Accendo Fire Safety Services

Land at Status Park, Nobel Drive, London

Fire Statement Report

Audit Sheet

Revision	Description	Date	Issued By	Reviewed By
0	Issued to Design Team	8 February 2023	JL	MK

CONTENTS

1.0 AUTHOR QUALIFICATIONS

2.0 INTRODUCTION

3.0 SITE DESCRIPTION

4.0 MEANS OF ESCAPE

5.0 ACTIVE FIRE SAFETY MEASURES

6.0 PASSIVE FIRE SAFETY MEASURES AND CONSTRUCTION DETAILS

7.0 ACCESS AND FACILITIES FOR THE FIRE AND RESCUE SERVICE

8.0 FIRE SAFETY MANAGEMENT AND FUTURE DEVELOPMENT

9.0 REFERENCES

1.0 AUTHOR QUALIFICATIONS

This report has been compiled by John Lewis MSc BSc (Hons) MIFireE MRICS MCIOB.

John is the founder and director of Accendo Fire Safety Services. He has over twenty years' experience of applying and assessing Part B of the Building Regulations. This has been obtained on a range of residential and non-residential buildings up to £75M.

John is member of the Institution of Fire Engineers and is currently in the process of obtaining CEng status via that organisation.

Professional Associations and Education

- MSc Fire and Explosion Engineering, University of Leeds (2013)
- BSc (Hons) Construction Management, South Bank University, London (1993)
- Successfully passed the RICS EWS Competency Training Scheme (2021)
- Application submitted for Chartered Engineer (Fire Engineering) via The Institution of Fire Engineers
- Member of the Institution of Fire Engineers (1999)
- Member of the Royal Institute of Chartered Surveyors (2000)
- Member of the Chartered Institute of Building (1999)

Committee Membership

John currently sits upon the following committees:

- FSH/021/0-/18 *Development of BS9414*
- FSH/021/0-/19 *Review of BS8414-1 and BS8414-2*
- FSH/021/0-/14 *Fire Precautions in Buildings (BS9991and BS9999 suite of documents)*
- MHCLG Project on fire performance of cladding materials research (member of the Steering Group)
- Smoke Control Association *Guidance on Smoke Control to Common Escape Routes in Apartment Buildings (flats and Maisonettes*)
- Smoke Control Association *SCA guidance on the design, installation and maintenance of smoke control systems in single staircase office buildings exceeding 11m in height.*

Selected Publications

- Principal Author of Building Control Alliance Guidance Note 18 *Use of Combustible Cladding Materials on Buildings Exceeding 18m in Height*. Cited

across the industry, BCA GN18 became the benchmark for assessing compliance of combustible cladding systems on high rise buildings.

2.0 INTRODUCTION

This report provides a Fire Safety Statement to support the planning application submitted for Land at Status Park, Nobel Drive. It has been developed to satisfy the requirements of Article 9A of The Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order 2021.

BS9991: 2015 and BS9999:2017 have been used to demonstrate compliance with the Part B (Fire Safety) functional requirements of the Building Regulations 2010 (as amended).

This Fire Safety Statement is not intended to provide a full fire strategy report for building regulation purposes however it is intended to be developed and built upon as further detailed design work progresses. During the course of the detailed design stage, a different fire safety guidance document may be substituted for the ones cited above.

This fire safety statement details how, at this stage of design, the development proposal is in intended to function in terms of:

1) the building's construction: methods, products and materials used, including manufacturers' details

2) the means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach

3) features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans

4) access for fire service personnel and how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these

5) how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building

6) ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures.

