

Fire Risk Assessment Regulatory Reform (Fire Safety) Order 2005



Pevensey 2 University of Sussex Falmer Campus Work Order 28475

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Fire Risk Assessment



Prepared by; Sussex Estates Facilities LLP Report

Previous Risk Assessment Date: February 2011

Assessment Date: 22nd June 2015

Assessor: Martin Combs Eng Tech GIFireE CFPA EU ADV DIP

Suggested Review Date: April 2017

Responsible Person for the Premises:

University of Sussex Vice-Chancellor: Mr. Michael Farthing

Premises

Pevensey 2 North South Road University of Sussex Falmer

This fire risk assessment should be reviewed by a competent person by the date indicated above, or at such earlier time, as there is reason to suspect that it is no longer valid. Or if there has been a significant change in the matters, or if a fire event has occurred.

1. Executive Summary

Pevensey 2:

Is one of the original academic buildings forming a component building within the complex of science buildings part of the Falmer Campus. The total of occupants at peak times is around 515 including staff and students. There may be at times lone workers, working within the offices or laboratories.

Pevensey 2 is occupied by the two schools of Mathematics – Physical Sciences & the School of Psychology. Built circa 1960's / 70's consisting of a single building of traditional build (load bearing external brick walls, concrete floors and a flat roof). The building consists of a small Basement / Lower Ground floor area (loading bay, plant and storage), GF, 1st, 2nd floors on a sloping site meaning the various top floor levels all vary in their mean height from the ground. Similarly to other groups of buildings the numbering of the floors is consecutive with their partner buildings of Pevensey 1 and 3 therefore the GF is level 3.

It has two main staircases at the north and south end of the building for means of escape with additional escape routes at other levels as alternatives to the rear and front. Due to the age of the original build it would not conform to the current or reasonable building regulations, therefore it is unlikely that there will be any fire–stopping between floors. The two occupancies are in two defined wings of the building A & B and are separated by double fire doors protecting the stair lobby at each level. In B wing is the Bridge café which bridges the North South road and forms a link to Pevensey 1. At the north end of A Wing is a link to Pevensey 3.

The assessor considers that understanding the age of the building and the built fire compartmentation levels to be one of the most important factors in understanding the fire safety life risk in this building and has recommended that a full fire safety compartmentation survey is conducted. The results of such a survey would enable a full understanding of how any fire event could spread throughout the building; provide recommendations on how existing compartmentation lines are formed and how they should be protected and identify reasonable remedial works.

The automatic fire alarm system and emergency lights are subject to regular maintenance by Chubb all recorded in the premises log. However the Automatic fire detection requires some additional detection as defined in the action plan. Emergency lighting system has several units that may not be working, with some light units covered up; all must be rectified (health & safety coordinators to ensure this is done).

As with most buildings of this age some of the passive fire safety measures such as the fire doors are in a poor condition for fire safety and there are numerous issues with them that require resolution to ensure they meet the required standard. Recommendations for these are in the Action Plan and Appendix A.

In some of the laser labs two directional means of escape has been provided but in some these have been blocked off, these must be re-instated. Also the blackout curtains need replacement where they are not of fire resisting material.

Historically there have been a number of cables and services passed above the false ceiling above fire doors etc. and caused fire compartmentation breaches that have never been satisfactorily repaired.

Another issue that the assessor observed was the current level of control measures operated in some of the offices and labs with portable electrical equipment, electrical appliance usage controls and housekeeping, all of these controls varied in the different areas. The assessor makes a strong recommendation that more robust control measures are put in place to implement controls on electrical safety and the passive fire safety measures. Further the controls should include active fire safety checks in a formulated way to ensure a suitable level of maintenance of the passive fire safety measures such as the condition of the fire doors.

Accessibility for persons with mobility impairment is not perfect, but the assessor noted that the refuges in the North stair could be compromised by a fire in the main entrance lobby on the 3rd floor as the stair is open. The refuge should be moved to a better location.

The fire strategy and assessment from this risk assessment is in consideration of the whole life risk but the various occupants / schools should ensure that they coordinate and cooperate their understanding of their particular risks and manage shared means of escape protection and future fire safety management checks / inspections.

Whilst conducting this Fire Risk Assessment the assessor has considered the current life safety passive and active fire safety measures. The assessor has made full recommendations in the action Plan in Section 10.

The current risk status for Pevensey 2 is considered to be **substantial** with several breaches of legislation. If the recommendations of the assessor are carried out in full it is further considered that this risk profile may be reduced to **Tolerable**.

The following is a tabulation of the assessor's findings

- 1. The numerous trailing extension leads throughout the building need better management controls and assurances that they are suitable extension leads (fused surge protected) and PAT tested. Further consideration on limiting use and installing more mains sockets should be considered.
- 2. All electrical distribution panels that are either directly on the means of escape or in cupboards on the means of escape. If the means of escape route would require relevant persons to pass then they should all be enclosed behind 30 minutes of fire resistance. Such cupboards should not be locked with a padlock and hasp but with a kaba key lock with intumescent pads.
- 3. PAT testing should also be undertaken on all additional personal electrical items that have been introduced by staff. Ensure generally that all PAT testing is current.
- 4. Confirmation via additional risk assessment is required to determine if lightning protection is required.
- 5. Housekeeping and management of the means of escape needs firmer controls. Specifically the control of ignition sources and combustible materials in the means of escape. Uncontrolled ignition sources must be removed.
- 6. Throughout the building there are numerous breaches of fire compartmentation, through walls, doors and voids that require addressing, via a separate full fire compartmentation survey.
- 7. A large number of door wedges were found in location on fire doors must be removed
- 8. A large number of fire doors require remedial works to ensure the FD 30s standard is met, on intumescent strips and cold smoke seals and self-closing devices, hinges and door hardware see section 10 & 11.
- 9. Re-locate flammable stores that are not suitable located adjacent to distribution panels, all flammable stores and rooms should be secure and any required DSEAR risk assessment conducted.
- 10. Escape pathways through laser and other labs must be kept clear including the alternative means of escape into adjacent rooms.
- 11. Replace all non-fire resisting blackout laser curtains as per the newly refurbished lab.
- 12. Replace all pad lock and hasps on risk / electrical distribution cupboards with Kaba locks
- 13. Replace final exit door 4th floor to external roof escape with push pad (B Wing)
- 14. Jet wash the external roof means of escape to remove slip hazard
- 15. Consider fire risk in all rooms with windows onto spiral stair, possible glazing to be fire resisting.
- 16. Main entrance revolving doors plus the side doors need a whole revision to provide a suitable means of escape.
- 17. Psychopharmacology (4B16) relocates refrigeration from means of escape.
- 18. Additional evacuation chairs required plus training to be given.
- 19. Currently there is not a consistent system throughout the campus for carrying out routine in-house inspections of the general fire precautions (e.g. weekly, regular walk around conducting brief inspections of the measures and deficiencies recorded). The assessor acknowledges this and strongly recommends that a suitable system is implemented, these management checks are recommended in PAS 79 and form part of a bench mark standard in government published guidance. Further in response the assessor has devised a suitable new process for

reasonable fire safety checks which will in due course be implemented across the campus, following suitable training for staff.

- 20. Directional fire exit signage should be reviewed and confirm that the coverage is currently to the standard. Direction on where they are required is given in the Action Plan including the style of the signs to the current standard. Also there does not appear to be any Fire Action Plan notices in the building.
- 21. SOS Waypoint signage is not consistent or complete and additional signs should be installed. North stair Wing A is good. South Stair Wing A only has a sign on the top floor. Wing B no sign on top floor at either end, should be at both ends for stair to 4th floor at west end and east end. 4th Floor only one at east end none at other west end stair. 3rd floor only one before the café in corridor. Signage is best at the stairs or means of escape point for each storey.
- 22. Provide additional fire detection to some areas as detailed in section 10.
- 23. Investigate emergency light coverage including those currently covered to ensure all are working.
- 24. Staff fire safety training must be reviewed to ensure such training is ongoing and suitable for general fire safety
- 25. Currently the automatic fire detection system is not tested in line with the current British standard to include the use of the manual call points. This has been acknowledged by SEF in reviewing the current Chubb contract and all weekly fire alarm testing will be conducted by SEF.
- 26. Emergency evacuation refuges in the North Stair should be reviewed as the stair is not a protected route it is an open staircase to the ground floor. In the entrance lobby there are a large number of ignition sources and any fire in this area could compromise the safe use of the refuges. Review current strategy and possible location move.

2. Introduction

This report has been prepared to aid and assist the responsible person to comply with their duty under the Regulatory Reform (Fire Safety) Order 2005 (FSO). Production of this report does not mean compliance with the FSO, but gives the responsible person the information needed to manage the risk of fire.

2.1 How to use this report

- A. This report should be used in conjunction with any available plans.
- B. Its contents / findings and subsequent action plan have been produced by an experienced and competent qualified fire risk assessor.
- C. It remains for the responsible person to use this report and diligently use the action plan, which should be completed in the prescribed time scales. However it should be noted that this risk assessment and associated action plan is only correct as of the date it was undertaken.
- D. Each individual risk assessment and associated action plan is only correct as of the date it was undertaken; these dates are recorded in the report.

1.2 Risk Assessment Methodology

- A. The premises will be surveyed to identify any significant fire risks including, ignition sources and particular fire loading.
- B. Discussion with the responsible person on site and observations will identify approximate numbers and groups of people at risk and also identify particular high-risk groups.
- C. The risk assessor will inspect all available test records.
- D. Any emergency evacuation procedure documents will be checked, including the practice of such procedures to ascertain if they are adequate or need improvement.
- E. Active & Passive fire protection measures will be assessed to determine their appropriate level for the premises.

