



Fire Engineers Report

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Bushy House
86 Buxton Crescent
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Revision A

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ISSUED FOR ADVICE

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Section 1 Preliminary

1.1 Introduction

GB Compliance were commissioned to ensure that the existing fire strategy for Bushy House was not compromised by the addition of secure entry lock systems proposed to be fitted at door locations 1, 7 and 8 on the plan shown in appendix A. We have taken reference from Approved Document B Volume 2, 2019 edition incorporating 2020 and 2022 amendments (ADB-V2).

This document should be appended to the existing Fire Strategy for the building.

1.2 Executive Summary

Bushy House is a Grade II* listed building former residence of King William IV and Queen Adelaide in Teddington, London, which Lord Halifax had constructed for his own enjoyment on the site of a previous house Upper Lodge, Bushy Park, between 1714 and 1715.

It is part of the National Physical Laboratory and its upper two storeys overlook adjoining Bushy Park. The house and 30 acres (12 ha) of surrounding Bushy Park land were taken as the site for the National Physical Laboratory (NPL) in 1900 after concerns about flooding of the previously proposed site in the Old Deer Park, Richmond; it opened as part of this important laboratory in 1902.

The ground floor and basement levels of Bushy House were converted to laboratory space and Richard Glazebrook, the first director of NPL, and later directors, used part of the building as private accommodation. Bushy House contains laboratories, two small museums that mainly contain old scientific equipment, and rooms used for meetings and conferences.

Section 2 Fire Safety Measures

2.1 Fire Detection System

The fire alarm system appears to conform to BS5839-1 although it is unknown what the category of the fire alarm system is but is expected to be of an L2 standard but this would need to be confirmed although this would not impact on the project of fitting secure entry devices as there are smoke detectors adjacent to both locations.

The main panel is located adjacent to door 8 as shown below.

2.2 Means of escape

The fitting of secure entry devices does not impact on the means of escape as long as the devices meet with the following criteria.

Taking reference from ADB-V2 paragraphs 5.6 to 5.15 that requires doors to be readily openable to avoid undue delay to people escaping from a fire.

Referring to and summarising paragraph 5.7 a door on the means of escape should not be fitted with locks or fastenings any device should be a simple single operation device that can be used without the use of a key or keycode from the side of escape.

Electrically powered locks should return to the unlocked position in all of the following situations.

- a) If the fire detection and alarm system operates.
- b) If there is loss of power or system error.
- c) If the security mechanism override is activated (usually a green break glass box that conforms to BS7273-4).

As it is anticipated that the doors will not be used by 60 or more people no special devices need to be fitted and the door can open against the direction of escape (see paragraph 5.11) which is how the door opens presently.

The main entrance doors do not have a vision panel but cannot be changed due to being Grade II listed although doors 7 and 8 do have adequate vision panels, the doors are not revolving or automatic.

2.3 Exit Doors



The exit mechanisms should be adjacent to the door but kept separate from the fire alarm call points and have it made perfectly clear which is which to avoid unwanted operation of the fire alarm, it may be best to locate the green emergency box on the opening side of the door. The design of the entry system on the exterior of the building does not impact on fire safety issues.

I would strongly advise that a restable green box is fitted that does not require the replacement of a glass element that is reset by way of a key.

