

REGULATORY REFORM (FIRE SAFETY) ORDER 2005

Fire Risk Assessment for:

**Barandon Walk, Lancaster West
Estate, Grenfell Rd, London W111WH**

for

The Tenants Management Organisation
(TMO) of the Royal Borough of Kensington
and Chelsea

By Carl Stokes on the 6th November 2014

Suggested review date: 1st December 2015
or before, if any significant changes have taken place, in or adjacent to this building

DATE	REASON FOR REVIEW	BY WHOM	OUTCOME

Area(s) covered by this fire risk assessment:

All the common parts of the building, the open staircases, the walkways and their landings, the refuse chute and bin storage areas, the electrical supply rooms and the garden areas around this property.

Area(s) not covered:

All the private residential apartments and balconies, the whole of the lower ground floor offices, units and other areas including the 3 stores in the lobby area, the cleaner's cupboards, the electrical areas in the lower ground floor Baseline area, the old caretakers offices, the external roof areas and any other part of the building not identified above.

The significant findings and action plan of this Fire Risk Assessment are inserted next with this document continuing on page 2.

It is the policy of the TMO to take all reasonable steps to protect all relevant persons including residents, employees, visitors, contractors, any members of the public or any other persons who are lawfully on the premises, from potential injury and damage to their health which might arise whilst they are on these premises. When entrusting tasks to an employee their capabilities are taken into account as regard to Health and Safety so far as they relate to fire aspects. The aim of the fire risk assessment is to comply with The Regulatory Reform (Fire Safety) Order 2005.

The occupier takes the duties imposed by the Equality Act very seriously and seeks to ensure that all reasonable adjustments are made to enable people with disabilities to be treated fairly and not to be placed at any substantial disadvantage as required by The Regulatory Reform (Fire Safety) Order 2005.

Legal Statement

This risk assessment has been undertaken as a requirement of The Regulatory Reform (Fire Safety) Order 2005, the enforcing authority, ie "the police" for the FSO are the fire and rescue authority for the area in which the premises are situated, (Article 25 of the FSO). It is the local Fire and Rescue Service who therefore have the power to undertake an audit of the fire risk assessment to determine if it is suitable and sufficient or not. Other agencies can ask if you have completed a fire risk assessment but it is not for them to view, enforce or make judgement on.

You do not have to give a copy of your risk assessment to anybody, not even the fire authority, if you do give them a copy this could be used against you at a later date. Under Article 9, headed Risk Assessment sub sections 6 and 7 of the FSO it states:

- (6) As soon as practicable after the assessment is made or reviewed, the responsible person must record the information prescribed by paragraph (7) where—
 - a) he employs five or more employees;
 - b) a licence under an enactment is in force in relation to the premises; or
 - c) an alterations notice requiring this is in force in relation to the premises.
(It is very unlikely that an open air even would have an alterations notice)
- (7) The prescribed information is—
 - a) the significant findings of the assessment, including the measures which have been or will be taken by the responsible person pursuant to this Order; and
 - b) any group of persons identified by the assessment as being especially at risk.

So legally you have to record any significant findings from the risk assessment if you fall into the categories of 6 a to c above and have this available to be inspected.

The FSO applies to the common parts of the building but the Housing Act 2004 applies to the whole of the building and could impose additional fire safety measures on areas of the building outside the scope of the FSO.

Responsible Person:

Chief Executive of the Royal Borough of Kensington and Chelsea

Building Owners/ Landlord:

The Council of The Royal Borough of Kensington and Chelsea

Person Consulted during the Assessment:

Mr Paul Steadman of the Tenant Management Organisation (TMO) of the Royal Borough of Kensington and Chelsea and the residents of the building.

Assessment completed by:

Mr C Stokes, ACI Arb, FPA Dip FP (Europe), Fire Eng (FPA), NEBOSH, FIA BS 5839 Part 1 System Designer, BS 5839 Part 6, Competent Engineer BS 5266, IFE Assessor /Auditor (FSO). 19 years Fire Safety experience with local Fire Authority, in enforcement and auditing roles, 6 years as an independent fire risk assessor. Member of the construction industry CPD certification Service for 12 years. Professional indemnity insurance cover provided [REDACTED] Enhanced CRB checked.

H M Government Guide used:

Sleeping Accommodation

Local Government Group Fire safety in purpose-built blocks of flats (July 2011)

Any other guides that may be relevant:

Building Regulations 2010 Approved Document B (Volume 2) inc FPA information
Managing Agents management policy's, procedures and associated documentation
LACoRS (now Local Government Regulation) Housing Fire Safety Guidance

Any other legislation that could make requirements for fire precautions in the building.

The Equality Act 2010

Building Information

This fire risk assessment was carried out when the building was in normal use and only a visual inspection has been undertaken of the buildings structure and no invasive structural investigation was undertaken to complete the risk assessment. If there was any concern about hidden structural damage or lack of structural integrity of the buildings structure this will be raised with the landlords and commented upon within the following report. As far as I am aware the construction and any refurbishments of this building have gone through the Building Regulations process. Information has been gathered from the buildings occupants and employees of TMO and from an analysis of documents provided by TMO, there is no external cladding on this building at present.

Description of the building;

This is a rectangular shaped purpose built standalone six storey residential apartment building, lower ground floor level offices and storage units with ground to fourth floor levels of residential accommodation above. It is situated with two other similar buildings, this building has a public road running along one side and at one end, with a garden area on the other sides and a concrete deck area at the other end, the whole estate is located on its own site. The building is sub divided into 3 main sections with the flat number system indicating which section you are in so if your flat number is prefixed with a "3" this is the 300 section with the other sections prefixes being the numbers 4 and 5. The residential apartments of this building are mostly duplex self contained private domestic apartments/dwellings and are accessed internally having entered the building at the 1st floor level. Once inside the building staircases and walkways give you access to the flats on either the 1st, 2nd or 3rd floor levels of this open plan layout, the flats go either up or down depending on which level you are on. The ground floor level is level is the lower floor level of the flats accessed from the 1st floor level and the 4th floor level the upper level of the 3rd floor flats. Please see page 8 of this document for more information on this building, its original layout etc . This whole building stands in its own site and it is not attached to any other buildings, with enough distances between this building and adjacent properties calculated to meet Building Regulation approval therefore minimising and preventing any fire spread to adjacent premises. It is considered unlikely that a fire in this building would compromise other buildings within the area. There were no apparent unusual structural features either externally or internally observed at the time of the assessment and there are no high voltage luminous tubes for signs etc in this building. The access arrangements to this building have been considered and the arrangements appear to conform to part B5 of Approved Document B of the Building Regulations. Any changes to road layout etc away from these premises are outside the control of the responsible person.

Construction of the Building;

This is a brick and concrete constructed building with a flat roof with external ramps at each end of the building which give you access to the building at the 1st floor level plus staircases which are located towards the central areas of the building. The highest accessible floor level is the 3rd floor, the 4th floor is the upper floor level of the 3rd floor duplex flats, the ground floor level is the lower floor level of the 1st floor level accessed flats.. The staircases and walkways walls are either painted plaster, exposed brick work or are covered by ceramic wall tiles, the floors, landings of the staircases and staircase along with the walkways of the building constructed of concrete and are covered with linoleum flooring or ceramic tiles. The lower ground floor area, Baseline Studios are offices this area is separated from the rest of this building with its own independent entrance/exits, this lower floor level is separated from the residential floor levels above by concrete slab. There appears to be no hidden voids apart from the normal service duct and sanitary ones in this building and sandwich panels are not used. There are no apparent unusual elements of building construction that were considered to add a significant additional contribution to the fire risk.

Use and Layout of the Building;

The lower ground floor level of this building is used as offices with some storage areas, there is a road way running down the centre, access to this level is at either end of the building, this area is totally separate from the residential accommodation part of the building above it. There are exit staircase from this level to the garden areas, then on up to the residential areas but you must have a specific key fob to access the residential areas. There are four entrance/exit staircases for the buildings as well as the ramps, with internal staircases and walkways giving access to the individual flats. The apartment entrance doors are off the internal walkways with each section of the resident part of the building completely open plan, the flat entrance doors have a letter box in the lower half of the door. These flat entrance doors were at one time open to atmosphere so the doors and windows are not fire rated if they are the originally fitted ones. There are four electrical intake/supply rooms containing the electrical supply boards for the building, these are located at the lower ground or ground floor levels. There are 3 domestic refuse chutes located in this building one per section with the bin storage areas on the lower ground floor level, two are within the baseline area.

There are no plans or drawings of this building attached to this risk assessment, but the TMO do have plans showing the layout of this building.

The evacuation strategy for this building;

For the residential areas of this building:

For the residents of the residential area of this building there is a "stay put" evacuation strategy, this means the residents remain within their own dwelling during a fire incident unless the fire is in that dwelling or it is otherwise affected, in which case they should immediately evacuate the dwelling and call the Fire and Rescue Service. The Fire Service or TMO employees will arrange for a general evacuation of the building at anytime if this is appropriate or the resident can leave at anytime if they so wish. TMO has provided information to all residents in tenant's handbooks, via letters and briefing sheets of 'what to do in the event of an emergency' and articles on fire safety advice and emergency procedures are included in the resident's magazine called "Link".

