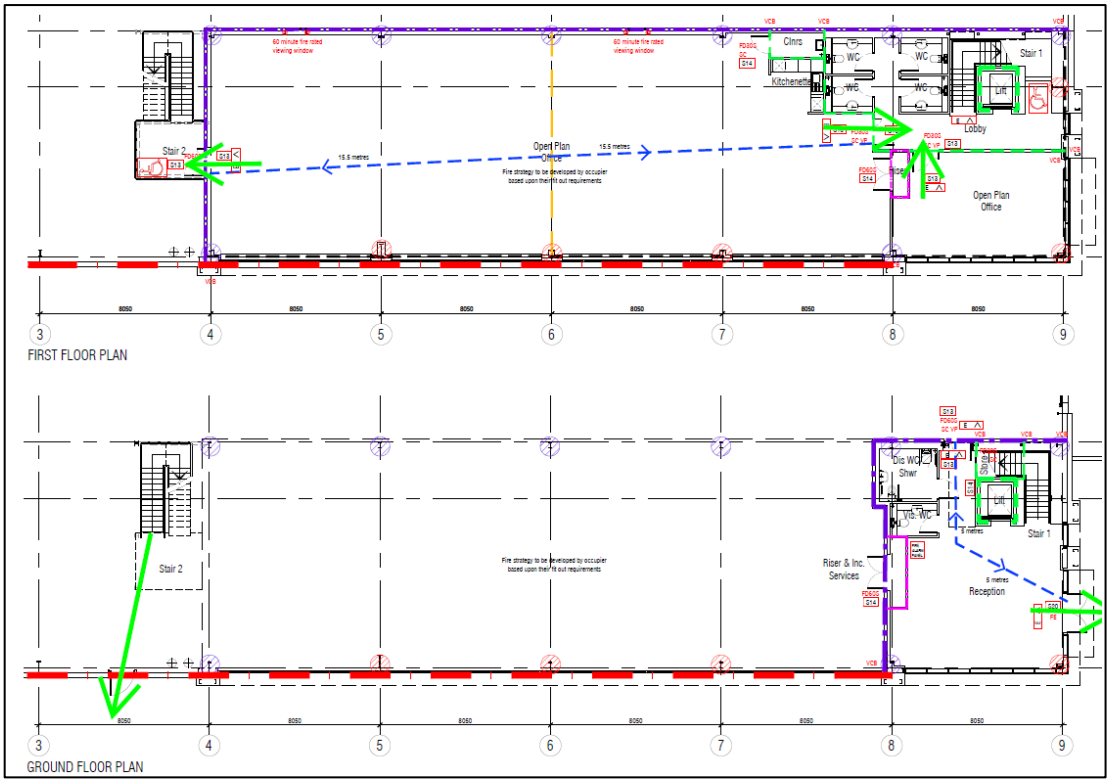

Figure 3 – Ground and first floor office area showing protected stair and accommodation stair, storey and final exits shown by green arrows

There are two stairs in total, which gives plenty of vertical escape capacity for the expected occupancy levels. Stairs should be a minimum of 1 m wide clear width to accommodate escape capacity for 150 occupants. If one stair is discounted due to fire, there is still escape capacity of 150 for the expected maximum office occupancy of 62. Both stairs will be provided with refuges for wheelchair users. There is only one lift core serving very low numbers of occupants therefore it has been proposed that an evacuation chair is provided along with appropriate training for staff. This approach will be referenced in the Fire Strategy and will form part of the Building Management Plan as part of the Inclusive Design Statement.

Personal Emergency Evacuation Plans (PEEPs) will be in place and will be enacted during the initial phase of evacuation. Such plans should be assured by regular training and drills, whilst assuring and maintaining the dignity of any relevant person. PEEPs

and a Buddy System will be provided for any members of staff or visitors requiring assistance to leave the building.

Emergency lighting will be provided throughout the building to BS 5266-1 [v].

Portable fire extinguishers will be provided throughout the building to ensure that they are readily available for early intervention firefighting. Staff will be trained to use these, and the selection and installation of all fire extinguishers will be to BS 5306-8 [vi].

