

# FIRE SAFETY SERVICES CASE STUDIES

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## Summary

At Rockland Safety Services trading as Fire Safety Services, we offer you over 40 years of combined system safety risk, fire and resilience experience gained through working with the most senior members within international organisations. Our consultants have been involved in some of the highest profile projects across a multitude of industries.

Our clients are at the heart of everything we do. We love solving problems, we thrive in uncertainty, we overcome all types of adversity, we think outside the box, we inspire masses, and we believe in our dreams. We see the world in a unique way and will stop at nothing to shape the world. We are in the unique position of having a track record of delivering and working with the most prominent brands in the world including HS1, HS2, Crossrail, M4 motorway, Network Rail, Heathrow Airport, Marriott Hotel, Gipsy Hill Brewing, Greenpeace, and many others.

All our work will be undertaken or overseen by a Dual Chartered Engineer, Institute Fellow who would also be a member of the Institute of Fire Engineers (IFE). This is the highest level of engineering qualification, which demonstrates our commitment to you in delivering work of the highest quality.



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## Case Studies



### Stowe School, Buckinghamshire

Stowe School is a public school (English independent day and boarding school for pupils aged 13–18) in Stowe, England. The school has been based since its beginnings at Stowe House, formerly the country seat of the Dukes of Buckingham and Chandos.

We were asked to support in the capacity enhancement in the Grade listed Chapel. As part of our role, we worked very closely with the architect in establishing the correct regulations, standards, and guidance particular to the project. We advised on width of doors, travel distances and measures that would need to be considered to achieve the capacity upgrade. We documented this within a fire safety strategy report for Building Control purposes.



### Essa Academy

The education academy represented a building spanning 15,000 sq. ft of space consisting of 3 floors of teaching, food and science labs, dance studios and kitchens. Several upgrades and renovations were made throughout the site, which meant the fire strategy had to be revisited.

We were involved early in the process where we worked hand in hand with the design team to support in the review of layouts and changes in the design to ensure compliance against codes and achievement of the business's objective. We worked throughout the design process. We then collated all this information into a robust Fire Safety Strategy document which was accepted by BC and LFB.



### Harris Academy

Harris Academy Ockendon is an existing school for students with ages ranging from 11 to 18 years. It is an existing school with the main building constructed in the 1960's. It has since included several extensions, including the English block, MFL block, EcoCentre and Sports hall. The different blocks are interlinked and result in various courtyards around the development.

We were tasked in the development of a retrospective fire safety strategy for building management, in support of their ongoing operations and fire risk assessment under the Regulatory Reform (Fire Safety) Order 2005.



### Fazenda – 100 Bishopsgate

100 Bishopsgate represents a tall development including three towers in central London of up to 43 floors. The Fazenda restaurant is proposed within two of the commercial units as part of the development located on the ground floor, mezzanine and first floors of the podium building.

We were engaged to develop the fire safety strategy for the fit-out of the Fazenda restaurant. We used the guidance presented in BS 9999 to support in the development of a design which ensured the achievement of their occupancy numbers, including sign off from both BC and LFB.



### West Reading Railway Station (Network Rail)

West Reading is an existing train station, with our scope of work being the development of a new extension. The extension was proposed below the existing rail bridge being a standalone single storey building, including a ticket hall, kiosk/ server, ticket office and sanitary accommodation.

We were asked to develop the fire strategy working with the design team to capture and calculate merging flows determining the exit widths. As part of our works, we also advised on property protection provisions and potential impacts on the operating railway from a fire within the station. Our fire strategy report was accepted by NR.



### Heathrow Airport

We were asked by a major airport to assess the risk associated with a suite of electric coach stock catching fire leading to flame spread and impacting other vehicles.

We approached this project by developing a bespoke methodology to demonstrate to the client that we understood the uniqueness of this challenge. We undertook calculations to determine heat release rates from the batteries, and then undertook an optioneering study to investigate several options detailing their benefits and disbenefits.

The client took our recommendations into account and applied our proposed solutions.



### Critical National Infrastructure – Telephone Exchange

This site was an existing large commercial building, from which the majority of the UK's internet flows.

