Planning Fire Safety Strategy
+ D12 Fire Statement

Project: The Barn Hotel, Ruislip, London

Project Reference: FE1523

Revision: 3

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Solas Realta Ltd Registered in England as a Limited Company No 10093557

T : (+44) 1962 600 190
L : Winchester | England
E : info@solasrealta.com

1 DOCUMENT TRACKER & REPORT OVERVIEW

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Project Reference	FE1523
Current Revision	3
Client	Chase New Homes
Architect	Chase New Homes
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Revision	Description	Date
1	Planning Fire Safety Strategy & Fire Statement	17.03.2023
2	Planning Fire Safety Strategy & Fire Statement	20.03.2023
3	Planning Fire Safety Strategy & Fire Statement	28.08.2024
Drafted by	Codrin Florescu MEng (Hons) AIFireE	
Reviewed/Approved by	John Dowd MSc BEng (Hons) CEng MIFireE MCABE	

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EXECUTIVE SUMMARY

Solas Realta Ltd has been appointed to produce a Planning Fire Safety Strategy & Fire Statement for the proposed new development at The Barn Hotel, West End Road, Ruislip HA4 6JB. The proposed development is for 72no. Residential dwellings, including the redevelopment of the two listed buildings known as The Farm House & The Leaning Barn with Oak Room and public open space.

Approved Document B (AD B) will be the design guidance documents employed in order to indicate that the functional requirements of Part B of the Building Regulations have been satisfied. It will be complemented by BS 9991, for design provisions not covered in AD B (i.e. open-plan flats).

This report is aimed at only providing supporting information for this planning application and does not represent a detailed fire safety strategy (to be developed at RIBA Stage 3-4). All aspects of this report are subject to development by the design team and ultimately agreement with the Building Control Body including their statutory consultation with London Fire Brigade.

The Railway Block (<11m in height) will be designed as a two-stair block, whilst the Entry Block (<11m) will be designed as a small single stair block. All other blocks will include only two storeys (<4.5m).

The evacuation strategy for all residential units will be 'stay put' with only the residential unit of fire origin evacuating. Ancillary areas will employ simultaneous evacuation upon detection therein.

Sprinklers should be provided throughout the Railway Block in support of the open-plan flats. It should include a Category 2 system in accordance with BS 9251.

The Railway and Entry Blocks will include smoke ventilation to common areas, such as ventilated common stair lobbies (Railway Block only) and stair ventilation (both blocks). Each lift bank in either block should also include an evacuation lift.

The compartmentation strategy for the blocks should follow typical residential building design with compartment floors. All flats, corridors and ancillary areas should form individual 60-minutes fire compartments. The units in other blocks will also be designed as independent fire compartments.

Although the proposed development does not include 'Relevant Buildings' as defined by Regulation 7(4), it is expected that all external wall and specified attachment materials meet the requirements of Regulation 7(2).

Access to the site will be via West End Road and Garden Close. Vehicle access is provided within 18m of the entrance to all common cores. Dry riser mains will be included in the Railway Blocks and Entry Block. Vehicle access should be provided within 45m of all points within other blocks.

2 INTRODUCTION

2.1 SCOPE

2.1.1 Solas Realta Ltd has been appointed to produce a Planning Fire Safety Strategy & Fire Statement report for the proposed new development at The Barn Hotel, West End Road, Ruislip HA4 6JB, consisting of two residential blocks, along with multiple smaller blocks (maisonettes or flats) dwellinghouses. This report will mainly focus on the design requirements for the two residential blocks (Railway and Entry Blocks), whilst also specifying outline fire safety requirements for the smaller blocks, which include a lower design complexity.

2.1.2 The report is intended to provide an outline of the key fire safety considerations associated with the project in relation to the requirements of Part B of the Building Regulations as presented below:

- B1 – Means of warning and escape – (see Section 3).
- B2 – Internal fire spread (linings) – (see Section 4).
- B3 – Internal fire spread (structure) – (see Section 4).
- B4 – External fire spread – (see Section 5).
- B5 – Access and facilities for the fire service – (see Section 6).

2.1.3 This report also includes a Fire Statement form (presented in Appendix B) as required in support of the planning application, with respect to the London Plan Policy D12(B).

2.1.4 Solas Realta Ltd has not reviewed any issues within the project other than those identified in our report. Solas Realta Ltd offers no comment on any other aspects of the development and any absence of such comment should not be regarded as any form of approval.

2.1.5 This report is aimed at only providing supporting information for this planning application and does not represent a detailed fire safety strategy or all solutions to non-compliant issues (to be developed at RIBA Stage 3-4). All aspects of this report are subject to development by the design team and ultimately agreement with the Building Control Body including their statutory consultation with London Fire Brigade.

2.2 REFERENCED INFORMATION

2.2.1 This report has been developed based upon information contained in the latest drawings provided by the Architect. This report should be read in conjunction with these drawings and other supporting documentation prepared and submitted by other consultants who are acting on behalf of the design team. Appendix A presents the drawing plan schedule.

2.2.2 This report is not intended to provide detailed system specifications, as this information is expected to be included within manufacturer's recommendations or British Standards. Therefore, all system designers should refer to the latest version of the British Standards referenced within this report and any associated manufacturer's recommendations.

2.3 DESIGN BASIS AND GUIDANCE

2.3.1 Approved Document B: Volume 1 (AD B) and BS 9991 will be the design guidance document employed in order to indicate that the functional requirements of Part B of the Building Regulations have been satisfied.

2.3.2 Where departures from the guidance are proposed, compensatory provisions and / or qualitative arguments will be provided to demonstrate that the overall level of safety achieved by full conformance to the guidance documents is not compromised.

2.3.3 None of the proposed buildings are categorised as 'Relevant Buildings' as defined by Regulation 7 (i.e., buildings with a storey at least 18m above the ground level and which contains dwellings). The threshold for combustible materials within the external wall systems of residential buildings has also been lowered as part of AD B updates, from 18m to 11m. Notwithstanding this, the most straight forward way to satisfy Part B4, Schedule 1 of the Building Regulations is to design the external walls in accordance with the requirements of Regulation 7(2).

2.4 PROJECT DESCRIPTION

2.4.1 The project represents a part conversion, part new-build residential development, including two residential blocks (Railway and Entry Blocks), along with seven smaller blocks (Leaning Barn, Farmhouse, Gatehouse and four maisonette blocks), as presented in Table 1 and Figure 1.

2.4.2 The Railway Block will be designed as a two-stair building, whilst the Entry Block will be designed as a small single-stair block. The residential blocks buildings will include ancillary areas (i.e., refuse stores, bin stores, plant rooms, etc.) on the ground floor. All above ground floors will include single storey residential units.

2.4.3 The other blocks (Leaning Barn, Farm House, Gatehouse, and the maisonnette blocks M1 to M4) will all include a maximum of two storeys (G+1), along with a mixture of single levels flats or two-storey duplex flats. These blocks do not include any common areas, with units within each block generally including independent access points from the outside, at ground level.

2.4.4 The development boundaries are presented below and in Figure 1:

- To the North, by a London Underground line;
- To the South and East, by private residential sites;
- To the West, by West End Road.

