

D12(A) Fire Statement



Site: 20-24 Tolworth Broadway

Address: 20-24 Tolworth Broadway, London KT6 7HL

Client: Jessona Investment Limited

Date	Status	Version	Subject	Author
20/02/2024	Final	1.0	Fire Statement	Gary Ferrand MA EngTech FIFireE MIFSM Principal Fire Consultant

Table of Contents

Section 1 – Executive Summary	3
1.1 Name of Contact.....	3
1.2 Documents Reviewed	3
Section 2 – Property Description.....	5
2.1 Description.....	5
2.2 Location Plan	6
Section 3 – Fire Statement	7
Section 4 – Details of the Author	17

Section 1 – Executive Summary

This document relates to the proposed development at 20-24 Tolworth Broadway. The existing vacant site will be developed to provide a part-three and part-four storey building with two commercial units at the ground floor. These units will have a gross internal area of 217m² and 244m² over the ground floor and the residential building will comprise nine self-contained apartments each served by a single common stair.

The development will be accessed from Tolworth Broadway or Burwood Close.

This proposed site will not be classed as a major development. The London Borough of Kingston-upon-Thames has requested that the new proposal should demonstrate how it considers;

- the building’s construction, methods, products and materials used;
- the means of escape for all building users including those who are disabled or who require level access together with the associated management plan;
- the access for fire service personnel and equipment;
- the ongoing maintenance and monitoring and how provision will be made within the site to enable fire appliances to gain access to the building.

This document is not a design fire strategy and is intended only to summarise the standard of Fire Safety provisions stated above.

This document will aim to demonstrate that the highest standards of Fire Safety will be expected, and will demonstrate that the Council’s expectations have been achieved in support of the planning application.

1.1 Name of Contact

Bethany Firkins – Senior Planner – Centro Planning Consultancy.

1.2 Documents Reviewed

The following documents were provided by the named contact in support of this Fire Statement;

Document description	Date	Provided by
Location Plan (5062/PA/01)	13/02/2024	GML Architects
Existing Site Plan (5062/PA/02)	13/02/2024	GML Architects
Existing Ground Floor Plan (5062/PA/03.0)	13/02/2024	GML Architects
Existing First Floor Plan (5062/PA/03.1)	13/02/2024	GML Architects
Existing Second Floor Plan (5062/PA/03.2)	13/02/2024	GML Architects
Existing Elevations (5062/PA/04)	13/02/2024	GML Architects

Existing Elevations (5062/PA/05)	13/02/2024	GML Architects
Existing Site Photos (5062/PA/06)	13/02/2024	GML Architects
Existing Site Photos (5062/PA/07)	13/02/2024	GML Architects
Proposed Site Plan (5062/PA/09)	13/02/2024	GML Architects
Proposed Ground Floor Plan (5062/PA/10)	13/02/2024	GML Architects
Proposed First Floor Plan (5062/PA/11)	13/02/2024	GML Architects
Proposed Second Floor Plan (5062/PA/12)	13/02/2024	GML Architects
Proposed Third Floor Plan (5062/PA/13)	13/02/2024	GML Architects
Proposed Roof Plan (5062/PA/14)	13/02/2024	GML Architects
Proposed Elevations (5062/PA/15)	13/02/2024	GML Architects
Proposed Elevations (5062/PA/16)	13/02/2024	GML Architects
Proposed Section (5062/PA/17)	13/02/2024	GML Architects
Proposed Combined Plans (5062/PA/18)	13/02/2024	GML Architects
Proposed Materials (5062/PA/40)	13/02/2024	GML Architects

Section 2 – Property Description

2.1 Description

The development will involve the construction of a mixed-use building with retail and residential properties situated over four floors.

The finished floor height of the uppermost habitable floor (excluding the roof) will measure 10.0m from the lowest reference point on the ground floor.