1.3 Limitations

- A. No intrusive inspections will be made during this assessment, or testing to confirm the level of fire protection, this is based on visual inspection only and the expert opinion of the risk assessor
- B. Flues, ducts, voids or similar areas, the access of which necessitates the use of specialist equipment or tools, or which could cause damage to the structure will not be inspected. The degree and quality of fire compartmentation within these areas is only based on the visible protection offered and does not assess if fire can spread through such a cavity.
- C. Furniture, Fixings and Fittings will not be moved during the risk assessment, excessive storage of such items could conceal other fire risks, such as breaches in the compartmentation, highly flammable substances etc.
- D. Electrical switchgear, Plant Machinery, Boilers and Portable Electrical Appliances will not be internally inspected; it is assumed any required internal fire protection such as 'flash guards' are in place, serviced and functional. The fire risk assessor will check this. Some records may be held centrally.
- E. Restricted areas such as high level ceiling voids will be inspected as far as reasonably practical if safe to do so.
- F. The risk assessment is limited to the existing buildings on the site, at the date of the visit, and the means of access and egress including emergency routes, but does not cover the full extent of the grounds.
- G. Loft spaces will only be accessed if containing fixed walkways, with edge protection and adequate lighting.
- H. Lift shafts will not be inspected.
- While there are Four Key Areas associated with the site: 1. Life Risk, 2. Property Risk 3. Environmental Effects 4. Business Continuity. There may be additional benefits and advantages to items 2 – 4 (in this paragraph) as a result of the Fire Risk Assessment, but this report has been limited to the Life Risk only.
- J. All inspections and observations noted in this report are only correct at the time and date they were made, due to the fluid nature of what is being assessed, this could have changed at the time of reading this report.

1.4 Legislation

To assist with compliance of the Regulatory Reform (fire safety) Order 2005, the responsible person must ensure that a suitable and sufficient fire risk assessment is carried out, identifying the risk to which relevant persons are exposed and for the purpose of identifying the general fire precautions that are needed to ensure the safety of all employees, service users, contractors and relevant persons on and in the vicinity of the premises.

The risk assessor suggests a two-tier system of fire risk assessment be adopted and be implemented on the premises:

Stage 1: A fully comprehensive fire risk assessment for the premises

Stage 2: A weekly work place inspection for the premises of each work area to supplement the comprehensive fire risk assessment, as above and ensure day-to-day management of fire safety is documented.

This report is intended to be used for Stage 1:

- A. The Fire Risk Assessment needs to be carried out by a specialist or competent person who has had comprehensive training and experience.
- B. The assessor must work in liaison with the premises manager who has a thorough knowledge of the premises, i.e. the layout, the work activities, the type of service and importantly specific details about the people using the building e.g. numbers, vulnerable or disabled people, anyone who may have difficulties in an evacuation, or those who may not respond to an alarm.
- C. The assessment must be carried out whilst the building is in normal use, so the assessor can observe the building users carrying out their normal work practices.
- D. The assessor will also assess the suitability of the technical aspects of the building; such as travel distances, fire resisting construction, width of means of escape and exits, subdivision of escape routes, inner rooms, dead-end conditions and alternative exits etc.
- E. The completed report must be handed to the responsible person for the premises or facilities manager, duty manager etc.
- F. The responsible person is responsible for managing and completing the action plan, defining who is responsible for undertaking the action, by when, or details of a program of work and the date it is completed.
- G. Actions that are high priority and require immediate attention must be actioned straightaway as these indicate a potential life-threatening situation.
- H. Actions involving fire safety management e.g. preparing and Emergency Evacuation Plan, Staff Training, collating all fire related documentation so that it is readily available for inspection etc. should be actioned as soon as possible as they are relatively straightforward.

- I. Other actions should be either completed or planned within the timescales given, as far as reasonably practicable and progress recorded.
- J. Where items have to be delayed for financial reasons or programming reasons, other management controls must be put in place to reduce the risk, e.g. if waiting for automatic fire detection to be fitted, or for the funds to be made available, then a control measure would be to ensure other remedial actions have been completed to reduce risk and to implement a system to regularly check unsupervised areas for fire hazards, so that fire would not burn out of control undetected.
- K. For areas where the risk of fire may be higher, such as work activities involving heating processes or the use of flammable substances a specific risk assessment is suggested for each activity.
- L. Where a dangerous / flammable substance is present on the premises, then a specific risk assessment is also required under the "Dangerous Substances & Explosives Atmospheres Regulations (DSEAR) 2002". And for any further advice contact the SEF QSHE team or the Health and Safety Executive for further advice.

1.5 Communications & Co-Operation

- A. You must provide employees, including temporary staff, with clear and relevant information on the risks to them identified by the risk assessment, about the measures taken to prevent fires and how these measures will protect them if a fire breaks out.
- B. You must inform non-employees, such as agency staff or contractors, of the relevant risks to them and provide them with information about who are the nominated competent persons and about the fire safety procedures
- C. You must co-operate and co-ordinate with other responsible persons, who also have premises in the building, inform them of any significant risks you find and how you will seek to reduce / control those risks, which might affect the safety of their employees and other relevant people.
- D. You must provide the employer of any person from an outside organisation who is working in your premises with a copy of the fire risk assessment, clear and relevant information on the risks to those employees and the preventative and protective measures taken.
- E. You should consult with employee's representatives about significant findings of the risk assessment and the proposed remedial actions and proposals for improving the fire precautions.
- F. If you employ a Young Person (aged 16 18) you must review the fire risk assessment and any significant risks must be detailed in their specific Health & safety risk assessment.
- G. If you employ a child (under 16), you must review the fire risk assessment and provide the parent or guardian with clear and relevant information on the risks to that child identified by the fire 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.

1.6 Enforcement

It is the duty of the Fire Authority to enforce the Regulatory Reform (fire safety) Order 2005 in most premises. They are required to ensure that the fire safety arrangements provided in a workplace / designated premises are in accordance with the current statutory legislation and that they are reasonable in the circumstances.

If any person having control over a workplace or designated premises is deemed to have failed an obligation then the Fire Authority can issue an Alterations Notice, Enforcement Notice or a Prohibition Notice.

The enforcing authority will have the power to inspect your premises to check that you are complying with your duties under the order.

They will need to see a copy of the fire risk assessment and evidence that the significant findings of that assessment have been actioned or that plans are in place for remedial works.

If the enforcing authority is dissatisfied with the outcome of your fire risk assessment or the actions you have taken, then they may issue an Enforcement Notice that requires you to make certain improvements or, in extreme cases, a Prohibition Notice that restricts the use of all or part of your premises until improvements are made.

If your premises are considered by the enforcing authority to be or have potential to be high risk, they may issue an Alterations Notice that requires you to inform them before you make any material changes or change of use of the premises. Failure to comply with any duty with any duty imposed by the Order or any Notice issued by the enforcing authority is an offence. Should you receive ban Enforcement Notice or Prohibition Notice please be aware that this could result in further formal legal proceedings.

3. General Information

3.1 The Premises

Number of Floors	3
Approx. floor area above Ground Floor	3013 M ²
Approx. Ground Floor area	1560 M ²
Basement	175 M ²
Total Floor Area	4748 M ²

Brief Details of Construction & Use of Premises:

Pevensey 2 is an academic building occupied by the two schools of Mathematics – Physical Sciences & the School of Psychology. Built circa 1960's / 70's consisting of a single building of traditional build (load bearing external brick walls, concrete floors and a flat roof). The building consists of a small Basement / Lower Ground floor area (loading bay, p plant and storage), GF, 1st, 2nd floors on a sloping site meaning the various top floor levels all vary in their mean height from the ground. Similarly to other groups of buildings the numbering of the floors is consecutive with their partner buildings of Pevensey 1 and therefore the GF is level 3.

It has two main staircases at the north and south end of the building for means of escape with additional escape routes at other levels to the rear and front. Due to the age of the original build it would not conform to the current or reasonable building regulations, therefore it is unlikely that there will be any fire-stopping between floors. The two occupancies are in two defined wings of the building A & B and are separated by double fire doors and a stair lobby at each level. In B wing is the Bridge café which bridges the North South road and forms a link to Pevensey 1.

2.2 The Occupants

Approx. maximum number	515	
Approx. maximum number of employees, at any one time	300	
Maximum number of members of the public	Students - 200, Public - 15	
Associated times / hours of occupation	09.00 – 17.00	
Occupants at Special Risk		
Sleeping occupants	0	
Disabled occupants	3	
Occupants in remote areas / Lone workers	Yes	
Young persons	Yes members of the public	
Others: Occasional dogs in the Vocal Communication Laboratory		

2.3 Fire Loss Experience

Historically there has been no recorded accidental fires and no evidence of any fire that has caused material damage to the building fabric, causing substantial compartment & building loss.

2.4 Other Relevant Information

None

2.5 Relevant Fire Safety Legislation

The following fire safety legislation applies to these premises:

Regulatory Reform (fire safety) Order 2005

The above legislation is enforced by:

East Sussex Fire & Rescue Service

Other legislation that makes significant requirements for fire precautions in these premises (other than the Building Regulations 2013):

The Health & Safety at Work Act etc 1974

Control of Substances Hazardous to Health Regulations 2002 (COSHH)

The legislation which above makes reference is enforced by:

The HSE

Comments

4. Fire Hazards & their Elimination or Control

4.1 Electrical Sources of Ignition

Reasonable measures taken to prevent fires of electrical origin?	X Yes	No
More Specifically:		
• Fixed Installation periodically inspected and tested?	X Yes	No
Portable appliance testing (where appropriate) carried out?	Yes	X No
Suitable policy regarding the use of personal electrical appliances?	Yes	X No
• Suitable limitation of trailing leads and adaptors?	Yes	X No

Comments & Hazards Observed:

PAT testing is current in most areas and was last tested and recorded - 05 / 2011, next test due in 2015 and 2016. However there was evidence of some equipment & extension leads in use that have never been tested in some of the more complicated layout and busy laboratories, all equipment including personal, must be inspected as part of the PAT testing regime.

