Planning Fire Safety Strategy

Block D, Toilet and Corridor Refurbishment, St Mary's University, Twickenham.

Date: 23rd January 2024

Version 1.0

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1 Author Details

The author is registered with the UK Engineering Council as a Chartered Engineer (CEng), through the Institution of Fire Engineers (IFE), and holds full Member status (MIFireE) with the IFE.

The author has achieved a bachelor's degree with Honours in Fire Engineering [BEng(Hons)] and a Master of Science Degree in Fire Safety Engineering (MSc).

A precis of the author's experience in the field of fire engineering is presented below:

- 26 years as an operational fire officer with a local authority fire and rescue service
- 12 years as a fire safety regulator with a local authority fire and rescue service
- 8 years of commercial fire engineering experience on a variety of projects including:
    - Relevant buildings as defined by the Building Regulations
    - Low and medium rise residential buildings
    - Extra care residential buildings
    - Housing developments
    - Educational establishments
    - Large commercial warehousing and high-density storage

2 Project Description and Scope

The project involves the refurbishment of the toilet facilities with Block D of St Mary's University in Twickenham, and the associated access corridors. The toilets are on the Ground Floor of the building.

There will not be any detrimental impact on the existing fire safety arrangements for the site as a result of the project, and the refurbishment works will be restricted to the toilet facilities and associated corridor.

There will not be any alteration of the materials on the external walls, or any of the communal areas that support the overall fire evacuation strategy for the building, or the wider site.

The building involved is a mixed teaching and administrative block, and is not used for any sleeping purpose; there will not be any passenger lift involved with the refurbishment works; the building in which the toilets are located is approximately 7m in height, from surrounding ground level, to the uppermost occupied floor; and no additional units will be created as a result of the refurbishment works.

Due to the historic nature of the building, there was a requirement for a Listed Consent Planning Application, and the Local Authority have insisted on a Planning Fire Safety Strategy as part of the application.

3 Suitably Positioned Outside Space

3.1 Fire Appliances

The proposed toilet refurbishment will involve an existing building at St Mary's University in Waldegrave Road, Twickenham. Fire appliance access directly to the building will be maintained throughout the project. Waldegrave Road is a major thoroughfare and is therefore likely to be available at all material times.

The access door to the building will be within 5m of where an appliance will be able to locate within the boundaries of the site, as depicted within Figure 1.

