

FIRE NOTE

Job Name: Rainbow Industrial Estate

Job No: 332410017

Note No: 1

Date: 10.01.22

Prepared By: JM

- 1.1.1 Stantec UK Limited are instructed by Troutbourne LLP ('The Applicant') to submit a planning application for revised proposals for development on land at the former Rainbow Industrial Estate, Trout Road, Yiewsley ('The Site').
- 1.1.2 The application is made for '*Retention of entrance gates and change of use for Use Class Sui Generis including container and skip storage; open and closed storage of building, scaffolding and lighting materials; storage of aggregate materials; vehicle storage and sales; and associated installation of portacabins, container stores, transportable silos and other structures for a period of 12 months (retrospective application).*'
- 1.1.3 The proposed use is sought for a temporary period of 12 months as a meanwhile use of the site whilst a mixed use, residential-led scheme for the Rainbow and Kirby Industrial sites is discussed with LBH during pre-application discussions and a formal planning application is submitted and determined.
- 1.1.4 The proposals follow the refusal of planning permission by LB Hillingdon (LBH) for a similar temporary use proposal on 19th August 2021 for '*Installation of two portacabins and retention of entrance gates and proposed change of use for Use Class Sui Generis including container storage; open and closed storage of building and scaffolding materials; storage of aggregate materials; vehicle storage and sales for a period of 36 months (part retrospective application)*' (LPA Ref: 38058/APP/2021/1327) ('The 2021 Refusal Application') and a subsequent Enforcement Notice issued by LBH on 3rd September 2021 (Ref: HS/ENF/019144). An appeal against the Enforcement Notice (PINS Ref: APP/R5510/C/21/3284869) was submitted on 14th October and is pending determination.
- 1.1.5 An Outline Fire Safety Fire Strategy (April 2021) prepared by Ashton Fire (shown at **Appendix A**) was submitted as part of the 2021 Refusal Application.
- 1.1.6 Fire Safety did not form part of reasons for refusal of the 2021 Refusal Application and it is considered that the key findings and recommendations are relevant to the current proposals as similar uses and operational hours are proposed. An updated Outline Fire Safety Strategy will however be undertaken during the course of the planning application to address additional uses and the revised site layout in the current proposals.
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FIRE NOTE

APPENDIX A - OUTLINE FIRE SAFETY STRATEGY (APRIL 2021)



Developed for:
Troutbourne LLP

Outline Fire Safety Strategy

Rainbow Industrial Estate

Trout Road
West Drayton
UB7 7XT

Issue 01
29 April 2021

Outline Fire Safety Strategy

Rainbow Industrial Estate
Trout Road

Project Reference: AF2230
Client: Troutbourne LLP

Issue	Date	Description	Author	Checked	Approval
01	28.04.2021	First issue for design team review	VDM	FH	FH
02	29.04.2021	Update in line with comments	VDM	FH	FH

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The checker has provided an internal review of the technical content of the report.
The approver confirms the report has received quality assurance in accordance with the principles of ISO 9001 and authorises external release of the document on behalf of Ashton Fire.

EXECUTIVE SUMMARY

Ashton Fire have been commissioned by Troutbourne LLP to provide fire safety consultancy services for the proposed Rainbow Industrial Estate, located in West Drayton.

This document details the outline fire safety strategy design as developed for the scheme, intended to assist the design team in progressing their designs to include suitable fire safety provisions for the project. This report should also be provided to the occupier and facilities management of the completed buildings, to assist with the ongoing management and maintenance of the facility.

The current project does not include the erection of any new buildings or alteration/ change of use of existing building, as defined by the Building Regulations. Therefore, based on the information provided, the Building Regulation requirements would not be applicable for the current proposal. This outline fire safety strategy includes recommendations based on generic fire safety guidance (BS 9999) as a benchmark. The strategy has not been developed to include specific measures for the protection of property or achieve compliance with Building Regulation.

The proposal consists of the change of use of an existing airport car park open to atmosphere, into an industrial estate for storage purposes. Under the new proposal, the site will consist of the two one-storey portacabins (existing buildings retained) and will be used for storage. The outline fire strategy has been developed for a site open to external air, and not for an enclosed building.

The site comprises land at the former Rainbow Industrial Estate located on Trout Road, West Drayton, UB7 7XT.

The site has two access points, one from Trout Road to the north west and the other off St Stephen's Road to the south. Vehicular and pedestrian access to the site is principally made from Trout Road with the secondary access from St Stephen's Road as an emergency exit only. Access to both access points is gated.

The existing two portcabins are not subject to any works under the current proposal and therefore not part of this outline fire strategy. For information purposes, the portcabins are used under the existing condition for site monitoring and security and staff welfare and this use is proposed to be kept under the current proposal.