Mains electrics currently all testing and maintenance conducted by Sussex Estates Facilities.

There was evidence of multiple extension leads being used especially in the various laboratories in both A & B wing, some of which are being used by hanging from an elevated socket; it is a recommendation of this report to install additional mains sockets in the laboratories as required to alleviate such use of extension leads. If this is not practical then a more strict management of extension leads is required, to ensure all are fused protected units with surge protection. Of course the extension leads should be included in the PAT testing regime see above. All electrical switch gear / hazard cupboards should be secured by a proper lock to ensure it is held fully against the frame, this allows the intumescent and cold smoke seals to work fully. Padlock and hasps must be removed and Kaba locks installed.

Outside of the laser labs and in the main entrance are flat screen TV's which must also be PAT tested.

4.2 Smoking

Reasonable measures taken to prevent fires as a result of smoking?	X Yes	No
More Specifically:		
Smoking prohibited on the premises?	X Yes	No
Smoking prohibited in appropriate areas?	X Yes	No
Suitable arrangements for those who wish to smoke?	X Yes	No
• This policy appeared to be observed at time of inspection?	X Yes	No
comments & Hazards Observed:		

The policy was seen to be observed

4.3 Arson

Does basic security against arson by outsiders appear reasonable? (Reasonable only in the context of this fire risk assessment)

Is there an absence of unnecessary fire load in close proximity to the Premises or available for ignition by outsiders?

X Yes	No
X Yes	No

Comments & Hazards Observed:

Premises external bin store is behind a wall in a pen and is reasonably secure and therefore not easily accessible for ignition.

4.4 Portable Heaters & Heating Installations

Is the use of portable heaters avoided as far as practicable?	X Yes	No
If Portable Heaters are used:		
Is the use of the more hazardous type (E.g. Radiant heat bar fires or LPG appliances) avoided? N/A	X Yes	No
Are suitable measures taken to minimize the hazard? Of ignition of combustible materials? N/A	X Yes	No
Are the fixed heating installations subject to regular Maintenance? N/A	X Yes	No

Comments & Hazards Observed:

All domestic boilers and heating systems are currently serviced by either "Saunders Specialised Services" or if the supply is part of the main district heating system fired from the main campus boiler house which forms part of the contract with Sussex Estates Facilities.

4.5 Cooking

Are reasonable measures taken to prevent fires as a result? of cooking?	X N/A	Yes	No
More specifically:			
• Filters changed and ductwork cleaned regularly?	X N/A	Yes	No
• Are suitable measures taken to minimize the hazard? Of ignition of combustible materials?	N/A	X Yes	No
Suitable extinguishing appliances available?	N/A	X Yes	No

Comments & Hazards Observed:

There is several small staff kitchenettes throughout the building all have suitable portable fire extinguishers and fire blankets.

The bridge café is run by Sussex Foods an independent company, but no cooking is undertaken and is therefore considered lower risk, with reasonable fire safety measures in place.

4.6 Lightning

Do the premises have a lightning protection system?		N/A		Yes	X	No
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Comments & Hazards Observed:

There was no evidence of a lightning conductor installed;

The risk from a lightning surge in Pevensey 2 is moderate considering the usage of the building; it is recommended that a separate risk assessment and calculation should be carried out to determine if lightning protection is required.

4.7 Housekeeping

Is the stan	dard of housekeeping adequate?	Yes	X No
More Sp	pecifically:		
•	Combustible materials appear to be separated from ignition sources?	X Yes	No
•	Avoidance of unnecessary accumulation of combustible materials of waste?	Yes	X No
•	Appropriate storage of hazardous materials?	Yes	No
• Comment	Avoidance of inappropriate storage of combustible materials?	Yes	X No

Generally throughout both A & B wings the housekeeping in the general means of escape was reasonable. On the top 5th floor there was some soft furniture which displayed a label of compliance for the Furniture and Furnishings (fire) (safety) Regulations 1988 and therefore considered ok. On the first floor of B wing there have for some time been some wooden crates stored all should be removed from the means of escape.

In A wing some of the Laboratories have flammable stores in the teaching labs & technician's rooms with the access not totally secure and stock accounts not available. In the laser labs the assessor had several concerns that will be considered in several sections of this report but there needs to be a general consideration on the accumulation of combustible materials such as some of the blackout curtains (black plastic). Also the usage of some gases could be minimalized if it is not in constant use including piped Nitrogen gas, although the assessor recognises that most of the gases are either inert or non-flammable, they are still a stored pressure vessel that would react in a fire. Signage on the doors to these labs could be improved providing details of room risks in line with GHS classification and laser class signage information.

It is reasonable to request that some of the laboratories and the technician's rooms would benefit from some organisation and de-cluttering to support means of escape in the event of a fire. Including room 3A14 the alternative means of escape is currently blocked by furniture and in the technicians room a further flammable store is located in front of the electrical fuse box. In 3A13 the flammable store must be relocated. All must be corrected ASAP.

In B wing risk levels are different levels with most of the Laboratories more akin to office type risks with some slight extended means of escape and ignition sources such as refrigerators which will be discussed later.

4.8 Hazards Introduced by Outside Contractors & Building Works

Are fire safety conditions imposed on outside contractors?		X Yes	No
Is there satisfactory control over works carried out on the premises b Outside contractors (including "hot work" permits)?	у	X Yes	No
If there are in-house maintenance personnel, are suitable precautions taken during "hot work", including use of "hot work" permits?	N/A	X Yes	No No

Comments & Hazards Observed:

All contractors working are subject to the University of Sussex's Management of Contractors Policy. Contractors are all inducted. Induction training includes the requirement to provide risk assessments and method statements for all works. All works are subject to permit to work procedures managed by the University's Estates and Facilities Management contract through SEF.

4.9 Dangerous Substances

Are the general fire precautions adequate to address the hazards associated with dangerous substances used or stored within the premises? N/A Yes X No
If the above applies, has a specific risk assessment been carried
Out, as required by the Dangerous Substances & Explosives
Atmospheres Regulations 2002? N/A Yes X No

Comments & Hazards Observed:

There are several Flammable stores mainly in teaching labs and in the various technicians' rooms and generally the storage cabinets appear to be suitable and in good condition and the assessor acknowledge that the storage levels were also reasonable. However there was evidence of mixed storage of solvents, flammables and other chemicals, therefore it is recommended that a DSEAR risk assessment be conducted. If they have previously been completed they were not available at the time of the inspection. The assessor also noted that either the location or security of the storage was an issue in some circumstances.

A DSEAR risk assessment should be conducted for all of the hazards and signage for the rooms provided in line with the latest <u>Globally Harmonized System of Classification and Labeling of Chemicals</u> (GHS).

4.10 Other Significant Fire Hazards That Warrant Consideration Including Process Hazards That Impact On General Fire Precautions

Hazards:

The assessor noted the laser laboratories in A wing are a significant risk in the premises, however they have controlled access to limit the numbers. The assessor makes comment on all of the laboratories in the following comments section of this report.

The Lasers known in the laboratories are; Class 4 Class 3b and Class3.

In B wing there are no significant fire hazards that warrant additional consideration, other than general fire safety and means of escape.

Comments & Hazards Deficiencies Observed:

A Wing:

All lasers are classified by the manufacturer and labeled with the appropriate warning labels. Any modification of an existing laser or an unclassified laser must be classified by a laser safety officer prior to use. The following criteria are used to classify lasers:

Wavelength. If the laser is designed to emit multiple wavelengths the classification is based on the most hazardous wavelength.

For continuous wave (CW) or repetitively pulsed lasers the average power output (watts) and limiting exposure time inherent in the design are considered.

For pulsed lasers the total energy per pulse (joule), pulse duration, pulse repetition frequency and emergent beam radiant exposure are considered.

The standard governing their safety of laser products in Europe (EN0 and Internationally (OFC), was substantially revised in 2001 and the classification system was modified. Three new laser classes (1M, 2M and 3R) were created and Class 3Awas removed. A brief description of each of the current laser classes follows.

Class 1 Lasers

This class is eye-safe under all operating conditions.

Class 1M Lasers

This class is safe for viewing directly with the naked eye, but may be hazardous to view with the aid of optical instruments. In general, the use of magnifying glasses increases the hazard from a widely-diverging beam (e.g. LEDs and bare laser diodes), and binoculars or telescopes increase the hazard from a wide, collimated beam (such as those used in open-beam telecommunications systems). Radiation in classes 1 and 1M can be visible, invisible or both.

Class 2 Lasers

These are visible lasers. This class is safe for accidental viewing under all operating conditions. However, it may not be safe for a person who deliberately stares into the laser beam for longer than 0.25 seconds, by overcoming their natural aversion response to the very bright light.

Class 2M Lasers

These are visible lasers. This class is safe for accidental viewing with the naked eye, as long as the natural aversion response is not overcome as with Class 2, but may be hazardous (even for accidental viewing) when viewed with the aid of optical instruments, as with class 1M. Radiation in classes 2 and 2M is visible, but can also contain an invisible element, subject to certain conditions.

