



FIRE STATEMENT

Issue 3

Care Home, 103-107 North Hill,
Highgate, London

2111305L



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PURPOSE OF REPORT

This report was prepared by Innovation Fire Engineering Ltd in commercial confidence for the former Mary Feilding Guild care home, 103-107 North Hill, Highgate, London N6 4DP and aims to demonstrate compliance with the requirements of Schedule 1 of the Building Regulations 2010 and Policies D12(A)(B) and D5(B5) of The London Plan [1]. The report is not intended to be provided to any other parties without the approval of the Highgate Care Limited for whom it was produced. This report should not be manipulated or otherwise presented without the written consent of Innovation Fire Engineering Ltd.

Date	Report Issue	Amendment Record
26/11/2021	1	First Issue
26/11/2021	2	3(a), 4.1(a), 6(a)
07/12/2022	3	Date of report updated

Quality Assurance

All reasonable diligence and care have been taken in preparation of this report to ensure its accuracy.

Issue	Prepared by	Updated by	Checked by
1	James Brady <i>Fire Engineer</i>	-	Michael Johnson <i>Associate</i>
2-3		James Brady <i>Fire Engineer</i>	Michael Johnson <i>Associate</i>

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2 DECLARATION OF COMPLIANCE

2.1 Competence of Author of the Fire Statement

2.1.1 James Brady - Director

- (a) James Brady (MSc, BEng (Hons), AIFireE) is the Director of Innovation Fire Engineering, an award winning, specialist fire engineering consultancy. His professional qualifications include, MSc Fire and Explosion Engineering and BEng (Hons) Fire Engineering. James is an Associate Member of The Institution of Fire Engineers (00035478).
- (b) With over 18 years' experience in the field of fire safety, James has vast experience in devising fire engineering strategies for a range of sectors including, care homes, healthcare, residential, office and hotels. James is part of the advisory group for care homes and specialist housing for the UK government, Ministry of Housing, Communities and Local Government (MHCLG).
- (c) Prior to establishing Innovation Fire Engineering, James managed a team of Fire Engineers in a large multi-disciplinary consultancy and devised fire engineering strategies for a range of schemes including care homes, industrial and embassy buildings in the UK and internationally. James previously worked as an Inspecting Officer in the fire safety team for West Yorkshire Fire and Rescue Service.

2.2 Policy D12(A)

- (a) I, James Brady, declare in my professional opinion the objectives do not compromise a failure to meet the requirements of Policy D12(A) or D5(B5)

J. Brady

James Brady | Director

2.3 Policy D5(B5)

(a) I, James Brady, declare in my professional opinion the following criteria of Policy D5 (B5) have been met: -

- I am satisfied the design and provision of lifts used for evacuation is compliant with the stated design code
- I am satisfied that a suitable outline evacuation strategy is provided within the Fire Statement and can demonstrate how the provision of evacuation lifts support this strategy
- I am satisfied that a suitable outline management plan is provided within the Fire Statement that can demonstrate how the operation of evacuation lifts in an emergency situation can be undertaken
- I am satisfied that the outline management plan clearly identifies the principal evacuation lift features that should be maintained by the building management team

J. Brady

James Brady | Director

3 INTRODUCTION

- (a) Innovation Fire Engineering has been appointed by Highgate Care Limited to produce a fire statement to support the design of the proposed care home, 103-107 North Hill project in Highgate, London.
- (b) The fire safety issues contained within the report only address guidance within BS 9991 [2], Policies D12(A)(B) and D5(B5) in The London Plan [1] in support of the substantive requirements of the Building Regulations 2010. This report is concerned with the life safety aspects of fire safety. Although these will ultimately help the protection of buildings, this is not the primary objective.
- (c) The objective of this report, through the proposed fire engineering methodology and criteria for the assessment of the design, is to demonstrate that the building satisfies the substantive requirements for fire safety of the Building Regulations 2010 and Policies D12(A)(B) and D5(B5) in The London Plan [1].
- (d) The report is based on the information currently available. If the building layout is subsequently varied this could invalidate the conclusions and recommendations of this report. Any variations will need to be assessed by Innovation Fire Engineering for their impact on this report.
- (e) This report is based on the following architectural drawings and reports, received from DWA Architects, presented in Table 1.