The following documents have been used in. preparation of this report:

Drawing Name	Number	Rev
Estate Master Plan	E21-038/SIT100	A
Proposed Ground Floor Plan	E21-038/PRP00G	A
Proposed Typical Floor Plan	E21-038/PRP001	-
Proposed South Elevation	E21-038/PRE001	-
Proposed North Elevation	E21-038/PRE002	-

3.0 SITE DESCRIPTION

The planning application refers to the '*Redevelopment of the existing site to provide a six storey residential building to provide 67no. residential units, together with associated landscaping and car parking. Reconfiguration of car parks at Nobel Drive and provision of additional landscaping.'*

Building height has been measured in accordance with Approved Document B Volume 2 2020 Diagram D4:

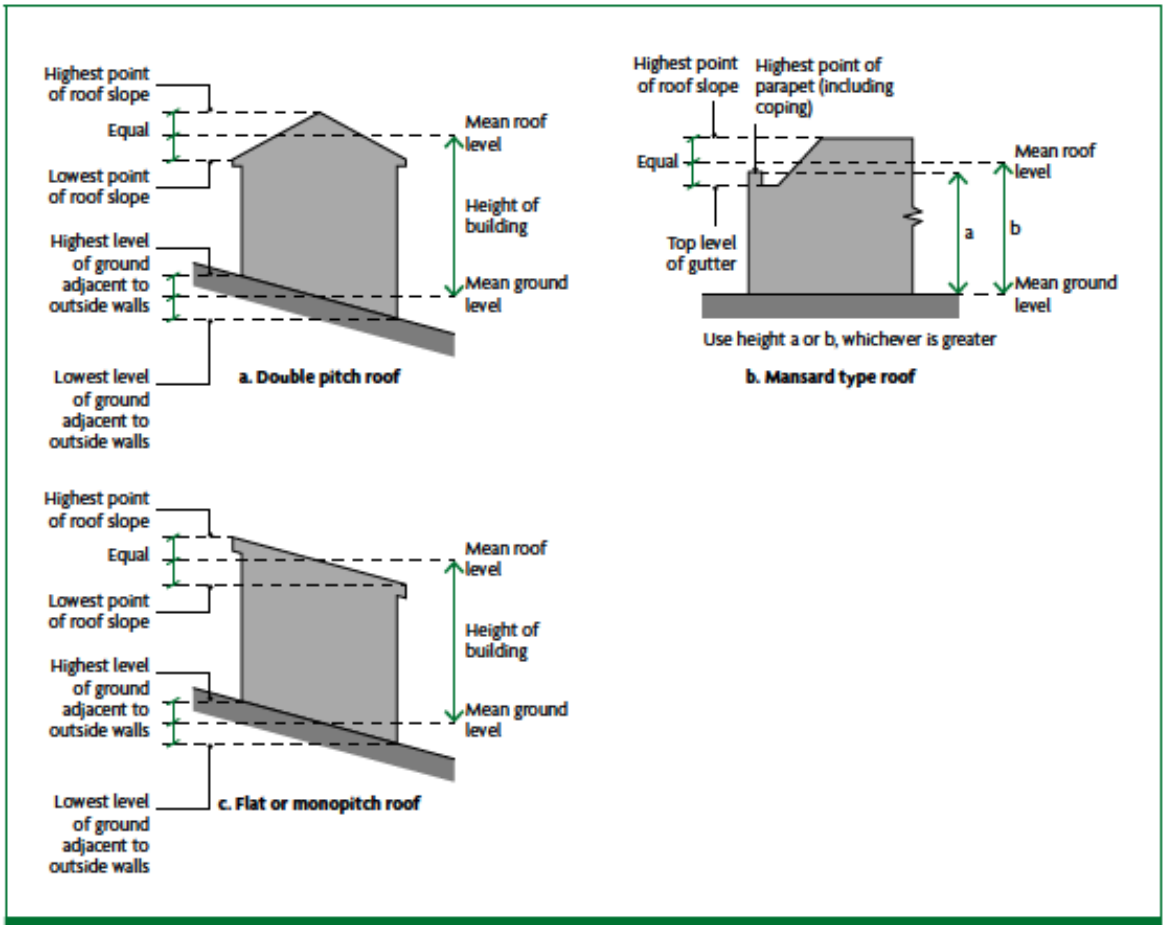


Diagram D4 Height of building

In accordance with this diagram, the maximum building height is around 19.10m

The height to the finished surface of the top storey of the building has been measured in line with Diagram D6:

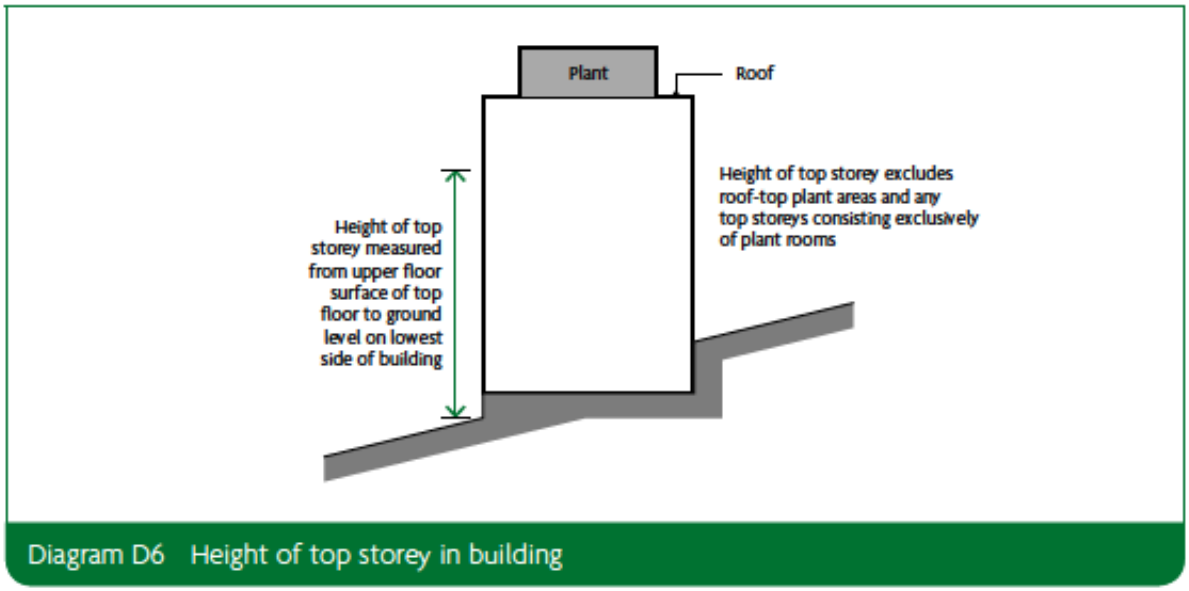
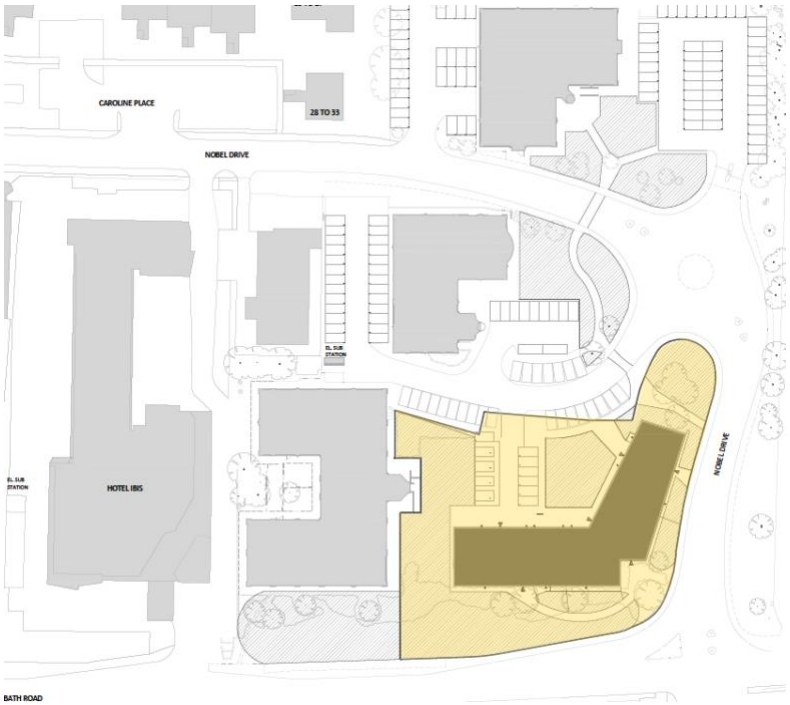


Diagram D6 Height of top storey in building

In accordance with this diagram, the top storey height is around 15.40m.