2.3 Fire Alarm System, Passive and Active Measures

Bridge Point Uxbridge will be fitted with an automatic fire detection and alarm system to L2 standard designed and installed to BS 5839-1 [vii]. It is proposed that this provides an excellent standard of early detection and warning to occupants and is line with the guidance in ADB that an automatic fire detection and alarm system should be installed in any non-residential building where a fire could break out in an unoccupied part of the premises and affect an occupied part [viii].

The office areas will be compartmented from the warehouse with 60 minutes fire resistant compartment walls. Elements of structure for the office area will require 30 minutes fire resistance as the first floor is under 5 m above ground level [ix]. However, as the office is located within the warehouse, and to ensure that the office is compartmented appropriately, the office floor and supporting structures would also require 60 minutes fire resistance. Elements of structure only supporting the roof in the warehouse would not necessarily require fire protection, but this should be considered

for property protection purposes. Protected stairs, protected corridors and ancillary accommodation should all have a minimum of 30 minutes fire resistance.

Doors in compartment walls should be fire doors to FD60S standard [x]. Doors to protected stairs should be FD30S standard [xi].

Bridge Point Uxbridge is considered to be purpose group 7 - Normal Hazard – Storage and 3 – Office. These purpose groups require sprinklers if there is a top storey above 30 m, or if the floor area of any one storey exceeds 20,000 m^2 [xii]. This is not the case and therefore sprinklers are not required. If the end user stores items that are subject to other legislation, for example LPG and certain chemicals, then additional sprinkler provisions may apply. This would be the responsibility of the end tenant on fit-out and subject to a separate Building Regulations application process.

2.4 Access and Facilities for Firefighting

The kerb to kerb width of Riverside Way road is at least 7 m which is in excess of the 3.7 m width guidance for fire service vehicle access within ADB [xiii].

Fire service vehicle access should conform to Table 13.1 of ADB [xiv]: -

Table 13.1 Typical fire and rescue service vehicle access route specification

Appliance type	Minimum width of road between kerbs (m)	Minimum width of gateways (m)	Minimum turning circle between kerbs (m)	Minimum turning circle between walls (m)	Minimum clearance height (m)	Minimum carrying capacity (tonnes)
Pump	3.7	3.1	16.8	19.2	3.7	12.5
High reach	3.7	3.1	26.0	29.0	4.0	17.0

NOTES:

1. Fire appliances are not standardised. The building control body may, in consultation with the local fire and rescue service, use other dimensions.
2. The roadbase can be designed to 12.5 tonne capacity. Structures such as bridges should have the full 17-tonne capacity. The weight of high reach appliances is distributed over a number of axles, so infrequent use of a route designed to accommodate 12.5 tonnes should not cause damage.

Figure 4 - Access route specifications

The total GIA of Bridge Point Uxbridge is approximately 4,460 m^2 and the height to the mean roof level of the storage building is at least 11 m. Therefore fire service vehicle access will be required to the perimeter for a high-reach appliance of at least 50% [xv]. 25% is easily achieved from the HGV loading area to the east, and the remaining 25% would need to be achieved from the car park areas to the south of the building. The specific requirements for fire service vehicles should be followed in LFB Fire Safety Guidance Note GN29 [xvi]. This requires that access routes for vehicles are provided as follows: -

Appliance Type	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 (tonnes)
Pump	3.7	3.1	16.8	19.2	3.7	14.0
Aerial	3.7	3.1	26.0	29.0	4.27	32.0
Special Appliance	6.1	3.1	27.5	32.0	4.27	32.0

Table 3 - Typical LFB vehicle access route specification

To assist with fire-fighting operations it is recommended that a Premises Information Box is to be located either externally or at reception. Contents of such boxes should be determined in consultation with London Fire Brigade (LFB), but recommended inclusions are as follows: -

- Access keys, fobs or codes to the building,
- Site plan showing simple general layout,
- Occupant information to include those whom may require special assistance by equipment or resources, i.e. specific PEEP details,
- Details of fire protection systems or equipment installed to the building, and

- Keyholder details, including Landlord or their representative, plus relevant arranged contractors.

2.5 Fire Appliance Position and Assembly Point

Bridge Point Uxbridge is located off a main road serving existing industrial areas in Uxbridge. Appliances can park directly outside the building near the car parking areas to the south and also on loading areas to the east of the building. Both of these elevations each have at least one access point to the building, and the maximum distance between the doors, or to the end of an elevation, is no more than 60 m [xvii].