The site would be used for the following:

- Up to thirty standard shipping containers;
- Open storage for vehicles, building materials, scaffolding, concrete aggregates, and marble stone. Vehicle storage will be located on the hardstanding area by the Trout Road entrance and the aggregate storage will be located towards the western/ Grand Union canal boundary. All other uses will be set elsewhere in the site but generally located around the periphery of the site;
- Open steel racks will be used for proposed open storage.

The site is not required to be provided with a fire detection and alarm system. A simultaneous evacuation regime shall be implemented on the site, where all occupants shall evacuate immediately upon signs of a fire. All means of escape on the site are open to atmosphere and are not expected to be enclosed. Two exits are available for escape from the site. The exits are located at the remote ends of the site and lead directly into a public street.

The fire and rescue service (FRS) access will be provided from Trout Road. Access to within 45m of any point on the site should be provided for the FRS vehicle. Hydrants should be located within 90m of entry points to the site.

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1. INTRODUCTION

1.1 General

- 1.1.1 Ashton Fire have been commissioned by Troutbourne LLP to provide fire safety consultancy services for the proposed Rainbow Industrial Estate, located on Trout Road, West Drayton, UB7 7XT. This report documents the proposed fire strategy for the development to date.
- 1.1.2 Ashton Fire has been requested to produce an outline fire strategy report in order to support the planning application and address the requirements of the London Plan, Policy D12. This report provides strategic advice based on generic fire safety guidance and fire engineering judgement.
- 1.1.3 This strategy report may be used to support the end user of the site in the development of any fire safety management procedures and plans considered necessary to fulfil their responsibilities under the Regulatory Reform (Fire Safety) Order 2005 (FSO) and any other applicable fire safety legislation.
- 1.1.4 This document is not intended to portray detailed design information for fire safety systems or construction specifications. As a strategic document supporting and informing the wider design, it should be read in conjunction with the wider project design documentation.

1.2 Legislation and basis of design

- 1.2.1 Fire safety in buildings is governed by two pieces of legislation in the UK. The Building Regulations 2010, Part B, Fire Safety applies to building design, whilst for fire safety management in buildings, compliance with the Regulatory Reform (Fire Safety) Order 2005 (FSO) is required.
- 1.2.2 In accordance with Section 2 of the Building Regulation, a building is defined as:
“building” means any permanent or temporary building but not any other kind of structure or erection, and a reference to a building includes a reference to part of a building;
- 1.2.3 The current project does not include the erection of any new buildings or alteration/ change of use of existing buildings, as defined by the Building Regulations. Therefore, based on the information provided, the Building Regulation requirements would not be applicable for the current project.
- 1.2.4 The Client should confirm if any ‘building work’ as defined by Section 3 of the Building Regulation will be part of the proposed works on site as this will affect the current fire strategy and fire safety provisions should be re-assessed in accordance with the level of fire safety expected under the Building Regulations 2010 (as amended).
- 1.2.5 This outline fire safety strategy has been developed using BS 9999 [1] as a benchmark. This outline fire strategy includes strategic advice/recommendations in order to achieve a minimum level of life safety for the site. The current strategy has not been specifically developed to address compliance with Building Regulation, property protection or insurer’s requirements.

1.3 The London Plan (draft) – Policy D12

- 1.3.1 The draft Policy D12 states:

In the interest of fire safety and to ensure the safety of all building users, all developments proposals must achieve the highest standards of fire safety and ensure that they:

- *Identify suitably positioned unobstructed outside space:*
 - *For fire appliances to be positioned on;*
 - *Appropriate for use as an evacuation assembly point;*

- *Are designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures;*
- *Are constructed in an appropriate way to minimise the risk of fire spread;*
- *Provide suitable and convenient means of escape, and associated evacuation strategy for all building users;*
- *Develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in;*
- *Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development.*

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

- *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 position of equipment, firefighting lifts, stair and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these;*
- *How provision will be made with the curtilage of the site to enable fire appliances to gain access to the building;*
- *Ensuring that any potential future modification to the building will take into account and not compromise the base build fire safety/ protection measures.*

- 1.3.2 This document has been prepared in line with the above items and is deemed suitable to be adopted as the Fire Statement that is referenced in Policy D12. However, as this document is intended to serve as strategic guidance, detailed design information such as the methods of construction or the selection of specific products will not be included within this document and can be obtained from other members of the design team.
- 1.3.3 In accordance with Policy D5 (Inclusive Design) of the London Plan, safe and dignified emergency evacuation is required to be incorporated into the building for all building users.
- 1.3.4 In accordance with Clause 3.12.9 of Policy D12 of the London Fire Plan, Fire Statements are to be produced by qualified engineers with relevant experience in fire safety such as a chartered engineer or suitably qualified and competent professionals with demonstrable experience to address the complexity of the design being proposed. The relevant experience of the authors and authorisers of this document are displayed in the table below.