Table 1 Drawing Register

Title	Drawing No.	Revision
Proposed Basement GA Plans	P2719-101	-
Proposed Ground Floor GA Plan	P2719-102	-
Proposed First Floor GA Plan	P2719-103	-
Proposed Second Floor GA Plan	P2719-104	-
Proposed Third Floor GA Plan	P2719-105	-
Proposed Roof Plan	P2719-106	-
Proposed Elevations	P2719-107	-
Proposed Site Plan Indicating Basement Floor Plan	P2719-131	-
Proposed Site Plan Indicating Ground Floor Plan	P2719-132	A
Site Location Plan	P2700(80)	-

4 POLICY D12(B)

4.1 The building's construction method, products and material used

- (a) The design team are unable to provide the construction method for the care home, 103-107 North Hill project in Highgate, as this will be provided from the contractor whilst preparing the documentation for the CDM compliance.
- (b) However, the project will be subject to the Construction (Design and Management) Regulations 2015 [2]. The main contractor will be appointed as Principal Contractor (PC) and will be required to produce a Construction Phase H + S Plan (CPHSP). The information provided by the Principal Designer will include a requirement for the CPHSP to include construction methods and measures to be taken during construction to limit fire safety risks to the surrounding area. Those measures should be site specific but should be based on HSE Guidance HSG168, 'Fire Safety in Construction' [3].
- (c) The design team are unable to provide the materials and products that will be selected. However, to adequately resist the spread of fire, the internal linings, roof lights & lighting diffusers will need to comply with Approved Document B (ADB) Vol. 2 [4]. Thus, internal lights will need to comply to the following: -
 - Circulation Areas Category B-S3- d2 to BS EN 13501
 - General Rooms: C-S3- d2 to BS EN 13501
 - Small Rooms: D-S3- d2 to BS EN 13501.
- (d) Any roof lights and lighting diffusers will need to comply with Table 6.2 of ADB Vol. 2 [4].
- (a) The construction of the external walls will need to be class A2-s1, d0 or better.
- (a) Due to the proximity of the roof to the site boundaries, the roof covering will need to be a B_{ROOF}(t4) classification.

4.2 Means of escape for all building users and evacuation strategy

4.2.1 Occupancy & Fire Management

- (a) Demolition of existing buildings and redevelopment to provide a new care home (Class C2 - Residential Institution), together with a well-being and physiotherapy centre. The proposed care home includes up to 70 bedrooms, hydrotherapy pool, steam room, sauna, gym, treatment/medical rooms, hairdressing and beauty salon, restaurant, cafe, lounge, bar, well-being shop, general shop, car and cycle parking, refuse/recycling storage, mechanical and electrical plant, landscaping and associated works".
- (b) The building will be 10.02m to the upper most floor.
- (c) Residents of the bedrooms and suites are considered to be 'asleep and familiar'.
- (d) Residents of the ancillary accommodation are considered to be 'awake and familiar'.
- (e) Some residents in the care home will require assistance from staff to evacuate, should a fire occur in the building. Other residents will be able to evacuate independently. Some residents, e.g. those living with dementia, may need more assistance than other elderly residents in the care home.

- (f) Any resident with a disability/wheelchair user on the upper floors, who cannot use the staircase(s), will utilise a lift to evacuate the building.
- (g) The maximum number of bedrooms with a protected area in the development is 10 bedrooms on the first floor.
- (h) The maximum and minimum number of staff within the development who can assist the evacuation of residents in the event of fire, will be 53 and 8 respectively. The minimum number of staff is considered acceptable for the maximum number of bedrooms within a protected area.
- (i) It is expected that, the building management level would be a minimum of a BS 9999 [5], Level 2.

4.2.2 Evacuation Policy

Residential Care Home

- (a) The care home will adopt a 'progressive horizontal' evacuation (PHE) strategy, whereby only the protected area of fire origin will evacuate, in the first instance.

