



FIRE STATEMENT

To EMBRACE the LONDON PLAN

For the development of:

Hill House
Kingston Hill, Kingston, Surrey, KT2 7LN



February 2024

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Revision No	By whom	Date	Update
1	Chris Bailey	23/02/24	Internal Review and update
2			
3			

Disclaimer

Ardenlea Fire Consultants are experienced and trained to the highest professional standards. The advice in this report is based on sound professional judgment and the information provided by the Client. Whilst every care is taken to comply with statutory obligations and Approved Codes of Practices, specific documents in this regard can only be authoritatively interpreted by the Courts of Law.

1 Introduction

- 1.1 This proposed development recognises and embraces the principles and spirit of the London Plan published by the Mayor of London.
- 1.2 Specifically, this report explains how the redevelopment design meets the objective of Policy D11 relating to Safety, Security and Resilience to Emergency. It also incorporates a Fire Statement that explains how measures relating to the fire safety aspects referred to in sections D12 A and B will be included in the design.

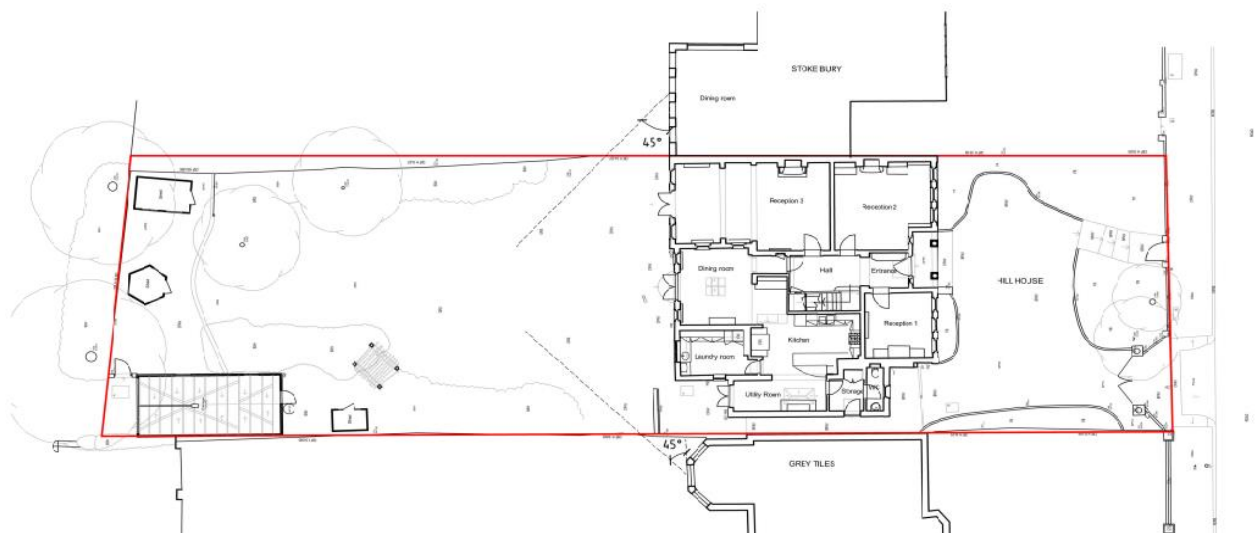


Location Plan of the Dwelling

2 The Development

- 2.1 Hill House is an existing detached single private domestic dwelling situated on Kingston Hill (KH). This is a much sought-after executive residential area of Kingston. The plot is located between Stoke Bury and Grey Tiles. Hill House has a postal address as Kingston Hill but there is only vehicle access to the detached garage on the plot from the Kingston Hill (KH) roadway.
- 2.2 There is also pedestrian access to the dwelling from Warboys Road (WR): This is via a gate from the pavement and then via a pathway to the front door main entrance. There is also a vehicle entrance from WR which leads via double gates into the parking area to the front of Hill House. The rear (west) elevation of the dwelling faces on to KN and the front elevation faces WR (east).

- 2.3 The material alterations to this dwelling house, as part of this redevelopment, will be subject to a building regulation application to the local authority or to an Approved Inspector.
- 2.4 The dwelling is set approximately centrally within the plot, and on the northern boundary, it shares a compartment wall with Stoke Bury, the adjacent dwelling on the adjacent plot. This compartment wall only extends to the 1st floor level in both dwellings and then it becomes solely a side wall to Hill House and is located directly on the relevant boundary between these adjacent dwelling houses.
- 2.5 The dwelling is currently set across the ground, first and second floor levels and there is no basement provision. There is a door on the southern elevation of Hill House, suggesting that there is pedestrian access from the front to rear of this site.

