Gateway 1 Planning Submission Fire Statement

For

University College School (Seniors), Hampstead

Reference: FSE2261

Issue No: 01

15th December 2023

Revision History

Issue Number:	01 – Fire Statement	Issue Date:	15th December 2023
First Issue of the Fire Statement			
Prepared by:		**Contact:**	
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Reviewed by		**Contact:**	
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Client Details

Client	HDC Construction Consultants
Client Address	HDC Construction Consultants The Stables Wick Road Englefield Green Surrey TW20 0JB
Project	Project 200, UCS Hamstead

Validity

This report is produced on the basis of the information and experience available at the time of preparation. It is applicable to the above-mentioned project only in accordance with the client's instructions. It is only valid provided no other modifications are made other than those for which a formal opinion has been sought from and given by Helios Fire & Construction Consultancy UK.

The report outlines the principal opinion of Helios Fire & Construction Consultancy and is prepared based on information issued by other parties, this report should not be viewed as an approval of that information and no liability is accepted for its accuracy.

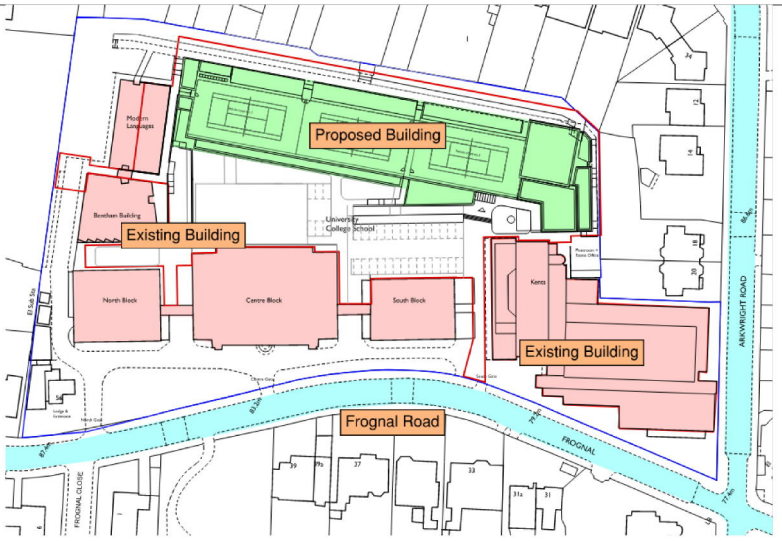
All legislation quoted is primarily concerned with life safety and property protection is not specifically considered although the fire protection provisions to be provided for the building will offer some degree of property protection.

Furthermore, other issues such as insurers' requirements, cultural heritage, environmental, or continuity issues have not been specifically addressed or included within the development of the fire safety strategy.

Transmission and receipt of Information used in the preparation of the Fire Safety Strategy is agreed on the basis outlined in the fee proposal as issued by Helios Fire & Construction Consultancy. Should a web-based document management system be used, information that is specifically to be assessed and reviewed by Helios Fire & Construction Consultancy should be issued directly to the representative of Helios Fire & Construction Consultancy. The acceptance of access onto any web-based system by Helios Fire & Construction Consultancy does not constitute an acknowledgement that all information on the specific portal will have been assessed and reviewed.

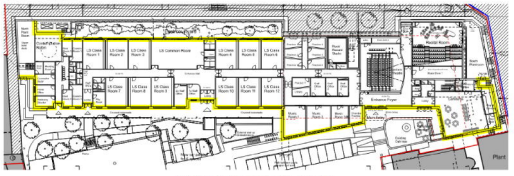
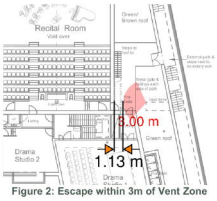
Fire Statement Gateway 1

