



Title: Oldfield Road, Hampton - Planning Fire Statement
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Approver: Jotham Steed

Revision	Description	Author	Approver	Date
00	Initial issue for comment	Daniel Taylor	Jotham Steed	29 th February 2024
01	Add Design Team Comments, Sections 1.3 & 2.1	Daniel Taylor	Jotham Steed	8 th March 2024
02	Incorporate Design Teams updated plans and change Purpose Group for 7a to 4.	Daniel Taylor	Jotham Steed	18 th March 2024
03	Update floor area in Section 1.3 & 2.1.	Daniel Taylor	Jotham Steed	21 st March 2024

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1. Introduction

1.1 Overview

Marshall Fire has been appointed by ROK Planning on behalf of Shurgard UK Ltd to provide a Planning Fire Statement for new self storage facility at Oldfield Road, Hampton.

The assessment has been undertaken to include the mezzanine floorspace, despite the fact that the application submission is for the basement, ground and first floors only.

Our role is therefore to assist in steering the scheme towards meeting the requirements of the London Plan, Policy D12 and Policy D5.

This Fire Statement will consider the evolution of the development and the principles of the golden thread concept and will form the basis of the developing Fire Strategy.

The 'Golden Thread' refers to a concept where the fire safety information of a building is to be updated and maintained through the whole life cycle of the building. The fire safety information should be maintained and updated as the development evolves in line with the principles of the golden thread. The fire safety information provided at planning application stage should be developed to inform the overall fire strategy for the development. When passing fire safety information to subsequent development stages, consideration should be given to the accessibility, accuracy and relevance of the information to ensure the development is constructed as it has been designed and originally specified.

1.2 Purpose of this report

The purpose of this report is to review the proposals in terms of the Planning Gateway One and London Plan requirements and to demonstrate the development meets the highest standards of fire safety, proportionate to the size and nature of the development.

It is considered a planning requirement to provide a Fire Statement and best practice is to follow the structure of the digital Planning Gateway One template which also covers the London Plan requirements for Fire Safety.

It should be noted that the project will still need to comply with the requirements of the Building Regulations and therefore the information presented herein may be developed further such that compliance with the requirements of the Building Regulations is demonstrated.

The contents of this report should therefore not be considered sufficient to form a part of the Building Regulations submission for the project and Building Regulation approval should be considered a risk until such time that approval in principle has been granted by the appointed Building Control Body.

The findings of this statement are based on the information available at the time of review. Marshall Fire cannot be held responsible for any subsequent changes to the design that we are not made aware of.

1.3 Scheme Description

The development is known as 74, Oldfield Road, Hampton, TW12 2HR. The existing building will be demolished and replaced with a new self-storage facility (use class b8) and business centre (use class E).

The building will include a basement, ground and first floor, with the potential to provide two additional mezzanine floors at a later point. Accounting for this now, the topmost storey measures approximately 8.7m above lowest ground floor level to third floor level.

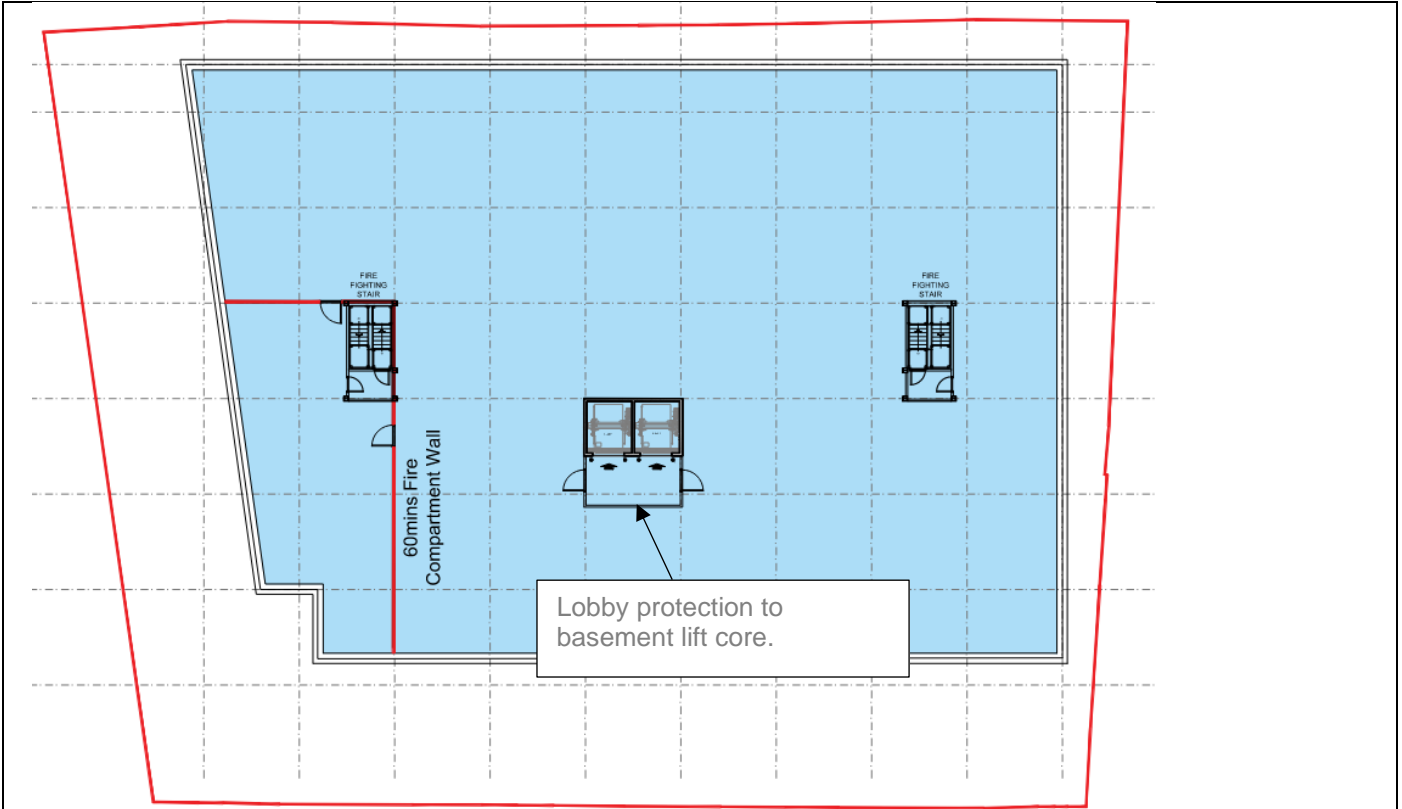
Built floorspace will comprise 5,434sqm GIA. However, a maximum of 8,084 sqm GIA can be accommodated within the warehouse building through the use of demountable mezzanine floors.