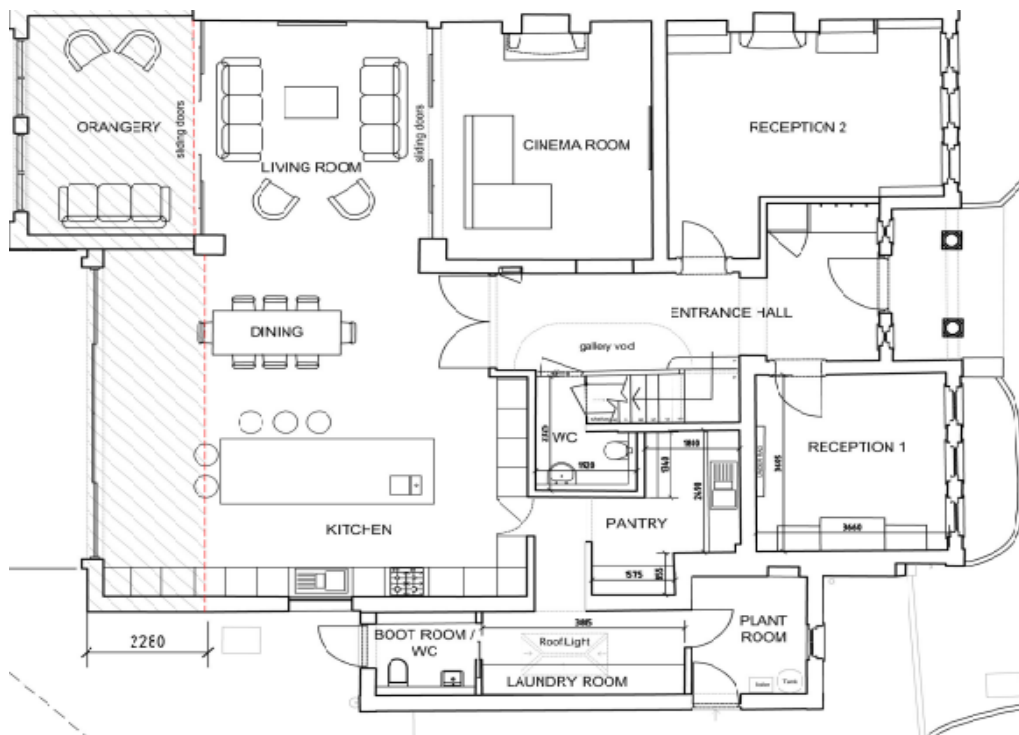


Existing Site Plan of the Dwelling

- 2.6 The existing layout of the ground floor is based upon a step, leading from the front parking area to the covered entrance porch, which in turn leads into the entrance hallway of the dwelling.
- 2.7 There are two reception rooms and an open plan dining room/ kitchen area located off the main entrance hallway. There is a permanent opening from the kitchen into the utility area, and there is a store and laundry room that are inner spaces from the kitchen. There is a final exit door from the utility room, storeroom, dining room and living room, respectively.
- 2.8 The staircase extends to the 1st floor level where there are four bedrooms located off the landing area along with the WC. There is also an ensuite and WC off the landing area at first floor, along with

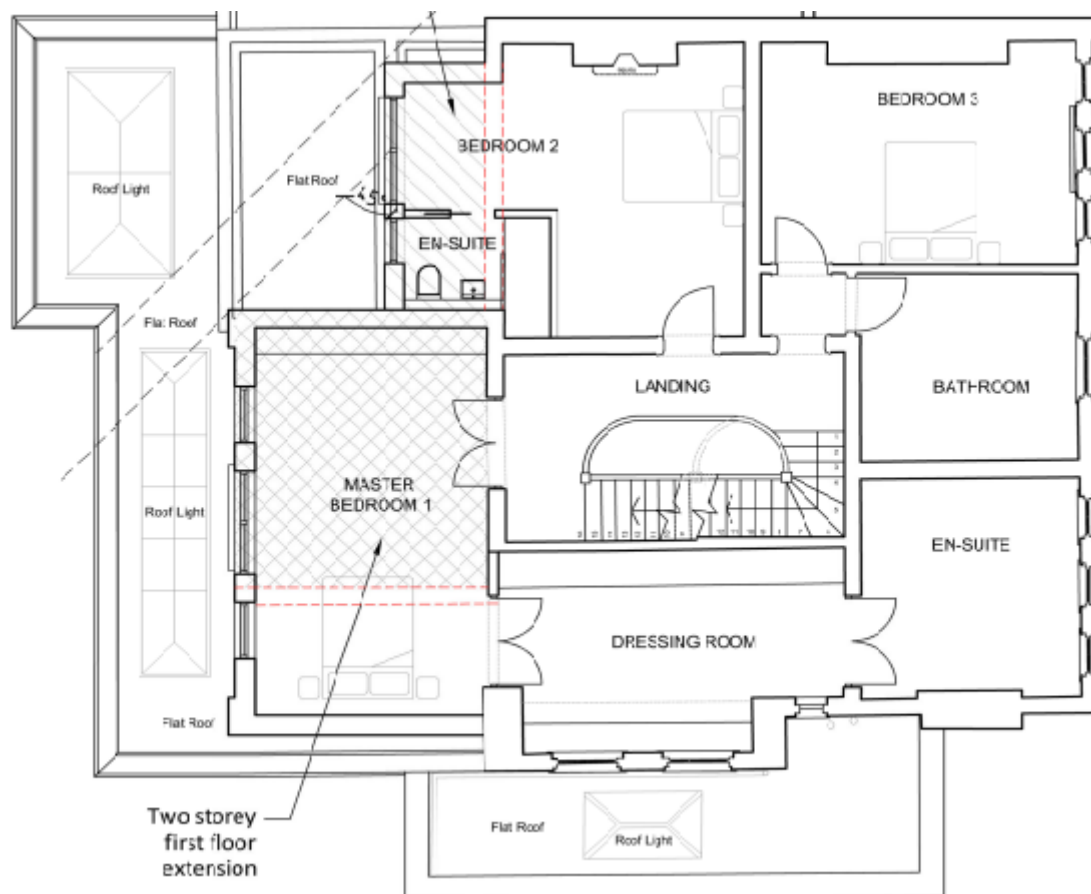
a bathroom off bedroom 4, and there are several enclosed cupboards in the bedrooms.