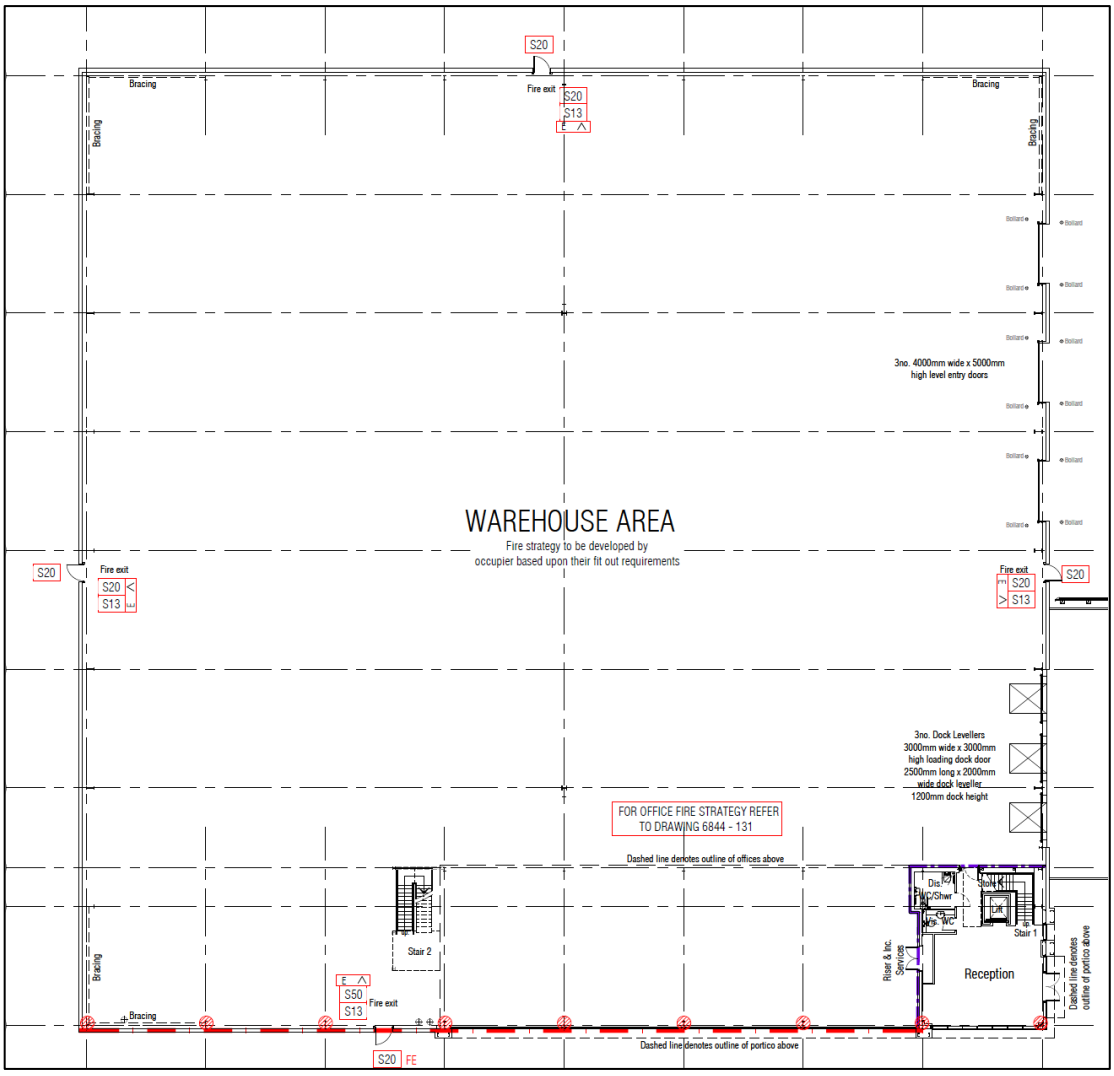

Figure 4 – Ground floor layout showing one access point to the south, two to the east

The location of the assembly point will be to the south-east of the site and is shown on Figure 5 as a green "A". The plan below shows the proposed locations for appliances on site as red rectangles.