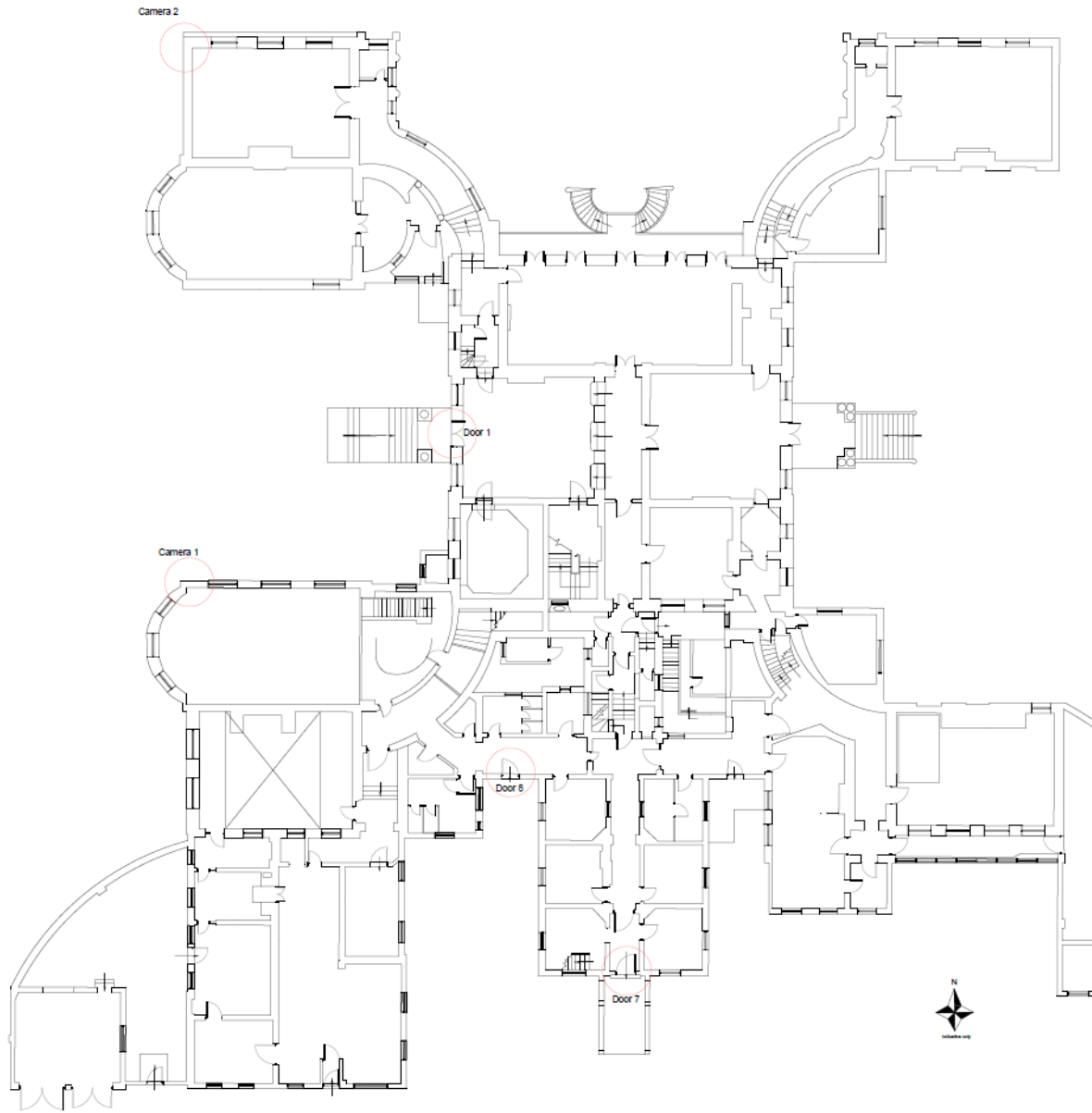


2.4 Evacuation Strategy

The evacuation strategy for this building would be a simultaneous evacuation that will allow occupants to leave the building freely without the need to unlock and doors to reach a place of ultimate safety.

The 3 doors mentioned above all show fire exit signs so would currently be deemed as means of escape until otherwise discounted.

Appendix A Floor plan



TITLE: Security upgrade locations
SCALE: NTS

<p>Drawn: JBA Checked: JAE</p>	
<p>Date: June 2021</p>	
<p>Client: NPL</p>	
<p>Project: Bushy House (B1) Access Control</p>	
<p>Title: Location Plan Access Control Locations General arrangement</p>	
<p>Scale: NTS Date: June 2021</p>	
<p>Drawn: JBA Checked: JAE</p>	
<p>Cityref: GA001</p>	<p>Rev:</p>
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