- 2.9 There is a section of flat roof at first floor level and the current roof configuration of the dwelling is based on a pitched tiled design.
- 2.10 The development proposal is to provide a single storey extension of about 3.5 m towards the rear elevation, narrowing as an L shape to an extension of 2.2m on the southern elevation of the dwelling.
- 2.11 The redevelopment proposal also seeks to reconfigure the ground floor, such that it retains an entrance hall to the staircase along with two reception rooms and the addition of a WC. There will be double doors diametrically opposite the entrance from the hallway, leading into a reconfigured kitchen, dining and living room space and with the addition of an orangery on the northwest aspect of the dwelling footprint.
- 2.12 The reconfiguration of the ground floor will also include a pantry area as an inner space to the kitchen. There will be a permanent opening from this area into the laundry room, which leads in two diametrically opposite locations to a plant room and boot room respectively. There will be a final exit door from the plant room and boot room and large opening final exit doors from the open plan kitchen/dining living space and from the Orangery, respectively.



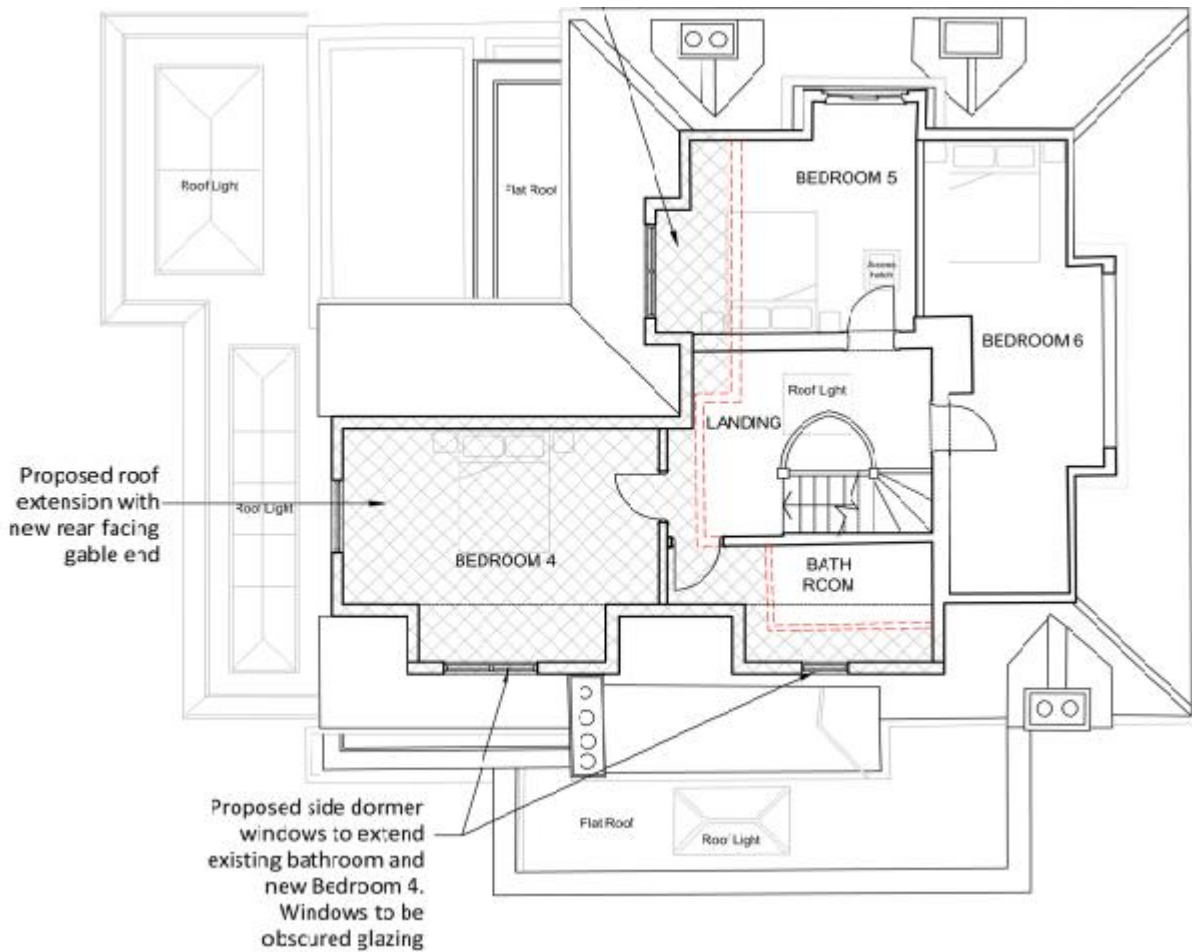
Proposed Ground Floor Layout

- 2.13 There is also a proposal for a single storey first floor extension to bedroom two in order to create an ensuite bathroom and an extension to this bedroom - that will lead via doors onto a balcony area that will also be shared with the Master bedroom adjacent.
- 2.14 The other aspect of the extension at first floor level will facilitate creation of a master bedroom from the landing area and there will be reconfiguration to provide a dressing room and ensuite bathroom as an inner room, and inner, inner space - from the master bedroom respectively. It is noted that these latter two spaces are not habitable rooms. There are also opening doors in the master bedroom that lead onto the balcony area.
- 2.15 There is some additional reconfiguration of the first floor, to remove a bedroom and provide an additional bathroom off the landing area.