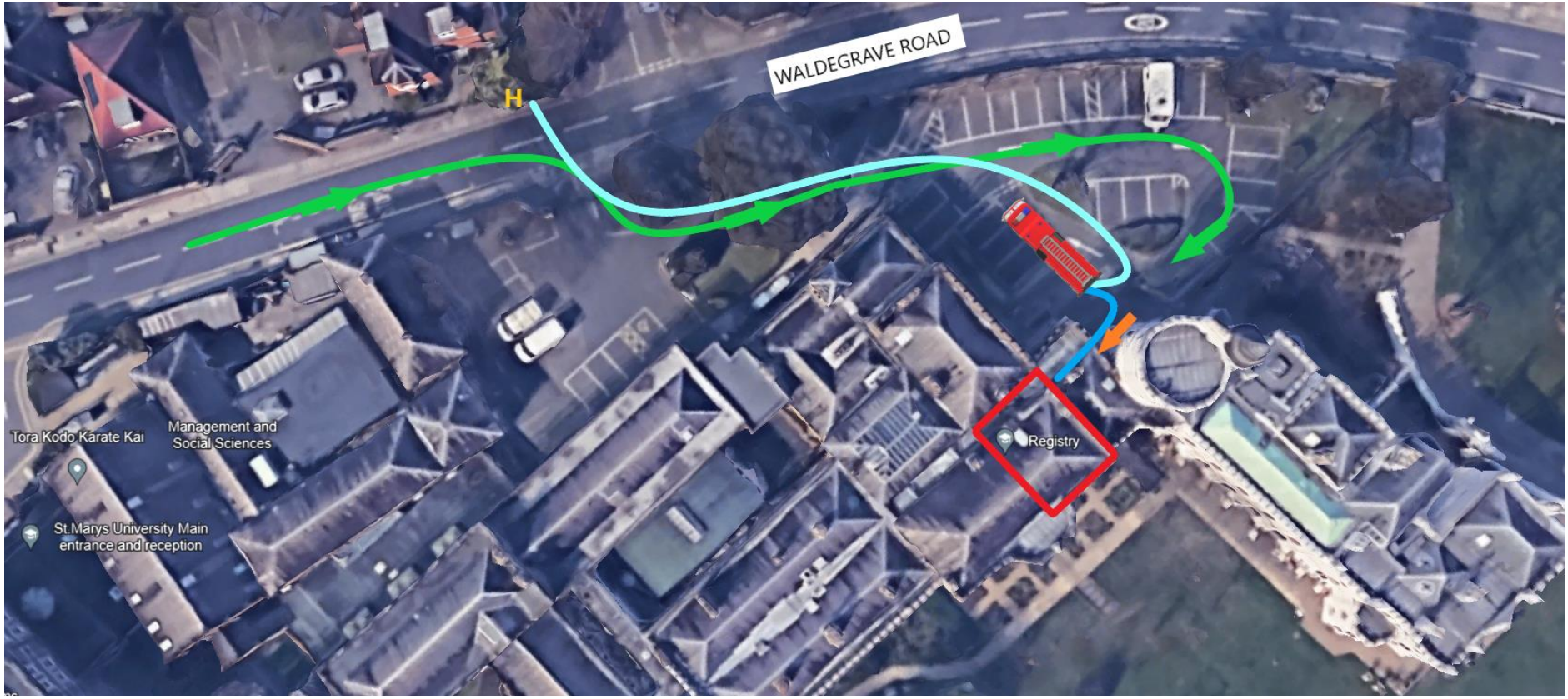

Figure 1 - Fire Service Access and Appliance Space

Location of Toilet Facilities Within Block D

Fire Service Access Route from Waldegrave Road

H — Nearest Fire Hydrant

Nearest Access Point to Block D

During the refurbishment phase of the project, access to the site from Waldegrave Road will be maintained, and it will be ensured that materials and contractor vehicles do not impede Fire Service access into the building.

3.2 Evacuation Assembly Points

There are a number of fire assembly points throughout the site: the two that are nearest to the building are indicated within Figure 2. They are shown by the symbol -