Also articles are provided reminding tenants that they must not store items in communal areas nor cause obstructions to the means of escape, these articles are produced in the 7 major languages which have been selected as being most likely to meet the needs of the residents. The landlord relies upon the tenants to respond to any emergency in accord with agreed emergency plans and does not facilitate any fire drills or other emergency evacuation exercises.

In the residential area of this building there has been 1 fire in the last 2 years, this was a couple of weeks ago in flat 522, the fire started in the kitchen and was mostly confined to the kitchen there was smoke damage to the rest of the flat. No person was injured with the LFB putting the fire out, only the occupants of the flat evacuated the building. The fire service were called to this incident by another resident, the stay put and evacuation procedure appeared to work correctly. As far as I know there are no problems with false alarms from the domestic detectors installed within the individual dwellings.

For the occupants of the lower ground floor level units, Baseline:

The evacuation strategy for the individual commercial units located on the lower ground floor level of this building, which has its own independent entrances and exits are as dictated by the occupiers of these areas in the same way as any shops located next to each other on any High Street would be. This evacuation strategy will be covered in this areas fire risk assessment.

When constructed or when any alterations were carried out including fit outs etc of the units, the Building Regulations would have applied and this would have been classed as a mixed used building, with the appropriate separation and construction requirements between use groups applied.

Number of individual private dwellings in this building:

128

Methodology, for the completion of this fire risk assessment

The adopted risk assessment methodology has been developed in line with guidance from the Health and Safety Executive (5 steps to risk assessment) and PAS79. The assessment involves:

- Gathering relevant information for the building, occupants, processes and past fire history etc.
- Identifying hazards and determining measures to eliminate or control identified fire hazards.
- Determining existing physical fire protection measures and identifying any short comings.
- Discussions with occupiers and employees to determine the effectiveness of fire safety procedures and management policies.
- Subjective assessment of the likelihood of fire occurring.
- Subjective assessment of likely consequences to the occupants of a fire event.
- Assess fire risk and tolerability.
- Document the significant findings from the fire risk assessment.
- Formulating an action plan with the aim being to reduce the fire risk, from the significant findings with both physical and procedural controls,
- Formulating a checking procedures to oversee the "actions to be taken" in the significant findings.
- Formulating a time schedule for reviewing the assessment.

The type and scope of this Fire Risk Assessment is as defined by the Local Government Group Fire safety in purpose-built blocks of flats guidance document July 2011, as a Type 1 assessment, ie Common parts only, non destructive. But there is some over lap into a Type 3 assessment because questions have been asked and answers given about the electrical and heating installations within the flats along with testing and maintenance regimes and also the fire alarm systems installed.

The following rational is adhered to for the completion of this fire risk assessment

From The Building Regulations, Section 1 of B1, Means of Escape from Flats, of Approved Document B Fire Safety (Volume 2) Incorporating Insurers Requirements for Property Protection.

2.3 The provisions for means of escape for flats are based on the assumption that:

- a. the fire is generally in a flat;*
- b. there is no reliance on external rescue (e.g. by a portable ladder);*
- c. measures in Section 8 (B3) provide a high degree of compartmentation and therefore a low probability of fire spread beyond the flat of origin, so that simultaneous evacuation of the building is unlikely to be necessary; and*
- d. although fires may occur in the common parts of the building, the materials and construction used there should prevent the fabric from being involved beyond the immediate vicinity (although in some cases communal facilities exist which require additional measures to be taken).*

From BS 9991: 2011 Fire safety in the design, management and use of residential buildings – Code of practice, section 0.2 Flats and maisonettes, General principles.

The provisions for means of escape for flats or maisonettes are based on the assumptions that: (the same as the Building Regulations apart from the end of a.)

- a. fire will occur within the flat or maisonette (e.g. not in a stairwell);*
- b. there can be no reliance on external rescue (e.g. a portable ladder);*
- c. the flat or maisonette will have a high degree of compartmentation and therefore there will be a low probability of fire spread beyond the flat or maisonette of origin, so simultaneous evacuation of the building is unlikely to be necessary; and*
- d. where fires do occur in the common parts of the building, the materials and construction used in such areas will prevent the fire from spreading beyond the immediate vicinity (although in some cases communal facilities exist which require additional measures to be taken).*

Information for Londoners living in high rise properties, this information is provided by the London Fire and Civil Defence Service (LFB 's web site)

If you live in a flat or maisonette

Flats and maisonettes are built to give you some protection from fire. Walls, floors and doors will hold back flames and smoke for a time.

If there's a fire outside of your flat, in another part of the building, you're usually safer staying in your flat unless heat or smoke is affecting you.

Important relevant information

This reviewed Fire Risk Assessment (FRA) supersedes any previous FRA's in their entirety because of new guidance documents that have been provided by Government Departments and enforcement agencies since the original FRA's were compiled. In particular the fire safety guidance document produced by the Local Government Group Fire safety in purpose-built blocks of flats dated July 2011 and the amendment of September 2011. This also includes determinations issued by the Secretary of State concerning the Fire Safety

Order in particular the one about the retrospective fitting of cold smoke seals on fire rated doors. The reports, including the Coroner's ones issued after the Lakanal House fire (Camberwell London) , Shirley Heights fire (Southampton) and the Prestatyn maisonette fire (North Wales) have been studied and where relevant any information contained within these reports has been incorporated into this FRA.

Any other relevant information on this premises

This building was originally constructed with the common parts/areas open to the elements, these sections were covered in over 15 years ago when a major refurbishment of the estate was undertaken, so the external areas became internal areas, like an atrium. This multi million pound refurbishment went through the Building Regulations and Building Control Body process with it is assumed involvement from the London Fire and Emergency Planning Authority because of the work entailed. In this building during the refurbishment the lower ground floor level garages were converted into offices etc this area is totally separate from the residential areas above it. These two areas are separated by a concrete floor slab, but the dry risers and the water ring main located in this lower ground floor level has remained in situ. These fixed fire systems are maintained and serviced by the TMO and would be used if there was a fire in both areas of this building, this was obviously agreed at the time of the refurbishment.

The original layout and structure of the residential areas of the building have remained unchanged apart from this refurbishment so the result now is that the doors and windows of the flats which were once external are now internal. The windows are openable and not fire rated glazing and the flat doors if original are not fire rated or self closing. Where new flat entrance doors have been fitted these are I believe fire rated. During the refurbishment process automatically opening smoke control vents were installed in the new roofs, operated by local smoke detectors linked directly to the vents, it is assumed this was done to overcome the results that occurred because of the structural changes. The Building Regulations also requires automatic opening vents at the head of staircases etc. The control panel for these vents and the ones installed in the neighbouring blocks is presently located behind the desk of the reception area in Grenfell Tower. This reception area is being also refurbished so this control panel will be moved shortly, there is a manual over facility on the control panel so that the vents can be opened to aid with temperature control and environment issues within the building. In each section of this building there is also a fire service manual over ride control for the vents within that section of the building. Therefore no further comments will be made on the structural layout and the building's design, the London Fire and Emergency Planning Authority officers have not made any adverse comments about any structural features of this building during audits undertaken in the past.

FIRE RISK ASSESSMENT

FOR: The areas of this building, Barandon Walk, Lancaster West Estate, Grenfell Road, London W11 1WH, under the control of the TMO only, this does not include the Lower Ground floor level called Baseline Studios.

The following simple risk level estimator is based on a more general health and safety risk level estimator of the type contained in BS 18004 2008:

Potential consequences of fire ⇒ Likelihood of fire ↓	Slight harm	Moderate harm	Extreme harm
Low	Trivial risk	Tolerable risk	Moderate risk
Medium	Tolerable risk	Moderate risk	Substantial risk
High	Moderate risk	Substantial risk	Intolerable risk

Taking into account the fire prevention measures observed at the time of this risk assessment, it is considered that the hazard from fire (likelihood of fire) at these premises is:

Low ☐ Medium ☒ High ☐

In this context, a definition of the above terms is as follows:

Low: Unusually low likelihood of fire as a result of negligible potential sources of ignition.

Medium: Normal fire hazards (e.g. potential ignition sources) for this type of occupancy, with fire hazards generally subject to appropriate controls (other than minor shortcomings).

High: Lack of adequate controls applied to one or more significant fire hazards, such as to result in significant increase in likelihood of fire.

Taking into account the nature of the building and the occupants, as well as the fire protection and procedural arrangements observed at the time of this fire risk assessment, it is considered that the consequences for life safety in the event of fire would be:

Slight harm ☒ Moderate harm ☐ Extreme harm ☐

In this context, a definition of the above items is as follows:

Slight harm: Outbreak of fire unlikely to result in serious injury or death of any occupant.

Moderate harm: Outbreak of fire could foreseeably result in injury (including serious injury) of one or more occupants, but it is unlikely to involve multiple fatalities.