Ancillary Accommodation

- (b) The ancillary areas within the building, at basement floor, will also adopt a PHE strategy, whereby only the protected area of fire origin will evacuate, in the first instance.

General

- (c) It is proposed that, the building will have an assembly point in front of the building leading onto North Hill. Also, an assembly point will be provided in front of the building leading onto View Road. With the PHE strategy, the aim will be to keep the residents within the building rather than evacuating them to the two assembly points in front of the building.

4.2.3 Horizontal means of Escape

- (a) The care home will be designed in accordance with ADB Vol. 2 [4], whereby each floor will be compartmented into 3 protected areas.
- (b) At least two exits will be provided from each of the protected areas.
- (c) Currently, parts of the second and third floors consist of only a protected area with a single exit. Additional fire safety system will need to be incorporated within these areas of the development to make the means of escape acceptable.
- (d) Travel distances are excessive in some protected areas within the basement, first, second and third floors, for single direction and/or multiple direction of escape, compared to the guidance within ADB Vol. 2 [4]. Additional fire safety systems such as smoke control and potentially a suppression system will need to be incorporated within these areas of the development to make the means of escape acceptable.

4.2.4 Vertical Escape

General

- (a) The building is provided with three protected staircases and three evacuation lifts, as shown in Figure 1 overleaf.

- (b) The evacuation lifts are to be used for the evacuation of residents, to another floor if the fire grows to such a level that, vertical evacuation of the residents on the fire floor is required. Only if it is absolutely necessary upon the fire significantly escalating, will the residents be evacuated out of the building.
- (c) As per the requirements of Policy D5 of the London Plan, one lift per core must be a designated as an evacuation lift. Therefore, in the proposed development, all three lifts must be evacuation lifts. The evacuation lifts should be designed and installed in accordance with Annex G2 of BS 9999 [5].