Building	Building Height [1]	Storeys	Staircases	AWFSS
Railway Block	>5m, but <11m	GF+3	2	Yes
Entry Block	>5m, but <11m	GF+2	1	No [3]
M1	<4.5m	GF+1	N/A[2]	No [3]
M2	<4.5m	GF+1	N/A[2]	No [3]
M3	<4.5m	GF+1	N/A[2]	No [3]
M4	<4.5m	GF+1	N/A[2]	No [3]
Farm House	<4.5m	GF+1	N/A[2]	No [3]
Leaning Barn	<4.5m	GF+1	N/A[2]	No [3]
Gatehouse	<4.5m	GF+1	N/A[2]	No [3]

Notes

1. Building height is measured in accordance with Diagram D6 of Approved Document B.
2. The units will only include internal staircases.
3. The current proposal is to not include AWFSS. This may change depending on several factors (i.e. the limitations associated with firefighting access and hose distances, the desire for open-plan flats, etc).

Table 1 - Building Heights and Provisions

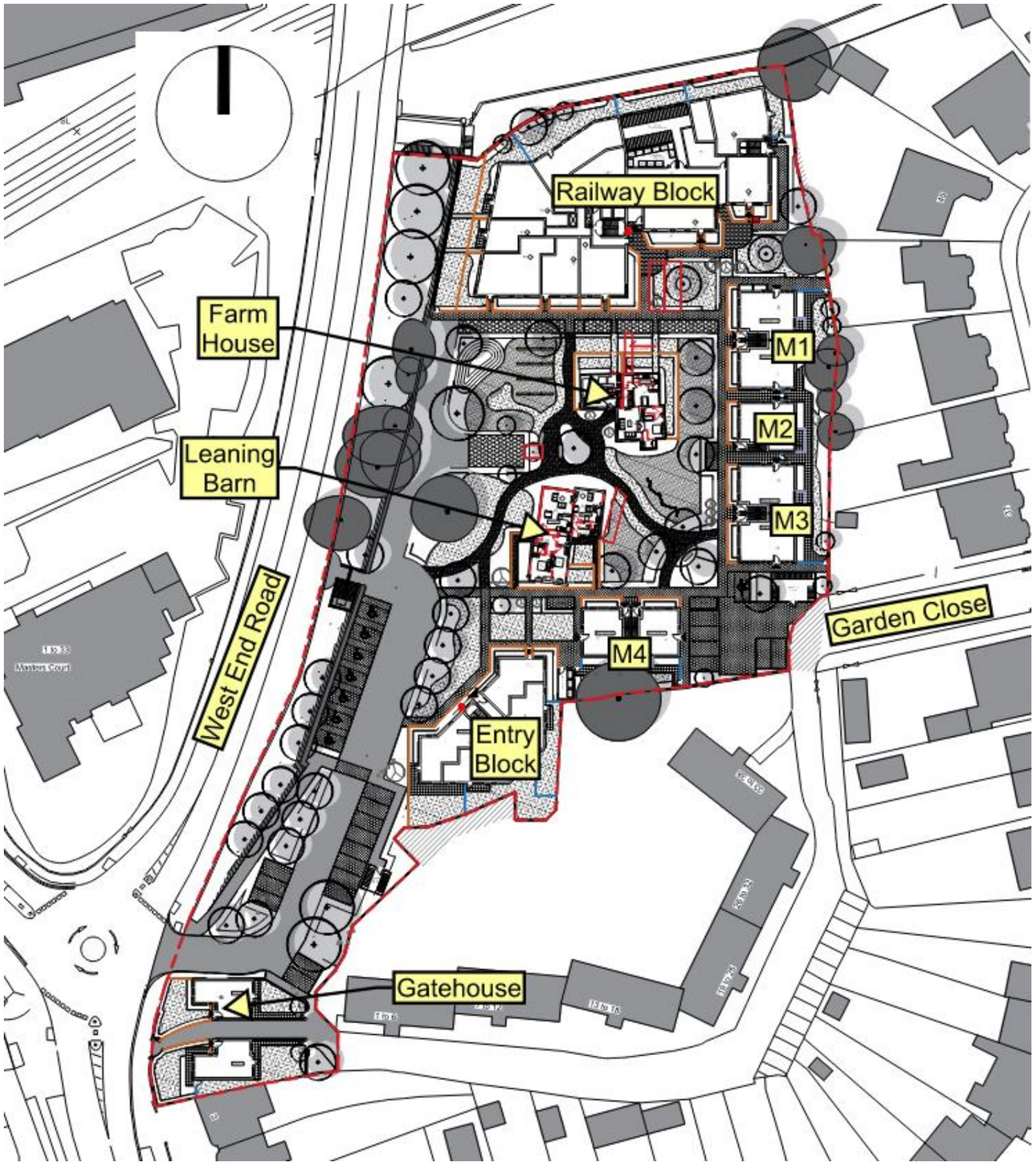


Figure 1 – Indicative Site Plan

3 MEANS OF WARNING AND ESCAPE

3.1 EVACUATION STRATEGY

3.1.1 The evacuation strategy in all of the residential units (flats, duplexes etc.) will be based on a 'stay put' strategy, whereby residents in unaffected units may remain protected within their residential unit until such time as the Fire Service initiate a phased evacuation of the building, or residents decide to evacuate.

3.1.2 The evacuation strategy within ancillary areas of the Railway and Entry Blocks (i.e. stores and plantrooms) will be simultaneous (for each building separately), whereby if a fire detector or manual call point is activated, sounders will activate in these areas only.

3.2 FIRE ALARM & DETECTION SYSTEM (FADS)

3.2.1 In all residential units, a Grade 1 Category LD1 FADS should be provided in accordance with BS 5839-6. Only the sounders within the unit where a local detector activates should operate.

3.2.2 For each block (Railway and Entry Blocks), in the common areas, a Category L5 FADS should be provided in accordance with BS 5839-1. The residential flats will not be covered by this system.

3.3 AUTOMATIC WATER FIRE SUPPRESSION SYSTEM (AWFSS)

3.3.1 Albeit the Railway Block has a storey height of <11m, AWFSS will be included throughout the building to support the open-plan flat design. The system should be Category 2 in accordance with BS 9251, with enhancements to allow suitable coverage to ancillary areas, as per BS 9251 guidance.

3.3.2 Other blocks are not expected to include AWFSS coverage, unless required in support of extended hose laying distances (see Section 6.2), or if the flat design changes to open-plan.

3.3.3 The system should be developed further with a specialist designer post planning. AT this stage, a space should be allocated for a water storage tank.

3.4 SMOKE VENTILATION

3.4.1 Common residential corridors within the Railway Block should include smoke ventilation provisions as presented below:

a) A natural smoke shaft achieving a minimum free area of 1.5m^2 serving all lift / staircase lobbies/corridors on all floors; or

b) An automatically openable vent (AOV) fitted on the façade achieving a minimum free area of 1.5m^2 serving all lift / staircase lobbies / corridors on all floors.