The building height is 12.6m high, but the top portion is a mansard roof having an angle less than 70° so defined as a roof. Therefore the external wall height is 7.4m from ground level.

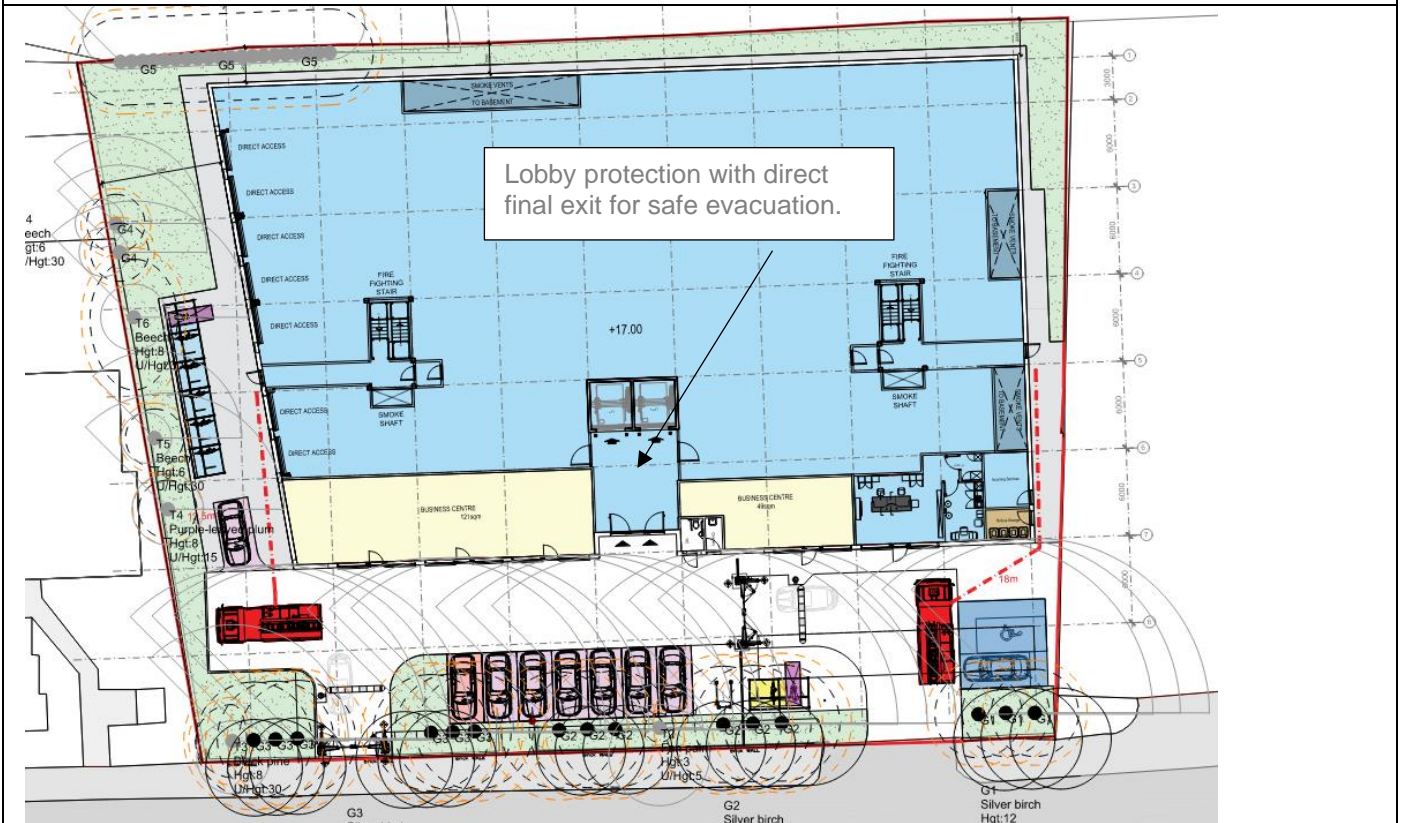
The basement storey is 3.0m deep from street level and the floor area is approximately 2138m².

This is a Purpose Group 4 defined as 'shop – rental of storage place to the public'.