The proposal will result in the construction of all floors for the purpose of creating two ground floor retail units and two single stairways, one serving the front (A – Tolworth Broadway) and one serving the rear (B – Burwood Close) block. The application will result in the following accommodation;

Floor	Room Use	No. of beds/persons	Area (m ²)
Ground	Retail Unit	-	217
Ground	Retail Unit	-	244
Ground	Stairway enclosure (from Tolworth Broadway)	-	-
Ground	Main lobby and stairway enclosure (rear)	-	-
Ground	Cycle store (17 bikes)	-	-
Ground	Refuse / Recycling store	-	-
First	Communal courtyard	-	-
First	Stairway enclosure (from Tolworth Broadway)	-	-
First	Stairway enclosure (Block A)	-	-
First	Unit 01	1B/2P	31
First	Unit 01 amenity	-	10
First	Unit 02	2B/4P	38
First	Unit 02 amenity	-	12
First	Stairway enclosure (Block B)	-	-
First	Unit 03	1B/2P	57
First	Unit 03 amenity	-	7
First	Unit 04	3B/4P	81
First	Unit 04 amenity	-	7
Second	Stairway enclosure (Block A)	-	-
Second	Unit 05	1B/2P	52
Second	Unit 05 amenity	-	5
Second	Unit 06	3B/5P	80
Second	Unit 06 amenity	-	7
Second	Stairway enclosure (Block B)	-	-
Second	Unit 07	2B/3P	65
Second	Unit 07 amenity	-	7
Second	Unit 08	3B/4P	81

Second	Unit 08 amenity	-	7
Third	Stairway enclosure (Block A)	-	-
Third	Unit 09	3B/5P	99
Third	Unit 09 amenity	-	18

None of the residential units will be accessible dwellings (M4(2) or M4(3)).

There will be no public access to the roof.