Extreme harm: Significant potential for serious injury or death of one or more occupants.

Accordingly, it is considered that the risk to life from fire at these premises is:

Trivial ☐ Tolerable ☒ Moderate ☐ Substantial ☐ Intolerable ☐

Comments:

The risk to the occupants of this premises is considered to be tolerable.

A suitable risk based control plan should involve effort and urgency that is proportional to risk.

Risk level	Action and timescale
Trivial	No action is required and no detailed records need be kept.
Tolerable	No major additional controls required. However, there might be a need for improvements that involve minor or limited cost.
Moderate	It is essential that efforts are made to reduce the risk. Risk reduction measures should be implemented within a defined time period. Where moderate risk is associated with consequences that constitute extreme harm, further assessment might be required to establish more precisely the likelihood of harm as a basis for determining the priority for improved control measures.
Substantial	Considerable resources might have to be allocated to reduce the risk. If the building is unoccupied, it should not be occupied until the risk has been reduced. If the building is occupied, urgent action should be taken.
Intolerable	Building (or relevant area) should not be occupied until the risk is reduced.

(Note that, although the purpose of this section is to place the fire risk in context, the above approach to fire risk assessment is subjective and for guidance only. All hazards and deficiencies identified in this report should be addressed by implementing all recommendations contained in the following action plan. The fire risk assessment should be reviewed regularly.)

A fire risk assessment has been carried out for this building and the significant findings produced. By implementing the actions of the significant findings the risks or hazards will be lowered and therefore making the building safer for its occupants. If appropriate the significant findings should be passed on to any other occupiers in the building so that co-ordinated actions can be taken and visa versa, this also applies to any significant findings from any reviews etc that are undertaken.

You should consider the potential increased risk and hazard of any significant change before the change is introduced, it is usually more effective to minimise a risk or hazard beforehand than trying to achieve it after the event.

FIRE HAZARDS AND THEIR ELIMINATION OR CONTROL

1. ELECTRICAL SOURCES OF IGNITION

	YES	NO	N/A
Are reasonable measures taken to prevent fires of electrical origin?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are fixed installation periodically inspected and tested?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If appropriate, is portable appliance testing carried out?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If any electrical appliances are present, are trailing leads/ adapters suitably limited and sockets not overloaded?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments or observations:

According to the TMO electrical engineers asset and contractors list the last 5 year fixed wiring check in this building was undertaken in November 2010 and it is due for retesting in November 2015, there appeared to be no outstanding items indicated. There are no contractors labels fixed to the supply/distribution boards located in the ground of lower ground floor level electrical intake rooms giving the about test dates. In electrical intake room 1 which is located under the 300 section of this building there is a contractors label fixed to the supply/distribution boards located here stating that the last 5 year fixed wiring check was undertaken in October 2013 and it is due for retesting in October 2018. This electrical intake room has the electrical wiring for Grenfell Walk as well as part of this building, there were no outstanding items indicated on this contractors label.

The caretakers carry out regular visual inspections of the lighting system and the electrical sockets which are the only electrical installations in the common parts of this building. Some of the lighting units on the staircases and on the walkways are combined lighting/ emergency lighting units, there is also a combined units in the electrical supply rooms. If there is any damage or remedial work is needed this is reported and repair's or replacement lighting units are installed by a contractor on a responsive defect reporting procedure. Any defects can also be reported at any time by a resident direct to the TMO's 24 hour help line.

The electrical supply boards and other associated electrical components are located in the electrical supply rooms around the building and appear to be industry standard items and are where appropriate are housed in standard metal lockable containers. There are electrical sockets on the walkways housed in lockable metal boxes but none on the staircases, trailing leads or multi plugs are not used in the building as far as I know and there are no solar thermal or photovoltaic systems on or attached to this building. There were no portable electrical items in the common parts of this building and portable electrical appliance testing (PAT) is not carried out on any resident's private electrical items.

Contractors or workmen employed by RBKC and TMO are required to use only electrical equipment that is fit for purpose, in a good condition and appropriately inspected and maintained. TMO does not carried out checks on these items of equipment and it is assumed that electrical items of equipment brought into the building by other contractors or workmen are also suitable and in a good condition as again the TMO does not carried out checks on these items of equipment.

There is no recent history of major electrical power supply failures for this building, therefore the British Standard testing timetables for stand by/back up batteries in the fire alarm (including radio/wireless systems), emergency lighting and other fixed systems is deemed to be acceptable.

2. SMOKING

YES NO N/A

Are reasonable measures taken to prevent fires as a result of smoking?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Is the smoking ban suitable enforced, in the common parts, with "No Smoking" notices displayed at the entrance(s)?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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If located are the external smoking areas appropriately sited with suitable receptacles provided?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Does the no smoking policy appeared to be observed at the time of the inspection?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

The residents are allowed to smoke within their own private individual dwellings but not in the common parts of this building or any communal areas, at the time of this risk assessment there were no indications that the no smoking policy was being abused in the residential areas of this building. No smoking signage is displayed at the entrances to this building, there is no designated external smoking area.

3. ARSON

YES NO N/A

Does basic security against arson by outsiders appear reasonable?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Are combustible and waste materials kept away from the outside of the premises?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Are the external refuse containers/rubbish bins suitably secured against an external arson attack?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Is the refuse storage area kept reasonably tidy and the amount of waste material kept to a minimum?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

There are electrically operated door entry control systems on the entrance doors to this building, on the storey entrance doors and on the doors of the separating screens onto the staircases, this is to restrict entry to areas of the building to authorised personnel only. Key fobs are used by the residents and there is an intercom system for visitors to the building. There are fireman's switch override devices fitted to the building and storey entrance doors, apart from one, these were all tested at the time of the assessment and they worked correctly. The location of the storey entrance/exit door between sections 4 and 5 next to Grenfell Road, is where there is no fireman's switch override device fitted, near flat 507.

At the time of this assessment the fireman's override devices were all tested and these worked correctly releasing the lock on the doors. The entrance/exit doors and the storey entrance/exit doors are all fitted with self closing devices so that the doors close automatically, thus maintaining the security of the building, these worked correctly when tested and closed the doors fully. The exit doors of this building can all be opened from the inner face of the door by using the push button device, so no key is needed to open the doors when leaving this building.

Combustible and waste materials are kept away from the exterior of the premises as far as possible, the garden area was clean and contained no rubbish etc.

There are secure waste/bin storage area located at the base of the purpose built domestic refuse chutes of this building, the openings to these refuse chutes are located on the open floor levels. It must be remembered that these refuse chute openings were in open air before a roof was added to enclose this building. The bin storage rooms are located at the lower ground floor level, directly under the chutes, two of these bin rooms are in the Baseline area. These secured locked shut bin rooms/waste storage areas are where the purpose built rubbish chutes empty directly into the industry standard bins, these are medium sized metal rubbish bins. These bin storage area are fire separated from the remainder of the building apart from the refuse chute, there is a steel shut off plate built into each refuse chute at its base in this bin area. There was no rubbish or waste on the floor of the bin rooms at the time of this assessment, all the rubbish was in the waste bins.

There are recycling bins located in the garden areas of the estate for the use of the residents of this building and other ones on the estate, these are industry standard metal containers with lids and the area around these recycling bins was clear and in a tidy state at the time of this assessment.

From information provided to me bin storage area fires have not been a problem in this area and to minimise the amount of waste the refuse is collected regularly by the local council. There were no combustible items or waste materials around or in the building ie by the refuse chutes etc or in the staircases of the premises that would aid any potential arsonist at the time of the fire risk assessment.

4. PORTABLE HEATERS & HEATING INSTALLATIONS **YES** **NO** **N/A**

Is the use of portable heaters avoided as far as practicable, in the areas covered?

✓		
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Are fixed heating boilers/installations subject to regular maintenance, including any gas supply?

✓		
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Are suitable measures taken to keep combustible materials and waste away from boilers or heaters?

✓		
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Are gas safety checks carried out in the building?

✓		
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Comments or observations:

Portable heaters are not used in the common parts of the residential areas of this building, the gas boiler located under Grenfell Tower provides some or if not all of the heating and hot water for this building. Any hot water and heating is piped into this building by underground pipes, this gas boiler, the boiler room and gas safety information is included in the Fire Risk Assessment for Grenfell Tower.

Each individual apartment has its own gas supply though, any gas supply and boilers for the TMO tenanted flats are on a planned preventive maintenance and servicing programme, with any gas meters being located within the flats themselves. The Link magazine regularly includes a "performance chart" of which one of the featured performance indicators is gas servicing, this is currently showing that the percentage of the tenanted properties with valid gas safety certificate is nearly 100%. The actual figure for the year September 2012 to September 2013 is 99.9%, the remaining point 1 of 1% of tenanted dwellings without an annual gas safety certificate are noted and targeted so that the goal is to have a 100% compliancy rating.

There is no heating in the common parts of the residential areas of this building.

5. PLANT and FIXED EQUIPMENT

YES NO N/A

Does the plant look in good working order?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Is combustible material kept away from the plant or equipment?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Comments or observations:

There is no fixed plant in this building or lifts etc, the automatic opening vents are covered in section 19 below.