3.4.2 Natural smoke shafts should achieve a minimum free are of 1.5m^2 and be designed in accordance with Sections 3.50 to 3.53 of AD B, as well as the 'Guidance on Smoke Control to Common Escape Routes in Apartment Buildings (Flats and Maisonettes)' issued by the Smoke Control Association (SCA). Special attention should be drawn to smoke shaft requirements at roof level i.e. height of smoke shaft above roof level.

3.4.3 The common corridors within the Entry Block will not include any form of ventilation, as the design for the block will be based on a small single stair approach with reduced travel distances (<4.5m).

3.4.4 An AOV achieving a minimum of 1.0m^2 should be provided at the head of all staircases (within both the Entry and Railway Blocks).

3.4.5 The lobby serving ancillary areas within the Railway Block (ground floor) will include a 1.5m^2 smoke shaft.

3.5 HORIZONTAL ESCAPE

3.5.1 The overall development will include multiple residential unit typologies, depending on internal layouts, and whether the overall block is fitted with AWFSS.

3.5.2 The residential units in the Railway Block and the Entry Block will all be on a single level.

3.5.3 All units in the Railway Block will have occupants which are assumed to evacuate independently, with the units designed as open-plan flats. Open plan flats will be designed in accordance with Section 9.7 of BS 9991, with a maximum size of 16m x 12m, a minimum ceiling height of 2.25m and a maximum travel distance of 20m. These units should also include an LD1 FADS and AWFSS. Kitchens which are not enclosed will be subject to further engineering review as design progresses.

3.5.4 The common corridors in the Railway Block will be inline with the principles of Diagram 3.8 of AD B. The relevant diagrams from AD B are presented in Figure 2.

3.5.5 The units in the Entry Block will generally be designed as flats with protected entrance halls, in accordance with Section 9.4.2b) and Figure 11 of BS 9991. The only exception is a single GF level flat, which is designed as open-plan, and which should include emergency escape windows from all inner habitable rooms (see Section 3.5.8).

3.5.6 The common corridors in Entry Block will be designed in line with Diagram 3.9a) of AD B, as shown in Figure 3. Travel distance limitations are presented in Table 2 (to be achieved on all levels).

3.5.7 Elsewhere within the development, all two-storey units should include protected internal stairs, serving all habitable rooms, and discharging to outside at GF level (to be enclosed in 30-minute fire resisting construction, including FD30 doors). All single-level units should include protected entrance halls, serving all habitable rooms, and discharging to outside at ground level (30-minute construction, FD30 doors). Where this is not achieved, all habitable rooms within the unit should include emergency escape windows. See Figure 4 for reference.

3.5.8 Any doors and windows utilised for emergency escape should meet the requirements listed in Paragraph 2.10 of AD B. Escape doors or windows leading into enclosed courtyards should allow users with safe refuge away from the building, as per Diagram 2.5 of AD B.

3.5.9 Cooking appliances in all units should be located a minimum of 1.8m from escape routes, including escape from any balconies.

3.5.10 Escape routes should include suitable emergency lighting in accordance with the relevant parts of BS 5266 and emergency escape signage in accordance with the relevant parts of BS 5499.

3.5.11 External escape routes should conform to Approved Document M. All routes from a final exit door and up to a Fire Muster Point are considered external escape routes.

3.6 COMMON STAIRS (RAILWAY AND ENTRY BLOCKS)

3.6.1 The two blocks of flats will be provided with 3 common stairs. The staircases should:

- Achieve 1100mm minimum clear width.
- Be constructed of materials achieving European Class A2-s3, d2 or better.
- Stairs should discharge directly to a final exit at the base of the stair.
- The discharge route from the base of a staircase to outside should be afforded with the same level of protection (including smoke ventilation) as the staircase served.

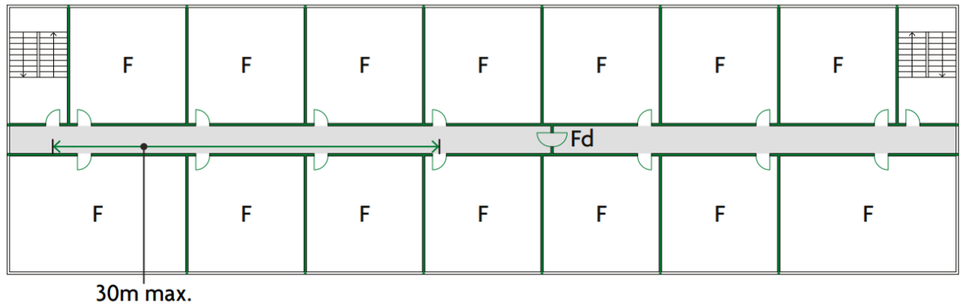
3.6.2 In support of London Plan Policy D5 requirement, it is proposed to include an evacuation lift as part of each lift bank in each block. Design adjustment (lobbies, refuges, ventilation) may be needed post planning to support the evacuation lift design.

3.6.3 Evacuation lifts should be designed, installed and maintained in accordance with BS EN 81-20 and BS EN 81-76.

3.6.4 All common stair cores in the Railway and Entry Blocks will be provided with special wayfinding signage in support of firefighting operations.

3.6.5 It is recommended as good practice that a refuge area is provided for each evacuation lift on each above ground floor level in order to assist with vertical evacuation. The dimensions of a refuge are 900mm by 1400mm. A clear width of at least 1500mm should be provided outside each lift to satisfy Part M.

a. Corridor access without dead ends



b. Corridor access with dead ends

The central door may be omitted if maximum travel distance is not more than 15m

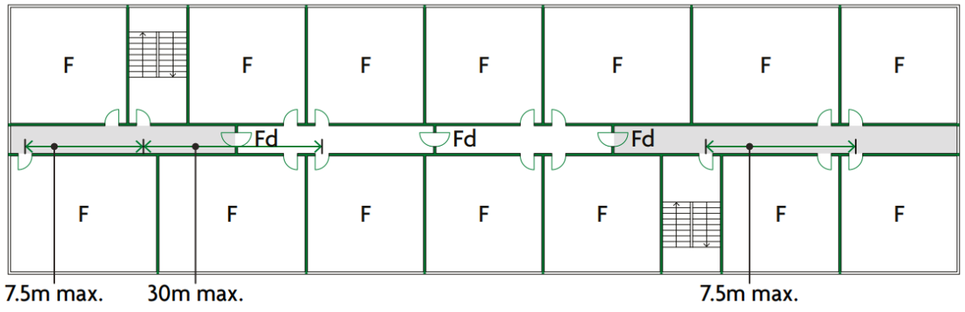
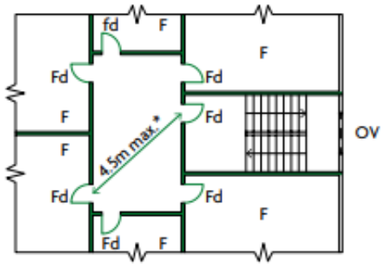


Figure 2 - Extract from Diagram 3.8 of AD B

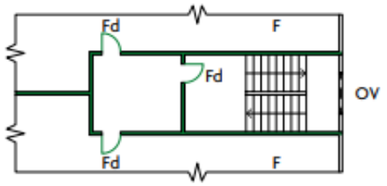
See para 3.28

a. Small single stair building



*If smoke control is provided in the lobby, the travel distance can be increased to 7.5m maximum (see Diagram 3.7, example b).

b. Small single stair building with no more than two flats per storey



The door between stair and lobby should be free from security fastenings.