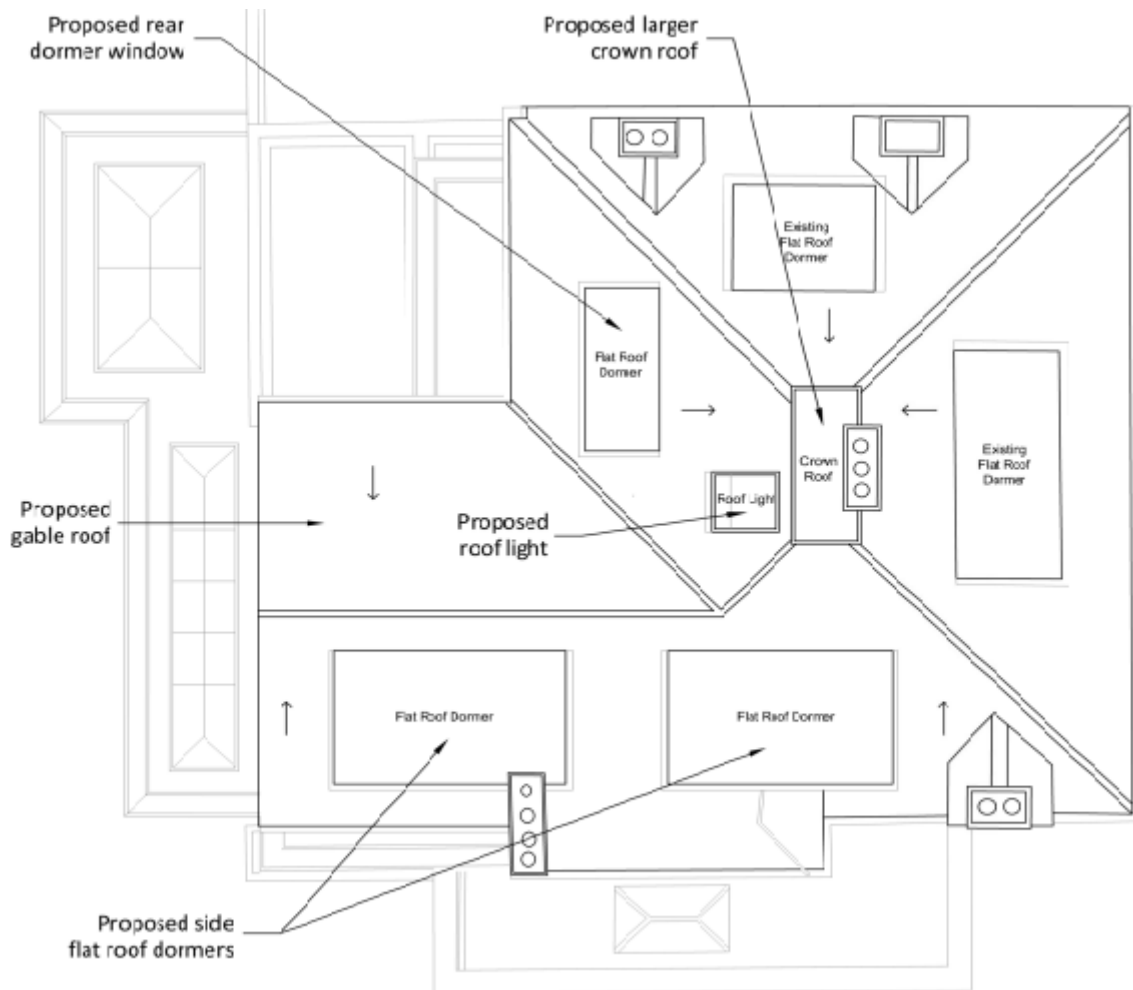
Proposed First Floor Layout

- 2.16 The reconfiguration of the second floor will facilitate the addition of a bedroom at this level, meaning there will be three bedrooms and a bathroom leading directly off the second floor, landing area.



Proposed Second Floor Layout

2.17 The reconfiguration of the roof to accommodate the additional extension to upper floor levels will provide a larger crown roof, rear dormer window and additional gable roof. There will also be two additional flat roof dormers on the southern elevation and roof lights will be provided within the new L shaped rear extension flat roof at first floor level.



Proposed Roof Layout

- 2.18 There is no lift in the proposed design and the height of the second floor is about 5.6m above ground access level.
- 2.19 The existing dwelling house is brick built with a tiled roof and it is currently in sole occupancy.
- 2.20 The extension will be undertaken in the same style as the existing building and there will be no addition of external wall cladding material.