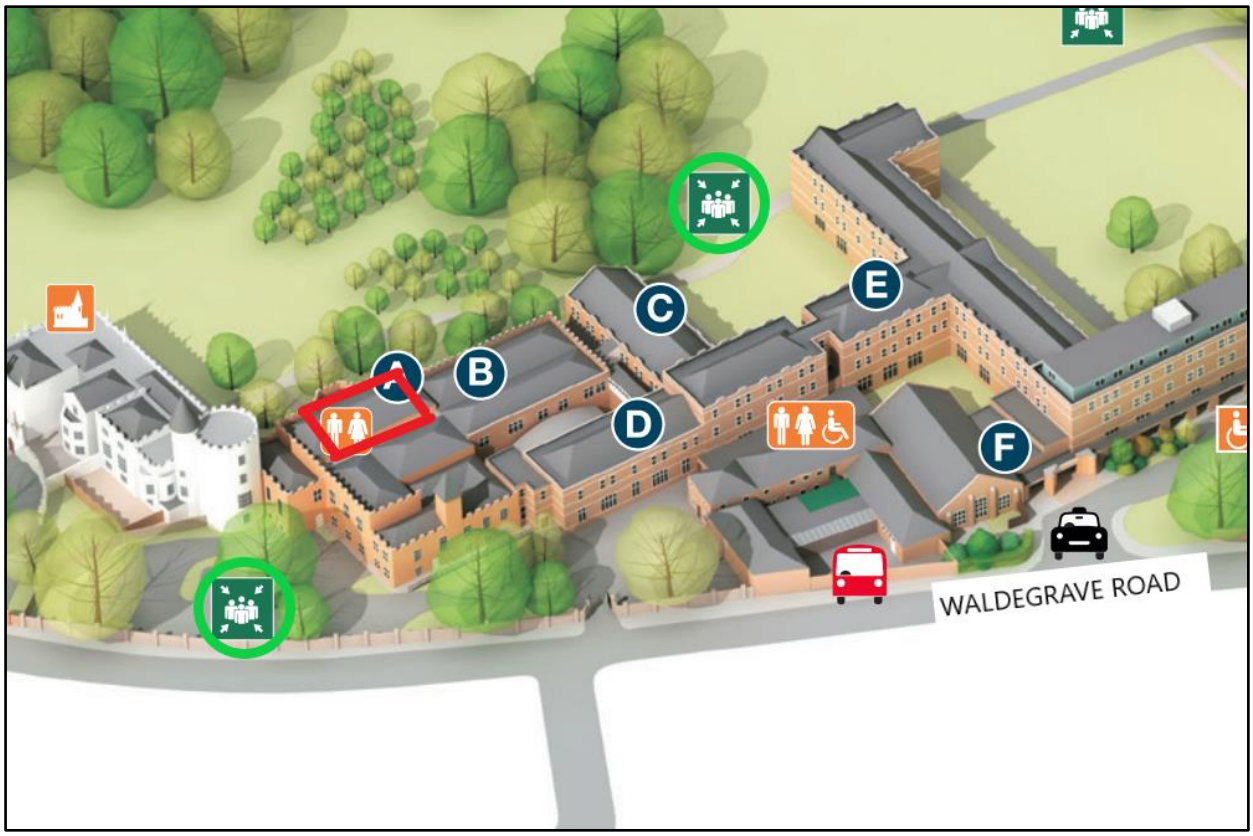

Figure 2 - Evacuation Assembly Points

These assembly points are within the University site and any evacuation will be managed by University staff and security personnel. The assembly point locations have been designed to avoid interactions between attending fire appliances and evacuating occupants.

4 Active and Passive Systems

4.1 Fire Detection and Alarm System

The building is provided with a commercial fire detection and alarm system to an L2(M) standard, in accordance with the guidance within BS5839: Part 1.

This level of detection exceeds the recommended minimum level of coverage for a non-sleeping risk building of this type.

The refurbishment work will not impact on the existing provision. The zone affected will be isolated during the works to prevent unwanted fire signals, but the unaffected areas will remain live at all times.

The contractors will introduce a means of raising the alarm in case of fire while the affected areas are isolated from the main fire alarm system.

4.2 Emergency Lighting

Emergency lighting will be installed to the toilets and corridors in accordance with BS5266.

4.3 Compartmentation

Where the walls of the toilets and the corridors are designed as compartment walls, these will be maintained throughout the works. Any penetrations to compartment walls e.g. for ventilation or services, will be fire stopped to a minimum of a 30-minute standard.

5 Internal Fire Spread

The building is primarily constructed from masonry walls, with some limited use of studwork walls where partitions have been created. All compartmentation in accordance with the building's fire safety strategy will be maintained.

The fire doors that are positioned at the extent of the affected corridors will be kept closed, so that protection to the means of escape from other parts of the building will be maintained.

6 External Fire Spread

The exterior of the buildings will not be impacted by the proposed works. The existing exteriors are masonry walls, which achieve a minimum Classification of A2-s1, d0 which is a significant enhancement on the minimum classification required for this type of building.

7 Means of Escape Arrangements

7.1 Reference Guide

Approved Document B: Volume 2 will be used as the base fire safety guidance document for the assessment of the refurbishment works.

7.2 Evacuation Strategy

The strategy that will be employed throughout the building will be maintained as simultaneous.

Where the existing escape route may be impacted during the refurbishment works, primarily due to activities within the corridors, it will ensured that alternative escape routes are available for all building users.