2.2 Location Plan

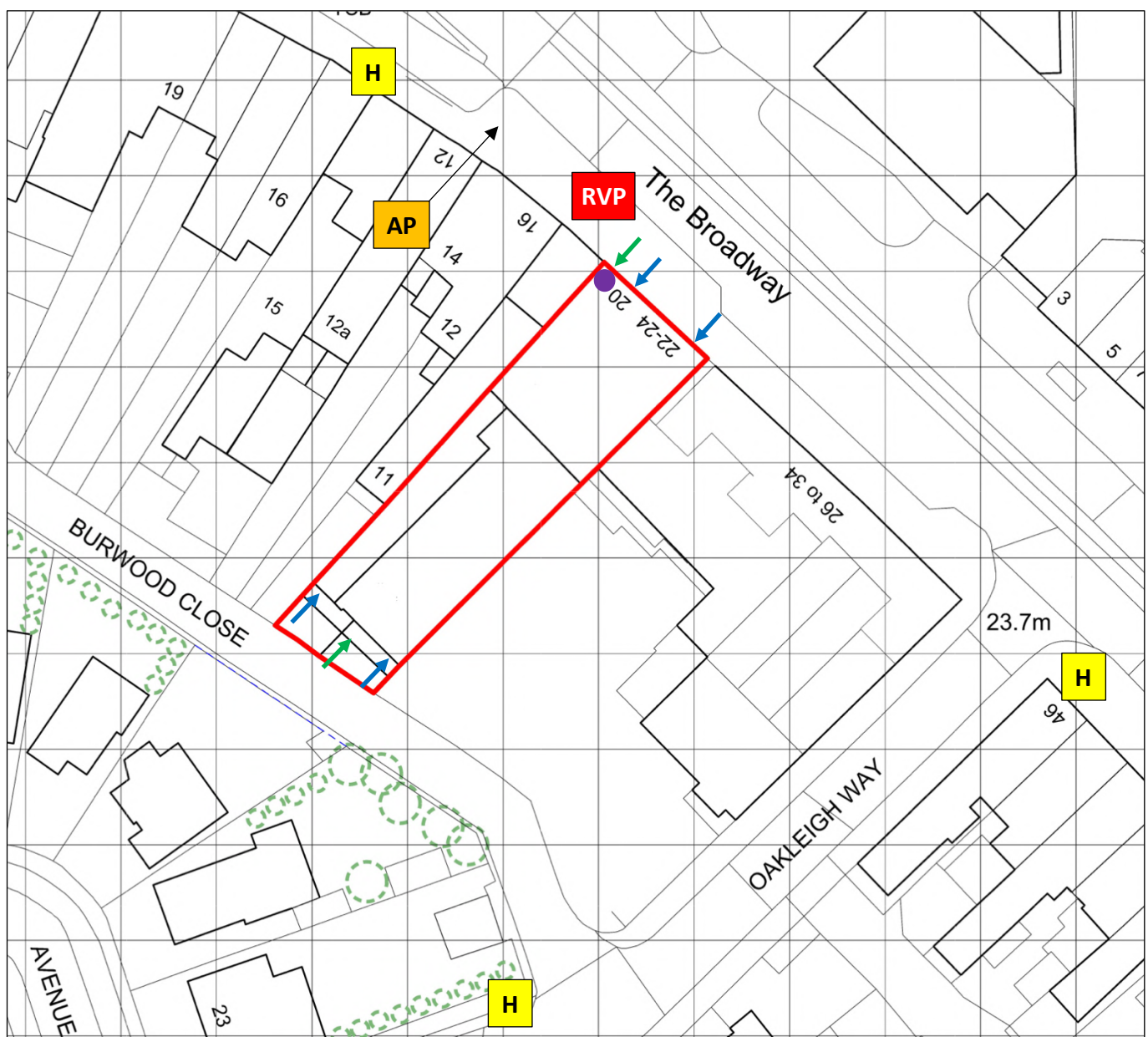


Figure 1 - Location Plan showing the footprint of the site in red, the likely FRS RVP, entrance/exit to residential (green), location of dry riser inlet (purple) entrance/exit to retail units (blue), retail assembly point and the location of the nearest public hydrants.

Section 3 – Fire Statement

The headings within this Section respond to The London Borough of Kingston-upon-Thames' request for information relating to fire safety within the completed development. A Fire Statement should be a standalone document which defines the fire safety objectives and performance requirements of a development, and the methods by which these objectives will be provided. It should evidence the provisions made for the safety of occupants and protection of property as well as the provision of suitable access and equipment for firefighting in light of all relevant policy requirements and the justification for these measures.

The Fire Statement will detail how the development proposal will function in terms of satisfying the following headings as stated in the London Plan - Policy D12(A):

A.1 Identify suitably positioned unobstructed outside space: a) for fire appliances to be positioned on b) appropriate for use as an evacuation assembly point.

On approaching the property, the likely FRS access will be from Tolworth Broadway (NE elevation), the initial attendance is likely to be an appliance from Surbiton Fire Station – 1.1 mile from the site. The public highway at the NE elevation immediately outside the building will be the likely Rendezvous Point (RVP) for the Fire & Rescue Service.

The location of the site will allow vehicle access to the front elevation at Tolworth Broadway and access to the opposing elevation at Burwood Close.

For the residential building, the Approved Document B, Volume 1, recommends that low-rise buildings, such as this, should include access for firefighting personnel by providing suitable measures for fire service vehicle access. In this case, the furthest point in the building (taken to be the Living/Dining/Kitchen of Units 7 or 8) will not be able to be accessed within 45m (the maximum permissible) from the location of the FRS appliance when parked at the main address of the residential units (this distance has been measured along a route suitable for hose-laying). As a result, one dry rising main will be installed to serve each stair core. The inlets will be located at the stair enclosure accessing the courtyard off Tolworth Broadway. They will be indicated with signage to ensure there is no confusion which will serve Block A and Block B. The dry riser installations will be designed and installed in accordance with BS9990:2015 - *Non automatic fire-fighting systems in buildings. Code of practice.*

For small commercial buildings (up to 2000m²), vehicle access for an appliance should be provided to whichever is the less onerous of the following;

- a) 15% of the perimeter, or
- b) Within 45m of every point of the footprint of the building.

In the case of a) and b) above, both will be achieved for the retail units.

The route from the RVP to the residential and commercial entrances will be level and non-complicated. These access points will be suitable for firefighters proceeding on foot to any elevation with ladders, should they be needed for rescue. Accordingly, there is no requirement for additional firefighting facilities (other than the required smoke vent in the stairway enclosures – see Section A2 below).