The location and site plan of the building is shown below in Figure 1

Figure 1 – Location and Layout Plan



Upon completion of the development, it is intended that the building will be put to the following uses:

- Ground Floor – Residential flats, cycle store, plant and refuse storage associated with the residential parts of the development.

- Level 1 to Level 5 – Residential Flats.

4.0 MEANS OF ESCAPE

With regards to forming a suitable means of escape strategy for the building, the following are proposed:

Evacuation Strategy - Residential areas

These areas will feature a ‘stay put’ evacuation strategy where only the occupants of the fire flat will escape initially.

Consideration will also be given to a fire evacuation alert system which will allow the fire service to communicate with and evacuate other flats if evacuation of these is deemed necessary.

Provision for Disabled Occupants

No specific measures are required by BS9991 for the building to be constructed with facilities to assist the evacuation of disabled occupants. However, expectations are placed upon the management of the building to be able to evacuate all persons safely.

To assist with this later requirement, an evacuation lift is proposed to each block, together with space within the stairwell for the provision of a refuge on each floor level.

Horizontal Means of Escape

Residential areas - travel distances, routes and smoke control provision will be in accordance with Section 7.3 of BS9991.

Smoke ventilation within the staircases will be possible via a roof mounted automatically opening smoke vent. A smoke detection system complying with BS5839-1 will be installed within the common parts to activate the smoke control system.

Internal Escape Within the Flats

Design of the flats will be in line with Section 9.4 of BS9991. This will include the provision of sprinkler protection to BS9251 and smoke detection to BS5839-6.

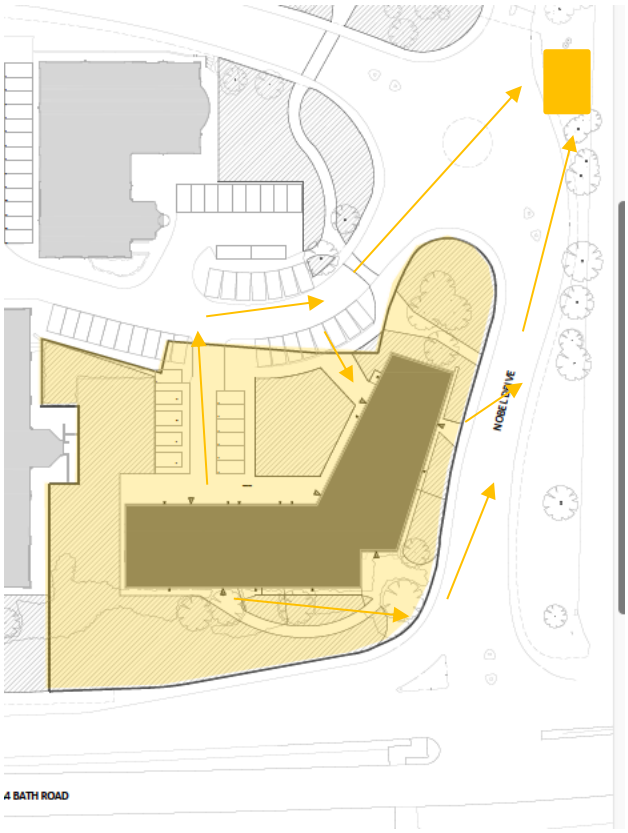
Vertical Escape

The stairwells will be sized to suit Part M requirements and, to assist fire-fighters, will be a minimum of 1100mm wide.

The stairs will discharge directly to external air at ground floor level.

Evacuation Assembly Points

The main entrances to the stairwells are via both the car park area (rear) and Nobel Drive (front). Assembly on the roadside away from the building is possible (orange coloured box):



5.0 ACTIVE FIRE SAFETY MEASURES

With regards to active fire safety measures within the building, the following are proposed:

Fire Detection and Alarm Systems – Residential Floors

All apartments are to be provided with a Category LD2 fire detection and alarm system designed, installed, and commissioned in accordance with BS5839-6:2019.