Classes 1M and 2M broadly replace the old class 3A under IEC and EN classification. Prior to the 2001 amendment there were also lasers which were Class 3B but were eye-safe when viewed without optical instruments. These lasers are Class 1M or 2M under the current Classification system.

Class 3R Lasers

Radiation in this class is considered low risk, but potentially hazardous. The class limit for 3R is 5x the applicable class limit for Class 1 (for invisible radiation) or Class 2 (for visible radiation). Hence CW visible lasers emitting between 1 and 5 mW are normally Class 3R. Visible class 3R is similar to class IIIA in the US regulations.

Comments & Hazards Deficiencies Observed:

Class 3B Lasers

Radiation in this class is very likely to be dangerous. For a continuous wave laser the maximum output into the eye must not exceed 500mW. The radiation can be a hazard to the eye or skin. However, viewing of the diffuse reflection is safe.

Class 4 Lasers

This is the highest class of laser radiation. Radiation in this class is very dangerous and viewing of the diffuse reflection may be dangerous. Class 4 laser beams are capable of setting fire to materials onto which they are projected.

Any laser product of a given Class may contain 'embedded' lasers which are greater than the Class assigned to the product, but in these cases engineering controls (protective housings and interlocks) ensure that human access to radiation in excess of product Class is not possible. Notable examples of this are CD and DVD players which are Class 1 laser products while containing Class 3R or Class 3B lasers and laser printers which are Class 1 laser products but contain Class 4 embedded lasers.

Note: for a product to be classified correctly, it must be tested at the maximum output accessible under reasonably foreseeable single-fault conditions (e.g. in the drive circuitry). A non-M class product must pass both Condition 1 and Condition 2 of Table 10 in IEC/EN 60825-1, and an M-class product (which by definition has failed either Condition 1 or 2) must pass the irradiance condition in the same table.

Fire Safety Considerations & Objectives,

Laser components, Optical Path, Target, lab materials

- Clothing of persons in the laboratory
- Building materials
- Ignition of Flammable chemicals and gases
- Production of smoke, irritants, toxins from a fire event
- Controlled normal access into lab
- Access into the Lab during an emergency Medical Fire Other crisis
- Emergency egress from Lab through designated exits into the means of escape
- Primary and Secondary fire exits
- Lab equipment / pathways
- Laser Curtains, barriers, fire resistance (some Labs require upgraded curtains)
- Fire Extinguisher Equipment
- Fire Detection equipment, location and coverage

5. Fire Protection Measures

5.1 Means Of Escape From Fire

	idered that the premises are provided with reasonable mear n case of fire?	ns of	X Yes	No
More sp	ecifically:			
•	Adequate design of escape routes?		X Yes	No
•	Adequate provision of exits?		X Yes	No
•	Exits easily & immediately openable where necessary?		Yes	X No
•	Fire exits open in the direction of escape where necessary'	?	X Yes	No
•	Avoidance of sliding or revolving doors as fire exits where necessary?	N/A	Yes	X No
•	Satisfactory means for securing exits?		X Yes	No
Rea	asonable distances of travel:			
•	Where there is a single direction of travel?	N/A	Yes	X No
•	Where there are alternative means of escape?	N/A	X Yes	No
•	Suitable protection of escape routes?		Yes	X No
•	Suitable fire precautions for all inner rooms?	N/A	X Yes	No
•	Escape routes unobstructed?		Yes	X No
•	It is considered that the premises are provided with reasonable arrangements for means of escape for disabled people?	N/A	Yes	X No

Comments & Hazards Deficiencies Observed:

As Pevensey 2 consists of two distinct wings (A & B) to discuss the Means of Escape the assessor has divided it into the two sections. During the inspection the assessor has carried out a visual inspection of the corridors but was unable to satisfactorily determine the level of fire compartmentation above the false ceiling and within the cavity barriers and voids. Later in this report the assessor has recommended a full compartmentation survey. Generally the travel distances for means of escape are within published guidance for single and two direction travel. All fire door details are in the Action plan section 10 and 11. A Wing:

Consists of three levels on a north to south axis consisting of a single main corridor at each level;

5th **floor:** This is 48 m in length of undivided corridor (no cross corridor fire doors), with lobbies created at each end protecting the two staircases. At the south end it forms a lobby connection to B Wing and at the north end there is a short further corridor linking to Pevensey 3 building. Any corridor over 30 m in length should normally be subdivided by fire doors creating a compartment line with the adjacent rooms. Therefore without the subdivision and the inherent risks in some of the rooms (teaching Labs) it is imperative that the individual room doors and frame surround are to a good fire resisting FD30s standard.

Comments & Hazards Deficiencies Observed:

A Wing (continued):

In addition the storage cupboards for electrical distribution boards must also be to the same fire door standard of FD30s and any locks consisting of a padlock and hasp must be removed and a suitable Kaba lock installed, to ensure that the cupboard fire doors are held suitably to the frame and held in place.

At the North end there is a short dead end corridor that requires suitable protection by similar standard fire doors, the assessor particularly noted here that the fire door to the teaching lab technicians room (5A38) had part of its frame missing and was also wedged open the technicians room also contains the flammable store (numerous door wedges throughout must be removed).

4th **floor:** Again this is a long single corridor 48 m in length greater than 30 m in length which is undivided therefore the same requirements exist for the room and cupboard fire doors.

3rd **floor (ground floor):** Is a single undivided corridor of 32m in length, this length is not as crucial as it is only minimally over the 30m guidance. However it is imperative that the fire doors in this corridor are to a good standard especially in the higher risk laser laboratories and their associated technicians rooms.

In the laser laboratories to ensure a form of blackout and protection some of the laboratories have an arrangement of black curtains hung from the ceiling around the laser decks, these appear to be a form of plastic and certainly do not have any fire resistance properties. A more recently refurbished laser lab has had commercially installed fire rated curtains this needs to be done in all laser labs. Further the pathways around the laser decks must be maintained and some minor housekeeping issues around these routes to fire exits both primary and secondary must be maintained, particularly in room 3A14 the alternative exit has been blocked and must be reinstated.

At this level is the main entrance lobby, this lobby accommodates the north escape stair which therefore does not go via a protected route to the external but is compromised at this level. There is a study area set out in this area with computer facilities and a further inner room used as a post room, these areas has ignition sources and the high fire loading of the post room all open to the staircase. The assessor recommends that the automatic fire detection is extended to cover these areas. The main entrance / final exit doors are formed by two outer narrow glazed doors less than 750cm in width and a central revolving door. Published guidance provides recommendations that revolving doors are not to be used as means of escape doors, together with the width of the other doors this exit does not provide a suitable means of escape especially considering the numbers that will be required to flow through them. Lastly adjacent to these doors is the emergency evacuation chair for persons with disability, further the assessor considers that this final exit is not suitable for disability escape. Consideration must be given to the redesign of this exit.

Lastly at the north end leading to Pevensey 3 in room 3A18 has a lab for cryogenics and vacuum testing which is the other side of the lab 3A14 which has the alternative route blocked and should be made available again. Again the flammable store is not best located by a fuse box and must be relocated. There are some reasonable risks in this room and therefore protection of the means of escape is imperative so the main doors require refurbishment. Etc.

Refuges on All Floors North Stair: Currently the refuges in this stair could be compromised by a fire in the GF floor entrance lobby. Consideration must be given to relocate the refuges to a protected area and upgrade the current automatic fire detection in this area.

B Wing:

Is occupied by the School of Psychology which provides a different form of risk over the three floors formed on an east to west axis;

5th Floor: is formed as an L shaped corridor of 35m in length with means of escape in two directions available at the east end down the South stairs and at the west end via short run of stairs to the 4th floor. Where there is access to an external fire exit door (**the opening mechanism is not satisfactory and requires a suitable push pad installed**) and an external means of escape across a flat roof and down an external spiral staircase. There are hand rails across the flat roof which at one point are not supported satisfactorily and require additional support. The spiral staircase and rails are all in reasonable condition, but the flat roof would benefit from an annual jet wash to clear moss etc. Adjacent to the spiral stairs there are several windows the assessor was unable to determine what risk was behind these windows (could be study rooms or Bridge café kitchen), however any window within 1.8m of the escape stair if the room has any fire ignition risk within it should have fire resisting glazing. Finally on the external escape route sufficient emergency lights should be installed.

Comments & Hazards Deficiencies Observed

Most of the rooms off of the main corridor are small offices of low risk that just require some refurbishment of the fire doors which are not in the best condition and the panels above are of unknown material, all details in section 10 & 11, this will also satisfy the slightly over 30 m undivided corridor. At the east end is entrance to the development psychology laboratory, which has a secondary means of escape into A wing Teaching labs.

4th **floor:** Is identical in layout to the 5th floor other than the secondary means of escape from the lab into A wing does not exist. At this level the laboratory is the Psychopharmacology Unit (4B16) which is a little maze of rooms for individual testing, without the secondary means of escape this area forms a dead end with slightly extended single direction travel distance of 24m. However if the fire doors are to a reasonable standard with the automatic fire detection the assessor considers these to be a reasonable compensatory feature for the travel distance. However there are some ignition sources in the form of refrigerators on the means of escape it is recommended that these are found a location out of the means of escape.

The rest of the 4th floor on the main corridor are small offices of low risk that just require some refurbishment of the fire doors which are not in the best condition and the panels above are of unknown material, all details in section 10 & 11, this will also satisfy the slightly over 30 m undivided corridor.

3rd **floor:** At this level the general layout is similar with an additional rear final fire exit as due to the mean level of the building this is ground floor. At the opposite end is the link to the bridge café, the rest of the 3rd floor on the main corridor are small offices and a small unit for children's consultations (all of the doors in this unit are in good condition), all are of low risk that just require some refurbishment of the fire doors which are not in the best condition and the panels above are of unknown material, all details in section 10 & 11, this will also satisfy the slightly over 30 m undivided corridor.