Table 1 - Qualifications and relevant experience

Name	Role	Academic qualifications	Membership of professional bodies	Relevant experience
Daniel Mois	Fire Engineer	BSc in Civil Engineering MSc in Civil Engineering	Associate Member with the Institute of Fire Engineers (AIFireE)	2 years in the design of fire strategies for a range of buildings
Felipe Herrera	Associate Director	BSc in Architectural Engineering MSc in Architectural Engineering	Chartered Engineer and Member with the Institution of Fire Engineers (CEng MIFireE)	14 years of experience developing fire strategies in buildings and tunnels

- 1.3.5 As this document is a performance-based strategic document which is used to inform other members of the design team. As such, when reviewing the draft Policy D12 requirements, this document should be read in line with other supporting documentation produced by other members of the design team.

1.4 Reference information

- 1.4.1 This strategy is based on information provided by the design team to Ashton Fire as listed in Table 2. Additional contradictory information or subsequent design variations to the information supplied may render the findings and recommendations of this report invalid.
- 1.4.2 The figures used within this report are indicative and used to express the principles of the fire safety strategy. They may not be representative of final arrangement. The principles contained within this report are required to be maintained through any design amendments during the life of the building.

Table 2 - Project documentation referenced.

Description	Reference	Revision	Author
Planning, Design and Access Statement	35321	STANTEC	A
Proposed Site Plan	-	Promap	-

2. PROJECT OVERVIEW

2.1 Building description

- 2.1.1 The development proposal consists of the change of use of an existing airport car park open to atmosphere, into an industrial estate for storage purposes. The site is located at ground level and is open to atmosphere.
- 2.1.2 The proposal consists of the retention of two portacabins and entrance gates onto Trout Road and use of the site for storage uses including shipping containers; storage of building materials, scaffolding and aggregate materials; vehicle storage and sales.
- 2.1.3 The site comprises circa 12,000m² of land at the former Rainbow Industrial Estate located on Trout Road, West Drayton, UB7 7XT.
- 2.1.4 The site has two access points, one from Trout Road to the north west and the other off St Stephen's Road to the south. Vehicular and pedestrian access to the site is principally made from Trout Road with the secondary access from St Stephen's Road as an emergency exit only. Access to both access points is gated.
- 2.1.5 The existing two portcabins are not subject to any works under the current proposal and therefore not part of this outline fire strategy. For information purposes, the portcabins are used under the existing condition for site monitoring and security and staff welfare and this use is proposed to be kept under current proposal.
- 2.1.6 The site would be used for the following:
- Up to thirty shipping containers;
 - Open storage for vehicles, building materials, scaffolding, concrete aggregates, and marble stone. Vehicle storage will be located on the hardstanding area by the Trout Road entrance and the aggregate storage will be located towards the western/ Grand Union canal boundary. All other uses will be set elsewhere in the site but generally located around the periphery of the site;
 - Open steel racks will be used for proposed open storage.
- 2.1.7 It is understood that the use of the site will be as described in Section 3.3 of the *Planning, Design and Access Statement* provided (referenced in Table 2) and no explosive, oxidizing, extremely flammable or highly flammable materials or large quantities of materials with an ultra-fast fire growth rate, e.g. large piles of tyres, would be stored on site.
- 2.1.8 The fire safety for occupants within the shipping containers is not part of the scope of this report. Additionally, the shipping containers will not be occupied.
- 2.1.9 Access to the site will be permitted for tenants and staff only. No public access will be permitted; however visitor access is permitted with a prior appointment. The site is illustrated in Figure 1 below.