We were asked to support in providing fire design support for the construction of a new HV Switchroom to replace the existing one in the building. Several locations were chosen, and we provided advice on the benefits/ disbenefits from a fire safety perspective including the provisions that would be needed to not only comply with the building regulations but also client property protection requirements. The client took our report and relocated their Switchroom in line with our recommendations.



### Energym

The Energym Gym is proposed as a fit-out within the large commercial unit at the ground and mezzanine levels within the development of 104-110 The Broadway, which represents a high-rise development including ten floors above ground.

We undertook a design review of the architectural plans feeding back proposed changes/ modifications from a fire design perspective. We subsequently developed a RIBA 3 Fire Strategy Report which detailed all the provisions needed to satisfy B1-B5 of the Building Regulations, which was accepted by LBC and BC.



### Seven Brethren, Barnstaple

The project represents a large residential development, including 2 blocks of flats (6 and 4 stories respectively) and 21 rows of terrace and semi-detached houses.

We were asked to support in the development of a planning fire safety strategy and completion of the fire statement form. As part of our review, we undertook an online workshop with the design team, flagging to them at the outset issues which needed to be solved. From this we were able to develop a detailed planning fire safety strategy within 24 hours of the final drawings provided, which meant the client was able to submit their planning application on time, with the confidence that all fire issues had been dealt with.



### Marriott Hotel

The Marriott Hotel represented an existing mixed-use development of up to 9 floors, which included hotel use all floors with various commercial units at ground floor. The works proposed were connecting 2 single units into a single large restaurant and providing internal fit out works.

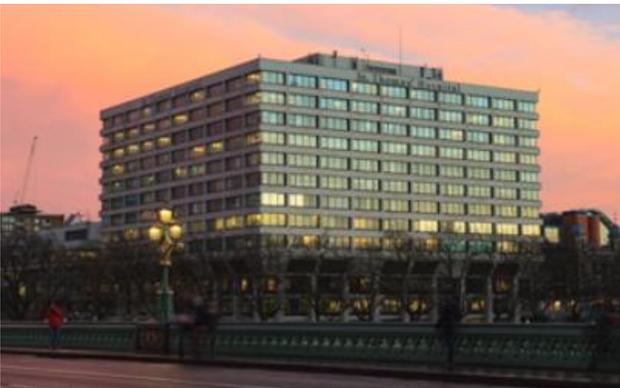
As part of our review, we recommended a suppression system, advising on travel distances, structural fire resistance, and occupancy numbers. Our quick turnaround meant the project was able to get completed before their scheduled programme time.



### Nursing Home

The nursing home represented a 75-bed new build care home, with a footprint of approximately 10,000 sq. ft. The project had previously been rejected by the planning team and the fire service due to the large number of non-compliances.

Our team worked with the new designers, to review the layouts to revise including additional compartmentation, providing smoke control, changing location of doors etc., to ensure the care home would work from a fire safety perspective. All our solutions were made whilst ensuring that the business as a care home and the 75-bed aspiration could be maintained. Our work was very well received by the client and signed off ultimately by the BC and the fire service.



### St Thomas Hospital

The London hospital were introducing a new Gamma Room into the hospital, which needed to be integrated with the remaining portions of the building.

We worked very closely with the design and onsite fire engineering teams to review the layouts and identifying non-compliances including internal rooms, and extended travel distances all in line with HTM 05-02. Our inputs to the designs meant the layouts were modified to minimise this risk, and additional provisions were detailed to minimise the risk of extended travel distances. This was all packaged into a comprehensive Fire Strategy report which was approved by the hospitals fire team. We worked during the construction stage to ensure that the material being selected would meet the requirements we had specified within our report.



### Newbury Railway Station

The client, Network Rail were introducing three business industrial units each approximately 100m<sup>2</sup> and needed a fire safety strategy.

We worked very closely with the design team, at Grip 5 Stage to support in the design of the shell and core units feeding back proposed changes/ modifications. We developed a fire strategy in line with BS9999 where we were able to demonstrate the risk profile of the site, and determined the fire detection system required, as well as any non-compliances from a travel distance perspective.