Where there is direct impact due to the works that cannot be managed to enable the rooms to be kept in use, as for Rooms B13, D12, and D18 to D20, there will be a need for these rooms to remain vacant while the corridors are being refurbished.

There are three staircases that are adjacent to the affected corridors, and a robust management process will ensure that these escape routes are not impacted by the refurbishment works.

7.3 Consideration of all Building Users

The escape routes from the building are Part M compliant and the nearest exit route from the toilets is provided with a ramp. During periods when this route is unavailable due to the works, it will be ensured through the risk assessment process, that alternative routes are sufficient in terms of size, distribution, and numbers for the remaining occupants,

7.4 Evacuation Strategy Review

The suitability of the evacuation strategy for the building will be reviewed as part of the 'Method Statement' process for the refurbishment works: consideration will be given to any temporary adjustment to the existing evacuation strategy that may be necessary.

When the works will affect the corridors, and they may not be suitable as an escape route for a period of time, reasonable adjustments will be made to ensure that the overall strategy remains viable for the occupants of the building and wider site.

8 Access and Facilities for Firefighting

8.1 Fire Appliance Access

Access to the University site is directly from Waldegrave Road. There is 24 hour a day security on site, who would meet and direct oncoming fire appliances, and provide any information requested from the Officer in Charge.

All parts of the affected areas of the building will be accessible within 45m of the appliance location, measured along a route suitable for laying fire hose. It is estimated that the furthest section of the toilets will be a maximum of 30m from where an appliance will be able to be positioned as shown in Figure 2.

8.2 Water Supplies

There are a number of ground hydrants in Waldegrave Road. The closest has been identified on the corner of Waldegrave Road and Waldegrave Gardens. This hydrant is approximately 60m from where an appliance can be located, measured on a route suitable for laying hose, as depicted within Figure 2.

The maximum recommended distance between a hydrant and a building is 90m.

8.3 Access to the Building

There are a number of access routes into the building and the nearest will be within 5m of where an appliance could be positioned as depicted in Figure 2. The on-site security personnel would provide information and guidance regarding the most suitable access route for any incident at the university.

8.4 Impact on Surrounding Buildings

As there will not be any effect on the exterior of the building as part of the works, there will not be any impact on surrounding buildings.

8.5 Fire Risk Assessment

The building is subject to the Fire Safety Order and there is an existing process of risk assessment in place for the university. The assessment will be reviewed as part of the preparatory work for the project; during the phases of the works, particularly when the corridors are impacted; and following the completion of the work.

The contractor will have their own risk assessment process to ensure that their activities do not impact other areas of the building, particularly in relation to the storage and movement of materials.

9 Management

The university will maintain oversight of the project, and on completion will ensure that the fire safety arrangements and systems for the building remain unaffected.

During the refurbishment process, the university and the contractor will collaborate to ensure that there is a robust process for ensuring that means of escape from the building is not adversely affected.

All relevant fire safety information will be retained and included within the Fire Safety Folder for the building.

10 Fire Safety Design Guide

It is proposed to use Approved Document B: Volume 2 as the base fire safety guidance document for the office.

11 Conclusion

This report has presented the necessary information to support the Planning Application for the proposed development, in accordance with London Planning Guidance.

The guidance document ‘Fire Safety Policy D12(A)’ was referred to, in order to ensure that all required information has been provided.

12 Limitations

Our advice is strictly limited to the scope of the project as detailed within Section 2 of this report.

The advice should not be used for any other building, as each Planning Fire Safety Strategy should be bespoke to the relevant development.

Pentrevion Fire Limited has not reviewed any other issues within the project other than those identified in our report. We offer no comment on any other aspects of the development and any absence of comment on such issues should not be regarded as any form of approval.

13 References

Approved Document B, Volume 2: Buildings other than dwellings: HM Government London. 2019 edition

BS 7974: 2001 Application of fire safety engineering principles to the design of buildings. UK: BSI

London Plan Guidance. Fire Safety Policy D12(A). Greater London Authority. March 2021