If the flats have protected entrance halls, the lobby between the common stair and flat entrance is not essential.

- Fire resisting construction
- OV Openable vent at high level for fire service use (1.0m² minimum free area); see paragraph 3.28e
- F Flat
- Fd Fire doorset

NOTES:

1. The arrangements shown also apply to the top storey.
2. If the travel distance across the lobby in diagram (a) exceeds 4.5m, Diagram 3.7 applies.
3. Where, in Diagram (b), the lobby between the common stair and the flat is omitted in small single stair buildings, an automatic opening vent with a geometric free area of at least 1m² is required at the top of the stair, which is operated on detection of smoke at any storey in the stair.
4. For further guidance on the fire rating of the fire doorsets from the corridor to the flat and/or stairway refer to Appendix C, Table C1.

Figure 3 - Extract from Diagram 3.9 of AD B

Area	Single Direction Travel Distance (1)	Multiple Direction Travel Distance
Protected Entrance Halls	9	N/A
Open Plan Flats	20	N/A
Ventilated Common Corridors – Railway Block	7.5	30
Common Corridors – Entry Block	4.5	N/A
Refuse Stores, Bike Stores, Plantrooms	9	18
Notes: 1. Travel distances should be measured up to a place where two alternate escape routes are available, either at least 45º apart or separated by fire resisting construction.		

Table 2 – Travel Distance Limitations

See paras 2.1 to 2.6

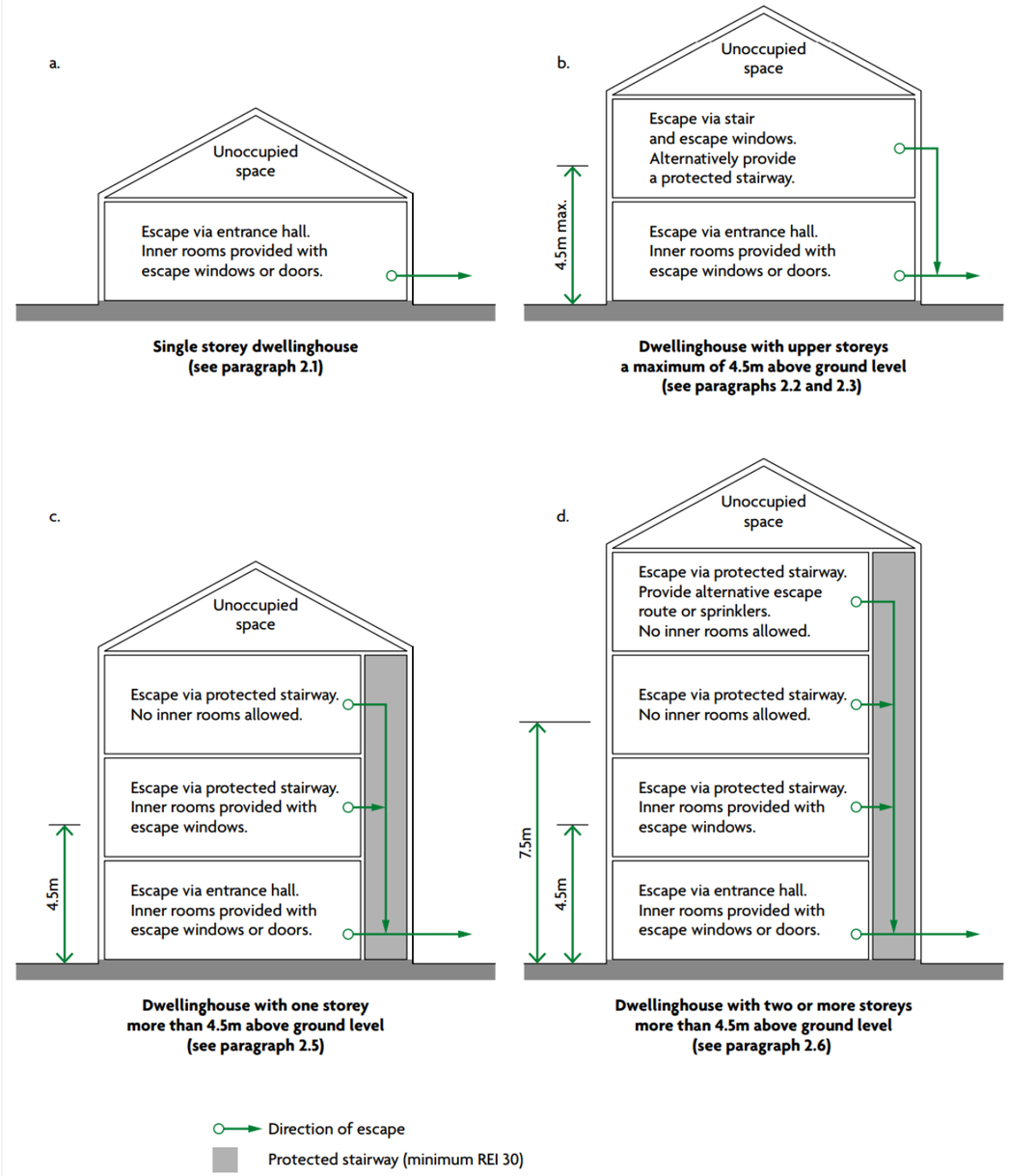


Figure 4 - Extract from Diagram 2.1 of AD B

4 INTERNAL FIRE SPREAD

4.1 LOADBEARING ELEMENTS OF STRUCTURE

4.1.1 All elements of structure for the Railway and Entry Blocks should achieve 60-minutes fire-resistance. All other blocks should achieve a structural fire resistance of 30-minutes, with 60-minutes required for any structural elements supporting compartment walls between adjoined blocks. An element of structure is any member forming part of the structural frame or any other beam or column.

4.2 COMPARTMENTATION

4.2.1 Within the Railway and Entry Blocks, all floors should be compartment floors achieving 60 minutes fire resistance. Therefore, any shafts penetrating compartment floors (i.e., escape staircase, lifts, smoke shafts, service risers, etc.) should be constructed as protected shafts achieving the same level of fire resistance as the compartment floors.

4.2.2 Within the Railway and Entry Blocks, any dwelling or common corridor / lobby should be constructed as a separate fire compartment achieving a minimum of 60 minutes fire resistance. Within all other blocks, any dwelling should be constructed as a separate fire compartment achieving a minimum of 30 minutes fire resistance. See also Section 5.4.1 for junctions with a roof.

4.2.3 Common corridors within the Railway Block should be subdivided using construction achieving 30 minutes fire resistance to separate the ventilated portion from the unventilated portion.