Having evacuated from either retail unit, the occupants will be able to remain in a place of safety at the paved area at the front elevation (annotated on Figure as 'AP'). Such that their location will not impede the firefighters from accessing the main entrance of the property in preparation for tackling the fire.

Having evacuated from any of the dwellings, the occupants can remain in a place of safety at the front or rear elevations. As this property includes nine private dwellings within a fully compartmented block, there will be no designated fire assembly point for the residential building. However, the residents of each apartment should be aware that the creation of a simple escape plan is recommended. The following should be included;

- The best route in and out of the dwelling
- A second route in case the first one is blocked, considering windows as a potential escape
- Practicing the escape plan regularly
- Keeping door and window keys where they can be found
- Ensuring all occupants understand the plan

A.2 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.

The stairway enclosures will be protected at all levels. Each will comprise partitions which will be either timber/metal stud-work or concrete block affording a minimum of REI 60. The enclosures will also provide the only route to safety for those evacuating from any apartment. There will be access/egress to the front or rear elevations (via the courtyard) but this area will not require protection (fire resistance).

As this development will meet the definition of a 'small single stair' building and there will be only two apartments per floor, then direct stair access will be permissible. However, this will mean that the head of each stair will be fitted with an Automatic Opening Vent (OV) with a geometric free area of at least 1m² located at the top of the stair and this will be operated on detection of smoke at any storey in the stair. Consequently, each stair enclosure (not the common access stair from Tolworth Broadway) will be fitted with a Category L5 (AOV) fire detection system in accordance with BS 5839-1:2017 – *'Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in non-domestic buildings'*.

Each apartment will be constructed with a protected internal hallway which will serve all habitable rooms. The hallways will be constructed with materials affording with a minimum of 30 minutes fire resistance (REI 30), this will include doors which will have a minimum specification of FD20 (there will be no requirement for these doors to be self-closing). In all cases, the travel distance from each habitable room door to the flat entrance door will not exceed 9m.

The entrance door to each apartment will be required to meet the minimum specification of FD30S and will be fitted with a positive-action self-closing device.

Each retail unit will form its own fire compartment. Each compartment will be constructed with materials affording a minimum fire resistance of REI 60, providing sufficient protection to allow the occupants within any unaffected compartment to remain in their compartment in the event of fire.

Each floor will be a compartment floor and will be constructed with materials affording a minimum fire resistance of REI 60. Any service penetrations will be fire-stopped using materials providing at least the same fire resistance as the floor it penetrates.

Fire Alarm and Detection systems

Each retail unit will be provided with fire detection and alarm system (meeting the Category M standard), a system incorporating manual call points and sounders, and will meet the requirements of; BS 5839-1:2017 – *‘Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in non-domestic buildings’*. There will be no requirement to interlink the alarm system with the neighbouring unit, nor with the residential properties above.

Each stair enclosure will be provided with a fire detection system (meeting the Category L5 standard), a system incorporating detection only with no sounders or manual call-points, and will meet the requirements of; BS 5839-1:2017 – *‘Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in non-domestic buildings’*.

Each apartment will be provided with fire detection and alarm system (meeting the Grade D2, Category LD2 standard), a system incorporating detection in the circulation areas, and will meet the requirements of; BS 5839-6:2019 – *‘Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic buildings’*. It is recommended that this is supplemented with heat detection within each living/dining/kitchen room.

Escape Lighting systems

As there are common escape routes in the residential blocks, then there will be a requirement to install an emergency lighting system.

As the retail units are expected to operate outside of the hours of daylight, there will be a requirement to install an emergency lighting system.

These systems will be installed throughout all accessible escape routes in accordance with BS 5266-1: 2016.