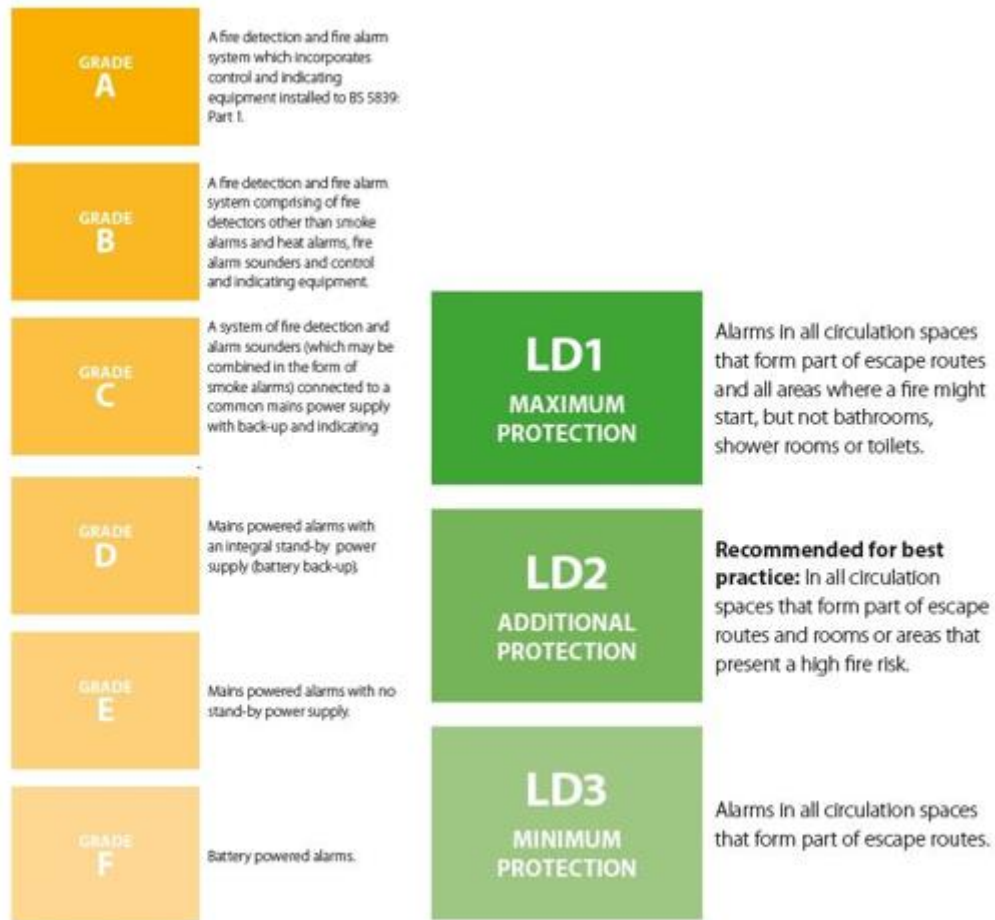
3 Fire Strategy and Building Design

- 3.1 The primary objective of an evacuation strategy is to ensure that in the event of a fire, the occupants of a dwelling house can reach a place of ultimate safety outside, in a location where they will be safe from the fire event.

- 3.2 The fire strategy for this dwelling embraces a “simultaneous evacuation” action, upon discovery of an actual or suspected fire event. Dwelling occupants are not encouraged to tackle the fire and should leave the dwelling immediately: Get out, stay out and call the fire service out.
- 3.3 This strategy is supported and underpinned by relevant protective and preventive fire safety arrangements as part of the redevelopment building design.
- 3.4 The Principal Designer for this project recognises that in order to underpin the building regulation application; comprehensive fire strategy details will also be provided as part of the building regulation application to give specific focus to all fire design aspects.
- 3.5 The design of this development will be based on the principles contained within Approved Document Volume 1 and fully embrace the fire design requirements within this publication.
- 3.6 Again, in reference to ADB Volume 1, where a dwelling has a storey above 4.5m from ground access level, as is the case for this development; The full extent of the escape route, from the upper floor levels, must be provided with a fire-resistant protected staircase route, (**minimum REI 30 at all stories**), that discharges directly from the main hallway at ground floor level, to outside.
- 3.7 All habitable rooms at ground floor level should open directly onto a hallway which leads to a final exit or have an emergency escape window or door which is: minimum area 0.33m²; minimum height and width each of 450mm; and the bottom of the openable area, must be a maximum 1100mm above the floor level. There are other requirements relating to size of inaccessible back gardens, but this latter aspect is not relevant to this development.
- 3.8 It is not a conventional fire design to have an inner room (the dressing room) leading to a further inner room space (the ensuite bathroom to the master bedroom). However, this configuration is considered suitable providing that a comprehensive LD1 coverage - grade D fire alarm system is installed to provide an enhanced available safety egress (ASET) time for the dwelling residents to make their egress from these areas. It is also recognised the use of the ensuite to the master bedroom is likely to be limited solely to the master bedroom occupants themselves.
- 3.9 ABD V1 refers to Annex D of BS 9991:in regard to the fire design specification for balconies and this states that:

- 3.9.1 All balconies should be guarded with protective barrier conforming to BS 6180. For open balconies, at least 50% of the vertical section should be open and the area of the opening should be uniformly spread around the surfaces.
- 3.9.2 The escape route from the balconies should not pass through more than one access room.
- 3.9.3 The interior of the access room should be clearly visible from all parts of the balcony unless the access room is provided with a fire detection and alarm system in accordance with BS 5839-6.
- 3.9.4 Any cooking facilities in the access room that is provided with a fire detection and alarm system in accordance with BS 5839-6 should be remote from the balcony and positioned in such a way that it does not prejudice the escape route through the access room. Alternatively, the cooking facilities should be enclosed.
- 3.9.5 Where the travel distances from the balcony access door to the furthest point on the balcony exceeds 7.5m, it should be provided with an alternative escape route without going via the same access room, or the access room should be provided with an automatic smoke detection (not just heat detector).
- 3.10 The master bedroom and bedroom 2 respectively are an access room for the balcony area; These rooms will be provided with smoke detection interlinked to the dwelling fire alarm system in order to support the fire design specification cited within the previous paragraph – also see fire alarm section below for comprehensive details of the fire alarm system required for this dwelling.
- 3.11 All aspects of the fire design relating to the development of this dwelling meets the criteria detailed above.
- 3.12 Fire doors should be provided at all openings, at all storey levels, onto the staircase enclosure except for bathrooms (where they do not contain ignition sources). These must be a minimum of E 20 (i.e. 20-minute fire resistance with no requirement for smoke control). These fire doors do not require self-closing devices.
- 3.13 It is noted that any inner rooms within the proposed design fall within the definition of a non-habitable room. This is a suitable arrangement which requires no further action.

- 3.14 30-minute fire resisting standard Cavity barriers, along with a fire 30-minute fire resisting ceiling should be provided at each upper floor level and above the protected staircase enclosure.
- 3.15 Any loft hatch provision from the staircase enclosure or from individual rooms into the roof void /concealed space areas- should be purpose designed and fire resisting to a 30-minute fire resisting standard.
- 3.16 Any air circulation systems fitted within the dwelling house should not penetrate the staircase enclosure (e.g. with transfer grilles). Also, any duct passing through the staircase enclosure should be rigid steel and joints between duct and the staircase should be fire stopped.
- 3.17 Ventilation ducts supplying or extracting air directly to or from the protected staircase should not serve other areas as well.
- 3.18 If there is a mechanical ventilation system that recirculates air and which serves both the stair and other areas, it should be designed to shut down on the detection of smoke within the system.
- 3.19 It is recognised that there are other ways of achieving suitable means of escape from upper storeys to comply with ADB Vol 1, but this design is the simplest solution based upon the proposed layout.
- 3.20 An alternative approach to a protected stairway is to provide sprinkler protection in the open-plan areas at ground floor, separate ground and first floor with fire resisting construction (to allow occupants of second floor to escape from first floor window) and separate cooking facilities from open-plan area with fire resisting construction.
- 3.21 The minimum standard for a fire alarm in dwellings is a Grade E-coverage Category LD3 system, in accordance with British Standard 6839 Part 6. This consists of hard wired and interlinked smoke alarms in all circulation spaces that form part of escape routes – in this case at every storey of the staircase enclosure, including the hallway.



Fire Alarm Categories for Dwellings

- 3.22 However, in order to ensure there is suitable fire protection within the access rooms leading from the new balcony as per item 3.15 above: It is necessary to provide a Grade D system with LD1 coverage standard: This includes the configuration as cited in the paragraph above, along with additional detection in all rooms, except for bathroom areas and WCs.
- 3.23 This is not considered to be a large dwelling house in accordance with ADB Vol. 1 as there is no storey floor area greater than 200m². Otherwise, a Grade A fire alarm system would be required.
- 3.24 No emergency lighting is required within the dwellinghouse.
- 3.25 There is also no specification for stair width in a dwellinghouse.
- 3.26 All new wall and ceiling linings within circulation spaces and rooms greater than 4m² should meet the European classification standard of C-s3,d2. In rooms less than 4m² the standard required reduces to D-s3,d2.

4 Inclusive design

- 4.1 No specific fire design is necessary in this regard for a single private dwelling, but account should be taken of any current occupier special requirements as necessary and suitable facilities for assisted living should be provided as far as is practicable, prior to resident reoccupation.
- 4.2 Consideration should also be given to the inclusion of a domestic lift installation within the hallway/staircase design which would assist with circulation to upper floor areas, for any dwelling occupants, who have a temporary or permanent mobility impairment at any time.