4.2.4 The overall compartmentation in the buildings should be in accordance with Table 4. Fire resisting walls should be constructed effectively up to each compartment floor or the roof.

4.2.5 The compartment/party walls separating dwellinghouses should achieve a fire resistance of 60-minutes throughout. Any elements of structure supporting the compartment walls should achieve the same rating as the compartment walls.

4.2.6 Within all individual units, any protected entrance halls or protected stairs should be designed as 30-minute fire-resisting enclosures.

4.2.7 If a fire separating element is to perform as intended, every joint or imperfect fit, or opening to allow services to pass through the element, should be adequately protected by sealing or fire stopping to the same fire resistance rating so that the fire resistance of the element is not impaired.

4.3 ANCILLARY AREAS

4.3.1 Ancillary areas include refuse stores, bike stores and plantrooms. These areas should be constructed to form 60-minute fire resistant compartments in the Railway and Entry Blocks.

4.3.2 Ancillary areas will be located only on the ground floor and will generally be accessed only directly from the outside. These will not connect to the staircases or common corridors at ground floor, unless as discussed in Section 3.4.5.

4.3.3 Service risers should be fire stopped at each floor level and not open directly into a staircase.

4.4 PROTECTION OF DUCTWORK

4.4.1 Ductwork passing through fire resisting elements should either be fire resisting to the same rating or be provided with fire and smoke dampers interlinked to the FADS. However, fire and smoke dampers are not suitable for escape stairs, where fire resisting ductwork should be provided.

4.5 CONCEALED SPACES

4.5.1 Cavity barriers should be provided within cavities for all other areas, in all the following locations:

- At the edge of cavities, including around openings (windows, doors, service penetrations, etc).
- At the junction of a cavity and a compartment floor / wall or a fire resisting partition.
- To limit cavities to 20m (if surfaces exposed achieve Class C-s3, d2 or better) or 10m.

4.6 WALL AND CEILING LININGS

4.6.1 Restrictions are placed on the wall and ceiling lining materials. This is to limit spread of fire and production of smoke in specific areas. The surface lining of the walls and ceilings should meet the classifications shown in Table 3.

Classification of Linings	European Classification
Circulation Spaces Outside Dwellings	B-s3, d2
Circulation Spaces Within Dwellings	C-s3, d2
Other Rooms	C-s3, d2
Small Rooms (not more than 4m^2)	D-s3, d2

Table 3 – Wall and Ceiling Linings

Building Element	Minimum Resistance Rating(1)	Method of Exposure	Fire Doors (2)
Structure (Railway and Entry Blocks)	60 R	Exposed faces	N/A
Structure (Other Blocks)	60 R (3)	Exposed faces	N/A
Compartment Floors	60 REI(4)	From below	N/A
Common Stairs (Railway and Entry)	60 REI	Each side separately	FD30S
Lifts	60 REI	Each side separately	FD30
Service Shafts	60 REI	Each side separately	FD60S
Smoke Shafts	60 REI	Each side separately	FD60S
Residential Flats	60 REI(4)	Each side separately	FD30S
Common Corridors	60 REI	Each side separately	FD30S
Ancillary Rooms	60 REI	Each side separately	FD60S
Protected Façade(3)	60 REI(4)	From inside	N/A
Corridor Sub-divisions	30 REI	Each side separately	FD30S
Protected Internal Stairs/ Halls	30 REI	Each side separately	FD30
Cavity Barriers	60 REI	Each side separately	FD30

Notes:

1. “R”, “E” and “I” – are the European classification for fire performance in respect to load-bearing capacity, integrity and insulation tested to the relevant part of BS 476 or European Standard.
2. All fire doors should be tested to the relevant part of BS 476 or European Standard. “S” denotes smoke seal.
3. Extent of protected areas as per Table 5.

Table 4 – Fire Resisting Construction

5 EXTERNAL FIRE SPREAD

5.1 RELEVANT BOUNDARIES

5.1.1 Relevant boundaries depend on the site layout as presented below and in Figure 5:

a) Where a building is facing a public road, railway, canal, etc., the relevant boundary is taken as the centreline of that public space (boundaries 4, 13, 17, 20, 23, 28, 29, 32).

b) Where a building is facing only the site boundary, the relevant boundary should be taken as the actual site boundary (boundaries 6, 8, 9, 21, 25-27, 30 and 31).

c) For large sites (more than one block), relevant boundaries should be taken as notional boundaries between blocks on the same site (boundaries 1-3, 7, 10-12, 14-16, 18-19, 22, 24).

5.2 EXTERNAL WALL CONSTRUCTION

5.2.1 The proposed Railway and Entry Blocks are not classified as 'Relevant Buildings' as defined by Regulation 7 (i.e., buildings with a storey at least 18m above the ground level and which contains dwellings). However, considering the June 2022 updates to AD B for building >11m, and the functional requirements of the Building Regulations (Part B4), it is expected that all materials forming part of external walls and specified attachments comply with Regulation 7(2).

5.2.2 Materials forming part of the external walls must achieve European Class A2-s1, d0 or better in accordance with BS EN 13501. Specified attachments for external walls such as balconies should also achieve European Class A2-s1, d0 or better. The Designer should refer to Regulation 7 of the Building Regulations for further details on a 'Relevant Building', including information with respect to which items are exempt, as listed in Regulation 7(3).

5.2.3 Fire resisting external wall areas achieving 60 minutes fire resistance should be provided within 1.8m either side of re-entrant corners (i.e., corners of 130º or less) in order to limit fire spread in between different fire compartments (including, but not limited to, flats and staircases). This requirement will also apply to balcony balustrades.

5.2.4 Cavity barriers should be provided within external wall cavities, in accordance with Section 4.5.1.

5.3 SPACE SEPARATION

5.3.1 To prevent the risk of external fire spread from one building to another, the amount of unprotected area that is allowed on an elevation should be limited, or the separating distance should be sufficient as to reduce the risk of excessive radiation causing fire spread.

5.3.2 BR 187 has been employed in order to assess space separation. The radiation intensity has been selected as 84kW/m^2 for residential areas and 168kW/m^2 for ancillary rooms. The separation distance required has been halved (for the Railway Block) due to the provision of AWFSS throughout the residential blocks.

5.3.3 Table 5 presents high level results of the assessment, indicating the largest enclosing rectangle on each elevation. It is expected that some fire resisting facade will be required on multiple elevations in order achieve the maximum unprotected allowable areas in Table 5.

5.3.4 The assessment at this stage is high-level. A more comprehensive assessment will be carried out post planning to ascertain the limitations of unprotected areas in more details.

5.4 ROOF COVERINGS

5.4.1 Junctions of a compartment wall with a roof should include an area 1500mm wide on each side of the wall, with a roof covering of $B_{ROOF}(t4)$ on substrate/deck achieving A2-s3, d2 or better. Performance of the resistance of roofs to external fire exposure, is measured in terms of penetration through the roof construction and the spread of flame over its surface. The roof should achieve European Class $B_{ROOF}(t4)$.