Maintenance

It is essential that the fire protection measures integrated into the buildings are able to function correctly and efficiently in a fire situation. Consequently, the provided protective measures will be inspected on a regular basis to ensure that they are available and functional at all times. Inspections will include, but not necessarily be limited to, the following;

- a) the escape routes will be kept clear at all times;
- b) the adequacy and condition of the doors protecting the stair enclosure;
- c) all fire safety equipment (notably the fire alarm and detection systems, the AOVs and the emergency lighting systems) will be maintained and tested in accordance with the relevant standards by a competent person; and
- d) the flat entrance doors and the internal fire doors (the hallways separating the habitable rooms) will be maintained as operational and in good condition with all components working adequately (the responsibility of the new apartment occupant/leaseholder).

The ongoing control over the repair, maintenance and replacement of the alarm systems will be effectively planned, monitored and reviewed by the owner of the dwellings and the occupier of the retail units.

Any changes, additions or adaptations to the active or passive measures at this development should not be undertaken without the prior involvement of a competent person.

A.3 Are constructed in an appropriate way to minimise the risk of fire spread.

The design and construction of this development will meet the requirements of the Building Regulations 2010 and the supporting guidance.

There will be no proposed wall façades which are likely to affect the neighbouring properties. The East and West elevations will be an imperforate compartment wall (REI 60). The construction of the North and South elevations will result in unprotected openings, but these will not fall within 6m of any other building or structure. The dimensions of these apertures are sufficiently small that they will not adversely impact on the fire safety of the neighbouring property.

Construction materials

The detail and type of surface finishes of the newly formed external walls and amenity areas has been reported to be;

- Coloured render
- Painted brickwork
- Metal balustrade

The components forming the external surfaces of the proposed wall systems will achieve the fire performance rating of Class B-s3,d2 or better, whilst this is necessary to restrict external fire spread, this can be relaxed on the other elevations as there are no relevant boundaries within 1m of any of these elevations. This will include the 'specified attachments' such as the balcony balustrades and decking materials.

Where internal walls, screens or partitions are constructed they will meet the recommendations set out in the British Gypsum's 'White Book', or a recognised equivalent standard. This will ensure that a tested system will be installed.

All materials used in, and workmanship applied to, the development will adhere to the following publication; The Building Regulations 2010 – ‘Materials and workmanship Approved Document 7, Regulation 7 (2013 edition, incorporating 2018 amendments)’.

Surface linings

The internal linings within the circulation spaces of the apartments will either conform to Class 1 surface spread of flame in accordance with BS 476-7, when tested in accordance with BS 476-6, or conform to Class C-s3,d2 when tested in accordance with BS EN 13501-1.

The internal linings within other circulation spaces, including the common areas, will meet Class 0 (national) or Class B-s3,d2 (European).

The internal linings within the retail units will meet Class 0 (national) or Class B-s3,d2 (European).

NOTE: all construction detail and materials will be retained digitally by the client, and this will form the O&M manual which will be stored and shared digitally in order to satisfy the principles of the ‘Golden Thread’.

A.4 Provide suitable and convenient means of escape, and associated evacuation strategy for all building users.

The retail units will be designed to operate a ‘simultaneous’ evacuation strategy. In the event of a fire in any area, it is expected that all occupants will be required to evacuate immediately to the recommended Assembly Point (see Figure 1).

Each residential apartment within this property will be designed to operate a ‘stay put’ evacuation strategy. In the event of a fire in any apartment, it is not expected that an occupant in the apartments adjacent or below will be required to evacuate due to the high level of protection provided. Those occupying the common areas will evacuate immediately if they become aware of a fire occurring.

The building users are expected to meet the description of ‘general needs’. Those with disabilities or mobility/sensory impairments will need to be considered and planned for separately, however, the design of the proposed building provides features which are inclusive and are able to enable a safe and dignified evacuation, if needed. In the unusual event of a full evacuation, or the evacuation of a single apartment containing occupants who are unable to self-evacuate, then the leaseholder/owner of the apartment will need to develop a personal emergency evacuation plan (PEEP) in conjunction with that occupant. The dimensions of the stairways will not include a space to allow for a refuge for any disabled person and will not achieve a refuge suitable for a wheelchair user, as there will be no area within either stair enclosure which will achieve the dimensions of a disabled refuge (900mm x 1,400mm). Neither stair enclosure is expected to be used by a wheelchair user.