6. COOKING and LAUNDRY FACILITIES

YES NO N/A

Are reasonable measures taken to prevent fires as a result of cooking?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Is there a suitable design and layout of the cooking area?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Are reasonable measures taken to prevent fires if any laundry facilities are located in the building?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Are any filters changed or cleaned on a regularly basis if fitted in any cooker hoods or tumble dryers in laundries?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Are any filters changed and ductwork cleaned on a regular basis in any kitchen/laundry extract systems?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Are there suitable extinguishing appliances available?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Comments or observations:

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There are no cooking or laundry facilities located in the common parts of the residential areas of this building, this assessment is covering the residential areas only not the lower ground floor level. There maybe cooking areas within this lower ground floor area of the building but this will be covered by the Fire Risk Assessment (FRA) for this area. Kitchens are located in each residential dwelling in this building with the occupier being responsible for the maintenance of these domestic cooking areas and also any laundry equipment contained within their dwelling.

7. LIGHTNING

YES NO N/A

If a lightning protection system is installed on the building does it look in good condition?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

This building has a lightning protection system installed on it, from the information provided by the TMO engineer this system is on a planned preventive maintenance contract with an external contractor, Redpath Buchanan Limited, with the records kept centrally in the "Hub" in Kensal Road.

8. HOUSEKEEPING

YES NO N/A

Is the standard of housekeeping in the building adequate?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Is there an avoidance of unnecessary amounts of combustible materials or waste?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Is there an avoidance of inappropriate storage of combustible materials or waste in escape routes, staircases or around rubbish chutes (if any in the building)?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Is there an avoidance of inappropriate storage of combustible materials or waste in cupboards or stores etc?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Are any soft furnishing etc in corridors kept to a minimum, do not raise the fire loading or cause an obstruction?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Are routine preventive checks carried to see that the housekeeping/cleaning routines are working?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

The TMO has decided that the policy on items in the common areas of the residential parts of this building will be a "managed" one. This is because the structural elements of this building are concrete and brick ie non combustible, this means that items can be on the walkways etc. But the amount and type of items is monitored by regular caretaker inspections. So push bikes or push chairs etc could be left in these areas, but they must not cause an obstruction and there must not be combustible items stored here, this includes items piled up on any push chairs etc. The caretakers or contract cleaners ensure that quantities of waste and combustible material are removed from the building to the refuse bins, therefore not allowing a build up of any combustible waste materials or rubbish in the common parts of the building. The means of escape routes were clear at the time of the risk assessment apart from the areas mentioned in the significant findings sheet and it is part of the landlords cleaning contract that the cleaning contractors manager undertakes regular inspections to see that all the areas of the building are kept free of combustible storage and waste. Residents have not introduced any items into the common parts of the building, apart from some residents do have door mats outside their flat doors, these are low risk and did not appear to cause an obstruction or be a trip hazard.

There is a purpose built domestic waste rubbish chute located in each of the three sections of the building, the area around the refuse chutes is separated off in two cases by a low wall with a wooden gate in it, other chute opening are on the walkways, the secure bin storage areas are located on the lower ground floor level. At the time of the risk assessment the walkways and staircases of the building were clear of any combustible items or storage and there are no carpets or curtains on the walkways or in the staircases of this building. The floors, landings of the staircases and staircase along with the walkways of the building constructed of concrete and are covered with linoleum or ceramic tiles.

The electrical intake rooms contain the electrical supply boards for the part of the building they are located in, these were empty apart from the electrical components except for intakes 2 and 4 where rubbish was being stored.

9.HAZARDS INTRODUCED BY OUTSIDE CONTRACTORS & BUILDING WORK

	YES	NO	N/A
Are fire safety conditions imposed on outside contractors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If contractors carry out lone working are there suitable precautions taken?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there satisfactory control over works carried out in the building by outside contractors (including "hot work" permits)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If there are in house maintenance personnel, are suitable precautions taken, including use of hot work permits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments or observations:

Only authorised contractors, who have to provide method statements and schedules of work or TMO employees carry out work for the TMO in the building. The TMO has policies and procedures for contractors or in house employees carrying out work in their buildings, including "hot work" or other permit work. These policies and procedures are kept under review and altered as and when necessary or in the light of new information.

If any contractors or tradesmen are employed by a leaseholder or tenant directly and the TMO is not informed then the TMO has no responsibility over these contractors or tradesmen and these persons are outside the control of the TMO.

According to the TMO policies contractors employed by the TMO or TMO employees are advised on procedures to undertake when lone working takes place.

TMO instructed contractors or tradesmen are advised that when work is carried out that waste and building materials should not be allowed accumulate and obstruct or block exits and escape routes nor should final exit doors be propped or wedged open to aid the workmen. If openings are created in fire resisting partitions or compartments suitable preventive measures must be put in place to maintain the fire separation within the building until these openings are closed again.

It is assumed that any tools or items of equipment used and owned by any contractors or tradesmen and brought onto the premises are suitable for the work to be undertaken and in a good state of repair. No checks or inspections are undertaken on any items of equipment or tools of any contractors or tradesmen.

It is emphasised to any contractors that care must also be taken to prevent false alarms of the fire alarm system by dust etc when the work is being undertaken. No construction refurbishment or maintenance work was being carried out in the building at the time of the visit nor were there any contractors on site.

10. DANGEROUS SUBSTANCES

YES NO N/A

If dangerous substances are, or could be, used, has a risk assessment been carried out, as required by the Dangerous Substances and Explosive Atmospheres Regulations 2002?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

There are no dangerous substances stored or used in the common parts of this building, this risk assessment has not taken into account any substances that may be within any domestic dwelling, but there are clauses in the tenancy agreements to restrict such substances.

11. PEST CONTROL

YES NO N/A

Is there suitable control of any pest infestations?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

The building does not have any problems at the present time with rats, pigeons, squirrels or other rodents or insects but this issue is kept under review to mitigate any damage that these types of vermin could cause to the fabric or structure of the building and electrical cabling or wiring. If droppings or guano are noticed then action can be taken to inform the pest control company employed by TMO to monitor the pest situation and measures will be taken to eradicate the problem. Where pigeon netting has been erected to cover the flat balconies, from a visual inspection from the ground there appeared to be no areas where this pigeon netting was damaged and it appeared to be well fitted, at the time of this assessment. There was no access to each flat balcony as these are private areas but the pigeon netting where fitted, is only covering the balcony opening it is therefore not obstructing any doors from the flat onto the external balcony area.

FIRE PROTECTION MEASURES

12. MEANS OF ESCAPE FROM FIRE

YES NO N/A

It is considered that the building is provided with reasonable means of escape in case of fire?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Is the design of the escape routes adequate?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Is there suitable protection of escape routes?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Are the escape routes unobstructed?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Are the escape routes suitable for buildings occupancy?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	YES	NO	N/A
Do the escape routes lead to suitable final exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there reasonable travel distances, both in a single and alternative direction, if applicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are travel distances in dead ends suitably limited?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are travel distances suitable for disabled people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there adequate provision of final exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are exits easily and immediately openable where necessary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Where necessary do the fire exits open in direction of escape route?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do the final exit doors have appropriate securing devices?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do the dwelling entrance doors appear to be fire rated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are any other doors protecting the escape route suitably fire rated and in a good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Where appropriate are any fire doors fitted with self closing devices and do these function correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are store and cupboard fire doors kept locked shut?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Where appropriate are the doors/flaps to rubbish chutes or the fire doors to the rubbish chute rooms suitable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the floor covering suitable to prevent slips, trips and falls?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments or observations:

This building appears to have been constructed in accordance with the Building Regulations with the layout of the building including the travel distances, escape routes, width of escape routes and exits appropriate for the present use. The means of escape routes/ the staircase leads directly to a final exit with the final exit doors and the storey exit doors opening in the direction of travel.

To exit the building and each sub section of it, there are push button over ride device to release the locking mechanism on the entrance/exit doors these area used every time by persons leaving the building or section. From information I have been given in the event of an electrical power failure the locking mechanism on the buildings entrance/exit doors defaults to the unlocked position.

The storey exit doors have louvered vents around them and the structures which sub divide the sections of the building up are not fire rated.

There was adequate protection for the means of escape route with no visual damage observed during the assessment, this statement should be read in the context of the additional information on page 6 of this document to do with the construction and refurbishment of this building. Some of the flat entrance doors appear to be fire rated doors with a letter box and a flap in the lower quarter to half of the door depending if the door has been replaced or not, the replacement doors are fitted with self closing devices etc. As the entrance doors to the apartments were originally open to the elements they would have been classed as external doors along with the windows to the flats which are not fitted with fire rated glazing for the same reason. Hurstway Walk has been audited by the LFB and this issue has not been raised as an adverse comment. The entrance doors to some of the flats are fitted with multiple locks, up to three in total in some cases it is assumed that the occupants of the flats can exit their flat in an emergency without any undue delay. The flats are clear of vents and other openings, apart from the door entrances to the apartments, below the 1100mm height line and there is no fire rated glazing in the common parts of this building. Some residents have erected lockable metal gates externally to the flat entrance door for added security, it is assumed that residents are able to unlock these quickly in an emergency to make their escape in case of fire. This item was noted in the previous FRA for this building and the local fire station informed of this as per the agreement with the LFB and the TMO.