It is proposed to provide an L5 fire detection system within the common residential areas (i.e. residential common corridors, stairs, etc.). The purpose of this system is only to activate the relevant smoke ventilation systems in a fire scenario; therefore, no sounders are to be provided in these areas. The fire detection and alarm system is to be designed and installed in accordance with BS5839-1:2017.

Smoke Control System – Residential Floors

The residential stairwells will be protected with a 1.0m^2 automatic opening vent located at the head of the residential staircase.

Corridors will be protected with a 1.5m^2 vertical smoke shaft with automatically opening dampers on each floor level.

The systems will be designed in accordance with Smoke Control, Association publication '*Guidance on Smoke Control to Common Escape Routes in Apartment Buildings'*

Sprinklers

Being a building with new residential floors comprising flats at a height exceeding 11m, the building will be fitted throughout with a sprinkler system in accordance with BS9251:2021:

- Apartments are to be provided with a Category 2 system in accordance with BS9251:2021.
- Ancillary accommodation is to be provided by a Category 3 system in accordance with BS9251:2021.

Emergency Lighting and Signage

Emergency lighting to BS5266-1: 2016 will be installed within non-residential areas and common parts of the residential floors.

Escape route signage to BS5499-9 will be provided to all common escape routes.

Consideration will be given to providing an evacuation alert system to BS8629:2019 to the residential flats. This will be situated in the ground floor entrance area (final positioning to be agreed later).

6.0 PASSIVE FIRE SAFETY AND CONSTRUCTION DETAILS

With regards to passive fire safety measures and construction details within the building, the following are proposed:

Elements of Structure

The top floor of the building is at a height exceeding 11m and below 18m. Therefore, in line with BS9991 Section 16, elements of structure will achieve a 60minutes standard of fire resistance.

Compartmentation

Key fire resistance provisions within the development can be summarised as follows:

- All floors within the development are to be designed as compartment floors achieving the same level of fire resistance as required for the elements of structure.
- All protected shafts which pass through compartment floors are to achieve the same level of fire resistance as required for the elements of structure.
- Firefighting stairs and firefighting lifts are to be enclosed within 120-minute fire rated construction.
- All residential units are to be separated from all other areas of the building by at least 60-minute fire rated construction (FD30S fire doors onto internal common corridors).
- All non-residential areas will be separated from the common parts with the same level of fire resistance as required for the elements of structure

Ancillary accommodation is to be enclosed in fire rated construction, in accordance with the requirements of Table 15 of BS9991:2015.

Fire Doors

Fire doors are to meet the requirements outlined within BS9991:2015.

Internal Wall and Ceiling Linings

Wall and ceiling linings will meet the requirements outlined within BS9991:2015.

Fire Stopping and Cavity Barriers

The appropriate fire barrier provisions will be provided in line with the guidance within BS9991. Fire stops will be of the required fire resistance for the height of building. Cavity barriers will be of a minimum fire resistance of 30 minutes.

External Wall Construction

As the building will contain residential floors at a height exceeding 11m, the principal components of the external walls will be composed throughout of materials which achieve either a A1 or A2,s1-d0 combustibility classification in line with BS EN 13501-1.

Space Separation and External Areas

Detailed external fire spread analysis will be undertaken based on the enclosing rectangle method as described in BR187:2014. On an initial review of space separation, boundary distances appear sufficient to enable compliance with Requirement B4.