The common means of escape within the retail units and the residential common areas will be accessible to persons who do not have a good understanding of the English language as all signage will meet the

recommendations of BS 5499-4:2013 – ‘Code of practice for escape route signing’ and will take the form of pictorial symbols wherever necessary.

Having evacuated from an apartment, the occupants can evacuate the building via the main exit or to a place of ultimate safety. Such that their location will not impede the firefighters from accessing the main entrance of the block in preparation for tackling the fire.

There will be no designated assembly point for the residential building.

The evacuation strategy will be made known to all existing and new occupants and will be displayed on the fire action notices provided throughout the common means of escape. The evacuation strategy is not a fixed or permanent approach and may change as the building is adapted or where additional risks are identified. As such, there should be periodic reviews of the evacuation strategy throughout the lifecycle of both the retail and residential properties.

A.5 Develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in.

As mentioned in Section A4 above, the residential building will operate a Stay Put strategy. This is considered to be an inclusive and appropriate strategy for people with disabilities including mobility, sensory and/or cognitive disabilities. If occupants need to evacuate then the route toward the main entrance will be via the escape stair.

There will be information and instructions provided to all residents when they occupy the apartment and this documentation will ensure compliance with the Fire Safety (England) Regulations 2022. In blocks of residential buildings comprising two or more flats of this height and size, the Responsible Person will be required to provide:

- Fire safety instructions – this should include relevant fire safety instructions, including on how to report a fire, plus any other information setting out what a resident must do once a fire has broken out, based on the building’s evacuation strategy; and
- Fire door information – this should include relevant information on the importance of fire doors in fire safety.

Residents should be given this information in a comprehensible format that they can be reasonably expected to understand. It should be provided to them when they move into a multi-occupied residential building and then on an annual basis thereafter. After any material changes to the instructions, the Responsible Person must display the fire safety instructions and provide a copy to the residents.

For the retail units, it will be necessary for all members of staff to receive a greater level of training where they;

- have a role in the fire evacuation process, or

- are needed to assist others when evacuating the building

In the event of a fire occurring there will be trained members of staff, and where deemed necessary this may include a role to assist others evacuating.

Once the alert of fire has been raised, the evacuation will commence for the affected unit. The emergency plan will be predicated on the simultaneous evacuation strategy, this will be clarified for all occupants on the fire action notices, displayed throughout each unit.

Within each unit, there will be a lead Fire Warden who will take the roll-call at the Assembly Point.

Training will be important as staff would need to understand the different types of fire extinguisher and what type of fire each extinguisher should be used.

Regular fire safety training (for key members of staff within each tenanted area) should take place during normal working hours. These staff should attend fire awareness training, on an annual basis, commensurate with the risk and hazards in the workplace.

This training should include:

- What to do on discovering a fire.
- How to raise the alarm and what happens when the alarm is raised.
- Action in the event of hearing the alarm.
- What action is to be taken by visitors and contractors.
- The arrangements for calling the Fire and Rescue Service.
- The reporting of incidents, hazard and near misses.

The training should also:

- Consider the findings of the latest fire risk assessment.
- Explain the emergency procedures.
- Take account of work activities and explain the duties and responsibility of staff.
- Be tested by fire drills.

A.6 Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development.

The following recommendations are made in respect to the different types and locations of firefighting equipment when the vacant unit becomes occupied;

- Extinguishers should be sited near to the fire hazards, but not so near as to be inaccessible or to place the operator in undue danger in case of fire.

- They should be sited in such a way to enable travel from the site of any prospective fire to an extinguisher, and should be sited within the following distances:
 - class A: 30 m;
 - class B: 10 m;
 - class C: 30 m;
 - class D: case-by-case basis (following competent person advice);
 - class F: 10 m.
- Extinguishers should be located:
 - in conspicuous positions on brackets, on floor stands or within cabinets;
 - where they are readily seen by persons following an escape route;
 - near to room exits, corridors, stairways, lobbies and landings;
 - in similar positions on each floor.
- Extinguishers should be clearly visible and predominately red or should be indicated by location signs.
- The mounting brackets used to position the extinguishers should be:
 - suitable for the type of extinguisher;
 - securely fixed;
 - able to be easily removed; and
 - obvious to determine its removal.
- Extinguishers sited in the escape routes should not obstruct or impinge on the width of the route.