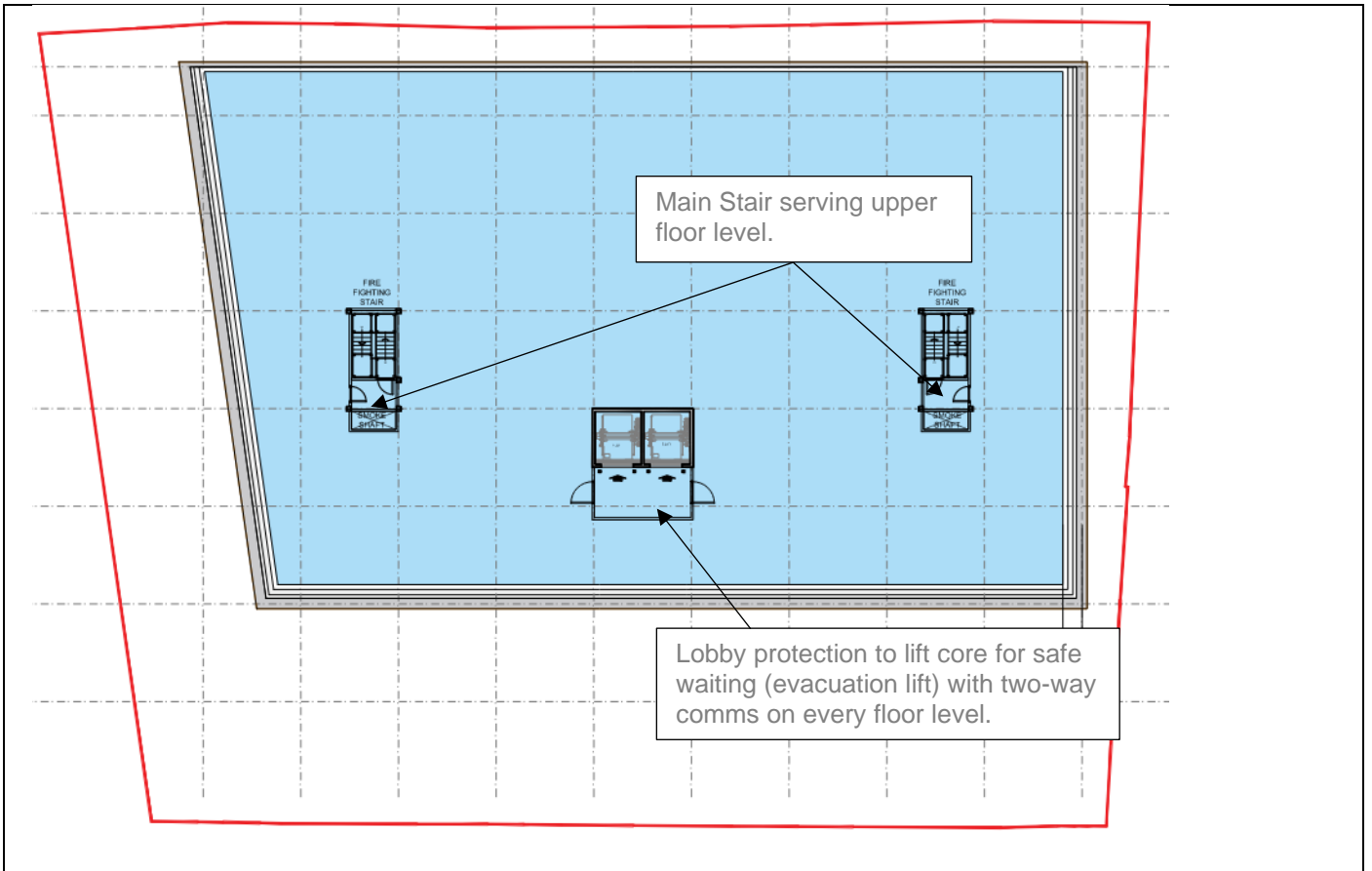
See Figure 1 for the proposed design.