Site Address	University College School Senior School
Site Address Line 2	Frognal
Town	Hampstead
County	London
Site Postcode (optional)	NW3 6XH
Description of Development	The new building site will be created by the partial deconstruction of the existing Giles Slaughter building [known as the "GS Wing"] at the south end of the site, as well as full demolition of the Fives courts building and maintenance hut. Three existing outdoor tennis courts, 2 built on raised ground and 1 on the roof of the GS Wing, will be replaced with new. The new development will extend along the eastern side of the School rear amenity, play and car parking area, connecting the Modern languages building to the north with the Kents building to the south, and completing the enclosure of the main rear courtyard. The proposed building will comprise outstanding first-class educational facilities for: • New Music School including specialist Music Recital Room • Cafeteria catering space • Drama Studios • Hub for Lower School classrooms including shared Common Room • Lecture Theatre • Wellbeing Centre with space for contemplation • Medical facilities • Ancillary accommodation The main part of the proposals will be a single storey building at ground level, with three tennis courts on the roof, replacing the existing courts. At the south end of the site, beyond the tennis courts, the building rises to 2-storey above ground, including a special double-height space for the new Recital Room. There are proposed to be interior plantrooms for building and ancillary services, so that all main plant is concealed.
Further Information	Please see Helios fire strategy for full information on fire principles **FSE2261 – Helios Fire Safety Strategy – UCS Hampstead – Issue 02 – 15.12.23.**
Author's Details	**Kieran Cooper - BEng (Hons) APAEWE MIFSM AIFireE** Kieran is a Member of the Institute of Fire Safety Managers and an Associate with the Institution of Fire Engineers, with 9 years postgraduate experience in the field of fire safety engineering, encompassing; design consultancy, risk assessment, CFD modelling and expert witness. Following a BEng Honours degree in Fire Safety Engineering Kieran obtained the Advanced Professional Award in Expert Witness Evidence in 2022 in order to become a shadow expert within fire safety disputes. Kieran has significant experience in Fire Safety Engineering having worked within multiple sectors, including; residential (including HRRB), commercial, industrial, educational, retail, MOD, Hospitals at all design/construction stages from feasibility through to handover. Kieran has experience with various types of fire engineering analysis required for justifying proposals that do not meet the requirements of the relevant codes of practice which includes; Computational Fluid Dynamics analysis (CFD), radiant heat calculations, smoke control calculations, structural fire protection analysis and analysis of heat transfer and external fire spread.
Signature	[redacted]
Date	
Reviewer's Details	**Paul Currie BEng, PhD, CEng, MIFireE.** Chartered Engineer (CEng registrant via Institution of Fire Engineers - IFE) and Member of the IFE, with over 25 years postgraduate experience in the field of fire safety engineering, encompassing; design consultancy, risk assessment, structural and fire testing, CFD modelling, research and lecturing. Consultancy projects have included a number of private, public and commercial buildings including educational developments, healthcare facilities, residential developments, offices, warehouses, shopping centres, sports grounds, and car parks.

	Lecturing experience includes teaching fire safety and fire engineering topics at the University of Central Lancashire and the School of Continuing and Professional Education (SCOPE) at the City University of Hong Kong.
Details of consultations undertaken relating to the fire safety of the development.	Currently consultation with Building Control and the Fire and Rescue service has not been undertaken.
Site Layout Plan With Block Numbering. [Attach - Consistent with other plans drawings submitted in connection with the application]	 Figure 1: Site Plan

The Principles, Concepts and Approach Relating to Fire Safety That Have Been Applied to the Development		
Building Schedule		
Site Information	**Building Information**	**Resident Safety Information**