### Soho Lofts and Prince Regent Court

We developed a 5-stage methodology to support the client, from registering the building (Stage 1) with the BSR to delivering the Building Safety Case (Stage 5). We compiled a missing information report and Key Building Information Report by reviewing all historical documents available for the buildings. We are subsequently supporting the client in developing the missing information including architectural plans, structural surveys, PAS9980 surveys, Fire Safety Strategies, Fire Stopping Surveys etc. All this information will be required to write up a comprehensive building safety case demonstrating that the risks for the buildings are ALARP.



### Lombard Wharf

We developed a 5-stage methodology to support the client, from registering the building (Stage 1) with the BSR to delivering the Building Safety Case (Stage 5). We compiled a missing information report and Key Building Information Report by reviewing all historical documents available for the buildings. We are subsequently supporting the client in developing the missing information including architectural plans, structural surveys, PAS9980 surveys, Fire Safety Strategies, Fire Stopping Surveys etc. All this information will be required to write up a comprehensive building safety case demonstrating that the risks for the buildings are ALARP.



### Plonk Crazy Golf

Plonk Crazy Golf was an existing development formed by four interconnected masonry arches supporting the roadway above. Each arch includes two floors (B, G) served by a single staircase.

We were asked to support in reviewing the design changes the client was intending to make, understanding the change of the detection system and subsequently develop a fire safety strategy for submission to Building Control and the Fire Service. We were able to advise on the staircases they had including informing the client the changes that would need to be made to make the site compliant and safe for the public.



### Tongwell, Milton Keynes

We worked closely with architect firm, TP Bennett to support in the design and development of a new build, three-storey office building, with the ground floor consisting of office areas, the reception, and a gym.

We supported the client all the way from RIBA 2 to RIBA 4, chairing online workshops, developing mark-ups of the architectural plans, and producing a RIBA 4 fire Safety Strategy for the finalised design. We used BS9999 as the guidance document advising on the risk profile of the building, specification of fire alarm system, merging flow calculations and external fire spread. The Fire Safety Strategy was successfully accepted, and the project moved to the next stage of build.



### Football Stadium (London)

An existing stadium being expanded to increase crowd capacity, providing a football hub for the community for all ages and abilities. As part of the site, there will be commercial and residential changes including 114 new homes via High-Risk Buildings (over 18m's), cafes/ bars, classroom spaces etc.

We were involved at the very early stages of the project, pre-planning. We supported through several workshops to review the design in line with the Green Guide, including assigning a risk rating of the grounds to ensure the maximum permitted emergency egress times, fire service vehicle access and supporting the client in approaching the Council to evacuate via an adjoining public car park. We completed a detailed fire safety strategy demonstrating that the chosen design met the relevant Building Regulations.



### Goldsmiths Hall, London

Goldsmiths' hall is an existing Grade 1 listed building in Central London opened in 1835. The building includes 7 storeys, which is used as an administrative building as well as an events venue.

We were instructed to develop a retrospective fire safety strategy, bespoke fire evacuation plan and a fire risk assessment. We supported in calculating occupancy numbers following some changes being made in the building, including the development of a bespoke fire evacuation plan to be utilised in the event of the use of the hall on the first floor.



### University of West London

The Cube building is a detached purpose-built five storey block of flats housing 78 independent self-contained dwellings, with a footprint of the building being 800m<sup>2</sup>.

We were instructed to undertake a FRAEW in line with PAS9980 as well as Type 4 Fire Risk Assessment. We undertook several site visits which involved intrusive investigations both internally and externally. Following the assessment, we wrote 2 reports detailing the outcome of the assessments, what was found during the site visit and our recommendations to ensure the safety of the residents.



### Electric Vehicle Charging

Richmond and Wandsworth Council had 6 proposed sites where there was a desire to install electric vehicle chargers, which included open air carparks, those on the building roof and basement.

We developed 6 bespoke fire risk assessments, which identified the hazards/ risks for each site, mitigation measures to remove or reduce these risks and best practice recommendations for location of the chargers on site, distance between charger points and electrical fire suppression measures. For those sites on the roof, and the basement, a full detailed fire safety strategy was recommended.