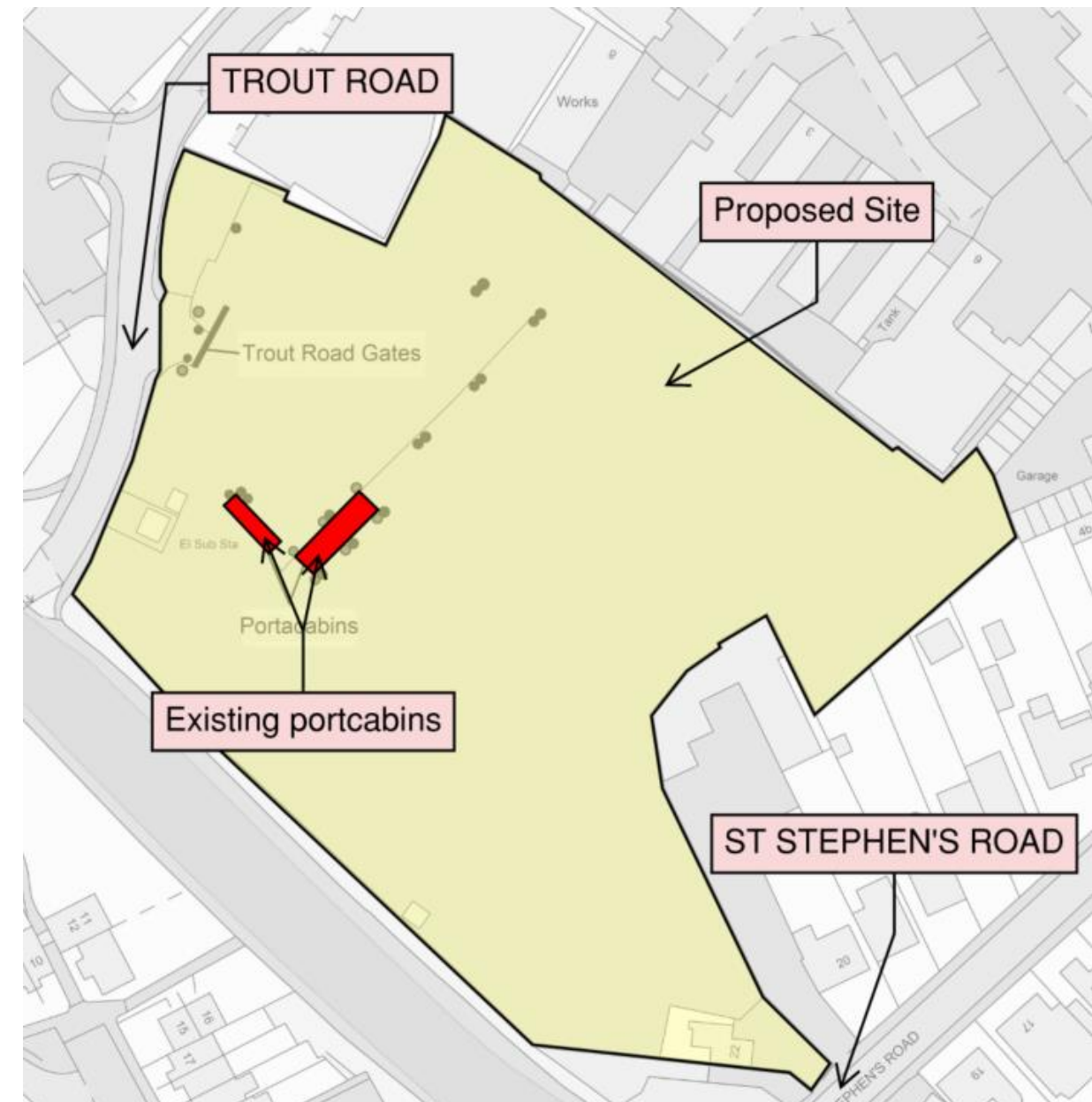


Figure 1 - Rainbow Industrial Estate

2.2 Risk profile

- 2.2.1 In accordance with BS 9999, various fire safety provisions are determined based on the risk profile of the buildings. The risk profile is based on the occupancy characteristics and the fire growth rate.
- 2.2.2 Access to the site is available only for staff and tenants. Members of the public access is not permitted, with potential visitors or truck drivers only transiently occupying the premises. As such, the entire site will be assigned an occupancy characteristic of 'A - Awake and Familiar).
- 2.2.3 The main purpose of the site is for storage. Based on information provided, open storage will be provided for cars, construction materials in the form of bulk storage and racked storage provided via

steel racks. In accordance with BS 9999 recommendations, premises used for storage should be assigned with a fire growth rate of '3 – Fast'.

- 2.2.4 It should be noted that high-racked storage facilities are classified by BS 9999 as having a fire growth rate of '4 – Ultra Fast'. This is considered applicable to the situations where the racks store different kinds of combustible materials in a vertical enclosed compartment.
- 2.2.5 However, this is not the case for the racking layout on the site. Based on the information provided, a mixed on combustible and non-combustible materials would be stored in racks open to atmosphere (building materials, aggregates, scaffolding), which are considered to have a fire growth rate varying from '1 – Slow' to '3 – Fast'. Therefore, given the current proposal a fire growth rate of '3 – Fast' is considered a reasonable approach. It is expected that the majority of the items would be non-combustible materials that do not degrade in the open air, this means that cellulosic and thermoplastic items are not expected to be stored in large quantities.
- 2.2.6 Notwithstanding the information from above, storage of materials classified as explosive, oxidizing, extremely flammable or highly flammable are not covered by this outline fire strategy and are not included within the guidance contained in BS 9999. Explosive, oxidizing, extremely flammable or highly flammable materials are covered under the Chemicals (Hazard Information and Packing for Supply) Regulation 2002.
- 2.2.7 Therefore, management procedure will need to ensure that aforementioned materials which are subject to Chemicals (Hazard Information and Packing for Supply) Regulation 2002 are not stored on the site.
- 2.2.8 Based on the above, the overall risk profile for the relevant demise is A3.