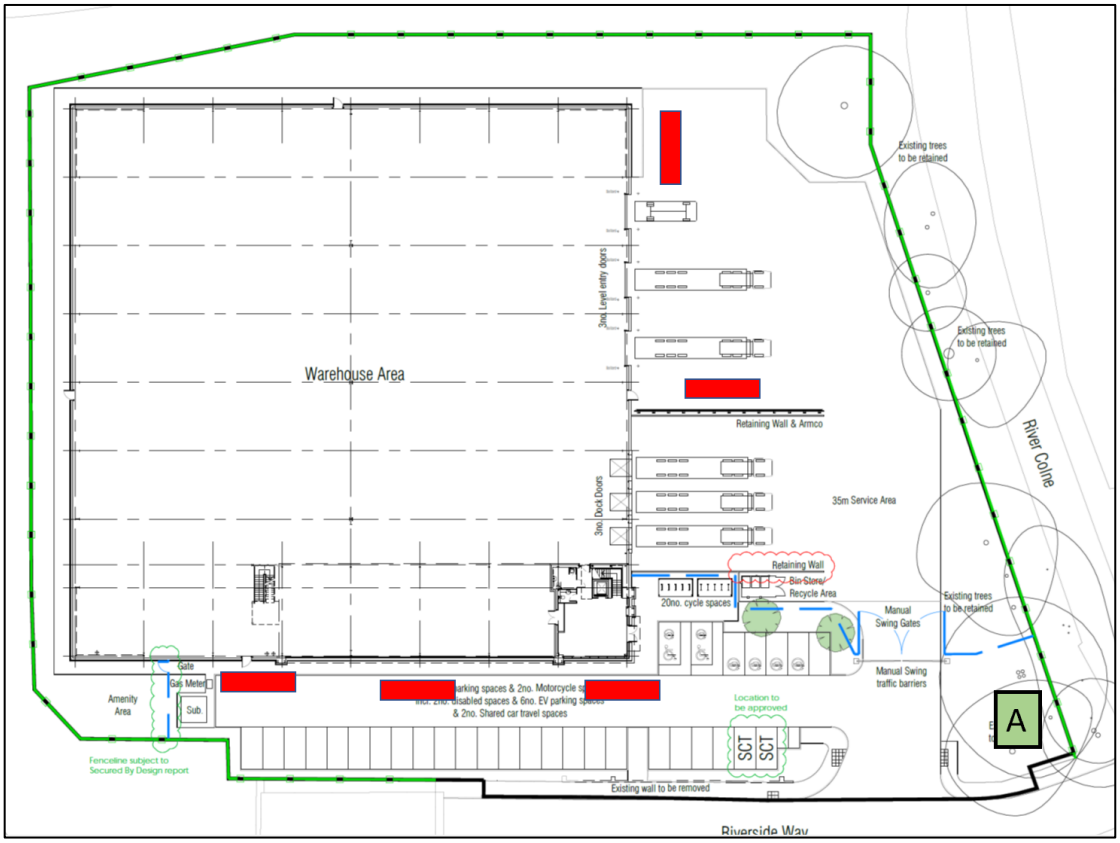

Figure 5 - Site plan showing potential appliance access to the east and south elevations

As this is an existing site in a busy industrial area hydrant provision is already be provided to within 90 m of the entrances to the building. Affinity Water have provided a plan that shows the location of the closest hydrants to the new development. London Fire Brigade's Hydrant Officer has confirmed that closest one is operational. This hydrant is approximately 42 m from the main entrance to this building as shown on the plans overleaf. Hydrants for use by firefighting operations should be capable of providing a minimum rate of 1,500 litres per minute at all times.