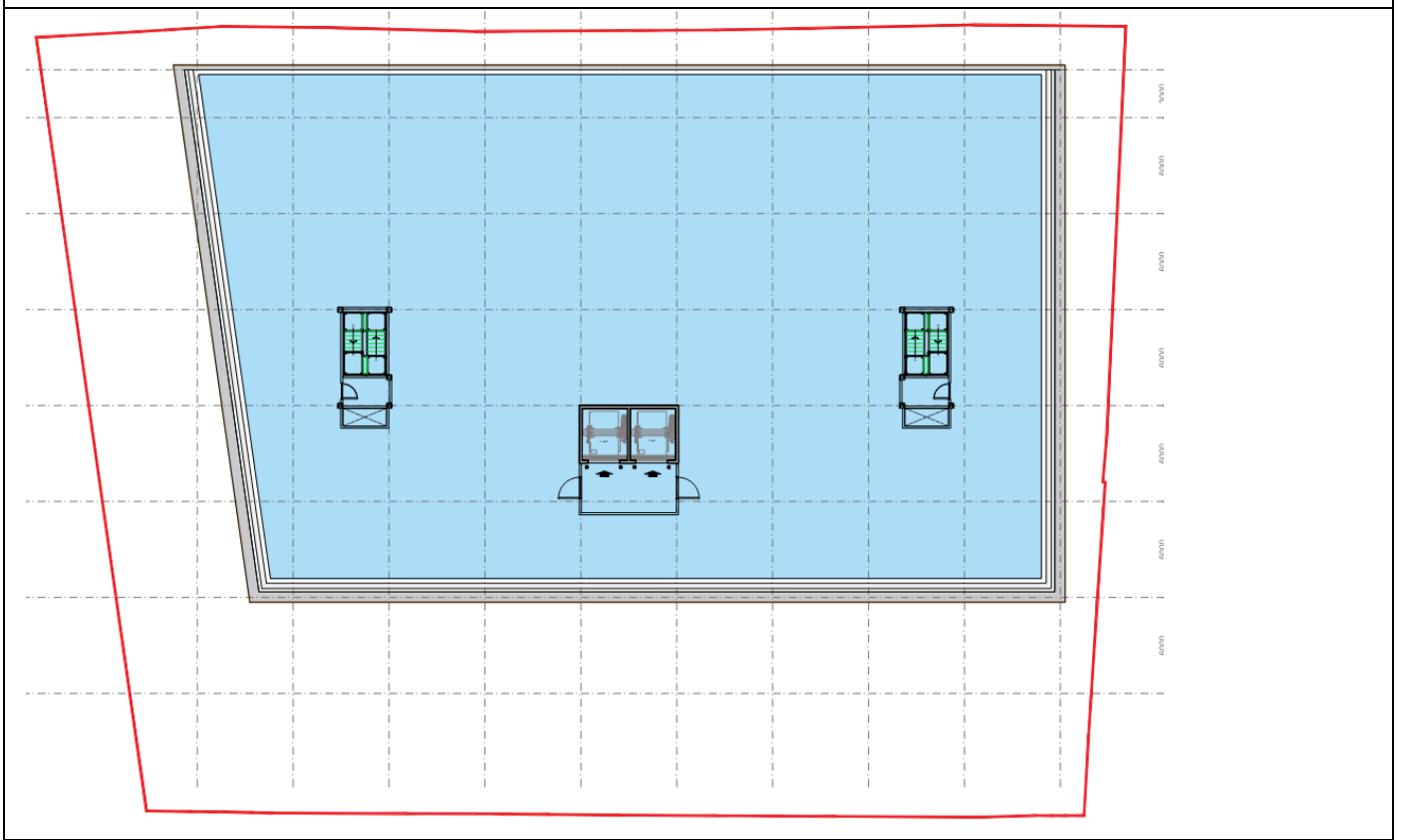
Proposed Basement Plan



Proposed Ground Floor Plan



Proposed First Floor Plan



Proposed Second Floor Plan

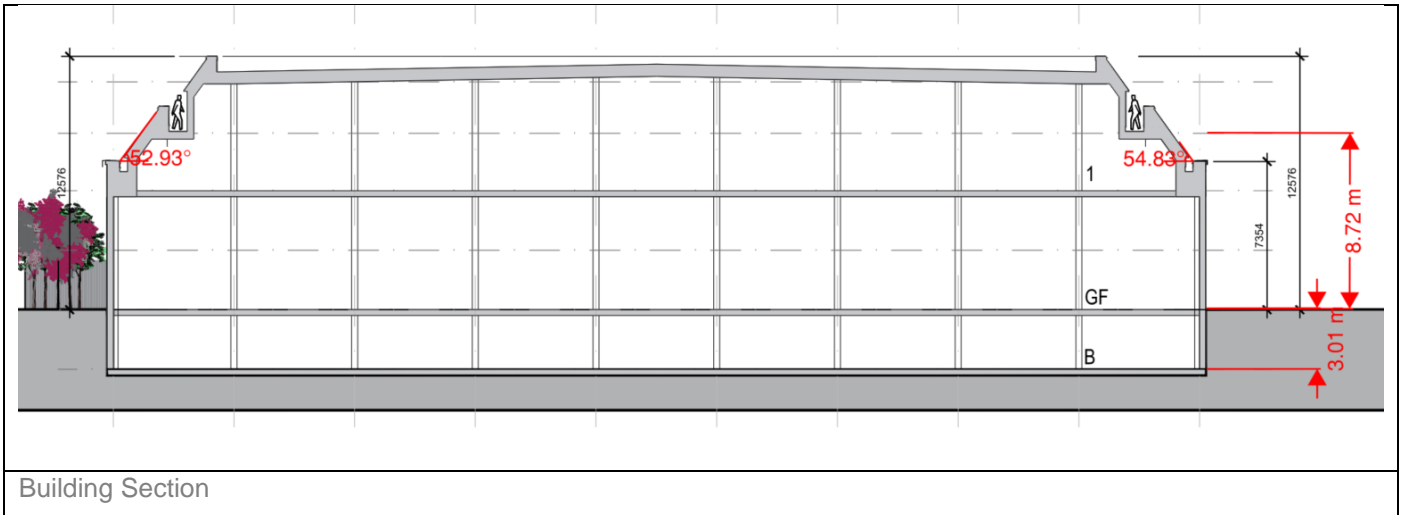


Figure 1: Design intent

2. Fire Statement

2.1 Section 1: Site address

The development is located at 74, Oldfield Road, Hampton, TW12 2HR.

2.2 Section 2: Description of proposed development including any change of use

The development is known as 74, Oldfield Road, Hampton, TW12 2HR. The existing building will be demolished and replaced with a new self-storage facility (use class b8) and business centre (use class E)".

The building will include a basement, ground and first floor, with the potential to provide two additional mezzanine floors at a later point. Accounting for this now, the topmost storey measures approximately 8.7m above lowest ground floor level to third floor level.

Built floorspace will comprise 5,434sqm GIA. However, a maximum of 8,084 sqm GIA can be accommodated within the warehouse building through the use of demountable mezzanine floors.

The building height is 12.6m high, but the top portion is a mansard roof having an angle less than 70° so defined as a roof. Therefore the external wall height is 7.4m from ground level.

The basement storey is 3.0m deep from street level and the floor area is approximately 2138m².

This is a Purpose Group 4 defined as 'shop – rental of storage place to the public'.

2.3 Section 3: Name of person completing the fire statement and relevant qualifications and experience

This document was completed by Daniel Taylor. He has a BSc (Hons) in Fire Safety Engineering and is an Associate member of the Institution of Fire Engineers. He is a Senior Fire Engineer at Marshall Fire and has at least 5 years' of experience in the industry.

Daniel has a high level of understanding Fire Safety compliance and has worked on a wide range of projects including commercial projects across the UK of varying scales whilst acting as the lead fire engineer leading projects from RIBA Stage 2 to RIBA Stage 6 successfully.

This document was reviewed by Jotham Steed. Jotham is a Technical Director at Marshall Fire Ltd and has over 15 years' experience in the construction industry which has been predominantly focused on the provision of fire safety. He has a Post Graduate Diploma in Surveying and is a chartered building engineer, Fellow of the Chartered Association of Building Engineers and an Associate member of the Institute of Fire Engineers. He has high level of understanding on Part B, working on a wide range of projects including commercial, mixed use and residential developments across the UK, within both the public and private sector.

2.4 Section 4: State what, if any, consultation has been undertaken on issues relating to the fire safety of the development; and what account has been taken of this

No consultations have been undertaken to date regarding proposed fire safety measures.

No information regarding proposed fire safety measures has been submitted with the application to date.