5 Fire Compartmentation

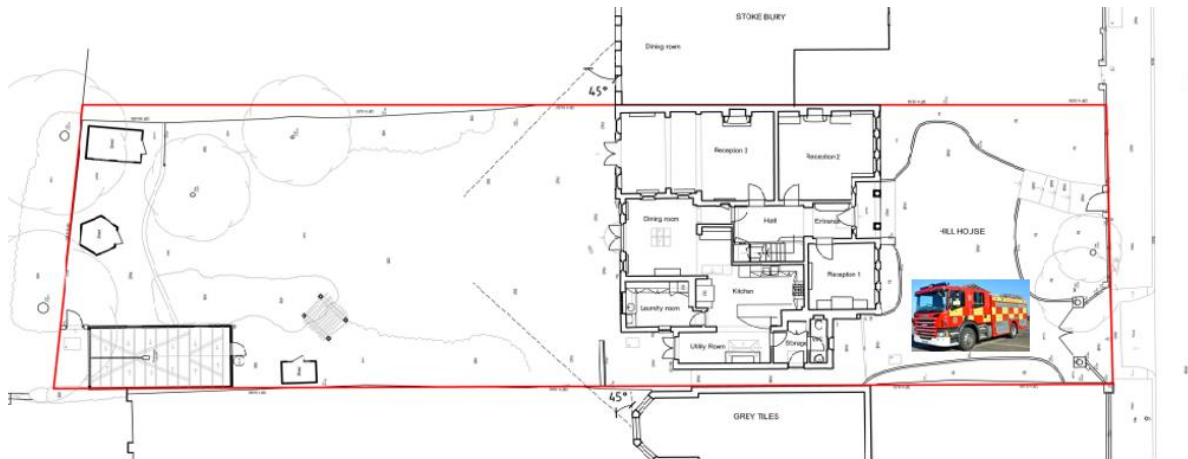
- 5.1 Where any upper storeys are included within a single private dwelling with any upper floor level greater than 4.5m above ground access level; All floors must have a minimum REI 30 fire resistance. Any floor forming part of the enclosure to the circulation space between the second-floor space and the final exit should also achieve a minimum rating of REI 30.
- 5.2 The plant room enclosure is identified as a place of special fire hazard in the context of the fire design of this dwelling: Consequently, this space should be fully enclosed in fire resistance of a 30-minute standard from the remainder of the dwelling premises. The compartment wall between the pantry and reception room spaces is likely to conform to this standard. To complement this, there is a requirement for the door, leading into this enclosure to be a fire door of 30-minute fire resisting standard.
- 5.3 It is important that the structure and key construction elements of any dwelling remain fully functional for a reasonable period during a fire; to protect both building occupants making their egress and fire fighters who may be engaged in search and rescue and firefighting duties. The fire resisting standards in this section of the report provide protective provisions in this regard.
- 5.4 The internal design of the dwellinghouse must be in accordance with the fire design requirements of Approved Document B Volume 1. This comprises fire compartmentation and protection to the staircase enclosure to support vertical means of escape.
- 5.5 The fire resistance performance of compartment floors (or any other parts of the building which are required to prevent fire spread) should be not less than that specified below when tested in

accordance with the relevant part of British Standard 476 Parts 20 to 24 o4. Classified in accordance with British Standard EN 13501 Parts 2, 3 or 4. In the case of this development this is to a minimum standard of 30 minutes.

- 5.6 All compartment walls and compartment floors should achieve both of the following:
- Form a complete barrier to fire between the compartments they separate.
 - Have the appropriate fire resistance, as given previously in the report above.
- 5.7 It is noted that there is no proposal for alteration or penetration of the compartment wall between Hill House and Stoke Bury, as part of this redevelopment.
- 5.8 Timber beams, joists, purlins, and rafters may be built into or carried through a masonry or concrete compartment wall if the openings for them are as small as practicable, and fire stopped.
- 5.9 Where there is less than 1000mm from the relevant boundary, the reaction to fire performance of external surface of walls should be Class B-s3, d2(2) or better.
- 5.10 The existing relevant boundary between Hill House and Stoke Bury is on the boundary line of both dwellings: It is noted that there is no proposal for material alteration of any features within 1000mm of this boundary line and therefore there is no change to the existing fire protective provisions.

6 Fire Appliance Access and Arrangements for the Fire Service

- 6.1 To extinguish any fire, it is important that the fire service can gain access into the building. This section deals with the various facilities intended to aid the fire service access to the building and for fighting a fire in the building.



Existing Arrangement for a Fire Pump to Extremity of Dwelling Footprint

- 6.2 The current width of the gates leading into Hill House from WR is greater than 3.1m - consequently there is access for a Fire Service Pumping appliance to the front forecourt parking area of the Hill House plot. (see above).
- 6.3 On this basis there is access to the extremity of the footprint of this dwelling within at least 45 m of a location where a fire service pumping appliance can park, furthermore, this is not likely to be not more than about 28 m to the furthest extremity on the second level.
- 6.4 A fire hydrant is likely to be available on the public roadway, within approximately 90m of the main entrance door, however this is an existing aspect. The fire service will be aware of the locations of all fire hydrants in the local area.

7 Evacuation Arrangements

- 7.1 The principal designer will provide the dwelling residents with links to government and Surrey Fire and Rescue Service sites in respect of suitable guidance on staying safe from fire within the home.

8 Sprinkler Provision

- 8.1 There is no building regulation compliance requirement for sprinklers, but the principal designer is encouraged to consider installation of a sprinkler or water mist system in this regard to enhance fire resilience of the property.

9 Security Arrangements

- 9.1 The principal designer of this redevelopment is also encouraged to consider and embrace, where possible, the principles contained within Home Office guidance and Metropolitan Police publications to *Design Out Crime* and to reduce the likelihood of opportunist crime.
- 9.2 Enhanced security surveillance and crime prevention provision for the dwelling should be reviewed as part of this redevelopment: this should include consideration of a new provision or enhancement of CCTV in the external areas to cover the doors into the building. It is likely images would be recorded and not monitored but this will still reduce the likelihood of deliberate ignition on this plot.

10 Fire Safety Management

- 10.1 There are no specific arrangements for ongoing management of fire safety matters within a domestic dwelling other than to ensure the fire doors onto the staircase and fire compartments are retained in a serviceable condition.
- 10.2 Government guidance regarding fire safety matters within a domestic dwelling does not recommend the provision of any portable firefighting equipment or a fire blanket: As consideration for use of such devices by dwelling occupants in a fire situation is likely to delay the egress of residents and heighten risk of injury through use of this equipment by untrained persons.