2.3 Occupancy

- 2.3.1 From the information provided, it is understood that when fully let, the site will have an estimated staff occupancy of 20-30 people, however, as the space will mainly be used for storage purposes, it is not expected that all staff will be on site at all times.

3. FIRE SAFETY SYSTEMS

3.1 Fire detection and alarm systems

- 3.1.1 In general, it is appropriate to install some form of fire detection and fire detection and alarm system in virtually all buildings. However, the proposed development does not include any new buildings/ structures and is formed of a site completely open to air.
- 3.1.2 Therefore, it is considered reasonable to omit the fire detection and alarm system given that any detection system would not work properly and would not be able to detect fires in a reliable way.
- 3.1.3 However, to ensure that the people on site are alerted in an early stage of a fire being detected, it is recommended for the staff to be equipped with communication devices allowing them to alert the rest of the occupants on site.
- 3.1.4 The site should also be equipped with alarm devices to be actioned in a manual way; i.e. by members of staff. This communications and notifications system should be designed in more detail in the following design stages.

3.2 Automatic suppression systems

- 3.2.1 As per BS 9999 recommendations, provision of an automatic suppression system is required in the case of buildings with a height over 30m. Therefore, for the current proposal, provision of a sprinkler system is not required.

3.3 Smoke ventilation systems

- 3.3.1 The site is fully open to air; thus the potential of smoke logging is absent. Therefore, smoke ventilation systems are not required.

3.4 Emergency lighting

- 3.4.1 Emergency lighting should be installed to provide temporary illumination in the event of failure of the primary power supplies to the normal lighting system. As part of the emergency lighting system, escape lighting should be provided to ensure the escape routes are illuminated at all material times. Adequate artificial lighting should be provided in all common escape routes and should be of a sufficient standard to enable persons to see the escape routes.
- 3.4.2 Emergency lighting should be installed in accordance with the recommendations of BS 5266 [2], BS EN 1838 [3] and BS EN 60598-2-22 [4].
- 3.4.3 Emergency lighting should illuminate all occupied areas, common evacuation routes (internal and external as necessary) and essential areas including plant areas. It should also illuminate a safe exit route including fire exits, fire alarm call points, changes in level or direction and fire-fighting equipment.
- 3.4.4 Primary and emergency lighting should be provided for any external escape routes that will not be lit by surrounding street lighting.

3.5 Fire safety signage

- 3.5.1 Fire safety signs should be 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 should be fitted with appropriate fire safety signage to comply with The Health and Safety (Signs and Signals)

Regulations 1996, i.e. signage to be specified in according to BS ISO 3864-1 [5], BS 5499-4 [6] and BS 5499-10 [7].

3.6 Emergency (life-safety) power supply

- 3.6.1 All life-safety systems should be provided with robust power supplies in accordance with BS 8519 [8].
- 3.6.2 The following fire safety systems should comply with their respective British Standards regarding secondary power supplies:
 - Emergency lighting and signage.
- 3.6.3 There must be minimal delay in change over if the main power fails and it must occur automatically.

4. MEANS OF WARNING AND ESCAPE

4.1 Evacuation philosophy

- 4.1.1 The development should operate a simultaneous evacuation philosophy.

4.2 Means of escape

- 4.2.1 In accordance with the recommendations contained within Annex F of BS 9999, the maximum permitted travel distance is restricted to 250m for two-way travel and 60m for one-way travel, considering that the escape routes are in open air and substantially unrestricted.
- 4.2.2 Based on the estimated occupancy on site, escape width should achieve the following minimum clear widths:
- Doors – minimum 800mm, increased to 850mm where unassisted wheelchair users are expected;
 - Corridor and escape routes – minimum 1200mm; and
 - Stairs – minimum 1000mm for downward travel (if applicable).
- 4.2.3 The site will be provided with two exits, one leading into Trout Road and emergency exit leading into St Stephen's Road.
- 4.2.4 Doors hung to swing against the flow of escaping occupants should serve a maximum of 60 people, irrespective of the available clear exit width.
- 4.2.5 Only exits provided with suitable door fastening hardware may be included in escape capacity calculations. The design and management of security within the buildings must be co-ordinated with the means of escape to ensure escape routes will be available during all periods of occupation.