Block Number	Block Height (m) No Storeys Above Ground No of storeys including below ground level	Proposed Use	Location of Separate uses Within Block	Standards Relating to Fire Strategy	Balconies	External Wall Systems	Evacuation Approach	Automatic Water Fire Suppression System (AWFSS)	Accessible Housing Provided
Proposed Building	Top storey height 4.32m Fire service access level to top storey 5.27m Two storeys – Ground and First Floor with roof top accommodation There is a small lower ground level for plant only.	School	Lower ground floor – Plant Ground – Teaching, lecture theatres, recital rooms, cafeteria, small ancillary areas First Floor – Recital room, drama studios, green roof and tennis courts	BS9999: 2017 Approved Document B, Volume 1 2019 with 2020 and 2022 amendments used for external wall information as this is the latest, most onerous standard	N/A	External Wall construction – no restrictions to meet Building Regulations Insulation recommended achieving a minimum of A2-s1, d0 or better Surface spread of flame recommended achieving a minimum of A2-s1, d0 or better.	Single Staged Simultaneous Evacuation	No AWFSS is required to meet Life Safety Requirements. There are currently no proposals to provide AWFSS	N/A

Specific Technical Complexities Specific technical complexities in terms of fire safety e.g., green walls and / or departures from information schedule above	It has been proposed to adopt BS9999: 2017 to meet the Functional Requirements of the Building Regulations. Due to the heavily sloping site, by definition, the building is classified as a basement. However on most elevations there are windows and doors leading to external areas. The areas noted below yellow are elevations that are open to fresh air.  **Figure 1: Elevations Open to Air** However as most elevations are provided with external walls and openings (windows and doors), including the recital room as it double height with openings, based on BS9999 Clause 27.2.1, no additional smoke ventilation for the use of the fire and rescue service is considered necessary. There is proposed to have a green roof, the design team will need to follow the guidance from Fire Performance of Green Roofs and Walls and the Green Roof Code. There is escape across the roof proposed due to the nature of the design. The design of the escape routes should follow Clause 16.3.12 from BS9999. There are a few instances where all the recommendations cannot be fully followed. These are identified within the fire strategy report and mitigated. These will be developed at the next stage of the design and will be agreed with AHJ.
Issues Which Might Affect the Fire Safety of the Development Explain how any issues which might affect the fire safety of the development have been addressed.	Areas of the building that do not follow the guidance is identified below • Definition of a Basement – As discussed above due to the heavily sloping site, the building should defined as a basement as there are some elevations that below 1200mm from ground floor level. However, as the majority of the elevations are open to air, additional provisions in regards to smoke venting for the fire and rescue service is not considered necessary. As the design develops, early consultation with the fire and rescue service will be undertaken to ensure they are happy the areas that do not have access to fresh air. • Escape Across Roof – There is a portion of escape via the green roof where the vent to the plant is within 3m of the escape route. This only affects the Drama Studio means of escape. This is considered reasonable as there will be automatic fire detection provided within the building that on activation will shut down plant, the route is only an alternative escape route in case the internal stair cannot be used due to fire. In addition to this, members of the public may be invited in to watch performances. BS9999 does not recommend escape across roofs if public are required to use it. This is considered reasonable in the proposed design as any performances will be limited in numbers and will be appropriately staffed to assist in the means of escape. The majority of the 'public' will be family or friends of the pupils who will have some knowledge of the building. This will require additional management procedures for the school.  **Figure 2: Escape within 3m of Vent Zone** • Plant Stair Width – The plant stair located in the external ASHP area will be provided with a stair that is 1000mm wide. BS9999 recommends where escape is requires upwards, a minimum of 1200mm is required. 1000mm is considered reasonable as this area is only accessed by maintenance staff and provides a secondary escape.
Local Development Plan Policies – Fire Safety	Fire Safety Policy D12. D5 Policy for evacuation lifts is applicable. There is a single lift within the scheme which will need to be designed as an evacuation lift.

Emergency Road Vehicle Access and Water Supplies for Firefighting Purposes

Fire Service Site Plan
Explanation of fire service site plan(s) [Attach]
Guidance documents have informed the proposed arrangements for fire service access and facilities.