Bridge Café: Is occupied by Sussex food and they should have conducted their own fire risk assessment, this was not available to the assessor to confirm. However the assessor noted that the level of risk is lower due to no cooking being undertaken, Fire doors need some minor refurbishment and there is two directional reasonable means of escape available. Also consideration for additional AFD in this area including the store room will be considered later.

Loading Bay level 2: The loading bay provides one of the only disabled access routes via the goods lift to all levels of B wing. From the loading bay there is the general waste storage bay which whilst not remote from the building is in the open and can be secured. There are a couple of further rooms in this area, one which has the heat exchange unit for the heating system and also the air compressor for the building. Further there is a Cryogenic lab which acts as an overflow for other labs. All of these rooms require some refurbishment to the access fire doors to FD30 s standard including the transfer grilles which may not have intumescent in them.

Means of escape for persons with impaired mobility for both A & B wing: At this time the access to both wings for persons with disability is very restricted. However the evacuation facility is not good enough, there are a reasonable number of signed refuges with communications linked to York House. However at the time of the assessment there is only a single evacuation chair located on the 3rd floor at the base of the A wing north stair. This not enough for a building of this size usually there would be a minimum of one per stair core. In the action plan the assessor has made recommendations for the training, purchasing and maintaining of current and additional evacuation chairs. Currently there are 3 known members of staff on the top floor with limited mobility.

5.2 Measures To Limit Fire Spread & Development

It is considered that there is:

•	Compartmentation of a reasonable standard (Based on visual inspection of readily accessible areas, with a degree of sampling where appropriate)?	Yes	X No
•	Reasonable limitation of linings that might promote fire spread?	X Yes	No
•	As far as can be reasonable be ascertained, fire dampers are provided as necessary to protect critical means of escape against passage of fire, smoke and combustion products in the early stages of a fire. (Based on visual inspection of readily accessible areas, with a degree of sampling where appropriate. And a full investigation of the design of HVAC systems is outside the scope of this fire risk assessment).	Yes	No

Comments & Hazards Deficiencies Observed:

Throughout the building there are as mentioned in section 5.1 numerous fire door issues including stair lobby double doors. A program must be created to ensure that all fire doors are refurbished or replaced to ensure they meet the required FD30s standard.

The assessor was unable to inspect fully the cavity barriers above the false ceilings, but the few areas that were looked at revealed comparmentation breaches caused by previous contractors for cable and service runs. With additional concerns on the panels found above most fire doors being of an unknown material and therefore their fire resisting effectiveness is unknown. It is a strong recommendation of this report that a full compartmentation survey of the whole building is conducted to determine the level and identify any remedial works required.

5.3 Emergency Escape Lighting

Reasonable standard of emergency escape lighting system provided (Based on visual inspection, but no test of illuminance levels or Verification of full compliance with relevant British Standards carried out)

			1
N/A	X	Yes	No

Comments & Hazards Deficiencies Observed:

The emergency lighting on visual inspection only, individual units generally appear to conform to BS 5266. Service records for the system are maintained in a building log by Chubb and at the time of inspection there were no outstanding faults logged or known.

However some of the emergency light units are obscured in some of the labs, any covering must be removed.

5.4 Fire Safety Signs & Notices

Reasonable standard of fire safety signs and notices?

- SOS Waypoint signage
- DDA Disabled Refuge Signage
- Comments & Hazards Deficiencies Observed:

At the time of the inspection the current installation for directional fire exit signage throughout the building appears to be not sufficient to meet the BS 5499 standard, for the style of sign. The assessor makes a recommendation that all fire exit directional signage is reviewed in line with recommendations in section 10. SOS waypoint signage is not complete and needs updating and completing. Disabled accessibility is limited but the current refuge facilities are limited and the assessor makes a recommendation that the accessibility and communications in the refuges should be reviewed. Also there was very limited fire action notices see section 10 for recommendations.

N/A

Yes

Yes

Yes

No

No

No

5.5 Means of Giving Warning in Case of Fire

Reasonable manually operated electrical fire alarm system Provided. (Based on visual inspection, but no audibility tests or verification of full compliance with relevant British Standard carried out).	N/A X Yes No
Automatic fire detection provided?	(throughout premises) (part of premises only)
Extent of automatic fire detection generally appropriate for the occupancy and fire risk?	N/A X Yes No
Remote transmission of alarm signals?	N/A X Yes No

Comments & Hazards Deficiencies Observed:

The system installed in the premises on visual inspection seems to comply with BS 5839 PT 1 and appears to be to L2 or L3 category of coverage, a hard wired system covering the means of escape and rooms off. The master fire panel relays the signal to York House.

However there are some recommendations in section 10 for additional detection in the main entrance study area and post room inner room area. Also some of the laser labs have limited fire detection and the assessor recommends that theses labs are surveyed for current coverage with consideration of the black curtains.

5.6 Manual Fire Extinguisher Appliances

Reasonable provision of portable fire extinguishers?	N/A	X	Yes	No
Hose reels provided?	N/A		Yes	X No
Are all fire extinguishing appliances readily accessible?	N/A	x	Yes	No

Comments & Hazards Deficiencies Observed:

Provision of portable fire extinguishers seems reasonable and within the requirements of BS 5306:3 2009. The sample that were inspected all were in date for current maintenance and inspection.

5.7 Relevant Automatic Fire Extinguishing Systems

Type of System:

None

Comments:

5.8 Other Relevant Fixed Systems & Equipment

Type of fixed system:

Comments:

As above
Suitable provision of Fire-Fighters switches for High
Voltage luminous tube signs, etc.

X
N/A
Yes
No

6. Management of Fire Safety

6.1 Procedures & Arrangements

Fire safety is managed by (This is not intended to represent a legal interpretation of responsibility, but merely reflects the managerial arrangement in place at the time of this risk assessment):

Sussex Estates Facilities as partner of the University conduct all of the Fire Risk Assessments and manage all fire safety arrangements through individual building managers, heads of school and health and safety coordinators. All action points are given work orders and tracked through the Maximo system.

Competent person(s) appointed to assist in undertaking the preventative and protective measures (i.e. relevant general fire precautions)?

X	Yes	No
	•	

No

No

X | Yes

X Yes

N/A

Comments:

Sussex Estates Facilities have a Quality Safety Health Environment team with advisors. They have appointed a specialist advisor for "Fire" to provide competent advice.

Is there a suitable record of the fire safety arrangements? **Comments:**

Fire safety arrangements are contained within each buildings management plan in its procedure folder stored and maintained by the building administrator in their premises office. The assessor was not able to confirm that the current arrangements for the premises are sufficient and suitable. There is also a fire log book currently maintained by Chubb. However the assessor has previously made recommendations on the management of fire safety for the future see section 7. This includes a revised policy and how fire safety management is devolved from the executive team, including knowledge of the fire risk assessments and ownership of fire safety management and checks within the individual premises.

Appropriate fire procedures in place?

More specifically:

•	Are procedures in the event of fire appropriate and properly documented?	N/A	x Yes	No No
•	Are there suitable arrangements for summoning the Fire & Rescue Service?		X Yes	No
•	Are there suitable arrangements to meet the Fire & Rescue Service on arrival and provide relevant information, including that relating to hazards to fire-fighters?	N/A	X Yes	No
•	Are there suitable arrangements to ensure that the premises have been evacuated?	N/A	X Yes	No
•	Is there suitable fire assembly points?	N/A	X Yes	∏ No

 Are there adequate procedures for evacuation of any disabled people who are likely to be present

N/A

Х

Comments:

The premises have some fire information (Fire Action) signage in place, but more are required. Staff have received as part of their induction handbooks fire safety information, including how to contact security (via 3333) in the first instance as per University policy, but the assessor always recommends that in a confirmed fire situation that a 999 call is always made as early as possible. What to do in the event of a fire, or if they discover a fire, means of escape facilities. Security personnel are instructed to meet the fire brigade and inform and escort them to the incident site. At the time of the inspection currently the Fire Marshal role is under review to compliment the current Fire Warden system that is working very well.			
"See Means of Escape" and the identified issues with the p	protection of the refug	ges on the A Wir	ng North stair.
Persons nominated and trained to use fire extinguishing Appliances?	N/A	X Yes	No
Comments:			
All security staff, porters as well as dedicated fire wardens is periodically refreshed.	are trained in the us	e of fire extingui	shers, this training
Persons nominated and trained to assist with evacuation, Including evacuation of disabled people?	N/A	Yes	X No
Comments:			
The assessor understands that previous refuge evacuation appears the University management considered that suffunction, but the assessor was unable to find evidence that A full review of the evacuation of refuges is to be undertake	ecurity and premise t this has been docu	es assistants no	ow performed this
L Appropriate liaison with fire & rescue service			

(e.g. by fire & rescue crews visiting for familiarization visits)?

N

N/A X Yes No No

Comments:

Routine Liaison meetings and visits are established with crews and management support staff.	h East Sussex Fire	& Rescue Servic	e, both operational
Routine in-house inspections of fire precautions (e.g. in the course of health and safety inspections)?	N/A	Yes	X No
Comments:			
It seems to be expected that porters / premises assista report any faults to both the SEF service desk and the evidence of how this is being conducted and in reality training, the general fire safety conditions found during	individual building they have limited of	managers. How or no fire safety k	ever there is no written knowledge and suitable

suitable level of compliance It is the assessor's strong recommendation that this is done in a more formulated way, by creating a log book of weekly management checks. Such checks should be owned by either the school or the premises management and delegated to an appropriate member of staff to conduct.