11 Construction Phase

- 11.1 Pre-planning of fire related arrangements for the construction phase of this redevelopment recognises that the requirement for suitable fire safety arrangements for this aspect is controlled simultaneously by the Regulatory Reform (Fire Safety) Order 2005 (RRFSO) and the Construction Design Management Regulations 2015 (CDM Regs) which are enforced on a duality basis by the Health and Safety Executive.
- 11.2 The RRFSO is relevant as whilst in the construction phase the redevelopment of this dwelling is a workplace for the contractors engaged to undertake the building work - consequently the RRFSO is relevant in these circumstances.

11.3 Subject matter support will be given by a competent fire engineer to the Principal Contractor and the Principal Designer to ensure effective and resilient protective and preventive fire safety measures and an effective fire emergency plan is provided for the workforce during the construction phase. This will also ensure that suitable fire safety provisions are made on and around the construction site to support the activity of the fire service if they are called to an incident, whilst the redevelopment is under construction.

12 Statutory Fire Compliance

12.1 The Regulatory Reform (Fire Safety) Order 2005 does not apply to a private dwelling once it is occupied by a single-family unit.

12.2 However, the approval for fire design of this dwelling is controlled by Building Regulations 2010. The responsibility for this is discharged to a local borough council Building Control department or through a private company, known as an Approved Inspector, as part of the Building Regulation process.

12.3 Full details, as cited in this report, of all fire safety information relating to this development; is required to be provided to underpin the building regulation application relating to the material alterations proposed as part of this redevelopment. This is necessary to satisfy Regulation 38 of Building Regulations and enable Surrey Fire & Rescue Service to consider the project as part of their statutory consultation obligations to the relevant building control authority.

CHRIS BAILEY- CURRICULUM VITAE

I am currently a director and the Senior Consultant at Ardenlea Fire Consulting Limited.

I am also fire advisor to U.K. Hospitality a trade organisation for the U.K hospitality sector. I deliver strategic fire safety advice to several national hotel, retail, leisure, gaming and care provider organisations across the U.K. I have established strategic safety, security and business continuity contracts with large organisations involved in the leisure, hotel, healthcare, industrial, private housing and education sectors.

I provide fire strategy documents (Regulation 38 Documents) for new and refurbishment of all types of existing and new premises and provide specialist fire design consultation services to designers and architects. I am a tutor for fire design and enforcement courses across the fire safety portfolio of both the Fire Service College (Moreton in Marsh) and the Fire Protection Association (FPA). These engagements involve training serving fire officers to be auditors and private sector engineers to be fire safety designers/risk assessors. I provide strategic events management for sporting events and concerts. I was head of fire safety enforcement and community safety for Buckinghamshire Fire and Rescue Service and was responsible for the safety from fire of over 1.5 million head of population and for whom I designed and managed the corporate governance protocols and standard operating procedures for fire safety enforcement within all premises. I have a Master's degree and also a fire engineering degree.

I held the role of Senior Safety Officer for 18 years in the fire service and I am highly experienced at risk assessing, designing and validating fire safety engineering provisions and escape strategies within all types of premises. I was responsible for compiling investigations, bringing legal action and managing cases in Magistrates and Crown Court. I made the ultimate decision in relation to legal enforcement of fire regulations and have brought over 25 successful prosecutions under the Regulatory Reform (Fire Safety) Order 2005. I am a qualified expert witness and have compiled expert reports for both safety and fire investigation subject matter.

As a member of a fire service Senior Management Team I was responsible for compiling and delivering detailed reports and papers to the elected members of the fire authority relating to all aspects of regulatory and community fire safety matters.

As a Gold Commander for fire and major incidents, I took strategic command of the service, making dynamic, risk based decisions about resources, operational matters and corporate issues relating to employees and internal and external stakeholders.

EDUCATIONAL QUALIFICATIONS and PROFESSIONAL DEVELOPMENT:

- Master's Degree in Fire Safety, Security and Business Continuity.
 - Fire Engineering Degree- Bachelor of Engineering.
 - Post Graduate Certificate in Advanced Enforcement/Investigative Practice.
 - Higher National Diploma in Fire Engineering.
 - Advanced Investigative Practice Professional award. B.T.E.C. Edexcel Level 7 in Investigation/Interviewing and Advocacy.
 - Legal Experience Training: Advanced Professional Award in Expert Witness Evidence. Edexcel level 7 B.T.E.C. (Masters).
 - Gold Commander qualification (Highest command qualification Fire Service College Moreton in Marsh).
 - NEBOSH Health and Safety General Certificate.
 - NEBOSH Fire Safety General Certificate.
 - Fire Safety Inspector Qualification from the Fire Service College at Moreton in Marsh.
 - Fire Investigation Qualification from the Fire Service College at Moreton in Marsh.
 - Graduate Member of the Institution of Fire Engineers (IFE).
 - I.F.E certified Fire Safety Auditor.
 - B.T.E.C. Edexcel Level 7 in Data Protection, Regulatory Investigatory Powers Act (R.I.P.A) Interceptions, Surveillance & Data Processing.
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