4.3 Escape away from the site

- 4.3.1 Travel beyond the final exits must be away from the site, towards a place of safety.
- 4.3.2 Assembly areas should be located such that they are located remotely from access routes for the fire and rescue service (FRS) and evacuation from the buildings can be achieved without exposure to a hazard from a building fire.
- 4.3.3 The selection of appropriate assembly zones outside the buildings is an operator-led exercise. Landscape design must ensure safe escape to and from the relevant locations, i.e. routes should be usable by all occupants, e.g. a need to cross grass may not be appropriate for all mobility aids.

4.4 Means of escape for disabled persons

- 4.4.1 It is envisaged that most occupants will be able to escape to a place away from danger without assistance from trained fire wardens. However, there may be a certain proportion of building occupants, such as those who are non-ambulant disabled (e.g. wheelchair users), who will not be able to negotiate stairs from office floor, or at ground floor where there is a change in level without assistance. In these instances, an environment should be provided in which their safety can be assured for a given period of time (e.g. refuge areas) prior to being assisted to ultimate safety outside the building.
- 4.4.2 It should be noted that under the Regulatory Reform (Fire Safety) Order 2005, it is the duty of the responsible person along with their appointed safety assistants to assist everyone to a place of ultimate safety outside the buildings in the event of an emergency.

- 4.4.3 Any disabled member of staff should have a Personal Emergency Evacuation Plan (PEEP) and the procedures should be practised. A Generic Emergency Evacuation Plan (GEEP) will need to be written for members of the public who would need assistance to escape. Further information can be found in BS 8300-2 and the DCLG Publication "Fire Safety Risk Assessment Supplementary Guide – Means of Escape for Disabled People".

5. PASSIVE FIRE PROTECTION

5.1 General

- 5.1.1 There are no new structures/ buildings proposed on site. Therefore, recommendations for passive fire protection measures would not be applicable.

6. EXTERNAL FIRE SPREAD

6.1 General

- 6.1.1 Recommendations provided by BS 9999 for external fire spread are considering life safety issues only and does not address property protection.
- 6.1.2 There are no new structures/ buildings proposed on site. Therefore, external fire spread between buildings is not considered an issue.
- 6.1.3 In accordance with BS 99999, for buildings within 1m of site boundary, flame spread is the main mechanism for fire spread. Beyond this distance, the mechanism of fire spread is assumed to be radiation.
- 6.1.4 Based on the above, all goods stored on site shall be located to a distance greater than 1m from the site boundary.
- 6.1.5 The second mechanism of fire spread is considered to be radiation. Radiation is the main mechanism for fire spread when distance between adjacent buildings is more than 1m. Using the calculation process outlined in BR 187 'External fire spread: building separation and boundary distances' an analysis of the distance between the stored goods and the adjacent relevant boundaries should be carried out.
- 6.1.6 As recommended in BR 187, a 168 kW/m² radiation should be applied in the calculation of external fire spread. In accordance with BR 187, the height and width of the enclosing rectangle are measured to the nearest compartment wall/floor. Therefore, the worst-case scenario situation (corresponding to the largest storage volume) shall be assessed for each storage location considering the relevant height and width of the surface emitting radiation towards the relevant boundary.
- 6.1.7 The relevant boundaries are the reference point at which the potential for fire spread, being:
- the site boundary;
 - a notional boundary created on the centreline of an adjacent carriage way, canal; or
 - a notional boundary created midway between this building and the nearest adjacent building.
- 6.1.8 A more detailed calculation should be carried out at the next stage of the project considering the size and geometry of the proposed storage location and the distance to the relevant boundaries.
- 6.1.9 However, for information purposes the Table 3 below presents the required distance to a potentially relevant boundary assuming that the perimeter of the site is 100% unprotected, i.e. not protected by fire resisting construction. It is expected that travelling/ moving fire could create a large radiation front/ width varying from 5m up to 30m, as a function of the storage layout.

Table 3 - Required distance from the site boundary for 100% unprotected area allowance.

Height [m]	3m	4m	5m	6m
Width [m]	Required distance [m]			
1m	1.67	1.89	2.07	2.23
2m	2.41	2.77	3.07	3.34
3m	2.97	3.42	3.81	4.15
4m	3.42	3.96	4.42	4.83
5m	3.81	4.42	4.94	5.41
6m	4.15	4.83	5.41	5.93
7m	4.46	5.20	5.84	6.41
8m	4.74	5.54	6.23	6.84
9m	5.00	5.85	6.59	7.24
10m	5.24	6.14	6.92	7.62
20m	6.94	8.29	9.45	10.48
30m	7.95	9.66	11.13	12.43

7. ACCESS AND FACILITIES FOR THE FIRE AND RESCUE SERVICE

7.1 Means of notifying the fire and rescue service

- 7.1.1 In the event of fire, the fire and rescue service (FRS) should be notified by a member of staff or the general public.