2.5 Section 5: Site layout plan with block numbering as per building schedule referred to in section 6

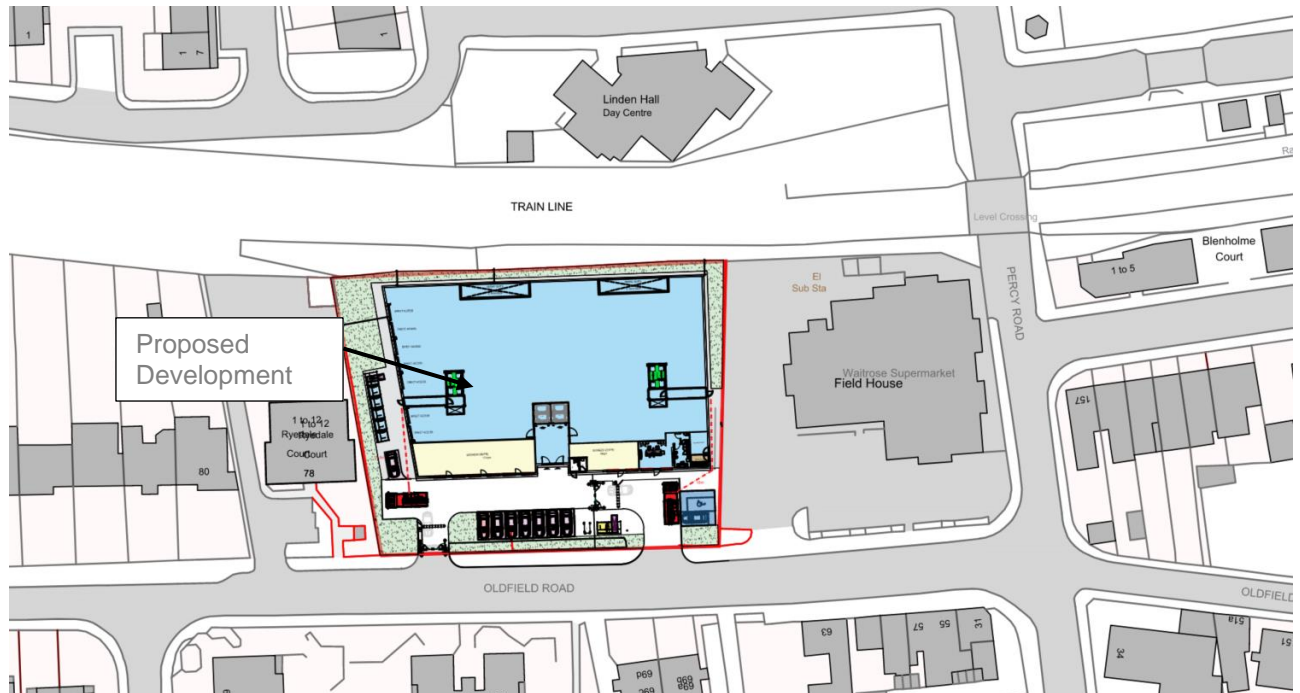


Figure 2: Building Identification

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2.6 Section 6: Building schedule

Table 1: Buildings Schedule Table

Note: The proposed guidance will be adopted from Approved Document B, Volume 2, 2019+2020 & 2022 amendments.

<i>Site Information</i>				Building Information		Resident Safety Information		
No.	Block height (m)	No. of Storeys	Proposed use	Balconies	External Wall Systems	Evacuation approach	Sprinklers	Accessible housing provided
	Approximately							
Self Storage Facility	12.6m	5 (Basement, ground, +3 upper floors)	Shop Purpose Group 4	No	No Provision where boundary is more than 1m, Class B-s3, d2 or better where boundary is less than 1m.	Simultaneous Evacuation Policy	Not required* *(Subject to basement smoke control provisions and insurer requirements).	N/A

2.7 Section 7: Specific technical complexities

As part of the fire strategy, guidance will be taken from Approved Document B, Volume 2, 2019+2020 & 2022 amendments.

The building will include a basement, ground and first floor, with the potential to provide two additional mezzanine floors at a later point. Accounting for this now, the topmost storey measures approximately 8.7m above lowest ground floor level to third floor level.

Building Use case:

Used for regular, short or long term storage of goods and materials within a secured locker facilities. Members of the public has controlled access via being a registered account and are deemed to have a level of familiarisation with the building layout. The initial introductions are supervised and a building walk around is provided in the form of an introduction.

We have noted this as – Purpose Group 4 - Shop.

Provisions for Fire Detection and Alarm Systems:

Initiation of an evacuation will be by an automatic fire detection system designed and installed in accordance with BS 5839-1 achieving a Grade D2, Category L2 system.

Provisions for Travel Distance are as follows:

In shops, the single direction of travel is limited to 18m in a single direction and 45m for an alternative direction.

The floor plate layout is unknown so the allowance for travel distance should be based on 2/3rd which does not satisfy guidance recommendation as the 12m in a single direction is exceeded in the remote corners. When applying the allowable travel distance of 18m for a known layout it may also be exceeded but will likely have an alternative escape so not to form a dead-end/extended travel distance.

This will be subject to fitout and will be developed as the project continues.