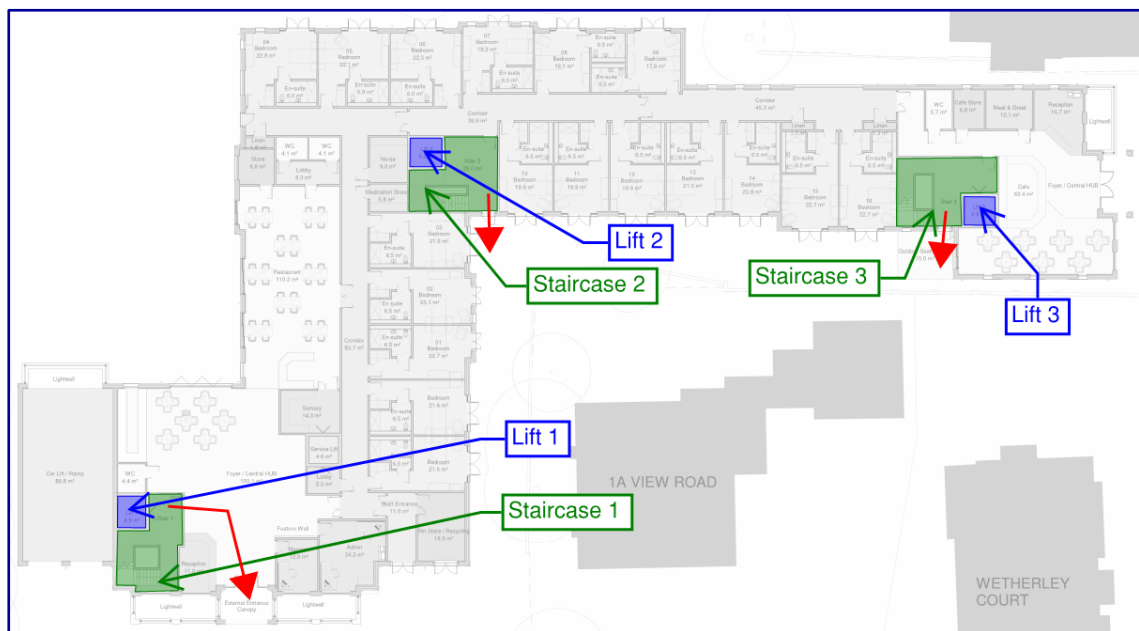


Figure 1 Vertical means of escape

- (d) Staircase 1 and Lift 1 serves the basement to second floors. Staircase 1 is protected and is accessed via a protected corridor or lobby on all floors, except the ground floor. The staircase discharges into the foyer/central hub at ground floor level. This is a variation to the guidance, but considered to be acceptable, due to the PHE strategy and the other vertical means of escape provided in the building.
- (e) Lift 1 is within the staircase 1 enclosure.
- (f) Staircase 2 and Lift 2 serves the basement to second floors. Staircase 2 is protected and is accessed via a protected corridor or lobby on all floors. The staircase discharges direct to open air at ground floor level.
- (g) Lift 2 is within the staircase 2 enclosure
- (h) Staircase 3 and Lift 3 serves the basement to third floors. Staircase 3 is protected and is accessed via a protected corridor or lobby on all floors, except the ground floor. The staircase discharges direct to open air at ground floor level. Part of the second and the third floors are only served by staircase 3, therefore additional protection is required to protect the staircase in the event of a fire.
- (i) Lift 3 is within the staircase 3 enclosure.

4.3 Passive fire safety measures

4.3.1 Internal Fire Spread

- (a) The surface lining of walls and ceilings should be in accordance with Table 2.

Table 2 Classification of Linings

Location	Classification
Small rooms with a maximum internal floor area of: a. 4m ² in residential accommodation b. 30m ² non-residential accommodation	D-s3, d2
Other rooms Circulation spaces within Flats	C-s3, d2
Circulation spaces in the common areas	B-s3, d2

4.3.2 Structure Fire Resistance

- (a) The fire resistance of the elements of structure should be provided in accordance with Table 3.

Table 3 Fire Resistance for Structure

Space	Minimum Period of Fire Resistance	R*	E*	I*
Structural frame, beam or column ⁽¹⁾	60 minutes	✓	-	-
Loadbearing wall	60 minutes	✓	-	-
Floors including compartment floors	60 minutes	✓	✓	✓
Roofs that perform the function of a floor	60 minutes	✓	✓	✓
Any part of a roof forming an escape route	30 minutes	✓	✓	✓
Compartment walls	60 minutes	✓	✓	✓
Protected shafts (lift shaft, stairs, risers)	60 minutes	✓	✓	✓
Walls enclosing bedroom/suites/ ancillary accommodation	30 minutes	✓	✓	✓
Places of special fire hazard	30 minutes	✓	✓	✓
Common Corridors/lobbies	30 minutes	✓	✓	✓
Plants rooms (Basement floor)	60 minutes	✓	✓	✓
Notes: * R: Loadbearing Capacity, * E: Integrity, * I: Insulation (1) Structure that only supports a roof will not require fire resistance unless: - the roof performs the function of a floor i.e. supporting roof top plant - the structure is essential for the stability of an external wall which requires fire resistance				

4.3.3 Compartmentation

- (a) All floors will be constructed as 60 minutes compartment floors.
- (b) Compartmentation between protected areas will be 60 minutes fire resistance.
- (c) Common corridors to the suites and ancillary rooms on each floor will be of 30 minutes fire resistance.
- (a) Ancillary rooms, places of fire hazard, will be enclosed within 30 minutes fire resistance.
- (b) The basement plant rooms will be enclosed within 60 minutes fire resistance.
- (c) Any service riser that passes through a compartment floor should be constructed to form its own 60-minute compartment. FD30 doorsets should be provided within the service risers.
- (d) All pipes, ductwork and services passing through fire resistant walls or floors will be sealed with an appropriate sealant system, or fire dampers that will maintain the period of fire resistance of the barrier.

4.3.4 External Wall Classification

- (a) Based on the assessment of the level of risk associated with the occupancy profile within the building, any insulation product, filler material (such as the core materials at metal composite panels, sandwich panels and window spandrel panels but not including gaskets, laminated glass within the terraces, sealants and similar products), used in the construction of an external wall will be class A2-s1, d0 or better.