Outside the lowest level flats entrance doors, this is the first floor level, there are canopies over the flat entrance door and small side screens either side of them these are from the original design concept. These canopies and screens do not I believe cause any adverse problems as far as fire safety issue are concerned because if the entrance door of the flat was recessed back from the wall line this would have the same effect. The material the canopy is constructed of is not fire rated but this is only a small item and as far as I can tell the side screens are Georgian wired glass. Above some of the flat entrance doors there is a very small transom light which is fire rated glazing. At the time of this risk assessment the escape routes were clear of obstructions, there were some pots of plants outside some flat entrance doors these plants were located in the corners or against the walls of the building and they did not appear to be an obstruction or could cause a trip hazard in an emergency so I believe are acceptable. Outside flat 532 there is a small tree this was not causing an obstruction but I would recommend that the caretaker is asked to review this situation on a regular basis.

Outside all of the lower flat entrance doors and outside some on the walkways there is room to the side of the entrance door which could be used to leave pushchairs/ prams or push bikes, as long as these low risk items are not allowed to block the entrance door or the route to it and only pushchairs etc are left here I believe that this practice is acceptable and in accordance with the managed policy on items on the means of escape routes. This is because of the low fire risk of the items there are no electrical ignition sources in the staircases and an arsonist would first have to enter the building. The doors to the electrical intake rooms are in some cases located off of the staircases, these are steel doors, if there was a fire in an electrical intake room the staircase involved could be bypassed as there are multiply entrances and exits from this building. In any case there is a stay put policy in place for the residents of this building.

There is a purpose built refuse chute located in each section of this building with the refuse chute openings located in the open areas, this was how this building was designed and these were originally external areas.

This arrangement would not be allowed today, if in the future any work is undertaken on these refuse chutes then the Building Regulations requirements at the time of the work will be adopted.

At the time of the risk assessment the flooring materials on the escape routes within the common parts of the building appeared suitable to prevent slips, trips and falls during evacuation and there were no signs of any damage to the floors or any unevenness. The caretakers carry out checks and report any deficiency's to the "Hub" so repairs can be undertaken and any resident can report any damage etc to the TMO helpline 24 hours a day.

When this building was constructed it was not a requirement under the Building Regulations standards at the time to have cold smoke seals fitted to fire doors either the flat entrance doors or other fire doors, changes to the Building Regulation standards are not retrospective. Over time some entrance doors and other fire doors in the building have been replaced, so therefore have smoke seals.

The fire doors that do not have smoke seals are close fitting and shut tight on to the door frames, If these fire doors are to be replaced, repaired or any refurbishment work carried out that involves these fire doors, then they will either be upgraded with cold smoke seals fitted to the door or in the surrounding door frame or replaced with doors that already have cold smoke seals fitted to the doors or in the surrounding frame of the doors or the doors will be replaced with doors that already have cold smoke seals fitted.

This stance on cold smoke seals is backed up by the Secretary of State's determination issue in May 2012.

If any of the apartments in this building are leaseholder apartments rather than tenanted apartments then the entrance door of the flat is demised to the leaseholder. The TMO does not have any control over or legal powers to intervene if the leaseholder changes the flat entrance door. The lease agreement clearly defines that the entrance door is demised to the leaseholder so if there is an issue over the conformity of the flat's entrance door to either the standards required of the Fire Safety Order or the Building Regulations this is a private matter between the leaseholder and the enforcement authority. There have been meetings on this subject between the TMO and the local LFB fire safety team leaders, minutes of these meeting are held by the TMO Health and Safety team manager along with the relevant policies and procedures. If the apartment is a tenanted one with a TMO tenant not a leaseholder then the TMO has control and will undertake any appropriate actions needed.

Access to the external roof areas of this building is via metal ladders fixed to the walls of the 3rd floor level landings in each of the end sections of the building.

13. DISABLED PEOPLE

YES NO N/A

It is considered that the building is provided with reasonable arrangements for means of escape for disabled people?

✓		
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Comments or observations:

I am only commenting here on the residential parts of this building. At the time of the risk assessment there was no evidence of any resident within the premises who suffers from sensory impairment to such a level that would prevent them from hearing a shouted warning of fire or a loud knocking on their entrance door to warn them.

TMO have recently introduced a comprehensive programme to gathering information about tenants including any disabilities and their physical ability and mobility to respond to any emergency situations. This information will be imputed on a "TP Tracker system" and held centrally.

The additional information will be used to assess if residents may require additional devices to provide them with early warning of smoke/fire in their home and/or development of a Personal Emergency Evacuation Plan (PEEPs).

14. MEASURES TO LIMIT FIRE SPREAD AND DEVELOPMENT

	YES	NO	N/A
It is considered that there is:			
A reasonable standard of compartmentation provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A reasonable limitation of the fire loading in the means of escape routes/corridors that might promote fire spread?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The wall and ceiling linings are in a good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If fitted, is any fire rated glazing in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Where necessary are fire dampers provided to protect the means of escape against fire, smoke and combustion products in the early stages of a fire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If fitted, is the ductwork of any mechanical ventilation system cleaned and any filters changed regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments or observations:

This building appears to have appropriate fire separation and compartmentation and from a visual inspection of the structure of the building there appeared to be no areas that raised concern about structural damage to the building or fire stopping issues.

There were no obvious signs that in the areas covered that bad workmanship would mean that the fabric or fire integrity was or could be compromised. No invasive structural investigation was undertaken to complete this risk assessment. There were no visible breaches of the compartment walls and ceilings linings at the time of this risk assessment and the fire loading of the common parts of the building was considered to be good, please see the sections on "housekeeping" and "arson" for more information.

There is fire rated glazing in the transom lights above some of the flat entrance doors, this was in a good condition at the time of this assessment with no cracks or damaged pieces noticed.

There are four locked rooms which contain the electrical supply boards for the building also cabling and wiring, there was adequate fire stopping to the wiring routes out of these areas at the time of the visit. From information provided there are no fire dampeners in this building and natural ventilation is used to vent the staircases and walkways via the automatically opening vents. Please see section 19 below for more information on the installed smoke ventilation systems in this building.

15. EMERGENCY ESCAPE LIGHTING**YES NO N/A**

If any is fitted, is the emergency lighting system currently installed in the building, to a reasonable standard?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Is there adequately normal or borrowed lighting to back up any fitted emergency lighting system installed?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Where necessary, does the emergency lighting cover any external escape routes?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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If fitted, are all emergency lighting units, clean and visually in a good condition?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

There are emergency lighting units installed on the staircases and on the walkways in each section and each floor level of this building but from the units that I could identify the location and positions is haphazard and there appears to be no consistency. Therefore it is hard for me to say if the coverage is suitable or comprehensive, it does not help that the covers of the lights are not clean or clear so it is hard to identify the neon indicator charging lights in these units. There is street lighting outside the building on the public road and column lighting in the garden areas which would illuminate by borrowed lighting the external routes at a distance from this building during the hours of darkness. In the event of a supply systems failure in the building the exterior lighting would still function as it is on a different electrical circuit. There are also emergency lighting units installed in the electrical intake rooms. The emergency lighting system in this building was not checked/tested during this assessment.

The installed emergency lighting system consists of self contained units, not a centralised battery system or a generator back up system, the neon indicator lights are visible on some of the emergency lighting units but not others. The glare limits of the emergency lighting units are within the acceptable ranges of BS 5266 and the colour of the light produced is white, there are no twin pack lighting units in use in this building.

16. FIRE SAFETY SIGNS AND NOTICES**YES NO N/A**

Is there suitable pictogram fire exit signage in the building?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Are signs clearly legible, fixed in position and unobstructed?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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If necessary, are there pictogram fire safety notices in the building with the assembly point indicated?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Comments or observations:

The sections of the building are all open plan so from the upper walkways you can see the stairs to the lower floor levels and from these the exits to the staircases at each end of each section and each end of the building. So once you get to the lowest floor level, there is more than one exit from the building, so once on the lowest floor level you could turn your back on a fire or any other emergency and walk in the opposite direction and leave the building.

This I believe makes this a non complex building, there are two staircases in each section so one could be the main staircase the other the secondary one but as they are at opposite ends any person would use the nearest staircase. So I believe that no escape signage needs to be provided in the building as the layout is not complex, both staircases in each section are in line of sight of each other and both staircases lead directly to a final exit.

There are no fire action notices displayed in the building as the residents have been instructed on the actions to be taken in the event of any emergency in other ways, please see the section on evacuation strategy at the beginning of this document. Under the button to release the locking mechanism of the entrance/exit door of the building there is a sign which states "Push to open door" this system fails safe to open if there is a power cut I am told.