5.4.2 Green roofs and walls should comply with DCLG publication 'Fire Performance of Green Roofs and Walls'.

Building Elevation	Enclosing Rectangle (H × W)	Unprotected % Allowed	Minimum Boundary Distance Required (m)	Actual Boundary Distance (m)	Maximum Unprotected Area Per Compartment (m^2)
Railway Block					
Any (flats)	3m × 21m	100	2.3	>2.3	All
5 (ancillary)	3m x 12m	100	2.8	>2.8	All
Entry Block					
23, 24, 28 (flats)	3m × 15m	100	4.0	>4.0	All
25 (flats)	3m x 12m	50	2.0	>2.0	18.0
26 (flats)	3m x 12m	80	3.0	>3.0	28.8
27 (flats)	3m x 12m	40	1.5	>1.5	14.4
Farm House					
12	6m × 12m	60	4.0	>4.0	43.2
11, 13, 14	6m × 12m	100	5.5	>5.5	All
Maisonette Blocks					
7, 8, 9, 10, 19, 20, 21	3m x 12m	100	3.5	>3.5	All
8a, 8b	3m x 12m	20	1.0	>1.0	7.2
22	3m x 9m	70	2.5	>2.5	18.9
Leaning Barn					
15, 17	6m × 15m	100	6.0	>6.0	All
16	6m × 12m	90	5.0	>5.0	64.8
18	6m × 12m	60	4.0	>4.0	43.2
Gatehouse					
29, 30, 32	6m × 12m	100	5.5	>5.5	All
31	6m × 12m	0	N/A	<1.0	0

Table 5 – Space Separation Calculations

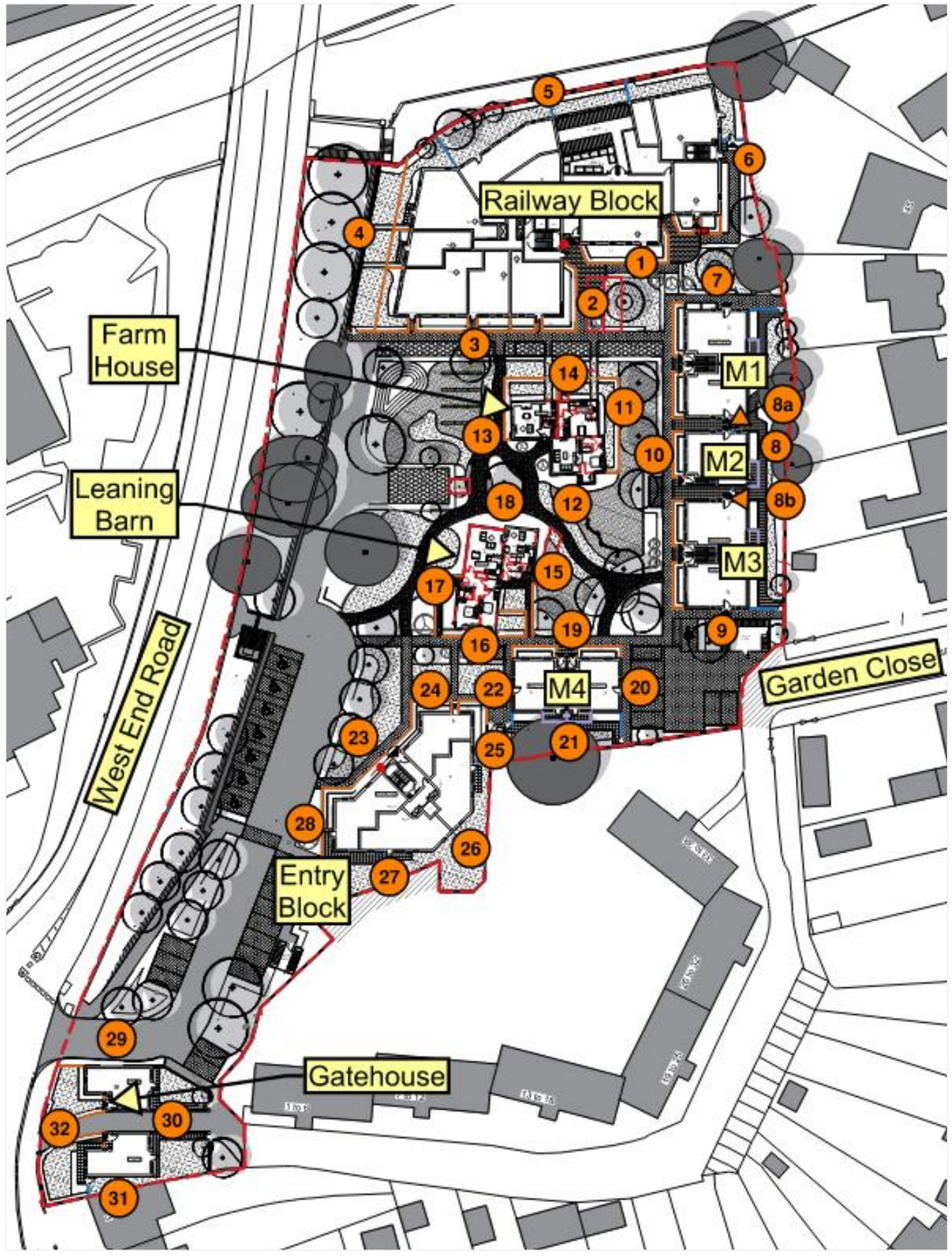


Figure 5 – Elevation Identification (Site Plan)

6 ACCESS AND FACILITIES FOR THE FIRE SERVICE

6.1 VEHICLE ACCESS

6.1.1 Access to and around the site will be provided via both West End Road and Garden Close. From here, vehicle access is provided on site via the new private roads and car parking areas around all buildings. Vehicle access will be provided within 18m and line of sight of the entrance to all common cores (for the Railway and Entry Blocks), including the dry rising inlet mains. The access route is presented in Figure 6.

6.1.2 For all other blocks, vehicle access should be provided within 45m of all areas in each unit, on a route suitable for laying hose. This figure may be increased to 75m where AWFSS is provided to the block.

6.1.3 Any access or security measures in and around the site (e.g., bollards preventing vehicle access) should be by-passable by the Fire Service. The details of the bypass arrangements should be developed and agreed with the Fire Service.

6.1.4 Due care should be given to ensure that the vehicle access route meets the requirements of a pumping appliance as presented in Table 6. These values have been extracted from GN29 as issued by London Fire Brigade, which align with AD B.

6.1.5 Even if it is expected that this is achieved via West End Road and Garden Close, the design team should confirm, including using a swept path analysis tracking exercise, that the new private roads and car parking areas on site achieve these requirements.

6.1.6 Turning facilities should be provided in any dead-end access route that is more than 20m long.

6.2 FACILITIES FOR THE FIRE SERVICE

6.2.1 Access into the residential blocks (Railway and Entry Blocks) for Fire Service personnel is provided via the entrance doors to each core. The access points will adjoin the dry rising main inlet points as presented in Figure 6.

6.2.2 The Railway Block and Entry Block will each include one dry riser main in order to ensure all areas on each floor are within 45m along a route suitable for laying hose from a fire main outlet. All dry rising mains should be in accordance with BS 9990.