7.2 Vehicle access to and around the site

- 7.2.1 FRS vehicle access to premises shall be provided from Trout Road. Access to site is via the gates which shall be opened by a member of staff if present on site or could be remotely opened by calling the intercom. The gates should fail-safe open in the event of a power failure.
- 7.2.2 Fire Service access to the existing two portacabins is not changing and therefore considered acceptable.
- 7.2.3 Internal access around the site should be developed such that every point on site shall be within 45m distance from the FRS vehicle parking position, distance measured on a route suitable for laying hose.
- 7.2.4 The internal access paths for FRS vehicle parking position should be developed considering the following provisions:
- Fire and rescue service appliances should not reverse more than 20m, otherwise, suitable turning facilities shall be provided.
 - Vehicle access route should comply with the minimum specification indicated in Table 4 for a pump-type appliance.
- 7.2.5 Fire and Rescue service appliances are not standardised, therefore vehicle access provision should be discussed and agreed with the local fire and rescue service to ensure their vehicle complies with the parameter listed in Table 4.

Table 4 - Typical pump-type firefighting appliance access requirements

Minimum access route specification	Dimension
Width between kerbs	3.7 m
Width between gateways	3.1 m
Turning circle between kerbs	16.8 m
Turning circle between walls	19.2 m
Clearance height	3.7 m
Carrying capacity	12.5 tonnes (TBC by local fire service)

7.3 Access into and through the buildings

- 7.3.1 There are no new buildings proposed on site.
- 7.3.2 The existing arrangement for the two portcabins are unchanged, therefore considered acceptable. However, any point within the two portcabins shall be within 45m distance from FRS vehicle parking position, measured on a route suitable for laying hose. Any new fire truck access route shall consider this requirement.

7.4 Water supplies

- 7.4.1 Hydrants will be required in the vicinity of the site to support firefighting operations. The location of active fire hydrants local to the site should be investigated on site and confirmed with the local fire service.
- 7.4.2 As per BS 9999 recommendations, hydrants should be at least 90m to the entry point, on a route suitable for laying hose, otherwise new hydrant should be provided in accordance with the required distance.
- 7.4.3 Hydrants should be designed and installed in accordance with BS 9990 [9] and should be capable of achieving a flow rate of 1,500 litres/minute. In addition to this, all hydrants should have signage in accordance with BS 3251.

7.5 First-aid firefighting

- 7.5.1 First-aid firefighting provisions should be assessed and provided as part of the fire risk assessment for the building, including consideration for the day-to-day management of these provisions. Suitable first-aid firefighting provisions can help with the extinguishment of small fires, preventing these from growing into significant fires.
- 7.5.2 In general, fire points should be provided within general areas of the building and within specific areas presenting a significant fire ignition risk, such as the plant and kitchen areas. The fire risk assessment that should be undertaken upon occupation of the building assist with the placement of suitable fire extinguishers.
- 7.5.3 The type and size of extinguisher(s) at each fire point will be chosen in accordance with the guidance given in BS 5306 [10], as summarised by Table 5 and the classification of fire fuel hazards summarised as follows:
- Class A - fires involving solid materials, usually of an organic nature (general hazards);
 - Class B - fires involving liquid or liquefiable solids (such as liquid fuels, lubricants, paints, etc.);
 - Class C - fires involving gases;
 - Class D - fire involving metals; and
 - Class F - fires involving cooking media (vegetable or animal oils or fats).
- 7.5.4 For general areas, each floor should have a fire extinguisher at a rate of approximately 1x fire point for every 200 m² of floor area. These would generally be recommended to be located adjacent to storey exits. Fire points are recommended to consist of either a 9L water and 2L CO₂ extinguisher, or a single 6L AFFF Foam extinguisher where covering electrical devices which would not exceed the 35 kV (dielectric test) limitation.
- 7.5.5 The plant rooms should be provided with extinguishers suitable for their risks. In general, it would be expected that CO₂ extinguishers would be provided for electrical risks, where this may be for higher voltage equipment. Powder extinguishers should not be used within these confined spaces, where breathing in of the powder is harmful to the health of lungs.
- 7.5.6 Wet chemical extinguishers are typically provided for kitchens having a risk of oil-based fires. Fire blankets should also be provided for extinguishing cooking fires within kitchen areas.

Table 5 – Fire extinguisher types and application guidance

Medium	Colour code	Application	Do NOT use for
Water	White	Class A fires	Liquid, electrical, metal or cooking fires
Powder	Blue	Class A, B or C fires	Metal or cooking fires
Foam	Cream	Class A or B fires	Electrical*, metal or cooking fires
CO ₂	Black	Class B fires	Metal or cooking fires
Wet chemical	Yellow	Class A or F fires	Liquid, electrical or metal fires
* AFFF Foam extinguishers may be used for electrical fires up to 35 kV (dielectric test) and where operated from a distance of at least 1 m.			