To aid the emergency services outside the entrance/exit doors of the building there are signs indicating the flat numbers of that building and which section they are in, once inside the building there are signs indicating which flats are on which level and on which walkway, these signs are permanently fixed to the wall and in a large font. There are no fire action notices displayed in this building next to the fire alarm system manual break glass call points located in the electrical intake rooms.

17. MEANS OF GIVING WARNING IN CASE OF FIRE

	YES	NO	N/A
Is a suitable manually operated electrical fire alarm system provided in the common parts of the building?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does it have automatic fire detection, if required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the system suitable for the occupancy and fire risk?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If the system extends into the private flats is it suitable?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has remote transmission of the system been considered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comments or observations:

There is a fire alarm and warning system installed in this building this includes manually operated break glass call points in the electrical intake rooms only along with automatic fire detection and visual alarms (flashing beacons). This system does not seem to be in accordance with the British Standard 5839 Part 1.

There are automatic smoke detectors installed in the glazed roof sections of this building which automatically open the roof vents, there are no other fire alarm system devices in this building.

It appears that there are no audible warning devices for the fire alarm system installed in the building. The control panel for the automatic smoke detectors that are linked to the smoke vents is in the reception area of Grenfell Tower, this is a standalone panel with a zone chart/diagram next to it showing the layout and location of the devices. Please see the significant findings sheets reference this issue.

The devices in the electrical rooms are not shown on this control panel and the reception area of Grenfell Tower is now a disused area.

There is no fire alarm or warning system installed throughout the common parts of this building only in the areas indicated above, this is in accordance with the

requirements of the Building Regulations, Approved Document B Fire Safety and the HM Government Guide, Sleeping Accommodation, as the dwellings have been constructed to the Building Regulations standards. Before any work is undertaken on any TMO controlled building the work goes through the Building Control process of the local Authority and any observations or recommendations are incorporated into the project.

There was no access to all the individual dwellings but in most flats there are electrically powered, battery back up/operated hardwired interlinked domestic BS5839 part 6 detectors/sounders. There is a heat detector sounder in the kitchen and a smoke detector/sounder on each floor level at the base and head of the staircase. There could also be self contained battery operated domestic smoke alarms installed within a flat, it is not known if automatic detection is in every flat. The TMO in news letters etc has advised residents to fit domestic smoke detectors and there are some central records of devices being fitted in some flats before residents moved in. London Fire Brigade (LFB) operate a policy where they will undertake home visits to domestic dwellings and fit domestic detectors, the LFB have provide home information leaflets centrally to the TMO for caretakers to deliver to residents to request these visits. If during any LFB visits concerns are identified about fire safety issues in any dwelling then the arrangement is that the TMO are informed of this by the LFB. It is TMO's policy that if flats are refurbished then the installed detection is assessed to see if it needs to be up graded etc by the addition of new devices. Where domestic smoke and heat alarms are fitted within a dwelling the occupant/resident is responsible for any testing of the device.

A "Stay Put" evacuation strategy is currently in place for all residential flats in the building and this is considered to be acceptable.

18. PORTABLE FIRE EXTINGUISHING APPLIANCES

YES NO N/A

Is there reasonable provision of portable fire extinguishers?

✓		
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Are all the fire extinguishing appliances readily accessible?

✓		
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Comments or observations:

There are no portable fire fighting appliances provided within the common parts of this building this is in accordance with the guidance in the document issued by the Local Government Group, Fire safety in purpose-built blocks of flats (July 2011) and because of advice from London Fire and Civil Defence Service. Under normal circumstances it is good practice for extinguishers to be located in a building along escape routes and near exits but as residents in an accommodation building are not trained to use portable fire extinguishers none are provided. The presence of fire extinguishers may encourage people to tackle a fire when, they should be evacuating the building and additionally any fire extinguishers provided could be stolen and /or misused as there are no permanent staff/employees on site. So with the recommendations of the guidance in mind portable fire fighting equipment is only located in plant rooms and other similar ancillary areas of TMO controlled buildings. It is not know if any portable fire fighting equipment has been purchased by any residents for their own private dwellings, in news letters to the residents there have been fire safety articles contains basic instructions in relation to the safe use of portable fire fighting equipment. If any residents have purchased portable fire fighting equipment, then this will be for their own person use and beyond the control of the TMO.

Carbon dioxide fire extinguishers are provided in each of the electrical intake rooms of this building

19. FIXED FIRE SYSTEMS AND EQUIPMENT

YES NO N/A

Type of fixed system: Dry Rising Mains

☒☐☐

Ring main

Automatic Opening Ventilation System

Comments or observations:

There are dry rising mains installed in these buildings, the inlets are located at the road/lower ground floor level, in the areas underneath the residential areas of these buildings with the outlets being located directly above the inlets on the residential floor levels. Each riser is numbered with black paint on the front of the dry riser box and also colour coded, the one's for this building are 1 to 4 with number 1 being in the flats numbered 300 up to number 4 in the flats numbered 500, the 500 section. So the dry riser inlet marked number 4 on the lower ground floor level feeds the outlets marked 4 above it and so on, the only slight difference is that the inlet for dry riser number 1 is located at the entrance to the Baseline area at the lower ground floor level and the outlet is in the corridor on the right hand side. In each dry riser box there is a diagram of this building and the two nearby ones with the dry risers shown, a copy of this diagram is at the end of this document. The fire service were shown this diagram and asked to comment on it for accuracy etc before it was finalised and a copy provided in each riser box. The dry risers were last tested by M and P Fire Protection Limited on the 30th December 2013 according to the contractors service sheets.

There is a ring main water supply provided for the fire service in this building, the outlets for this water ring main are located above each dry riser inlet valve, apart from the dry riser number 1, which is discussed above. These water main outlets and the dry riser inlets are located/positioned above each other in red painted boxes, the charged water ring main outlet is always in the upper box. This ring main is fed from the town main, this ring main was installed when the premises was constructed, it could have been considered that a wall mounted water ring main would be easier to maintain than an under ground hydrant one. This ring main is a recognised way of providing water to inaccessible places it also has the advantage that the fire service do not need to use a standpipe key and bar etc when connecting to it. In this case this is a water filled pipe above ground rather than underground which is maintained serviceable by the TMO, the last test was undertaken by M and P Fire Protection Limited on the 29th November 2013 according to the contractors label fixed inside some of the ring main boxes. The water pressure at the time of this last test was 4.4 bar and the water flow recorded as 1432 litres per minute. Please see the significant findings sheets regarding this ring main though.

How this system is used by the fire service is a matter for them to decide, in this building the system as it is now installed has been like this for years with fire service inspections undertaken and no adverse comments have been received from the LFB. In this case the lower ground floor level is an internal corridor with offices off of it, not a garage area as in the other buildings, so a fire appliance cannot be driven into this area.

The TMO use a third party contractor to maintain and service the dry rising mains, the water ring main and all the fitting attached to these fixed items and they are responsible for its servicing, maintenance and effective working order.

If any defects are noticed during a service or maintenance visit the contractor in under a contractual obligation to inform the TMO of these defects if there is a substantial cost implication or repair them if possible if the costs are within the agreed amount.

If the water ring main or the dry risers are used by the fire service during an operation incident then these mains and risers are under the total and full control of the fire service.

There is an automatic opening ventilation system installed in this building, the vents are located in the glazed roof areas in each section of the building, the vents are opened automatically on the activation of the locally positioned automatic smoke detectors. The control panel for these vents and the ones installed in the neighbouring blocks is presently located behind the desk of the reception area in Grenfell Tower. This reception area is being refurbished so this control panel will be moved shortly, there is an manual over facility on the control panel so that the vents can be opened to aid with temperate control and environment issues within the building. In each section of this building there is also a fire service manual over ride control for the vents within that section of the building.

If the manual controls for the smoke control vents are used this will be under the total control of the Fire Service. Please see the significant findings sheets reference more information on these automatic opening vents.

MANAGEMENT OF FIRE SAFETY

20. PROCEDURES AND ARRANGEMENTS

	YES	NO	N/A
Are there routine in- house fire safety inspections and checks carried out, with records kept?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are appropriate fire procedures in place with a suitable record of the fire safety arrangements ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there suitable arrangements for summoning and meeting the fire and rescue service, including providing relevant information and any likely hazards?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there suitable policies and procedures in place for contractors and "lone workers?"	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments or observations:

The TMO caretakers walk around the common parts of the residential areas of this building on a regular basis and there are defect reporting policies and procedures in place so that any discrepancies or damage can be repaired or items replaced. Any resident can ring the TMO 24 hour help line at any time to report any defects in this building, lights not working etc or any items that are damaged.

The Fire and Rescue service can be called at any time by any resident if there is an emergency situation and the tenant would meet the Fire Service on their arrival as would be the situation for a fire in any private dwelling.

The Health and Safety Advisor of the TMO has regular liaison meetings with the local fire and rescue service commander to pass on information and arrange familiarisation visits if needed or requested. As far as I can tell and from information I have been given the policies and procedures are subject to reviewing at set intervals

or are altered if new or relevant information becomes available. The lower ground floor level is not covered by this fire risk assessment.