6.2 Training & Drills

Are all staff	given adequate f	fire safety instructior
and training	on induction?	

nd training on induction?	N/A	X Yes	No	
omments:				
The fire safety arrangements for the University and for all new starters. They are given a staff handbook handbook in 2005. At the time of this fire risk assessment this process this element of fire safety training is periodically of significant findings of the fire risk assessment.	, detailing fire safety has not been updat	information. Existin	g staff were issued evidence provided t	the hat

Are all staff given adequate periodic "refresher training" At suitable intervals?	N/A	Yes	X No	

Comments:

Comments:

The assessor was unable to find any evidence of refresher fire safety training. But it was confirmed that during fire drills any problems are noted and actioned to management and logged to be rectified. The only existing ongoing fire safety training is for fire wardens and marshals. Ongoing fire safety training should be reviewed. See also comment above for the fire risk assessment.

Does all staff training provide information, instruction or training on the following:

•	Fire risks in the premises?	N/A	Yes	X No
•	The fire safety measures on the premises?	N/A	Yes	X No
•	Action in the event of fire?	N/A	X Yes	No
•	Action on hearing the fire alarm signal?	N/A	X Yes	No No
•	Method of operation of manual call points?	N/A	X Yes	No
•	Location and use of fire extinguishers?	N/A	X Yes	No
•	Means for summoning the fire & rescue service?	N/A	X Yes	No No
•	Identity of persons nominated to assist with evacuation?	N/A	X Yes	No No
•	Identity of persons nominated to use fire extinguishing appliances?	N/A	X Yes	No

Comments:

During the assessment it was clear that staff in the various departments were unaware of the previous fire risk assessments that had been conducted in 2007 and 2011. This is a serious failing of the current University fire safety management procedures and questions must be considered how responsibilities and significant information of such risk assessments are devolved and understood by the required relevant persons.

This management of fire safety must be urgently reviewed with clear devolved management of fire safety from all levels down to the individual buildings and schools.

Are staff with special responsibilities (e.g. fire wardens) given additional training?	N/A	X Yes	No		
Comments:					
Security staff, porters and other staff members are given additional training; these are the designated wardens in					

Security staff, porters and other staff members are given additional training; these are the designated wardens in these buildings.

Are fire drills carried out at appropriate intervals?	N/A	X Yes	No	
Commente				
Comments: Once per year and twice in higher risk premises.				

When the employers of another employer work in the premises:

•	Is their employer given appropriate Information (e.g. on fire risks & general fire precautions)?	N/A	x	Yes		No
•	Is it ensured that the employees are provided With adequate instructions & information?	N/A	_	Yes	X	No

Comments:

Whilst general information is provided to all contractors, it is not within the control of SEF to ensure this
information is passed to the contractors employees, this is the responsibility of each employer.

7. Testing & Maintenance, Records

7.1 Testing & Maintenance

Adequate	maintenance	of	premises?
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Yes	Χ	
-----	---	--

No

Comments & deficiencies observed:

Generally fire safety maintenance is very well managed by SEF. However fire safety training and management has created a lack of controls, to ensure suitable requests for maintenance are made for fire safety matters. Also an ongoing review of fire safety management checks such as door checks, emergency lights and generally how fire safety has been managed. This is required to ensure that ongoing fire safety measures do not go into disrepair. A good process would ensure no future compliance issues.

Weekly testing & periodic servicing of fire detection &				
alarm system?	N/A	X	Yes	No

Comments & deficiencies observed:	
All testing and maintenance currently conducted by Chubb and recorded. However it seems that the we not conducted as per the BS, by using different manual call points to test their signal as well. A strong recommendation has been made that this process is urgently reviewed.	ekly test is

Monthly & annual testing routines for emergency escape lighting?	N/A	X Yes	No
Comments & deficiencies observed:			
All emergency light testing and maintenance is curr	ently carried by Chub	b and recorded	
Annual maintenance of fire extinguishing appliances?	N/A	X Yes	_ No
Comments & deficiencies observed:			
Periodic inspection of external escape staircases & gangways?	N/A	Yes	- No

staircases & gangways?	N/A	Yes	No
Comments & deficiencies observed:			
Currently Ad–Hoc by Porters. The assessor recommends they become part of the the subject of a periodic engineers report and clear		/ management chec	ks. And should also be
Six-monthly inspection & annual testing of rising mains?	× N/A	Yes	No

Comments & deficiencies observed:

Weekly & Monthly testing, Six-Monthly inspection & Annual testing of fire-fighting lifts?	× N/A	Yes	No
Comments & deficiencies observed:			
Weekly testing & periodic inspection of sprinkler installations?	X N/A	Yes	No
Routine checks of final exit doors and / or security fastenings? Comments: This again is an Ad-Hoc process by the porters. Th	N/A	Yes	X No
Annual inspection & test of lightning Protection system?	× N/A		No

Comments:

Are suitable systems in place for reporting & subsequent restoration of safety measures that have fallen below standard?

1		
Yes	x	No

Comments:

The assessor understands there has historically been a system in place, but it has not been well managed or a process diligently followed to ensure the deficiencies and reasonable remedial works are carried out and has clearly failed to identify ongoing fire safety works and repairs required to ensure compliant standards. SEF QSHE advisor team will now ensure that there is a suitable process in place to confirm that all of the fire safety deficiencies identified in the fire risk assessments and the remedial works will be tracked within the Maximo system and SEF service desk. However all premises end users H&S coordinators and school administrators must also take ownership to track remedial works.

The assessor has proposed a more formalised process of checking fire safety measures.

Other relevant inspections or tests:

Comments:

7.2 Records

Appropriate records of:

•	Fire drills?	N/A	X Yes	_ No
•	Fire training?	N/A	Yes	X No
•	Fire alarm tests?	N/A	Yes	X No
•	Emergency escape lighting tests?	N/A	X Yes	No
•	Maintenance & testing of other fire protection?	N/A	X Yes	_ No

Comments:

A record of:

- 1. Fire alarm tests,
- Emergency light tests,
 Gas testing
- 4. PAT testing
- 5. Mains electrics testing

All kept in reception onsite and also recorded in Hastings building.

At the time of the inspection no records for ongoing staff fire safety training were available. It was verbally confirmed what training has been conducted. But the frequency of ongoing refresher training is a little vague and the assessor has formed the opinion that it is inadequate at this time.

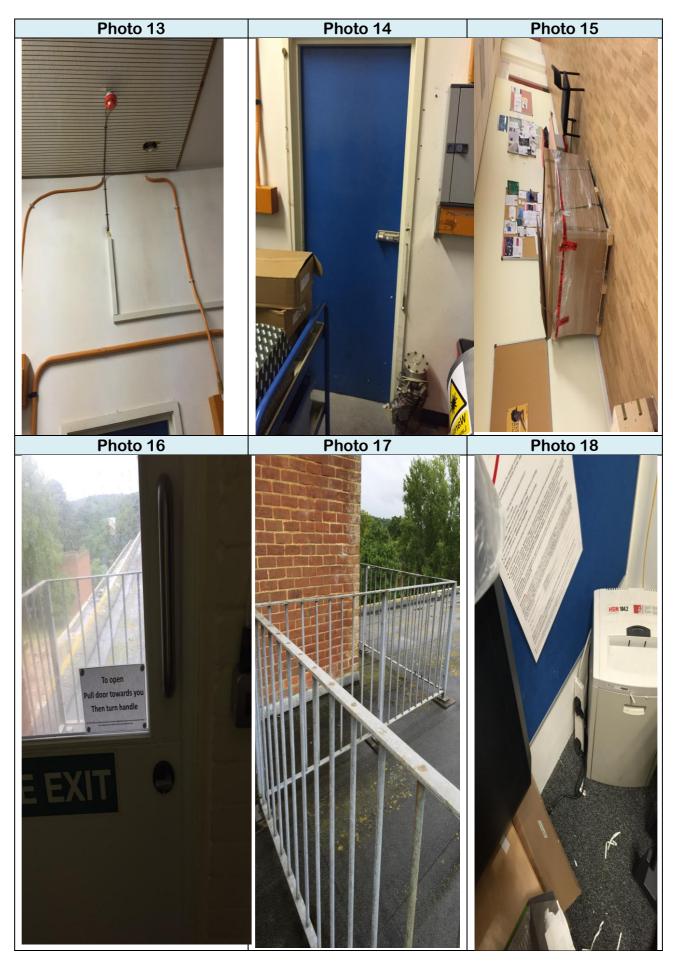
A full review of the current fire safety training is suggested.

Fire alarm testing please see (section 7.1)

8. Photographs







9. Risk Assessment Analysis

The following simple fire risk level estimator is based on a commonly used health and safety risk level estimator of the type contained in BS 8800:

	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 a fire) at these premises is:



Medium
mealum



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 generally subject to appropriate controls (other than minor short comings).
- **High** Lack of adequate controls applied to one or more significant fire hazards, such as result in significant increase in the likelihood of fire.

Taking into account the nature of the premises 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 terms is as follows:
Slight Harm - Outbreak of fire unlikely to result in serious injury or death of any occupant, (other than an occupant sleeping in a room in which a fire occurs).
Moderate Harm - Outbreak of fire could foreseeably result in injury (including serious injury) of one or more occupants, but 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:
There has been a lack of control on a number of fire safety matters, including fire doors, compartmentation, breaches by contractors, emergency lighting, signage, PAT testing, means of escape maintenance, housekeeping and room pathways, with combustible materials and extension leads. All of which have collectively contributed to the substantial risk being recorded.
Immediate action is required on a number of fire safety matters, further If there had been suitable ongoing fire safety checks / management in place the assessor believes strongly that the present condition may not have

Further without a compartmentation survey it is difficult to fully evaluate the current risk from a fire event and how the means of escape could maintain its tenability. Following remedial works and better management procedures it is foreseen that the risk level could easily be reduced to a tolerable level.

developed.