4.4 Active Fire Safety Measures

4.4.1 Fire Alarm System – Residential Areas

- (a) The minimum fire alarm requirement throughout the care home will be an L1 fire detection and alarm system designed and installed to BS 5839-1 [6].
- (b) The fire alarm will be zoned such that, only the fire compartment of fire origin will 'alarm' in the first instance. Adjacent fire compartments will be placed on 'alert'.

4.4.2 Smoke Control

- (a) Currently, no smoke control is provided with the development. It is highly likely this will be required in some areas of the development, to ensure all the horizontal and vertical means of escape are acceptable.
- (b) The design of the smoke control systems should be finalised at the RIBA 4 stage.
- (c) Any smoke control systems should be designed and installed in accordance with relevant parts of BS EN 12101-2 [7].

4.4.3 Automatic Water Fire Suppression System (AWFSS)

- (a) Currently, no AWFSS is provided with the development. An AWFSS maybe required in some areas of the development, to ensure all the horizontal and vertical means of escape are acceptable.
- (b) Any AWFSS provided within the residential part of the development should be designed and installed with relevant parts of BS 9251:2021 [8].

4.4.4 Fire Escape Signage and Lighting

- (a) Fire escape signage will be provided in accordance with BS 5499 Part 4 [9].
- (b) Emergency lighting will be provided within the buildings in accordance with BS 5266 Part 1 [10].

4.5 Access and facilities for the fire and rescue service

4.5.1 Vehicle Access

- (a) The fire service vehicle access to the building will be off North Hill and View Road, as shown in Figure 2.



Figure 2 Fire Service Access, Hard Standings & Hydrants

- (b) Based on the floor area and height of the building, 15% access is required to the building. As shown in Figure 3 overleaf, access in excess of 15% is provided to the building, therefore considered to be acceptable.

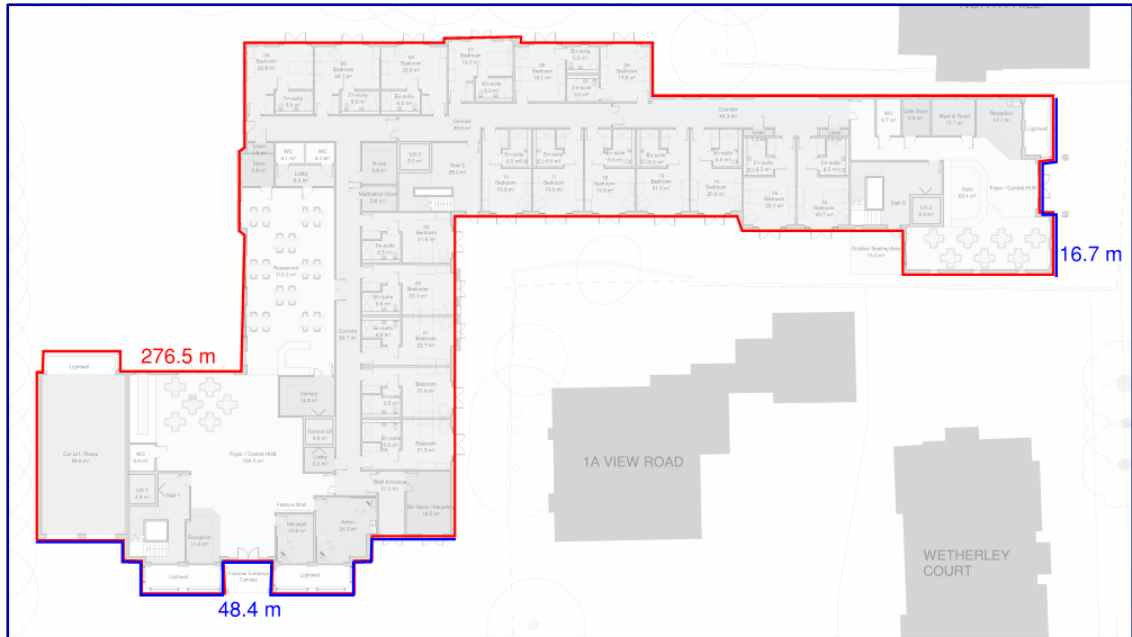


Figure 3 Fire Service Access

4.5.2 Fire Hydrants

- (a) As shown in Figure 4 and 5 taken from images from google maps, a hydrant is provided on both North Hill and View Road.