21. TRAINING

YES NO N/A

Are TMO employees given adequate fire safety instruction and training on induction and adequate periodic “refresher training” at suitable intervals, with records kept?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Is the content of the staff training provided suitable, with practical instruction on fire fighting equipment?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

All TMO employees receive induction training which includes fire training and periodic “refresher training” at regular intervals, any records of this training are kept by the Human Resources (HR) department at 300 Kensal Road North Kensington. Caretakers, wardens and office managers receive training to be fire marshals/ wardens by a third party fire training company the fire warden are also the nominated persons and by being recorded as a fire warden you are also the nominated person, training records again kept by the HR department. The topics and areas covered by the training packages are available from either TMO’s HR or the Health and Safety team or direct from the training provider. I have been shown copies of the training documents and they appear to cover all the areas and topics that are mentioned in the H M Government risk assessment guidance booklets. The practical training involves using the types of portable fire fighting appliances currently provided in the TMO buildings. If anybody receiving this training does not use English as their first language this fact is taken into account so that they comprehend the information given to them. Prior to moving into this building all residents are issued with a handbook which includes some fire safety advice and are given a tour of the building by a Neighbourhood Officer, there is no documentary evidencing required by TMO for the issuing of the handbook. Contractors are reported by the TMO to be required to have a construction phase plan which should be agreed before work commences and be acted upon including provision of a suitable number and type of fire extinguishers and someone trained to use them as part of the fire safety arrangements for the project where appropriate. Fire drills are not undertaken by the residents of this building, it is not known what fire drills are undertaken by occupants of the lower ground floor level, but this item will be covered by this areas fire risk assessment.

22. CO-OPERATION WITH ANY OTHER EMPLOYERS

YES NO N/A

If this building is shared with other occupiers is fire risk information co-ordinated between occupiers?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Have you received appropriate information on other occupiers fire risks and general fire precautions?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Comments or observations:

The lower ground floor level of this building, under the apartments is an area used as offices and occupied by other occupiers, these units all have individual occupiers so this is a multi occupied building. The upper floor areas of this building, the residential areas are under the control of the TMO, the TMO has no control of the lower ground floor level, Baseline Studios. The offices/units are completely separate from the residential areas above and neither relies on the other for evacuation purposes nor are there any shared escape routes. But access is needed to this lower ground floor level by the TMO to empty the refuse bins and service and test the dry risers and water ring main. So even though these uses are totally separate the TMO do need to co-ordinate their fire risk assessment (FRA) with the other occupiers FRA for these reasons. The entrances/exits are independent and the building is fire separated by a concrete slab. This does not mean that any fire in the lower ground floor level would not affect the residential property but as a suitable measure these are separate occupancies much in the same way two houses or shops in a terrace are separated by party walls.

23. TESTING AND MAINTENANCE

	YES	NO	N/A
Is the structure of the premises adequately maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there weekly testing and six monthly servicing of fire detection and fire alarm system, with records kept?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there a monthly visual and annual testing of the emergency escape lighting, with records kept?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there a monthly visual and annual maintenance of the fire extinguishing appliances, with records kept?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there a monthly testing and annual servicing and maintenance of any automatic opening vents along with any associated equipment/devices, with records kept?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there routine checks of final exit doors and/or security fastenings, with records kept?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there periodic inspection of any external escape staircases and gangways, with records kept?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Six monthly inspections, (pipe & pump(s)) and annual testing of any wet or dry rising mains, with records kept?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monthly inspections of switches and annual testing of the fire fighting/evacuation lifts, with records kept?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Weekly inspections and annual testing of the sprinkler installations, with records kept?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Annual inspection and test of lightning protection system, with records kept?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	YES	NO	N/A
Monthly and annual testing and servicing, under load of any back up/stand by generators, with records kept?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments or observations:

According to the TMO asset list the lightning protection system installed on this building and the dry risers, the fire alarm and emergency lighting systems installed in the building are subject to a maintenance contract and that testing, servicing and maintenance is being carried out by professional third party contractors on a planned preventive maintenance programme with records kept centrally by TMO at the "Hub" and by the contractor. I have not seen any certificates showing the last service dates of these systems. The professional third party contractors undertake the testing, servicing and maintenance of the installed systems on a planned preventive maintenance programme with records kept centrally by TMO at the "Hub" and by the contractors.

There is an automatic smoke extraction system installed in the atrium of this building, this system is subject to a maintenance contract and testing, servicing and maintenance is being carried out on this by a third party contractor. It is not known if any occupier inspections are being undertaken in accordance with the manufacturer's recommendations and records kept to prove that these tests and inspections have been undertaken.

RGE Services were under contract to the TMO to provide portable fire fighting equipment testing, servicing and maintenance, a new contractor, for this building Chubb has been appointed from the 1st April 2014. The fire extinguishers in this building are in the electrical intake rooms only, this FRA is only covering the residential part of the building not the lower ground floor level. These extinguishers were all in test date, the last test date on the Chubb contractor's label for the extinguisher in electrical room 4 was September 2014. The fire extinguishers in the other electrical rooms, numbers 1 to 3 had RGE contractor's labels on them with a last test date of January 2014.

It is not known if the occupier's tests and inspections of the fire systems within this building are being undertaken along with the structural safety features of the building by the caretaker and that a written record is being kept on each relevant premises file or in a TMO office.

Definitions:

Responsible person: The person ultimately responsible for fire safety as defined in the Regulatory Reform (Fire Safety) Order 2005. which is:-

"responsible person" means—

- a) in relation to a workplace, the employer, if the workplace is to any extent under his control;
- b) in relation to any premises not falling within paragraph (a)—
 - i. the person who has control of the premises (as occupier or otherwise) in connection with the carrying on by him of a trade, business or other undertaking (for profit or not); or
 - ii. the owner, where the person in control of the premises does not have control in connection with the carrying on by that person of a trade, business or other undertaking.

"relevant persons" means—

- a) any person (including the responsible person) who is or may be lawfully on the premises; (members of the public in a shop or licensed premises, contractors or visitors in a factory) and
- b) any person in the immediate vicinity of the premises who is at risk from a fire on the premises, but does not include a fire-fighter who is carrying out his duties in relation to a function of a fire and rescue authority under section 7, 8 or 9 of the Fire and Rescue Services Act 2004 (fire-fighting, road traffic accidents and other emergencies). This could include people in flats above a ground floor shop or the staff living over a licensed premises.

Child; Anyone who is not over compulsory school age, i.e. before or just after their 16th birthday.

You must, before you employ a child, provide a parent with clear and relevant information on the risks to that child identified by the risk assessment, the measures you have put in place to prevent/protect them from fire and inform any other responsible person of any risks to that child arising from their undertaking.

Combustible materials: A substance that can be burned.

Compartment wall and/or floor: A fire-resisting wall or floor that separates one fire compartment from another.

Competent person: A person with enough training and experience or knowledge and other qualities to enable them properly to assist in undertaking the preventive and protective measures.

Dangerous substances: A substance which because of its physico-chemical or chemical properties and the way it is used or is present at the workplace creates a risk or a substance subject to the Dangerous Substances and Explosive Atmosphere Regulations 2002 (DSEAR). Small quantities of substances are not considered a major hazard for instance DSEAR talks of quantities of 25 litres and more so a few plastic bottles of cleaning materials and other such substances are not relevant and would be normal. For example the local corner shop or supermarket would not record as dangerous substances all the items they sell in their shop, including bleach, white spirit, paint and glue etc.

Material change: An alteration to the premises, process or service which significantly affects the level of risk to people from fire in those premises.

Means of escape: Route(s) provided to ensure safe egress from the premises or other locations to a place of total safety.

Premises: Any place, such as a building and the immediate land bounded by it, any tent, moveable or temporary structure or any installation or workplace.

Significant findings: A feature of the premises or items from which the fire hazards and persons at risk are identified this information comes from completing the fire risk assessment. It can also contain the necessary information, instruction and training needed and how it will be given. From the significant findings can come an:-

An Action plan: The actions you have taken or will take to remove or reduce the chance of a fire occurring or the spread of fire and smoke, including time frames and who will supervise or carry out the work needed.

Travel distance: The actual distance to be travelled by a person from any point with-in the floor area to the nearest storey exit or final exit, taking into account the layout of walls, partitions and fixings in the building. If the building has been constructed in accordance with The Building Regulations and no unauthorised alterations have then place then the travel distances will be satisfactory.

Where necessary: The Order requires that fire precautions (such as fire fighting equipment, fire detection and warning, and emergency routes and exits) should be provided (and maintained) 'where necessary'.

What this means is that the fire precautions you must provide (and maintain) are those which are needed to reasonably protect relevant persons from risks to them in case of fire. This will be determined by the findings of your risk assessment including the preventative measures you have or will have taken.

Who is at Risk in the building:

This is a term used in risk assessment documents and the Fire Safety Order 2005, for the purposes of this risk assessment persons who are at risk are deemed to be anybody who is lawfully entitled to be in the building, ie relevant persons, but excluding fire fighters engaged in emergency activities. Please see the definition of "relevant persons" as described above.