Extinguishers to tackle class B, class D, class F and fire involving electrical equipment should ideally be located such that the correct extinguisher for that fire type is the first one encountered by the prospective operator. This recommendation is most relevant where the prospective operator might not have received adequate training in the selection and use of extinguishers.

There should be extinguishers to tackle carbonaceous (most combustible or organic items) fires and electrical fires (see table below).

Fire Type	Water	Foam	Dry Powder	CO2	Wet Chemical
Class A – combustible materials	Y	Y	Y	N	Y
Class B – flammable liquids	N	Y	Y	Y	N
Class C – flammable gases	N	N	Y	Y	N
Electrical fires – short circuits, fuse boxes	N	N	Y	Y	N
Class F – cooking oils, hot fats	N	N	N	N	Y

The occupants of each apartment may wish to supply their own portable extinguishers to tackle small fires within their domestic environment, but this is not required by legislation or the mandatory guidance. There will be no portable fire extinguishers within the common areas.

If the Fire & Rescue Service arrive on site to tackle a fire, they will be able to augment their water supply from one of the public fire hydrants (see Figure 1).

Section A1 above describes the ‘access’ route and parking location for the fire and rescue service. This route and the parking location will not adversely impact the neighbouring sites and will be made available throughout the period of the construction and throughout the lifespan of the development as it is proposed.

The London Fire Brigade Guidance Note (GN29) covers the access arrangements needed for fire appliances to get close enough to a building to fight the fire. This document details such requirements as minimum road widths, turning circles, road humps and projections from buildings. Taking into account all relevant content of this document, it is confirmed that there will be no matters within this planning proposal that will negatively affect access for fire appliances.

The following firefighting facility will be provided;

- a) One AOV at the head of each residential stairway with a free area of at least 1m², operable by fire detection in the common stairway enclosure, and each will have a manual override switch located at the fire and rescue service access level.

Throughout the construction phase, the developer will employ contractors and sub-contractors who may be engaged in hot works or general construction. Throughout this period, they will have a duty under the CDM Regulations 2015 to prevent the risk of fire and fire spread. They will discharge this duty by providing

a means to tackle a small fire to prevent it becoming a large or developing fire. An appropriate number of contractors will be trained in the selection and use of fire extinguishers.

Section 4 – Details of the Author

This Fire Statement has been produced by Gary Ferrand MA EngTech FIFireE MIFSM who is a Principal Fire Safety Consultant and is a “third-party independent and qualified” individual.

Engineering Council Registration Number – 692986.
Institute of Fire Engineers Registration Number – 22284.

Membership, Qualifications and Career details:

Grade of IFE membership:

IFE Membership Grade: Fellow – present. 1994-2011
Year of gaining IFE Fire Risk Assessor (Life Safety) accreditation: 2020
Member of the Institute of Fire Safety Managers
Member of the Fire Protection Association

Qualifications:

MA (University of Exeter) 2005
Safety for Executives (IOSH) 2009
NEBOSH Diploma (IOSH) 1998
Modules A-D FSOC Fire Safety Studies (Fire Service College) 2005
Executive Leadership Programme (Warwick Business School) 2010
Incident Command Management – accredited at Level 4, 2011
Incident Command Gold Command 2010-2016
Multi Agency Gold Incident Course (MAGIC) 2012

Career details:

The author has spent 30 years enforcing fire safety legislation in different Fire & Rescue Authorities. As a Principal Officer he led the NFCC Business Safety Group to consistently apply enforcement work across all FRAs in the UK. He has worked privately as a consultant with large and medium-sized clients working on small, medium, large and bespoke complex developments over the previous 6 years. He is a Fellow of the IFE and has been recognised formally by the NFCC (previously CFOA) for his contribution to fire safety.