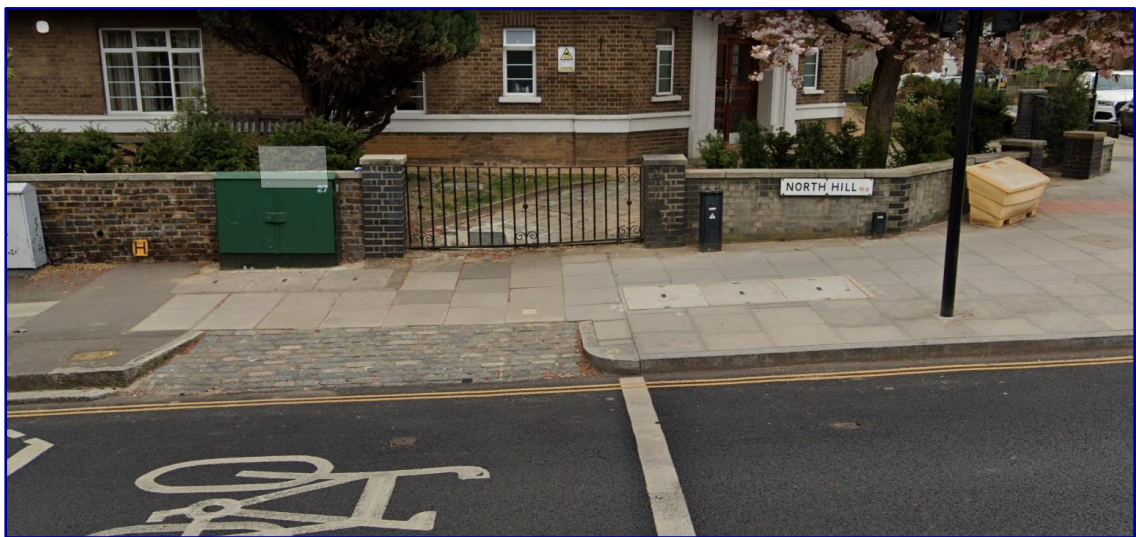


Figure 4 Hydrant on North Hill

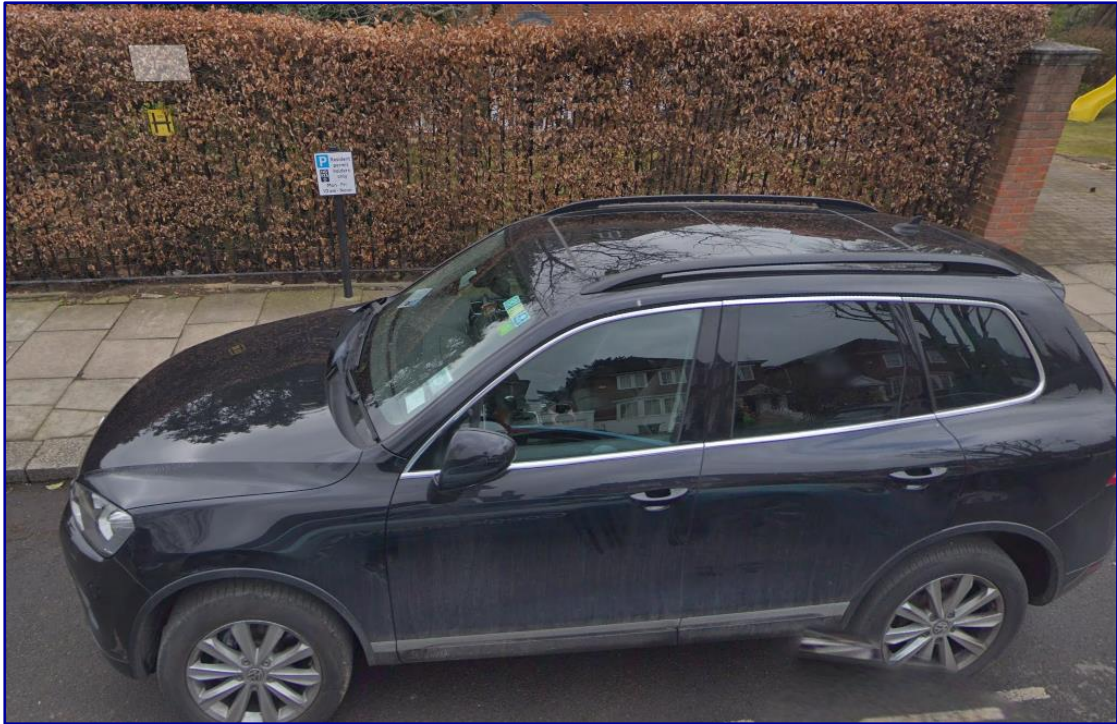


Figure 5 Hydrant on View Road

- (b) As shown in Figure 2, the hydrant locations are shown based on their location from Google maps. The hydrant locations and their acceptability to be used by the fire service will need to be confirmed by a specialist contractor. Based on these hydrants being confirmed as acceptable, an adequate water supply would be provided for the fire service.

4.6 Site Access for the fire and rescue service

- (a) As shown in Figure 2, the fire service can access staircases 1 and 3 from View Road and North Hill respectively.

4.7 Future development of the asset and the 'Golden Thread' of Information

- (a) The report is based on the information currently available. If the building layout is subsequently varied this could invalidate the conclusions and recommendations of this report. Any variations will need to be assessed by Innovation Fire Engineering for their impact on this report.

5 POLICY D5(B5)

5.1 Declaration of Compliance

- (a) The declaration of compliance has been completed in section 2.3 of this Fire Statement.

5.2 Evacuation Strategy

- (a) An evacuation strategy for the building has been detailed in section 4.2 of this Fire Statement.

5.3 Building Management Plan

- (a) A building management plan for the building has been detailed in section 4.2 of this Fire Statement.

5.4 Capacity Assessment

- (a) An evacuation lift is provided to each of the three staircase cores.