Access to the proposed building is via Frognal Road and South Gate. Based on the recommendations from BS9999, the requirements for perimeter access should be followed. The top storey is less than 11m in height and the total approximate floor area is 4000m². On this basis the fire appliance should be able to get within 15% of the buildings perimeter. The buildings perimeter can be taken if it is within 18m of the fire appliance parking position and contain suitable access points that are no more than 60m apart.

The approximate total perimeter of the ground floor is 366m, 15% of the perimeter is 55m. The achievable perimeter access is circa 120m as show in the figure above (blue dashed line) and therefore meets the recommendations from BS9999.

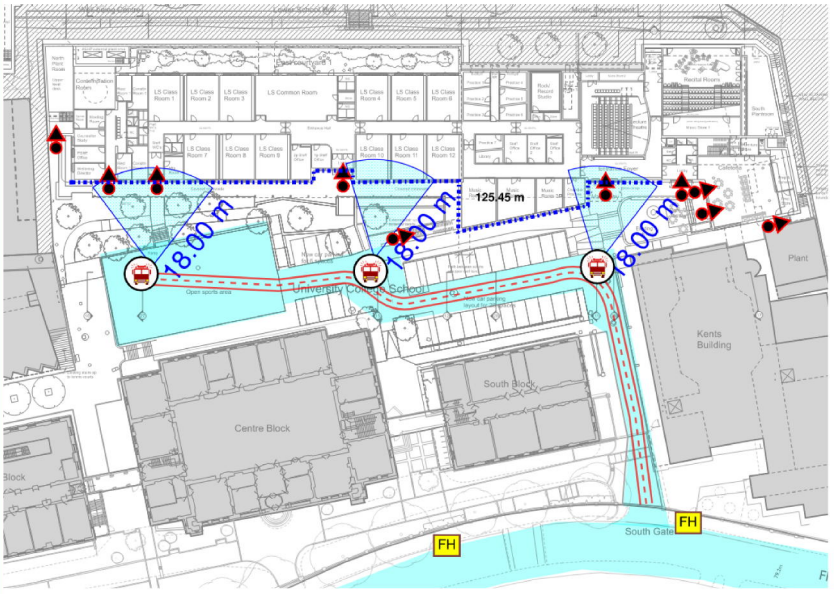


Figure 3: Fire Service Access Plan

Emergency Road Vehicle Access Specify emergency road vehicle access to the site entrances indicated on the site plan.	Frognal Road is existing and assumed it is capable of meeting the fire appliance specifications. Access via South Gate is existing as well and assumed meets local authority requirements. There will be changes to the landscaping between the proposed building and the existing building (car parks and playgrounds). These areas have been tracked as shown below to ensure the fire service is able to access and turn around. The new hard standings will be required to meet the loadings noted below.

Figure 4: Tracking Exercise

Source: 3d Warehouse. Sketchup Image

Appliance	Width of Road between Kerbs	Gateway Width	Clearance Height	Carrying Capacity	Turning Circle	
					Kerb to Kerb	Wall to Wall
Pump	3.7m	3.1m	3.7m	12.5 – 15 tonnes	16.8m	19.2m

Is the emergency vehicle tracking route within the site to the siting points for appliances clear and unobstructed?	**Yes**	**No**
Siting of Fire Appliances Guide: no more than 200 words	Please see sections above and below on provisions for the fire service.	

Suitability of Water Supply for the Scale of Development Proposed	Based on a site visit, there are two existing hydrants within close proximity to the South Gate. These are located on the public highway. As the hydrants are existing, in accordance with Section 57 of the Water Industry Act 1991, the hydrants should be maintained in working order by the water authority. 				
Nature of water supply:	~~**Open Water – Limited**~~	~~**Open Water Unlimited**~~	**Hydrant Public**	**Hydrant Private**	~~**Tanked Supply**~~
Does the proposed development rely on existing hydrants and if so, are they currently usable / operable?	**Yes – See comments above**		**No**	**Don't Know**	

Fire Service Site Plan	~~Attached~~	Inserted Below