A suitable risk-based control plan should involve effort and urgency that is proportional to risk. The following risk- based control plan is based on one that has been advocated for general health and safety risks:

Risk Level	Action & Timescale			
Trivial	No action is required and no detailed records need be kept.			
TolerableNo major additional fire precautions required. However, there might be a need reasonable practicable improvements that involve minor or limited cost.				
Moderate	It is essential that efforts be made to reduce the risk. Risk reduction measures, which should take cost into account, 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 premises are unoccupied, it should not be occupied until the risk has been reduced. If the premises are occupied, urgent action should be taken.			
Intolerable	Premises (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, or at such time it is deemed no longer to be suitable).



10. Fire Safety Action Plan

SIGNIFICANT FINDINGS - ACTION PLAN

Building:	Pevensey 2							
Assessor:	Martin Combs Eng Tech GIFireE CFPA ADV EU DIP Position: OSHE Advisor							
Current Risk	Trivial Tolerable Moderate Substantial X Intolerable							
Risk Rating:	It is considered that the following recommendations should be implemented in order to reduce fire risk to, or maintain it at, the following level: Trivial Tolerable X							

Definition of Priorities:

- **1.** Breach of legislation, having the potential for serious injury to relevant persons.
- 2. Breach of legislation, but not considered to constitute a serious threat to relevant persons.
- 3. Necessary for best practice, but existing situation unlikely to constitute a serious threat to relevant persons.
- 4. Breach of SEF / University Policy or procedure unlikely to constitute a serious threat to relevant persons.

Suggested Timescale:

- A. Immediately or as soon as reasonably practicable. If a capital works requirement, steps should be taken as soon as is reasonably practicable to progress the work.
- B. Short term within 3 months. In the case of items that require capital expenditure, steps should be taken in the short term to progress the work.
- C. Medium term within 6 months.
- D. Long term to be carried out within 1 year. Or at a time of planned upgrading or refurbishment.

Significant Findings / Action Plan					
High Priority	Medium Priority	Low Priority			

Issue	Action	Responsible Person	Priority	Date issue resolved
Fire Hazards & Elimination & Control				-
There was evidence of numerous trailing extension leads in the various labs, offices, teaching rooms. Some in use had not been part of the PAT testing regime, or indeed seemed appropriately protected equipment (fused and surge protected). Some extension leads were hung vertically causing stress on the lead. (Photo 6 & 18).	All trailing extension leads must be PAT tested and electricians report to determine if the individual extension leads are suitable for use. Consideration should be given on the enhancement of the current electrical installation for additional electrical sockets to replace the over use of extension leads, especially those connected from an elevated location. If not replace those still required with suitable fused and surge protection. Management to ensure their appropriate use is maintained	Work Order to be raised for SEF Electricians.	1 A	
Current PAT testing records were missing or out of date on some items of equipment such as IT and printer equipment, also personal electrical items, Currently there does not appear to be a policy on use or any control measures in place.	The assessor recommends that all portable appliances be checked for up to date PAT testing record and that personal electrical items are also PAT tested	SEF Work Order, Electricians	1 A	
Confirmation is required on the need for lightning protection.	Conduct a separate risk assessment and calculation on the requirement for lightning protection.	Work order to be raised, for a SEF approved contractor.	3 A	
Housekeeping; of means of escape generally was reasonable, however the following require action.	1. Remove all combustible materials from the			

Issue	Issue		'n	Responsible Person	Priority	Date issue resolved
1.	B Wing has a number of boxes and wooden crates stored in the means of escape (Photo 15).	2.	means of escape H&S coordinators to ensure better security for the rooms. And conduct any required DSEAR			
2.	Rooms / areas with flammable stores, some rooms and cabinets were not secure and require improved management, including suitable DSEAR risk assessments and room signage.	3.	risk assessments and provide records. Ensure all signage for the rooms is in line with current GHS classification. Re-locate flammable stores as required.	Building manager in consultation with owner of items and H&S coordinators.	2 A	
3.	Some flammable stores were considered to be in an inappropriate location either behind or directly adjacent to electrical distribution boards. (Photo 8)	4.	Where possible the various rooms and escape pathways within complicated rooms require ensuring the routes are clear to use and de- cluttered.			
4.	Some of the laboratories and technicians rooms have become somewhat cluttered and consideration of the means of escape pathway. (Photo 6)	5.	Replace all non-fire resisting blackout curtains with suitable fire resistant ones.(complying with the furniture and soft furnishings (fire safety) regulations 1988 or later standard.			
5.	The blackout laser curtains in the laser laboratories and made from non-fire resisting materials. Only the recently refurbished lab is to a good standard. (good Photo 10)					

Issue		Actio	on	Responsible Person	Priority	Date issue resolved
Means	of Escape from Fire			•		
	Throughout the premises there are a number of breaches in the fire compartmentation, to fire walls and partitions, through fire doors and surrounding framework, compartment walls. Caused mainly by cable running and other services passing through. (Photo 11)	1.	Any compartmentation breaches must be closed with a suitable proprietary method ensuring the 30 minute or 60 minute fire resisting rating as required. The assessor strongly recommends that a full premises compartmentation survey is conducted to determine the full extent of the compartmentation issues in the premises.			
	A large number of fire doors require refurbishment works or replacement to ensure they meet the correct fire-resisting standard (FD30s – fire-door rated to 30 minutes with Intumescent strips and cold smoke seals). And fully self-close to the frame and held in place with a catch. All door ironmongery should conform to BS EN 1906 & BS EN 1634. Consideration must also be	2.	A full survey of the existing room access fire doors, cupboard doors protecting risks such as electrical risks and stair lobby doors, is required to determine the works required to upgrade or replace, to ensure the protection of the long undivided corridors. (some details in section 11)	SEF work order to be raised through project team.	1 D	
	given to the single corridors over 30 m in length and the options to resolve. In addition the fire door work will compensate for the lack of corridor sub-division. All fire doors	3.	Remove wedges and furniture wedging open fire doors and issue to be managed.			
	should fit into the respective frame work and ensure that the gap around the leaf to the frame is not greater 3-4mm on the two sides and upper edge.	4.	Lock			
	All items used to wedge open fire doors must be removed and practice stopped.	5.	Replace mechanism to final exit such as a push pad.			
		6.	Jet wash external roof means of escape to			

Issue		Action		Responsible Person	Priority	Date issue resolved
4.	Any cupboard containing electrical fuse cupboard / distribution panels should not be locked by a padlock and hasp. To ensure the doors fire resistance is not compromised by incorrect door closure and lock to the frame.	the particular	e is a fire risk (ignition source in rooms with windows). To he fire resisting glazing is			
5.	Final exit door B wing level 4 to external means of escape. Current opening mechanism is not suitable.(photo16)		l secondary means of escape by			
6.	External means of escape requires jet washing to remove moss etc. that may cause a slip hazard when wet. (Photo 17)	availability at	ckages (furniture) etc. to ensure all material times.			
7.	Adjacent to the spiral stair within 1.8m of the stair are some windows that do not appear to be fire resisting. And opening within 1.8m must provide a minimum of 30 minutes of fire resistance.	and possible means of es	e door set up requires a revision replacement as it is required for cape. Consideration may have to ne listing of this doorway.			
8.	Some rooms have escape by-pass access to adjacent rooms, especially in a number of the laboratories. In some cases these secondary means of escape are blocked		suitable storage place for the within a 30 minute fire protected			
9.	either side of the door. (Photo 9). The main entrance and egress to A wing is via a revolving door and two side doors.	11. Upgrade load required.	ding bay room fire doors as			
	Published guidance states that revolving doors should not be used for escape purposes, also the two side doors are less than 750mm in width providing a sub-	provision has training for u	vey of the evacuation chair determined additional chairs and se are required. Review location A Wing North stair.			

Issue	Action	Responsible Person	Priority	Date issue resolved
standard final exit route. 10. Psychopharmacology (4B16) has single direction escape route within, which is reasonable with good fire detection. However the storage of refrigerators on the means of escape (ignition source) is not suitable.				
 Loading Bay level 2; all access fire doors in this area require upgrading to full FD 30s standard, including the transfer grilles. 				
12. Means of escape for persons with impaired mobility is not sufficient. Also The current refuges in A Wing North stair are not in a protected area, due to the stair being open to the risks at ground floor. A simple fire in this area may compromise the refuge.				
Emergency Escape Lighting				
Some emergency lights were found to be obscured of covered with various items. See (photo 7) in the cryogenic and vacuum laboratory (3A 18) as an example.	Investigate why emergency lights are covered up and remove covering to ensure light can work.	Building manager / H&S coordinator.	1A	
covered with various items. See (photo 7) in the cryogenic and vacuum laboratory (3A 18) as an			1A	

Issue	Action	Responsible Person	Priority	Date issue resolved

Issue	Action	Responsible Person	Priority	Date issue resolved
Fire Safety Signs & Notices				
 The installation of directional fire exit signage in part does not meet the standard for BS 5499, for both style of sign (directional arrow) and coverage. 	 Conduct a full survey of the fire exit signage to ensure the coverage meets the standard. Positioning of escape signs: The presence of other signs in educational premises (such as staff notices and student information) can distract attention from, or obscure the visibility of, escape signs. This could affect people's ability to see and understand escape signs, particularly if there is a fire evacuation. Always ensure that escape signs are not overwhelmed. Escape signs should meet the following criteria: They should provide clear, unambiguous information to enable people to safely leave a building in an emergency. Every escape route sign should, where necessary, incorporate, or be accompanied by, a directional arrow. Arrows should not be used on their own. If the escape route to the nearest exit is 	SEF Work Order through project manager.	1 A	