6.2.3 Access to all other blocks will be provided externally, with all internal areas expected to be located within 45m, on a route suitable for laying hose, from FRS parking locations. This figure may be increased to 75m where AWFSS is provided to the block, and this provision can be included should it become necessary.

6.2.4 A summary of the provisions in support of firefighting operations is presented in Table 7.

6.2.5 Wayfinding signage for the responding Fire Service should be provided in the Railway and Entry Blocks including:

- Each floor level clearly marked on each landing within each staircase.
- Flat indicator signs informing the flat number accessed for each storey.

6.3 WATER SUPPLIES

6.3.1 There should be a hydrant in accordance with BS 9990 within 90m of each fire main inlet for the Railway and Entry Blocks.

6.3.2 A site survey should be carried out in order to establish the extent of existing hydrants. Where these are found to be insufficient, new private hydrants should be provided.

Appliance type	Minimum width of road between kerbs	Minimum width of gateways	Minimum turning circle between kerbs	Minimum turning circle between walls	Minimum clearance height	Minimum carrying capacity
Pump	3.7m	3.1m	16.8m	19.2m	3.7m	14 tonnes
Notes: 1. Fire appliances are not standardised. The local Fire Service may use other dimensions.						

Table 6 – Typical Fire Service Vehicle Access Route Specification

Building	Cores	Areas served	Dry riser	Smoke ventilation
Railway	2	G+3	Yes	Yes
Entry	1	G+2	Yes	Stair only.
Other Blocks	External Access Only. AWFSS may be needed.			

Table 7 – Summary of Firefighting Provisions

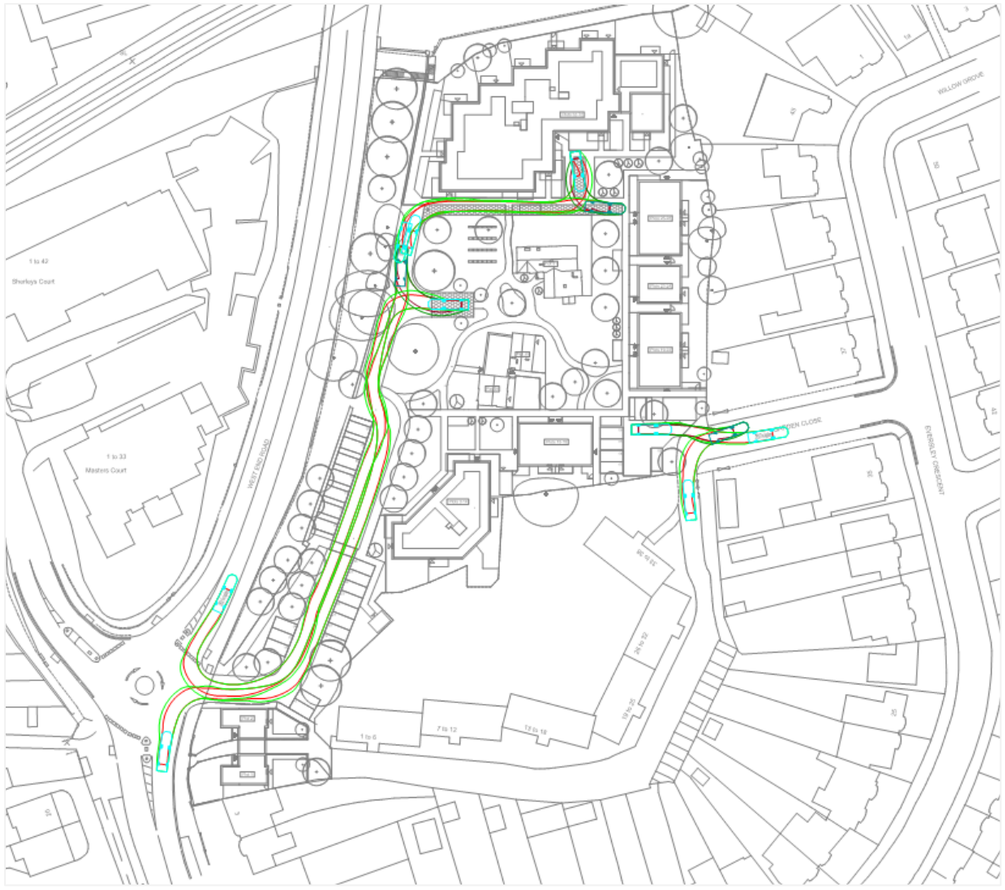


Figure 6 – Indicative Fire Service Vehicle Access

7 APPENDIX A – DRAWING PLAN SCHEDULE

7.1 REFERENCED INFORMATION

7.1.1 This report has been developed based upon information contained in the latest drawings provided by the design team. This report should be read in conjunction with these drawings and other supporting documentation prepared and submitted by other consultants who are acting on behalf of the design team. Table 8 presents the drawing plan schedule.

7.1.2 Drawing Plan Schedule

Drawing Number	Description	Revision	Date
2404_P_10.02	Proposed Site Plan	-	August 2024
2404_P_20.01	Gates Houses, Floor Plans, Plots 1-2	-	August 2024
2404_P_30.01	Apartments, Ground Floor Plan, Plots 3-14	-	July 2024
2404_P_30.02	Apartments, First Floor Plan, Plots 3-14	-	July 2024
2404_P_30.03	Apartments, Second Floor Plan, Plots 3-14	-	July 2024
2404_P_40.01	Maisonettes, Floor Plan, Plots 15-18	-	July 2024
2404_P_40.03	Maisonettes, Floor Plan, Plots 19-22	-	July 2024
2404_P_40.05	Maisonettes, Floor Plan, Plots 23-24	-	July 2024
2404_P_40.07	Maisonettes, Floor Plan, Plots 25-28	-	July 2024
2404_P_50.07	Listed Building, Proposed Floor Plans & Elevations, Plot 29 & 30	-	July 2024
2404_P_50.03	Farmhouse Listed Building, Proposed Floor Plans & Elevations, Plot 31	-	July 2024
2404_P_60.01	Railway Line Block, Ground Floor Plan, Plots 32-72	-	July 2024
2404_P_60.02	Railway Line Block, First Floor Plan, Plots 32-72	-	July 2024
2404_P_60.03	Railway Line Block, Second Floor Plan, Plots 32-72	-	July 2024
2404_P_60.04	Railway Line Block, Third Floor Plan, Plots 32-72	-	July 2024