Roof Coverings

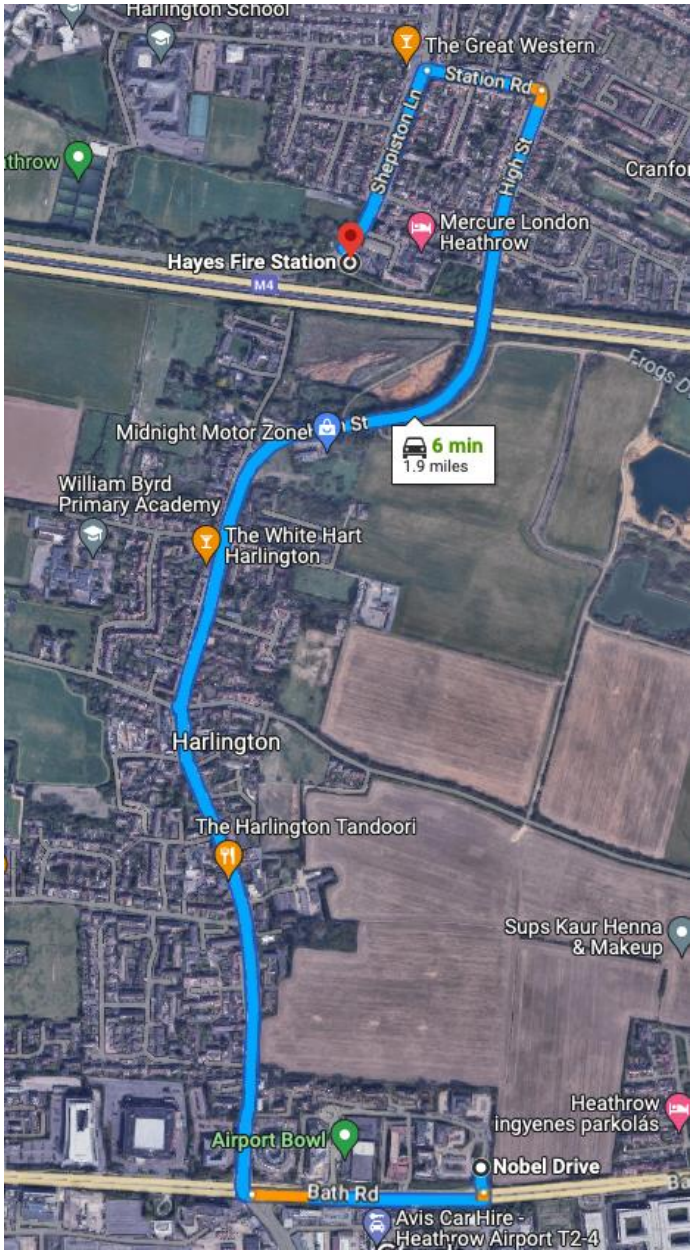
Roof coverings will achieve $B_{ROOF}(t4)$ classification.

7.0 ACCESS AND FACILITIES FOR THE FIRE AND RESCUE SERVICE

With regards to access and facilities for the fire and rescue service, the following are proposed:

Site Accessibility

The nearest fire station is Hayes Fire Station. From analysis of Google Streetview, it can be seen the fire station is around a six-minute drive from the front entrance of the building.



The primary approach to the building will via A4 Bath Road or Nobel Drive. Suitable turning facilities for fire service vehicles already exist.

The road-facing elevations will house the main entrances to the stairwells. The dry riser inlets will also be positioned on these elevations.