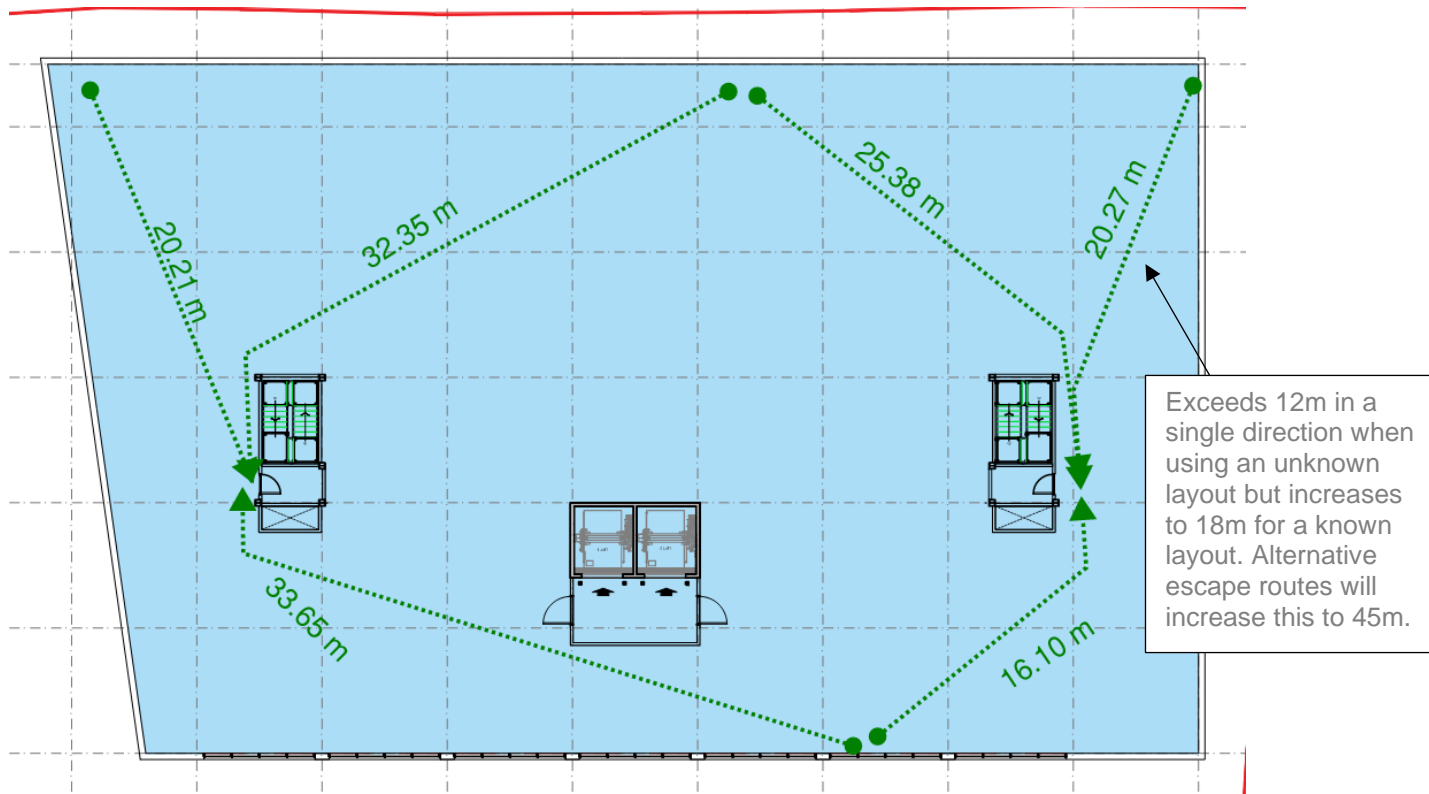


Figure 3: Travel Distance on First Floor

The building has a two stair of which are enclosed in fire resisting construction equal to 120 minutes with FD60S fire doors. This is due to the purpose group, having a floor more than 7.5m and a floor plate more than 900m², hence a firefighting core without the lifts.

Provision for Sprinkler Protection:

Sprinklers are not required since the building is less than 30m to the topmost storey and there is no sleeping risk. It has been assumed that the upper floor levels are not sprinkler protected unless enhanced by the client.

For the basement, should this be landlocked and adopt a mechanical smoke control system, this would require a supporting sprinkler system to BS EN 12845. This will be developed in due course but initial reviews show a naturally ventilated basement.

Provisions for Horizontal Means of Escape:

The doors and final exit doors are to achieve a minimum clear width of 750mm to comply with Part B and 850mm (reduced mobility) for Part M of the Approved Documents.

Doors that open inwards will limit the occupancy of such doors to 60 people and one exit will be discounted assuming fire or smoke has blocked it from use.

General

All corridors and escape routes should be at least 1,200mm wide.

All means of escape routes leading to a final exit should be kept clear and fire sterile at all times.

Provisions for Vertical Means of Escape:

The vertical means of escape is for three upper floor level, the stairs are to be enclosed and lead to a final exit. Both stairs are lobby protected on all floor levels, whilst one is discounted for horizontal capacity, there is no need to discount for the vertical capacity on account of the lobbies.

If the handrail protrudes less than 100mm into the stair, it can be ignored when calculating clear width.

The stair is to be a minimum of 1100mm clear width as per a firefighting stair.

The basement portion of the stair must be provided with a fire door so not to let smoke affect the occupants descending from the upper portion of stair leading to the final exit.

Provisions for Loadbearing Elements of Structure:

The loadbearing elements of structure are based on the topmost storey of the building. Since the building has a topmost storey of more than 5m but less than 11m with a Purpose Group 4 then this will require 60 minutes fire resistance.

This will be applied to all beams, columns, loadbearing walls and floors and any existing cracks made good.

Provisions of Refuge:

Under the current guidance where self-evacuation is not possible, then a refuge is required with two-way communications. The ground floor will allow for self-evacuation but the basement and upper floor will have refuge provisions only.

The evacuation lift operation will be designed and commissioned in accordance with BS EN 81-20, and BS EN 81-76. The lift dimensions as per BS EN 81-70 for at least a Type 2 lift.

Ongoing maintenance and management of the lift will be in line with BS EN 81-20, BS EN 81-76, and any other applicable codes of practice and manufacturer's recommendations.

The lifts are within the centre of the floor plan and serving all floors will need lobby protection to form a safe waiting space, two-way communications are recommended since there is no adjacent stair and a protected final exit.

The scheme will therefore comply with Policy D5 whilst also having refuge provisions to the stair cores.

Provisions for Compartmentation:

The following compartmentation is required, but not limited to:

- The cleaners stores are to be fire rated to at least 30 minutes fire resistance with doors equal to FD30S.
- The service risers breaching the ground floor compartment line are to be at least 60 minutes fire resisting with FD30S fire doors.
- The office accommodation will be independent from the rest of the building having 60 minutes fire resisting construction acting as a party wall to the other use.

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- The stairs being firefighting stairs are to be enclosed in 120 minutes fire resistance. The firefighting stair lobbies are to be 120 minutes but the wall between the stair and lobby can be reduced to 60 minutes with a FD30S fire door.
- The ground floor stair extensions are to equal 120 minutes fire resistance leading to the final exit.
- The basement lifts are to have a fire rated lobby of 30 minutes fire resistance with FD30S fire doors.
- The storage units are not fire rated but they are within a large warehouse space with sterile corridors, and the unit will be of non-combustible and limited combustibility materials.
- The basement is required to be a compartment floor equal to the elements of structure (i.e. 60 minutes) and the client wishes to enhance all other floors to be compartment floors with a maximum protected fire area of than 900m².
- The lift core is to have a protected shaft of 60 minutes as it breaches the compartment floor.

Provision of Construction Materials:

The building will be made from masonry walls, curtain walling (glazing) and externally clad with insulation,

All internal partitions will be constructed from lightweight metal/timber stud walls and gypsum plasterboard.