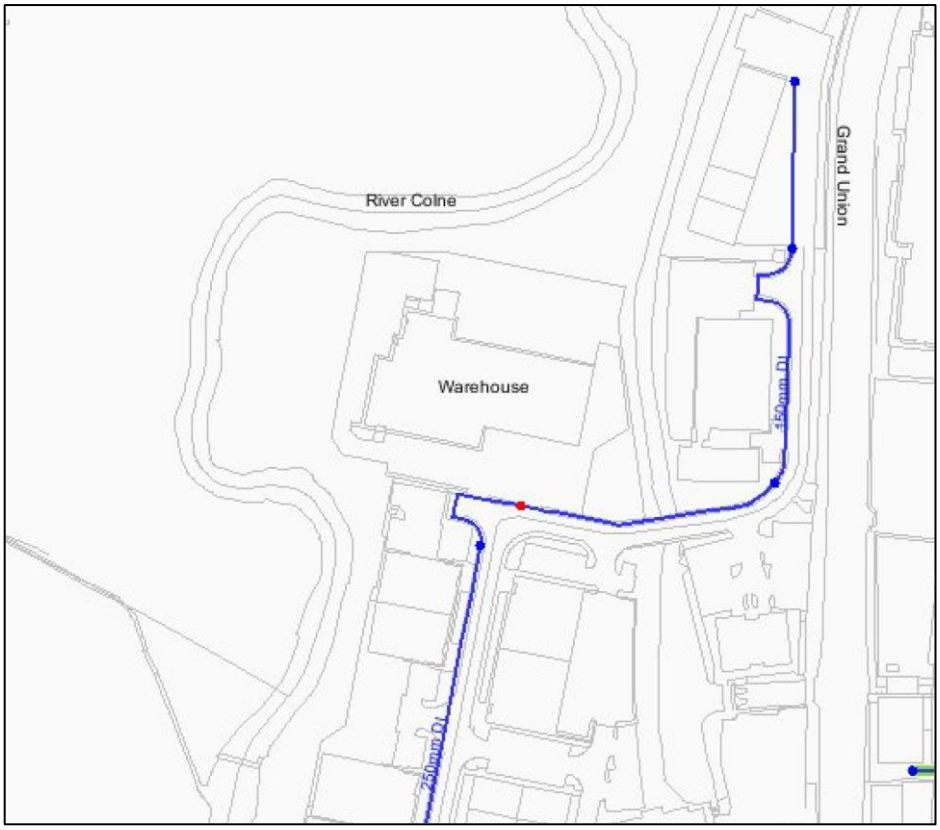

Figure 6 – Location plan by Affinity Water showing hydrant locations as blue dots