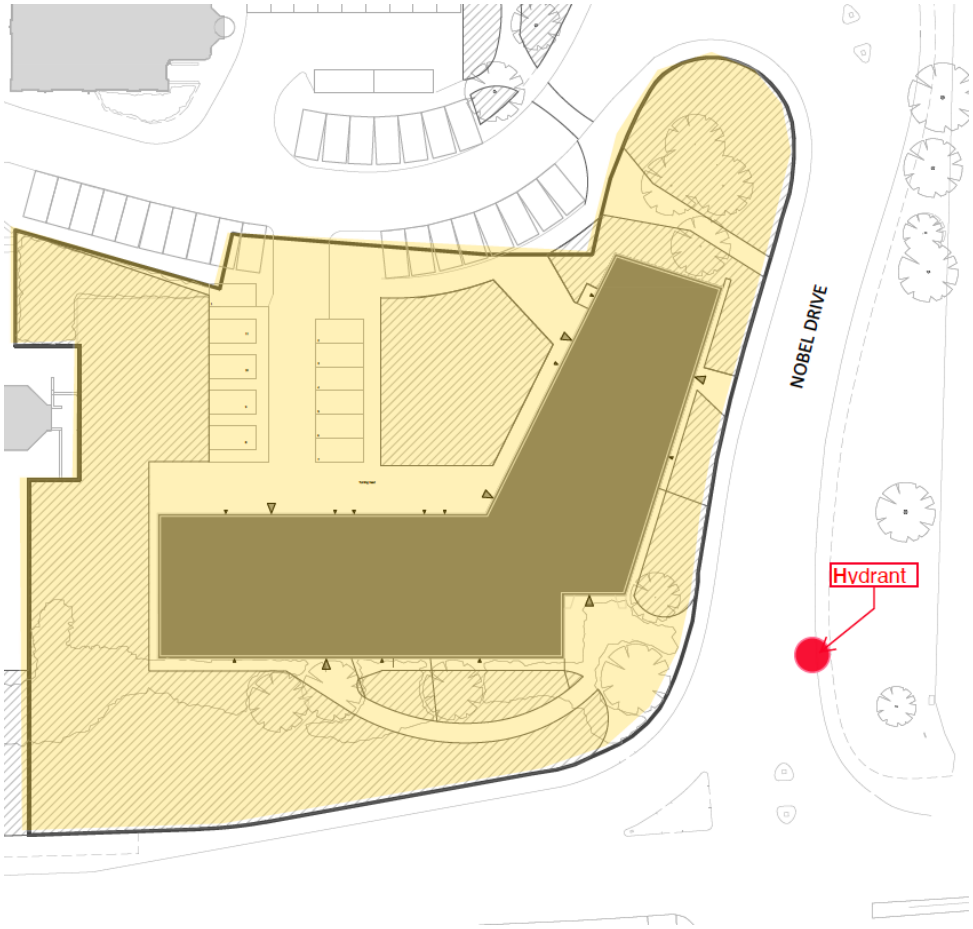
Fire-Fighting Access and Facilities

Residential Floors: These floors extend up to five storeys but do not exceed 18m above external ground level. Therefore, the following measures are proposed:

- A protected stairwell.
- A dry rising main installed in line with guidance in BS9991.
- All parts of all flats can be reached within 45m of a dry rising main outlet.
- Dry rising main inlet connections located on the front elevation of the building facing A4 Bath Road and Nobel Drive.
- Parking for the fire brigade pump to be within 18m of the dry riser inlet.

Fire Hydrants

In accordance with the requirements set out in BS9991:2015, fire hydrants should be located within 90m of the dry or wet rising main inlet locations. The location of the closest fire hydrant appears to be on Nobel Drive, directly outside and across the road from the site boundary:



However, if no suitable hydrant can be located within 90m an additional hydrant will be installed.

8.0 FIRE SAFETY MANAGEMENT AND FUTURE DEVELOPMENT

This section of the Fire Statement is aimed at providing information in regard to the management of future fire safety within the building.

BS9991 provides guidance on ongoing management and maintenance of the building once occupied.

The Regulatory Reform (Fire Safety) Order 2005

The RRFSO will apply to the completed building and a suitable 'Responsible Person' will be appointed to undertake and constantly review a suitable fire risk assessment.

Regulation 38

Upon completion of the building works, all relevant details relating to fire safety will be handed to the Responsible Person in order for them to undertake a suitable fire risk assessment.

9.0 REFERENCES

1. The Building Regulations 2010 (as amended 2013); Communities and Local Government.

2. Approved Document B Volume 2; HM Government. 2020

3. BS9991 'Fire Safety in the Design, Construction and Use of Buildings – Code of Practice for Residential Buildings'. BSi. 2015

4. BS9999 'Fire Safety in the Design, Construction and Use of Buildings – Code of Practice for Non-Residential Buildings'. BSi. 2017

5. BS EN 13501 Part 1' Fire Classification of Construction Products and Elements: Classification using Data from Reaction to Fire Tests