Table 8 – Drawing Plan Schedule

8 APPENDIX B – LONDON PLAN POLICY FIRE STATEMENT

Application Information		
Site address	The Barn Hotel, West End Road, Ruislip, HA4 6JB	
Description of proposed development including any change of use (as stated on the application form):	The project represents a part conversion, part new-build residential development, including two residential blocks (Railway and Entry Blocks), along with seven smaller blocks (Leaning Barn, Farmhouse, Gatehouse and four maisonette blocks). The Railway Block will be designed as a two-core building, whilst the Entry Block will be designed as a small single-stair block. The residential blocks buildings will include ancillary areas (i.e., refuse stores, bin stores, plant rooms, etc.) on the ground floor. All above ground floors will include single storey residential units. The other blocks (Leaning Barn, Farm House, Gatehouse, and the maisonette blocks M1 to M4) will all include a maximum of two storeys (G+1), along with a mixture of single levels flats or two-storey duplex flats. These blocks do not include any common areas, with units within each block generally including independent access points from the outside, at ground level.	
Name of person completing the fire statement, relevant qualifications and experience.	John Dowd BEng (Hons) MSc CEng MIFireE MCABE <u>Professional Accreditation and Registrations</u> • UK Engineering Council | Chartered Engineer (CEng) • The Institution of Fire Engineers | Member (MIFireE) • Chartered Association of Building Engineers | Member (MCABE) <u>Academic Qualifications</u> • Master of Science in Fire Safety Engineering | University of Central Lancashire • Bachelor of Engineering in Fire Engineering | University of Central Lancashire	<u>Experience</u> • Director | Solas Realta Ltd | 2018 – Present • Director | Clarke Banks Ltd | 2016 – 2018 • Principal Fire Engineer | 3SFire Ltd | 2014 – 2016 • Senior Fire Engineer | Hampshire Fire and Rescue Service | 2014 – 2016 • Fire Safety Inspector | Hampshire Fire and Rescue Service | 2013 - 2014 Fire Alarm Engineer - Cube Fire and Security | 2006 -2013
State what, if any, consultation has been undertaken on issues relating to the fire safety of the development; and what account has been taken of this.	No consultation has been undertaken up to this point with any statutory body such as the local fire service or the building safety regulator / local authority.	
Signature		
Date	27/08/2024	

London Plan Policy Requirements	
Introduction	The New London Plan (2021) introduces requirements in relation to planning fire safety. The relevant fire safety requirements are described under London Plan Policy D5(B5) and London Plan Policy D12.
<u>London Plan Policy D5(B5)</u> requires the following: All schemes should "…be designed to incorporate safe and dignified emergency evacuation for all building users. In all developments where lifts are installed, as a minimum at least one lift per core (or more subject to capacity assessments) should be a suitably sized fire evacuation lift suitable to be used to evacuate people who require level access from the building".	**<u>Evacuation Lifts</u>** The proposed blocks (Railway and Entry Block) will each include a single lift bank. It is expected that at least one lift per block will be designed as an evacuation lift in support of the aforementioned policy. Design adjustment (lobbies, refuges, ventilation) may be needed post planning to support the evacuation lift design. The evacuation lifts should be designed based on the guidance presented in BS EN 81-20, BS EN 81-70, BS EN 81-76.

London Plan Policy D12 requires the following:

"All major development proposals should be submitted with a Fire Statement, which is an independent fire strategy, produced by a third party, suitably qualified assessor.

The statement should detail how the development proposal will function in terms of:

a. the building's construction: methods, products and materials used, including manufacturers' details
b. 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
c. features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans
d. access for fire service personnel and equipment: 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
e. how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building
f. ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures."

Building Construction Methods

The structure of the buildings is expected to be formed of traditional construction materials i.e. reinforced concrete or steel. The structure will be afforded with the appropriate fire resistance utilising a certified structural fire protection solution. It is recommended that the external wall construction complies with the requirements listed in Regulation 7 of the Building Regulations 2010 (as amended to date).

Means of Escape

The individual flats in the Railway Block will be designed as open-plan flats, following the requirements of contemporary guidance. The individual flats (with a single exception) in the Entry Block will be designed as flats with protected entrance halls. A single flat will be provided with alternative escape via windows for all habitable rooms, as this flat will be open-plan.

The common areas of the Railway Block will include ventilated protected lobbies, with the block being designed as a two-stair block, in line with contemporary AD B requirements. The Entry Block will be designed as a small-single stair block, with unventilated lobby approach to the stair.

Escape for disabled persons will be supported by the single evacuation lifts provided within either block.

All other units in other blocks will be accessible directly from the outside at ground floor. The units will either include protected internal stairs / protected entrance hallways, or will include emergency escape via windows or doors in all habitable rooms.

Features which Reduce the Risk to Life

All flats (in the Railway and Entry Blocks) will be covered using by a Fire Alarm and Detection System (FADS), designed to BS 5839-6. The common areas and ancillary areas of either of the Railway/Entry Blocks will be covered by FADS designed to BS 5839-1, intended to support the smoke ventilation strategy and the evacuation strategy for ancillary areas.

The residential units within all other blocks will be covered by standalone FADS systems, designed to BS 5839-6.

Due to the open-plan flat design, the Railway Block will be covered by a sprinkler system, designed to BS 9251:2021.

The common areas of the Railway Block block will be ventilated using either natural smoke shafts (to common corridors and stair lobbies) or automatically openable vents (AOVs) fitted on the façade, along with high level AOVs (to stair cores). The Entry Block will include a high level AOV for the stair enclosure.

The compartmentation strategy should be designed to support the proposed stay-put evacuation strategies for residential flats, in line with contemporary guidance. All units in all other blocks will be designed as individual fire compartments. All terraced blocks should be separated by 60-minute compartment walls.

All passive and active fire safety systems should be maintained in line with manufacturers requirements and the relevant British Standards.

Access for Fire Service Personnel and Equipment

Vehicle access to the two blocks and dwellinghouses will be provided via West End Road and Garden Close. This will allow fire service operatives to park within 18m of the entrance points to the common core in the Railway and Entry Blocks. The fire service access route should also allow access within 45m from all points within residential units in the other blocks on site.

Fire service vehicles access routes should be provided in line with the requirements listed in London Fire Service Guidance Note 29.

One core in the Railway Block, and one core in the Entry Block will be provided with a dry rising main, designed to BS 9990, to include outlets on full level landings on all floors. The dry riser inlets are expected to be provided immediately adjacent to the entrance point to the stair core, within a clear line of sight from the fire service vehicle parking location.

Access to the ground floor ancillary areas will be provided directly from the outside. All areas within flats (in the Railway and Entry Blocks) will be located within 45m hose laying distance from a dry riser outlet.

	All other residential units in the other blocks will include direct external access. All areas within these units will be provided within 45m from the fire service parking locations. This figure may be increased to 75m where AWFSS is provided to the block, and this provision can be included should it become necessary. Hydrants should be provided within 90m from dry riser inlet points, and within 90m from access points to all other units. A site survey and/or consultation with the Local Fire Service is to be undertaken to ascertain the presence and operational status of existing hydrants. If sufficient hydrant coverage is not currently provided additional hydrants shall be required. **Record Keeping** This planning fire strategy report should be further developed as design progresses into a full detailed fire strategy. The detailed fire safety strategy report, as well as all relevant fire safety information, including but not limited to all active and passive fire safety system documents, should be handed over to the building owner / operator in accordance with Regulation 38. Any subcontractors or operatives conducting maintenance or any building works within the building or any other stakeholders as appropriate should also receive the relevant fire safety information in order to ensure that all maintenance, operations or building works are in accordance with the detailed fire safety strategy for the building, in line with Golden Thread requirements.