8. FIRE SAFETY MANAGEMENT

8.1 Overview

- 8.1.1 Management procedures have a pivotal role to play in fire prevention, control and evacuation of occupants should a fire incident occur. This management is the responsibility of the responsible person, supported by the building fire safety design and handover of fire safety information. In all other areas, the Regulatory Reform (Fire Safety) Order 2005 (FSO) places legal obligations on management.
- 8.1.2 This section is intended to introduce the FSO, its obligations and provide initial guidance in fulfilling these duties. It is the responsibility of the landlords/ building management to ensure that all fire safety systems are tested and maintained to ensure their continuous effectiveness. Building management need to be aware of all fire safety features provided and their purpose.
- 8.1.3 It is important that management are aware of their responsibilities detailed in this document and agree that they are sufficiently capable of adequately performing them. Effective arrangements should be put in place to manage all aspects of fire safety in the premises and the details of those arrangements need to be recorded, e.g. within a fire safety management plan.
- 8.1.4 In accordance with BS 9999:2017, there are two management system levels. One of which should be implemented and are summarised in Table 6.

Table 6 – Management levels

Level	Management	Robustness	Minimum assurance	Conformity
1	Enhanced	Best Practice	High level of assurance	Conformity with a management level such as PAS 7
2	Adequate	Good Practice	Adequate level of assurance	Conformity with requirements of legislation

8.2 Regulatory Reform (Fire Safety) Order 2005

- 8.2.1 The Fire Safety Order came into effect in October 2006 and replaced over 70 pieces of fire safety law. The Order applies to all non-domestic premises in England and Wales, including the common parts of blocks of flats or houses in multiple occupation. The Order removed the legal status of fire certificates, which are no longer enforceable by the Fire Authorities. The 'responsible person' has a duty to make the premises safe and must undertake regular fire risk assessments. It is the responsible person who will be held accountable under the new legislation for any breaches in fire safety. It is expected that the buildings are managed and maintained to a standard in accordance with the expectations of the FSO.
- 8.2.2 In workplaces, the responsible person is the employer. In other cases, the owner or person in control of the premises is the responsible person, e.g. building management company.
- 8.2.3 Under the Order, the 'responsible person' must carry out a fire safety risk assessment and implement and maintain a fire management plan. The assessment should be kept under regular review and reassessed if the use of the buildings has been varied or a material alteration has been made. The significant findings must then be recorded, along with the measures taken to address the risks identified. A competent person should carry out the fire risk assessment.

8.3 Management responsibilities in support of the fire strategy

- 8.3.1 Management of fire safety must be integrated with all other management systems. If this management is lacking, then there is a danger that all the other areas such as security measures and alarm systems

will be ineffective. To ensure there is no doubt as to where the responsibility for fire safety rests, and to enable consistency of approach, it is important that each establishment appoints a designated Fire Safety Manager. It may be possible to appoint a professional to take on this role but that will depend on the size of the premises, costs, etc.

- 8.3.2 The appointed person 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 include:
- management to minimise the incidence of fire; e.g. good housekeeping and security;
 - producing an Emergency Fire Plan;
 - being aware of all of the fire safety features provided and their purpose;
 - being aware of any particular risks on the premises (e.g. issues relating to hot work);
 - being aware of their responsibilities towards disabled people;
 - attendance at the premises when members of the public are present, or the buildings are occupied. It is acceptable for a competent person other than the fire safety manager to be in attendance, provided that this person has been delegated in writing and that cover is not interrupted;
 - liaising with, and where necessary seek the advice of, the fire authority, the licensing authority and other relevant enforcing authorities;
 - having powers to deal with individuals who sabotage or tamper with safety systems, who ignore any smoking policy or who block exits;
 - liaising with other fire safety managers in a multi-occupancy arrangement;
 - ensuring that tenants, concessionaires and caretakers are appropriately briefed;
 - ensuring that appropriate communication systems are in place to deal with any fire incident;
 - checking the adequacy of fire-fighting equipment and ensuring its regular maintenance;
 - ensuring fire escape routes and fire exits are unobstructed and doors operate correctly;
 - ensuring that fire detection and protection systems are maintained, tested, with records kept; and
 - ensuring any close down procedures are followed.
- 8.3.3 Good housekeeping is to ensure that the effectiveness of the fire safety provisions are not adversely affected, including the adequate provision for the disposal of waste and / or rubbish. Maintenance procedures are to be enacted so that equipment will be able to operate effectively. Maintenance staff will be trained in the importance of the fire safety systems and planned maintenance.
- 8.3.4 Suitable assembly points outside the buildings should be identified. These should be remote from the access routes used by the FRS.

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