Young person:

(a) A person aged 16 years, from the date on which he attains that age until and including the 31st August which next follows that date.

(b) A person aged 16 years and over who is undertaking a course of full-time education at a school or college which is not advanced education.

(c) A person aged 16 years and over who is undertaking approved training that is not provided through a contract of employment.

REFERENCES:

Fire Safety Design and Management

BS 5588-12: 2004. *Fire precautions in the design, construction and use of buildings Managing fire safety*. Now incorporated in:

BS 9999: 2008. *Code of practice for fire safety in the design, management and use of buildings and BS 9991:2011*.

LACoRS. *Housing Fire Safety Guidance (Now Local Government Regulation)*

Local Government Group Fire safety in purpose-built blocks of flats (July 2011)

Fire Detection and Fire Alarm Systems

BS 5839-1: 2013. *Fire detection and fire alarm systems for buildings - Code of practice for system design, installation, commissioning and maintenance*.

BS 5839-6: 2013. *Fire detection and fire alarm systems for buildings – Code of practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings*.

BS 5839-8: 2013. *Fire detection and fire alarm systems for buildings - Code of practice for the design, installation, commissioning and maintenance of voice alarm systems.*

BS 5839-9: 2011. *Fire detection and fire alarm systems for buildings - Code of practice for the design, installation, commissioning and maintenance of emergency voice communication systems.*

Fire Extinguishing Appliances

BS 5306-1: 2006. *Code of practice for fire extinguishing installations and equipment on premises - hose reels and foam inlets.*

BS 5306-3: 2009. *Fire extinguishing installations and equipment on premises - Code of practice for the inspection and maintenance of portable fire extinguishers.*

BS 5306-8: 2012. *Fire extinguishing installations and equipment on premises - Selection and installation of portable fire extinguishers - Code of practice.*

BS EN 3. *Portable fire extinguishers.*

BS EN 671-3: 2009. *Fixed fire-fighting systems. Hose systems. Maintenance of hose reels with semi-rigid hose and hose systems with lay-flat hose.*

BS 5306-0:2011 *Fire protection installations and equipment on premises Part 0: Guide for selection of installed systems and other fire equipment*

BS EN 1869: 1997. *Fire blankets.*

BS ISO 14520-1:2006 *Gaseous fire-extinguishing systems. Physical properties and system design. General requirements*

Emergency Escape Lighting

BS 5266-1: 2011. *Emergency lighting - Code of practice for the emergency lighting of premises.*

BS 5266-7: 1999 (BS EN 1838: 1999). *Lighting applications - Emergency lighting.*

BS 5266-8: 2004 (BS EN 50172: 2004). *Emergency escape lighting systems.*

Fire Safety Signs

BS 5499-1: 2002. *Graphical symbols and signs - Safety signs, including fire safety signs. Specification for geometric shapes, colours and layout.*

BS 5499-4: 2000. *Safety signs, including fire safety signs. Code of practice for escape route signing.*

BS 5499-5: 2002. *Graphical symbols and signs - Safety signs, including fire safety signs. Signs with specific safety meanings.*

BS 5499-10: 2006. *Safety signs, including fire safety signs. Code of practice for the use of safety signs, including fire safety signs.*

Fixed Fire Extinguishing Systems and Equipment

BS 5306-2: 1990. *Fire extinguishing installations and equipment on premises - Specification for sprinkler systems.*

BS 9990: 2006. *Code of practice for non-automatic fire-fighting systems in buildings.*

BS EN 12845: 2004. *Fixed fire-fighting systems - Automatic sprinkler systems - Design, installation and maintenance.*

Miscellaneous

BS 476-22: 1987, 'Fire tests on building materials and structures, methods for determination of the fire resistance of non-load-bearing elements of construction'

BS 7176:2007 A1 2011. *Specification for resistance to ignition of upholstered furniture for non-domestic seating by testing composites.*

BS 7273-4: 2007. *Code of practice for the operation of fire protection measures - Actuation of release mechanisms for doors.*
BS 7671: 2008 A12011. *Requirements for electrical installations. IEE Wiring Regulations. Seventeenth edition.*
PAS 79: 2012. *Fire risk assessment - Guidance and a recommended methodology.*

Lightning

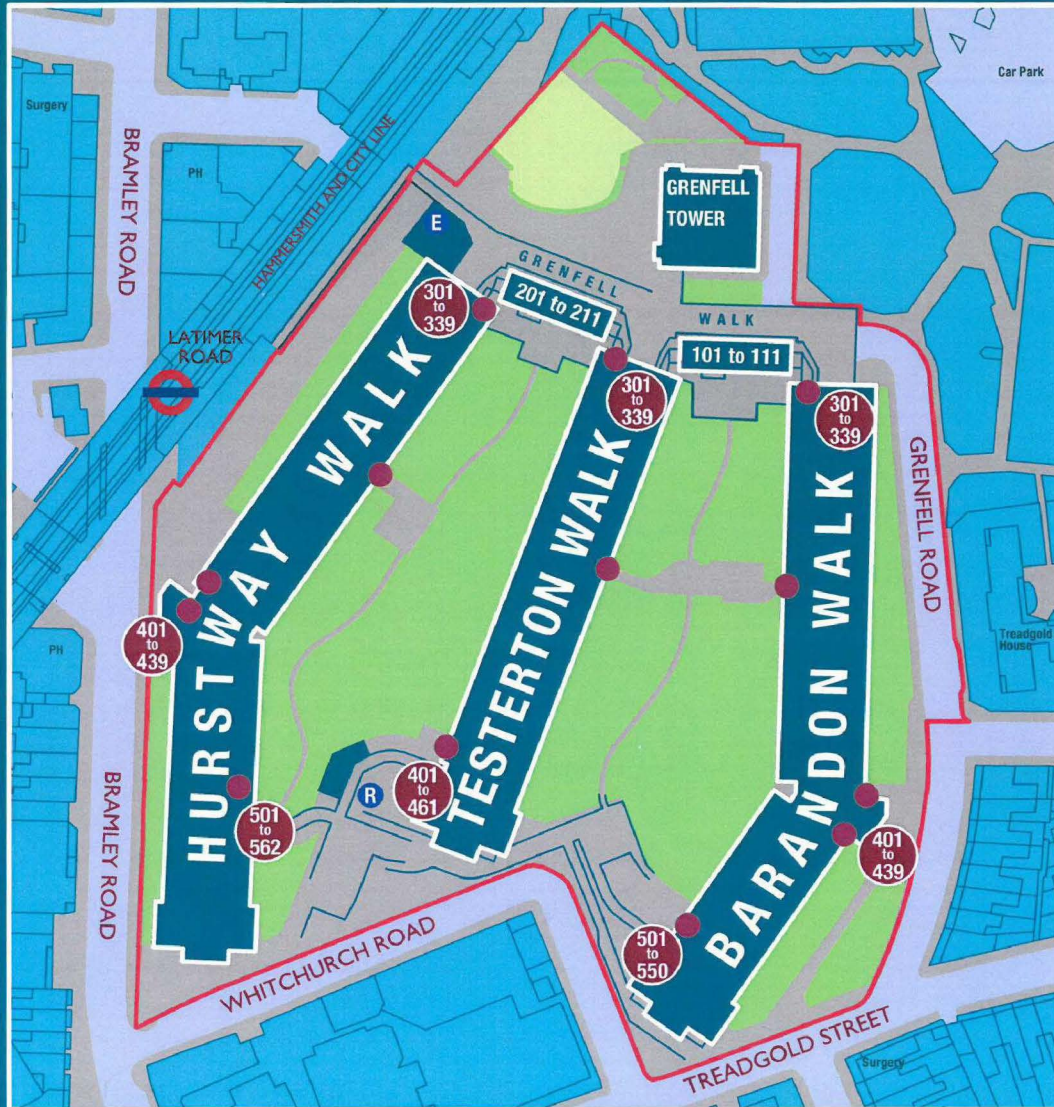
BS EN 62305-1: 2011. *Protection against lightning. General principles.*
BS EN 62305-2: 2006. *Protection against lightning. Risk management.*
BS EN 62305-3: 2011. *Protection against lightning. Physical damage to structures and life hazard.*
BS EN 62305-4: 2011. *Protection against lightning. Electrical and electronic systems within structures.*

LANCASTER WEST GROUND LEVEL



ESTATE BOUNDARY	COMMUNAL ENTRANCE/	GARDEN
ESTATE RESIDENCE	RAISED WALKWAY	DRY RISER INLET
LANCASTER WEST ESTATES OFFICE	NORTH KENSINGTON TENANT RESOURCE CENTRE	

LANCASTER WEST LEVEL 1



- ESTATE BOUNDARY
- COMMUNAL ENTRANCE
- GARDEN
- ID ESTATE RESIDENCE
- RAISED WALKWAY
- DRY RISER OUTLET
- E LANCASTER WEST ESTATES OFFICE
- R NORTH KENSINGTON TENANT RESOURCE CENTRE