Issue		Action	Responsible Person	Priority	Date issue resolved
		 not obvious then it should be indicated by a sign(s). Signs should be positioned so that a person escaping will always have the next escape route sign in sight. Escape signs should be fixed above the door in the direction of escape and not be fixed to doors, as they will not be visible if the door is open. Signs mounted above doors should be at a height of between 2.0m and 2.5m above the floor. Signs on walls should be mounted between 1.7m and 2.0m above the floor. Mounting heights greater than 2.5m may be used for hanging signs, e.g. in large open spaces or for operational reasons, but care should be taken to ensure that such signs are both conspicuous and legible. In such case larger signs may be necessary. Signs should be sited at the same height throughout the escape route, so far as is reasonably practicable. 			
2.	There appears to be very limited if any Fire Action Notices in the building	2. Install "Fire Action Notices" Position the fire action notice on escape routes, adjacent to fire break-glass call points, put them where staffs frequently assemble in the premises, e.g. the staff room.		2 B	
3.	SOS waypoint signage is not complete and needs updating and completing.	 The SOS Waypoint signage should be reviewed updated and completed. Additional signs for A Wing south stair, B wing additional signs required for both west and east ends to storey exits / stairs. 			

Issue	Action	Responsible Person	Priority	Date issue resolved
Means of Giving Warning in Case of Fire			3 B	
 Some areas require additional detection to enhance the current installation. Main entrance lobby to IT study area and inner room post room. Both open to the means of escape and the main staircase. In lab 3A 14 due to the installation of the blackout curtains the current fire detector has been compromised and is too close to the curtains. 	 Provide additional detection to the It study area and inner room post room in entrance lobby. Consider enhancing coverage or moving current detector 	SEF project team and Chubb	2 C	
lanagement of Fire Safety				
 Currently the system of routine in-house inspections of fire safety measures is ad-hoc, conducted by porters. It is unknown what knowledge and training they have received to carry out this function. This current historical process has not supported an appropriate compliant standard of inspections and would appear to be against current University fire safety policy. The lack of a defined process with recorded outcomes has clearly contributed to the current condition of the fire doors, emergency 	It is also recommended that a more detailed fire log is kept for the premises; this would support the building manager to both understand the installed fire safety measures	SEF QSHE Advisor	2 D	

Issue		Action	۱ 	Responsible Person	Priority	Date issue resolved
2.	light faults and other noted deficiencies The assessor strongly recommends that a system of fire door asset management is introduced. To enable easy identification of individual fire doors and have a recorded history of that door	2.	The QSHE Advisor to discuss with QSHE Manager and University H&S Director.			
3.	Currently Pevensey 2 has limited accessibility for persons with disability. PEEPS should have been created for persons using the premises. Egress from the upper floors requires a full review of refuges including evacuation chair provision and training.	3.	Carry out any required PEEPS for both staff and students. Evaluate individual working locations and determine if creating additional refuges with communications is required. Purchase of additional evacuation chairs as required and provide training, (this has recently been done by SEF and is process of being facilitated).	Building Managers / Health and safety		
4.	Staff fire safety training for fire wardens is ongoing and well managed. However there was no evidence of ongoing suitable general fire safety training other than at induction. The assessor considers that the current induction training needs a review as well as ongoing fire safety training, to include fire safety inspection tool box talks created and the contents of the FRA. After any training subsequent records should be maintained.	4.	SEF advisor and University Health and Safety Director to review current fire safety training.	coordinators. SEF project team. SEF advisor & University H&S Director	2 C	

Issue	Action	Responsible Person	Priority	Date issue resolved
Testing & Records				
 The Automatic Fire Alarm is not currently tested in line with the BS, using the call points on rotation and recorded as such. Emergency Lighting tests require a review to ensure all units are working and maintained. 	 When the current contract is reviewed the alarm system must be tested in line with the BS 5839 – Pt1 Emergency light testing must be reviewed to ensure all units are tested. 		2 D	

11. Appendix A



Key for Fire Door Requirements:

Door Deficiency Code	Fire Door Remedial Works Required
1	Replace complete fire door Set (Including Leaf & Frame)
2	Repair door frame
3	Re-Hang door to ensure gap between Frame and Leaf not greater than (3mm - 4mm)
4	Install Intumescent Strips & Cold Smoke Seals to door frame or door Leaf to both sides and top edge. Note for double doors the centre edge only requires installation on one leaf.
5	Adjust / Replace self-closing device to ensure door closes fully to the frame
6	Ensure door when closed to frame has a suitable catch to hold door in place against frame
7	Install Intumescent pads to the door hinges & all door hardware.
8	Repair / Replace door hardware to comply with BS 8214: 2008, including the installation of intumescent pads
9	Remove all door wedges or similar items used to prop open fire doors

	Fire Door Location / Asset Number	Door Deficiency Code	Action / Replace or Repair	Date Reported	Date issue resolved
	1. 5 th Floor A Wing Stair lobby doors x2	1? 3, 4, 5, 8,	Repair, Replace	14/07/2015	
1	2. 5 th Floor A Wing 5A42A	4	Repair	14/07/2015	
	3. 5 th Floor A Wing 5A42B	4, 5	Repair	14/07/2015	
4	4. 5 th Floor A Wing 5A38	2, 4, 9,	Repair	14/07/2015	
ļ	5. 5 th Floor A Wing (dead end North end)	4, 9,	Repair	14/07/2015	

Fire Door Location / Asset Number	Door Deficiency Code	Action / Replace or Repair	Date Reported	Date issue resolved
6. 5 th Floor 5A22	4, 5	Repair	14/07/2015	
7. 5 th Floor 5A23	4, 5	Repair	14/07/2015	
8. 5 th Floor, A Wing All corridor doors	4, 5	Repair	14/07/2015	
9. 5th Floor A Wing South lobby doors x2	1? 2, 3, 4, 5, 8	Repair, Replace	14/07/2015	
10. 5 th Floor B Wing All Corridor doors	4, 5, 6, 7,9,	Repair	14/07/2015	
11. 4th Floor B Wing, Final exit door to external roof escape	8 install push pad	Replace	14/07/2015	
12. 4th Floor B Wing (south end) stair double lobby doors x 2	1? 3, 4, 5, 8,	Replace , Repair	14/07/2015	
13. 4th Floor B Wing All Corridor doors	4, 5, 6, 7,9,	Repair	14/07/2015	
14. 4th Floor A Wing (north end) stair double lobby doors x2	1? 3, 4, 5, 8,	Replace , Repair	14/07/2015	
15. 4th Floor A Wing All corridor doors	4, 5, 6, 7,9,	Repair	14/07/2015	
16. 3 rd Floor A Wing (ground), All corridor doors	4, 5, 6, 7,9,	Repair	14/07/2015	
17. 3rd Floor A Wing 3A16	7, + Intumescent Grille	Repair, Replace	14/07/2015	
18. All riser / store / hazard cupboards all floors.	4,7	Repair, Replace	14/07/2015	
19. All riser / store / hazard cupboards all floors	Confirm any grilles are Intumescent and are operable	Repair, Replace	14/07/2015	
20. 3 rd Floor A Wing Main Entrance	Review revolving & side door not suitable as means of escape	Replace	14/07/2015	
21. 3 rd Floor B Wing south stair double lobby doors	1? 2, 3, 4, 5, 8	Repair, Repair	14/07/2015	
22. 3 rd Floor B Wing south rear exit route	Double doors, door selector + 1? 2, 3, 4, 5, 8	Repair, Replace	14/07/2015	
23. 3 rd Floor B Wing, all corridor doors to Bridge Café + Double cross corridor doors.	4, 5	Repair	14/07/2015	
24. 3 rd Floor A Wing Lab room alternative means of escape, internal doors. 3A14, 3A13, 3A18	Re-instate alternative means of escape remove furniture blocking, 3, 4, 5, 6.	Repair	14/07/2015	
25. 2 nd Floor Loading Bay all access room doors	3, 4, 5, 6 + transfer grilles	Repair, Replace	14/07/2015	
26. 3 rd Floor Bridge Café, kitchen store, 3B7, 3B6, 3B10	4, 5,	Repair	14/07/2015	

12. References

REFERENCES

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BS 5839-1: 2002. Fire detection and fire alarm systems for buildings - Code of practice for system design, installation, commissioning and maintenance.

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BS 5839-8: 2008. 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: 2003. 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: 2003. *Fire extinguishing installations and equipment on premises - Code of practice for the inspection and maintenance of portable fire extinguishers.*

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BS EN 3. Portable fire extinguishers.

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BS EN 1869: 1997. Fire blankets.

Emergency Escape Lighting

BS 5266-1: 2005. Emergency lighting - Code of practice for the emergency lighting of premises.

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

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

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Miscellaneous

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BS 7273-4: 2007. Code of practice for the operation of fire protection measures - Actuation of release mechanisms for doors.

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Lightning

BS EN 62305-1: 2006. Protection against lightning. General principles.

BS EN 62305-2: 2006. Protection against lightning. Risk management.

BS EN 62305-3: 2006. Protection against lightning. Physical damage to structures and life hazard.

BS EN 62305-4: 2006. Protection against lightning. Electrical and electronic systems within structures.