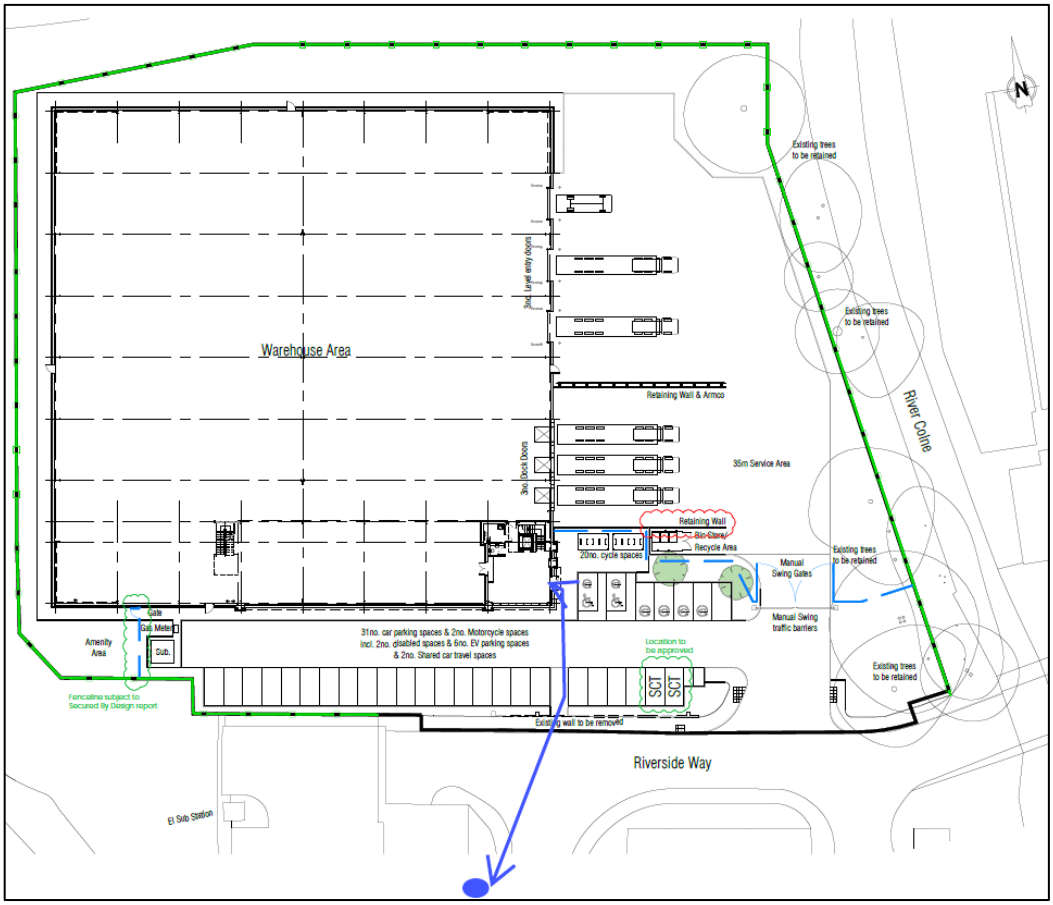

Figure 7 - Site plan showing 42 m hose-laying distance from nearest hydrant

2.6 Future Development and the "Golden Thread"

Management procedures always have a pivotal role to play in fire prevention, control and evacuation of occupants should a fire incident occur. The Regulatory Reform (Fire Safety) Order 2005 (FSO) places legal obligations on the management of the building once occupied. Management of fire safety must be integrated with all other management systems to ensure there is no doubt who is responsible. To facilitate consistency of approach it is important that the building's owners appoint designated fire safety representatives who will report to the nominated Building Safety Manager.

The Building Safety Manager should have the necessary authority and powers of sanction to ensure that standards of fire safety are maintained. The main duties of the Fire Safety Manager are listed in Section 9 of BS 9999. Maintenance procedures will be developed to ensure that all equipment and services are able to operate effectively. Maintenance staff will be trained in the importance of the fire safety systems and planned maintenance programmes developed. All staff will receive regular, appropriate fire safety training and will be able to safely evacuate residents if required.

Further advice and recommendations will be detailed within subsequent fire strategy reports in line with the FSO and the new Building Safety Bill.

3.0 Conclusion

This document assesses the proposed fire safety provisions required for the new Bridge Point Uxbridge warehouse. It is considered that this Fire Statement satisfies the requirements of the London Plan 2021 Policy D12B for this development.

4.0 References

[i] DEPARTMENT OF COMMUNITIES AND LOCAL GOVERNMENT. APPROVED DOCUMENT B 2019 EDITION. *Volume 2 – Buildings other than dwellings.* London: NBS, 2019.

[ii] *Ibid*., Table 0.1, p.5.

[iii] *Ibid*., Table 2.1, p.14.

[iv] *Ibid*., Clause 2.18 and Table 2.1, pp.18-19.

[v] BRITISH STANDARDS INSTITUTION. BS 5266-1:2016. *Emergency lighting. Code of practice for the emergency lighting of premises.* London: BSI, 2016.

[vi] BRITISH STANDARDS INSTITUTION. BS 5306-8:2012. *Fire extinguishing installations and equipment on premises. Selection and positioning of portable fire extinguishers. Code of practice.* London: BSI, 2016.

[vii] BRITISH STANDARDS INSTITUTION. BS 5839-1:2017. *Fire detection and fire alarm systems for buildings — Part 1: Code of practice for system design, installation, commissioning and maintenance of systems in non-domestic premises.* London: BSI, 2017.

[viii] APPROVED DOCUMENT B, *op. cit.,* Clauses 1.3-1.5, p.9.

[ix] *Ibid*., Table B4, p.145.

[x] *Ibid*., Table C1, p.152-153 and Clause 24.2 p.26.

[xi] *Ibid*., Table C1, p.152-153 and Clause 24.2 p.26.

[xii] *Ibid*., Clause 8.14, p.69 and Table 8.1, p.68.

[xiii] *Ibid*., Table 15.2, p.112.

[xiv] *Ibid*., Table 13.1, p.98.

[xv] *Ibid*., Table 15.1, p.110.

[xvi] LONDON FIRE BRIGADE. *Fire Safety Guidance Note GN29. Access for Fire Appliances Rev.13.* London: LFB, 2020. Table 1, p.2.

[xvii] APPROVED DOCUMENT B, *op. cit.,* Clause 15.3 p.110.