Any roof within 6m of a boundary will need to achieve at least a BRoof(t4) rating. Any roof more than 6m from a boundary will need to achieve at least a CRoof(t4) rating.

The external wall surface spread of flame requirements are:

For a storage facility (shop) with a classification of Purpose Group 4;

Where the boundary is more than 1m away, and the building height is less than 18m, there are no provisions to satisfy albeit not a medium of fire growth.

Where the boundary is less than 1m away, and the building height is less than 18m, the surface spread of flame is to satisfy Class B-s3, d2 or better.

Protection of Openings and Firestopping

Any ductwork passing through compartment/fire resistant walls will maintain integrity of those elements by either:

- Be contained within fire resisting construction.
- Containment by using fire resistant ductwork.
- Protection by installing fire dampers.

Ventilation ducts supplying or extracting air directly to or from a protected stairway should not serve any other areas. Ductwork serving other areas and passing through a stair enclosure should be fire rated or separated by a fire-resistant enclosure.

Ductwork serving both escape routes and accommodation will be provided with fire and smoke dampers (ES Rated) that are activated automatically on the activation of the building fire alarm and detection system. Dampers to be fully in accordance with Approved Document B.

Ductwork passing through fire rated walls separating fire compartments could be provided with fusible link fire dampers in accordance with Approved Document B. All dampers are to be mechanically fixed to the structure so they are self-supporting and be fitted within the fire line in accordance with the manufacturer's installation guidelines.

Any openings for pipes with a restricted diameter breaching compartment walls are required to be fire stopped (unless protected along its entire length with fire resisting material), keeping the opening as small as possible, in accordance with Approved Document B. All other pipes (of any diameter) should be provided with a proprietary seal, tested in accordance with BS EN 1366-3:2015.

Provisions for Cavities

The unseen spread of fire and smoke will be controlled by the provision of cavity barriers. Cavity barriers will be provided to close cavities and openings in the following locations:

- At the edges of cavities, including around openings such as doors and windows.

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- At the junction between an internal cavity wall and every compartment floor, compartment wall or other wall or door assembly forming a fire resisting barrier.

In addition to the above locations cavity barriers are also proposed in any newly created cavities (including ceiling voids and under floor service voids) where the cavity exceeds 20m (i.e. at 20m centres).

The cavity barriers will provide a 30 minute fire rating (i.e. 30 minutes integrity and 15 minutes insulation). Any penetrations through the cavity barriers will be either:

- Fitted with a proprietary sealing system.
- Pipes of limited diameters that are sealed with fire-stopping, or sealed with sleeving of non-combustible pipe material.
- Dampers are required to ductwork.

Provisions for Firefighting Intervention:

As the building requires a firefighting shaft, it will have fire main. Given the building, each core will have its own fire main (dry riser) and independent access to the building with 60m hose coverage from each outlet.

Proposed Smoke Control for the development are:

Head of Stair

The firefighting stair will require a 1m² free area AOV.

Firefighting Lobbies

The firefighting lobbies are required to be ventilated, and it is proposed to apply a 3m² smoke shaft with 1m² smoke inlet vents on each level at high level.

Basement

The basement has a floor area exceeding 200m² and 3m deep and so is required to have smoke clearance provision. Either a natural 2.5% allowance of the floor area is to be provided, with 50% split on two opposing sides and the rest around the perimeter.

Alternative, the design can apply a mechanical smoke clearance system to achieve no less than 10acph, minimising stagnant air and ensuring the recovery of the compartment but would require sprinklers to the basement storey.

2.8 Section 8: Issues which might affect the fire safety of the development

The following issues are noted as departures that require gaining the approving authorities' sign off.

1. The travel distance when using the 2/3rds rule can exceed 12m in a single direction but by having compartment floors and a known layout that will form corridors with two directions of escape, the allowable distance will improve alongside the building having a Category L2 fire detection system for early warning.

2.9 Section 9: Local development document policies relating to fire safety

The project is located within the Greater London Authority (GLA) region and therefore should support the design intent of the London Plan Sections D12. Since the application is for a minor development, Policy D12(A) has been addressed.

Policy D5(B5) in the London Plan is to support dignified escape for persons of reduced mobility. Under the current guidance a defined refuge point with two-way communications is acceptable having onsite management/assistance. The evacuation lift is a Greater London Authority requirement only and would require lobby protection on every floor with 2-way communication.

2.10 Section 10: Fire service site plan

The stairs will have a dry riser that will allow for hose coverage to the furthest part of the plan. It is noted that the stair core is designed as a firefighting shaft and so the hose coverage is limited to 65m. From review of the plans, this is satisfactory.

The fire tender will travel up to 20m in a dead-end condition before requiring a turning circle or hammerhead. Tracking is available within the site plan and fire main and hydrant locations are illustrated.

The dry riser inlet is to be within 18m of the parked location and visible; designed and commissioned in accordance with BS 9990.

Figure 4 below shows the hardstanding surface and building entry points.



Figure 4: Indicative Fire Tender Access Points

2.11 Section 11: Emergency road vehicle access

Firefighting access is key for successful firefighting and therefore the appropriate provisions must be made regarding site access.

Turning facilities should be provided in any dead-end access route that is more than 20m long. This can be by a hammerhead or turning circle. From inspection of the plans, the public roadways will allow access to the development followed by onsite driveways and satisfying the following table requirements for a pump appliance.

Table 2: Pump appliance access route requirements

<i>Appliance Type</i>	<i>Min. width of road between kerbs</i>	<i>Min. width of gateways</i>	<i>Min. turning circle between kerbs</i>	<i>Min. turning circle between walls</i>	<i>Min. clearance height</i>	<i>Min. carrying capacity</i>
<i>Pump</i>	3.7	3.1	16.8	19.2	3.7	12.5*
<i>High Reach</i>	3.7	3.1	26.0	29.0	4.0	17.0*

Note: * The minimum carrying capacity should be checked with the local fire brigade.

2.12 Section 12: Siting of fire appliances

Siting of the fire appliances will be to the front of the main entry point on the ground floor of the building. This has been illustrated in Figure 4.