- (b) The evacuation strategy is PHE to evacuating residents horizontally from only the protected area of fire origin through a line of compartmentation into adjacent protected areas. The lifts would only be used if further escalated of a fire occurred, that compromised adjacent protected areas on the fire floor. Thus, all the lifts in the building are considered to be suitably sized.

6 CONCLUSION

- (a) This document outlines the proposed fire plan for the care home, 103-107 North Hill, Highgate, London, N6 4DP. The strategy has been developed in line with the life safety goals of the Building Regulations and Policies D12(A)(B) and D5(B5) in The London Plan [1]. The current building design complies with Policies D12(A)(B) and D5(B5).

7 REFERENCES

1. Policy D12 Fire safety, Parts A & B, The London Plan 2019
2. BS 9991:2015 Fire safety in the design, management and use of residential buildings. Code of practice
3. Fire Safety in Construction, HSG 168
4. Approved Document B Fire Safety Volume 2: Buildings other than dwellings 2019 edition incorporating 2020 amendments – for use in England
5. BS 9999:2017 Code of practice for fire safety in the design, management and use of buildings
6. BS 5839-1:2017 Fire detection and fire alarm systems for buildings. Part 1: Code of practice for the system design, installation, commissioning and maintenance
7. BS EN 12101-2:2017 Smoke and heat control systems. Part 2: Specification for natural smoke and heat exhaust ventilators
8. BS 9251:2021 Sprinkler systems for residential and domestic occupancies. Code of practice.
9. BS 5499-4:2013 Safety signs. Part 4: Code of practice for escape route signing.
10. BS 5266-1:2016 Emergency lighting. Part 1: Code of practice for the emergency lighting of premises.