2.13 Section 13: Suitability of water supply for the scale of development proposed

Existing public hydrant locations for the site are required to be checked and new hydrants provided if required to ensure hydrants are located within 90m of an entry point to the building and not more than 90m apart.

The water supplies will be via the public mains.

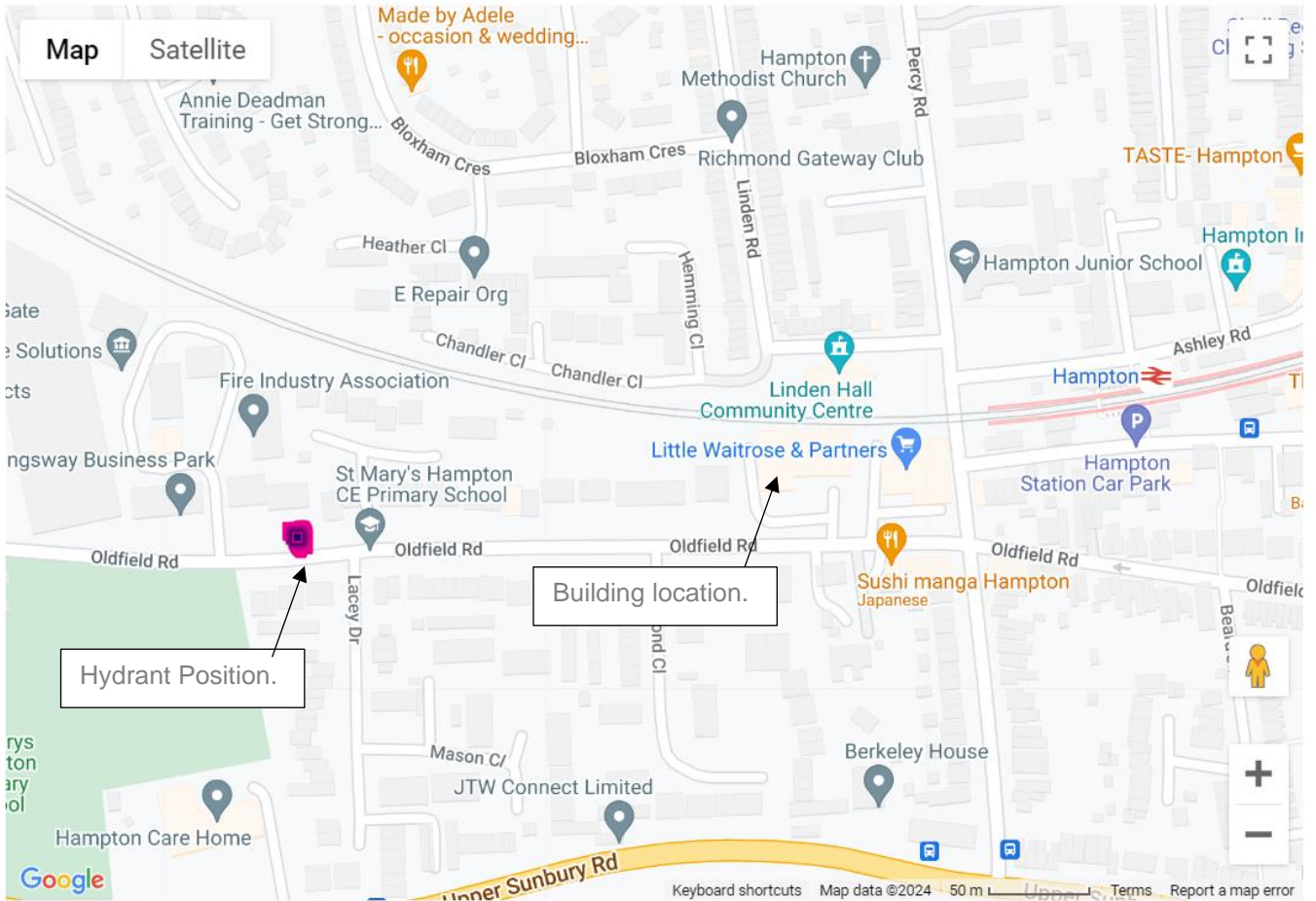


Figure 5: Fire Hydrant Position

2.14 Section 14: Fire service site plan

The design team will provide a site plan as stated in Section 12. See also Figure 4.

2.15 Section 15: Signature

The following overview has been produced by Daniel Taylor.

D. Taylor

2.16 Section 16: Date

The following fire safety statement is dated **18/03/2024**.

2.17 Conclusion

Having reviewed the documentation issued to Marshall Fire Ltd by Threesixty Architecture, we agree with the overall design proposals and conclusion presented in the drawings on the basis of having the proposed stairs have direct final exits and are lobby protected.

It is considered that the scheme meets Planning Gateway One and gives respect to the proposed changes to Fire Safety in Approved Document B, Vol2 2022 referring to sprinklers not being required, and the external wall design proposed albeit not relevant to this building.

The London Plan requests that the 'Highest Standards of Fire Safety' be considered and therefore property protection whilst not a Building Regulation requirement maybe considered to increase the life safety and fire safety of the building.

The evolution of the design development and the principles of the golden thread concept will form the basis of the developing Fire Strategy through further design, construction and operation of the building.

We would however reiterate that the findings of this report are limited to the information reviewed only and the installation, maintenance and ongoing maintenance are not our responsibility.

3. References

- i.** Approved Document B, Volume 2, 2019 + 2020 & 2022 amendments - Dwellings
- ii.** Fire Statement Guidance, Annex D Gov.co.uk
- iii.** BS 5839-1:2019, Fire detection and fire alarm systems for non-residential buildings. Code of practice for system design, installation, commissioning and maintenance.
- iv.** BS 9990:2015, Non automatic fire-fighting systems in buildings. Code of practice.
- v.** BS 476 series: 1987, Fire tests on building materials.
- vi.** BS EN 1366-3:2009, Fire resistance tests for service installations. Penetration seals.
- vii.** BR 187: 2014 External Fire Spread Building Separation and Boundary Distances.
- viii.** Gateway One Online Template.
- ix.** London Plan Policy D12 and D5.